

Phase Transition Enthalpy Measurements of Organic and Organometallic Compounds and Ionic Liquids. Sublimation, Vaporization, and Fusion Enthalpies from 1880 to 2015. Part 2. C₁₁–C₁₉₂

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The second part of this compendium concludes with a collection of phase change enthalpies of organic molecules inclusive of C₁₁–C₁₉₂ reported over the period 1880–2015. Also included are phase change enthalpies including fusion, vaporization, and sublimation enthalpies for organometallic, ionic liquids, and a few inorganic compounds. Paper I of this compendium, published separately, includes organic compounds from C₁ to C₁₀ and describes a group additivity method for evaluating solid, liquid, and gas phase heat capacities as well as temperature adjustments of phase changes. Paper II of this compendium also includes an updated version of a group additivity method for evaluating total phase change entropies which together with the fusion temperature can be useful in estimating total phase change enthalpies. Other uses include application in identifying potential substances that either form liquid or plastic crystals or exhibit additional phase changes such as undetected solid–solid transitions or behave anisotropically in the liquid state. © 2017 AIP Publishing LLC for the National Institute of Standards and Technology. [<http://dx.doi.org/10.1063/1.4970519>]

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1. Introduction

This compendium completes a previous report published in 2016 [2016ACR/CHI] on phase change enthalpies. Paper I of this compendium includes over 6600 organic compounds containing from one to ten carbon atoms published over the period of 1880–2015. [2016ACR/CHI] Paper II of this series contains over 7400 entries covering phase change enthalpies of organic compounds varying from eleven to one hundred ninety two carbon atoms, organometallic, and some inorganic compounds and ionic liquids. Many of these properties are freely available online [<http://webbook.nist.gov/chemistry/> and <http://trc.nist.gov/thermolit/>]. As noted previously, a goal of this publication is to provide direct access to an entire collection of experimental phase change enthalpies that can be searched electronically. Additionally, some estimation methods and the use of various simple relationships for temperature adjustments of phase change enthalpies have been described and updated in Paper I. Paper II summarizes and updates a group method for estimating total phase change entropies. Uses include estimation of approximate fusion enthalpies and identification of potential substances exhibiting atypical behavior in either the solid or liquid state. Both the relationships and the estimation methods have proven useful to the authors.

2. Phase Change Enthalpies

Sublimation, vaporization, and fusion enthalpies are related to each other by Eq. (1) provided temperature T for all three terms is the same. Estimation methods for each of these three terms have been developed but vary significantly in their accuracy. Numerous general methods for estimating vaporization enthalpies, some quite simple, have been developed and their degree of accuracy for many substances has been approaching the experimental uncertainty of the measurements.

$$\Delta_{\text{sub}}H_{\text{m}}(T) = \Delta_{\text{v}}H_{\text{m}}(T) + \Delta_{\text{fus}}H_{\text{m}}(T) \quad (1)$$

Estimations of sublimation and fusion enthalpies are more problematic, primarily because of the difficulties in estimating fusion enthalpies accurately. Group additivity methods, widely successful in estimations of many other thermochemical properties, frequently falter in estimation of fusion enthalpy because of dynamics, the structural complexity of the solid state, or nonisotropic behavior of the liquid phase. The occurrence of polymorphism, solid–solid phase transitions, plastic and liquid crystalline behavior, and formation of anisotropic liquids while each of relatively low probability are unpredictable, and combine together to produce significant difficulties in developing a successful estimation method for both fusion and sublimation enthalpy.

2.1. Total solid–liquid phase change entropies

An approach that has been taken to address the estimation of fusion enthalpy has focused initially on estimating entropy rather than enthalpy since the occurrence of solid–solid transitions are among the most common and these generally occur isothermally; many have also been measured. The thermodynamic function that was subjected to a group additivity approach was estimation of the total molar phase change entropy, ΔS_{tpce} , the total entropy associated with isothermal events occurring from $T/K = (0$ to T_{fus}). For most substances with no additional phase transitions other than fusion, and isotropic behavior of the liquid, the product of $T_{\text{fus}} \cdot \Delta S_{\text{tpce}}$ can provide a reasonable estimate of the fusion enthalpy.

If the fusion enthalpy of the compound in question is known, the method described below offers a relatively simple manner of identifying potential substances that exhibit atypical behavior. For example, in an application of an earlier version of this estimation method applied to over 600 compounds known to form liquid crystals, this method greatly overestimated the total phase change entropies in comparison to solids with no additional phase transitions other than fusion. Even in cases where the total entropies of transition in the liquid crystals were known, the estimated values still exceeded the total values calculated. Only when the entropy associated with the heat capacity was also taken into account did the total entropy of the molecule correlate with homologous molecules that did not form liquid crystals as shown by Sorai *et al.* for the benzene hexa-*n*-alkanoates. [2003ASA/SOR, 2001ASA/SOR, 2006ACR/CHI]

Atypical behavior in the liquid state, though less common, is also well known. Molecules containing segregated portions of fluorocarbons and hydrocarbons frequently do not behave isotropically in the liquid state and their fusion entropies are also overestimated by this approach. The overestimation is approximately 40% of the value estimated. [2003CHI/ACR]

While the fusion entropies of compounds exhibiting polymorphism can differ, their values are often quite similar. For such substances, the estimated total phase change entropy described below appears to correlate best with the thermodynamically most stable form. [2003CHI/ACR]

2.2. The group additivity method

The group method that has evolved mirrors both the complexity and diversity of the solid state. The protocol was last updated in 2009. [2009CHI/ACR] The group method described below in Secs. 3–5 is based mainly on structure. The focus of this update is to provide additional data to bolster

the statistics of a number of group values previously assigned based on very limited data and to increase the scope of the method to include additional functional groups. Most group values reported previously have not been tampered with; exceptions include a few tentative values that have either been modified on the basis of the availability of new data or eliminated because of their unreliability. Group values are defined in Tables 1–8. Table 3 defines a few common groups whose values depend on the number of other functional groups present on the target molecule as defined in Table 3. Tables 4–7 segregate functional groups according to the number of additional attachments necessary to satisfy the valence requirements of the functional group; one, two, three, or four groups. Table 8 complements Table 2 by providing contributions for cyclic functional groups. Groups in the tables are described in column 1 and defined in the second column; group values are provided in the third column. Group values in brackets have been evaluated by fewer than ten entries and are considered tentative assignments. Their value is based on the number of entries provided in parenthesis in column 1 of

TABLE 1. Contributions of the hydrocarbon portion of the molecule

Aliphatic and aromatic carbon groups	Group value (G_i) ^a J·mol ⁻¹ ·K ⁻¹	Group coefficient (C) ^a
Primary sp ³ C	CH ₃ —R	17.6
Secondary sp ³ C	R ₂ >CH ₂	7.1
Tertiary sp ³ C	R ₂ >CH—R	-16.4
Quaternary sp ³ C	R ₂ >C< R ₂	-34.8
Secondary sp ² C	=CH ₂	17.3
Tertiary sp ² C	=CH—	5.3
Quaternary sp ² C	=C(R)—	-10.7
Tertiary sp C	H—C≡	17.5
Quaternary sp C	R—C≡	-4.3
Tertiary benzenoid sp ² C	=CaH—	7.4
Quaternary benzenoid sp ² C adjacent to an sp ³ atom ^d	=Ca(R)—	-9.6
Quaternary benzenoid sp ² C adjacent to an sp ² atom ^e	=Ca(R)—	-7.5
Internal benzenoid quaternary adjacent to 3 sp ² atoms ^f	=Ca(R)—	-0.7

^aR refers to any group or heteroatom; group coefficients are assumed to be 1 unless noted otherwise.

^bThe group coefficient of 1.31 for C_{CH₂} is applied only when the number of consecutive methylene groups exceeds the sum of the remaining groups (both carbon and other functional groups); see text for additional details.

^cApplied only when a functional group is attached at this position.

^dThis group applies to any quaternary benzenoid carbon adjacent to an sp³ hybridized atom with no lone pair of electrons.

^eThis group applies to any quaternary benzenoid carbon adjacent to any sp² hybridized atom and to sp³ hybridized atoms with a lone pair electrons with the exception of internal quaternary carbon atoms (see footnote f).

^fAny internal quaternary benzenoid carbon that is not at the periphery of a molecule; for example the six internal quaternary benzenoid carbon atoms of coronene.

TABLE 2. Adjustments to contributions of the cyclic hydrocarbon portions of the molecule

Contributions of cyclic carbons (C _c)	Group value (G_i) ^a J·mol ⁻¹ ·K ⁻¹	Group coefficient (C)
Cyclic tertiary sp ³ carbon	—C _c H(R)—	-14.7
Cyclic quaternary sp ³ carbon	—C _c <(R) ₂ —	-34.6
Cyclic tertiary sp ² carbon	=C _c H—	-1.6
Cyclic quaternary sp ² carbon	=C _c (R)—	-12.3
Cyclic quaternary sp carbon	=C _c ; R—C _c ≡	-4.7

^aR refers to any organic fragment including other functional groups or heteroatom; group coefficients are assumed to be 1 unless noted otherwise.

^bApplied only when a cyclic functional group is attached at this position.

TABLE 3. Contributions of the functional group portion of the molecule; acyclic functional groups dependent on the substitution pattern

Functional groups ^a		Group value (G_k) ^a $J \cdot mol^{-1} \cdot K^{-1}$	Group coefficient (C_k) ^a		
			2	3	k_n ^b
Chlorine		10.8	1.5	1.5	1.5
2-fluorines on an acyclic sp^3 C	$R_2 > CF_2$	13.2	1.06	1.06	1.15 ^c
Alcohol	$R-OH$	1.7	10.4	9.7	13.1
Carboxylic acid	$R-C(=O)OH$	13.4	1.21	1.21	2.25

^aGroup coefficient refers to the total number of functional groups present; R refers to any organic fragment including other functional groups.

^bTo be used in cases with 4 or more functional groups.

^cTo be used in acyclic perfluorinated hydrocarbons.

TABLE 4. Contributions of the functional group portion of the molecule; values for monosubstituted functional groups

Acyclic groups		Group value (G_k) ^b $J \cdot mol^{-1} \cdot K^{-1}$
Bromine	$R-Br$	17.5
Fluorine on an sp^2 carbon	$=CHF$	19.5
Fluorine on an aromatic carbon	$=C_aF-$	16.6
3-fluorines on an sp^3 carbon	CF_3-R	13.2
1-fluorine on an sp^3 carbon	$R_2 > CF-R$	12.7
1 or 2 Fluorines on a cyclic sp^3 carbon	$>C_cHF->C_cF_2-$	[17.5]/F
Iodine	$R-I$	19.4
Phenol	$=C-(OH)-$	20.3
Hydroperoxide (2)	$R-OOH$	[31.8]
Aldehyde	$R-CH(=O)$	21.5
Formate ester (4)	$R-O(C=O)H$	[22.3]
Acyl chloride (1)	$R-(C=O)Cl$	[25.8]
Primary amine	$R-NH_2$	21.4
Azide (2)	$R-N_3$	[36.3]
Nitro group	$R-NO_2$	17.7
Nitrate ester	$R-ONO_2$	24.4
Nitrile	$R-C\equiv N$	17.7
Isocyanide (1)	$R-NC$	[17.5]
Isocyanate (4)	$R-N=C=O$	[23.1]
Primary amide	$R-CONH_2$	27.9
N-nitroso (3)	$>N-N=O$	[33.1]
Oxime	$=N-OH$	13.6
Hydrazide (5)	$R-C(=O)NHNH_2$	[26.0]
Monosubstituted urea	$R-NHC(=O)NH_2$	14.1
Monosubstituted thiourea (4)	$R-NHC(=S)NH_2$	[30.1]
Phosphonic acid (2)	$R-(P=O)(OH)_2$	[13]
Thiols	$R-SH$	23.0
Thioamide (1)	$R-C(=S)NH_2$	[30.0]
Sulfonic acid (2)	$R-S(=O)_2OH$	[1.8]
Sulfonamide (8)	$R-S(=O)_2NH_2$	25.2
Sulfonyl chloride (2)	$R-S(=O)_2Cl$	[23.4]
Alkyl arsonic acid (3)	$R-(As=O)(OH)_2$	[-2.9]

the table. Details of the application of the estimation method are illustrated by several specific examples.

3. Applications

Application of the group values in Tables 1–8 used to estimate total phase change entropies is illustrated below. The estimations are arranged in terms of increasing complexity.

3.1 Estimations of acyclic and aromatic hydrocarbons.

3.2 Estimation of polymers.

3.3 Estimations of cyclic and polycyclic hydrocarbons.

3.4 Estimations of functionalized acyclic and aromatic hydrocarbons.

3.5 Estimations of functionalized cyclic and polycyclic hydrocarbons.

3.6 Estimations of complex cyclic and polycyclic compounds.

Group values for carbon and for a number of other elements are defined on the basis of their substitution

TABLE 5. Contributions of the functional group portion of the molecule; values for disubstituted functional groups

Acyclic groups		Group value (G_k) ^b $J \cdot mol^{-1} \cdot K^{-1}$
Ether	R—O—R	4.71
Peroxide (1)	R—O—O—R	[10.6]
Ketone	R—C(=O)—R	4.6
Ester	R—C(=O)O—R	7.7
Carbonate (4)	R—OC(=O)O—R	[7.1]
Anhydride (2)	R—(C=O)O(C=O)—R	[10.0]
Aromatic heterocyclic nitrogen	=N _a —	10.9
Acyclic sp ² nitrogen	=N—	-1.8
Secondary amine	R—NH—R	0.2
Azoxy nitrogen (6)	R—N=N(→O)—R	[3.7]
Secondary amide	R—C(=O)NH—R	1.5
Iminohydrazide (4)	R—C(=O)NHN=CHR	[18.6]
1,1-disubstituted urea (2)	R ₂ >NC(=O)NH ₂	[19.5]
1,3-disubstituted urea	RNHC(=O)NH—R	-8.1
1,3-Diacyl substituted thiourea (3)	R[C(=O)NH(C=S)NHC(=O)]R	[−76]
Imide (3)	R—[C(=O)NHC(=O)]—R	[10.4]
Phosphinic acid (3)	R ₂ >[(P=O)OH]	[17]
Phosphoroamidodithioate ester (1)	[NH ₂ P(=S)(S—R)(O)]—R	[6.9]
Sulfides	R—S—R	2.1
Disulfides (6)	R—SS—R	[9.6]
Sulfoxide (3)	R—S(=O)—R	[8.0]
Sulfones	R—S(=O) ₂ —R	0.6
Sulfonate ester (3)	R—S(=O) ₂ O—R	[7.3]
1,3-disubstituted thiourea (6)	R—NHC(=S)NH—R	[7.8]
Iothiourea(1)	R—S—(C=NH)NHR	[23.8]
Thioamide (1)	R—C(=S)NH ₂	[15.0]
N-substituted sulfonamide	R—S(→O) ₂ NH—R	4.5
Disubstituted selenium (9)	R ₂ —Se	[−23]
Disubstituted zinc (3)	R ₂ Zn	[11.1]
Disubstituted telluride (5)	R ₂ Te	[5.1]
Disubstituted arsenic acid	R ₂ (As=O)OH	-24

TABLE 6. Contributions of the functional group portion of the molecule; values for trisubstituted functional groups

Groups		Group value (G_k) ^b $J \cdot mol^{-1} \cdot K^{-1}$
Tertiary amine	R ₃ N	-22.2
Tertiary amide	R—(C=O)N<R ₂	-11.2
1,1,3-trisubstituted urea	R ₂ >NC(=O)NH—R	0
Phosphine oxide (3)	R ₃ P=O	[−21.1]
Phosphonate ester (1)	R—P(=O)(O—R) ₂	[−3.4]
Phosphoramidate ester (5)	(R—O) ₂ P(=O)NH—R	[−9.2]
Phosphorothioate ester	(R—O) ₃ P(=S)	1.1
Phosphorodithioate ester (8)	R—S—P(=S)(O—R) ₂	-9.6
Phosphonothioate ester (2)	R—P(=S)(O—R) ₂	[5.2]
Phosphoroamidothioate ester (1)	R—NHP(=S)(O—R) ₂	[16.0]
Diacylsubstituted isoselenourea	RC(=O)N=C(SeR)NHC(=O)R	-51
N,N-disubstituted thioamide (2)	R—C(=S)NR ₂	[−13.5]
N,N disubstituted thiocarbamate (1)	R—SC(=O)N<R ₂	[5.5]
N,N-disubstituted sulfonamide (4)	R—S(=O) ₂ N—R ₂	[−11.3]
Trisubstituted aluminum (2)	R ₃ Al	[−24.7]
Trisubstituted arsenic (5)	R ₃ As	[3.1]
Trisubstituted boron (2)	R ₃ B	[−17.2]
Trisubstituted gallium (2)	R ₃ Ga	[−11.3]
Trisubstituted indium (2)	R ₃ In	[−19.3]

pattern and hybridization. The terms primary, secondary, tertiary, and quaternary are defined in terms of the number of attached hydrogens, 3, 2, 1, 0, respectively. Tables 1 and 2 define the typical carbon groups found in organic chemistry.

3.1. Estimations of acyclic and aromatic hydrocarbons

Examples of the estimations of simple hydrocarbons are illustrated in Fig. 1. These estimations follow a standard

TABLE 7. Contributions of the functional group portion of the molecule; values for tetrasubstituted functional groups

Groups		Group value (G_k^b) $J \cdot mol^{-1} \cdot K^{-1}$
Tetrasubstituted thiourea (1)	$R_2>N(C=S)N<R_2$	[-7.2]
Quaternary silicon	R_4Si	-27.1
Quaternary tin (6)	R_4Sn	[-24.2]

group additivity protocol with few exceptions. If the number of consecutive methylene groups (C_{CH_2} , secondary sp^3 C) equals or exceeds the sum total of carbon groups as defined in Tables 1 and 2 and other functional groups as defined in Tables 3–8, the value is incremented from 7.1 to 9.3 $J \cdot mol^{-1} \cdot K^{-1}$ (7.1×1.31 , Table 1). Please note that only the groups in Tables 3–8 are considered functional groups in the discussion that follows. The remaining group coefficients

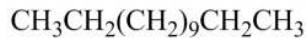
identified in the last column of Table 1 with the exception of the value of 1.31 are only used with attached functional groups at those locations and their use is illustrated below. In both tridecane and diphenylmethane, estimation of the total phase change entropy is quite simple. Tridecane contains only two carbon groups, a methyl and methylene group. The groups can easily be identified in Table 1. Diphenylmethane contains two different types of aromatic carbon groups, a tertiary and quaternary carbon (no available hydrogens). Since the carbon of the methylene group is sp^3 hybridized and has no available p electrons, the value -9.6 is chosen for the quaternary benzenoid carbon. Heterocyclic aromatic compounds are estimated in a similar manner using the group value for an aromatic sp^2 hybridized nitrogen reported in Table 5. Once the total phase change entropy is calculated, the product of ΔS_{tpce} and the melting point T_{fus} can provide an estimate of the total phase change enthalpy, ΔH_{tpce} . Tridecane

TABLE 8. Cyclic functional group adjustments to Eqs. (2) and (3)

Heteroatoms and functional groups comprising a portion of a ring ^a		Group value (G_k^b) $J \cdot mol^{-1} \cdot K^{-1}$
Cyclic ether	$R—O_c—R$	1.2
Cyclic peroxide (4)	$R—[OO]_c—R$	[27.7]
Cyclic ketone	$R—[C(=O)]_c—R$	-1.4
Cyclic ester	$R—[C(=O) O]_c—R$	3.1
Cyclic carbonate (6)	$R—[OC(=O) O]_c—R$	[1.3]
Cyclic anhydride	$R—[C(=O)—O—C(=O)]_c—R$	2.3
Cyclic sp^2 nitrogen	$RRC=[N_c]—R$	0.5
Cyclic tertiary amine	$R_2>N_c—R$	-19.3
Cyclic hydrazine (2)	$R_2>N_cNH_2$	[21.7]
Cyclic secondary amine	$R—N_cH—R$	2.2
Cyclic tertiary amine-N-oxide (1)	$R—N_c(\rightarrow O)—RR$	[-22.2]
Cyclic azoxy group (2)	$R—N_c=N_c(\rightarrow O)—R$	[2.9]
Cyclic secondary amide	$R—[C(=O)NH]_c—R$	2.7
Cyclic tertiary amide	$R—[C(=O)N]_c < R, R$	-21.7
Cyclic tertiary amide (4)	$R—C(=O)[N]_c < R_2$	[-7.0]
Cyclic carbamate (2)	$R—[OC(=O)N—H]_c R$	[15.3]
N substituted cyclic carbamate (3)	$R—[OC(=O)N]_c < RR$	[-5.2]
N,N disubstituted cyclic carbamate	$R—[OC(=O)N]_c < R_2$	-22.2
N-substituted cyclic imide (17)	$R—[C(=O)N(R)C(=O)]_c—R$	-13.6
Cyclic imide (9)	$R—[C(=O)N(H)C(=O)]_c—R$	[2.8]
Cyclic phosphorothioate (1)	$R—[O—P(=S)<(OR)]_c(OR)$	[-15.6]
Cyclic phosphate ester (2)	$[R—O—P(=O) OR]OR$	[-17]
Cyclic sulfide	$R—[S]_c—R$	2.9
Cyclic disulfide (5)	$R—[SS]_c—R$	[-6.4]
Cyclic disulfide S-oxide (2)	$R—SS(=O)_c—R$	[4.0]
Cyclic sulfoxide (1)	$R—[S(=O)]_c—R$	[-2.2]
Cyclic sulfone (7)	$R—[S(=O)_2]_c—R$	[0]
Cyclic thiocarbonate (1)	$R—[OC(=O)S]_c—R$	[14.3]
Cyclic sulfite (1)	$R—[OS(=O)O]_c—R$	[-5.8]
Cyclic dithioester (2)	$R—[(C=S)S]_c—R$	[11.0]
Cyclic sulfate (1)	$R—[OS(=O)_2O]_c—R$	[0.9]
Cyclic sulphonamide (1)	$R—[S(=O)_2NH]_c—R$	[-0.4]
Cyclic N substituted sulfonamide (4)	$R—[SO_2 N]_c—RR$	[-17.6]
Cyclic carboxyl sulfimide (1)	$R—[SO_2 NH—(C=O)]_c—R$	[13.9]
Cyclic thiocarbamate (1)	$R—[S—(C=O)NH]_c—R$	[13.9]
Cyclic isothiocarbamate (3)	$R—[O—(C=S)NH]_c—R$	[2.6]
Cyclic dithiocarbamate (1)	$R—[S—(C=S)NH]_c—R$	[3.8]
Cyclic quaternary silicon	$R_2>[Si]_c < R_2$	-34.7

^aR refers to any alkyl or aryl group unless specified otherwise; X refers to any halogen; values in brackets are tentative assignments; atoms in bold in column 2 define the atoms included in the functional group; all group values in this table are to be used with the ring Eqs. (2) or (3); values in brackets are tentative assignments and are based on the number of entries in parentheses reported in column 1; the R groups that comprise a portion of the ring structure are designated by italics; all group coefficients; Ck can be assumed to be 1.

Tridecane



$$[2*(17.6) + 11*(7.1)*(1.31)] = 137.5 \text{ J mol}^{-1} \text{ K}^{-1}$$

$$\Delta H_{\text{fus}} = 137.5 * 267.3 = 36800 \text{ J mol}^{-1}$$

$$\Delta H_{\text{trs}} = 7900 \text{ J mol}^{-1}$$

$$T_{\text{trs}} = 254.4 \text{ K}$$

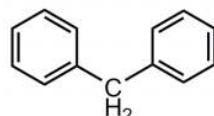
$$\Delta H_{\text{fus}} = 29620 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 267.3 \text{ K}$$

$$\Delta S_{\text{tpce}} = 141.9 \text{ J mol}^{-1} \text{ K}^{-1}$$

[2005HUA/SIM]

Diphenylmethane



$$[10*(7.4) + 2*(-9.6) + (7.1)] = 61.9 \text{ J mol}^{-1} \text{ K}^{-1}$$

$$\Delta H_{\text{fus}} = 61.9 * 298.4 = 18500 \text{ J mol}^{-1}$$

$$\Delta H_{\text{fus}} = 19010 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 298.4 \text{ K}$$

$$\Delta S_{\text{tpce}} = 63.7 \text{ J mol}^{-1} \text{ K}^{-1}$$

[2005CHI/STE2]

FIG. 1. Estimations of acyclic and aromatic hydrocarbons.

illustrates an example where the crystalline phase undergoes a solid-solid phase transition. The solid-solid phase transition enthalpy and transition temperature are denoted as ΔH_{trs} and T_{trs} , respectively, in the following illustrations. If the phase transition occurs close in temperature to the melting temperature, as in the case for tridecane, the predicted total phase change enthalpy is quite close to the experimental value: (36.8–37.5) $\text{kJ}\cdot\text{mol}^{-1}$. However, if the phase transition occurs at a much lower temperature, then the predicted total phase change enthalpy can be quite different from the fusion enthalpy. Based on the results for diphenylmethane, the estimation suggests that diphenylmethane does not have any substantial phase changes occurring at temperatures below ambient.

3.2. Estimations of polymers

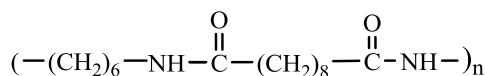
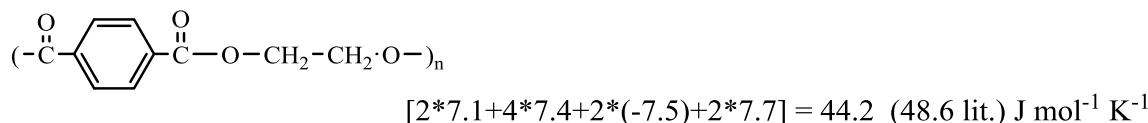
Among the simplest class of molecules to estimate are microcrystalline linear polymers. Fusion enthalpies for these materials are usually reported per repeat unit. Poly-

ethylene, poly(ethylene terephthalate) ($-\text{CH}_2-$, $=\text{C}_a\text{H}_s-$, $-\text{C}(=\text{O})\text{O}-$) and nylon 6,10 (poly(hexamethylene decanediamide) ($-\text{CH}_2-$, $-\text{C}(=\text{O})\text{NH}-$) in Fig. 2 are a few examples. Experimental values for all polymers are from [1990WUN, 1992VAN].

3.3. Estimation of cyclic and polycyclic hydrocarbons

The total phase change entropy of a cyclic or heterocyclic hydrocarbon is evaluated by first calculating the total phase change entropy of the parent cycloalkane containing only methylene groups. This is accomplished using Eq. (2) where N refers to the number of ring atoms. The resulting value is then adjusted for any changes in either the substitution pattern or hybridization from the parent cycloalkane using the group values in Table 2. Any additional acyclic hydrocarbon substituents are then added in normal group fashion to the ring using the values provided in Table 1. For polycyclic hydrocarbons, Eq. (3) is used followed by adjustments for the

$$-(\text{CH}_2)_n- \quad [7.1*1.3] = 9.3 \quad (9.6 \text{ lit.}) \text{ J mol}^{-1} \text{ K}^{-1} \quad \text{lit. [1990WUN]}$$



$$[14*7.1*1.3+2*1.5] = 132.2 \quad (141.6 \text{ lit.}) \text{ J mol}^{-1} \text{ K}^{-1}$$

FIG. 2. Estimation of polymers.

1.5-Cyclooctadiene



$$[33.4 + 3.7(8-3) + 4(-1.6)] = 45.5 \text{ J mol}^{-1} \text{ K}^{-1}$$

$$\Delta H_{\text{fus}} = 45.5 * 204 = 9280 \text{ J mol}^{-1}$$

$$\Delta H_{\text{trs}} = 380 \text{ J mol}^{-1}$$

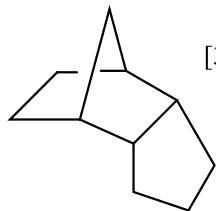
$$T_{\text{trs}} = 194.4 \text{ K}$$

$$\Delta H_{\text{fus}} = 9830 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 204 \text{ K}$$

$$\Delta S_{\text{tpce}} = 50.1 \text{ J mol}^{-1} \text{ K}^{-1}$$

[1996DOM/HEA]

endo Tetrahydrodicyclopentadiene

$$[3(33.4) + 3.7(10-9) + 4(-1.6)] = 45.1 \text{ J mol}^{-1} \text{ K}^{-1}$$

$$\Delta H_{\text{fus}} = 45.1 * 356.8 = 16100 \text{ J mol}^{-1}$$

$$\Delta H_{\text{trs}} = 10700 \text{ J mol}^{-1}$$

$$T_{\text{trs}} = 194.4 \text{ K}$$

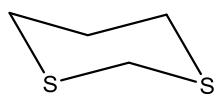
$$\Delta H_{\text{fus}} = 3480 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 356.8 \text{ K}$$

$$\Delta S_{\text{tpce}} = 50.1 \text{ J mol}^{-1} \text{ K}^{-1}$$

[2002CHI/HIL]

1,3-Dithiane



$$[33.4] + 3(3.7) + 2(2.9)_c = 50.3 \text{ J mol}^{-1} \text{ K}^{-1}$$

$$\Delta H_{\text{fus}} = 50.3 * 327.2 = 16500 \text{ J mol}^{-1}$$

$$\Delta H_{\text{trs}} = 800 \text{ J mol}^{-1}$$

$$T_{\text{trs}} = 316.4 \text{ K}$$

$$\Delta H_{\text{fus}} = 14400 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 327.2 \text{ K}$$

$$\Delta S_{\text{tpce}} = 46.5 \text{ J mol}^{-1} \text{ K}^{-1}$$

[1996DOM/HEA]

FIG. 3. Estimations of cyclic hydrocarbons.

bridgehead atoms, depending on their substitution pattern. The term R in Eq. (3) refers to the number of rings. In a polycyclic system, the value of R is determined by the minimum number of carbon–carbon bonds that must be broken to make the molecule completely acyclic. Additional substituents are added in normal fashion followed by adjustments for any changes in the substitution pattern and/or hybridization from the parent cycloalkane containing only cyclic secondary sp³ hybridized carbon. The most common carbon modifications to the cyclic carbon atoms are listed in Table 2. As described below, substitutions of cyclic heteroatoms for cyclic carbon in nonaromatic systems are handled in much the same manner. For ease of identity, functional groups selected from Table 8 are identified in the examples below with a subscript c. The R groups in italics in Table 8 identify the remaining cyclic portion of the molecule,

Monocyclic ring systems:

$$\Delta_0^{T_{\text{fus}}} S_{\text{tpce}} \Delta(\text{ring}) = [33.4] + [3.7][N - 3]. \quad (2)$$

Polycyclic ring systems :

$$\Delta_0^{T_{\text{fus}}} S_{\text{tpce}}(\text{ring}) = [(33.4)R + 3.7(N - 3R)], \quad (3)$$

where N = number of ring atoms and R refers to the number of rings.

Both 1,5-cyclooctadiene (ring equation + $=C_cH-$) and *endo* tetrahydrodicyclopentadiene (ring equation + $C_cH<$) shown in Fig. 3 have solid–solid phase transitions. In the case of the former compound, the transition is small and occurs near the fusion temperature. In the latter case the solid–solid phase transition is large and quite separate from the fusion temperature. Although the total phase change enthalpy is reasonably reproduced, estimation of the fusion enthalpy for *endo* tetrahydrodicyclopentadiene is quite poor in this case because of the large difference in temperature between the transition and fusion temperatures.

1,3-dithiane (ring equation, $-[S]_c-$) illustrates a simple example of an estimation of a nonaromatic heterocycle. Since the transition temperature is very close to the fusion

temperature, the total phase change enthalpy is reasonably well reproduced, 15 200 compared to 16 500 J·mol⁻¹.

3.4. Functionalized acyclic and aromatic hydrocarbons

Estimations of aromatic and aliphatic hydrocarbons derivatives also follow a standard group additivity protocol. Group values for acyclic functional groups are provided in Tables 3–7. The functional groups are segregated into groups according to the number of attached R groups necessary to complete the valence requirements of the functional group. As examples, an ether oxygen, an aromatic cyclic nitrogen, and a secondary amide (RCONHR) are grouped together for ease of location. Values for a few functional groups, those in Table 3, are segregated from the rest because their value is dependent on the total number of other functional groups attached to the molecule. The functional group itself is also included in this count but groups from Tables 1 and 2 are not. The group value to be used is simply the product of group coefficient and the group value. The group coefficients listed in the last column of Table 3 should be used for substances containing four or more functional groups. Fluorine substitution is the only exception and is considered a single substituent regardless of the number of fluorine atoms attached. Group values for the remaining acyclic functional groups are arranged according to the substitution pattern of the functional group. Terminal functional group values are reported in Table 4 while disubstituted, trisubstituted, and tetrasubstituted groups are arranged in Tables 5–7, respectively. Estimation of substances that fall in these two categories follows standard group additivity protocol with the exception just described for the functional groups listed in Table 3. The following examples in Fig. 4 illustrate typical estimations. None of the compounds listed as examples were included in evaluating any group values.

The top three estimations, derivatives of carboxylic acids, illustrate the application of the group coefficients in Table 3. The group value for carboxylic acids depends upon the total number of functional groups present as does the chlorine in the first estimation. The total number of functional groups in 2-benzoyl-3-chlorobenzoic acid ($=C_aH-$, $=C_a(R_a)-$, $-Cl$, $-CO_2H$, $-CO_2R$) is three and two for 3,5-di-*tert*-butylsalicylic acid as indicated in bold (CH_3- , $>C<$, $=Ca-(OH)-$, $=C_a(R_s)-$, $=C_a(R_a)-$, $-CO_2H$). The group coefficients are selected appropriately. The remaining groups are treated in normal fashion.

N-tetradecanoyl-(L)-alanine (CH_3- , $-CH_2-$, $>CH-$, $-CO_2H$, $-C(=O)NH-$) is an example of a compound that illustrates the application of two of the group coefficients in Table 1. The compound contains 10 consecutive methylene groups compared to a total of five other groups present, two functional groups and three carbon groups. Since the number of consecutive methylene groups is in excess, the contribution of each methylene group is the product of the group value and the group coefficient in Table 1. This estimation also illustrates the use of the group coefficient for a tertiary sp³ carbon. If a functional group is attached to any carbon with

a group coefficient listed in these two tables, other than for a CH₂ group, the contribution of the carbon group is the product of the group value and the group coefficient. Thus in N-tetradecanoyl-(L)-alanine, the group value for the tertiary sp³ carbon is (-16.4)(0.6).

The estimation of benz[a]acridine ($=C_aH-$, $=C_a(R_a)-$, $=N_a-$) is straightforward. Since the molecule is a totally aromatic compound, the estimation is simply the sum of the groups.

3.5. Estimations of functionalized cyclic and polycyclic hydrocarbons

Estimations of functionalized cyclic and polycyclic compounds use Eq. (2) or (3) to first evaluate the contribution of the ring or rings. The presence of substituents, double bonds, or heteroatoms on the ring is treated as adjustments to the parent cycloalkane as a result of hybridization and substitution changes, similar to the estimations provided above in Section 3.3.

Figure 5 summarizes adjustments to the ring equations resulting from structural modifications to the original cycloalkane and how they affect the total phase change entropy of the ring.

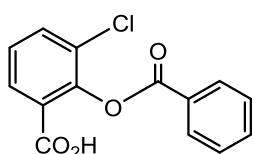
The estimation of phenothiazine (ring equation, $=C_c(R)-$, $=C_e(R)-$, $-N_cH-$, $-[S_c]-$, $=C_aH-$) illustrates a slightly more complex situation. Since both the sulfur and nitrogen are cyclic but not aromatic, they both require the use of the ring equation and the group values listed in Table 8. Thus the six membered heterocyclic ring must be estimated as cycloalkane. This brings into question how to treat the four sp² hybridized carbons bound to the heteroatoms. The protocol developed requires these four atoms to be analyzed as cyclic quaternary sp² hybridized carbons and not as quaternary aromatic carbons. The remaining portion of the molecule is treated normally as 8 tertiary aromatic sp² hybridized carbons. In summary, estimations of nonaromatic rings take priority over the aromatic portion of the molecule.

The estimation of phenobarbital illustrates a slightly different estimation. The heterocyclic six membered ring also necessitates the use of the ring equation for a six membered ring. The ring can be thought of being composed of a cyclic imide ($R_c(C-OH)C=O)R_c$), a cyclic secondary amide ($R(C=O)NHR$), and a cyclic quaternary sp³ hybridized carbon ($-C_c < (R)_2-$). The remaining ethyl and phenyl groups are evaluated normally. An alternative calculation substitutes group values for two cyclic secondary amides and a ketone together with the remaining portion of the molecule for which there is no ambiguity. The result in this case is essentially the same. Estimations of this sort for which the functional groups must be synthesized from existing components are usually associated with larger uncertainties.

4. Statistics in Evaluation of Group Values

The original 18 carbon groups and Eqs. (1) and (2) were derived from 192 hydrocarbons resulting in a standard deviation of ± 11.2 J·mol⁻¹·K⁻¹ back in 1990. [1990CHI/HES]

2-Benzoyl-3-chlorobenzoic acid



$$[8(7.4) + 4(-7.5) + (10.8)(1.5) + (13.4)(1.21) + (7.7)] = 69.3 \text{ J mol}^{-1} \text{ K}^{-1}$$

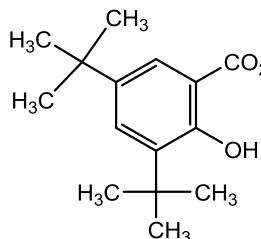
$$\Delta H_{\text{fus}} = 69.3 * 506.3 = 35100 \text{ J mol}^{-1}$$

$$\Delta H_{\text{fus}} = 35500 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 506.3 \text{ K}$$

$$\Delta S_{\text{tpce}} = 70.1 \text{ J mol}^{-1} \text{ K}^{-1}$$

[2013YOU/GAO]

3,5-Di-*tert*-butylsalicyclic acid

$$[6(17.6) + 2(-34.8) + (20.3) + 2(-9.6) + 2(-7.5) + 2(7.4) + (13.4)(1.21)] = 53.1 \text{ J mol}^{-1} \text{ K}^{-1}$$

$$\Delta H_{\text{fus}} = 53.1 * 437.5 = 23200 \text{ J mol}^{-1}$$

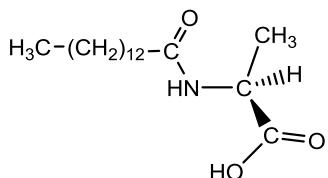
$$\Delta H_{\text{fus}} = 22920 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 437.5 \text{ K}$$

$$\Delta S_{\text{tpce}} = 52.4 \text{ J mol}^{-1} \text{ K}^{-1}$$

[2003YU/TAN]

N-Tetradecanoyl-(L)-alanine



$$[2(17.6) + 12(7.1)(1.31) + (-16.4)(0.6) + (13.4)(1.21) + (1.5)] = 154.7 \text{ J mol}^{-1} \text{ K}^{-1}$$

$$\Delta H_{\text{fus}} = 154.7 * 367.1 = 56800 \text{ J mol}^{-1}$$

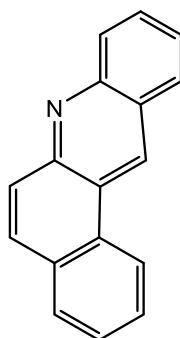
$$\Delta H_{\text{fus}} = 52300 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 367.13 \text{ K}$$

$$\Delta S_{\text{tpce}} = 142.5 \text{ J mol}^{-1} \text{ K}^{-1}$$

[1986MIY/MAT]

Benz[a]acridine



$$[11(7.4) + 6(-7.5) + 10.9] = 47.3 \text{ J mol}^{-1} \text{ K}^{-1}$$

$$\Delta H_{\text{fus}} = 47.3 * 402.8 = 19100 \text{ J mol}^{-1}$$

$$\Delta H_{\text{fus}} = 21900 \text{ J mol}^{-1}$$

$$T_{\text{fus}} = 36713 \text{ K}$$

$$\Delta S_{\text{tpce}} = 54.4 \text{ J mol}^{-1} \text{ K}^{-1}$$

[2010KES/AUC]

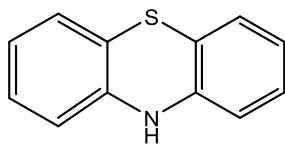
FIG. 4. Estimation of aliphatic and aromatic derivatives.

Their values have not changed much if any since. The update published in 1991 provided initial group values for 37 functional groups on the basis of 458 entries and in 1999 the total number of function groups was increased to 128 evaluated on the basis of a total of 1858 entries. [1991CHI/BRA] This resulted in a standard deviation of $\pm 13 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$. In 2003, an additional 547 entries resulted in changes to 18 of the 128 functional groups and resulted in a standard deviation of $\pm 18.6 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$. [2003CHI/ACR]

The previous update in 2009 added approximately a thousand additional compounds of increasing complexity, increasing the total number of functional groups to 160 but retained a standard deviation of $\pm 18.6 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$.

Most of the functional groups have not varied much since 1999 because it either has not been necessary or there has been a lack of additional data. Errors detected subsequently in some estimations have led to some changes. In a few cases newer experimental data have supplanted older data

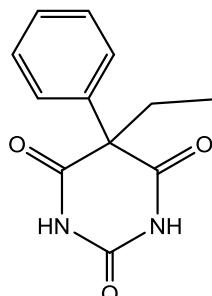
Phenothiazine



$$\begin{aligned} & [33.4 + 3(3.7) + 2.2 + 4(-12.3) \\ & 2.9 + 8(7.4)] = 59.6 \text{ J mol}^{-1} \text{ K}^{-1} \\ & \Delta H_{\text{fus}} = 59.6 * 457.2 = 27200 \text{ J mol}^{-1} \end{aligned}$$

$$\begin{aligned} \Delta H_{\text{fus}} &= 28400 \text{ J mol}^{-1} \\ T_{\text{fus}} &= 457.2 \text{ K} \\ \Delta S_{\text{tpce}} &= 62.1 \text{ J mol}^{-1} \text{ K}^{-1} \\ & [2007GUP/SIN] \end{aligned}$$

Phenobarbitol



$$\begin{aligned} & [33.4 + 3(3.7) + (2.8)_c + (2.7)_c + (-34.6) + \\ & 17.6 + 7.1 + 5(7.4) + (-9.6)] = 67.5 \text{ J mol}^{-1} \text{ K}^{-1} \\ & \Delta H_{\text{fus}} = 67.5 * 449 = 30300 \text{ J mol}^{-1} \\ & [33.4 + 3(3.7) + 2(2.7)_c + (-1.4)_c + (-34.6)_c + \\ & 17.6 + 7.1 + 5(7.4) + (-9.6)] = 66.0 \text{ J mol}^{-1} \text{ K}^{-1} \\ & \Delta H_{\text{fus}} = 66 * 449 = 29600 \text{ J mol}^{-1} \end{aligned}$$

$$\begin{aligned} \Delta H_{\text{fus}} &= 28000 \text{ J mol}^{-1} \\ T_{\text{fus}} &= 449 \text{ K} \\ \Delta S_{\text{tpce}} &= 62.4 \text{ J mol}^{-1} \text{ K}^{-1} \\ & [2010ZEN/GEL] \end{aligned}$$

FIG. 5. Estimations of complex cyclic and polycyclic hydrocarbons.

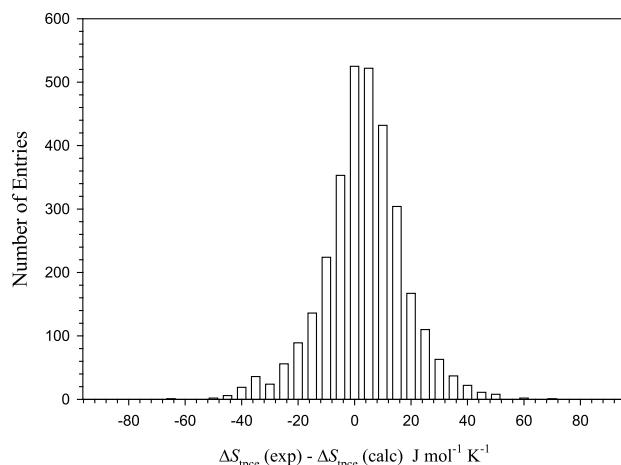
usually in better agreement with estimation. In this update, a few functional groups have also been eliminated on the basis of their variability and potential unreliability. This included a number of polynitrated compounds and some organometallics. A few new groups have also been added to the tables; these are identified in bold. Group values that have been changed from previous versions are reported in italics. Parameters for new values and values that were upgraded due to new data were evaluated by minimizing R in equation (4),

$$R = \sum_1^n \left(\frac{\Delta S_{\text{tpce}}(\text{exp}) - \Delta S_{\text{tpce}}(\text{est})}{\Delta S_{\text{tpce}}(\text{exp})} \right)^2. \quad (4)$$

The experimental total phase change entropies and enthalpies were calculated as a sum of the known experimental entropies and enthalpies for those compounds known to exhibit isothermal solid–solid phase transitions. The estimated total phase change entropy was calculated by the group method just discussed. The total phase change enthalpy was calculated as the product of the calculated total phase change entropy and the experimental fusion temperature. A total of 3299 compounds have been estimated on the basis of 128 functional groups. The original 192 hydrocarbons are not included in this total since most hydrocarbon groups have remained unchanged; neither are the 667 liquid crystals [2006ACR/CHI] and the 58 fluorinated compounds that are known to behave anisotropically as liquids. [2003CHI/ACR] Included are several new hydrocarbons in the 3299 compounds that comprise the current database and an additional 112 new compounds that have been added in this update. Of the 128 functional groups, 21 of them are based on only one entry. These entries were not included in generating the statistics. On the basis of the standard deviations obtained previously, ± 11.2 , ± 13 , ± 18.6 , and $\pm 18 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$, estimations varying

by more than 3 standard deviations were excluded from the database. An approximate value of $\pm 50 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$ was chosen as 3σ . Of the 3299 compounds, 131 of them exhibited deviations in excess of $\pm 3\sigma$ and all but four were eliminated from the database. The three materials in question exhibited deviations in excess of $\pm 3\sigma$ but fractional errors less than 0.06.

The standard deviation in the total phase change entropy and enthalpy associated with the 3151 compounds in the database is $\pm 14.6 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$ and $\pm 5.7 \text{ kJ}\cdot\text{mol}^{-1}$, respectively. Figures 6 and 7 illustrate the error distributions in both ΔS_{tpce} and ΔH_{tpce} . While the uncertainty in ΔS_{tpce} has been constrained to $\pm 50 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$, the uncertainty in ΔH_{tpce} is also dependent on the presence of additional unreported solid–solid phase transitions. Figures 8 and 9 compare experimental and estimation values for both entropy and

FIG. 6. Distribution of differences between $\Delta S_{\text{tpce}}(\text{exp}) - \Delta S_{\text{tpce}}(\text{calc})$ for 3151 compounds. The standard deviation is $\pm 14.6 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$.

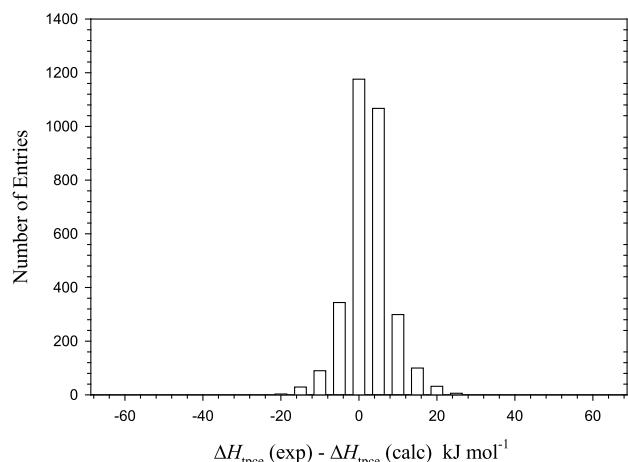


FIG. 7. Distribution of differences between $\Delta H_{\text{tpce}}(\text{exp}) - \Delta H_{\text{tpce}}(\text{calc})$ for 3151 compounds. Experimental enthalpies include enthalpies associated with all solid–solid phase changes. Calculated enthalpies are obtained as the product of $\Delta S_{\text{tpce}}(\text{calc}) * T_{\text{fus}}$. The standard deviation is $\pm 5.7 \text{ kJ} \cdot \text{mol}^{-1}$.

enthalpy. The equations of the line are given below each caption. While most entropies in the database range from 10 to 200 $\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$, a few long chain n-alkanes have significantly large entropies and enthalpies as illustrated in Figures 8 and 9. Of the 3151 compounds in the database, 16% exhibited solid–solid phase changes. Analyzed separately, the 499 compounds with additional solid–solid phase transitions were reproduced with a standard error of $\pm 14.9 \text{ J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$ and $\pm 6.3 \text{ kJ} \cdot \text{mol}^{-1}$, compared to standard deviations of $\pm 14.4 \text{ J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$ and $\pm 5.5 \text{ kJ} \cdot \text{mol}^{-1}$ for those compounds with no known solid–solid transitions.

5. The Phase Change Enthalpy Compendium, Paper II

This portion of the compendium completes a summary of literature reports of experimental phase changes of C₁₁–C₁₉₂

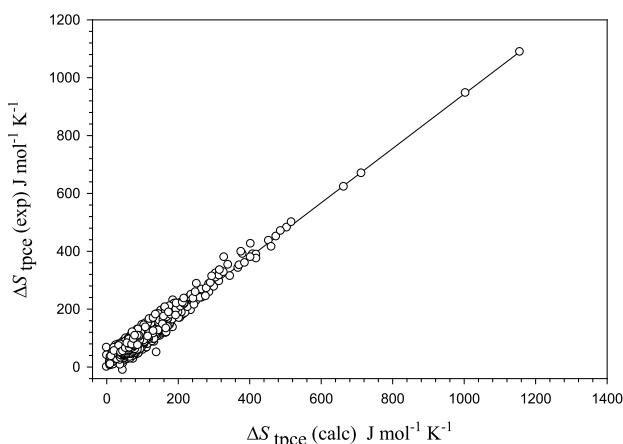


FIG. 8. A comparison of $\Delta S_{\text{tpce}}(\text{exp})$ and $\Delta S_{\text{tpce}}(\text{calc})$ for 3150 compounds. One n-alkane was omitted from this graph because of its large value, 1751.2 (exp), 1802.4 (calc) $\text{J} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$ but is included in the statistics. The equation of the line is given by $\Delta S_{\text{tpce}}(\text{exp})/\text{J mol}^{-1} \text{K}^{-1} = 0.959 * \Delta S_{\text{tpce}}(\text{calc}) + 2.13$, $r^2 = 0.949$.

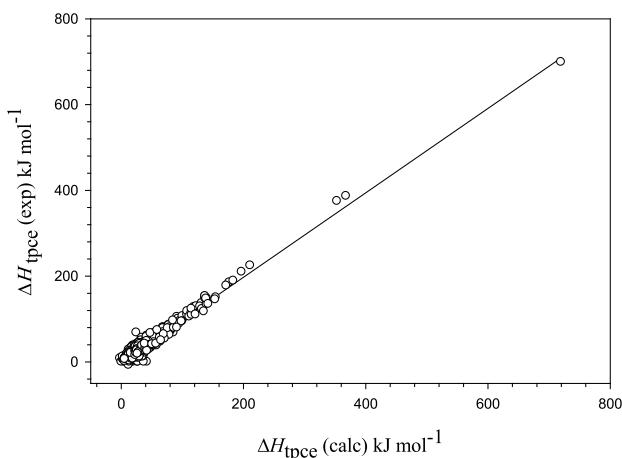


FIG. 9. A comparison of $\Delta H_{\text{tpce}}(\text{exp})$ and $\Delta H_{\text{tpce}}(\text{calc})$ for 3151 compounds. $\Delta H_{\text{tpce}}(\text{calc})$ evaluated as the product of $\Delta S_{\text{tpce}}(\text{calc}) * T_{\text{fus}}$. The equation of the line is given by $\Delta H_{\text{tpce}}(\text{exp})/\text{kJ mol}^{-1} = 0.984 * \Delta H_{\text{tpce}}(\text{calc}) + 0.470$; $r^2 = 0.945$.

organic, organo-metallic, and a few inorganic compounds and ionic liquids. As described previously, organic compounds and ionic liquids are arranged according to the Hill system. This also applies to ionic liquids. Organometallic compounds are segregated alphabetically according to the symbol of the metal but also arranged according to the Hill system. Inorganic compounds containing the same element follow and are arranged alphabetically and incrementally. Formulas for inorganic salts are generally arranged by the cation followed by the anion.

The molecular formula is provided in the first column of the first row of each individual material. This is usually followed by the Chemical Abstracts reference number in the second column and the chemical name. The chemical name is usually the name provided by the authors of the article. The remaining information in subsequent columns includes the phase transition (column 2), the temperature, or temperature range if any associated with the transition (column 3), the enthalpy associated with the transition (column 4), the mean temperature associated with the transition if measured over a temperature range (column 5), the acronym associated with the method of measurement (column 6), and reference to the source of information (column 7), usually to the original work. The acronyms used are defined in Table 9. If an entry is not provided in one of these columns, it is likely that the information was not available in the source consulted. For liquids, the vaporization enthalpy ($\Delta_v H$) in $\text{kJ} \cdot \text{mol}^{-1}$ follows the name in subsequent rows. For solids, depending on the nature of the material, the order of entry includes any solid–solid transitions available ($\Delta_{\text{trs}} H$), followed in subsequent rows by each available solid-to-liquid transition ($\Delta_{\text{fus}} H$), the sublimation enthalpies available ($\Delta_{\text{sub}} H$), and the vaporization enthalpies, if available. The enthalpies are identified in the data tables according to the type of transition, where TRS, FUS, SUB, and V denote solid–solid transitions, fusion, sublimation, and vaporization, respectively. Some enthalpy values are cited without an accompanying reference on the same line. In these cases the reference cited directly

TABLE 9. List of acronyms and descriptions for methods

A	Calculated from the vapor pressure data reported by the method of least squares
AC	Adiabatic calorimeter
B	Calculated from the difference of the enthalpies of sublimation at temperature T and fusion at the melting point.
BG	Bourdon gauge
BP	Boiling point temperature at different pressures
C	Calorimetric determination
CATH	Cathetometer
CC	Conduction calorimeter
CCM	Cooling curve method
CDG	Capacitance diaphragm gauge
CE	Critical evaluated value
CGC	Correlation-gas chromatography
CGC-DSC	Correlation gas chromatography combined with differential scanning calorimeter
CGC+Fus	Correlation gas chromatography and fusion
CR	Cryoscopy
CRT	Chromatographic retention time
CRYST	Crystallization
CVC	Calvet calorimeter
DBM	Dibutyl phthalate manometer
DC	Dynamic calorimeter
DFC	Differential calorimetry
DFM	Differential manometer
DFSC	Differential fast scanning calorimetry
DM	Diaphragm manometer
DP-LPD	Dew point low pressure distillation method
DRC	Drop calorimetry
DSC	Differential scanning calorimeter
DTA	Differential thermal analysis
E	Estimated value
EB	Ebulliometry
EM	Electronic manometer
EST	Estimated value
EV	Evaporation rates
F	Fluorescence
FPD	Freezing point depression
FPM	Freezing point method
FTIR	Fourier transform infrared spectroscopy
GC	Gas chromatography
GCC	Gas chromatography-calorimetry
GCRT	Gas chromatographic retention time
GC-RT	Gas chromatography retention time
GS	Gas saturation, transpiration
GSM	Glass spring manometer
HBG	Heise-Bourdon gauge
HFC	Heat flux calorimetry
HG	Heise gauge
HSA	Head space analysis
I	Isoteniscopic
IP	Inclined piston manometry
IPM	Inclined piston manometry
IR	Infrared spectroscopy
ITG	Isothermal thermogravimetry
ITGA	Isothermogravimetric analysis
KG	Knudsen gauge
LE	Langmuir evaporation
MCV	Method of calibrated volume
MDSC	Modulated differential scanning calorimetry
ME	Mass effusion-Knudsen effusion
ME-MS	Mass effusion-mass spectrometry
MEM	Modified entrainment method
MG	McLeod gauge
MM	Mercury manometer

TABLE 9. List of acronyms and descriptions for methods—Continued

MS	Mass spectrometry
OM	Oil manometer
OP	Optical
PG	Pressure gauge
PGSM	Pressure gauge static method
QCM	Quartz crystal microbalance
QF	Quartz fiber
QM	Quartz manometer
QR	Quartz resonator
RC	Radiation calorimeter
RG	Rodebush gauge
RS	Recirculating still
SC	Solution calorimetry
S-F	Sublimation-fusion
SG	Spoon gauge
SMZG	Silicon membrane zero gauge
SRFG	Spinning rotor friction gauge
SRM	Spinning rotor manometer
Static	Static method
STG	Strain gauge
S-V	Sublimation-vaporization
T	Tensiometer
TA	Thermal analysis
TCC	Tin Calvet calorimeter
TCM	Thermal conductivity manometer
TE	Torsion effusion
TG	Thermal gravimetric
TGA	Thermal gravimetric analysis
TG-GS	Thermogravimetric based gas saturation method
TG-TS	Thermogravimetric transpiration method
THBC	Triple heat bridge calorimeter
TPD	Temperature programmed desorption
TPD-MS	Temperature program desorption combined with mass spectrometry
TPD-UV	Temperature program desorption combined with ultraviolet spectroscopy
TPTD	Temperature programmed thermal desorption
TRM	Thermoradiometric method
TSGC	Temperature scanning gas chromatography
U	Unreliable
UV	Ultraviolet spectroscopy
UV/VIS	Ultraviolet-visible spectroscopy
V	Visible spectroscopy
V+F	Vaporization+fusion
VG	Viscosity gauge
VP	Vapor pressure as a function of temperature
ZG	Zimmerli gauge

below should be consulted since multiple enthalpy values may have been taken from the same source, particularly for compounds with multiple solid-solid phase transitions. A brief note summarizing some peculiarity in the data is also provided for some compounds, particularly if the value reported appears to be unreliable, U (e.g., "U 66 ± 22.1").

The phase change enthalpies are divided by elemental composition. The first set of tables contain substituted-organic compounds. Tables 10–16 contain phase change enthalpies of C₁₁, C₁₂–C₁₃, C₁₄–C₁₆, C₁₇–C₁₈, C₁₉–C₂₉, C₃₀–C₄₉, and C₅₀–C₁₉₂ organic compounds. Table 17 contains phase change enthalpies of organometallic and some inorganic compounds. Table 18 contains phase change enthalpies of ionic liquids.

TABLE 10. Phase change enthalpies of C₁₁ organic compounds

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ F ₂₁ N ₃	[57731-09-6]		2,2,2-trifluoro-N-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-N'-[2,2,2-trifluoro-1-(trifluoromethyl)-1-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]ammoethyl] ethanimidamide				
	V			39.8			[1975PET/SHR3]
C ₁₁ F ₂₂	[75169-50-5]	Perfluoro(1-methyl-4- <i>tert</i> -butylcyclohexane) (mix <i>cis</i> + <i>trans</i>)	(345–442)	45.8	360		[1999DYK/SVO]
C ₁₁ F ₂₂	V	Perfluoro(1-methyl-4- <i>tert</i> -butylcyclohexane) (isomer not specified)		54.1 ± 0.5	298	EB	[1981VAR/BUL]
C ₁₁ F ₂₄ O ₂	[678-38-6]	Octadecafluoro-1,9-bis(trifluoromethoxy)nonane	(293–353)	43.0	323		[1999DYK/SVO, 1964ROB]
C ₁₁ H ₄ Cl ₅ NO ₂	[77765-41-4]	2,2,4-trichloro-5-[(3,4-dichlorophenyl)amino]-4-cyclopentene-1,3-dione	(453–483)	87.5	468	GC	[1980SHA/SAD]
C ₁₁ H ₅ BrCl ₃ NO ₂	[73373-59-8]	2,2,4-trichloro-5-[(2-bromophenyl)amino]-4-cyclopentene-1,3-dione	(453–483)	67.5	468	GC	[1980SHA/SAD]
C ₁₁ H ₅ BrCl ₃ NO ₂	[73373-60-1]	2,2,4-trichloro-5-[(3-bromophenyl)amino]-4-cyclopentene-1,3-dione	(453–483)	78.1	468	GC	[1980SHA/SAD]
C ₁₁ H ₅ BrCl ₃ NO ₂	[73373-61-2]	2,2,4-trichloro-5-[(4-bromophenyl)amino]-4-cyclopentene-1,3-dione	(453–483)	82.9	468	GC	[1980SHA/SAD]
C ₁₁ H ₅ Cl ₄ NO ₂	[73373-63-4]	2,2,4-trichloro-5-[(4-chlorophenyl)amino]-4-cyclopentene-1,3-dione	(453–483)	86.2	468	GC	[1980SHA/SAD]
C ₁₁ H ₆ N ₄	[6343-21-1]	Bicyclo[2.2.1]hept-5-ene-2,2,3,3-tetracarbonitrile		117.2 ± 5.4	408	MG	[1972ROG2, 1977PED/RYL]
C ₁₁ H ₇ BrO ₂	[20717-79-7]	1-bromo-2-naphthoic acid	(340–401)	109.0 ± 2.7	370	ME	[2008GOL/SUU]
C ₁₁ H ₇ N	[86-53-3]	1-cyanonaphthalene					
	SUB			88.1 ± 1.7	298	C	[2011RIB/FER]
	SUB			(289–307) 88.6 ± 0.5	298	ME	[2011RIB/FER]
C ₁₁ H ₇ N	[613-46-7]	2-cyanonaphthalene					
	SUB			90.7 ± 1.6	298	C	[2011RIB/FER]
	SUB			(296–316) 91.8 ± 0.4	306	ME	[2011RIB/FER]
	SUB			(296–316) 92.1 ± 0.1	298	ME	[2011RIB/FER]
C ₁₁ H ₇ NO ₄	[20000-96-8]	5-(2-nitrophenyl)-2-furancarboxy aldehyde	(346–363)	107.8 ± 6.7	298	ME	[2015DIB/SOB]
	V		(378–393)	78.5 ± 4.3	298	ME	[2015DIB/SOB]
C ₁₁ H ₇ NO ₄	[13148-43-1]	5-(3-nitrophenyl)-2-furancarboxy aldehyde	(383–422)	132.5 ± 3.9	298	ME	[2015DIB/SOB]
C ₁₁ H ₇ NO ₄	[7147-77-5]	5-(4-nitrophenyl)-2-furancarboxy aldehyde	(403–428)	135.9 ± 3.5	298	ME	[2015DIB/SOB]
C ₁₁ H ₇ N ₃	[6023-46-7]	2,2-dicyano-3-phenylpropionitrile					
	FUS			29.29	411.2		[1994RAK/VER]
	SUB			(318–388) 96.2 ± 0.4	353	T	[1994RAK/VER]
C ₁₁ H ₇ N ₃	[6023-46-7]	2,2-dicyano-1-phenylpropionitrile	(318–388)	66.9		B	[1994RAK/VER]
C ₁₁ H ₇ N ₃ O ₂ S	[186792-85-8]	2-[(2-nitrophenyl)amino]-3-thiophenecarbonitrile					
	FUS (red crystals)			30.4	407.8	DSC	
	FUS (orange crystals)			30.4	407.8	DSC	[2006LI/STO]
C ₁₁ H ₈ F ₃ N ₃ O ₇	[185852-05-5]	2,3-dihydro-6-nitro-3-[2-(nitrooxy)ethyl]-7-(trifluoromethyl)-4 <i>H</i> -1,3-benzoxazin-4-one	FUS	28.9	384.7	DSC	[1996FON/ROS]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₈ N ₂	[244-63-3]	9 <i>H</i> -pyrido[3,4- <i>b</i>]indole (norharmane)					
		FUS		25.5	471.5	DSC	[1996BUR/DAG]
C ₁₁ H ₈ N ₄	[13358-02-6]	SUB	(353–389)	114.5 ± 2.0	371	ME	[2010GOL/SUU]
		SUB	(343–378)	82.0 ± 2.1	350	MG	[1971ROG, 1977PED/RYL]
C ₁₁ H ₈ O	[66-77-3]	1-formylnaphthalene					
		V		71.0 ± 1.7	298	C	[2014SIL/FRE]
C ₁₁ H ₈ O ₂	[86-55-5]	1-naphthoic acid					
		FUS		25.78	434.8	DSC	[2008MOG/SEP]
		FUS		19.89	434.2	C	[1991ACR, 1979KHE/LAL]
		FUS		22.68		DSC	[1983HOL]
		SUB	(333–380)	109.9 ± 0.5	298	GS	[2003CHI/HIL]
		SUB		117.6 ± 0.4		DSC	[1983HOL]
		SUB	(340–360)	110.4 ± 0.2	355	ME	[1974COL/ROU, 1977PED/RYL, 1987STE/MAL]
		SUB		113.6	298	C	[1974SAB/GIL]
		V	(424–453)	99.5 ± 0.2	298	CGC	[2003CHI/HIL]
		V	(457–573)	97.2	472	A	[1987STE/MAL]
C ₁₁ H ₈ O ₂	[93-09-4]	2-naphthoic acid					
		FUS		23.54	458.2	C	[1991ACR, 1979KHE/LAL]
		FUS		24.06		DSC	[1983HOL]
		SUB	(335–374)	114.9 ± 0.8	298	GS	[2003CHI/HIL]
		SUB		119.5 ± 0.6		DSC	[1983HOL]
		SUB	(347–363)	113.6 ± 0.8	365	ME	[1974COL/ROU, 1977PED/RYL, 1987STE/MAL]
		SUB		117.2	298	C	[1974SAB/GIL]
		V	(424–453)	101.1 ± 0.1	298	CGC	[2003CHI/HIL]
		V	(463–582)	98.9	478	A	[1987STE/MAL]
		SUB	(312–328)	98.0 ± 1.1	298	ME	[2015AMA/FRE]
C ₁₁ H ₈ O ₂	[58-27-5]	2-methyl-1,4-naphthoquinone					
C ₁₁ H ₉ Cl	[86-52-2]	FUS		20.33	380.2	DSC	[2016ZHA/WAN]
		V	(423–565)	59.8	494		[1999DYK/SVO]
		V	(407–447)	U90.2	422	A	[1987STE/MAL]
C ₁₁ H ₉ ClN ₂ O ₃ S	[901348-33-2]	<i>N</i> -(3-chloro-2-pyridinyl)benzene sulfonamide					
C ₁₁ H ₉ ClN ₂ O ₃ S	[546088-03-3]	FUS		28.1	404.1	DSC	[2014PER/KAZ]
		SUB		37.6	426.2	DSC	[2014PER/KAZ]
		SUB	(357–407)	115.0 ± 1.0	298	GS	[2016VOL/BLO]
C ₁₁ H ₉ ClN ₄ O ₂	[848893-02-7]	8-(3-chlorophenyl)-2,6,7,8-tetrahydroimidazo[2,1- <i>c</i>][1,2,4]triazine-3,4-dione					
C ₁₁ H ₉ Cl ₂ NO ₂	[101-27-9]	FUS		22.68	578.2	DSC	[2016BAR/SZT]
		FUS		26.91	344.1	DSC	[1990DON/DRE]
C ₁₁ H ₉ ClN ₄ O	[907967-95-7]	2-acetylpyridine <i>O</i> -(6'-chloropyrimidin-4'-yl)oxime					
C ₁₁ H ₉ N	[1008-89-5]	FUS		29	370.5	DSC	[2013PER/KAZ]
		V		68.4 ± 1.9	298	CGC	[2009LIP/CHI, 2009LIP/HAN]
		V		68.7 ± 4.6	298	CGC	[2000RIB/MAT2]
C ₁₁ H ₉ N	[1008-88-4]	V		63.2		GC	[1996GOV/RUT]
		V		68.4 ± 1.6	298	CGC	[2009LIP/CHI, 2009LIP/HAN]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
	V				64.5 ± 4.5	298	CGC	[2000RIB/MAT2]
C ₁₁ H ₉ N	[939-23-1]	4-phenylpyridine	FUS		19.95	346.9	DSC	[2000RIB/MAT2]
			SUB		81.4 ± 1.6	298	C, CGC	[2000RIB/MAT2]
	[1631-28-3]	1-(4-methylphenyl)-1 <i>H</i> -pyrrole-2,5-dione (350–370)	SUB		80.2 ± 1.8	298	C	[2000RIB/MAT2]
			V		68.4 ± 3.5	298	CGC	[2000RIB/MAT2]
C ₁₁ H ₉ NO ₂	[1081-17-0]	1-(4-methoxyphenyl)-1 <i>H</i> -pyrrole-2,5-dione (350–370)	V		63.3		GC	[1996GOV/RUT]
			SUB		104.6 ± 0.8		C	[1998KIS/KAS]
			SUB		121.1 ± 0.8		C	[1998KIS/KAS]
C ₁₁ H ₉ NO ₅	[78209-93-5]	1-acetylvinyl 4-nitrobenzoate	FUS		34.8	384.9	DSC	[2015ROJ/VAL]
			SUB		127.0 ± 1.0	346	ME	[2015ROJ/VAL]
	[90-12-0]	1-methylnaphthalene	SUB		131.0 ± 1.1	298	ME	[2015ROJ/VAL]
			FUS	(12–352)	4.98	240.7		[1996DOM/HEA]
C ₁₁ H ₁₀	[91-57-6]	2-methylnaphthalene	FUS	(12–352)	6.95	242.7	AC	[1957MCC/FIN2]
			V	(343–423)	65.1 ± 1.1	298	GC	[2006HAF/PAR]
			V	(294–324)	60.1 ± 0.8	298	GS	[2003VER]
			V	(323–473)	62.4	298	GC	[2002LEI/CHA]
			V	(485–595)	50.0	500		[1992LEE/DEM]
			V	(259–388)	63.3	274		[1988SAS/JOS]
			V	(424–593)	49.6	455		[1981WIE/KOB]
			V	(424–593)	45.9	525		[1981WIE/KOB]
			V	(278–313)	57.5	293	A, GS	[1987STE/MAL, 1979MAC/PRA]
			V		57.3 ± 0.4	298	C	[1974SAB/CHA2]
			V	(415–526)	52.3	430	A, GS	[1987STE/MAL, 1955CAM/ROS]
C ₁₁ H ₁₀	[5460-29-7]	N-(3-bromopropyl)phthalimide	FUS		11.8	306.9	DSC	[2000MAR/MIK]
			TRS	(11–366)	5.61	288.5		
			FUS	(11–366)	12.13	307.7	AC	[1996DOM/HEA, 1957MCC/FIN2]
			FUS		12.04	307.8	C	[1955TUN/STO]
			FUS		11.97	307.2	C	[1996DOM/HEA, 1931HUF/PAR]
			SUB		65.7 ± 0.85	298	C	[1974SAB/CHA2]
			SUB		61.7 ± 1.7	298		[1968KAR/RAB, 1977PED/RYL, 1974SAB/CHA2]
			V	(424–639)	48.4	465		[1981WIE/KOB]
			V	(424–639)	46.4	505		[1981WIE/KOB]
			V	(423–515)	51.2	438	A, GS	[1987STE/MAL, 1955CAM/ROS]
C ₁₁ H ₁₀ BrNO ₂	[13297-17-1]	N-(3-bromopropyl)phthalimide	SUB		116.0 ± 1.0	298	C	[2007RIB/SAN3]
C ₁₁ H ₁₀ N ₂ O	[72583-92-7]	2-(2-benzofuryl) Δ-2-imidazoline	FUS (I)		25.95	412.7		
			FUS (II)		28.53	420.3	DSC	[2001LEG/BAZ]
C ₁₁ H ₁₀ N ₂ O ₃	[40016-70-4]	2-methyl-3-acetylquinoxaline-1,4-dioxide	SUB		117.0 ± 2.4	298	ME	[1997ACR/POW]
C ₁₁ H ₁₀ N ₂ O ₃	[61522-53-0]	2-methyl-3-carboxymethoxyquinoxaline-1,4-dioxide	SUB		118.3 ± 2.6	298	C	[1997ACR/POW]
C ₁₁ H ₁₀ N ₂ O ₃	[2215-33-0]	3-(methoxycarbonyl)-2-methoxyquinoxaline-1-oxide	FUS		118.1 ± 3.3	298	C	[2009GOM/MON]
C ₁₁ H ₁₀ N ₄	[20215-33-0]	2-pyridinylhydrazone-(2-pyridinecarboxyaldehyde)	FUS		28	455.3	DSC	[2013PER/KAZ]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₁₀ N ₄	[63697-67-6]	Pyridine-3-aldehyde pyridin-2'-ylhydrazone					
	FUS		34	449.0	DSC	[2013PER/KAZ]	
C ₁₁ H ₁₀ N ₄ O ₂	[848892-90-0]	2,6,7,8-tetrahydro-8-phenylimidazo[2,1- <i>c</i>][1,2,4]triazine-3,4-dione	26.13	574.2	DSC	[2016BAR/SZT]	
C ₁₁ H ₁₀ O	[4780-79-4]	1-naphthalenemethanol					
	FUS		15.57	333.0	DSC	[2008MOG/SEP]	
	SUB		102.3 ± 1.9	298	C	[2007MAT/MOR]	
C ₁₁ H ₁₀ O	[1592-38-7]	2-naphthalenemethanol					
	SUB		106.0 ± 2.1	298	C	[2007MAT/MOR]	
C ₁₁ H ₁₀ O	[2216-69-5]	1-methoxynaphthalene					
	V		68.0 ± 1.5	298	C	[2014SIL/FRE]	
C ₁₁ H ₁₀ O ₂	[2958-72-7]	Pentacyclo[5.4.0 ^{2,6} 0 ^{3,10}]undecane-8,11-dione					
	TRS	(270–520)	0.32	309.8			
	TRS	(270–520)	9.61	345.3			
	FUS	(270–520)	5.23	516.8	DSC	[1999JIM/ROU]	
	TRS		32.14	365.9			
	FUS		3.94	516.8	DSC	[1984WEI/LEF]	
[Note: There is a large difference in the experimental enthalpies and transition temperature reported by the two research groups for the solid/solid transition around 355 K.]							
	SUB	(326–341)	92.3 ± 1.0	333	ME	[1999JIM/ROU]	
	SUB	(326–341)	92.6 ± 1.0	298	ME	[1999JIM/ROU]	
C ₁₁ H ₁₀ O ₂	[711-79-5]	2-acetyl-1-naphthol					
	FUS		22.52	371.8	DSC	[1991ACR, 1990DOM]	
C ₁₁ H ₁₀ O ₂	[574-19-6]	1-acetyl-2-naphthol					
	FUS		21.34	336.9	DSC	[1991ACR, 1990DOM]	
C ₁₁ H ₁₀ O ₃	[6295-35-8]	6-methoxy-4-methylcoumarin					
	FUS		33.31	436.1	DSC	[2011AMA/PIN]	
C ₁₁ H ₁₀ O ₄	[15721-10-5]	<i>p</i> -methacryloyloxybenzoic acid					
	FUS		34.0	455		[1996DOM/HEA, 1984LEB/LEB]	
C ₁₁ H ₁₁ Cl ₃ O ₃	[1928-40-1]	2,4,5-trichlorophenoxyacetic acid, propyl ester					
	V	(444–573)	83.2	459	A	[1987STE/MAL, 1999DYK/SVO]	
C ₁₁ H ₁₁ Cl ₃ O ₃	[25333-21-5]	Methyl 2-(2,4,5-trichlorophenoxy)butyrate					
	FUS		28.87	316.5	DSC	[1969PLA/GLA]	
C ₁₁ H ₁₁ F ₃ N ₂ O ₃	[13311-84-7]	2-methyl- <i>N</i> -[4-nitro-3-(trifluoromethyl)phenyl]propanamide (flutamide)					
	FUS		28.4	383.1	DSC	[2015NUR/BOO]	
C ₁₁ H ₁₁ N	[1198-37-4]	2,4-dimethylquinoline					
	V	(458–543)	56.3	473	A	[1987STE/MAL, 1964MAL/WEC]	
C ₁₁ H ₁₁ N	[877-43-0]	2,6-dimethylquinoline					
	FUS		20.4	330.8	AC,DSC	[2007CHI/JOH]	
	SUB		84.5 ± 1.5	298	C	[1995RIB/MAT3]	
	V	(337–591)	64.0 ± 0.1	340	IPM,EB	[2007CHI/JOH]	
	V	(337–591)	61.1 ± 0.1	380	IPM,EB	[2007CHI/JOH]	
	V	(337–591)	58.4 ± 0.1	420	IPM,EB	[2007CHI/JOH]	
	V	(337–591)	55.7 ± 0.1	460	IPM,EB	[2007CHI/JOH]	
	V	(337–591)	53.0 ± 0.1	500	IPM,EB	[2007CHI/JOH]	
	V	(337–591)	50.0 ± 0.2	540	IPM,EB	[2007CHI/JOH]	
	V	(337–591)	46.8 ± 0.4	580	IPM,EB	[2007CHI/JOH]	
	V	(337–591)	67.1 ± 0.2	298	IPM,EB	[2007CHI/JOH]	
	V	(461–541)	55.7	476	A	[1987STE/MAL, 1964MAL/WEC]	
C ₁₁ H ₁₁ N	[93-37-8]	2,7-dimethylquinoline					

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
	SUB			87.5 ± 1.5	298	C	[1995RIB/MAT3]
C ₁₁ H ₁₁ NO ₂	[5323-50-2]	N-propylphthalimide					
	SUB			98.2 ± 1.4	298	C	[2006RIB/SAN]
C ₁₁ H ₁₁ NO ₂	[3770-50-1]	Ethyl 1 <i>H</i> -indole-2-carboxylate					
	SUB	(326–348)	110.7 ± 0.6	337	ME	[2016CAR/AMA]	
	SUB	(326–348)	112.2 ± 0.6	298	ME	[2016CAR/AMA]	
C ₁₁ H ₁₁ N ₃ O ₂ S	[144-83-2]	4-amino-N-2-pyridmylbenzenesulfonamide (sulfapyridine)					
	FUS		33.3	464.8	DSC	[2014MAN/MAH]	
	FUS		44.06	464.0	DSC	[2010MIY/KHA]	
	FUS		40.47	462.7	DSC	[2003MAR/AVI, 2002MAR/GOM, 2001MAR/GOM]	
C ₁₁ H ₁₁ N ₃ O ₂ S	[1200143-14-1]	6-amino-2-phenylsulfonylimino-1,2-dihydropyridine					
	FUS (I)		49.41	510.0			
	FUS (II)		40.00	498.0			
	FUS (III)		45.69	508.4	DSC	[2009ROY/MAT]	
C ₁₁ H ₁₁ N ₃ O ₈	[53848-90-1]	Butyl 2,4,6-trinitrobenzoate					
	TRS		2.5	360			
	FUS		28.13	395.2	DSC	[1974WAR/WIL]	
C ₁₁ H ₁₂ BrN ₅ O ₃	[244272-55-7]	2-bromo-6-methyl-3,9-dihydro-3-[(2-hydroxyethoxy)methyl]-9-oxo-5 <i>H</i> -imidazol[1,2-a]pyrine					
	FUS		50.44	474.3	DSC	[1999ZIE/GOL]	
C ₁₁ H ₁₂ Br ₃ O ₄ P	[51489-36-2]	1,3,2-dioxaphosphorinane-5,5-dimethyl-2-(2,4,6-tribromophenoxy)-2-oxide					
	FUS		31.3	460.4	DSC	[2013SUN/WAN]	
C ₁₁ H ₁₂ CIN ₃ OS	[1361124-41-5]	5-[(4-chlorophenyl)amino]-α-methyl-1,2,4-thiazole-3-ethanol					
	FUS		32.1	408.4	DSC	[2013SUR/BUI]	
	SUB	(361–393)	128.9 ± 2.5	378	GS	[2013SUR/BUI]	
	SUB	(361–393)	132.6 ± 2.5	298	GS	[2013SUR/BUI]	
C ₁₁ H ₁₂ CIN ₃ OS	[1361124-49-3]	5-[(3-chlorophenyl)amino]-α-methyl-1,2,4-thiazole-3-ethanol					
	FUS		35.0	390.2	DSC	[2013SUR/BUI]	
	SUB	(355–380)	112.4 ± 2.1	368	GS	[2013SUR/BUI]	
	SUB	(355–380)	115.6 ± 2.1	298	GS	[2013SUR/BUI]	
C ₁₁ H ₁₂ Cl ₂ N ₂ O ₅	[56-75-7]	2,2-dichloro- <i>N</i> -[2-hydroxy-1-(hydroxymethyl)-2-(4-nitrophenyl)ethyl]acetamide (chloramphenicol)					
	FUS		41.5	425.0	DSC	[2006MAR/STA]	
C ₁₁ H ₁₂ Cl ₂ O ₃	[94-11-1]	2,4-dichlorophenoxyacetic acid, isopropyl ester					
	V	(460–573)	69.5	475	A	[1987STE/MAL, 1999DYK/SVO]	
	V	(444–573)	65.7	508	GC	[1966JEN/SCH]	
C ₁₁ H ₁₂ Cl ₂ O ₃	[1928-61-6]	2,4-dichlorophenoxyacetic acid, propyl ester					
	V	(444–573)	77.3	459	A	[1987STE/MAL, 1999DYK/SVO]	
	V	(444–573)	69.1	508	GC	[1966JEN/SCH]	
C ₁₁ H ₁₂ Cl ₂ O ₃	[18625-12-2]	4-(2,4-dichlorophenoxy)butanoic acid, methyl ester					
	FUS		22	309.7	DSC	[2005VEC/BRU]	
	FUS		32.64	309.6	DSC	[1969PLA/GLA]	
C ₁₁ H ₁₂ Cl ₂ O ₄	[28191-20-0]	2,4-dichlorophenoxyacetic acid, 3-hydroxypropyl ester					
	V	(463–483)	72.1	473	A	[1987STE/MAL, 1999DYK/SVO]	
C ₁₁ H ₁₂ I ₃ NO ₂	[17879-97-9]	(–) 3-[3-(amino-2,4,6-triodophenyl)-2-ethylpropanoic acid (iopanoic acid)					
	FUS		25.98	438.8	DSC	[1999LI/ZEL]	
C ₁₁ H ₁₂ I ₃ NO ₂	[96-83-3]	(±) 3-[3-(amino-2,4,6-triodophenyl)-2-ethylpropanoic acid (iopanoic acid)					
	FUS		30.0	425.6	DSC	[2010MUR/PIK2]	
	FUS		27.7	427	DSC	[1999LI/ZEL]	
C ₁₁ H ₁₂ NO ₃ PS	[732-11-6]	O,O-dimethyl-S-phthalimidomethyl phosphorodithioate					
	FUS		26.96	343.2	DSC	[1990DON/DRE]	
C ₁₁ H ₁₂ N ₂ O	[60-80-0]	1,2-dihydro-1,5-dimethyl-2-phenyl-3 <i>H</i> -pyrazol-3-one (antipyrine)					

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
<chem>C11H12N2OS2</chem>	[102-77-2]	FUS		25.18	384.0	DSC	[2010BAI/VAN]
		FUS (I)		24.5	383.7	DSC	[2002SCH/LEN]
		FUS (II)		24.52	385.8		[1985OHM/LIP]
<chem>C11H12N2O2</chem>	[73-22-3]	2-(4-morpholinothio)benzothiazole					
		SUB		12.97	345		
		SUB		17.99	357	DSC	[1978GUZ/LAR]
<chem>C11H12N2O2</chem>	[73-22-3]	(I)-tryptophane					
		SUB		184.4 ± 2.3	450	ME,MS	[2014TYU/KRA]
		SUB		186.6 ± 4.1	298	ME,MS	[2014TYU/KRA]
<chem>C11H12N2O3</chem>	[20771-72-6]	(340–440) U 87.9 ± 8			390	LE	[1977GAF/PIE]
		SUB		121.9 ± 3.9	298	C	[1993RIB/RIB]
		FUS		27.1	351.2	DSC	[1996FON/ROS]
<chem>C11H12N4O2S</chem>	[127-79-7]	2-(4-aminobenzenesulfonamido)-4-methylpyrimidine (sulfamerazine)					
		FUS		41.3	508.5	DSC	[2003MAR/AVI, 2002MAR/GOM, 2001MAR/GOM]
		FUS		41.1	509.7	DTA	[1986MAU/RAM]
		FUS		45.8	506.4	DSC	[1983KHA]
<chem>C11H12N4O3S</chem>	[80-35-3]	22.3 453.4				DTA	[1971SUN/EIS]
		FUS				DSC	[1995BUS/ESC]
		FUS		33.9	453.6	DSC	[1994ESC/BUS]
<chem>C11H12NO3S</chem>	[152-47-6]	32.4 453.2				DSC	[1985MAU/RAM]
		FUS					
		SUB		130.4 ± 1.3	298	GS	[2013PER/RYZ]
<chem>C11H12O</chem>	V	2-ethylidene-3-phenylpropanal (333–374)		73.6	348	A	[1987STE/MAL]
<chem>C11H12O</chem>	[826-73-3]	1-benzosuberone		69.0 ± 1.7	298	C	[2010MIR/MOR]
<chem>C11H12O2</chem>	[2495-37-6]	Benzyl methacrylate (347–431)		70.5	362	A	[1987STE/MAL]
<chem>C11H12O2</chem>	[103-36-6]	Ethyl cinnamate					
		V		70.4 ± 1.4	298	CGC	[2015KOZ/GOB]
<chem>C11H12O2</chem>	[5331-64-6]	V (453–544)		57.8	468	A	[1987STE/MAL]
		V					
<chem>C11H12O2</chem>	V	1-phenyl-1,3-pentanedione (371–550)		64.6	386	A	[1987STE/MAL]
<chem>C11H12O2</chem>	[39522-76-4]	1-phenyl-4,7-dioxaspiro[2.4]heptane					
		FUS		22.6	303.1	DSC	[1998VER/PEN]
		SUB		91.8 ± 0.8	298		[1998VER/PEN]
		V		(307–333)	298	GS	[2002VER]
<chem>C11H12O2</chem>	[40317-63-3]	V (288–302)		71.3 ± 0.7	298	GS	[1998VER/PEN]
		V		69.6 ± 0.7			
		V					
<chem>C11H12O2</chem>	V	4-carboxymethylpentacyclo [4.3.0.0 ^{2,5} 0 ^{4,7}]nonane (303–343)		80.0 ± 1.7	333		[1984BEC/RUC]
<chem>C11H12O2</chem>	[33892-75-0]	3,4-dihydro-5-methoxy-1(2H)-naphthalenone					
		FUS		22.2	362.5	DSC	[2009MAT/SOU2]
<chem>C11H12O2</chem>	[33892-75-0]	SUB		97.9 ± 0.4	298	C	[2009MAT/SOU2]

[Note: Authors of [1995BUS/ESC] state that the solute was tested for purity in a differential scanning calorimeter (DSC) and the experimental heat and temperature of fusion were 22.3 kJ mol⁻¹ and 453.4 K, respectively. Later in the paper refer to the same numerical value as the heat of fusion at 298 K.]

<chem>C11H12O2</chem>	[80-35-3]	FUS		33.9	453.6	DSC	[1994ESC/BUS]
		FUS		32.47	453.2	DSC	[1985MAU/RAM]
<chem>C11H12NO3S</chem>	[152-47-6]	4-amino-N-(3-methoxy-2-pyrazinyl)benzenesulfonamide (sulfamethoxypyrazine)					
		FUS		32.4	448.4	DSC	[2013PER/RYZ]
		SUB		130.4 ± 1.3	298	GS	[2013PER/RYZ]
<chem>C11H12O</chem>	V	2-ethylidene-3-phenylpropanal (333–374)		73.6	348	A	[1987STE/MAL]
<chem>C11H12O</chem>	[826-73-3]	1-benzosuberone		69.0 ± 1.7	298	C	[2010MIR/MOR]
<chem>C11H12O2</chem>	V	Benzyl methacrylate (347–431)		70.5	362	A	[1987STE/MAL]
<chem>C11H12O2</chem>	[103-36-6]	Ethyl cinnamate					
		V		70.4 ± 1.4	298	CGC	[2015KOZ/GOB]
<chem>C11H12O2</chem>	[5331-64-6]	V (453–544)		57.8	468	A	[1987STE/MAL]
		V					
<chem>C11H12O2</chem>	V	1-phenyl-1,3-pentanedione (371–550)		64.6	386	A	[1987STE/MAL]
<chem>C11H12O2</chem>	[39522-76-4]	1-phenyl-4,7-dioxaspiro[2.4]heptane					
		FUS		22.6	303.1	DSC	[1998VER/PEN]
		SUB		91.8 ± 0.8	298		[1998VER/PEN]
		V		(307–333)	298	GS	[2002VER]
<chem>C11H12O2</chem>	[40317-63-3]	V (288–302)		71.3 ± 0.7	298	GS	[1998VER/PEN]
		V		69.6 ± 0.7			
		V					
<chem>C11H12O2</chem>	V	4-carboxymethylpentacyclo [4.3.0.0 ^{2,5} 0 ^{4,7}]nonane (303–343)		80.0 ± 1.7	333		[1984BEC/RUC]
<chem>C11H12O2</chem>	[33892-75-0]	3,4-dihydro-5-methoxy-1(2H)-naphthalenone					
		FUS		22.2	362.5	DSC	[2009MAT/SOU2]
<chem>C11H12O2</chem>	[33892-75-0]	SUB		97.9 ± 0.4	298	C	[2009MAT/SOU2]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₁₂ O ₂	[1078-19-9]	FUS	3,4-dihydro-6-methoxy-1(2 <i>H</i>)-naphthalenone	22.8	351.3	DSC	[2009MAT/SOU2]
							[2009MAT/SOU2]
C ₁₁ H ₁₂ O ₂	[6836-19-7]	FUS	3,4-dihydro-7-methoxy-1(2 <i>H</i>)-naphthalenone	23.2	334.8	DSC	[2009MAT/SOU2]
							[2009MAT/SOU2]
C ₁₁ H ₁₂ O ₃	[94-02-0]	V	Benzoylacetic acid, ethyl ester	(380–538)	72.1	395	A [1987STE/MAL]
C ₁₁ H ₁₂ O ₃	[607-91-0]	V	Myristicin	(368–553)	61.2	383	A [1987STE/MAL]
C ₁₁ H ₁₂ O ₃	[737776-59-9] or [737776-68-0]	V	2-piperonylpropanal	(373–423)	74.5	388	A [1987STE/MAL]
C ₁₁ H ₁₂ O ₄	[581-55-5]	FUS	Phenylmethylenediacetate	26.31	318.2	DSC	[1996VER/PEN]
							[1996VER/PEN]
							[1996VER/PEN]
C ₁₁ H ₁₂ O ₄	[2309-07-1]	FUS	Methyl 4'-hydroxy-3'-methoxycinnamate (methyl ferulate)	25.84	335.7	DSC	[2010PAN/SAR]
							[2016EME/YER]
							[2016EME/YER]
C ₁₁ H ₁₂ O ₄	[7345-82-6]	SUB	<i>trans</i> -2,3-dimethoxycinnamic acid	(380–392)	141.0 ± 0.9	298	ME [1999MON/HIL]
C ₁₁ H ₁₂ O ₄	[16909-09-4]	SUB	<i>trans</i> -2,4-dimethoxycinnamic acid	(391–404)	149.2 ± 1.3	298	ME [1999MON/HIL]
C ₁₁ H ₁₂ O ₄	[10538-51-9]	SUB	<i>trans</i> -2,5-dimethoxycinnamic acid	(376–391)	138.8 ± 1.1	298	ME [1999MON/HIL]
C ₁₁ H ₁₂ O ₄	[2316-26-9]	SUB	<i>trans</i> -3,4-dimethoxycinnamic acid	(390–404)	149.9 ± 0.8	298	ME [1999MON/HIL]
C ₁₁ H ₁₂ O ₄	[16909-11-8]	SUB	<i>trans</i> -3,5-dimethoxycinnamic acid	(385–397)	141.4 ± 0.5	298	ME [1999MON/HIL]
C ₁₁ H ₁₃ ClF ₃ N ₃ O ₄ S ₃	[346-18-9]	FUS	6-chloro-3,4-dihydro-2-methyl-3-[(2,2,2-trifluoroethyl)thio]methyl-2 <i>H</i> -1,2,4-benzothiadiazine-5-sulfonamide-1,1-dioxide (polythiazide)	42.67	493.2	DSC	[2000HAN/PAR]
C ₁₁ H ₁₃ ClO ₃	[94-81-5]	FUS	4-(4-chloro-2-methylphenoxy)butanoic acid	32.02	373.5	DSC	[1990DON/DRE]
C ₁₁ H ₁₃ Cl ₃	[61468-36-8]	V	4- <i>tert</i> -butyl-2,3,6-trichlorotoluene	(423–570)	62.7	438	A [1987STE/MAL, 1973FEL/SAV, 1999DYK/SVO]
C ₁₁ H ₁₃ F ₃ N ₂ O ₃ S	[53780-34-0]	FUS	5'-(trifluoromethanesulphonamide)acet-2',4-xylidide	37.66	457.3	DSC	[1990DON/DRE]
C ₁₁ H ₁₃ F ₃ N ₄ O ₄	[29091-05-2]	FUS	N ³ ,N ³ -diethyl-2,4-dinitro-6-(trifluoromethyl)-1,3-benzenediamine	29.13	372.1	DSC	[1990DON/DRE]
C ₁₁ H ₁₃ NO	[14091-93-1]	SUB	(<i>E</i>)-3-(methylamino)-1-phenyl-but-2-en-1-one	99.2 ± 4.2	298	C	[1993RIB/RIB]
C ₁₁ H ₁₃ NO	[7294-89-5]	SUB	4-phenylaminopent-3-ene-2-one	89.9 ± 3.8	298	C	[1993RIB/RIB]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₁₃ NO ₃	[74784-71-7]	(R)-3-(1 <i>H</i> -indoloxyl)-1,2-propanediol					
	FUS		34.7	394.7		DSC	[2013BRE/GUB]
C ₁₁ H ₁₃ NO ₃	[61212-32-6]	3-(1 <i>H</i> -indoloxyl)-1,2-propanediol					
	FUS		20.8	370.7		DSC	[2013BRE/GUB]
C ₁₁ H ₁₃ NO ₃	[1552-96-1]	3-(4-dimethylaminophenyl)acrylic acid					
	SUB	(397–426)	139.7 ± 6.7	411		ME	[2014DIB/RAE]
	SUB	(397–426)	144.5 ± 6.7	298		ME	[2014DIB/RAE]
C ₁₁ H ₁₃ NO ₄	[22781-23-3]	2,3-isopropylidenedioxyphenyl-N-methylcarbamate					
	FUS		29.45	402.6		DSC	[1990DON/DRE]
C ₁₁ H ₁₃ N ₃ OS	[1245618-40-9]	1-[(5-phenylamino)-1,2,4-thiadiazol-3-yl]-2-propanol					
	FUS		24.0	375.4		DSC	[2010PER/VOL]
	SUB	(342–364)	123.8 ± 1.1	298		GS	[2010PER/VOL]
C ₁₁ H ₁₃ N ₃ O ₃ S	[127-69-5]	3,4-dimethylisoxazol 5-sulphanyl amide					
	FUS		8.41	448.2		DSC	[1996CIO/MEL]
C ₁₁ H ₁₃ N ₅ O ₃	[114199-19-8]	6-methyl-3,9-dihydro-3-[(2-hydroxy ethoxy)methyl]-9-oxo-5 <i>H</i> -imidazol[1,2- <i>α</i>]pyrine					
	FUS		36.06	465.4		DSC	[1999ZIE/GOL]
C ₁₁ H ₁₃ N ₉ O ₄	[1258314-91-8]	1,1'-(2,5-pyridinediyi)bis(2-nitriminoimidazolidine)					
	FUS		22.22	423.9		DSC	[2011CAI/XIA]
C ₁₁ H ₁₄	[4912-92-9]	1,1-dimethylindane					
	FUS	(11–389)	11.99	227.4		AC	[1996DOM/HEA, 1981LEE/FIN]
	V	(313–348)	50.1	328	A,IPM,EB	[1987STE/MAL, 1978OSB/SCO]	
	V	(313–467)	50.5	328	A,IPM,EB	[1987STE/MAL]	
	V	(387–467)	45.9	402	A,IPM,EB	[1987STE/MAL, 1978OSB/SCO]	
	V	(313–467)	51.9 ± 0.3	298	IPM,EB	[1978OSB/SCO]	
C ₁₁ H ₁₄	[1685-82-1]	4,6-dimethylindane					
	FUS	(12–370)	12.88	256.5		AC	[1996DOM/HEA, 1981LEE/FIN]
	V	(313–467)	56.9	328	A,IPM,EB	[1987STE/MAL, 1978OSB/SCO]	
	V	(313–363)	56.4	328	A,IPM,EB	[1987STE/MAL, 1978OSB/SCO]	
	V	(415–467)	50.3	430	A,IPM,EB	[1987STE/MAL, 1978OSB/SCO]	
	V	(313–467)	57.9 ± 0.4	298	IPM,EB	[1978OSB/SCO]	
C ₁₁ H ₁₄	[6682-71-9]	4,7-dimethylindane					
	FUS	(13–394)	13.52	272.7		AC	[1996DOM/HEA, 1981LEE/FIN]
	V	(313–470)	54.7	328	A,IPM,EB	[1987STE/MAL, 1978OSB/SCO]	
	V	(313–363)	56.9	328	A,IPM,EB	[1987STE/MAL, 1978OSB/SCO]	
	V	(417–470)	50.6	432	A,IPM,EB	[1987STE/MAL, 1978OSB/SCO]	
	V	(313–470)	58.3 ± 0.4	298	IPM, EB	[1978OSB/SCO]	
C ₁₁ H ₁₄	[2055-40-5]	4-isopropylstyrene					
	V	(408–478)	48.5	423	A	[1987STE/MAL, 1949DRE/SHR]	
C ₁₁ H ₁₄	[17498-71-4]	α-isopropylstyrene					
	V	(278–318)	53.3 ± 0.3	298	GS	[1999VER/EBE]	
C ₁₁ H ₁₄	[2809-64-5]	5-methyl-1,2,3,4-tetrahydronaphthalene					
	V	(416–508)	53.4	431	A	[1987STE/MAL, 1941MAI/STR]	
C ₁₁ H ₁₄	[1680-51-9]	6-methyl-1,2,3,4-tetrahydronaphthalene					
	V	(411–502)	53.7	426	A	[1987STE/MAL, 1941MAI/STR]	
C ₁₁ H ₁₄	[3937-24-4]	2,4,5-trimethylstyrene					
	V	(352–490)	56.4	367	A	[1987STE/MAL, 1949BUC/COL]	
C ₁₁ H ₁₄	[769-25-5]	2,4,6-trimethylstyrene					
	V	(362–483)	50.9	377	A	[1987STE/MAL, 1949BUC/COL]	
C ₁₁ H ₁₄	[4421-32-3]	Pentacyclo[5.4.0 ^{2,6} 0 ^{3,10} 0 ^{5,9}]undecane					
	TRS	(5–320)	4.86	164.4		AC	

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
<chem>C11H14ClNO</chem>	[1918-16-7]	FUS	(300–480)	6.38	475.8	C	[1995KAB/KOZ]
		SUB		54.7 ± 0.9	337	C	[1995KAB/KOZ]
		SUB	(273–323)	54.9 ± 1.1	298	ME	[1995KAB/KOZ]
<chem>C11H14C12</chem>	[61468-35-7]	FUS		26.05	351.4	DSC	[1990DON/DRE]
		V	4- <i>tert</i> -butyl-2,5-dichlorotoluene (395–538)	57.0	410	A	[1987STE/MAL, 1973FEL/SAV, 1999DYK/SVO]
<chem>C11H14N2</chem>	[4886-30-0]	V	1-butylbenzimidazole (328–375)	83.4 ± 0.3	298	GS	[2012GAR/VER]
<chem>C11H14N2O2</chem>	[718-36-5]	SUB	4-nitrobenzylidene <i>tert</i> -butylamine 91.1 ± 3.1	298	C	[1989ACR/KIR]	
<chem>C11H14N2O2</chem>	[128478-71-7]	FUS	2-cyano-2-nitroadamantane 4.98	470.2	DSC	[1990FRI/DOG]	
[Note: Entropy seems low. Compound may have lower temperature phase transitions.]							
<chem>C11H14N2O3</chem>	[3585-88-4]	SUB	(307–368)	70.0 ± 1.9	338	T	[1990FRI/DOG]
		SUB		116.5 ± 3.1	298	C	[1989ACR/KIR]
		FUS	3-nitro-3-(4-nitrophenyl)pentane 20.29		DSC	[1997VER3]	
<chem>C11H14N2O4</chem>	[204189-06-0]	SUB		110.8 ± 0.8	298	F + V	[1997VER3]
		V	(321–358)	88.0 ± 0.8	340	GS	[1997VER3]
	V	(321–358)	90.5 ± 0.8	298	GS	[1997VER3]	
<chem>C11H14N4O9</chem>	[165262-94-2]	SUB	1-(trinitromethyl)-3-nitrateadamantane 125.0 ± 2.0	298	C	[2001MAT/LEB]	
<chem>C11H14O</chem>	[938-16-9]	V	<i>tert</i> -butyl phenyl ketone (330–493)	55.5	345	A	[1987STE/MAL, 1947STU]
<chem>C11H14O</chem>	[24569-60-6]	V	2-ethyl-3-phenylpropanal (343–388)	64.6	358	A	[1987STE/MAL]
<chem>C11H14O</chem>	[582-62-7]	V	Isobutyl phenyl ketone (331–501)	55.7	346	A	[1987STE/MAL, 1947STU]
<chem>C11H14O</chem>		V	2,3,5-trimethylacetophenone (352–557)	57.9	367	A	[1987STE/MAL, 1947STU]
<chem>C11H14O2</chem>	[18523-34-7]	V	1,1-dimethoxy-2-phenylcyclopropane (278–313)	63.9 ± 0.6		GS	[1998VER/PEN]
<chem>C11H14O2</chem>	[122-72-5]	V	3-acetoxy-1-phenylpropane (293–333)	74.3	306	A	[1987STE/MAL]
		V	(392–516)	56.8	402		[1986CIH/VOJ]
<chem>C11H14O2</chem>	[21009-92-7]	FUS	2-acetyl-3,5-dimethylanisole 0.99	323.2	DTA	[1989SAL/ABA]	
[Note: Reported enthalpy of fusion is too small, and the published enthalpy and entropy of fusion data are internally inconsistent.]							
<chem>C11H14O2</chem>	[120-50-3]	Butyl benzoate					
		V	(374–474)	63.2	394	BG	[1988KAT2]
		V	(374–474)	55.7	452	BG	[1988KAT2]
<chem>C11H14O2</chem>	[93-16-3]	V	(343–405)	59.1	358	A	[1987STE/MAL]
		V	(358–521)	61.9	373	A	[1987STE/MAL, 1947STU]
<chem>C11H14O2</chem>	[136-60-7]	Isobutyl benzoate					
	V	(370–467)	60.4	393	BG	[1988KAT2]	

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method
C ₁₁ H ₁₄ O ₂	V	(370–467)	54.4	449	BG	[1988KAT2]
	V	(291–300)	58.1	295	A	[1987STE/MAL]
	V	(338–510)	57.1	353	A	[1987STE/MAL, 1947STU]
C ₁₁ H ₁₄ O ₂	[2510-99-8]	Ethyl 2-phenylpropionate				
	V	(293–329)	63.2 ± 0.3	311	GS	[1999VER8]
	V	(293–329)	64.0 ± 0.3	298	GS	[1999VER8]
C ₁₁ H ₁₄ O ₂	[122-70-3]	Phenethyl propionate				
	V		65.6 ± 1.6	298	CGC	[2015KOZ/GOB]
C ₁₁ H ₁₄ O ₂	[53917-01-4]	1-(4-methoxy phenyl)-2-butanone				
	V	(373–443)	62.6	388	A	[1987STE/MAL]
C ₁₁ H ₁₄ O ₂	[2270-20-4]	5-phenylvaleric acid				
	FUS		23.4	332	DSC	[2001MON/HIL]
	SUB	(315–327)	118.5 ± 0.8	321	ME	[2001MON/HIL]
	SUB	(315–327)	119.4 ± 1.1	298	ME	[2001MON/HIL]
C ₁₁ H ₁₄ O ₂	[1077-58-3]	2- <i>tert</i> -butylbenzoic acid				
	SUB	(306–322)	99.8 ± 0.4	315	ME	[1979COL/JIM]
C ₁₁ H ₁₄ O ₂	[7498-54-6]	3- <i>tert</i> -butylbenzoic acid				
	SUB	(318–335)	103. ± 0.5	327	ME	[1979COL/JIM]
C ₁₁ H ₁₄ O ₂	[98-73-7]	4- <i>tert</i> -butylbenzoic acid				
	FUS		17.91	440	DSC	[1993ACR, 1991CHI/BRA]
	SUB	(373–403)	102.1 ± 0.7	388	GS	[2005EME/STR]
	SUB	(373–403)	105.4 ± 0.7	298	GS	[2005EME/STR]
	SUB	(325–343)	103.8 ± 0.4	334	ME	[1979COL/JIM]
	SUB	(325–343)	105.2 ± 0.4	298	ME	[1979COL/JIM, 2005EME/STR]
C ₁₁ H ₁₄ O ₂	[20651-71-2]	4-butylbenzoic acid				
	SUB	(333–349)	110.5 ± 0.7	298	ME	[2004MON/ALM]
C ₁₁ H ₁₄ O ₂	[2529-39-7]	2,3,4,5-tetramethylbenzoic acid				
	SUB	(337–360)	113.4 ± 0.6	348	ME	[1988COL/JIM]
	SUB	(337–360)	115.9 ± 0.6	298	ME	[1988COL/JIM]
C ₁₁ H ₁₄ O ₂	[2408-38-0]	2,3,4,6-tetramethylbenzoic acid				
	SUB	(330–351)	106.9 ± 0.5	341	ME	[1988COL/JIM]
	SUB	(330–351)	109.7 ± 0.5	298	ME	[1988COL/JIM]
C ₁₁ H ₁₄ O ₂	[2604-45-7]	2,3,5,6-tetramethylbenzoic acid				
	SUB	(330–351)	104.6 ± 0.8	341	ME	[1988COL/JIM]
	SUB	(330–351)	106.1 ± 0.8	298	ME	[1988COL/JIM]
C ₁₁ H ₁₄ O ₂	[3854-90-8]	3,5-diethylbenzoic acid				
	SUB	(325–343)	104.1 ± 4.2	334	A	[1974ROU/TUR, 1977PED/RYL, 1987STE/MAL]
C ₁₁ H ₁₄ O ₂ S	[111895-49-9]	p-tolyl but-1-enyl sulfone				
	SUB		106.3 ± 2.5		B	[1969MAC/MCN, 1969MAC/MCN2, 1970COX/PIL]
C ₁₁ H ₁₄ O ₂ S	[24931-66-6]	p-tolyl but-2-enyl sulfone				
	SUB		107.5 ± 2.5		B	[1969MAC/STE, 1970COX/PIL]
C ₁₁ H ₁₄ O ₂ S	[17482-19-8]	p-tolyl but-3-enyl sulfone				
	SUB		113.4 ± 2.9		B	[1969MAC/STE, 1970COX/PIL]
C ₁₁ H ₁₄ O ₂ S	[16192-03-3]	p-tolyl-isobutenyl sulfone				
	SUB		102.1 ± 2.5		B	[1969MAC/MCN, 1969MAC/MCN2, 1977PED/RYL]
C ₁₁ H ₁₄ O ₂ S	[16192-04-4]	p-tolyl 2-methylprop-2-enyl sulfone				
	SUB		106.7 ± 2.9			[1969MAC/STE, 1970COX/PIL]
C ₁₁ H ₁₄ O ₃	[94-26-8]	Butyl 4-hydroxybenzoate				
	FUS	(79–399)	26.12	342.2	AC	[2014MEN/ZHU]
	FUS		25.54	340.5	DSC	[2012YAN/THA]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
	FUS			25.9	340.7	DSC	[2011UMN/CHI]
	FUS			29.3	342.2	DSC	[2004STU/WIT]
	FUS			26.6	341.8	DSC	[1999GIO/BET]
	SUB	(320–333)	108.4 ± 0.8	298	GS	[2005PER/ROD]	
	V		95.8 ± 0.6	298	CGC	[2011UMN/CHI]	
	V		76.9		TGA	[2002CHA/DOL]	
	V		72.2		TGA	[2001CHA/DOL]	
C ₁₁ H ₁₄ O ₃		(dl)-3-phenyl-3-hydroxy-2,2-dimethylpropanoic acid					
	FUS		37.24	407		[1991CHI/BRA]	
C ₁₁ H ₁₄ O ₃		(d)-3-phenyl-3-hydroxy-2,2-dimethylpropanoic acid					
	FUS		39.75	431		[1991CHI/BRA]	
C ₁₁ H ₁₄ O ₃	[4521-28-2]	(4-methoxyphenyl)-4-butyric acid					
	FUS		25.3	330.9		[1979ARM/JAM]	
C ₁₁ H ₁₄ O ₃		(dl)-3-hydroxy-3-phenylvaleric acid					
	FUS		35.15	394		[1991CHI/BRA]	
C ₁₁ H ₁₄ O ₃		(d)-3-hydroxy-3-phenylvaleric acid					
	FUS		30.96	379		[1991CHI/BRA]	
C ₁₁ H ₁₄ O ₃		2-piperonylpropanol					
	V	(373–443)	84.8	388	A	[1987STE/MAL]	
C ₁₁ H ₁₄ O ₃	[1498-96-0]	4-butoxybenzoic acid					
	TRS (liq cryst)		18.83	420.7			
	TRS (liq cryst-to-liq)		2.93	432.2	DSC	[1967HER]	
	SUB	(378–419)	123.2 ± 1.0	298	GS	[2015JAK/SPO]	
	SUB	(351–373)	125.2 ± 0.4	362	ME	[2010FON/SAN]	
	SUB	(351–373)	127.7 ± 0.8	298	ME	[2010FON/SAN]	
	SUB		129.0 ± 0.8	298		[2010RIB/FER3]	
C ₁₁ H ₁₄ O ₃	[147578-43-6]	2-isobutoxybenzoic acid					
	V	(344–398)	95.6 ± 0.6	298	GS	[2015JAK/SPO]	
C ₁₁ H ₁₄ O ₃	[350997-58-9]	3-isobutoxybenzoic acid					
	V	(355–382)	99.2 ± 0.9	298	GS	[2015JAK/SPO]	
C ₁₁ H ₁₄ O ₃	[30762-00-6]	4-isobutoxybenzoic acid					
	SUB	(363–403)	119.0 ± 0.6	298	GS	[2015JAK/SPO]	
C ₁₁ H ₁₄ O ₃	[6627-89-0]	tert-butyl phenyl carbonate					
	V	(294–348)	67.6 ± 0.6	298	GS	[2008VER/EME2]	
C ₁₁ H ₁₄ O ₄	[2107-70-2]	3-(3,4-dimethoxyphenyl)propionic acid					
	FUS		32.38	370.9	DSC	[2001MON/HIL4]	
	SUB	(352–366)	140.3 ± 0.8	359	ME	[2001MON/HIL4]	
	SUB	(352–366)	143.6 ± 2.2	298	ME	[2001MON/HIL4]	
C ₁₁ H ₁₅ BrO	[99857-52-0]	4-methyl-2-bromophenyl isobutyl ether					
	V	(293–328)	71.0 ± 0.3	298	GS	[2005STR/SPO]	
C ₁₁ H ₁₅ BrO ₃	[929259-36-9]	1-bromo-2-[2-(2-methoxyethoxy)ethoxy]benzene					
	V	(310–373)	83.1 ± 0.3	298	GS	[2006DAB/SPO]	
C ₁₁ H ₁₅ Cl	[42597-10-4]	4- <i>tert</i> -butyl-2-chlorotoluene					
	V	(372–503)	54.0	387	A	[1987STE/MAL, 1973FEL/SAV, 1999DYK/SVO]	
C ₁₁ H ₁₅ F ₉ O	[1193009-96-9]	1,1,1,2,2,3,3,4,4,-nonafluoro-6-(pentyloxy)hexane					
	FUS		18.4	203.0	DSC	[2010ZAG/CON]	
C ₁₁ H ₁₅ N	[42525-65-5]	2-phenylethylazetidine					
	V	(302–333)	62.2	317	A	[1987STE/MAL, 1976KIP/TSV]	
C ₁₁ H ₁₅ N	[4096-20-2]	<i>N</i> -phenylpiperidine					

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₁₅ N	V	(284–323)	64.0 ± 0.4	303	GS	[1998VER6]	
		(284–323)	64.3 ± 0.4	298	GS	[1998VER6]	
	[23074-42-2]	1-adamantyl-1-carbonitrile	5.06	279.4	DSC	[2008SIN/MUR2]	
		TRS	5.5	280			
	SUB	15.0	458	DSC	[1984FOU/AMO]		
		(294–312)	67.1 ± 0.8	303	ME	[1992ABB/JIM]	
C ₁₁ H ₁₅ NO	[3376-24-7]	Benzylidene <i>tert</i> -butylamine <i>N</i> -oxide	86.8 ± 0.9	298	C	[1989ACR/KIR]	
		SUB					
C ₁₁ H ₁₅ NO	[1696-17-9]	<i>N,N</i> -diethylbenzamide					
		V	(373–403)	56.5	388	A	[1987STE/MAL]
		V	(374–405)	53.2	389	Static	[1969DAV/MAK]
C ₁₁ H ₁₅ NO	[211676-69-6]	(4 <i>R</i> ,5 <i>R</i>)-3,4-dimethyl-5-phenyl-1,3-oxazolidine					
		V	(293–303)	50.0 ± 1.3	298	Static	[1998GUD/TOR]
C ₁₁ H ₁₅ NO	[123618-06-4]	(4 <i>S</i> ,5 <i>R</i>)-3,4-dimethyl-5-phenyl-1,3-oxazolidine					
		V	(293–303)	52.4 ± 0.9	298	Static	[1998GUD/TOR]
C ₁₁ H ₁₅ NO	[15351-09-4]	2-(dimethylamino)-1-phenyl-1-propanone					
		V	(293–333)	64.8 ± 1.2	298	GS	[1994WEL/VER]
C ₁₁ H ₁₅ NO ₂	FUS	4- <i>trans</i> -cyanocyclohexyl-(<i>E</i>)-2-butenoate	24.4	366.2	DTA	[1995KEL/SCH]	
C ₁₁ H ₁₅ NO ₂	[94-25-7]	Butyl 4-aminobenzoate					
		FUS	23.9	330.6	DSC	[2005SCH]	
		FUS	20.46	331.1	DSC	[1991ACR, 1989NEA/FLY, 1990NEA/FLY]	
C ₁₁ H ₁₅ NO ₂	[10287-53-3]	Ethyl 4-dimethylaminobenzoate					
		FUS	(79–397)	20.76	336.8	AC	[2015MEN/XU]
C ₁₁ H ₁₅ NO ₂	[2631-40-5]	2-(1-methylethyl)phenyl methylcarbamate					
		FUS	26.14	369.3	DSC	[1990DON/DRE]	
C ₁₁ H ₁₅ NO ₂	[94-14-4]	4-aminobenzoic acid, 2-methylpropyl ester					
		FUS	10.7	327.8	DSC	[2005SCH]	
C ₁₁ H ₁₅ NO ₂ S	[2032-65-7]	4-methylthio-3,5-xylyl methylcarbamate					
		FUS	30.36	393.8	DSC	[1991ACR, 1990DON/DRE]	
C ₁₁ H ₁₅ NO ₂ S ₂	[949171-66-8]	<i>N</i> -theonylthiocarbamic- <i>O</i> -pentyl ester					
		FUS	24.59	354.3	DSC	[2007RIB/MON]	
	SUB		165.6 ± 2.1	298	C	[2007RIB/MON]	
C ₁₁ H ₁₅ NO ₃	[75587-96-1]	1,2-dihydro-6-neopentyl-2-oxonicotinic acid					
		FUS	19.33	469.2	DSC	[1986SHA/BRI]	
C ₁₁ H ₁₅ NO ₅	[532-03-6]	2-hydroxy-3-(2-methoxyphenoxy)propyl carbamate (methocarbamol)					
		FUS	38.6	368.5	DSC	[2014SAI/MUR]	
		FUS	40.06	369.8	DSC	[2012MER/ROD]	
C ₁₁ H ₁₅ NS	[18775-06-9]	<i>N,N</i> -diethylthiobenzamide					
		SUB	91.4 ± 3.2	298	C	[1989RIB/SOU]	
C ₁₁ H ₁₅ N ₃ O ₂	[140670-55-9]	<i>N</i> -caproyl-pyrazinamide					
		FUS	35.95	351.7	DSC	[1991LIU/GUO]	
C ₁₁ H ₁₆	[1777-44-2]	Tetracyclo[6.2.1.0 ^{2,7} .0 ^{3,5}]undecane					
		V	55.3 ± 0.3	298	C	[1996VAR/PAS]	
C ₁₁ H ₁₆	[538-68-1]	Pentylbenzene					
		V	(284–323)	55.1 ± 0.4	298	GS	[2006VER]
		V		55.3	298		[1994RUZ/ZAB]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
	V			55.1	298		[1971WIL/ZWO]
C ₁₁ H ₁₆	[2049-94-7]	Isopentylbenzene					
	V	(302–466)		53.0	298	EB	[1947STU, 2006VER]
C ₁₁ H ₁₆	[2049-95-8]	<i>tert</i> -pentylbenzene					
	V	(294–318)		52.3 ± 0.3	298	GS	[2009VER/EME3]
C ₁₁ H ₁₆	[1007-26-7]	Neopentylbenzene					
	FUS	(6–350)		15.38	255.4	AC	[2012SMI/LET]
C ₁₁ H ₁₆	[2719-52-0]	(<i>dl</i>)-2-phenylpentane					
	V	(302–466)		50.3	317	A	[1987STE/MAL]
C ₁₁ H ₁₆	[1075-38-3]	1- <i>tert</i> -butyl-3-methylbenzene					
	V	(274–318)		51.1 ± 0.3	298	GS	[2008VER/KOZ2]
	V	(279–314)		51.4 ± 0.6	296	GS	[1998VER]
	V	(279–314)		51.3 ± 0.6	298	GS	[1998VER]
C ₁₁ H ₁₆	[98-51-1]	1- <i>tert</i> -butyl-4-methylbenzene					
	V	(279–323)		52.2 ± 0.1	298	GS	[2008VER/KOZ2]
	V	(279–314)		52.3 ± 0.5	296	GS	[1998VER]
	V	(279–314)		52.2 ± 0.6	298	GS	[1998VER]
C ₁₁ H ₁₆	[98-51-1]	4- <i>tert</i> -butyltoluene					
	V	(342–465)		49.1	357	A	[1987STE/MAL, 1973FEL/SAV]
C ₁₁ H ₁₆	[2050-24-0]	3,5-diethyltoluene					
	V	(307–474)		49.6	322	A	[1987STE/MAL, 1947STU]
C ₁₁ H ₁₆	[4920-99-4]	1-ethyl-3-isopropylbenzene					
	V	(301–466)		48.8	316	A	[1987STE/MAL, 1947STU]
C ₁₁ H ₁₆	[4218-48-8]	1-ethyl-4-isopropylbenzene					
	V	(304–469)		49.4	319	A	[1987STE/MAL, 1947STU]
C ₁₁ H ₁₆	[3982-67-0]	2-ethyl-1,3,5-trimethylbenzene					
	V	(312–481)		52.6	327	A	[1987STE/MAL]
C ₁₁ H ₁₆	[18262-85-6]	3-ethyl-1,2,4-trimethylbenzene					
	V	(347–488)		61.3	362	A	[1987STE/MAL]
C ₁₁ H ₁₆	[17851-27-3]	5-ethyl-1,2,4-trimethylbenzene					
	V	(317–481)		56.4	332	A	[1987STE/MAL, 1947STU]
C ₁₁ H ₁₆	[700-12-9]	Pentamethylbenzene					
	FUS		11.6	324.7	DTA		[1994SAB/TAB]
	FUS		10.67	328.2			[1996DOM/HEA, 1944EIB]
	TRS		1.80	296.4			
	FUS		12.34	327.5			[1996DOM/HEA, 1933FER/THO]
	TRS		1.98	296.8	C		[1996DOM/HEA, 1931HUF/PAR]
	SUB		71.6 ± 0.1	298	C		[1994SAB/TAB]
	SUB	(296–313)	77.4 ± 0.4	298	ME		[1989COL/JIM]
	V	(338–503)	57.8	353	A		[1987STE/MAL, 1930MAC/SMI]
C ₁₁ H ₁₆ N ₂ O ₂	[82413-41-0]	1,3-dimethyl-5,6-pentamethyleneuracil					
	SUB	(335–358)	111.9 ± 0.2	346	ME		[1983COL/JIM]
	SUB	(323–338)	108.8 ± 5	330	QR		[1980TEP/YAN, 1983COL/JIM]
	SUB	(340–370)	113.4 ± 1.3	355	MS		[1980TEP/YAN, 1983COL/JIM]
C ₁₁ H ₁₆ N ₂ O ₂	[156461-80-2]	<i>N</i> -methyl- <i>N</i> -(4- <i>tert</i> -butylphenyl)nitramine					
	FUS		23.4	351.2	DSC		[2002DAS/ZAL]
C ₁₁ H ₁₆ N ₂ O ₂ S ₂	[19475-21-9]	<i>N</i> -ethyl- <i>S</i> -methyl- <i>N'</i> -tosylisothiourea					
	FUS		35.8	390.2	DSC		[1992REI/HAN]
C ₁₁ H ₁₆ N ₂ O ₂ S ₂	[21017-78-7]	<i>N</i> -methyl- <i>S</i> -ethyl- <i>N'</i> -tosylisothiourea					
	FUS		26.5	414.2	DSC		[1992REI/HAN]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₁₆ N ₂ O ₃	[77-26-9]	Itobarbital		22.8		DSC	[1982TRE/VAU]
	FUS						
C ₁₁ H ₁₆ N ₂ O ₃	[125-42-8]	Vinbarbitone		29.9		DSC	[1982TRE/VAU]
	FUS						
C ₁₁ H ₁₆ N ₄	[60798-89-2]	5-(1-adamantyl)tetrazole					
	SUB	(394–419)	123.4 ± 1.5	408		ME	[2014STE/PAU]
	SUB	(394–419)	126.8 ± 1.5	298		ME	[2014STE/PAU]
C ₁₁ H ₁₆ N ₄ O ₂	[35873-40-6]	8-butyltheophylline		32.3	509.2	DSC	[1989GON/KRA]
	FUS						
C ₁₁ H ₁₆ N ₄ O ₂	[15030-44-1]	8- <i>tert</i> -butyltheophylline		48.2	402.3	DSC	[1989GON/KRA]
	FUS						
C ₁₁ H ₁₆ N ₄ O ₄	[24613-06-7]	(–) 4,4'-(1-methyl-1,2-ethanediyl)bis-2,6-piperazinedione (dexrazoxane)					
	FUS		37.82	467.6		DSC	[1999LI/ZEL, 1992VIG/ZAM]
C ₁₁ H ₁₆ N ₄ O ₄	[21416-67-1]	(±) 4,4'-(1-methyl-1,2-ethanediyl)bis-2,6-piperazinedione (dexrazoxane)					
	FUS		44.98	507.4		DSC	[1999LI/ZEL, 1992VIG/ZAM]
C ₁₁ H ₁₆ O	[51528-17-7]	2- <i>sec</i> -butyl-4-methylphenol					
	V	(413–548)	58.4	428		A	[1987STE/MAL]
	V	(383–523)	59.0	373			[1953STA/MUL]
	V	(383–523)	58.0	398			[1953STA/MUL]
	V	(383–523)	55.8	423			[1953STA/MUL]
	V	(383–523)	51.4	473			[1953STA/MUL]
C ₁₁ H ₁₆ O	[2409-55-4]	2- <i>tert</i> -butyl-4-methylphenol		17.19	325.5	DSC	[2013SUN/LI]
	FUS						
	SUB	(288–318)	82.6 ± 0.5	303		GS	[1999VER2]
	SUB	(288–318)	82.9 ± 0.5	298		GS	[1999VER2]
	SUB	(274–294)	77.4	284		A	[1987STE/MAL, 1960AIH]
	V	(327–358)	63.0 ± 0.3	343		GS	[1999VER2]
	V	(327–358)	65.7 ± 0.3	298		GS	[1999VER2]
	V	(385–517)	58.9	400		A	[1987STE/MAL]
	V	(343–507)	57.7	348			[1953STA/MUL]
	V	(343–507)	55.7	373			[1953STA/MUL]
	V	(343–507)	52.6	423			[1953STA/MUL]
	V	(343–507)	48.5	473			[1953STA/MUL]
C ₁₁ H ₁₆ O	[88-60-8]	2- <i>tert</i> -butyl-5-methylphenol		14.85	296.1	DSC	[2013SUN/LI]
	FUS						
	SUB	(277–294)	80.4 ± 1.3	287		GS	[1999VER2]
	SUB	(277–294)	79.7 ± 1.3	298		GS	[1999VER2]
	V	(296–343)	65.9 ± 0.3	320		GS	[1999VER2]
	V	(296–343)	67.2 ± 0.3	298		GS	[1999VER2]
	V	(378–490)	59.8	393		A	[1987STE/MAL]
	V	(383–518)	53.0	398		A	[1987STE/MAL]
C ₁₁ H ₁₆ O	[2219-82-1]	2- <i>tert</i> -butyl-6-methylphenol		17.32	302.5	DSC	[1999VER]
	FUS						
	V	(308–343)	62.2 ± 0.5	326		GS	[1999VER]
	V	(308–343)	63.8 ± 0.5	298		GS	[1999VER]
	V	(375–505)	55.2	390		A	[1987STE/MAL]
C ₁₁ H ₁₆ O	[98-27-1]	4- <i>tert</i> -butyl-2-methylphenol					
	V	(291–333)	71.3 ± 0.6	312		GS	[1999VER2]
	V	(291–333)	72.1 ± 0.6	298		GS	[1999VER2]
	V	(347–520)	61.5	362		A	[1987STE/MAL]
	V	(275–297)	75.7	286		A	[1987STE/MAL, 1960AIH]
	V	(347–532)	55.7	348			[1953STA/MUL]
	V	(347–532)	53.9	373			[1953STA/MUL]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₁₆ O	V	(347–532)	53.2	398			[1953STA/MUL]
	V	(347–532)	50.9	423			[1953STA/MUL]
	V	(347–532)	46.7	473			[1953STA/MUL]
C ₁₁ H ₁₆ O	[3968-87-4]	2-ethyl-3-phenyl-1-propanol					
	V	(348–393)	70.9	363	A		[1987STE/MAL]
C ₁₁ H ₁₆ O	[87-26-3]	2-(2-pentyl)phenol					
	V	(397–501)	74.4	413	EB		[1990NES/NAZ]
	V	(397–501)	59.6	412			[1993KAS/MOK]
C ₁₁ H ₁₆ O	[14938-35-3]	4-pentylphenol					
	V	(423–563)	60.9	438	A		[1987STE/MAL]
C ₁₁ H ₁₆ O	[80-46-6]	4- <i>tert</i> -pentylphenol					
	SUB	(293–333)	87.4 ± 0.5	313	GS		[1999VER2]
	SUB	(293–333)	88.3 ± 0.5	298	GS		[1999VER2]
	V	(297–333)	64.2 ± 0.2	329	GS		[1999VER2]
	V	(297–333)	65.3 ± 0.2	298	GS		[1999VER2]
	V	(385–548)	58.2	400	A		[1987STE/MAL]
C ₁₁ H ₁₆ O	[10521-91-2]	5-phenyl-1-pentanol					
	V	(373–430)	58.2	388	A		[1987STE/MAL]
C ₁₁ H ₁₆ O	[91967-71-4]	(1-propoxyethyl)benzene					
	V	(288–321)	56.4 ± 0.2	305	GS		[2001VER/HEI]
	V	(288–321)	56.7 ± 0.2	298	GS		[2001VER/HEI]
C ₁₁ H ₁₆ O	[65757-61-1]	(1-isopropoxyethyl)benzene					
	V	(278–313)	55.4 ± 0.3	298	GS		[2002KRA/VAS, 2002VER/HEI]
C ₁₁ H ₁₆ O	[1712-74-9]	Ethyl cumyl ether					
	V	(278–313)	54.8 ± 0.5	296	GS		[2001VER/HEI2]
	V	(278–313)	54.7 ± 0.5	298	GS		[2001VER/HEI2]
C ₁₁ H ₁₆ O	[31108-34-6]	1-(2,4,6-trimethylphenyl)ethanol					
	SUB	(282–313)	U 5.7	297	A		[1987STE/MAL]
C ₁₁ H ₁₆ O	[3459-80-1]	<i>tert</i> -butyl benzyl ether					
	V	(278–308)	57.3 ± 0.3	298	GS		[2004VER/VAS]
C ₁₁ H ₁₆ O ₂	[121-00-6]	2- <i>tert</i> -butyl-4-methoxyphenol					
	V	(403–463)	54.4	418	A		[1987STE/MAL]
C ₁₁ H ₁₆ O ₂	[533-24-4]	1,3-dihydroxy-4-pentylbenzene					
	V	(423–488)	84.9	438	A,GC		[1987STE/MAL, 1975KUN/LIL]
C ₁₁ H ₁₆ O ₂	[774-48-1]	Phenylmethoxymethane					
	V	(283–329)	62.8 ± 0.6	298	GS		[2002VER]
C ₁₁ H ₁₆ O ₂	[25310-92-3]	1,1-dimethoxy-1-phenylpropane					
	V	(288–328)	58.9 ± 0.3	298	GS		[2002VER]
	V	(288–328)	57.9 ± 0.3		GS		[1998VER/PEN]
C ₁₁ H ₁₆ O ₂	V	<i>tert</i> -pentylcatechol (isomer not specified)					
		(398–473)	58.2	436			[1965GAK/BAB]
C ₁₁ H ₁₆ O ₂	[828-51-3]	1-adamantanecarboxylic acid					
	FUS		16.2	447	DSC		[2011ROU/MAR]
	TRS		2.25	251	DSC		[1986HAR/GIL]
	V		91.1 ± 3.7	298	CGC		[2011ROU/MAR]
C ₁₁ H ₁₆ O ₃	[7149-82-8]	(racemic) 3-(2-ethylphenoxy)-propane-1,2-diol					
	FUS		34.8	324.1	DSC		[2008BRE/BRE]
C ₁₁ H ₁₆ O ₃	[1092799-92-2]	(S)-3-(2-ethylphenoxy)-propane-1,2-diol					
	FUS		35.0	342.1	DSC		[2008BRE/BRE]
C ₁₁ H ₁₆ O ₅		Ethylcamphoric acid anhydride					

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method
	V	(391–571)	70.8	406	A	[1987STE/MAL, 1947STU]
C ₁₁ H ₁₆ O ₅	V	(1-methylallyl)[1-(allyloxycarbonyl)ethyl]carbonate (368–508)	60.2	383	A	[1987STE/MAL]
C ₁₁ H ₁₇ Cl ₃ OS	[76619-96-0]	2,3,3-trichloro-2-propenethioic acid, O-octyl ester				
	V	(443–483)	74.2		GC	[1980PIT/KIS]
C ₁₁ H ₁₇ NO	[552-79-4]	(–) 2-dimethylamino-1-phenyl-1-propanol (methylephedrine)				
	FUS	(79–399)	21.8	358.6	AC	[2008DI/WAN]
	FUS		30.56	361.2	DSC	[1999LI/ZEL]
C ₁₁ H ₁₇ NO	[1201-56-5]	(±) 2-dimethylamino-1-phenyl-1-propanol (methylephedrine)				
	FUS		26.6	336	DSC	[1999LI/ZEL]
C ₁₁ H ₁₇ NO	[5511-18-2]	1-adamantyl carboxamide				
	SUB	(336–354)	105.9 ± 0.5	345	ME	[1989ABB/JIM]
	SUB		108.0 ± 0.5	298	ME	[1989ABB/JIM]
C ₁₁ H ₁₇ N ₅	[153495-36-4]	6,9-dimethyl-8-butyladenine				
	FUS		36.0	409.2		[1994ZIE/ZIE]
	SUB	(348–354)	106.0 ± 0.1	351	ME	[1994ZIE/ZIE]
C ₁₁ H ₁₈	[768-91-2]	1-methyladamantane				
	TRS		1.91	169.5		
	TRS		1.47	211.5		
	FUS		3.71	392	DSC	[1977CLA/KNO]
	SUB	(300–342)	67.8 ± 1.3	298	BG	[1977STE/WAT]
	SUB	(306–336)	67.6 ± 0.5	321		[1975CLA/KNO, 1979CLA/KNO]
C ₁₁ H ₁₈	[700-56-1]	2-methyladamantane				
	TRS		3.65	176	DSC	[1977CLA/KNO]
	SUB	(310–330)	67.5 ± 2.1	320		[1975CLA/KNO, 1979CLA/KNO]
	SUB	(300–340)	68.2 ± 1.3	298		[1977STE/WAT]
C ₁₁ H ₁₈ O	[770-71-8]	Tricyclo[3.3.1.1 ^{3,7}]decane-1-methanol (l-adamantanemethanol)				
	FUS		20.5	389.5	DSC	[2015HAS/NEG]
	FUS		20.27	389.2	DSC	[2004STU/WIT]
C ₁₁ H ₁₈ N ₂	[71172-36-6]	Undecanedinitrile				
	FUS		26.0	266.1	DSC	[2007BAD/BLA]
C ₁₁ H ₁₈ N ₂ O ₃	[76-74-4]	5-ethyl-5-(l-methylethyl)barbituric acid (nembutal, pentobarbital)				
	FUS (I)		19.7	402.6		
	FUS (III)		30.8	386.7		
	FUS (IV)		22.0	382.5	DSC	[2012ROS/GEL]
	FUS		21.3		DSC	[1982TRE/VAU]
	FUS		21.5		DSC	[1978SEK/TSU]
C ₁₁ H ₁₈ N ₂ O ₂	[57-43-2]	Amobarbitone				
	FUS		25.7		DSC	[1982TRE/VAU]
	FUS		29.0		DSC	[1978SEK/TSU]
C ₁₁ H ₁₈ O	[26533-38-0]	6-methyl-3-isopropenyl-5-hepten-2-one				
	V	(390–420)	49.7	405	EB	[1989WAN/YIN]
C ₁₁ H ₁₈ O	[702-98-7]	2-methyl-2-adamantanol				
	SUB	(298–334)	91.3 ± 0.8	298	ME	[2003CHA/BLO2]
	SUB		91.4 ± 0.3	298	C	[2003CHA/BLO2]
C ₁₁ H ₁₈ O ₂	[7492-41-3]	Borneol formate				
	V	(320–487)	52.7	335	A	[1987STE/MAL, 1947STU]
C ₁₁ H ₁₈ O ₂	[2142-94-1]	3,7-dimethyl-cis-2,6-octadienyl formate				
	V	(330–498)	58.1	345	A	[1987STE/MAL]
C ₁₁ H ₁₈ O ₂	[105-86-2]	3,7-dimethyl-trans-2,6-octadienyl formate				
	V	(334–503)	57.1	349	A	[1987STE/MAL, 1947STU]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₁₈ O ₂	[1200-67-5] V	Isobomeol formate	(383–441)	53.5	398	A	[1987STE/MAL, 1937RUD/KOR]
C ₁₁ H ₁₈ O ₄	[4167-77-5] V	1,1-cyclopentanedicarboxylic acid diethyl ester	(293–323)	66.8 ± 0.4		GS	[1998VER/KUM]
C ₁₁ H ₁₈ O ₅	[85710-88-9] V	4-oxanonanedioic acid, dimethyl ester	(394–559)	72.7	409	A	[1987STE/MAL]
C ₁₁ H ₁₈ O ₆	[16515-90-5] V	1,1,1-tris(ethoxycarbonyl)methane	(298–338)	74.1 ± 0.4		GS	[1995RAK/VER]
C ₁₁ H ₁₈ O ₆	[170464-50-3] V	1,1,1-tris(methoxy carbonyl)pentane	(298–338)	81.0 ± 0.4		GS	[1995RAK/VER]
C ₁₁ H ₁₉ NO ₂	[62391-95-1] V	Ethyl bis(isopropyl)cynoacetate	(284–319)	65.0 ± 0.9	298	GS	[1995VER/BEC]
C ₁₁ H ₁₉ NO ₃	[114-26-1] FUS	2-isopropoxyphenyl N-methylcarbamate		22.96	362.7	DSC	[1991ACR, 1990DON/DRE]
C ₁₁ H ₁₉ NO ₅	[1446-19-1] V	N-acetyl-(<i>I</i>)-glutamic acid, diethyl ester	(403–503)	67.2	418	A, EB	[1987STE/MAL, 1953MEL/VIO]
C ₁₁ H ₁₉ NS	[4175-69-3] FUS	2,4-di- <i>tert</i> -butylthiazole		10.5	258.2	C	[1966MEY/MET]
C ₁₁ H ₁₉ N ₃ O	[23947-60-6] FUS	5-butyl-2-ethylamino-6-methylpyrimidin-4-ol		20.32	432.5	DSC	[1991ACR, 1990DON/DRE]
C ₁₁ H ₁₉ N ₅ S	[4147-51-7] FUS	6-ethylthio-N,N'-bis(1-methylethyl)-1,3,5-triazine-2,4-diamine		23.94	377.7	DSC	[1991ACR, 1990DON/DRE]
C ₁₁ H ₂ O	[2243-98-3] V	1-undecyne	(422–468)	46.7	437	EB	[1986ELV/KUD]
C ₁₁ H ₂ O	[2294-72-6] V	5-undecyne	(423–471)	47.3	438	EB	[1986ELV/KUD]
C ₁₁ H ₂ O	[180-43-8] V	Spiro[5.5]undecane		56.1	298	C	[1975SUB/ZWO]
C ₁₁ H ₂ O	[1606-08-2] V	Cyclopentylcyclohexane	(383–488)	47.9	398	A	[1987STE/MAL]
C ₁₁ H ₂ O	[180-43-8] SUB	Bicyclo[3.3.3]undecane		63.6 ± 0.8	298	C	[1975PAR/STE, 1977PED/RYL]
C ₁₁ H ₂₀ Cl ₄	[3922-34-7] V	1,1,1,1-tetrachloroundecane	(303–353)	92.5	318	A	[1987STE/MAL, 1999DYK/SVO, 1960MAL/MAL]
C ₁₁ H ₂₀ Cl ₄	[210049-49-3] V	1,2,10,11-tetrachloroundecane		78.7			[1998DRO/TOM]
C ₁₁ H ₂₀ N ₂	[97142-71-7] V	1-heptyl-2-methylimidazole	(312–368)	79.4 ± 0.2	298	GS	[2011EME/POR2]
C ₁₁ H ₂₀ N ₂	[21252-69-7] V	1-octylimidazole		81.0 ± 1.2	298	C	[2015VIT/AGA]
C ₁₁ H ₂₀ N ₂ S	[1394816-48-8] FUS	Ethyl-(1-thia-3-azaspiro[5.5]undec-2-en-2-yl)amine		24.5	378.4	DSC	[2013PER/BLO2]
	SUB			100.8 ± 1.1	298	GS	[2013PER/BLO2]
C ₁₁ H ₂₀ N ₆	[13452-85-2] FUS	1-pyrrolidinyl-3,5-bis(dimethylamino)-(s)-triazine		25.61	403.1	DSC	[1991ACR, 1989BRA/RYT]
C ₁₁ H ₂₀ N ₆ O	[16269-02-6] FUS	1-morpholinyl-3,5-bis(dimethylamino)-(s)-triazine		24.69	397.4	DSC	[1991ACR, 1989BRA/RYT]
C ₁₁ H ₂₀ N ₆ S	[41492-69-7]	1-(thiomorpholinyl-3,5-bis(dimethylamino)-(s)-triazine					

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
$\text{C}_{11}\text{H}_{20}\text{O}$	[878-13-7]	Cycloundecanone	FUS		29.08	391.2	DSC	[1991ACR, 1989BRA/RYT]
			FUS		23.0	287.7	DSC	[1998GON/SZW]
			V	(363–433)	60.3	378	A	[1987STE/MAL, 1972WOL]
			V	(448–501)	51.8	463	A, EB	[1987STE/MAL, 1976MEY/HOT]
			V	(363–433)	64.3 ± 0.6	298	VP	[1972WOL]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[104-67-6]	γ -undecanolactone	V		79.4 ± 4.4	298	CGC	[2014KOZ/GOB]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[710-04-3]	δ -undecanolactone	V		80.1 ± 4.5	298	CGC	[2014KOZ/GOB]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[1118-71-4]	2,2,6,6-tetramethyl-3,5-heptanedione	V		59.5	298	C	[1978RIB/IRV, 1975IRV/RIB]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[103-11-7]	(<i>d,l</i>)-2-ethylhexyl acrylate	V	(323–489)	55.3	338	A	[1987STE/MAL, 1947STU]
$\text{C}_{11}\text{H}_{20}\text{O}_2$		Formic acid, 3-para-menthol ester	V	(320–492)	52.0	335	A	[1987STE/MAL, 1947STU]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[1551-43-5]	Cyclohexyl valerate	FUS	(5–320)	18.32	222.4	AC	[2001KOZ/BLO]
			V		63.7 ± 0.1	298	C	[2004PAU/ZAI, 2003ZAI/VER]
			V	(273–318)	67.2 ± 0.8	298	ME	[2003ZAI/VER]
			V	(273–318)	63.9 ± 0.4	298	ME	[2003ZAI/VER]
			V	(293–332)	62.4 ± 0.7	298	GS	[2003ZAI/VER]
$\text{C}_{11}\text{H}_{20}\text{O}_2$		1-methylcyclohexyl isobutyrate	V	(333–378)	57.2	298	CGC	[1999VER/HEI]
$\text{C}_{11}\text{H}_{20}\text{O}_2$		3-methylcyclohexyl isobutyrate	V	(333–378)	59.3	298	CGC	[1999VER/HEI]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[5460-50-4]	4-methylcyclohexyl isobutyrate	V	(333–378)	59.7	298	CGC	[1999VER/HEI]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[29878-49-7]	Cyclohexyl pivalate	V	(333–378)	59.0	298	CGC	[1999VER/HEI]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[61732-96-5]	2-hexyl-4,7-dihydro-1,3-dioxepin	V	(333–453)	66.0	348	A	[1987STE/MAL, 1977VOI/SHC]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[2499-59-4]	Octyl acrylate	V	(331–500)	56.2	346	A	[1987STE/MAL, 1947STU]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[1725-03-7]	Oxa-2-cyclododecanone (undecanolactone)	TRS		3.36	250.2		[1996DOM/HEA]
			FUS	(14–336)	12.61	275.3	AC	[1981LEB/YEV]
			V	(293–353)	64.8	293	GS	[2011EME/VER3]
			V	(293–353)	64.3 ± 0.4	298	GS	[2011EME/VER3]
			V	(293–353)	63.4	308	GS	[2011EME/VER3]
			V	(293–353)	60.9	333	GS	[2011EME/VER3]
			V	(293–353)	58.5	358	GS	[2011EME/VER3]
			V	(365–387)	57.7 ± 0.8	376	MM	[1991WIB/WAL]
			V	(365–387)	66.2 ± 1.3	298	MM	[1991WIB/WAL]
			V	(353–413)	70.5	368	A	[1987STE/MAL]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[112-38-9]	10-undecenoic acid	V	(387–548)	70.6	402	A	[1987STE/MAL, 1947STU]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[707-29-9]	3,3-dimethyl-1,5-dioxaspiro[5.5]undecane	V	(283–323)	59.0 ± 0.6		GS	[2002VER, 1998VER/PEN]
$\text{C}_{11}\text{H}_{20}\text{O}_2$	[53398-85-9]	(<i>d,l</i>)- <i>cis</i> -3-hexenyl-2-methylbutyrate						

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
	V			61.5 ± 0.6	298	CGC	[2015KOZ/GOB]
C ₁₁ H ₂₀ O ₂	[196109-18-9]	cis-5-octenyl propionate					
	V			65.3 ± 1.6	298	CGC	[2015KOZ/GOB]
C ₁₁ H ₂₀ O ₃	[24431-34-3]	Hexyl levulinate					
	V	(363–540)	66.6	378	A	[1987STE/MAL, 1947STU]	
	V		59.1	479		[1931SCH/COW]	
C ₁₁ H ₂₀ O ₄	[77008-66-3]	(<i>dl</i>)-hexyl 2-acetoxypropionate					
	V	(322–517)	70.3	337	A	[1987STE/MAL, 1950REH/DIX]	
C ₁₁ H ₂₀ O ₄	[1190-39-2]	Dibutyl malonate					
	V	(303–369)	70.9	336	GS	[2011LIP/KRA]	
	V	(303–369)	75.3 ± 0.4	298	GS	[2011LIP/KRA]	
C ₁₁ H ₂₀ O ₄	[541-16-2]	Di- <i>tert</i> -butyl malonate					
	V	(293–363)	65.8 ± 0.3	298	GS	[2011POR/KRA]	
C ₁₁ H ₂₀ O ₄	[1724-48-7]	Dipropyl glutarate					
	V	(313–353)	71.3	333	GS	[2011LIP/KRA]	
	V	(313–353)	73.5 ± 0.3	298	GS	[2011LIP/KRA]	
C ₁₁ H ₂₀ O ₄	[71340-46-0]	Diisopropyl glutarate					
	V	(295–327)	72.8 ± 0.7	298	GS	[2011POR/KRA]	
C ₁₁ H ₂₀ O ₄	[1732-10-1]	Azelaic acid, dimethyl ester					
	V	(413–540)	63.6	428	A	[1987STE/MAL]	
C ₁₁ H ₂₀ O ₄	[77-25-8]	Diethyl diethylmalonate					
	V	(386–491)	68.5	401	A	[1987STE/MAL, 1978SMI/ZEL]	
C ₁₁ H ₂₀ O ₄	[1852-04-6]	Undecanedioic acid					
	TRS		1.6	355.3			
	FUS		41.2	380.1	DSC	[2005ROU/TEM]	
	FUS		39.65	385	DSC	[1996DOM/HEA, 1974CIN/BER]	
	SUB	(295–313)	141.5		TPTD	[2005CHA/ZIE]	

[Note: Values based on TPTD method are not consistent with values determined by other experimental methods.]

	SUB	(371–381)	158.6 ± 1.9	376	ME	[1999RIB/MON]
	SUB	(371–381)	162.5 ± 1.9	298	ME	[1999RIB/MON]
	V	(424–503)	128.2 ± 2.3	298	CGC	[2005ROU/TEM]
C ₁₁ H ₂₀ O ₄	[1732-10-1]	Dimethyl azelate				
	V	(298–373)	82.3 ± 0.4	298	GS	[2006VER/KOZ]
C ₁₁ H ₂₀ O ₅		Hexyl[1-(methoxycarbonyl)ethyl]carbonate				
	V	(371–538)	65.9	386	A	[1987STE/MAL, 1950REH/DIX2]
C ₁₁ H ₂₀ O ₅	[902261-26-1]	Propyl[1-(butoxycarbonyl)ethyl]carbonate				
	V	(330–463)	66.4	345	A	[1987STE/MAL, 1950REH/DIX2]
C ₁₁ H ₂₁ N	[80606-32-2]	2-butyl-2-methylhexanenitrile				
	V	(298–388)	59.8 ± 0.4		GS	[1994RAK/VER]
C ₁₁ H ₂₁ N	[2244-07-7]	Undecanonitrile				
	V	(290–340)	71.8 ± 0.3	298	GS	[2005EME/VER]
	V	(355–534)	63.7	370	A	[1987STE/MAL]
	V		71.1 ± 0.1	298	C	[1977STRI/SUN]
C ₁₁ H ₂₁ N	[3319-01-5]	N-cyclohexylpiperidine				
	V	(288–328)	59.9 ± 0.6	308	GS	[1998VER6]
	V	(288–328)	60.5 ± 0.6	298	GS	[1998VER6]
C ₁₁ H ₂₁ NO	[15770-38-4]	N-hexanoylpiperidine				
	V	(383–433)	66.3	398	A	[1987STE/MAL]
	V		81.8		Static	[1968DAV/BAT]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₂₁ N ₅ O	[3004-70-4]	2-methoxy-4-isopropylamino-6-diethylamino-(s)-triazine (ipatone) FUS		23.5		DSC	[1971GET/WAR]
C ₁₁ H ₂₁ N ₅ S	[4147-51-7]	6-(ethylthio)-N,N'-bis(1-methylethyl)-1,3,5-triazine-2,4-diamine FUS		23.94	377.7	DSC	[1990DON/DRE]
C ₁₁ H ₂₁ N ₅ S	[4147-55-1]	2-(diethylamino)-4-(isopropylamino)-6-(methylthio)-(s)-triazine FUS		23.8		DSC	[1971GET/WAR]
C ₁₁ H ₂₁ N ₇	[125867-94-9]	1-(piperizinyl)-3,5-bis(dimethylamino)-(s)-triazine FUS		23.01	382	DSC	[1991ACR, 1989BRA/RYT]
C ₁₁ H ₂₂	[4292-92-6]	Pentylcyclohexane	V	52.9 ± 0.5	298		[1987AZA]
			V	54.1 ± 0.3	298	GCC	[1978FUC/PEA]
			V	53.9	298		[1975KUS/SAI, 1985MAJ/SVO]
			V	55.0	298		[1971WIL/ZWO]
C ₁₁ H ₂₂	[4457-00-5]	Hexylcyclopentane	V	55.9	298		[1971WIL/ZWO]
C ₁₁ H ₂₂	[821-95-4]	1-undecene	TRS (12–311)	9.2	217.3		[1996DOM/HEA]
	FUS (12–311)			16.99	224	C	[1957MCC/FIN]
	V (283–312)			54.3 ± 0.3	298	GS	[2000VER/WAN]
	V (418–466)			45.9	433	EB	[1983ELV/KUU]
	V (378–473)			55.4	298		[1971WIL/ZWO]
				48.2	393	A	[1987STE/MAL, 1950FOR/CAM]
C ₁₁ H ₂₂	[821-96-5]	cis-2-undecene	V (421–469)	46.3	436	EB	[1983ELV/KUU]
	V (333–393)			53.2	348	A	[1987STE/MAL]
C ₁₁ H ₂₂	[693-61-8]	trans-2-undecene	V (421–469)	46.4	436	EB	[1983ELV/KUU]
	V (333–393)			53.0	348	A	[1987STE/MAL]
C ₁₁ H ₂₂	[821-97-6]	cis-3-undecene	V (419–466)	45.9	435	EB	[1983ELV/KUU]
	V (333–393)			52.3	348	A	[1987STE/MAL]
C ₁₁ H ₂₂	[1002-68-2]	trans-3-undecene	V (419–466)	46.0	435	EB	[1983ELV/KUU]
	V (333–393)			52.0	348	A	[1987STE/MAL]
C ₁₁ H ₂₂	[821-98-7]	cis-4-undecene	V (419–466)	45.6	434	EB	[1983ELV/KUU]
	V (333–393)			51.6	348	A	[1987STE/MAL]
C ₁₁ H ₂₂	[693-62-9]	trans-4-undecene	V (419–466)	45.8	434	EB	[1983ELV/KUU]
	V (333–393)			52.1	348	A	[1987STE/MAL]
C ₁₁ H ₂₂	[764-96-5]	cis-5-undecene	V (418–465)	45.5	433	EB	[1983ELV/KUU]
	V (333–393)			51.4	348	A	[1987STE/MAL]
C ₁₁ H ₂₂	[764-97-6]	trans-5-undecene	V (418–466)	46.0	433	EB	[1983ELV/KUU]
	V (333–393)			51.8	348	A	[1987STE/MAL]
C ₁₁ H ₂₂		3-methyl-3-propyl-1-heptene	V (263–293)	52.8 ± 1.0	278	HSA	[1995CHI/HES]
	V (263–93)			50.9	298	HSA	[1995CHI/HES]
	V			51.5	298	CGC	[1995CHI/HES]
C ₁₁ H ₂₂ Cl ₂	[822-01-5]	1,1-dichloroundecane	V (430–500)	59.5	445		[1999DYK/SVO, 1987VAR/LOS2]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
	V	(430–500)	71.7	298			[1987VAR/LOS2, 1991BAS/SVO]
C ₁₁ H ₂₂ N ₂	[880-09-1]	bis(piperidino)methane					
		V	(283–322)	61.9 ± 0.9	303	GS	[2002VER2]
		V	(283–322)	62.2 ± 0.9	298	GS	[2002VER2]
C ₁₁ H ₂₂ N ₂ O ₂	[73154-82-2]	Undecandiamide					
	FUS		64.4	451.2	DSC		[2006BAD/DEL]
C ₁₁ H ₂₂ O	[36633-49-5]	1-hexylcyclopentanol					
		V	(387–509)	59.2	402	A	[1987STE/MAL, 1944MCL/EDW]
C ₁₁ H ₂₂ O	V	Cyclohexyl <i>tert</i> -amyl ether					
		V		54.3 ± 0.2	298		[2002VER]
C ₁₁ H ₂₂ O	[112-12-9]	2-undecanone					
		FUS		36.34	285.26	DSC	[2011DOM/PAD]
		V	(461–538)	51.5	476	A	[1987STE/MAL]
		V		69.7 ± 0.5	298	GCC	[1979SAL/PEA]
		V		67.0 ± 0.4	298	C	[1979SUN/SVE2]
		V	(393–523)	56.2	408	A	[1987STE/MAL, 1975AMB/ELL]
		V		46.4	506		[1975AMB/ELL]
		V	(335–433)	61.6	350	A, EB	[1987STE/MAL, 1966MEY/WAG]
		V	(341–497)	61.9	356		[1947STU]
C ₁₁ H ₂₂ O	[927-49-1]	6-undecanone		28.78	290.5	DSC	[1993VIL/HAM]
		FUS					
		V	(343–383)	59	298	CGC	[1995CHI/HOS]
		V	(343–383)	61.8	298	CGC	[1995CHI/HOS]
		V	(388–543)	55.3	403	A	[1987STE/MAL]
		V	(461–513)	50.4	476	A	[1987STE/MAL]
		V		63.5 ± 0.5	298	GCC	[1979SAL/PEA]
		V	(383–514)	45.8	500		[1975STR/SUN]
C ₁₁ H ₂₂ O	[4436-99-1]	2,2,6,6-tetramethyl-4-heptanone		52.9 ± 0.2	298	C	[1971SEL]
C ₁₁ H ₂₂ O	[112-44-7]	Undecanal					
		V	(293–329)	64.6 ± 0.5	298	GS	[2003VER/KRA2]
		V	(323–343)	69.3	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₁ H ₂₂ O ₂	[5870-93-9]	Undecanal					[1987STE/MAL]
		V	(288–400)	60.2	303	A	
		V					
C ₁₁ H ₂₂ O ₂	[142-60-9]	Heptyl butyrate		65.1 ± 1.1	298	CGC	[2015KOZ/GOB]
		V	(384–498)	58.7	399	A	[1987STE/MAL]
C ₁₁ H ₂₂ O ₂	[6454-22-4]	Octyl propanoate					
		V	(293–348)	64.0	321	GS	[2012SAM/NAZ]
C ₁₁ H ₂₂ O ₂	[2244-84-0]	V	(293–348)	66.4 ± 0.2	298	GS	[2012SAM/NAZ]
		V	(333–453)	65.6	348	A	[1987STE/MAL, 1977VOI/SHC]
C ₁₁ H ₂₂ O ₂	[41277-75-2]	4-heptyl-1,3-dioxane					
		V	(353–453)	64.4	368	A	[1987STE/MAL, 1977VOI/SHC]
C ₁₁ H ₂₂ O ₂	[5458-59-3]	3-hexyl-4-hydroxytetrahydro-2 <i>H</i> -pyran					
		V	(383–453)	73.6	398	A	[1987STE/MAL, 1977VOI/SHC]
C ₁₁ H ₂₂ O ₂	[110-42-9]	Isopropyl caprylate					
		V	(338–420)	57.5	353	A	[1987STE/MAL]
		V	(338–419)	58.3	353		[1948BON/ATH, 1984BOU/FRI]
C ₁₁ H ₂₂ O ₂	[110-42-9]	Methyl decanoate (methyl caprate)					
		V	(303–462)	62.2 ± 0.8	383	Static	[2011BEN/KHI]
		V	(303–462)	71.4 ± 0.8	298	Static	[2011BEN/KHI]
		V		62.0	350	CE	[2002VAN/VAN]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
<chem>C11H22O2</chem>	V			62.9 ± 0.1	337	CE	[2002VAN/VAN]
	V			66.1 ± 0.2	298	CE	[2002VAN/VAN]
	V		(373–433)	66.9	298	GC	[1997KRO/VEL]
	V		(453–543)	49.9	498	GC	[1993HUS/SAR]
	V			66.3 ± 0.5	298	GCC	[1980FUC/PEA]
	V			66.8 ± 0.6	298	C	[1977MAN/SEL]
	V		(379–500)	57.1	394	A, E	[1987STE/MAL, 1963ROS/SCH]
	V		(324–370)	63.0	339	MG,OM	[1952SCO/MAC]
<chem>C11H22O2</chem>	[5432-30-4]	2-octyl-1,3-dioxolane					
	V		(333–453)	60.3	348	A	[1987STE/MAL, 1977VOI/SHC]
<chem>C11H22O2</chem>	[624-13-5]	Propyl caprylate					
	V		(343–500)	58.8	358	A	[1987STE/MAL]
	V		(343–426)	58.2	358		[1948BON/ATH, 1984BOU/FRI]
<chem>C11H22O2</chem>	[143-13-5]	Nonyl acetate					
	V		(277–309)	66.2 ± 0.2	298	GS	[2006KRA/VER]
	V			66.8	298		[1997DEF/CAR]
	V		(313–358)	67	298	GC	[1997KOU/HOS, 2000OVA/KOU]
<chem>C11H22O2</chem>	[245658-29-1]	2,2-dimethylpropanoic acid, 1,1-dimethylbutyl ester					
	V		(333–378)	52.3	298	CGC	[1999VER/HEI]
<chem>C11H22O2</chem>	[245658-35-9]	2,2-dimethylpropanoic acid, 1,1,2-trimethylpropyl ester					
	V		(333–378)	52.8	298	CGC	[1999VER/HEI]
<chem>C11H22O2</chem>	[245658-24-6]	3,3-dimethylbutanoic acid, 1,1-dimethylpropyl ester					
	V		(333–378)	53.2	298	CGC	[1999VER/HEI]
<chem>C11H22O2</chem>	[245658-38-2]	2-methylpropanoic acid, 1,1,3-trimethylbutyl ester					
	V		(333–378)	53.4	298	CGC	[1999VER/HEI]
<chem>C11H22O2</chem>	[10250-45-0]	2,6-dimethyl-2-heptanol acetate					
	V		(333–378)	56.4	298	CGC	[1999VER/HEI]
<chem>C11H22O2</chem>	[112-37-8]	Undecanoic acid					
	TRS			8.38	292		
	FUS			30.2	302	DSC	[2011EGO/MAR]
	TRS		(100–330)	8.13	290.3		[1996DOM/HEA]
	FUS		(100–330)	25.98	301.6	AC	[1982SCH/VAN]
	TRS			7.70	290.0		[1996DOM/HEA]
	FUS			25.1	301.4		[1924GAR/RAN]
	SUB		(303–308)	121.3 ± 1.3	298	ME	[1968BAC/NOV, 1970COX/PIL]
	V		(393–557)	81.3	408	A	[1987STE/MAL]
	V		(310–332)	90.7 ± 2.0	323	ME, TE	[1982DEK/SCH]
	V		(303–308)	97.9 ± 6.3	305		[1968BAC/NOV]
<chem>C11H22O3</chem>	[38611-89-1]	Butyl 2-butoxypropionate					
	V		(373–398)	40.8	385	A, I	[1987STE/MAL, 1933HEN/MUR]
<chem>C11H22O3</chem>	[14144-48-0]	Butyl 3-butoxypropionate					
	V		(343–493)	57.6	358	A	[1987STE/MAL]
<chem>C11H22O3</chem>	[14144-37-7]	Hexyl 3-ethoxypropionate					
	V		(373–514)	56.7	388	A	[1987STE/MAL, 1948DIX/REH]
<chem>C11H22O3</chem>	[51191-33-4]	Octyl lactate					
	V		(328–528)	71.5	343	A	[1987STE/MAL, 1950REH/DIX]
<chem>C11H22O3</chem>	[676-08-4]	Peroxyundecanoic acid					
	SUB		(293–303)	125.9 ± 3.4	298	ME	[1980SWA/KWA]
<chem>C11H22O3</chem>	[3669-80-5]	11-hydroxyundecanoic acid					
	SUB		(307–321)	105		TPTD	[2005CHA/ZIE]
<chem>C11H22O4</chem>	[502-54-5]	2,3-dihydroxypropyl octanoate					
	V		(463–514)	96.0	488	DSC	[2014DAM/MAT]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₁₁ H ₂₃ Br	[693-67-4] FUS	1-bromoundecane			33.47	263.3		[1950CRO/SMY]
			V	(407–564)	58.8	422		[1999DYK/SVO]
			V	(398–591)	59.5	413	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₁ H ₂₃ Cl	[2473-03-2]	1-chloroundecane			70.2	298		[2006BOL/NER2]
			V	(370–520)	65.9	298		[1984BOU/FRI, 1991BAS/SVO]
			V	(374–519)	59.4	389	A, DTA	[1987STE/MAL, 1969KEM/KRE]
C ₁₁ H ₂₃ F	[506-05-8]	1-fluoroundecane			52.3	388	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₁ H ₂₃ I	[4282-44-4]	1-iodoundecane			74.8	298	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN, 2006BOL/NER]
			V	(412–618)	60.1	437		[1999DYK/SVO]
			V	(412–618)	60.9	427	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₁ H ₂₃ NO	[6225-08-7]	<i>N,N</i> -dimethyl nonamide			69.3	426	A	[1987STE/MAL]
C ₁₁ H ₂₃ NO	[23220-25-9]	<i>N</i> -methyl decanamide	SUB	(303–325)	102.8 ± 0.8	314	ME	[1959DAV/JON, 1987STE/MAL]
C ₁₁ H ₂₃ NO ₂	[6288-16-0]	<i>N,N</i> -dibutyl lactamide	V	(393–418)	88.3	405	A	[1987STE/MAL, 1953FEI/FIL]
C ₁₁ H ₂₃ NO ₂	[6280-23-5]	<i>N</i> -octyl lactamide	V	(428–468)	96.3	443	A	[1987STE/MAL, 1950RAT]
C ₁₁ H ₂₄	[1120-21-4]	Undecane	TRS		5.05	235.2		
			TRS		1.64	236.3		
			FUS		22.4	247.0	DSC	[2005HUA/SIM]
			TRS		0.1	236.3		
			TRS		7.0	237.4		
			FUS		22.5	247.6	DSC	[2004MON/RAJ]
			TRS		6.86	236.6		[1996DOM/HEA]
			FUS		22.18	247.6		[1954FIN/GRO2]
			TRS		6.34	236.1		[1996DOM/HEA]
			FUS		22.31	247.2	C	[1931HUF/PAR]
			SUB		91.5	236	B	[1963BON]
			V		56.4 ± 0.4	298	C	[2007PAS/KUZ]
			V		56.6 ± 0.6	298	C	[2006RIB/CAB2]
			V		56.2	299	C	[1996VIT/CHA]
			V		55.4	314	C	[1996VIT/CHA]
			V		54.5	324	C	[1996VIT/CHA]
			V		54.0	334	C	[1996VIT/CHA]
			V		53.1	344	C	[1996VIT/CHA]
			V		56.6	298		[1994RUZ/MAJ]
			V	(278–470)	60.0	293	A	[1987STE/MAL]
			V		56.3	298		[1971WIL/ZWO]
			V	(378–470)	49.1	393		[1955CAM/ROS]
C ₁₁ H ₂₄	[6975-98-0]	2-methyldecane	FUS		25.08	224.3		[1996DOM/HEA, 1971MES/FIN]
			V	(273–353)	55.5	288	A	[1987STE/MAL]
			V	(379–463)	47.4	394	A	[1987STE/MAL]
			V		51.9	328	C	[1984MAJ/SVO3]
			V		50.6	343	C	[1984MAJ/SVO3]
			V		49.5	358	C	[1984MAJ/SVO3]
			V	(273–293)	55.4	283	IPM	[1974OSB/DOU]

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	Reference
C ₁₁ H ₂₄	[13151-34-3]	3-methyldecane					
C ₁₁ H ₂₄	V	(340–464)	46.5	355	A	[1987STE/MAL]	
	[2847-72-5]	4-methyldecane					
	V	(339–460)	46.6	354	A	[1987STE/MAL]	
	V		50.4	343	C	[1984MAJ/SVO3]	
C ₁₁ H ₂₄	V		49.2	358	C	[1984MAJ/SVO3]	
	V		48.5	368	C	[1984MAJ/SVO3]	
	[13151-35-4]	5-methyldecane					
	V	(334–452)	46.0	349	A	[1987STE/MAL]	
C ₁₁ H ₂₄	[2884-06-2]	2,3-dimethylnonane					
C ₁₁ H ₂₄	V	(336–460)	45.1	351	A	[1987STE/MAL]	
	[17302-24-8]	2,4-dimethylnonane					
	V	(334–452)	46.8	349	A	[1987STE/MAL]	
	[62016-37-9]	2,4,6-trimethyloctane					
C ₁₁ H ₂₄	V	(325–442)	44.9	340	A	[1987STE/MAL]	
	[62016-38-0]	2,4,7-trimethyloctane					
	V		47.6	328	C	[1984MAJ/SVO3]	
	V		46.4	343	C	[1984MAJ/SVO3]	
	V		45.3	358	C	[1984MAJ/SVO3]	
C ₁₁ H ₂₄ N ₂ O	[17450-44-1]	1-decyl urea					
C ₁₁ H ₂₄ N ₂ O	TRS		1.3	294.4			
	FUS		38.3	385.3	DSC	[2005HAS/TAJ]	
C ₁₁ H ₂₄ O	[7289-52-3]	Decyl methyl ether					
C ₁₁ H ₂₄ O	FUS	(12–349)	31.71	243.5	AC	[1996DOM/HEA, 1975AND/MAR]	
	V	(341–429)	56.9	356	A	[1987STE/MAL]	
	V	(341–471)	57.0	356	A	[1987STE/MAL, 1976AMB/ELL]	
	V	(341–471)	62.6	298		[1976AMB/ELL]	
	V	(341–471)	45.5	489		[1976AMB/ELL]	
	V		62.3 ± 0.3	298	C	[1975FEN/HAR]	
C ₁₁ H ₂₄ O	[16979-32-1]	Ethyl nonyl ether					
C ₁₁ H ₂₄ O	V		60.3 ± 0.1	298	C	[1985KUS]	
	[29379-41-7]	Propyl octyl ether					
C ₁₁ H ₂₄ O	V		58.8 ± 0.1	298	C	[1985KUS]	
	[71112-90-8]	Butyl heptyl ether					
C ₁₁ H ₂₄ O	V		58.2 ± 0.1	298	C	[1985KUS]	
	[78972-97-1]	Heptyl <i>tert</i> -butyl ether					
C ₁₁ H ₂₄ O	V		56.6	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]	
	V						
C ₁₁ H ₂₄ O		Hexyl <i>tert</i> -amyl ether					
C ₁₁ H ₂₄ O	V		58.6	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]	
	[405506-46-9]	Propyl <i>tert</i> -octyl ether					
C ₁₁ H ₂₄ O	V		50.1 ± 0.3	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]	
	[112-42-5]	1-undecanol					
C ₁₁ H ₂₄ O	FUS		37.52	306.2	DSC	[2008EGO/MAR]	
	FUS		30.59	289.63	DSC	[2005DOM/MAR]	
	V		85.8 ± 2.1	298	CGC	[2006NIC/KWE]	
	V	(313–354)	79.5	336	GS	[2001KUL/VER2]	
	V	(313–354)	84.7	298	GS	[2001KUL/VER2]	
	V	(373–423)	86.8	298	CGC	[1995CHI/HOS]	
	V	(353–393)	85.6	298	CGC	[1994KOU/HOS, 2000OVA/KOU]	
	V	(293–342)	83.6	318		[1992NGU/KAS]	
	V	(283–393)	83.5	298		[1999NGU/BER]	
	V	(393–523)	68.7	408	A	[1987STE/MAL]	

TABLE 10. Phase change enthalpies of C₁₁ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method
$\text{C}_{11}\text{H}_{24}\text{O}$	V	(393–534)	68.5	408	A	[1987STE/MAL]
	V	(393–516)	72.3	408		[1973WIL/ZWO]
$\text{C}_{11}\text{H}_{24}\text{O}$	[1653-30-1]	2-undecanol	(344–505)	61.4	359	[1947STU]
	V	(321–458)		57.2	336	
$\text{C}_{11}\text{H}_{24}\text{O}$	[57233-26-8]	2,5-dimethyl-3-isopropyl-3-hexanol	(321–458)	67.1	336	[1973WIL/ZWO]
	V	(321–458)		67.1	336	
$\text{C}_{11}\text{H}_{24}\text{OS}$	[3079-28-5]	Methyl decyl sulfoxide	FUS	41.4	NA	[1969COR/GOO]
	FUS			45.9	334.1	
$\text{C}_{11}\text{H}_{24}\text{O}_2$	[765-04-8]	1,11-undecanediol	FUS	123.0 ± 1.9	365	TE
	V			131.0 ± 3.0	298	
$\text{C}_{11}\text{H}_{24}\text{O}_2\text{S}$	[54581-75-8]	3-(octylthio)-1,2-propanediol	FUS	39.8	306.5	DSC
	V					
$\text{C}_{11}\text{H}_{24}\text{O}_3$	[10438-94-5]	3-(octyloxy)-1,2-propanediol	FUS	33.4	296.1	DSC
	V					
$\text{C}_{11}\text{H}_{24}\text{O}_4$	[75899-69-3]	Tripropylene glycol, monoethyl ether	V	(317–521)	332	A
	V			60.0		
$\text{C}_{11}\text{H}_{24}\text{S}$	[5332-52-5]	1-undecanethiol	V	(405–563)	59.3	420
	V					
$\text{C}_{11}\text{H}_{24}\text{S}_2$	[63476-06-2]	1,11-undecanedithiol	V	(444–582)	75.1	A
	V					
$\text{C}_{11}\text{H}_{25}\text{N}$	[7307-55-3]	Undecylamine	V	(428–527)	55.1	A, E
	V					
$\text{C}_{11}\text{H}_{25}\text{NO}_2$	[929-31-7]	3-(octylamino)-1,2-propanediol	FUS	45.1	335.9	DSC
	V					
$\text{C}_{11}\text{H}_{26}\text{NO}_2\text{PS}$	[50782-69-9]	Methylthiophosphonic acid, <i>O</i> -ethyl- <i>S</i> -[2-(<i>N,N</i> -diisopropylamino)ethyl] ester	V	86.0	263	[2012TEV/BRO]
	V		V	81.0	293	[2012TEV/BRO]
	V		V	77.3	323	[2012TEV/BRO]
	V		V	74.4	353	[2012TEV/BRO]
	V		V	71.3	393	[2012TEV/BRO]
	V		V	69.0	433	[2012TEV/BRO]
	V		V	67.2	473	[2012TEV/BRO]
	V	(261–385)	V	77.9	323	GC [2001RIT]
	V	(280–315)	V	101	295	A [1987STE/MAL, 1999DYK/SVO, 1974FRO]
$\text{C}_{11}\text{H}_{26}\text{NO}_2\text{PS}$	[159939-87-4]	<i>P</i> -methylphosphonothioic acid, <i>S</i> -[2(diethylamino)ethyl] <i>O</i> -(2-methylpropyl) ester	V	86.1	263	[2012TEV/BRO]
	V		V	81.6	293	[2012TEV/BRO]
	V		V	78.2	323	[2012TEV/BRO]
	V		V	75.5	353	[2012TEV/BRO]
	V		V	72.8	393	[2012TEV/BRO]
	V		V	70.6	433	[2012TEV/BRO]
	V		V	68.9	473	[2012TEV/BRO]
	V	(263–385)	V	76.6	324	GC [2001RIT]
$\text{C}_{11}\text{H}_{26}\text{N}_2$	[822-08-2]	Undecane-1,11-diamine	FUS	48.08	313.6	DSC [2002DAL/DEL]
	V	(326–353)		79.4	339	GS [2011POZ/VER]
	V	(326–353)	V	84.7 ± 0.4	298	GS [2011POZ/VER]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₂ Br ₁₀ O	[1163-19-5]	Decabromodiphenyl ether		38.7	580.4	DSC	[2011FU/SUU2]
		FUS	(444–505)	157.1 ± 3.5		ME	[2011FU/SUU2]
C ₁₂ Cl ₈ O	[39001-02-0]	Octachlorodibenzofuran		28.0	526.3	DSC	[2001SHI/YAM]
		FUS	(298–523)	145.9	411	ME	[2005RYA/GUL]
		SUB	(438–473)	141.7 ± 1.8	455	ME	[2004LI/SHI, 2002LI/SHI]
		SUB	(373–474)	149.4	423	T	[1989ROR, 1986ROR]
C ₁₂ Cl ₈ O ₂	[3268-87-9]	Octachlorodibenzo[b,e][1,4] dioxin		40.3	596.7	DSC	[2001SHI/YAM]
		FUS	(298–523)	147.4	411	ME	[2005RYA/GUL]
		SUB	(463–493)	145.7 ± 4.0	478	ME	[2004LI/SHI]
		SUB	(448–493)	131.1 ± 0.6	460	ME	[2002LI/SHI]
		SUB	(393–573)	149.8	483	T	[1989ROR, 1986ROR]
C ₁₂ Cl ₁₀	[2051-24-3]	Decachlorobiphenyl					
		FUS		41.2	580.3	DSC	[1990DON/DRE]
		FUS		28.7	578.9	DSC	[1984MIL/GHO]
		FUS		39.34	577.7	DSC	[1991ACR, 1974RYB/MAR]
		SUB	(338–358)	U93.6	348	ME	[1997GOO]
		SUB	(324–363)	121.8	343	GS	[1984BUR/ARM]
		V	(343–393)	103.4	368	GC	[1994FAL/BID]
		V	(343–453)	103.4	398	GC	[1990HIN/BID2]
C ₁₂ D ₁₀	[1486-01-7]	Biphenyl-d ₁₀		64.9	298	CGC	[2008ZHA/UNH]
C ₁₂ D ₁₀	[15067-26-2]	Acenaphthene-d ₁₀		67.2	298	CGC	[2008ZHA/UNH]
C ₁₂ D ₁₈	[4342-40-9]	Hexamethylbenzene-d ₁₈		68.2	298	CGC	[2008ZHA/UNH]
C ₁₂ D ₁₀	[434-90-2]	Decafluorobiphenyl		20.5	339.6	DSC	[2012HAS/DRA]
		FUS	(297–323)	87.8	310	A	[1987STE/MAL]
		SUB		85.3 ± 2.3			[1974RAD/KAT]
		V	(453–608)	49.9	468	DSC	[1996BAC/GRZ]
C ₁₂ F ₁₈	[23174-55-2]	Hexakis(trifluoromethyl)bicyclo[2.2.0]hexa-2,5-diene					
		V	(293–343)	41.4	308	A	[1987STE/MAL, 1970BAR/HAS, 1999DYK/SVO]
C ₁₂ F ₁₈	[22736-20-5]	Hexakis(trifluoromethyl)tetracyclo[2.2.0.0 ^{2,6} 0 ^{3,5}]hexane					
		SUB	(293–306)	49.2	299.5	A	[1987STE/MAL]
C ₁₂ F ₁₈	[22186-64-7]	Hexakis(trifluoromethyl)tricyclo[3.1.0.0 ^{2,6}]hex-3-ene					
		V	(293–353)	38.6	308	A	[1987STE/MAL, 1970BAR/HAS, 1999DYK/SVO]
C ₁₂ F ₂₃ N	[86630-50-4]	Perfluoro-N-(4-methylcyclohexyl)piperidine					
		FUS	(10–347)	8.32	293.3	AC	[2007DRU/EFI]
		FUS		8.6	293.7	DSC	[2007DRU/EFI]
C ₁₂ F ₂₆	[307-59-5]	Perfluorododecane		56.6	298	C	[2007DRU/EFI]
		FUS		24.2	346.6	DSC	[2012HAS/DRA]
		FUS		24.9	346.5	DSC	[2012HAS/DRA]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{F}_{26}\text{O}_{10}$	FUS	Perfluoro-2,4,6,8,10,13,15,17,19,21-deaoxy-n-docosane		21.6	349.3	DSC	[1999VIS/TER]	
	TRS		(5–317)	5.07	177.5	AC	[1994LEB/BYK]	
	TRS			7.2	177.7			
	FUS			23.8	347.3	DSC	[1994JIN/BOL]	
	TRS			6.9	170.2			
	FUS			U 38.16	348.5	DSC	[1986STA]	
	SUB		(313–348)	85.8 ± 0.3	298	GS	[2012HAS/DRA]	
$\text{C}_{12}\text{F}_{27}\text{N}$	V	Perfluorotributylamine		64.2 ± 2.2	298	CGC	[2012HAS/DRA]	
	[927699-30-7]		(397–468)	74.6 ± 2.9	298	EB	[2006DRU/KRO]	
$\text{C}_{12}\text{HCl}_7\text{O}_2$	[311-89-7]	1,2,3,4,6,7,9-heptachlorodibenzo[b,e][1,4]dioxin	V	60.3 ± 0.1	298	C	[1995VAR/DRO]	
	V		(298–450)	57.4	313	A	[1987STE/MAL]	
	V		(371–544)	51.1	386	A	[1987STE/MAL]	
	V			60.4 ± 1.2	298		[1977VAR/AMM2, 1977VAR/AMM]	
$\text{C}_{12}\text{HCl}_9$	[58200-70-7]	2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	SUB	(418–453)	144.2 ± 0.3	435	ME	[2004LI/SHI]
	FUS							
$\text{C}_{12}\text{HF}_{25}$	[66563-68-6]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosofluorododecane	FUS		21.0	345	DSC	[1988HOP/PUG]
	FUS				23.0	344.5	DSC	[1986RUS/RAB]
	C ₁₂ H ₂ Cl ₆ O ₂		SUB	(418–438)	128.5 ± 1.5	428	ME	[2004LI/SHI]
$\text{C}_{12}\text{H}_2\text{C}_{18}$	[2136-99-4]	2,2',3,3',5,5',6,6'-octachlorobiphenyl	FUS		22.8	433.8	DSC	[1991ACR, 1984MIL/GHO]
	SUB		(302–334)	101.7	318	GS	[1984BUR/ARM]	
	V		(343–393)	92.9	368	GC	[1994FAL/BID]	
	V		(343–453)	92.9	398	GC	[1990HIN/BID2]	
$\text{C}_{12}\text{H}_3\text{Br}_7\text{O}$	[327185-13-7]	2',3,3',4,4',5,6-heptabromodiphenyl ether	V	(363–473)	115.8	418	GC	[2001WON/LEI]
	V		(403–475)	121.2		CGC	[2001TIT/TOM]	
	C ₁₂ H ₃ Cl ₅ O ₂		SUB	(403–428)	125.3 ± 2.3	415	ME	[2004LI/SHI]
$\text{C}_{12}\text{H}_3\text{Cl}_7$	[52663-68-0]	2,2',3,4',5,5',6-heptachlorobiphenyl	V	(343–393)	94.0	368	GC	[1994FAL/BID]
$\text{C}_{12}\text{H}_3\text{Cl}_7$	[35065-29-3]	2,2',3,4,4',5,5'-heptachlorobiphenyl	FUS		24.8	383.4	DSC	[2006NAK/SHI]
	V		(343–393)	96.5	268	GC	[1994FAL/BID]	
	C ₁₂ H ₃ Cl ₇		SUB					
$\text{C}_{12}\text{H}_3\text{Cl}_7$	[52663-71-5]	2,2',3,3',4,4',6-heptachlorobiphenyl	FUS		20.3	395.4	DSC	[1991ACR, 1984MIL/GHO]
	V				109.1	298	CGC	[2001PUR/CHI]
	V		(343–393)	95.9	368	GC	[1994FAL/BID]	
$\text{C}_{12}\text{H}_3\text{Cl}_7$	[35065-30-6]	2,2',3,3',4,4',5-heptachlorobiphenyl	FUS		26.9	412.2	DSC	[2006NAK/SHI]
	V		(343–393)	98.4	368	GC	[1994FAL/BID]	
$\text{C}_{12}\text{H}_3\text{Cl}_7$	[38411-25-5]	2,2',3,3',4,5,6'-heptachlorobiphenyl	FUS		24.4	400.5	DSC	[2006NAK/SHI]
$\text{C}_{12}\text{H}_3\text{Cl}_7\text{O}$	[67517-48-0]	1,2,3,4,8-pentachlorodibenzofuran	SUB	(388–413)	125.2 ± 2.0	400	ME	[2004LI/SHI]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				Method	References
			Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	
C ₁₂ H ₄ Br ₆ O	[182677-30-1] V	2,2',3,4,4',5'-hexabromodiphenyl ether (403–475)		114.1			CGC [2001TIT/TOM]
C ₁₂ H ₄ Br ₆ O	[68631-49-2] FUS	2,2',4,4',5,5'-hexabromodiphenyl ether		30.2	436.6	DSC	[2007KUR/MAE]
	SUB	(343–393)	143		368	GS	[2014KUR/TAK]
	V	(363–473)	107.6		418	GC	[2001WON/LEI]
C ₁₂ H ₄ Cl ₂ F ₆ N ₄ OS	[120068-37-3] V	1-(2,6-dichloro-4-trifluoromethylphenyl)-3-cyano-5-amino-4-(trifluoromethylsulfinyl)pyrazole (fipronil) (373–423)	85.0	398	GC	[2007GOE/MCC]	
C ₁₂ H ₄ Cl ₄ O	[24478-72-6] SUB	1,2,3,4-tetrachlorodibenzofuran (333–393)	118.5	363	T	[1989ROR, 1986ROR]	
C ₁₂ H ₄ Cl ₄ O	[51207-31-9] SUB	2,3,7,8-tetrachlorodibenzofuran (303–344)	124.0	323	T	[1989ROR, 1986ROR]	
C ₁₂ H ₄ Cl ₄ O ₂	[30746-58-8] SUB	1,2,3,4-tetrachlorodibenzo[b,e][1,4]dioxin	116.0	411.5	C	[2007LUK/PAP]	
	SUB		118.7	298	C	[2007LUK/PAP]	
	SUB	(378–403)	111.3 ± 1.4	390	ME	[2004LI/SHI]	
C ₁₂ H ₄ Cl ₄ O ₂	[40581-90-6] SUB	1,2,6,7-tetrachlorodibenzo[b,e][1,4]dioxin (393–413)	120.4 ± 3.3	403	ME	[2004LI/SHI]	
C ₁₂ H ₄ Cl ₄ O ₂	[33423-92-6] SUB	1,3,6,8-tetrachlorodibenzo[b,e][1,4]dioxin (378–408)	118.6 ± 3.2	393	ME	[2004LI/SHI]	
C ₁₂ H ₄ Cl ₄ O ₂	[62470-53-5] SUB	1,3,7,9-tetrachlorodibenzo[b,e][1,4]dioxin (383–408)	123.6 ± 1.5	395	ME	[2004LI/SHI]	
C ₁₂ H ₄ Cl ₄ O ₂	[1746-01-6] FUS	2,3,7,8-tetrachlorodibenzo[b,e][1,4]dioxin	38.9	578.2		[1986ROR2]	
	SUB		124.0	578		[1985SCH/HIL]	
C ₁₂ H ₄ Cl ₆	[38380-08-4] V	2,3,3',4,4',5-hexachlorobiphenyl	112.6 ± 0.4	298	CGC	[2001PUR/CHI]	
	V	(343–93)	94.8	368	GC	[1994FAL/BID]	
C ₁₂ H ₄ Cl ₆	[35065-27-1] FUS	2,2',4,4',5,5'-hexachlorobiphenyl	22.9	375.3	DSC	[2006NAK/SHI]	
	V		103.5 ± 0.1	298	CGC	[2001PUR/CHI]	
	V	(343–393)	91.4	368	GC	[1994FAL/BID]	
C ₁₂ H ₄ Cl ₆	[33979-03-2] FUS	2,2',4,4',6,6'-hexachlorobiphenyl	17.5	386.7	DSC	[1991ACR, 1984MIL/GHO]	
	SUB	(263–303)	103.4 ± 2.3	283	GS	[1994WAN/SHU]	
C ₁₂ H ₄ Cl ₆	[38380-04-0] FUS	2,2',3,4',5',6-hexachlorobiphenyl	20.2	348.8	DSC	[2006NAK/SHI]	
	V	(343–393)	89.8	368	GC	[1994FAL/BID]	
C ₁₂ H ₄ Cl ₆	[35694-06-5] FUS	2,2',3,4,4',5-hexachlorobiphenyl	21.5	352.6	DSC	[2006NAK/SHI]	
C ₁₂ H ₄ Cl ₆	[35065-28-2] V	2,2',3,4,4',5-hexachlorobiphenyl (343–393)	91.9	368	GC	[1994FAL/BID]	
C ₁₂ H ₄ Cl ₆	[38380-07-3] FUS	2,2',3,3',4,4'-hexachlorobiphenyl	29.2	424.9	DSC	[1991ACR, 1984MIL/GHO]	
	V	(343–393)	93.5	368	GC	[1994FAL/BID]	
C ₁₂ H ₄ Cl ₆	[38411-22-2] FUS	2,2',3,3',6,6'-hexachlorobiphenyl	21.1	385.2	DSC	[1991ACR, 1984MIL/GHO]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₄ N ₄	[1518-16-7]	7,7,8,8-tetracyanoquinodimethane	SUB		79.0		TGA	[1995YAS/TAK]
			SUB	(452–553)	108 ± 2	500	T	[1984KER/OPP]
			SUB	(382–464)	122 ± 2	423	ME	[1984KER/OPP]
			SUB		126.1 ± 1	413	ME,TE	[1980DEK/GOV]
			SUB	(433–499)	104.8 ± 10	448	A	[1980SWA/KWA, 1987STE/MAL]
			SUB		105 ± 9.2	465	MG	[1963BOY, 1970COX/PIL]
C ₁₂ H ₅ Br ₅ O	[182346-21-0]	2,2',3,4,4'-pentabromodiphenyl ether	V	(403–475)		111	CGC	[2001TIT/TOM]
C ₁₂ H ₅ Br ₅ O	[327185-11-5]	2,2',3,3',4-pentabromodiphenyl ether	V	(363–473)	99.1	418	GC	[2001WON/LEI]
C ₁₂ H ₅ Br ₅ O	[60348-60-9]	2,2',4,4',5-pentabromodiphenyl ether	FUS		27.5	355.0	DSC	[2007KUR/MAE]
			SUB	(323–373)	115	348	GS	[2014KUR/TAK]
			V	(363–473)	100.3	418	GC	[2001WON/LEI]
			V	(405–475)	104.8		CGC	[2001TIT/TOM]
C ₁₂ H ₅ Br ₅ O	[189084-66-0]	2,2',4,4',6-pentabromodiphenyl ether	V	(363–473)	101.8	418	GC	[2001WON/LEI]
C ₁₂ H ₅ Cl ₃ O	[58802-14-5]	2,4,6-dibenzofuran	SUB	(298–418)	121.6	358	ME	[2005RYA/GUL]
			SUB	(338–373)	108.8 ± 2.2	355	ME	[2004LI/SHI]
			V	(448–548)	84.8	498	ME	[2005RYA/GUL]
C ₁₂ H ₅ Cl ₃ O ₂	[54536-17-3]	1,2,3-trichlorodibenzo[b,e][1,4]dioxin	SUB	(363–388)	117.1 ± 3.7	375	ME	[2004LI/SHI]
C ₁₂ H ₅ Cl ₃ O ₂	[39227-58-2]	1,2,4-trichlorodibenzo[b,e][1,4]dioxin	SUB	(348–383)	121.0 ± 1.8	365	ME	[2004LI/SHI]
			SUB	(310–374)	118.8	342	T	[1989ROR, 1986ROR]
			FUS		30.8	421.7		[1986ROR2]
C ₁₂ H ₅ Cl ₃ O ₂	[67028-17-5]	1,3,7-trichlorodibenzo[b,e][1,4]dioxin	SUB	(310–373)	116.2	342	T	[1989ROR, 1986ROR]
			FUS					
			V	(448–548)	95.1	498	ME	[2005RYA/GUL]
C ₁₂ H ₅ Cl ₅	[31508-00-6]	2,3',4,4',5-pentachlorobiphenyl	FUS		26.6	382.3	DSC	[2006NAK/SHI]
			V	(343–393)	89.3	368	GC	[1994FAL/BID]
C ₁₂ H ₅ Cl ₅	[32598-14-4]	2,3,3',4,4'-pentachlorobiphenyl	V	(343–393)	91.1	368	GC	[1994FAL/BID]
C ₁₂ H ₅ Cl ₅	[37680-73-2]	2,2',4,5,5'-pentachlorobiphenyl	FUS		18.6	381.1	DSC	[2006NAK/SHI]
			FUS		18.8	350.1	DSC	[1991ACR, 1984MIL/GHO]
			SUB	(303–313)	92.7	308	GS	[1981WES/SIM]
			V	(343–393)	86.4	368	GC	[1994FAL/BID]
			V	(343–453)	83.7	398	GC	[1990HIN/BID2]
C ₁₂ H ₅ Cl ₅	[38379-99-6]	2,2',3,5',6-pentachlorobiphenyl	FUS		23.3	367.7	DSC	[2006NAK/SHI]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V				92.3 ± 0.6	298	CGC	[2001PUR/CHI]
C ₁₂ H ₅ Cl ₅	[73575-54-9]	2,2',3,6,6'-pentachlorobiphenyl	V		89.6 ± 0.2	298	CGC	[2001PUR/CHI]
C ₁₂ H ₅ Cl ₅	[60233-25-2]	2,2',3',4,6-pentachlorobiphenyl	FUS		20.4	367.7	DSC	[2006NAK/SHI]
C ₁₂ H ₅ Cl ₅	[60145-21-3]	2,2',4,5',6-pentachlorobiphenyl	V		91.6 ± 0.5	298	CGC	[2001PUR/CHI]
C ₁₂ H ₅ Cl ₅	[38380-02-8]	2,2',3,4,5'-pentachlorobiphenyl	V	(343–393)	87.3	368	GC	[1994FAL/BID]
C ₁₂ H ₅ Cl ₅	[38380-01-7]	2,2',4,4',5-pentachlorobiphenyl	V	(343–393)	86.8	368	GC	[1994FAL/BID]
C ₁₂ H ₅ Cl ₅	[18259-05-7]	2,3,4,5,6-pentachlorobiphenyl	FUS		21.8	397.6	DSC	[1991ACR, 1984MIL/GHO]
C ₁₂ H ₅ Cl ₅	[38380-03-9]	2,3,3',4',6-pentachlorobiphenyl	FUS		16.2	322.4	DSC	[2006NAK/SHI]
C ₁₂ H ₅ Cl ₅	[57465-28-8]	3,3',4,4',5-pentachlorobiphenyl	FUS		27.1	430.7	DSC	[2006NAK/SHI]
C ₁₂ H ₆ Br ₄ O	[5436-43-1]	2,2',4,4'-tetrabromodiphenyl ether	FUS		17.3	356.9	DSC	[2007KUR/MAE]
	SUB		(313–363)		105	338	GS	[2014KUR/TAK]
	V		(363–473)		92.0	418	GC	[2001WON/LEI]
	V		(403–475)		103.1		CGC	[2001PUR/CHI]
C ₁₂ H ₆ Br ₄ O	[189084-61-5]	2,3',4,4'-tetrabromodiphenyl ether	V	(363–473)	93.5	418	GC	[2001WON/LEI]
C ₁₂ H ₆ Br ₄ O	[327185-09-1]	2,3',4,6-tetrabromodiphenyl ether	V	(363–473)	91.1	418	GC	[2001WON/LEI]
C ₁₂ H ₆ Br ₄ O	[189084-63-7]	2,4,4',6-tetrabromodiphenyl ether	V	(363–473)	90.1	48	GC	[2001WON/LEI]
C ₁₂ H ₆ Br ₄ O	[93703-48-1]	3,3',4,4'-tetrabromodiphenyl ether	V	(363–473)	95.3	418	GC	[2001WON/LEI]
C ₁₂ H ₆ Cl ₂ O	[5409-83-6]	2,8-dichlorodibenzofuran	SUB	(298–448)	102.2	373	ME	[2005RYA/GUL]
	SUB		(348–383)		110.3 ± 1.2	360	ME	[2004LI/SHI]
	V		(473–523)		87.9	498	ME	[2005RYA/GUL]
C ₁₂ H ₆ Cl ₂ O	[74918-40-4]	3,6-dichlorodibenzofuran	FUS		32.4	461.2		[1986ROR2]
	SUB		(305–374)		110.9	340	T	[1989ROR, 1986ROR]
C ₁₂ H ₆ Cl ₂ O ₂	[38178-38-0]	1,6-dichlorodibenzo[b,e][1,4]dioxin	SUB	(348–383)	113.6 ± 2.3	365	ME	[2004LI/SHI]
C ₁₂ H ₆ Cl ₂ O ₂	[29446-15-9]	2,3-dichlorodibenzo[b,e][1,4]dioxin	FUS		27.1	431.6		[1999KOL/DOR]
	SUB		(338–378)		106.2 ± 1.1	358	ME	[2004LI/SHI]
	SUB				108.6 ± 1.0	298	C	[1999KOL/DOR]
	SUB				107.2 ± 0.8	358	C	[1998PAP/KOL]
	SUB				108.6 ± 1.0	298		[1998PAP/KOL]
	SUB		(306–374)		106.2	340	T	[1989ROR, 1986ROR]
C ₁₂ H ₆ Cl ₂ O ₂	[33857-26-0]	2,7-dichlorodibenzo[b,e][1,4]dioxin	SUB	(298–483)	108.8	390	ME	[2005RYA/GUL]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_{12}\text{H}_6\text{Cl}_2\text{O}_2$	[38964-22-6]	SUB	(358–393)	113.8 ± 2.0	375	ME	[2004LI/SHI]
		SUB	(314–374)	105.5	344	T	[1989ROR, 1986ROR]
	[38444-93-8]	V	(503–523)	64.3	513	ME	[2005RYA/GUL]
		SUB	(305–363)	109	334	T	[1989ROR, 1986ROR]
$\text{C}_{12}\text{H}_6\text{Cl}_4$	[38444-93-8]	2,2',3,3'-tetrachlorobiphenyl					
$\text{C}_{12}\text{H}_6\text{Cl}_4$		V	(343–398)	81.8	368	GC	[1994FAL/BID]
[35693-99-3]	2,2',5,5'-tetrachlorobiphenyl						
	FUS		20.8	357.1	DSC	[2006NAK/SHI]	
	SUB	(323–353)	102.0 ± 0.5	338	ME	[2005NAK/SHI]	
	$\text{C}_{12}\text{H}_6\text{Cl}_4$		SUB	(303–312)	94.6	308	GS
[41464-39-5]	V	(343–398)	80.8	368	GC	[1994FAL/BID]	
	V	(343–453)	79	398	GC	[1990HIN/BID2]	
	FUS		18.3	320.4	DSC	[2006NAK/SHI]	
$\text{C}_{12}\text{H}_6\text{Cl}_4$	[33284-53-6]	2,3,4,5-tetrachlorobiphenyl					
$\text{C}_{12}\text{H}_6\text{Cl}_4$		FUS		25.2	363.9	DSC	[1991ACR, 1984MIL/GHO]
[32598-10-0]	SUB	(253–393)	88.7 ± 1.2	273	GS	[1994WAN/SHU]	
	FUS		27.9	398.4	DSC	[2006NAK/SHI]	
[32598-11-1]	SUB	(348–373)	105.9 ± 2.5	353	ME	[2005NAK/SHI]	
	V	(343–398)	83.3	368	GC	[1994FAL/BID]	
$\text{C}_{12}\text{H}_6\text{Cl}_4$	[41464-40-8]	2,3',4,5-tetrachlorobiphenyl					
$\text{C}_{12}\text{H}_6\text{Cl}_4$		FUS		27.5	376.7	DSC	[2006NAK/SHI]
[41464-41-9]	V	(343–398)	84.8	368	GC	[1994FAL/BID]	
	FUS		23.4	339.1	DSC	[1991ACR, 1984MIL/GHO]	
	V		87.4 ± 0.8	298	CGC	[2001PUR/CHI]	
$\text{C}_{12}\text{H}_6\text{Cl}_4$	[32598-13-3]	2,2',5,6-tetrachlorobiphenyl					
$\text{C}_{12}\text{H}_6\text{Cl}_4$		V		84.9 ± 0.6	298	CGC	[2001PUR/CHI]
[116-29-0]	V	(343–398)	78.8	368	GC	[1994FAL/BID]	
	FUS		34.5	451.2	DSC	[2006NAK/SHI]	
	SUB	(383–403)	121.6 ± 1.3	393	ME	[2005NAK/SHI]	
$\text{C}_{12}\text{H}_6\text{Cl}_4\text{O}_2\text{S}$	[81-84-5]	V	(343–393)	87.2	368	GC	[1994FAL/BID]
		FUS		28.94	419.9	DSC	[1991ACR, 1990DON/DRE]
	[147217-81-0]	1-8-naphthalic anhydride (protect)					
		FUS		23.32	542.3	DSC	[1990DON/DRE]
$\text{C}_{12}\text{H}_7\text{Br}_3\text{O}$	[41318-75-6]	2,4,4'-tribromodiphenyl ether					
$\text{C}_{12}\text{H}_7\text{Br}_3\text{O}$		V	(403–475)	94.1		CGC	[2001TIT/TOM]
[155999-95-4]	3,4,4'-tribromodiphenyl ether						
	V	(363–473)	86.7	418	GC	[2001WON/LEI]	
	2,4,6-tribromodiphenyl ether						
$\text{C}_{12}\text{H}_7\text{Br}_3\text{O}$	[189084-60-4]	(363–473)	85.1	418	GC	[2001WON/LEI]	
		V	(363–473)	83.3	418	GC	[2001WON/LEI]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₇ Br ₃ O	[147217-78-5]	2',3,4-tribromodiphenyl ether	V	(363–473)	81.0	418	GC	[2001WON/LEI]
C ₁₂ H ₇ Br ₃ O	[147217-80-9]	3,3',4-tribromodiphenyl ether	V	(363–473)	86.4	418	GC	[2001WON/LEI]
C ₁₂ H ₇ ClO	[51230-49-0]	2-chlorodibenzofuran	SUB	(298–373)	95.1	335	ME	[2005RYA/GUL]
			V	(378–548)	75.3	463	ME	[2005RYA/GUL]
C ₁₂ H ₇ ClO ₂	[39227-53-7]	1-chlorodibenzo[b,e][1,4]dioxin	FUS		23.2	378.2		[1986ROR2]
			SUB	(298–373)	96.3	335	ME	[2005RYA/GUL]
			SUB	(308–343)	100.5 ± 0.8	325	ME	[2004LI/SHI]
			SUB		95.2 ± 1.1	298	C	[1999KOL/DOR]
			SUB		95.2			[1998PAP/LUK]
			SUB	(303–338)	98.6	321	T	[1989ROR, 1986ROR]
			V	(398–523)	79.9	460	ME	[2005RYA/GUL]
C ₁₂ H ₇ ClO ₂	[39227-54-8]	2-chlorodibenzo[b,e][1,4]dioxin	FUS		23.1	362.2		[1986ROR2]
			SUB	(308–343)	98.1 ± 1.1	298	ME	[2004LI/SHI]
			SUB		97.2	298	C	[1999KOL/DOR]
			SUB		97.2 ± 0.6	298	C	[1996PAP/KOL]
			SUB	(305–348)	97.2	327	T	[1989ROR, 1986ROR]
C ₁₂ H ₇ Cl ₂ NO ₃	[1836-75-5]	2,4-dichlorophenyl 4-nitrophenyl ether	FUS		22.96	342	DSC	[1990DON/DRE]
			V	(328–403)	90.4	343	A	[1987STE/MAL]
C ₁₂ H ₇ Cl ₃	[38444-85-8]	2,3,4'-trichlorobiphenyl	FUS		20.2	344.0	DSC	[2006NAK/SHI]
C ₁₂ H ₇ Cl ₃	[15862-07-4]	2,4,5-trichlorobiphenyl	FUS		22.8	349.5	DSC	[1991ACR, 1984MIL/GHO]
			V	(343–393)	76.6	368	GC	[1994FAL/BID]
C ₁₂ H ₇ Cl ₃	[35693-92-6]	2,4,6-trichlorobiphenyl	FUS		16.5	334.3	DSC	[1991ACR, 1984MIL/GHO]
			V	(343–393)	74.4	368	GC	[1994FAL/BID]
C ₁₂ H ₇ Cl ₃	[16606-02-3]	2,4',5-trichlorobiphenyl	FUS		19.8	336.5	DSC	[2006NAK/SHI]
			V	(343–398)	77.7	368	GC	[1994FAL/BID]
C ₁₂ H ₇ Cl ₃	[37680-65-2]	2,2',5-trichlorobiphenyl	FUS		18.9	316.6	DSC	[2006NAK/SHI]
			SUB	(303–313)	93.7 ± 6.2	308	ME	[2005NAK/SHI]
			V		80.2 ± 0.9	298	CGC	[2001PUR/CHI]
C ₁₂ H ₇ Cl ₃	[7012-37-5]	2,4,4'-trichlorobiphenyl	FUS		19.7	329.3	DSC	[2006NAK/SHI]
			SUB	(313–328)	96.7 ± 3.4	320	ME	[2005NAK/SHI]
C ₁₂ H ₇ Cl ₃	[38444-86-9]	2',3,4-trichlorobiphenyl	FUS		19.5	332.3	DSC	[2006NAK/SHI]
			SUB	(313–328)	98.2 ± 5.5	320	ME	[2005NAK/SHI]
C ₁₂ H ₇ Cl ₃ O ₂	[3380-34-5]	5-chloro-2-(2,4-dichlorophenoxy)phenol (tricosan)	FUS		17.75	331.1	DSC	[2012LIM/JAN]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₂ H ₈	[208-96-8]	Acenaphthylene					
	TRS	(5–330)	1.4	116.6	AC	[1994CHE/WES]	[Note: Heat capacity versus temperature curve showed two peaks—the total transition enthalpy is 1.4 kJ/mol.]
	FUS		10.96	362	DSC	[1990DON/DRE]	[Note: The authors of [1990DON/DRE] gave the chemical name of the compound as acenaphthylene; however, they gave the CAS Registry Number of acenaphthene.]
	FUS		6.95	362.6	C	[1969SAD/STE]	
	SUB	(297–318)	74.2 ± 8.2	307	ME	[2008GOL/SUU3]	
	SUB		70.0	298	CGC-DSC	[1998CHI/HES]	
	SUB	(313–453)	77.2	383	GS	[1995NAS/LEN]	
	SUB	(238–323)	73.2 ± 0.5	303	GS	[1983SON/ZOL]	
	SUB		73.0 ± 0.4	298	C	[1972MOR]	
	SUB	(286–318)	71.1 ± 1.3		A	[1970COX/PIL, 1987STE/MAL, 1965BOY/CHR]	
	V		64.6 ± 5.8	298	CGC	[2008ROU/TEM]	
	V		69.1 ± 2.2	298	GC	[2006HAF/PAR]	
C ₁₂ H ₈	[259-79-0]	Biphenylene					
	SUB	(313–453)	82.7	383	GS	[1995NAS/LEN]	
	SUB	(309–336)	U 104.5	319		[1989ROR/RUT]	
	SUB		87.3 ± 0.3	298	B	[1980OSB/SCO]	
	SUB		83.8 ± 0.3		C	[1972MOR]	
	SUB	(371–381)	U 128.9 ± 2	376		[1955CAS/SPR, 1970COX/PIL, 1987STE/MAL]	
C ₁₂ H ₈ Br ₂		(<i>dl</i>)-1,2-dibromoacenaphthene					
	FUS		25.1	397	DSC	[1976LEC/COL]	
C ₁₂ H ₈ Br ₂		(<i>d</i>)-1,2-dibromoacenaphthene					
	FUS		26.36	416	DSC	[1976LEC/COL]	
C ₁₂ H ₈ Br ₂	[92-86-4]	4,4'-dibromobiphenyl					
	FUS		28.38	440.7	DSC	[2009RAI/RED]	
	SUB	(358–404)	105.5 ± 0.4	298	GS	[2015SOL/VAR]	
C ₁₂ H ₈ Br ₂ O	[171977-44-9]	2,4-dibromodiphenyl ether					
	V	(363–473)	75.4	418	GC	[2001WON/LEI]	
C ₁₂ H ₈ Br ₂ O	[189084-59-1]	3,4-dibromodiphenyl ether					
	V	(363–473)	77.4	418	GC	[2001WON/LEI]	
C ₁₂ H ₈ Br ₂ O	[83694-71-7]	3,4'-dibromodiphenyl ether					
	V	(363–473)	77.4	418	GC	[2001WON/LEI]	
C ₁₂ H ₈ Br ₂ O	[2050-47-7]	4,4'-dibromodiphenyl ether					
	FUS		18.4	331.9	DSC	[2011FU/SUU2]	
	FUS		19.6	331.7	DSC	[2007KUR/MAE]	
	SUB	(300–328)	102.0 ± 3.5		ME	[2011FU/SUU2]	
	V	(363–473)	78.0	418	GC	[2001WON/LEI]	
C ₁₂ H ₈ Br ₂ O	[147217-71-8]	2,4'-dibromodiphenyl ether					
	V	(363–473)	76.4	418	GC	[2001WON/LEI]	
C ₁₂ H ₈ Br ₂ O	[51930-04-2]	2,6-dibromodiphenyl ether					
	V	(363–473)	73.1	418	GC	[2001PUR/CHI]	
C ₁₂ H ₈ Cl ₂	[13029-08-8]	2,2'-dichlorobiphenyl					
	FUS		16.6	330.9	DSC	[2006NAK/SHI]	
	SUB	(303–323)	87.8 ± 1.2	313	ME	[2005NAK/SHI]	
	SUB	(310–328)	96.1	314	ME	[1964SMI/GOR]	
	SUB	(310–328)	96.2 ± 4.2	298	ME	[1964SMI/GOR, 1970COX/PIL, 1987STE/MAL]	
C ₁₂ H ₈ Cl ₂	[33284-50-3]	2,4-dichlorobiphenyl					
	V		75.3 ± 1.5	298	CGC	[2001PUR/CHI]	
	V	(343–393)	73.5	368	GC	[1994FAL/BID]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₂ H ₈ Cl ₂	[34883-43-7]	2,4'-dichlorobiphenyl	(303–313)	18.0 94.3 ± 5.6	316.7	DSC ME	[2006NAK/SHI]
		FUS					[2006NAK/SHI]
C ₁₂ H ₈ Cl ₂	[34883-39-1]	2,5-dichlorobiphenyl	V	76.8 ± 0.4	298	CGC GC	[2001PUR/CHI]
		V	(343–393)	73.9	368	GC	[1994FAL/BID]
		2,6-dichlorobiphenyl	FUS	12.6	307.9	DSC	[1991ACR, 1984MIL/GHO]
C ₁₂ H ₈ Cl ₂	[2050-67-1]	3,3'-dichlorobiphenyl	V	81.0 ± 0.2	298	CGC GC	[2001PUR/CHI]
		V	(343–393)	75.4	368	GC	[1994FAL/BID]
C ₁₂ H ₈ Cl ₂	[2050-68-2]	4,4'-dichlorobiphenyl	FUS	22.8	421.1	DSC	[2006NAK/SHI]
		SUB	(263–303)	95.3 ± 1.3	283	GS	[1994WAN/SHU]
		SUB	(303–360)	103.7	331	ME	[1964SMI/GOR, 1987STE/MAL]
		SUB	(303–360)	103.8 ± 4.2	298	ME	[1964SMI/GOR, 1970COX/PIL]
		V	(343–393)	81.4 ± 0.3	298	CGC	[2001PUR/CHI]
		V		76.0	368	GC	[1994FAL/BID]
		(<i>dl</i>)-1,2-dichloroacenaphthene	FUS	20.5	339	DSC	[1976LEC/COL]
C ₁₂ H ₈ Cl ₂	FUS	(<i>d</i>)-1,2-dichloroacenaphthene		21.34	375	DSC	[1976LEC/COL]
C ₁₂ H ₈ Cl ₂ O ₂ S	[80-07-9]	4,4'-dichlorodiphenylsulfone	FUS	(14–480)	24.4	AC	[1996DOM/HEA, 1985NOV/TSV]
		V	(463–573)	59.7	478		[1999DYK/SVO, 1979MIZ/DAN]
		4-chlorophenyl 4-chlorobenzenesulfonate	FUS		23.63	DSC	[1991ACR, 1990DON/DRE]
C ₁₂ H ₈ Cl ₃ NO ₂	[77765-39-0]	2,2,4-trichloro-5-[(2-methylphenyl)amino]-4-cyclopentene-1,3-dione	V	(453–483)	85	GC	[1980SHA/SAD]
		V	(453–483)	84.6	468		[1980SHA/SAD]
C ₁₂ H ₈ Cl ₃ NO ₂	[77765-40-3]	2,2,4-trichloro-5-[(2-methoxyphenyl)amino]-4-cyclopentene-1,3-dione	V	(453–483)	63.1	GC	[1980SHA/SAD]
		V	(453–483)	63.1	468		[1980SHA/SAD]
C ₁₂ H ₈ Cl ₆	[309-00-2]	1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro- <i>endo-exo</i> -1,4:5,8-dimethylnaphthalene (aldrin)	TRS	16.59	383.7	DSC	[1995KSI/NAG]
			FUS	4.15	562.4		[1995KSI/NAG]
		SUB	(309–343)	91.8	326	GS	[1982GRA/FOS]
		V	(343–453)	75.1	398	GC	[1990HIN/BID2]
		1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4- <i>endo-exo</i> -5,8-dimethanonaphthalene (ieldrin)	TRS	19.33	405.6	DSC	[1995KSI/NAG]
C ₁₂ H ₈ Cl ₆ O	[60-57-1]		FUS	3.04	452.9		[1995KSI/NAG]
		SUB	(308–348)	93.8	328	GS	[1982GRA/FOS]
		SUB	(293–313)	98.7	303	GS	[1969SPE/CLI]
		V	(343–453)	82.5	398	GC	[1990HIN/BID2]
		2,2'-difluorobiphenyl	SUB	(301–319)	95.1	A	[1987STE/MAL, 1964SMI/GOR]
C ₁₂ H ₈ F ₂	[388-82-9]	SUB	(301–318)	95 ± 4.2	298	ME	[1964SMI/GOR, 1970COX/PIL]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₈ F ₂	[2050-68-2]	4,4'-difluorobiphenyl	SUB	(294–318)	91.4	306	ME	[1964SMI/GOR]
			SUB	(294–318)	91.2 ± 4.2	298	ME	[1964SMI/GOR, 1970COX/PIL]
C ₁₂ H ₈ N ₂	[230-46-6]	1,7-phenanthroline	FUS		25.6	351.7	DSC	[2016BRU/LAP]
			SUB	(3154–340)	113.2 ± 0.9	329	TE	[2016BRU/LAP]
			SUB	(315–340)	114.2 ± 1.0	298	TE	[2016BRU/LAP]
			V	(380–428)	72.1 ± 0.7	401	ITG	[2016BRU/LAP]
			V		79.4 ± 4.7	298	CGC	[2009LIP/CHI, 2009LIP/HAN]
C ₁₂ H ₈ N ₂	[66-71-7]	1,10-phenanthroline	FUS		13.4	390.9	DSC	[2016BRU/LAP]
			FUS		15.5	391.7	AC	[2010CHI/KAZ]
			FUS		11.8	391.1	DSC	[2007BON/CAT]
			FUS		15.0	398.0	DSC	[1986AIR/SIL]
			SUB	(359–387)	105.1 ± 0.2	373	ME	[2016BRU/LAP]
			SUB	(321–367)	104.3 ± 0.5	339	ME	[2016BRU/LAP]
			SUB		106.5 ± 1.1	298	ME	[2016BRU/LAP]
			SUB		98.3		ME	[1972MIL]
			V	(393–420)	74.9 ± 0.8	407	ITG	[2016BRU/LAP]
			V		86.2 ± 1.2	298	CGC	[2010LIP/CHI]
			V		77.7 ± 0.1	520	EB	[2010CHI/KAZ]
			V		74.9 ± 0.2	560	EB	[2010CHI/KAZ]
			V		72.1 ± 0.2	600	EB	[2010CHI/KAZ]
C ₁₂ H ₈ N ₂	[230-07-9]	4,7-phenanthroline	FUS		22.4	444.1	DSC	[2016BRU/LAP]
			SUB	(340–369)	116.7 ± 0.8	353	TE	[2016BRU/LAP]
			SUB	(340–369)	118.4 ± 1.2	298	TE	[2016BRU/LAP]
			V	(463–496)	81.5 ± 0.7	480	ITG	[2016BRU/LAP]
			V		80.8 ± 4.7	298	CGC	[2009LIP/CHI, 2009LIP/HAN]
C ₁₂ H ₈ N ₂	[92-82-0]	Phenazine	FUS		19.3	446.6	DSC	[2016BRU/LAP]
			FUS (α)		23.5	447.2		
			FUS (β)		23.6	448.2	DSC	[2010BRA/GRE]
			FUS	(6–522)	24.92	447.9	AC	[2010CHI/KAZ2]
			FUS		20.92	450.2	DSC	[1975MCE/SAN]
			SUB	(316–343)	101.7 ± 1.2	330	ME	[2016BRU/LAP]
			SUB	(292–324)	103.4 ± 1.7	307	ME	[2016BRU/LAP]
			SUB		103.3 ± 1.7	298	ME	[2016BRU/LAP]
			SUB		95.9 ± 0.4	298		[2010CHI/KAZ2]
			SUB		94.3 ± 0.4	354		[2010CHI/KAZ2]
			SUB		92.7 ± 0.4	354		[1991SAB/WAT]
			SUB		97.0 ± 0.4	298		[1991SAB/WAT]
			SUB		91.8 ± 2.1	298	C	[1990LEI/PIL]
			SUB	(280–318)	92.4	295	A	[1987STE/MAL]
			SUB		99.9 ± 2.5		ME, GS	[1980ARS]
			SUB	(303–328)	90.4 ± 2.5	298	TE	[1975DEK/VAN]
			SUB	(303–323)	90.0 ± 1.5	298	TCM	[UR/DEK, 1975DEK/VAN]
			SUB	(281–293)	90.4 ± 1.7		LE	[1975MCE/SAN]
			SUB		U 81.5			[1946ALB/WIL]
			V	(450–469)	71.4 ± 0.6	459	ITG	[2016BRU/LAP]
			V		76.6 ± 1.1	298	CGC	[2010LIP/CHI]
			V	(450–470)	66.1 ± 0.1	450	IPM	[2010CHI/KAZ2]
			V	(450–470)	65.5 ± 0.1	460	IPM	[2010CHI/KAZ2]
			V	(450–470)	65.0 ± 0.1	470	IPM	[2010CHI/KAZ2]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₁₂ H ₈ N ₂	[230-17-1]	Benzo[c]cinnoline	FUS		20.92	432.2	DTA
			SUB	(320–360)	101.7 ± 0.2	340	ME
			SUB		113		ME
			V		88.6 ± 3.0	298	CGC
			V		81.9 ± 1.1	298	CGC
C ₁₂ H ₈ N ₂ O	[304-81-4]	Phenazine- <i>N</i> -oxide	SUB		100. ± 1.3	298	C
C ₁₂ H ₈ N ₂ O ₄	[1528-74-1]	4,4'-dinitrobiphenyl (441–428)	SUB		104.6 ± 1.8	420	ME
			FUS	(323–500)	27.1	418.3	DSC
			FUS		10.29	418.2	C
C ₁₂ H ₈ N ₄	[101-63-3]	4,4'-dinitro diphenyl ether	TRS		18.91	476.7	
			FUS		4.54	533.2	DSC
			SUB		111.7 ± 5.4	433	
							[1972ROG2, 1977PED/RYL]
C ₁₂ H ₈ N ₄	[7120-73-2]	Dibenzo-1,3a,4,6a-tetraazapentalene	SUB	(363–433)	70.3 ± 1.7	400	
C ₁₂ H ₈ N ₄	[2055-55-2]	Dibenzo-1,3a,6,6a-tetraazapentalene	SUB	(363–443)	42.3 ± 3.4	403	
							[1967CHI/SIM]
C ₁₂ H ₈ O	[132-64-9]	Dibenzofuran	FUS		U15.24	355.1	DSC
			FUS		19.40	355.52	DSC
			FUS		18.6	354.7	DSC
			FUS		19.41	355.1	DSC
			FUS		19.0	351.9	DSC
			FUS		20.5	355.8	DSC
			FUS		17.6	355.2	DSC
			FUS	(245–375)	19.34	355.24	AC
			FUS		19.29	355.7	AC
			SUB		85.5 ± 1.0	298	C
			SUB	(295–318)	82.1 ± 1.5	307	ME
			SUB	(293–353)	82.0 ± 0.2	298	GS
			SUB		84.4 ± 0.7	298	
			SUB		76.5 ± 0.2	298	
			SUB	(304–343)	85.6	324	T
			SUB	(303–343)	79.1	323	
			SUB	(299–346)	76.7	323	GS
			SUB		88.7 ± 2.1		[1987SAB/ANT]
			V	(323–473)	66.2	398	GC
			V	(403–559)	55.1	418	A
			V	(435–618)	48.5	465	
			V	(435–618)	47.8	505	
			V	(435–618)	47.1	555	
			V	(403–418)	66.2	410	
C ₁₂ H ₈ OS	[262-20-4]	Phenoxathiin	FUS		19.43	329.6	DSC
			FUS		20.27	328.8	
			SUB	(304–324)	96.3 ± 2.2	314	ME
			SUB	(308–324)	95.6 ± 0.5	298	ME
			V	(318–373)	77.3 ± 0.1	298	ST
			V	(365–640)	68.7	400	EB,IPM
							[2008MON/SAN]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₈ OS ₂	V	Diphenylene-2,2'-disulfide S-oxide	(365–640)	66.0	440	EB,IPM	[1993STE/CHI]	
			(365–640)	63.4	480	EB,IPM	[1993STE/CHI]	
	V		(365–640)	60.8	520	EB,IPM	[1993STE/CHI]	
	V		(365–640)	58.0	560	EB,IPM	[1993STE/CHI]	
	V		(365–640)	55.1	600	EB,IPM	[1993STE/CHI]	
C ₁₂ H ₈ OS ₂	[49833-13-8]	Diphenylene-2,2'-disulfide S-oxide	FUS	17.99	407	DSC	[1996DOM/HEA, 1975CUC]	
C ₁₂ H ₈ O ₂	[262-12-4]	Dibenzo[b,e][1,4]dioxin	FUS	23.9	389.9	DSC	[2001SHI/YAM]	
			FUS	23.2	395.7	DSC	[1986ROR2]	
	SUB		(303–333)	93.6 ± 1.2	318	ME	[2002LI/SHI, 2004LI/SHI]	
	SUB			91.5 ± 0.8	298	C	[2002PIM/MEL]	
	SUB			89.6 ± 0.7	298	C	[1999KOL/DOR]	
	SUB			89.6 ± 0.7	318	C	[1997LUK/KOL]	
	SUB		(303–333)	92.3	318	T	[1989ROR, 1986ROR]	
	[1016-05-3]							
C ₁₂ H ₈ O ₂ S	FUS	Dibenzothiophene sulfone		27.17	509.2	DSC	[2007RAM/ROJ]	
				23.72	507.8	DSC	[UR/MAC]	
	FUS		Dibenzothiophene	21.6	371.8	DSC	[2000LIS/JAM]	
			(5–515)	21.7	371.8	AC,DSC	[1991CHI/KNI]	
			(220–560)	21.6	371.0	DSC	[1983ORO/MRA, 1996DOM/HEA]	
				22.35	372.4	DSC	[1980KRA/PIG]	
	SUB			93.2 ± 0.5	298	C	[2009FRE/GOM]	
				85.1 ± 0.4	298	C	[1987SAB/ANT, 1979SAB]	
			(303–348)	91.2	325	T	[1986HAN/ECK]	
			(333–363)	90.7	348	GS	[1981EDW/PRA]	
				97.5	298		[1975AUB/MAY, 2009FRE/GOM]	
C ₁₂ H ₈ S	V	Dibenzothiophene	(413–473)	78.3 ± 1.1	298	GC	[2006HAF/PAR]	
			(373–424)	65.6	388		[1999DYK/SVO]	
			(424–608)	63.4	439		[1999DYK/SVO]	
				69.5 ± 0.3	380	EB,IPM	[1995STE/CHI]	
				66.8 ± 0.3	420	EB,IPM	[1995STE/CHI]	
	V			64.3 ± 0.3	460	EB,IPM	[1995STE/CHI]	
				61.8 ± 0.3	500	EB,IPM	[1995STE/CHI]	
				59.3 ± 0.3	540	EB,IPM	[1995STE/CHI]	
				56.8 ± 0.3	580	EB,IPM	[1995STE/CHI]	
				54.0 ± 0.3	620	EB,IPM	[1995STE/CHI]	
	V		(375–662)	68.0 ± 0.1	400	EB,IPM	[1991CHI/KNI]	
			(375–662)	64.9 ± 0.1	450	EB,IPM	[1991CHI/KNI]	
			(375–662)	61.8 ± 0.1	500	EB,IPM	[1991CHI/KNI]	
			(375–662)	58.7 ± 0.1	550	EB,IPM	[1991CHI/KNI]	
			(375–662)	55.4 ± 0.3	600	EB,IPM	[1991CHI/KNI]	
	V		(375–662)	51.8 ± 0.4	650	EB,IPM	[1991CHI/KNI]	
			(385–574)	60.1	400	A	[1987STE/MAL]	
				56.9	590	C	[1984MRA/KEW]	
				55.3	610	C	[1984MRA/KEW]	
				53.6	630	C	[1984MRA/KEW]	
C ₁₂ H ₈ S ₂	V	Thianthrene	(425–607)	63.1	465		[1982SIV/KOB]	
			(425–607)	62.6	505		[1982SIV/KOB]	
	V		(425–607)	62.3	555		[1982SIV/KOB]	
	V		(373–403)	69.4	385	GS	[1981EDW/PRA]	
	FUS		(5–518)	27.55	429.6	AC,DSC	[1993STE/CHI]	
				25.44	428.4		[1989SAB/ELW]	
	SUB		(344–364)	105.1 ± 0.6	354	ME	[2010MON/SOU]	
	SUB		(344–364)	106.4 ± 0.6	298	ME	[2010MON/SOU]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
	SUB			103.6 ± 0.4	350	IP	[1993STE/CHI]
	SUB	(338–368)		98.6 ± 0.5	353		[1989SAB/ELW]
	SUB			99.4 ± 0.6	298		[1989SAB/ELW]
	SUB	(358–428)		98.0	393	GS	[1981EDW/PRA]
	SUB	(338–368)		97.5 ± 6.3	353	HSA	[1979SAN/EPS]
	V	(429–460)		71.2	444		[1999DYK/SVO]
	V	(460–539)		68.4	475		[1999DYK/SVO]
	V	(395–639)		72.7	440	EB,IPM	[1993STE/CHI]
	V	(395–639)		69.9	480	EB,IPM	[1993STE/CHI]
	V	(395–639)		67.2	520	EB,IPM	[1993STE/CHI]
	V	(395–639)		64.5	560	EB,IPM	[1993STE/CHI]
	V	(395–639)		61.7	600	EB,IPM	[1993STE/CHI]
	V	(430–593)		69.1	465		[1983SIV/KOB]
	V	(430–593)		68.7	515		[1983SIV/KOB]
	V	(428–448)		71.1	438	GS	[1981EDW/PRA]
C ₁₂ H ₈ S ₂	[230-26-2]	Dibenzo[c,e][1,2]dithiin					
	FUS			19.3	386.2	DSC	[1975CUC2]
C ₁₂ H ₈ S ₃	[1081-34-1]	2,2':5',2''-terthiophene					
	FUS			20.7	365.3	DSC	[2011COS/LIM]
	SUB			112.5 ± 0.3	351	ME	[2011COS/LIM]
	SUB			114.7 ± 0.4	298	ME	[2011COS/LIM]
C ₁₂ H ₈ S ₃	[81294-16-8]	3,2':5',3''-terthiophene					
	FUS			29.9	461.0	DSC	[2011COS/LIM]
	SUB			119.0 ± 0.7	382	ME	[2011COS/LIM]
	SUB			122.6 ± 0.8	298	ME	[2011COS/LIM]
C ₁₂ H ₉ Br	[92-66-0]	4-bromobiphenyl					
	TRS			4.3	337.1		
	FUS			16.3	362.1	DSC	[2015SOL/VAR]
	SUB	(303–360)		91.0 ± 0.3	298	GS	[2015SOL/VAR]
	V	(371–583)		62.2	386	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₉ Br	[2051-98-1]	5-bromoacenaphthene					
	SUB	(295–321)		87.4 ± 2.6		ME	[2008GOL/SUU2]
C ₁₂ H ₉ BrO	[7025-06-1]	5-bromoacenaphthene					
	V	(363–473)		63.7	418	GC	[2001WON/LEI]
C ₁₂ H ₉ BrO	[6876-00-2]	3-bromodiphenyl ether					
	V	(363–473)		65.4	418	GC	[2001WON/LEI]
C ₁₂ H ₉ BrO	[101-55-3]	4-bromodiphenyl ether					
	V	(463–673)		64.6	478	A	[1987STE/MAL]
C ₁₂ H ₉ BrO	[92-03-5]	2-bromo-4-phenylphenol					
	V	(373–584)		57.8	388	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₉ Br ₂ NO ₂ S	[901442-58-8]	N-(2,4-dibromophenyl)benzene sulfonamide					
	FUS			31.9	411.8	DSC	[2014PER/KAZ]
C ₁₂ H ₉ Cl	[2051-60-7]	2-chlorobiphenyl					
	FUS	(12–327)		14.54	304.9		[1991ACR, 1974GEI/DZH2]
	FUS			15.3	305.3	DSC	[1984MIL/GHO]
	V			72.1 ± 2.0	298	CGC	[2001PUR/CHI]
	V	(343–393)		64.4	368	GC	[1994FAL/BID]
	V	(409–540)		57.8	424	A	[1987STE/MAL, 1975GEI/DZH2]
	V	(306–350)		74.5	328	ME	[1983FER/PIA]
	V	(410–540)		55.8	424	QM	[1975GEI/DZH]
	V	(362–541)		61.1	377	A	[1987STE/MAL, 1947STU]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₉ Cl	[2051-61-8]	3-chlorobiphenyl	V		74.3 ± 1.1	298	CGC	[2001PUR/CHI]
			V	(343–393)	66.6	368	GC	[1994FAL/BID]
			V	(310–359)	66.2	335	ME	[1983FER/PIA]
			V	(341–402)	69.2	372	TE	[1983FER/PIA]
			V	(452–536)	66.0	494	QM	[1975GEI/DZH]
C ₁₂ H ₉ Cl	[2051-62-9]	4-chlorobiphenyl	FUS	(12–370)	13.32	348.6	AC	[1991ACR, 1975GEI/DZH2]
			SUB	(253–303)	86.0 ± 0.9	278	GS	[1994WAN/SHU]
			SUB	(306–346)	73.7 ± 0.7	326	TE,ME	[1983FER/PIA]
			V		71.6 ± 0.7	298	CGC	[2001PUR/CHI]
			V	(343–393)	66.8	368	GC	[1994FAL/BID]
			V	(451–536)	65.9	466	A	[1987STE/MAL, 1975GEI/DZH2]
			V	(348–409)	67.8	378	TE	[1983FER/PIA]
			V	(369–566)	59.0	384	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₉ ClN ₂	[4340-77-6]	4-chloroazobenzene	FUS		27.2	361.2		[1988BAU/PER]
C ₁₂ H ₉ ClO	[666747-18-8]	2-chloro-3-phenylphenol	V	(391–591)	65.0	406	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₉ ClO	[85-97-2]	2-chloro-6-phenylphenol	V	(393–590)	67.6	408	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₉ ClO ₂ S	[80-38-6]	4-chlorophenylbenzenesulfonate	FUS		21.44	332.2	DSC	[1990DON/DRE]
C ₁₂ H ₉ Cl ₂ NO ₂ S	[92589-22-5]	<i>N</i> -(2,3-dichlorophenyl)benzene sulfonamide	FUS		27.2	387.2	DSC	[2007PER/STR, 2014PER/KAZ]
C ₁₂ H ₉ Cl ₃ N ₂ O ₂ S	[1040012-16-5]	4-amino- <i>N</i> -(2,4,5-trichlorophenyl)benzene sulfonamide	FUS		39.7	461.2	DSC	[2014PER/KAZ]
C ₁₂ H ₉ F ₃ N ₂ O ₂	[75706-12-6]	5-methyl- <i>N</i> -[4-(trifluoromethyl)phenyl]-4-isoxazolcarboxamide (leflunomide)	FUS		31.3	440.1	DSC	[2016SHA/GAN]
			FUS		30.9	444.4	DSC	[2012BAN/MAH]
			FUS		32.43	438.2	DSC	[2006VEG/PET]
C ₁₂ H ₉ N	[86-74-8]	Carbazole	FUS		27.70	517.1	DSC	[2016STA/KEI]
			FUS		26.9	518.7	DSC	[2000LIS/JAM]
			FUS		27.08	518.3	DTA	[1992SAB/ELW3]
			FUS		21.17	519.5	DSC	[1980KRA/PIG]
			FUS		27.2	521.1	DSC	[1996DOM/HEA, 1980RAD/RAD]
			TRS		0.27	420		
			FUS		26.9	519.3	DSC	[1969ROB/SCO]
			SUB	(348–383)	104.3 ± 0.5	298	GS	[2011VER/EME]
			SUB	(346–364)	101.2 ± 1.1	355	ME	[1990JIM/ROU]
			SUB		103.3 ± 1.1	298	ME	[1990JIM/ROU]
			SUB		97.7 ± 0.3	298	C	[1987SAB/ANT]
			SUB		108.8			[1961ZIM/GEI, 1990JIM/ROU]
			SUB		84.5 ± 0.8			[1970COX/PIL, 1955AIH3]
			V		76.2		GC	[1996GOV/RUT]
			V	(523–642)	63.3	525	Static	[1983SIV/MAR]
			V	(523–642)	61.8	565	Static	[1983SIV/MAR]
			V	(523–642)	60.8	605	Static	[1983SIV/MAR]
			V	(523–642)	87.3 ± 0.1	298	Static	[1983SIV/MAR, 2011VER/EME]
			V	(525–631)	65.7	540	A	[1987STE/MAL, 1923SEN/NEL, 1984BOU/FRI]
			V	(517–624)	66.0	532		[1923MOR/MUR, 1984BOU/FRI]
C ₁₂ H ₉ NO	[91-02-1]	2-benzoylpyridine						

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound							
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
<chem>C12H9NO</chem>	[135-67-1]	10 <i>H</i> -phenoxazine	FUS	(80–340)	20.91	316.5	AC	[2006WAN/TAN]	
			FUS		21.49	430.7	DSC	[2014FRE/GOM]	
	[92-93-3]		SUB		101.5 ± 0.7	298	C	[2014FRE/GOM]	
			SUB	(333–357)	100.9 ± 0.4	345	ME	[2014FRE/GOM]	
			SUB	(333–357)	103.2 ± 1.0	298	ME	[2014FRE/GOM]	
			SUB	(330–365)	103.9 ± 2.3	348	ME	[2010GOL/SUU]	
			SUB		96.1 ± 0.3	298	C	[1992SAB/ELW2]	
<chem>C12H9NO2</chem>		4-nitrobiphenyl					TGA	[2011FEL/RAM]	
<chem>C12H9NS</chem>	[92-84-2]	Phenothiazine	SUB	(333–380)	103.8				
			FUS		26.91	358.9	DSC	[2014FRE/GOM]	
			FUS		28.4	457.2	DSC	[2007GUP/SIN]	
			FUS		25.7	458.4		[1992SAB/ELW2]	
			FUS		26.92	458.2	DSC	[1991ACR, 1990DON/DRE]	
	[2491-52-3]		SUB	(357–379)	103.3 ± 0.4	298	C	[2014FRE/GOM]	
			SUB	(357–379)	108.7 ± 0.7	368	ME	[2014FRE/GOM]	
			SUB		112.2 ± 1.6	298	ME	[2014FRE/GOM]	
			SUB		114.5 ± 0.4	298	C	[1992SAB/ELW2]	
			SUB	(336–395)	86.0	351	A	[1987STE/MAL, 1942NEL/SMI]	
			SUB	(373–388)	105.2	381	GC	[2002SAW/SHI]	
<chem>C12H9N3O2S</chem>	[138564-59-7]	5-methyl-[2-(nitrophenyl)amino]-3-thiophene carbonitrile	SUB	(363–393)	110	378	GS	[1987SHI/OHK, 1991HOR, 2002SAW/SHI]	
			FUS (yellow prism)		27.2	383			
			FUS (orange needle)		25.1	388			
			FUS (orange prism)		25.5	385.9			
			FUS (red prism)		26.0	379.4	DSC	[2000YU/STE]	
<chem>C12H9N3O3</chem>	[1435-60-5]	4-hydroxy-4'-nitroazobenzene	SUB		140.1		GS	[1987SHI/OHK, 1991HOR]	
			SUB	(417–444)	143.8	430.5	A	[1987STE/MAL]	
			SUB		146 ± 2.5		TE,ME	[1970KOJ]	
			SUB		136.8			[1968TSU/KOJ, 1988BAU/PER]	
			SUB	(402–420)	147.6	411	A	[1987STE/MAL]	
<chem>C12H9N3O4</chem>	[961-68-2]	<i>N</i> -(2,4-dinitrophenyl)- <i>N</i> -phenylamine	SUB		149 ± 3.0		TE,ME	[1970KOJ]	
			SUB		131.8			[1968TSU/KOJ, 1988BAU/PER]	
			SUB	(440–470)	155.6 ± 4.2	455	TE,ME	[1970KOJ, 1987STE/MAL]	
			SUB		154			[1968TSU/KOJ, 1988BAU/PER]	
<chem>C12H9N3O4</chem>	[961-68-2]	<i>N</i> -(4-aminophenyl)- <i>N</i> -(2,4-dinitrophenyl)amine	SUB	(437–460)	156.6	448.5	A	[1987STE/MAL]	
			SUB		154 ± 2.9		TE,ME	[1970KOJ]	
			SUB		139.3			[1968TSU/KOJ, 1988BAU/PER]	
			SUB	(300–470)	21.54	366.6	DSC	[1981MRA/ORO]	
<chem>C12H10</chem>	[83-32-9]	Acenaphthene	FUS		21.02	367.2		[2012SHA/LAL]	
			FUS		21.5	366.4	DSC	[2010WEI/WAN]	
			FUS		21.0	367	DSC	[2008SHA/GUP]	
			FUS		20.5		DSC	[2003SHA/KAN]	
			FUS		21.54	366.6	DSC	[1981MRA/ORO]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
	FUS	(11–436)		21.46	366.6		[1996DOM/HEA, 1977FIN/MES]
	FUS			21.8	363.1	DSC	[1973CAS/VEC]
	FUS			21.9		DSC	[1972WAU/GET]
	FUS			20.4	366.5		[1969SAD/STE]
	FUS			20.7	366.5		[1935SKA]
	SUB	(299–320)		78.7 ± 2.2	310	ME	[2008GOL/SUU3]
	SUB			84.6	298	CGC–DSC	[1998CHI/HES]
	SUB	(313–453)		83.2	383	GS	[1995NAS/LEN]
	SUB	(293–342)		77.0	318	GS	[1986SAT/INO]
	SUB	(283–323)		86.8 ± 0.9	303	GS	[1983SON/ZOL]
	SUB			83.4 ± 1.0	298		[1975OSB/DOU, 1977FIN/MES]
	SUB			82.4	366	B	[1975OSB/DOU]
	SUB			84.7 ± 2.7		ME	[1974RAD/KAT]
	SUB	(290–340)		86.2 ± 0.8		ME	[1965BOY/CHR, 1970COX/PIL]
	SUB	(291–310)		82.1 ± 0.4	300	V	[1959AIH, 1987STE/MAL]
	SUB	(258–308)		81.6			[1958HOY/PEP]
	V			68.0	298	CGC	[2008ZHA/UNH]
	V	(363–423)		70.5 ± 1.1	298	GC	[2006HAF/PAR]
	V			61.1	366		[1998RUU/MOK, 2008HAN/NUT]
	V			66.2	298		[1998RUU/MOK, 2008HAN/NUT]
	V	(323–473)		63.9	398	GC	[2002LEI/CHA]
	V			66.2	298	CGC	[1998CHI/HES]
	V			60.6	378		[1995MOK/GUE, 2008HAN/NUT]
	V			66.5 ± 1.3	298		[1995MOK/GUE, 2008HAN/NUT]
	V	(368–552)		54	403	A	[1987STE/MAL]
	V	(368–413)		60.3	383	A	[1987STE/MAL, 1975OSB/DOU, 1984BOU/FRI]
	V			61.3	395	I	[1943CRA]
	V	(413–561)		54.3	466	I	[1923MOR/MUR]
	V	(420–561)		55.4	435		[1923MOR/MUR, 1984BOU/FRI]
C ₁₂ H ₁₀	[92-52-4]	Biphenyl					
	FUS			19.03	342.7	DSC	[2016BOU/HAF]
	FUS			18.78	341.4	DSC	[2016BOU/DJE]
	FUS			18.34	341.5	DSC	[2014BAE/DAH]
	FUS			18.54	342.1	DSC	[2014CAB/GRA]
	FUS			18.89	342.1	AC	[2014LEY/LOS]
	FUS			18.6	343.4		[2012SHA/LAL]
	FUS			18.51	342.1	DSC	[2012CHA/LAY]
	FUS			19.7	342.3	DSC	[2006KHI/DAH]
	FUS			19.27	344.34	DSC	[2004BEN/KHI]
	FUS	(5–440)		18.58	342.1	AC	[1989CHI/KNI]
	FUS	(220–480)		18.58	342.2	DSC	[1983ORO/MRA]
	FUS			19.9	343.3	DSC	[1982WAS/RAD]
	FUS			18.80	344.1	DSC	[1979SMI2]
	FUS			18.90		DSC	[1972WAU/GET]
	FUS			18.58	343.0		[1950UEB/ORT]
	FUS			18.59	342.0		[1941SCH]
	FUS			18.66	341.5	Rad. Calor.	[1996DOM/HEA, 1932SPA/THO]
	FUS			18.95	314.3		[1889EYK]
	SUB			82.9	298	CGC–DSC	[1998CHI/HES]
	SUB	(313–453)		81.8	383	GS	[1995NAS/LEN]
	SUB	(283–338)		83.4	311	EM	[1989SAS/NGU]
	SUB	(303–333)	U 113.3		318		[1989ROR/RUT]
	SUB			81.5 ± 0.2	298		[1989CHI/KNI]
	SUB			77.9 ± 0.3	298	C	[1979SAB2]
	SUB			81.8 ± 0.2	298	C	[1978MON/ROS]
	SUB	(306–332)		80.4 ± 1.6	319	TSGC	[1975CLA/KNO]
	SUB	(273–313)		76.0 ± 4.0		HSA	[1975CHI]
	SUB			83.6 ± 2.5			[1974RAD/KAT]
	SUB	(298–318)		75.2		ME	[1974PRI/POU]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
	SUB			81.8 ± 0.4	298	C	[1972MOR]
	SUB	(279–299)		75.8 ± 0.6	289		[1955AIH3]
	SUB			81.6 ± 2.0			[1953BRA/CLE2, 1970COX/PIL, 1960JON]
	SUB	(287–307)		75.1 ± 1.7	297		[1953SEK/SUZ]
	SUB	(288–314)		81.6 ± 1.7	301		[1953BRA/CLE]
	SUB	(278–307)		72.8 ± 3	302	ME	[1951BRI]
	SUB			68.6 ± 0.8	292	QF	[1938WOL/WEG]
	V			65.0	298	CGC	[2008ZHA/UNH]
	V	(323–473)		62.5	298	GC	[2002LEI/CHA]
	V			64.5 ± 2.2	298	GS	[2001PUR/CHI]
	V			66.2	298	CGC	[1998CHI/HES]
	V	(495–688)		51.2	510	DSC	[1996BAC/GRZ]
	V	(403–453)		66.0	298	CGC	[1995CHI/HOS]
	V	(348–453)		59.6	363	GS	[1989SAK/IWA]
	V	(350–578)		64.9	298	EB	[1989CHI/KNI]
	V	(350–578)		57.4	400	EB	[1989CHI/KNI]
	V	(350–578)		60.3	360	EB	[1989CHI/KNI]
	V	(350–578)		50.4	500	EB	[1989CHI/KNI]
	V	(333–393)		60.4	363		[1989SAS/NGU]
	V	(390–563)		57.3	405	A	[1987STE/MAL]
	V	(396–437)		54.9	417	GS	[1980NAS/HWA]
	V	(528–766)		48.0	647		[1957GLA/RUL]
	V	(342–544)		59.4	357		[1930CUN, 1984BOU/FRI]
C ₁₂ H ₁₀ BrN ₃ O ₄ S	[34392-67-1]	4-amino-N-(2-bromo-4-nitrophenyl)benzenesulfonamide					
	FUS			39.6	461	DSC	[2013PER/RYZ, 2014PER/KAZ]
	SUB			142.8 ± 1.9	298	GS	[2013PER/RYZ]
C ₁₂ H ₁₀ ClNO ₂ S	[21226-30-2]	N-(2-chlorophenyl)benzene sulfonamide					
	FUS			33.5	398.2	DSC	[2007PER/STR, 2014PER/KAZ]
C ₁₂ H ₁₀ ClNO ₂ S	[4750-28-1]	N-(4-chlorophenyl)benzene sulfonamide					
	FUS			25.8	394.6	DSC	[2007PER/STR, 2014PER/KAZ]
C ₁₂ H ₁₀ ClN ₃ S	[27429-35-2]	N-2-pyridyl-N'-(2-chlorophenyl) thiourea					
	FUS			28.3	429.7	DSC	[2002KEL/SZC]
C ₁₂ H ₁₀ ClN ₃ S	[53385-84-5]	N-2-pyridyl-N'-(4-chlorophenyl) thiourea					
	FUS			34.3	462.2	DSC	[2002SZC/KEL]
C ₁₂ H ₁₀ Cl ₂ N ₂ O ₂ S	[943757-10-6]	4-amino-N-(2,3-chlorophenyl)benzene sulfonamide					
	FUS			40.9	454.3	DSC	[2008PER/STR, 2014PER/KAZ]
	SUB	(345–391)		137.5 ± 0.7	368	GS	[2008PER/STR]
	SUB	(345–391)		141.1 ± 0.7	298	GS	[2008PER/STR]
	V		114.3		298	S-F	[2008PER/STR]
C ₁₂ H ₁₀ Cl ₂ N ₂ O ₂ S	[439118-58-8]	4-amino-N-(2,5-chlorophenyl)benzene sulfonamide					
	FUS			41.3	445.9	DSC	[2008PER/STR, 2014PER/KAZ]
	SUB	(379–417)		151.3 ± 1.6	398	GS	[2008PER/STR]
	SUB	(379–417)		155.4 ± 1.6	298	GS	[2008PER/STR]
	V		127.8		298	S-F	[2008PER/STR]
C ₁₂ H ₁₀ Cl ₂ N ₂ O ₂ S	[34392-63-7]	4-amino-N-(3,4-chlorophenyl)benzene sulfonamide					
	FUS			51.5	497.9	DSC	[2008PER/STR, 2014PER/KAZ]
	SUB	(418–448)		161.4 ± 3.6	433	GS	[2008PER/STR]
	SUB	(418–448)		167.5 ± 3.6	298	GS	[2008PER/STR]
	V		136.7		298	S-F	[2008PER/STR]
C ₁₂ H ₁₀ Cl ₂ N ₂ O ₂ S	[1036593-23-3]	4-amino-2-chloro-N-(2-chlorophenyl)benzene sulfonamide					
	FUS			51.4	505.0	DSC	[2014PER/KAZ]
C ₁₂ H ₁₀ Cl ₂ N ₂ O ₂ S	[1039834-59-7]	4-amino-2-chloro-N-(4-chlorophenyl)benzene sulfonamide					

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		FUS			34.9	468.7	DSC	[2014PER/KAZ]
C ₁₂ H ₁₀ F ₃ NO ₂	[52840-38-7]	4-(trifluoromethyl)-7-(N-ethylamino)coumarin	FUS		30.47	432.5	DSC	[1991ZHA/HUA]
C ₁₂ H ₁₀ F ₃ NO ₂	[53518-14-2]	4-(trifluoromethyl)-7-(N,N-dimethylamino)coumarin	FUS		26.25	420.5	DSC	[1991ZHA/HUA]
C ₁₂ H ₁₀ F ₃ N ₃ O ₄	[63612-50-0]	5,5-dimethyl-3-[4-nitro-3-(trifluoromethyl)phenyl]imidazolidine-2,4-dione (nilutamide)	FUS		31.03	428	DSC	[2010BAI/VAN]
C ₁₂ H ₁₀ N ₂	[1080-16-6]	<i>cis</i> -azobenzene	SUB	(273–323)	92.9	288	A	[1987STE/MAL]
			SUB	(298–357)	92.9 ± 0.12	328	ME	[1977SCH/PET]
			SUB	(303–333)	U 74.9	318	ME	[1950BRI/CAR, 1960JON]
C ₁₂ H ₁₀ N ₂	[17082-12-1]	<i>trans</i> -azobenzene	FUS		23.0	341.0		[1996STE/CHI2]
			FUS	(299–408)	22.53	341.1	AC	[1985BOU/DEL]
			FUS	(83–356)	22.53	341.1	AC	[1996DOM/HEA, 1984VAN/BOU]
			FUS		22.65	341.9	DTA	[1977SCH/PET]
			FUS		22.1		CR	[1977SCH/PET]
			FUS		22.4	340.5	DSC	[1974CIN/BER, 1985BOU/DEL]
			FUS		24.7	341.7		[1919PAD, 1985BOU/DEL]
			FUS		20.3			[1908BOG/WIN, 1985BOU/DEL]
			FUS		21.3			[1894BRU, 1985BOU/DEL]
			FUS		22.1			[1889EYK, 1985BOU/DEL]
			SUB		94.1 ± 0.8	298	B	[1996STE/CHI2]
			SUB	(298–302)	93.6 ± 1.9	298	ME	[1992DIA/MIN]
			SUB	(298–341)	92.1 ± 0.9	319	TE,ME	[1984BOU/OON]
			SUB	(299–317)	96.9 ± 0.8	308	TE	[1977DEK/VAN]
			SUB	(299–317)	94.9 ± 0.8	308	ME	[1977DEK/VAN]
			SUB	(298–347)	93.8 ± 1.2	323	ME	[1977SCH/PET]
			SUB	(303–333)	U74.9	318		[1950BRI/CAR, 1960JON, 1987STE/MAL]
			V	(436–626)	72.8 ± 0.7	298	EB	[1996STE/CHI2]
			V	(436–626)	62.4 ± 0.4	440	EB	[1996STE/CHI2]
			V	(436–626)	59.9 ± 0.4	480	EB	[1996STE/CHI2]
			V	(436–626)	57.1 ± 0.4	520	EB	[1996STE/CHI2]
			V	(436–626)	54.2 ± 0.4	560	EB	[1996STE/CHI2]
			V	(436–626)	51.2 ± 0.4	600	EB	[1996STE/CHI2]
			V	(376–566)	62.3	391	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₁₀ N ₂	[486-84-0]	1-methyl-9 <i>H</i> -pyrido[3,4- <i>b</i>]indole (harmane)	FUS		27.2	509.9	DSC	[1996BUR/DAG]
C ₁₂ H ₁₀ N ₂ O	[20972-43-4]	<i>trans</i> -diphenyldiazene <i>N</i> -oxide	FUS		17.93	309.2		[1991ACR, 1983WEA]
			SUB		98.6 ± 0.9	298	C	[1986KIR/ACR]
C ₁₂ H ₁₀ N ₂ O	[1689-82-3]	4-hydroxyazobenzene	FUS		32.99	425.2		[1988BAU/PER]
C ₁₂ H ₁₀ N ₂ O	[86-30-6]	<i>N</i> -nitroso- <i>N</i> -phenyl-benzenamine	FUS		11.06	340.0	DSC	[2010MEK/KHI]
C ₁₂ H ₁₀ N ₂ O ₂	[119-75-5]	<i>N</i> -(2-nitrophenyl)- <i>N</i> -phenylamine	FUS		26.14	347.9	DSC	[2010MEK/KHI, 2013TRA/KHI]
			SUB	(335–346)	100.9	340.5	A	[1987STE/MAL]
			SUB		101.9 ± 1.7		TE,ME	[1970KOJ]
			SUB		108.4			[1968TSU/KOJ, 1988BAU/PER]
C ₁₂ H ₁₀ N ₂ O ₂	[836-30-6]	<i>N</i> -(4-nitrophenyl)- <i>N</i> -phenylamine	SUB	(382–403)	130.6	392.5	A	[1987STE/MAL]
			SUB		126.2 ± 1.6		TE,ME	[1970KOJ]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound		Method	References
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	
C ₁₂ H ₁₀ N ₂ O ₄ S	SUB			120.9		[1968TSU/KOJ, 1988BAU/PER]
	FUS	[6933-51-3]	<i>N</i> -(2-nitrophenyl)benzenesulfonamide	22.3	371.8	DSC [2013PER/RYZ, 2014PER/KAZ]
C ₁₂ H ₁₀ N ₂ O ₄ S	SUB	[1829-81-8]	<i>N</i> -(4-nitrophenyl)benzenesulfonamide	126.8 ± 0.9	298	GS [2013PER/RYZ]
	FUS			28.7	411.3	DSC [2011PER/RYZ, 2014PER/KAZ]
C ₁₂ H ₁₀ N ₂ O ₄ S	SUB		(380–401)	127.9 ± 1.6	390	GS [2011PER/RYZ]
	SUB		(380–401)	132.5 ± 1.6	298	GS [2011PER/RYZ]
C ₁₂ H ₁₀ N ₄	V			111.7	298	Sub-Fus [2011PER/RYZ]
	SUB	[69155-29-9]	4,5-dimethyl-1,1,2,2-tetracyanocyclohex-4-ene	107.9 ± 4.2	378	[1972ROG2, 1977PED/RYL]
C ₁₂ H ₁₀ N ₄ O ₂	SUB	[730-40-5]	4-amino-4'-nitroazobenzene	31.88	488.2	[1988BAU/PER]
	FUS					
	SUB		(403–465)	123	434	GS [1989NIS/AND]
	SUB			140.1		GS [1987SHI/OHK, 1991HOR]
	SUB			127.6		UV [1984KAR/ROD, 1984KAR/KRU]
	SUB			136.4		ME [1980NIG/DEP, 1991HOR]
	SUB			140.4 ± 1.2		TE,ME [1970KOJ]
	SUB			134.3		ME [1968TSU/KOJ, 1988BAU/PER]
C ₁₂ H ₁₀ N ₄ O ₂	SUB		(404–424)	137.7 ± 0.8	414	TE [1967GRE/JON, 1987STE/MAL]
	SUB		(404–423)	136.4 ± 5.0	413	ME [1967GRE/JON, 1966JON/KRA]
C ₁₂ H ₁₀ N ₄ O ₂	FUS	[848892-92-2]	2,6,7,8-tetrahydro-8-(2-methylphenyl)imidazo[2,1- <i>c</i>][1,2,4]triazine-3,4-dione	25.64	506.2	DSC [2016BAR/SZT]
	FUS					
C ₁₂ H ₁₀ N ₄ O ₂	FUS	[848892-95-5]	2,6,7,8-tetrahydro-8-(4-methylphenyl)imidazo[2,1- <i>c</i>][1,2,4]triazine-3,4-dione	28.28	600.2	DSC [2016BAR/SZT]
	FUS					
C ₁₂ H ₁₀ N ₄ O ₃	FUS	[848892-99-9]	2,6,7,8-tetrahydro-8-(2-methoxyphenyl)imidazo[2,1- <i>c</i>][1,2,4]triazine-3,4-dione	23.70	509.2	DSC [2016BAR/SZT]
	FUS					
C ₁₂ H ₁₀ N ₄ O ₃	FUS	[848893-00-5]	2,6,7,8-tetrahydro-8-(4-methoxyphenyl)imidazo[2,1- <i>c</i>][1,2,4]triazine-3,4-dione	20.80	567.2	DSD [2016BAR/SZT]
	FUS					
C ₁₂ H ₁₀ O	V	[941-98-0]	1-acetylnaphthalene	65.4	403	A [1987STE/MAL]
	SUB		(388–569)			
C ₁₂ H ₁₀ O	V	[93-08-3]	2-acetylnaphthalene	87.9 ± 0.4	305	V [1959AIH, 1987STE/MAL]
	V		(393–574)	74.1	408	A [1987STE/MAL]
C ₁₂ H ₁₀ O	SUB	[101-84-8]	Diphenyl ether			
	FUS			17.05	300.1	DSC [2014CAB/GRA]
	FUS			16.51	300.4	DSC [1992BAB/HWA, 1994BAB/BEN]
	FUS			17.23	301	C [1964ARN]
	FUS		(18–360)	17.21	300	AC [1996DOM/HEA, 1953GIN/FUR, 1951FUR/GIN]
	SUB			82 ± 2.1		E [1958CAS/FLE3, 1970COX/PIL]
	V					
	V		(353–393)	67.1	298	CGC [1995CHI/HOS]
	V		(477–544)	65.0	298	[1976AMB/ELL]
	V		(477–544)	48.2	531	[1976AMB/ELL]
	V		(477–544)	53.0	492	GS,EB [1987STE/MAL, 1976AMB/ELL]
	V			66.1 ± 0.4	298	C [1972MOR, 1965COL/COU]
C ₁₂ H ₁₀ O	V		(313–333)	64.2	323	A [1987STE/MAL, 1948BEN/FRA]
	FUS	[90-43-7]	2-hydroxybiphenyl			
	FUS			15.48	333.7	DSC [1998VER5]
	FUS		(12–350)	16.21	330.6	AC [1973GEI/DZH]
C ₁₂ H ₁₀ O	SUB		(301–328)	87.6 ± 0.9	314	GS [1998VER5]
	SUB		(301–328)	88.5 ± 0.9	298	GS [1998VER5]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
<chem>C12H10O</chem>	[92-69-3]	SUB	(292–314)	82.9	303	A	[1987STE/MAL, 1960AIH]
		V	(355–373)	72.6 ± 1.1	298	GS	[1998VER5]
		V	(434–547)	94.2	449	A	[1987STE/MAL]
	<chem>C12H10O2</chem>	<chem>C12H10O2</chem>	[92-69-3]	4-hydroxybiphenyl			
		FUS		31.5	439	DSC	[2010BAI/VAN]
		FUS		31.59	443.1	DSC	[1998VER5]
		SUB	(333–368)	106.6 ± 1.0	351	GS	[1998VER5]
		SUB	(333–368)	109.8 ± 1.0	298	GS	[1998VER5]
	<chem>C12H10O2</chem>	SUB	(327–348)	97.0	337.5	A	[1987STE/MAL, 1960AIH]
		V	(450–581)	72.3	465	A	[1987STE/MAL]
		FUS		25.36	386.7	DSC	[1998VER5]
<chem>C12H10O2</chem>	[1806-29-7]	SUB	(334–363)	111.4 ± 1.2	349	GS	[1998VER5]
		SUB	(334–363)	114.4 ± 1.2	298	GS	[1998VER5]
		V	(444–598)	61.7	459	A	[1987STE/MAL]
	[92-88-6]	<chem>C12H10O2</chem>	[92-88-6]	4,4'-dihydroxybiphenyl			
		FUS		43.05	560.7	DSC	[1998VER5]
<chem>C12H10O2</chem>	[713-68-8]	SUB	(354–388)	138.6 ± 2.0	371	GS	[1998VER5]
		SUB	(354–388)	143.0 ± 2.0	298	GS	[1998VER5]
	[831-82-3]	<chem>C12H10O2</chem>	[713-68-8]	3-phenoxyphenol			
		V		90.4 ± 2.3	298	C	[2011RIB/FER2]
<chem>C12H10O2</chem>		V	(416–494)	69.5	431	A	[1987STE/MAL]
[830-81-9]	<chem>C12H10O2</chem>	[830-81-9]	4-phenoxyphenol				
	FUS		20.21	319.2		[1981BYS]	
<chem>C12H10O2</chem>	[1523-11-1]	SUB	(286–317)	95.1 ± 0.6	298	GS	[2003VER/ROU]
		<chem>C12H10O2</chem>	[1523-11-1]	β-naphthyl acetate			
		FUS		22.86	342.0	DSC	[2008MOG/SEP]
		FUS		20.05	342.2		[1981BYS]
<chem>C12H10O2</chem>	[86-87-3]	SUB	(313–341)	96.3 ± 0.6	298	GS	[2003VER/ROU]
		<chem>C12H10O2</chem>	[86-87-3]	1-naphthaleneacetic acid			
		TRS		1.77	368.9		
		FUS		41.73	401.22	DSC	[2008MOG/SEP]
		FUS		22.26	405.3	DSC	[1991ACR, 1990DON/DRE]
<chem>C12H10O2</chem>	[581-96-4]	SUB	(343–372)	112.3 ± 0.9	298	GS	[2004ROU/TEM]
		<chem>C12H10O2</chem>	[581-96-4]	2-naphthaleneacetic acid			
		SUB	(343–372)	124.6 ± 1.0	298	GS	[2004ROU/TEM]
<chem>C12H10O2</chem>	[2459-25-8]	<chem>C12H10O2</chem>	[2459-25-8]	2-carbomethoxynaphthalene			
		FUS		27.1	350.2	DSC	[1978DOZ/FUJ]
<chem>C12H10O2</chem>	[5392-12-1]	<chem>C12H10O2</chem>	[5392-12-1]	2-methoxy-1-naphthaldehyde			
		SUB	(332–348)	107.4 ± 1.1	298	ME	[2015AMA/FRE]
<chem>C12H10O2S</chem>	[127-63-9]	<chem>C12H10O2S</chem>	[127-63-9]	Diphenyl sulfone			
		FUS		21.78	398.2	DSC	[UR/MAC, 2000DEF/VAN]
		SUB		106.3 ± 2.9			[UR/MAC, 1970COX/PIL]
<chem>C12H10O2S</chem>	[2664-63-3]	<chem>C12H10O2S</chem>	[2664-63-3]	4,4'-thiodiphenol			
	FUS			31.04	432.9	DSC	[2001LI/HE]
<chem>C12H10O4</chem>	[106-34-3]	<chem>C12H10O4</chem>	[106-34-3]	Quinhydrone			

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)
$\text{C}_{12}\text{H}_{10}\text{O}_4\text{S}$	[80-09-1]	SUB (317–334)	89.1	325.5	A	[1987STE/MAL]
		FUS 4,4'-sulfonyldiphenol	41.4	519.9	DSC	[2014COS/DAV]
		SUB (465–490)	162.0 ± 2.1	298	ME	[2014COS/DAV]
$\text{C}_{12}\text{H}_{10}\text{O}_4\text{S}_2$	[10409-06-0]	Diphenyl disulfone			E	[1964MAC/OHA]
		SUB	161.9 ± 3.3		E	[1964MAC/OHA]
	V		149.0 ± 2.9	298	E	[1964MAC/OHA]
$\text{C}_{12}\text{H}_{10}\text{S}$	[139-66-2]	Diphenyl sulfide				
		FUS (5–440)	13.98	258	AC	[1995STE/CHI]
	SUB		95. ± 3.0		E	[1962MAC/MAY3, 1970COX/PIL]
	V	(369–566)	60.5	384		[1999DYK/SVO]
	V	(345–611)	67.3 ± 0.3	360	EB,IPM	[1995STE/CHI]
	V	(345–611)	64.3 ± 0.3	400	EB,IPM	[1995STE/CHI]
	V	(345–611)	61.3 ± 0.3	440	EB,IPM	[1995STE/CHI]
	V	(345–611)	58.3 ± 0.3	480	EB,IPM	[1995STE/CHI]
	V	(345–611)	55.3 ± 0.3	520	EB,IPM	[1995STE/CHI]
	V	(345–611)	52.0 ± 0.3	560	EB,IPM	[1995STE/CHI]
	V	(369–566)	58.2	384	A	[1987STE/MAL, 1949KRE/WIE]
$\text{C}_{12}\text{H}_{10}\text{S}_2$	[882-33-7]	Diphenyl disulfide				
		V (405–583)	72.4	420		[1999DYK/SVO]
			78.7 ± 2.9	298		[1962MAC/MAY3]
	V	(404–583)	74.4	419	A	[1987STE/MAL, 1947STU]
$\text{C}_{12}\text{H}_{11}\text{ClN}_2\text{O}_2\text{S}$	[16803-92-2]	4-amino-N-(4-chlorophenyl)benzene sulfonamide				
		FUS	37.3	467.9	DSC	[2008PER/STR, 2014PER/KAZ]
	SUB	(400–432)	129.2 ± 1.2	416	GS	[2008PER/STR]
	SUB	(400–432)	134.1 ± 1.2	298	GS	[2008PER/STR]
	V		110.3	298	S-F	[2008PER/STR]
$\text{C}_{12}\text{H}_{11}\text{ClN}_2\text{O}_5\text{S}$	[54-31-9]	4-chloro-2-[(furan-2-ylmethyl)amino]-5-sulfamoylbenzoic acid (furosemide)				
	FUS		21.07	508.2	DSC	[2015GAU/VAN]
$\text{C}_{12}\text{H}_{11}\text{Cl}_2\text{NO}$	[175205-50-2]	1-(3,5-dichlorophenyl)-2,5-dimethylpyrrole				
		SUB (302–324)	96.7 ± 0.4	313	ME	[2013SAN/RIB3]
$\text{C}_{12}\text{H}_{11}\text{Cl}_2\text{NO}$	[23950-58-5]	3,5-dichloro-N-(1,1-dimethyl-2-propynyl)benzamide				
		FUS	28.68	428.4	DSC	[1990DON/DRE]
$\text{C}_{12}\text{H}_{11}\text{FN}_2\text{O}_3$	[102916-95-0]	(2 <i>R</i> ,4 <i>S</i>)-6-fluoro-2-methyl-spiro[chroman-4,4'-imidazolidine]-2',5'-dione				
		FUS (I)	26.3	517.5		
$\text{C}_{12}\text{H}_{11}\text{IN}_2\text{O}_2\text{S}$	[6965-75-9]	FUS (II)	31.3	501.0	DSC	[1988ASH/UCH]
	[90-41-5]	4-amino-N-(4-iodophenyl)benzene sulfonamide				
		FUS	36.4	468.7	DSC	[2014PER/KAZ]
	[90-41-5]	2-aminobiphenyl				
		FUS	13.99	322.3		[1996DOM/HEA, 1991STE/CHI]
		V (340–623)	68.6	400	EB,IPM	[1991STE/CHI]
		V (340–623)	65.1	440	EB,IPM	[1991STE/CHI]
		V (340–623)	61.8	480	EB,IPM	[1991STE/CHI]
		V (340–623)	58.5	520	EB,IPM	[1991STE/CHI]
		V (340–623)	55.2	560	EB,IPM	[1991STE/CHI]
$\text{C}_{12}\text{H}_{11}\text{N}$	[122-39-4]	V (340–623)	51.7	600	EB,IPM	[1991STE/CHI]
		Diphenylamine				
		FUS	18.51	326.7		[2012SHA/LAL]
		FUS	19.68	326.7	DSC	[2010MEK/KHI, 2013TRA/KHI, 2013TRA/KHI2]
		FUS	19.9	326.1	DSC	[2009SUR/TER, 2010SUR/PER]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
<chem>C12H11N</chem>	FUS			18.2	326.5	DSC	[2004SHA/TAN]
	FUS			17.72		DSC	[1992SHA/SHA]
	FUS			17.86	326.2	DSC	[1991ACR, 1983WEA, 1990DON/DRE]
	FUS			18.8	326.2	C	[1963RAS/NIG]
	SUB	(293–326)		95.2 ± 0.6	298	GS	[2011SUR/PER]
	SUB	(303–319)		110.0 ± 1.0	311	GS	[2009SUR/TER]
	SUB	(303–319)		110	298	GS	[2009SUR/TER, 2009SUR/PER]
	SUB			96.7 ± 2.5		TE,ME	[1970KOJ]
	SUB	(303–323)		99.2	313		[1968TSU/KOJ, 1988BAU/PER, 2011SUR/PER]
	SUB	(303–323)		99.7 ± 3.8	298		[1968TSU/KOJ, 2011SUR/PER]
<chem>C12H11NO</chem>	SUB	(298–323)		96.7 ± 2.5	310	QF	[1953AIH, 1970COX/PIL]
	V	(328–372)		79.9 ± 0.4	298	GS	[2011SUR/PER]
	V	(381–575)		64.1	396	A	[1987STE/MAL, 1947STU]
	V	(573–673)		54.2	588	A	[1987STE/MAL]
	V	(575–772)		56.1	674		[1957GLA/RUL, 2011SUR/PER]
<chem>C12H11N</chem>	[101-82-6]	2-benzylpyridine					
	V			69.9 ± 2.8	298	CGC	[2009LIP/CHI, 2009LIP/HAN]
<chem>C12H11NO</chem>	[575-36-0]	<i>N</i> -acetyl-l-naphthylamine					
	SUB	(337–360)		94.1	348.5	A	[1987STE/MAL, 1960AIH2]
<chem>C12H11NO</chem>	[86-86-2]	l-naphthaleneacetamide					
	FUS			32.82	455.5	DSC	[1990DON/DRE]
<chem>C12H11NO2</chem>	[63-25-2]	1-naphthyl methylcarbamate					
	FUS			24.51	416.3	DSC	[1990DON/DRE]
<chem>C12H11NO2S</chem>	[1678-25-7]	<i>N</i> -phenylbenzene sulfonamide					
	FUS			23.5	383.5	DSC	[2014PER/KAZ]
<chem>C12H11N3</chem>	[60-09-3]	4-aminoazobenzene					
	FUS			18.1	397.2	DSC	[2002SAW/SHI]
	FUS			21.7	398.2		[1988BAU/PER]
	SUB	(373–393)		93.8	383	GC	[2002SAW/SHI]
	SUB			106.3		GS	[1987SHI/OHK, 1991HOR]
	SUB			109.4			[1984KAR/KRU]
	SUB	(356–373)		110.9 ± 1.7	364	ME	[1987STE/MAL]
<chem>C12H11N3</chem>	[2719-73-5]	Benzaldehyde pyridin-2-ylhydrazone					
	FUS			29	424.6	DSC	[2013PER/KAZ]
<chem>C12H11N3</chem>	[7727-07-3]	Pyridine-2-aldehyde phenylhydrazone					
	FUS			34	448.0	DSC	[2013PER/KAZ]
<chem>C12H11N3O2S</chem>	[1900019-63-7]	5-nitro-2-thiophenecarboxaldehyde-4-methylphenylhydrazone					
	FUS (red greenish plates)			5.23	425		
	FUS (orange red prisms)			15.15			
	FUS (black needles)			25.3	430.2	DSC	[1997PAN/BOS]
<chem>C12H11N3O4S</chem>	[6829-82-9]	4-amino- <i>N</i> -(4-nitrophenyl)benzenesulfonamide					
	FUS			27.9	438.9	DSC	[2011PER/RYZ, 2014PER/KAZ]
	SUB	(406–438)		125.1 ± 2.6	422	GS	[2011PER/RYZ]
	SUB	(406–438)		131.4 ± 2.6	298	GS	[2011PER/RYZ]
	V			112.5	298	Sub-Fus	[2011PER/RYZ]
<chem>C12H11N3O4S</chem>	[349401-65-6]	<i>N</i> -(5-methyl-2-pyridinyl)-4-nitrobenzene sulfonamide					
	FUS			45.7	434.1	DSC	[2014PER/KAZ]
<chem>C12H11N3S</chem>	[886-60-2]	<i>N</i> -2-pyridyl- <i>N</i> '-phenylthiourea					
	FUS			41.0			[2002VAL/HER]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound				References
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	
C ₁₂ H ₁₁ N ₇	[396-01-0] FUS		6-phenyl-2,4,7-pteridinetriamine (triamterene)	73.4	602.2	DSC	[2011DOM/POB]
C ₁₂ H ₁₁ O ₂ P	[1707-03-5] FUS		<i>P,P</i> -diphenylphosphinic acid	21.91	466.1	DSC	[2008ZHA/WAN]
C ₁₂ H ₁₂	[571-58-4] FUS FUS		1,4-dimethylnaphthalene	10.6 10.6	279.2 279.9	DSC	[2007CHE/KIM] [1991ACR, 1980SMI]
C ₁₂ H ₁₂	[571-61-9] FUS V		1,5-dimethylnaphthalene	20.0 (323–473)	355.2 64.1	DSC GC	[2007CHE/KIM] [2002LEI/CHA]
C ₁₂ H ₁₂	[575-43-9] FUS V		1,6-dimethylnaphthalene	8.5 (323–473)	257 63.6	DSC GC	[2007CHE/KIM] [2002LEI/CHA]
C ₁₂ H ₁₂	[569-41-5] FUS FUS SUB SUB SUB V V V V V		1,8-dimethylnaphthalene	18.53 (11–432) (328–336) 77.9 79.6 82.7 ± 0.3 (338–413) (338–413) (338–413) (338–413) (338–413)	338.2 336.3 332 336 298 353 336 360 380 400	DSC A B C A IP IP IP IP	[2007CHE/KIM] [1991ACR, 1977FIN/MES] [1987STE/MAL] [1975OSB/DOU, 1979COL/JIM2] [1974MAN3, 1977PED/RYL] [1987STE/MAL, 1975OSB/DOU, 1984BOU/FRI] [1977FIN/MES] [1977FIN/MES] [1977FIN/MES] [1977FIN/MES]
C ₁₂ H ₁₂	[581-40-8] FUS FUS FUS SUB SUB SUB SUB V V		2,3-dimethylnaphthalene	23.97 15.9 18.87 (333–373) 82.8 (287–300) 82.2 ± 0.4 81.0 (278–301) 79.9 ± 0.4 60.9 ± 0.7 (378–408) 60.0	377.2 378 377.6 348 294 336 290 380 393	DSC DSC DSC A ME B V A	[2007CHE/KIM] [1991ACR, 1980SMI] [1971MAS/CHE] [1987STE/MAL] [1979COL/JIM2] [1978ARO/STE] [1959AIH, 1987STE/MAL] [1988MES/FIN] [1987STE/MAL]
C ₁₂ H ₁₂	[581-42-0] FUS FUS SUB SUB SUB V V V V		2,6-dimethylnaphthalene	25.3 (12–438) (350–383) 84.4 ± 1.9 82.5 (279–304) (384–418) (384–418) (384–418) (384–418)	385.2 383.3 366 383 291 383 400 420 399	DSC DSC B V IP IP IP A	[2007CHE/KIM] [1991ACR, 1977FIN/MES] [1977FIN/MES, 1975OSB/DOU, 1987STE/MAL] [1975OSB/DOU] [1959AIH, 1987STE/MAL] [1977FIN/MES] [1977FIN/MES] [1977FIN/MES] [1987STE/MAL, 1975OSB/DOU, 1984BOU/FRI]
C ₁₂ H ₁₂	[582-16-1] FUS FUS SUB SUB SUB V V		2,7-dimethylnaphthalene	22.2 (11–391) (340–369) 83.8 ± 1.0 83.2 (333–368) 84.6 57.3 54.8	370.2 368.8 345 369 348 400 440	DSC DSC B B	[2007CHE/KIM] [1991ACR, 1977FIN/MES] [1977FIN/MES, 1975OSB/DOU] [1975OSB/DOU] [1987STE/MAL] [1993CHI/KNI] [1993CHI/KNI]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{12}$	V	1-ethylnaphthalene			52.2	480		[1993CHI/KNI]
	V				49.5	520		[1993CHI/KNI]
	V				46.6	560		[1993CHI/KNI]
	V		(369–398)		59.5	368.8	IP	[1977FIN/MES]
	V		(369–398)		58.6	380	IP	[1977FIN/MES]
	V		(369–398)		58.1	390	IP	[1977FIN/MES]
	V		(369–400)		58.5	384	A	[1987STE/MAL, 1975OSB/DOU, 1984BOU/FRI]
$\text{C}_{12}\text{H}_{12}$	[1127-76-0]	1-ethylnaphthalene						
	V		(393–565)		57.3	408	A	[1987STE/MAL]
	V		(279–312)		58.3	295	GS	[1979MAC/PRA]
$\text{C}_{12}\text{H}_{12}$	[939-27-5]	2-ethylnaphthalene						
	V		(323–473)		64.7	398	GC	[2002LEI/CHA]
	V		(269–398)		69.3	284		[1988SAS/JOS]
	V		(286–319)		61.9	301	A, GS	[1987STE/MAL, 1979MAC/PRA]
	V		(393–565)		56.7	408	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{12}\text{ClN}_5$	[33974-13-9]	2-amino-4-(<i>p</i> -chloranilino)-6-isopropenyl-(<i>s</i>)-triazine						
	FUS (I)				23.85	415.2		
	FUS (II)				20.5	403.2	DSC	[1986KUN/YUK]
$\text{C}_{12}\text{H}_{12}\text{ClN}_5$	[1449745-81-6]	2-propanoy lpyridine 6'-chloro-4'-pyrimidinylhydrazone						
	FUS				35	394.9	DSC	[2013PER/KAZ]
$\text{C}_{12}\text{H}_{12}\text{N}_2$	[530-50-7]	1,1-diphenylhydrazine						
	V		(399–596)		68.8	68.8	A	[1987STE/MAL, 1947STU]
$\text{C}_{12}\text{H}_{12}\text{N}_2$	[122-66-7]	Hydrazobenzene (1,2-diphenylhydrazine)						
	FUS				17.65	407.2		[1991ACR, 1983WEA]
$\text{C}_{12}\text{H}_{12}\text{N}_2$	[1134-35-6]	4,4'-dimethyl-2,2'-bipyridyl						
	SUB				99.7 ± 2.3	298	C	[1997RIB/MAT4]
$\text{C}_{12}\text{H}_{12}\text{N}_2$	[92-87-5]	4,4'-diaminobiphenyl (benzidine)						
	FUS				19.1	400.2	DSC	[1992RAI/GEO, 1999RAI/SHE]
$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}$	[101-80-4]	4,4'-diaminodiphenyl oxide						
	FUS				37.86	462.7	DSC	[2013LIU/YIN]
	FUS				7.74	465.4	DRC	[1996DOM/HEA, 1978MAR/CIO2]
	SUB				62.8	465.4	V+F	[1975BAG/AND]
$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_2$	[6953-81-7]	1-(4-dimethylaminophenyl)-1 <i>H</i> -pyrrole-2,5-dione						
	SUB		(350–370)		122.6 ± 0.9		C	[1998KIS/KAS]
$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_2$	[5044-22-4]	2,5-dimethyl-1-(4-nitrophenyl)pyrrole						
	SUB		(331–353)		103.6 ± 0.6	342	ME	[2010RIB/SAN5]
	SUB		(331–353)		105.8 ± 0.6	298	ME	[2010RIB/SAN5]
$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_2\text{S}$	[127-77-5]	4-amino- <i>N</i> -phenylbenzenesulfonamide						
	FUS				36.60	468.3	DSC	[2014LAH/KUD]
$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_3$	[389-08-2]	1-ethyl-1,4-dihydro-7-methyl-4-oxo-1,8-naphthyridine-3-carboxylic acid (nalidixic acid)						
	FUS				35.92	501.9	DSC	[2004ROM/BUS2]
	FUS				35.92	501.9	DSC	[1998BUS/ROM]
$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_3$	[94098-94-9]	3-(methoxycarbonyl)-2-methylquinoxaline-1-oxide						
	SUB				129.2 ± 4.1	298	C	[2009GOM/MON]
$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_3$	[50-06-6]	5-ethyl-5-phenylpyridine-2,4,6(1 <i>H</i> ,3 <i>H</i> ,5 <i>H</i>)trione (phenobarbital)						
	FUS (I)				28.0	449	DSC	[2010ZEN/GEL]
	FUS (II)				27.9	447	DSC	[2010ZEN/GEL]
	FUS				27.8		DSC	[1982TRE/VAU]
$\text{C}_{12}\text{H}_{12}\text{N}_2\text{O}_4$	[13297-18-2]	3-methyl-2-quinoxalinecarboxylic acid-1,4-dioxide, ethyl ester						
	SUB				133.4 ± 2.1	298	C	[2004RIB/GOM2]
$\text{C}_{12}\text{H}_{12}\text{O}_3$	[87-05-8]	7-ethoxy-4-methylcoumarin						
	FUS				25.81	387.5	DSC	[2011AMA/PIN]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₁₂ H ₁₂ O ₄	[29412-62-2]	1,4-dimethylcubane dicarboxylate	FUS		38.1	438.2	DSC
			FUS		41.0	437.8	[2005ROU/DAV] [1996DOM/HEA, 1989KIR/CHU]
			SUB		117.2 ± 3.9	298	V+F
			V		88.5 ± 2.2	298	CGC
C ₁₂ H ₁₂ O ₄	[30296-80-1]	Dimethyl 2,6-cuneanedicarboxylate	FUS		23.4	392.7	DSC
			SUB		106.8 ± 3.0	298	V+F
			V		89.7 ± 2.1	298	CGC
C ₁₂ H ₁₂ O ₆	[2672-57-3]	1,2,3-benzenetricarboxylic acid, trimethyl ester	FUS		32.7	375.7	DSC
			V	(453–513)	72.5	468	A,GS
			V		78.5 ± 0.4	399	C
C ₁₂ H ₁₂ O ₆	[28904-30-5]	1,2,4-benzenetricarboxylic acid, trimethyl ester	V	(443–493)	61.1	458	A,GS
			V		78.5 ± 0.4	399	C
C ₁₂ H ₁₂ O ₆	[2672-58-4]	1,3,5-benzenetricarboxylic acid, trimethyl ester	TRS		4.6	408.2	DSC
			FUS		17.6	419.4	DSC
			SUB	(350–368)	115.9 ± 0.4	359	ME
			SUB		118.9 ± 0.4	298	[1995JIM/MEN]
			SUB		117.5 ± 0.8	298	[1967TUR2, 1995JIM/MEN]
C ₁₂ H ₁₂ S	[16587-33-0]	1,2,3,4-tetrahydrodibenzothiophene	V	(443–513)	75.4	458	A
			FUS		32.03	275	[1987STE/MAL]
			V	(360–600)	70.3 ± 0.3	360	IPM,EB
			V	(360–600)	67.3 ± 0.3	400	IPM,EB
			V	(360–600)	64.5 ± 0.2	440	IPM,EB
			V	(360–600)	61.8 ± 0.2	480	IPM,EB
			V	(360–600)	59.2 ± 0.3	520	IPM,EB
			V	(360–600)	56.5 ± 0.4	560	IPM,EB
C ₁₂ H ₁₃ ClF ₃ N ₃ O ₄	[33245-39-5]	<i>N</i> -(2-chloroethyl)-2,6-dinitro- <i>N</i> -propyl-4-(trifluoromethyl)benzeneamine	FUS		23.08	318.4	DSC
			FUS				[1990DON/DRE]
C ₁₂ H ₁₃ Cl ₃ O ₃	[93-79-8]	2,4,5-trichlorophenoxyacetic acid, butyl ester	V	(460–573)	87.3	475	A
C ₁₂ H ₁₃ F ₁₃	[69125-80-0]	1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluorododecane	V	(288–328)	54.9 ± 0.3	298	Static
C ₁₂ H ₁₃ N	[86-56-6]	<i>N,N</i> -dimethyl-1-aminonaphthalene	V	(283–334)	66.9 ± 0.2	298	GS
C ₁₂ H ₁₃ N	[83-24-9]	2,5-dimethyl-1-phenylpyrrole	SUB	(275–293)	84.2 ± 0.5	284	ME
			SUB	(275–293)	83.5 ± 0.5	298	ME
C ₁₂ H ₁₃ N	[942-01-8]	1,2,3,4-tetrahydrocarbazole	FUS		17.85	391.3	DSC
			SUB	(336–366)	97.2 ± 0.9	298	GS
			SUB		97.2 ± 0.9	298	[2015STA/EME]
C ₁₂ H ₁₃ NO ₂	[87-01-4]	4-methyl-7-dimethylaminocoumarin	FUS		23.92	416.1	DSC
C ₁₂ H ₁₃ NO ₂ S	[5234-68-4]	5,6-dihydro-2-methyl- <i>N</i> -phenyl-1,4-oxathin-3-carboxanilide (carboxin)					[1996DOM/HEA, 1989ZHA/HUA]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$C_{12}H_{13}NO_4S$	[5259-88-1]	FUS 2,3-dihydro-6-methyl-5-phenylcarbamoyl-1,4-oxathiin-4,4-dioxide	(79–380)	28.19	365.3	AC	[2004WAN/TAN]	
			FUS	26.66	401.5	DSC	[1990DON/DRE]	
$C_{12}H_{13}N_3$	[53112-28-0]	4,6-dimethyl- <i>N</i> -phenyl-2-pyrimidinamine FUS	(78–391)	21.23	370.8	AC	[2004SUN/SON]	
			(78–391)	21.23	370.8	AC	[2004SUN/SON]	
$C_{12}H_{14}ClN_3OS$	[1361124-59-5]	5-[(5-chloro-2-methylphenyl)amino]- α -methyl-1,2,4-thiadiazole-3-ethanol FUS	(347–367)	98.9 ± 1.5	357	GS	[2013SUR/BUI]	
			(347–367)	101.9 ± 1.5	298	GS	[2013SUR/BUI]	
	[1361124-42-6]		(370–393)	116.3 ± 2.5	382	GS	[2013SUR/BUI]	
			(370–393)	120.7 ± 2.5	298	GS	[2013SUR/BUI]	
$C_{12}H_{14}Cl_2$	[79995-39-4]	Cyclohexyl-3,4-dichlorobenzene	V	(383–488)	64.7	398	[1981GUS/KAS]	
$C_{12}H_{14}Cl_2FNO_4S$	[73231-34-2]	2,2-dichloro- <i>N</i> -[1-(fluoromethyl)-2-hydroxy-2-[4-(methylsulfonyl)phenyl]ethyl]acetamide ((–)-florfenicol)	FUS		17.82	427.25	DSC	[2014SUN/HAO]
			FUS		83.36	429.1	DSC	[2008MAR/STA]
$C_{12}H_{14}Cl_2O_3$	[94-80-4]	2,4-dichlorophenoxyacetic acid, butyl ester V V	2,4-dichlorophenoxyacetic acid, sec-butyl ester	(444–573)	76.3	459	A	[1987STE/MAL, 1999DYK/SVO]
			(444–573)	70.6	508	GC	[1966JEN/SCH]	
			(444–573)	69.1	508	GC	[1987STE/MAL, 1999DYK/SVO]	
$C_{12}H_{14}Cl_2O_4$	[74944-83-5]	2,4-dichlorophenoxyacetic acid, 2-ethoxyethyl ester V	2,4-dichlorophenoxyacetic acid, sec-butyl ester	(443–503)	63.5	458	A	[1987STE/MAL]
			(443–503)	72.1	458	A	[1987STE/MAL]	
			(443–503)	72.1	458	A	[1987STE/MAL]	
$C_{12}H_{14}Cl_2O_4$	[36227-43-7]	2,4-dichlorophenoxyacetic acid, 4-hydroxybutyl ester	V	(443–503)	72.1	458	A	[1987STE/MAL]
$C_{12}H_{14}Cl_2O_5$	[61787-10-8]	5'-deoxy-5'-iodo-2',3'- <i>O</i> -isopropylidene-5-fluorouridine	FUS		13.7	453.8	DSC	[2014ZHA/ZHO]
$C_{12}H_{14}N_2O_4S$	[58168-20-0]	Ethyl 5-amino-4-cyano-3-(2-ethoxy-2-oxoethyl)-2-thiophenecarboxylate	FUS		40.88	410.1	DSC	[2016HAN/MEN]
$C_{12}H_{14}N_2O_5$	[131-89-5]	2-cyclohexyl-4,6-dinitrophenol FUS	2,4-dichlorophenoxyacetic acid, sec-butyl ester	(405–565)	28.03	378.7	DSC	[1969PLA/GLA]
			(405–565)	88.6	420	A	[1987STE/MAL, 1947STU]	
$C_{12}H_{14}N_4O$	[2676-59-7]	3,3',4,4'-tetraaminodiphenyl ether	FUS		25.3	402.6		[1990DOM/HEA, 1977KAR/RAB]
$C_{12}H_{14}N_4O_2S$	[515-64-0]	2,4-dimethyl-6-sulfamilamidopyrimidine (sulfisomidine)	2,4-dimethyl-6-sulfamilamidopyrimidine (sulfisomidine)	FUS	42.7	523.6	DTA	[1971SUN/EIS]
				FUS	45.11	515.6	DSC	[1982MAR/MIR]
$C_{12}H_{14}N_4O_2S$	[57-68-1]	2-(4-aminobenzenesulfonamido)-4,6-dimethylpyrimidine (sulfamethazine)	2-(4-aminobenzenesulfonamido)-4,6-dimethylpyrimidine (sulfamethazine)	FUS	37.7	469.2	DSC	[2016DEL/ALM]
				FUS	39.2	469	DSC	[2003MAR/AVI, 2002MAR/GOM, 2001MAR/GOM]
				FUS	44.80	468.6	DSC	[1983KHA]
				FUS	31.1	471.6	DTA	[1971SUN/EIS]
$C_{12}H_{14}N_4O_4S$	[122-11-2]	4-amino- <i>N</i> -(2,6-dimethoxy-4-pyrimidinyl)benzenesulfonamide (sulfisomidine)	FUS		45.6	476.7	DTA	[1986MAU/RAM]
[Note: The molecular formula given in [1986MAU/RAM] was not consistent with the molecular structure.]								
$C_{12}H_{14}O_2$	[946-38-3]	Ethyl <i>cis</i> -2-phenylcyclopropanecarboxylate						

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound		Method	References
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	
	V			70.7 ± 0.6	298	C [1998KOL/PIM]
C ₁₂ H ₁₄ O ₂	[946-39-4] SUB	Ethyl <i>trans</i> -2-phenylcyclopropanecarboxylate		96.9 ± 0.4	298	C [1998KOL/PIM]
C ₁₂ H ₁₄ O ₃	[93-28-7] V	1-acetoxy-2-methoxy-4-allylbenzene (eugenol acetate) (374–555)	63.1	389	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₁₄ O ₃	[70637-00-2] FUS	4-methyl-1-phenyl-2,6,7-trioxabicyclo[2.2.2]octane	20.9	410.2		[1995RAK/VER2]
C ₁₂ H ₁₄ O ₄	[523-80-8] V	4,7-dimethoxy-5-(2-propen-1-yl)-1,3-benzodioxole (apiol) (389–558)	70.6	404	A	[1987STE/MAL]
C ₁₂ H ₁₄ O ₄	[84-66-2] FUS	Diethyl phthalate	17.99	269.9		[1996DOM/HEA, 1967CHA/HOR]
	V		88.6 ± 3.4	298	CRT	[2015GOB/CHI]
	V		73.9 ± 10	298	CGC	[2015GOB/CHI]
	V		82.1 ± 1.6	298	CGC	[2014GOB/CHI]
	V		82.1 ± 0.5	298	EB,ME	[2004ROH/RUZ]
	V		87.4	298	EB,ME	[2004ROH/RUZ]
	V	(404–520)	74.6	426	BG	[1988KAT]
	V	(404–520)	70.0	441	BG	[1988KAT]
	V	(404–520)	66.5	459	BG	[1988KAT]
	V	(404–520)	64.2	478	BG	[1988KAT]
	V	(404–520)	63.3	497	BG	[1988KAT]
	V	(345–453)	77.9	360	A	[1987STE/MAL]
	V	(421–570)	59.1	436	A	[1987STE/MAL]
	V	(307–333)	86.8	310	GS	[1982GRA/FOS]
	V		81.1 ± 0.8	298	GCC	[1980FUC/PEA]
	V		82.4			[1948SMA/SMA]
	V	(381–567)	65.9	396		[1947STU]
C ₁₂ H ₁₄ O ₄	[636-09-9] FUS	Diethyl terephthalate	24.60	317.2		[1996DOM/HEA, 1956SMI/DOL]
C ₁₂ H ₁₄ O ₄	[28153-24-4] FUS	1,1-diacetoxy-1-phenylethane	29.37	355.4	DSC	[1996VER/PEN]
	SUB	(308–338)	94.4 ± 2.2	318	GS	[1996VER/PEN]
C ₁₂ H ₁₄ O ₅	[20733-94-2] FUS	Methyl 4-hydroxy-3,5-dimethoxycinnamate (methyl sinapate)	29.85	361.8	DSC	[2010PAN/SAR]
C ₁₂ H ₁₅ ClNO ₄ PS ₂	[2310-17-0] FUS	<i>S</i> -6-chloro-2,3-dihydro-2-oxobenzoxazol-3-ylmethyl <i>O,O</i> -diethylphosphorodithioate	30.03	320	DSC	[1990DON/DRE]
C ₁₂ H ₁₅ N	[6247-00-3] V	<i>N,N</i> -diallyl aniline (421–513)	54.8	436	A	[1987STE/MAL]
C ₁₂ H ₁₅ NO	[4783-65-7] V	1-benzyl-2-piperidone	91.3 ± 1.0	298	C	[2006RIB/CAB]
C ₁₂ H ₁₅ NO	[3612-20-2] V	1-benzyl 1-4-piperidone	78.0 ± 0.8	298	C	[2006RIB/CAB]
C ₁₂ H ₁₅ NO ₂	[19288-59-6] FUS	Phenylaminoethyl methacrylate	25.47	297.5	AC	[1996DOM/HEA, 1985KAR/ABD]
C ₁₂ H ₁₅ NO ₂ S	[21406-29-1] SUB	<i>N</i> -benzoylthiocarbamic <i>O</i> -butyl ester	120.7 ± 1.8	298	C	[2004RIB/SAN2]
C ₁₂ H ₁₅ NO ₃	[1563-66-2] FUS	2,3-dihydro-2,2-dimethylbenzofuran-7-yl methylcarbamate	30.33	426.2	DSC	[1990DON/DRE]
C ₁₂ H ₁₅ NO ₃	[1665-48-1] FUS (triclinic)	5-[(3,5-dimethylphenoxy)methyl]-1,3-oxazolidin-2-one (metaxalone)	30.3	395.1		
	FUS (monoclinic)		26.4	395.4	DSC	[2011AIT/CHO]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₁₅ N ₂ O ₃ PS	[13593-03-8]	<i>O,O</i> -diethyl <i>O</i> -quinoxalin-2-yl phosphothioate	FUS		25.4	304.1	DSC	[1990DON/DRE]
C ₁₂ H ₁₅ N ₃ OS	[1245618-41-0]	1-[(5- <i>p</i> -tolylamino)-1,2,4-thiadiazol-3-yl]-2-propanol	FUS		22.0	390.1	DSC	[2010PER/VOL]
	SUB	(344–364)		142.0 ± 1.1	298		GS	[2010PER/VOL]
C ₁₂ H ₁₅ N ₃ OS	[1275515-23-5]	α -methyl-5-[(3-methylphenyl)amino]-1,2,4-thiadiazole-3-ethanol	FUS		26.8	361.5	DSC	[2013SUR/BUI]
	SUB	(341–359)		134.8 ± 1.9	350		GS	[2013SUR/BUI]
	SUB	(341–359)		137.3 ± 1.9	298		GS	[2013SUR/BUI]
C ₁₂ H ₁₅ N ₃ O ₂	[5972-07-6]	3,6-bis(dimethylamino)phthalimide	SUB	(400–457)	105	415	A	[1987STE/MAL]
	SUB				135.3		RG	[1958KLO]
C ₁₂ H ₁₅ N ₃ O ₂ S	[1361124-43-7]	α -methyl-5-[(4-methoxyphenyl)amino]-1,2,4-thiadiazole-3-ethanol	FUS		28.8	363.4	DSC	[2013SUR/BUI]
	SUB	(343–356)		126.1 ± 2.1	350		GS	[2013SUR/BUI]
	SUB	(343–356)		129.0 ± 2.1	298		GS	[2013SUR/BUI]
C ₁₂ H ₁₅ N ₃ O ₂ S	[54965-21-8]	Methyl [5-(propylthio)-1 <i>H</i> -benzoimidazol-2-yl]carbamate (albendazole)	FUS		44.71	483.2	DSC	[2015GAU/VAN]
C ₁₂ H ₁₅ N ₃ O ₆	[81-15-2]	2,4,6-trmitro-1,3-dimethyl-5- <i>tert</i> -butylbenzene	FUS		20.79	386.7	DSC	[2004QU/BAI]
	SUB	(312–348)		100.4	327		A	[1987STE/MAL, 1956SER/VOI]
C ₁₂ H ₁₅ N ₅ O ₄		9-[(2-acetoxyethoxy)methyl]-2-acetylamino-9 <i>H</i> -purme	FUS		42.33	407.2	DSC	[1995KRI/VES]
C ₁₂ H ₁₅ N ₅ O ₅	[75128-73-3]	9-[(2-acetoxyethoxy)methyl]-2-acetylamino-1,9-dihydro-6 <i>H</i> -purm-6-one	FUS		47.37	477.2	DSC	[1995KRI/VES]
C ₁₂ H ₁₆	[827-52-1]	Cyclohexylbenzene	FUS	(220–470)	15.3	280.5	DSC	[1996DOM/HEA, 1983ORO/MRA]
	V	(344–462)		60.8 ± 0.2	298		MM	[1998MOK/RAU, 2006VER]
	V	(283–462)		60.4	298			[1993KAS/MOK]
	V	(333–343)		56.4	348			[1990SOH/OKA]
	V	(421–513)		51.3	436		A	[1987STE/MAL]
	V			59.9 ± 0.3	298		C	[1978MON/ROS]
C ₁₂ H ₁₆	V	Dicyclohexadiene		(377–505)	77.9	329	A	[1987STE/MAL]
C ₁₂ H ₁₆	[2715-29-9]	2,5-diethylstyrene	V	(322–496)	52.2	337	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₁₆	[5676-29-9]	α - <i>tert</i> -butylstyrene	V	(298–318)	53.2 ± 0.1	298	GS	[1999VER/EBE]
C ₁₂ H ₁₆	[2388-14-9]	1-isopropenyl-4-isopropylbenzene	V	(403–479)	50.9	418	A	[1987STE/MAL]
C ₁₂ H ₁₆	[24375-17-5]	Tetraspiro[2.0.2.0.2.0.2.0]dodecane ([4] rotane)	FUS		21	394.9	DSC	[1995BEC/RUC]
	SUB	(298–338)		74.9 ± 0.5			GS	[1995BEC/RUC]
C ₁₂ H ₁₆ Cl ₂ N ₂ O	[555-37-3]	<i>N</i> -butyl- <i>N'</i> -(3,4-dichlorophenyl)- <i>N</i> -methylurea	FUS		27.23	374.3	DSC	[1990DON/DRE]
C ₁₂ H ₁₆ N ₂	[126401-68-1]	1-pentylbenzimidazole	V	(328–375)	77.0 ± 0.5	298	GS	[2012GAR/VER]
C ₁₂ H ₁₆ N ₂	[61-50-7]	2-(1 <i>H</i> -mdol-3-yl)- <i>N,N</i> -dimethylethanamine (<i>N,N</i> -dimethyltryptamine)						

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{16}\text{N}_2\text{OS}$	FUS (I) FUS (II)	<i>N</i> -[(3-methoxyphenyl)methyl]- <i>N'</i> -2-propenylthiourea			17.3	331.2	DSC	[2013GAU/FOR]
					18.5	319.2		
$\text{C}_{12}\text{H}_{16}\text{N}_2\text{O}_2$	[479578-80-8] FUS	4-dimethylamino-3,5-xylyl methylcarbamate			15.43	313	DSC	[2002ABB/WOH]
					18.37	361.7		
$\text{C}_{12}\text{H}_{16}\text{N}_2\text{O}_2$	[315-18-4] SUB	<i>N</i> -benzoyl- <i>N',N'</i> -diethylurea			132.2 ± 2.8	298	C	[2000RIB/RIB]
$\text{C}_{12}\text{H}_{16}\text{N}_2\text{O}_4$	[71850-77-6] FUS	2,4-dinitro-1,3-dimethyl-5- <i>tert</i> -butylbenzene			16.68	340.4	DSC	[2004QU/BAI]
$\text{C}_{12}\text{H}_{16}\text{N}_2\text{O}_4$	[90429-36-0] FUS	Pentyl <i>N</i> -(4-nitrophenyl) carbamate			25.98	363.8	DSC	[1993TIE/FRA]
$\text{C}_{12}\text{H}_{16}\text{N}_2\text{O}_5$	[83-66-9] SUB	1-methyl-4- <i>tert</i> -butyl-3-methoxy-2,6-dinitrobenzene (293–353)			102.9		DSC	[1953SER/VOI, 1960JON]
$\text{C}_{12}\text{H}_{16}\text{N}_3\text{O}_3\text{PS}_2$	[2642-71-9] SUB	Azinphos-ethyl (326–420)			86.8	341	DSC	[1987STE/MAL]
$\text{C}_{12}\text{H}_{16}\text{N}_3\text{O}_3\text{PS}_2$	[2642-71-9] FUS	<i>S</i> -(3,4-dihydro-4-oxobenzo[d][1,2,3]-triazin-3-ylmethyl) <i>O,O</i> -diethylphosphorodithioate			25.22	322.2	DSC	[1990DON/DRE]
$\text{C}_{13}\text{H}_{19}\text{N}_3\text{O}_6\text{S}$	[4726-14-1] FUS	4-methylsulphonyl-2,6-dinitro- <i>N,N</i> -dipropylaniline			28.05	424.3	DSC	[1990DON/DRE]
$\text{C}_{12}\text{H}_{16}\text{O}_2$	[2049-96-9] V	Pentyl benzoate (395–492)			85.9	410	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{16}\text{O}_2$	[94-46-2] V	Isopentyl benzoate (345–535)			51.6	360	A	[1987STE/MAL, 1947STU]
$\text{C}_{12}\text{H}_{16}\text{O}_2$	[119-43-7] V	Ethyl 2-phenylbutyrate (404–489)			56.0	419	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{16}\text{O}_2$	[103-52-6] V	Phenethyl butyrate			69.7 ± 1.4	298	CGC	[2015KOZ/GOB]
$\text{C}_{12}\text{H}_{16}\text{O}_2$	FUS	Benzaldehyde 2,2-dimethylpropylene glycol acetal			18.6	307.6	DSC	[1995VER/DOG]
$\text{C}_{12}\text{H}_{16}\text{O}_2$	[26311-45-5] TRS (liq cryst) TRS (liq cryst) TRS (liq cryst-to-liq)	4-pentylbenzoic acid			2.6	252	DSC	[1985PRI/PUC]
			SUB		(341–357)	118.2 ± 1.0	ME	[2004MON/ALM]
$\text{C}_{12}\text{H}_{16}\text{O}_2$	[2243-32-5] SUB SUB	Pentamethylbenzoic acid (347–363) (347–363)			111.5 ± 1.7	355	ME	[1988COL/JIM]
$\text{C}_{12}\text{H}_{16}\text{O}_3$	[2050-08-0] V	Pentyl salicylate (402–540)			66.5	417	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{16}\text{O}_3$	[87-20-7] V	Isopentyl salicylate (287–329)			73.0	302	A,ME	[1987STE/MAL, 1955SER/VOI]
$\text{C}_{12}\text{H}_{16}\text{O}_3$	[15872-41-0] TRS (liq cryst) TRS (liq cryst-to-liq) TRS (liq cryst) TRS (liq cryst-to-liq)	4-pentoxybenzoic acid			22.04	397.2	DSC	[2010FON/SAN]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{16}\text{O}_3$	SUB	(355–377)	132.0 ± 0.4	366	ME	[2010FON/SAN]		
	SUB	(355–377)	134.5 ± 0.8	298	ME	[2010FON/SAN]		
$\text{C}_{12}\text{H}_{16}\text{O}_3$	[63905-22-6]	(racemic) 3-(2-allylphenoxy)-propane-1,2-diol	FUS	27.8	314.9	DSC	[2008BRE/BRE]	
	[476169-18-3]	(S)-3-(2-allylphenoxy)-propane-1,2-diol	FUS	28.8	331.2	DSC	[2008BRE/BRE]	
$\text{C}_{12}\text{H}_{16}\text{O}_4$	[14174-08-4]	Benzo-12-crown-4	FUS	23.1	321.2	DSC	[2000NIC/ORF]	
	SUB			104.3 ± 2.6	298	CGC-DSC	[2000NIC/ORF]	
	V			82.7 ± 2.3	298	CGC	[2000NIC/ORF]	
$\text{C}_{12}\text{H}_{16}\text{O}_4$	[25762-98-5]	2,5-dipropoxy-1,4-benzoquinone	TRS	8.6	357			
			FUS	33.6	460.8	DSC	[1996KEE/VAN]	
	[4630-62-0]	α -phenoxy- α -(D)-glucopyranoside	FUS	39.0	429.2	DSC	[1996SCH]	
$\text{C}_{12}\text{H}_{17}\text{F}_9$	[69125-79-7]	1,1,1,2,2,3,3,4,4-nonafluorododecane	V	(298–328)	57.6 ± 0.3	298	Static	[2015MOR/DAS]
$\text{C}_{12}\text{H}_{17}\text{N}$	[31252-42-3]	4-benzylpiperidine	V		72.4 ± 6.7	298	CGC	[2014THO/GOB]
			V		74.2 ± 1.0	298	C	[2007RIB/CAB]
$\text{C}_{12}\text{H}_{17}\text{NO}$	[91-49-6]	<i>N</i> -butylacetanilide	V	(443–653)	60.2	458	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{17}\text{NO}$	[2431-96-1]	<i>N,N</i> -diethyl-2-phenylacetamide	V	(404–460)	82.8	419	A	[1987STE/MAL, 1969DAV/MAK]
			V		77.8		Static	[1968DAV/BAT]
$\text{C}_{12}\text{H}_{17}\text{NO}$	[52486-76-7]	2-(dimethylamino)-2-methyl-l-phenylpropanone	V	(298–338)	66.7 ± 0.4	298	GS	[1994WEL/VER]
$\text{C}_{12}\text{H}_{17}\text{NO}$	[4061-29-4]	2-(diethylamino)-1-phenylethanone	V	(293–338)	71.6 ± 0.9	298	GS	[1994WEL/VER]
$\text{C}_{12}\text{H}_{17}\text{NO}$	[134-62-3]	<i>N,N</i> -diethyl- <i>m</i> -toluamide	V	(373–403)	U32.2	388	A	[1987STE/MAL, 1968DAV/BAT]
$\text{C}_{12}\text{H}_{17}\text{NO}_2$	[91563-76-7]	l-nitro-2,6-diisopropylbenzene	FUS		12.51	301.2	DSC	[2000VER/HEI]
	SUB	(279–294)		81.0 ± 1.0	286	GS	[2000VER/HEI]	
	SUB	(279–294)		80.6 ± 1.0	298	GS	[2000VER/HEI]	
	V	(308–343)		66.9 ± 0.6	326	GS	[2000VER/HEI]	
	V	(308–343)		68.4 ± 0.6	298	GS	[2000VER/HEI]	
$\text{C}_{12}\text{H}_{17}\text{NO}_2$	[2631-37-0]	5-isopropyl- <i>m</i> -tolyl methylcarbamate	FUS		23.04	361.3	DSC	[1990DON/DRE]
$\text{C}_{12}\text{H}_{17}\text{NO}_2$	FUS						DSC	[1990NEA/FLY]
	FUS			23.97	325.5		DSC	[1991ACR, 1989NEA/FLY]
$\text{C}_{12}\text{H}_{17}\text{NO}_2\text{S}_2$	[949171-67-9]	<i>N</i> -theonylthiocarbamic- <i>O</i> -hexyl ester	FUS		22.48	346.4	DSC	[2007RIB/MON]
	SUB			180.1 ± 3.0	298		C	[2007RIB/MON]
	[105910-97-2]	l-pentyl-3-(4-nitrophenyl) urea	FUS		19.85	404.2	DSC	[1993TIE/FRA]
$\text{C}_{12}\text{H}_{17}\text{N}_3\text{O}_3$		<i>N</i> -(diethylaminothiocarbonyl)benzamidine						

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
C ₁₂ H ₁₈	SUB			126.0 ± 1.5	298	C	[2004RIB/SAN]
	[4904-61-4]	1- <i>cis</i> -5- <i>trans</i> -9- <i>trans</i> -cyclododecatriene					
	V	(344–387)	49.9	359	A	[1987STE/MAL]	
	V	(400–423)	60.0	411	A	[1987STE/MAL]	
C ₁₂ H ₁₈	[426–503]	(426–503)	47.8	441	A	[1987STE/MAL]	
	[706-31-0]	1- <i>trans</i> -5- <i>trans</i> -9- <i>cis</i> -cyclododecatriene					
C ₁₂ H ₁₈	V	(286–373)	68.0	301	A	[1987STE/MAL]	
	[1077-16-3]	Hexylbenzene					
	V		60.2	298		[1994RUZ/ZAB]	
	V	(274–463)	61.6	289		[1993KAS/MOK]	
C ₁₂ H ₁₈	V		60.0	298		[1971WIL/ZWO]	
	[577-55-9]	1,2-diisopropylbenzene					
C ₁₂ H ₁₈	V	(388–476)	48.9	403	A	[1987STE/MAL]	
	[99-62-7]	1,3-diisopropylbenzene					
	V	(283–318)	56.0 ± 0.8	301	GS	[1998VER7]	
	V	(283–318)	56.2 ± 0.8	298	GS	[1998VER7]	
C ₁₂ H ₁₈	V	(387–477)	48.9	402	A	[1987STE/MAL]	
	[100-18-5]	1,4-diisopropylbenzene					
	V	(366–530)	50.7 ± 0.2	400	EB	[2002STE/CHI6]	
	V	(366–530)	46.3 ± 0.3	440	EB	[2002STE/CHI6]	
	V	(366–530)	43.0 ± 0.5	480	EB	[2002STE/CHI6]	
	V	(366–530)	39.3 ± 0.9	520	EB	[2002STE/CHI6]	
	V	(283–318)	56.3 ± 0.3	301	GS	[1998VER7]	
	V	(283–318)	56.5 ± 0.3	298	GS	[1998VER7]	
	V	(393–485)	47.6	408	A	[1987STE/MAL]	
	V	(393–485)	48.9	408		[1959MCD/SHR, 1984BOU/FRI]	
C ₁₂ H ₁₈	[98-19-1]	1,3-dimethyl-5- <i>tert</i> -butylbenzene					
	V	(284–318)	56.5 ± 0.6	301	GS	[1998VER]	
	V	(284–318)	56.6 ± 0.6	298	GS	[1998VER]	
	V	(253–443)	59.8	268		[1993KAS/MOK]	
C ₁₂ H ₁₈	[87-85-4]	Hexamethylbenzene					
	FUS		23.27	438.7	DSC	[2008MOG/SEP]	
	FUS		21.1	439.5	DTA	[1994SAB/TAB]	
	TRS		1.5	384.0	DSC	[1996DOM/HEA, 1988PET/TSY]	
	TRS		1.1	115.5	AC	[1996DOM/HEA, 1985YOS/FUJ]	
	TRS		0.98	117.5	AC	[1982ATA/GYO]	
	TRS		1.1	116.5	AC	[1965FRA/AST]	
	TRS		1.84	383.8			
	FUS		20.59	438.4		[1996DOM/HEA, 1956MOM/SUG]	
	TRS		1.76	383.7			
	FUS		20.63	438.7	RC.	[1996DOM/HEA, 1932SPA/THO]	
	TRS		1.0	108	C	[1930HUF/PAR2]	
	SUB		80		TGA	[1997GIL/BOT]	
	SUB		81.4 ± 0.1	298	C	[1994SAB/TAB]	
	SUB	(288–304)	85.0 ± 0.2	298	ME	[1989COL/JIM]	
	SUB		74.9 ± 0.6		DSC	[1984HOL]	
	SUB	(303–338)	85.2	320	A	[1976AMB/LAW]	
	SUB		86.1	298	H	[1976AMB/LAW, 1993CHI/HOS]	
	SUB	(314–364)	83.2	329	A	[1969OVE/STE]	
	SUB		74.7 ± 2		ME	[1965FRA/AST, 1970COX/PIL]	
	SUB		80.8			[1957VAN, 1960JON]	
	SUB		80.8			[1949NIT/SEK]	
	V		68.6	298	CGC	[2008ZHA/UNH]	
	V	(443–537)	56.8	458	A	[1987STE/MAL, 1930MAC/SMI]	
(C ₁₂ H ₁₈)-(C ₆ H ₃ N ₂ ClO ₄)	[57230-36-1]	(hexamethylbenzene)-(picryl chloride)					
	SUB		93.7			[1949NIT/SEK]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound		Method	References
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)		
C ₁₂ H ₁₈	[877-44-1] V	1,2,4-triethylbenzene (319–491)	51.2	334	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₁₈	[102-25-0] V	1,3,5-triethylbenzene (371–534)	59.2 ± 0.3	298	EB	[1997STE/CHI2]
C ₁₂ H ₁₈	[10222-95-4] V	1,2,4-trimethyl-5-isopropylbenzene 64.9	298			[1975VIL/PER]
C ₁₂ H ₁₈	[6902-73-4] V	2-isopropenyl-1-methyl-1-vinyl-3-cyclohexane (348–404)	47.8	363	A	[1987STE/MAL]
C ₁₂ H ₁₈	[676-22-2] SUB SUB	<i>E,E,E</i> -1,5,9-cyclododecatriene (273–307) 75.2 74.7 ± 0.8	288	A	[1987STE/MAL] [1973RAU/GEY, 1977PED/RYL]	
C ₁₂ H ₁₈ ClNO	[41570-61-0] FUS (I) FUS (II)	2-chloro- α -[(1,1-dimethylethyl)amino]methylbenzenemethanol (tulobuterol) 27.1 25.4	364 354	DSC	[2004CAI/BOU]	
C ₁₂ H ₁₈ Cl ₂ NOPS	[42585-08-0] V	(2-chloro-4-methylphenyl) <i>N</i> -(sec-butylamido)(chloromethyl)thiophosphonate (309–363) 62.6	324	A	[1987STE/MAL]	
C ₁₂ H ₁₈ N ₂ O	[34123-59-6] FUS	<i>N,N</i> -dimethyl- <i>N'</i> -(4-(1-methylethyl)phenyl)urea 33.87	430.4	DSC	[1991ACR, 1990DON/DRE]	
C ₁₂ H ₁₈ N ₂ O	[34123-59-6] FUS	<i>N'</i> -(<i>p</i> -cumenyl)- <i>N,N</i> -dimethylurea (isoproturon) (78–346) 21.33	427.4	AC	[2003YU/TAN2]	
C ₁₂ H ₁₈ N ₂ O ₂	[315-18-4] FUS	3,5-dimethyl-4-(dimethylamino)phenyl methylcarbamate 18.37	361.7	DSC	[1991ACR, 1990DON/DRE]	
C ₁₂ H ₁₈ N ₂ O ₂ S ₂	[120563-92-0] FUS	<i>N</i> -isopropyl- <i>S</i> -methyl- <i>N'</i> -tosylisothiourea 32.7	392.2	DSC	[1992REI/HAN]	
C ₁₂ H ₁₈ N ₂ O ₂ S ₂	[145198-68-1] FUS	<i>N</i> -ethyl- <i>S</i> -ethyl- <i>N'</i> -tosylisothiourea 30.3	390.2	DSC	[1992REI/HAN]	
C ₁₂ H ₁₈ N ₂ O ₃	[76-73-3] FUS FUS	5-(1-methylbutyl)-5-(2-propen-1-yl)-2,4,6(1 <i>H</i> ,3 <i>H</i> ,5 <i>H</i>)-pyrimidinetrione (secobarbital) 22.9 17.4	371.8 DSC	[2008WAS/HOL] [1982TRE/VAU]		
C ₁₂ H ₁₈ N ₂ O ₃ S	[64-77-7] TRS (I) FUS (I) FUS FUS FUS	3-(<i>p</i> -tolyl-4-sulfonyl)-1-butyl urea (tolbutamide) 1.9 23.8 26.24 27.2 25.61	313.2 401.2 402 400.2 404.8	DSC	[2010THI/AIT] [2010BAI/VAN] [1999KIM/HIR] [1982MAR/MIR]	
C ₁₂ H ₁₈ N ₄ O ₂	[35873-41-7] FUS	8-pentyltheophylline 35.1	498.4	DSC	[1991ACR, 1989GON/KRA]	
C ₁₂ H ₁₈ N ₄ O ₆ S	[19044-88-3] FUS	4-(<i>N,N</i> -dipropylammo)-3,5-dmitrobenzenesulphomamide 38.48	414.8	DSC	[1990DON/DRE]	
C ₁₂ H ₁₈ O	[5331-28-2] FUS SUB	4- <i>tert</i> -butyldiphenyl oxide (8–371) 21.99 (299–324) 100.1 ± 1.0	327.8 298	AC GS	[2015DRU/PIM] [2015DRU/PIM]	
C ₁₂ H ₁₈ O	[4157-77-1] V	(1-butoxyethyl)benzene (278–318) 59.8 ± 0.3	298	GS	[2001VER/HEI]	
C ₁₂ H ₁₈ O	[445251-36-5] V	(<i>RS</i>)-(1-sec-butoxyethyl)benzene (296–332) 58.7 ± 0.5	298	GS	[2002KRA/VAS, 2002VER/HEI]	
C ₁₂ H ₁₈ O	[445251-38-7] V	(<i>SS</i>)-(1-sec-butoxyethyl)benzene (297–332) 59.1 ± 0.5	298	GS	[2002KRA/VAS, 2002BAE/SHI2]	
C ₁₂ H ₁₈ O	[24142-77-6] V	Propyl cumyl ether (278–325) 59.1 ± 0.2	302	GS	[2001VER/HEI2]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
C ₁₂ H ₁₈ O	V	[6382-14-5]	Benzyl pentyl ether	59.3 ± 0.2	298	GS	[2001VER/HEI2]
	V		(363–512)		50.8	378	A [1987STE/MAL, 1969KRO]
C ₁₂ H ₁₈ O	V	[2934-05-6]	2,4-diisopropylphenol	58.4	410	A	[1987STE/MAL]
	V		(395–528)		14.64	292.8	[1975BER/PER]
C ₁₂ H ₁₈ O	V	[2078-54-8]	2,6-diisopropylphenol	67.9 ± 0.3	310	GS	[1999VER]
	V	FUS			298	GS	[1999VER]
C ₁₂ H ₁₈ O	V	[26886-05-5]	3,5-diisopropylphenol	12.13	326.3	A	[1975BER/PER]
	V		FUS		326.3		[1975BER/PER]
C ₁₂ H ₁₈ O	V	[68189-19-5]	2,3-dimethyl-4- <i>tert</i> -butylphenol	60.2	433	A	[1987STE/MAL]
	V		(418–523)		433	A	[1987STE/MAL]
C ₁₂ H ₁₈ O	V	[46170-85-8]	2,3-dimethyl-6- <i>tert</i> -butylphenol	60.0	427	A	[1987STE/MAL]
	V		(412–525)		427	A	[1987STE/MAL]
C ₁₂ H ₁₈ O	V	[1879-09-0]	2,4-dimethyl-6- <i>tert</i> -butylphenol	67.2 ± 0.8	318	GS	[1999VER]
	V		(304–333)		298	GS	[1999VER]
	V		(388–522)		403	A	[1987STE/MAL]
	V		(344–535)		348		[1953STA/MUL]
	V		(344–535)		373		[1953STA/MUL]
	V		(344–535)		398		[1953STA/MUL]
	V		(344–535)		423		[1953STA/MUL]
	V		(344–535)		473		[1953STA/MUL]
C ₁₂ H ₁₈ O	V	[17696-37-6]	2,5-dimethyl-4- <i>tert</i> -butylphenol	61.7	423	A	[1987STE/MAL]
	V		(408–538)		373		[1953STA/MUL]
	V		(361–548)		398		[1953STA/MUL]
	V		(361–548)		423		[1953STA/MUL]
	V		(361–548)		473		[1953STA/MUL]
C ₁₂ H ₁₈ O	V	[879-97-0]	2,6-dimethyl-4- <i>tert</i> -butylphenol	59.7	407	A	[1987STE/MAL]
	V		(392–522)		348		[1953STA/MUL]
	V		(347–530)		373		[1953STA/MUL]
	V		(347–530)		398		[1953STA/MUL]
	V		(347–530)		423		[1953STA/MUL]
	V		(347–530)		473		[1953STA/MUL]
C ₁₂ H ₁₈ O	V	[1445-23-4]	3,4-dimethyl-6- <i>tert</i> -butylphenol	62.7	428	A	[1987STE/MAL]
C ₁₂ H ₁₈ O	V	[63452-61-9]	2-ethyl-4- <i>tert</i> -butylphenol	61.6	443	A	[1987STE/MAL]
	V		(428–623)		398		[1953STA/MUL]
	V		(397–543)		423		[1953STA/MUL]
	V		(397–543)		473		[1953STA/MUL]
C ₁₂ H ₁₈ O	V	[63551-41-7]	2-ethyl-6- <i>tert</i> -butylphenol	58.2	408	A	[1987STE/MAL]
C ₁₂ H ₁₈ O	V	[4237-25-6]	3-ethyl-6- <i>tert</i> -butylphenol	59.5	430	A	[1987STE/MAL]
	V		(415–530)		430	A	[1987STE/MAL]
C ₁₂ H ₁₈ O	V	[96-70-8]	4-ethyl-2- <i>tert</i> -butylphenol	59.2	409	A	[1987STE/MAL]
	V		(394–523)		373		[1953STA/MUL]
	V		(349–533)		398		[1953STA/MUL]
	V		(349–533)		423		[1953STA/MUL]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₁₈ O	[71745-63-6]	V	(349–533)	49.3	473			[1953STA/MUL]
		V	(443–653)	65.6	458	A		[1987STE/MAL]
		V	(409–561)	55.3	423			[1953STA/MUL]
		V	(409–561)	50.7	473			[1953STA/MUL]
C ₁₂ H ₁₈ O		3-methyl-4- <i>tert</i> -pentylphenol						
		V	(443–683)	65.1	458	A		[1987STE/MAL]
		V	(409–561)	55.3	423			[1953STA/MUL]
		V	(409–561)	50.7	473			[1953STA/MUL]
C ₁₂ H ₁₈ O	[34072-71-4]	4-methyl-2- <i>tert</i> -pentylphenol						
		V	(423–653)	61.4	438	A		[1987STE/MAL]
		V	(394–538)	58.1	398			[1953STA/MUL]
		V	(394–538)	55.3	423			[1953STA/MUL]
		V	(394–538)	50.7	473			[1953STA/MUL]
C ₁₂ H ₁₈ O	[1660-04-4]	1-adamantyl methyl ketone						
	SUB	(287–305)	84.2 ± 0.6	298	ME			[1992ABB/JIM2]
C ₁₂ H ₁₈ O	[7273-98-5]	<i>exo</i> -4-hydroxy- <i>endo</i> - <i>endo</i> -tetracyclo[6.2.1.1 ^{3,6} .0 ^{2,7}]dodecane						
		SUB	(303–343)	77.1 ± 2.2	323	TSGC		[1980STE]
		SUB	(303–343)	79.0 ± 2.5	298	TSGC		[1980STE]
C ₁₂ H ₁₈ O	[107133-43-7]	<i>exo</i> -4-hydroxy- <i>exo</i> - <i>endo</i> -tetracyclo[6.2.1.1 ^{3,6} .0 ^{2,7}]dodecane						
		SUB	(323–353)	74.3 ± 1.8	338	TSGC		[1980STE]
		SUB	(323–353)	76.3 ± 2.0	298	TSGC		[1980STE]
C ₁₂ H ₁₈ O	[74007-11-7]	<i>exo</i> -4-hydroxy- <i>exo</i> - <i>exo</i> -tetracyclo[6.2.1.1 ^{3,6} .0 ^{2,7}]dodecane						
		SUB	(313–353)	73.9 ± 2.0	333	TSGC		[1980STE]
		SUB	(313–353)	75.9 ± 2.2	298	TSGC		[1980STE]
C ₁₂ H ₁₈ O	[1011-12-7]	2-(1'-cyclohexenyl)cyclohexanone						
		FUS		17.26	278.8	AC		[1992MAR/KOZ]
		V	(298–358)	72.8 ± 0.8	328	ME		[1992MAR/KOZ]
C ₁₂ H ₁₈ O ₂	[5673-09-6]	1,3-dihydroxy-2-hexylbenzene						
	V	(433–494)	76.8	448	A,GC			[1987STE/MAL, 1975KUN/LIL]
C ₁₂ H ₁₈ O ₂	[136-77-6]	1,3-dihydroxy-4-hexylbenzene						
		FUS		19.04	341.5	DSC		[1991ACR, 1985OCH]
		V	(434–494)	88.1	449	A,GC		[1987STE/MAL, 1975KUN/LIL]
C ₁₂ H ₁₈ O ₂	[711-01-3]	1-adamantyl-l-carboxylic acid methyl ester						
		SUB	(267–283)	84.3 ± 0.6	275	ME		[1992ABB/JIM]
		SUB	(267–283)	82.4 ± 0.6	298	ME		[1992ABB/JIM]
C ₁₂ H ₁₈ O ₂		<i>trans</i> - <i>syn</i> - <i>trans</i> -decahydro-3-hydroxy-2-naphthalene acetic γ-lactone						
	SUB	(240–310)	NA		ME			[1957SPI]
C ₁₂ H ₁₈ O ₂		<i>trans</i> - <i>anti</i> - <i>trans</i> -decahydro-3-hydroxy-2-naphthalene acetic γ-lactone						
	SUB	(240–310)	NA		ME			[1957SPI]
C ₁₂ H ₁₈ O ₃	[63991-78-6]	(racemic) 3-(2-propylphenoxy)-propane-1,2-diol						
	FUS		29.5	326.5	DSC			[2008BRE/BRE]
C ₁₂ H ₁₈ O ₃	[1092799-99-9]	(<i>R</i>)-3-(2-propylphenoxy)-propane-1,2-diol						
	FUS		31.9	340.5	DSC			[2008BRE/BRE]
C ₁₂ H ₁₈ O ₃	[204583-98-2]	(racemic) 3-(2-isopropylphenoxy)-propane-1,2-diol						
	FUS		31.5	353.7	DSC			[2008BRE/BRE]
C ₁₂ H ₁₈ O ₃	[204584-38-3]	(<i>R</i>)-3-(2-isopropylphenoxy)-propane-1,2-diol						
	FUS		30.6	345	DSC			[2008BRE/BRE]
C ₁₂ H ₁₈ O ₄	[532-34-3]	3,4-dihydro-2,2-dimethyl-4-oxo-2 <i>H</i> -pyran-6-carboxylic acid, butyl ester						
	V	(357–435)	64.7	372	A			[1987STE/MAL]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₁₂ H ₁₈ O ₆	[5349-99-5]	Triethyl aconitate	V	(423–540)	79.6	438	A [1987STE/MAL]
C ₁₂ H ₁₈ O ₆	FUS	(R,R,R)-4,8,12-trimethyl-1,5,9-trioxacyclododeca-2,6,10-trione		(5–430)	21.51	380.2	AC,C [1996LEB/BYK]
C ₁₂ H ₁₉ ClNO ₃ P	[299-86-5]	N-methyl-O-methyl-O-2-chloro-4- <i>tert</i> -butylphenylphosphoramidate	FUS		21.98	332	DSC [1990DON/DRE]
C ₁₂ H ₁₉ F ₃ N ₂ O ₄	[102043-67-4]	<i>N</i> -[(N-trifluoroacetyl)valyl]alanine ethyl ester	SUB	(323–424)	115.5	338	A [1987STE/MAL, 1960WEY/KLI]
	V			(425–453)	86.4	439	A [1987STE/MAL, 1999DYK/SVO, 1960WEY/KLI]
C ₁₂ H ₁₉ N	[24544-04-5]	2,6-diisopropylaniline	V	(284–323)	69.2 ± 0.3	303	GS [2000VER3]
	V			(284–323)	69.5 ± 0.3	298	GS [2000VER3]
C ₁₂ H ₁₉ N	[202925-84-6]	N-methyl-3-methyl-3-phenyl-2-butaneamine	V	(283–330)	67.0 ± 0.8	307	GS [1998VER/BEC]
	V			(283–330)	67.5 ± 0.8	298	GS [1998VER/BEC]
C ₁₂ H ₂₀	[770-69-4]	1-ethyladamantane	FUS	(8–373)	11.28	225.6	AC [2005VAR/DRU]
	V				55.3 ± 1.1	298	[2000MEL/PIM]
	V			(383–492)	49.1	398	A [1987STE/MAL]
	V			(368–492)	47.4	492	[1960HAL/LAN]
C ₁₂ H ₂₀	[702-79-4]	1,3-dimethyladamantane	TRS	(8–373)	9.31	223.4	
	FUS		(8–373)		1.54	247.8	AC [2005VAR/DRU]
	TRS				7.65	221	
	FUS				0.94	244	DSC [1980ARN/SCH]
	TRS				7.36	221	
	FUS				0.92	245	DSC [1977CLA/KNO]
	SUB				67.8 ± 1.3	298	EB [1977STE/WAT]
	V				49.2 ± 0.2	308	C [2001VAR/PAS]
	V				49.7 ± 0.2	298	C [2001VAR/PAS]
	V			(352–526)	49.4 ± 0.3	298	EB [1996STE/CHI]
	V			(352–526)	45.9 ± 0.3	360	EB [1996STE/CHI]
	V			(352–526)	43.7 ± 0.3	400	EB [1996STE/CHI]
	V			(352–526)	41.5 ± 0.3	440	EB [1996STE/CHI]
	V			(352–526)	39.1 ± 0.3	480	EB [1996STE/CHI]
	V			(352–526)	36.4 ± 0.3	520	EB [1996STE/CHI]
C ₁₂ H ₂₀	[19740-34-2]	2,2-dimethyladamantane	SUB	(300–360)	73.6 ± 1.3	298	BG [1977STE/WAT]
C ₁₂ H ₂₀ N ₂	[3867-15-0]	1-(1-piperidinyl)cyclohexanecarbonitrile	FUS		25.44	339.2	[1997WEL/VER]
	SUB				87.8 ± 0.6	298	[1997WEL/VER]
C ₁₂ H ₂₀ N ₂	[4543-66-2]	Dodecanedinitrile	FUS		34.33	294.2	DSC [2007BAD/BLA]
C ₁₂ H ₂₀ N ₂ O ₂	[6310-76-5]	N,N'-ethylene-bis(4-aminopent-3-ene-2-one)	SUB	(358–374)	128.2 ± 0.7	366	ME [1995RIB/RIB]
	SUB			(358–374)	131.6	298	ME [1995RIB/RIB]
C ₁₂ H ₂₀ N ₂ O ₂	[63254-50-2]	(1 <i>R</i> ,2 <i>S</i> ,5 <i>R</i>)-2-isopropyl-5-methylcyclohexyl diazoacetate	FUS	(78–344)	17.2	320.4	AC [2000DI/TAN2]
C ₁₂ H ₂₀ N ₄ O ₂	[51235-04-2]	3-cyclohexyl-6-(dimethylamino)-1-methyl-1,3,5-triazine-2,4(1 <i>H</i> ,3 <i>H</i>)-dione	FUS		20.36	389.6	DSC [1990DON/DRE]
C ₁₂ H ₂₀ O	[4789-40-6]	2,5-di- <i>tert</i> -butylfuran					

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
C ₁₂ H ₂₀ O	V	(274–323)	56.1 ± 1.1	298	GS	[1998VER/WEL]	
	[90-42-6]	2-cyclohexylcyclohexanone	18.0	277	AC	[1992MAR/KOZ]	
	FUS	(370–481)	54.0 ± 0.6	425	GS	[1992MAR/KOZ]	
C ₁₂ H ₂₀ O ₂	[76-49-3]	Bornyl acetate					
	V	(319–496)	50.8	334	A	[1987STE/MAL, 1947STU]	
C ₁₂ H ₂₀ O ₂	[105-87-3]	Geranyl acetate					
	V	(346–516)	58.1	361	A	[1987STE/MAL, 1947STU]	
C ₁₂ H ₂₀ O ₂	[125-12-2]	Isobornyl acetate					
	V	(381–472)	52.1	400	Boiling Pt	[2014WAN/HUA]	
	V	(404–450)	56.1	419	A	[1987STE/MAL]	
	V		53.6			[1937RUD/KOR]	
C ₁₂ H ₂₀ O ₂	V	Bicyclo[2.2.1]heptane-7-one 2,2-dimethylpropylene acetal					
	V	(293–323)	60.5 ± 0.9	298	GS	[2002VER]	
C ₁₂ H ₂₀ O ₂	[115-95-7]	3,7-dimethyl-1,6-octadien-3-ol acetate (linalyl acetate)					
	V		62.5 ± 0.6	298	CGC	[2015KOZ/GOB]	
	V	(281–490)	57.8	296	A	[1987STE/MAL]	
	V	(328–493)	56.8	343		[1947STU]	
C ₁₂ H ₂₀ O ₂	[80-26-2]	Terpineol acetate					
	V	(310–424)	68.1	325	A	[1987STE/MAL]	
C ₁₂ H ₂₀ O ₂	[217467-40-8]	Bicyclo[2.2.1]heptane-7-one 2,2-dimethylpropylene ketal					
	FUS		23.9	346.7		[1998VER/PEN]	
	SUB		84.0 ± 0.9	298		[1998VER/PEN]	
C ₁₂ H ₂₀ O ₂	[10329-90-5]	1,7-cyclododecanedione					
	FUS		15.77	405.2		[1972ALV/BOR]	
C ₁₂ H ₂₀ O ₂	[28746-99-8]	2-(1'-hydroxycyclohexyl)cyclohexanone					
	FUS	(5–310)	20.81	306.8	DSC	[2006SHE/KAB]	
C ₁₂ H ₂₀ O ₃	[49540-29-6]	3,3,6,6-tetramethyloctanedioic anhydride					
	FUS		18.83	344.2		[1974BOR]	
C ₁₂ H ₂₀ O ₄	[27198-40-9]	1,5-cyclooctanedione bis(ethylene ketal)					
	FUS		18.03	296.2		[1972ALV/BOR]	
C ₁₂ H ₂₀ O ₄	[105-76-0]	Dibutyl maleate					
	V	(255–550)	41.1	270	A	[1987STE/MAL]	
C ₁₂ H ₂₀ O ₄	[2370-71-0]	Octyl maleate					
	FUS		33.2	304.3	DSC	[2016RIC/DEL]	
C ₁₂ H ₂₀ O ₅	V	2-ethoxycarbonylpropionic acid, cyclohexyl ester					
		(388–523)	67.6	403	A	[1987STE/MAL]	
C ₁₂ H ₂₀ O ₆	[139-45-7]	Tripropionin					
	V	(304–337)	90.7 ± 0.4	298	GS	[2010MAS/KRA]	
	V		91.4 ± 0.4	298	C	[1986NIL/WAD]	
C ₁₂ H ₂₀ O ₇	[77-93-0]	Triethyl citrate					
	V	(380–567)	68.2	395	A	[1987STE/MAL]	
C ₁₂ H ₂₀ S	[880-36-4]	2-octylthiophene					
	V		65.4 ± 1.4	298	C	[2007RIB/SAN]	
C ₁₂ H ₂₀ S	[65016-62-8]	3-octylthiophene					
	V		67.6 ± 1.5	298	C	[2007RIB/SAN]	
C ₁₂ H ₂₁ N	[13392-28-4]	1-(1-adamantyl)ethylamine					
	V		68.7 ± 3.7	298	CGC	[2013GOB/RAT]	
C ₁₂ H ₂₁ N	[6326-88-1]	Dodecahydrocarbazole					

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{21}\text{NO}_2$	[5810-18-4]	FUS			22.91	349.5	DSC	[2016STA/KEI]
			SUB	(306–342)	84.0 ± 0.6	298	GS	[2015STA/EME]
$\text{C}_{12}\text{H}_{21}\text{N}_2\text{O}_3\text{PS}$	[333-41-5]	FUS	11-cyanoundecanoic acid		38.33	329.9	DSC	[2011WEJ/LI]
			V	(373–403)	U11	385	GC	[2007GOE/MCC]
[Note: The value reported in Ref. [2007GOE/MCC] is abnormally small compared to molecules having comparable molecular structures.]								
$\text{C}_{12}\text{H}_{21}\text{O}_4\text{P}$	[14019-81-9]	Trimethylallyl phosphate	V	(293–398)	87.4	308	A	[1987STE/MAL, 1999DYK/SVO]
			V	(367–597)	53.9	381		[1947STU]
$\text{C}_{12}\text{H}_{22}$	[765-03-7]	1-dodecyne	V	(440–489)	49.3	455	EB	[1986ELV/KUD]
$\text{C}_{12}\text{H}_{22}$	[629-49-2]	2-dodecyne	V	(448–498)	50.9	463	EB	[1986ELV/KUD]
$\text{C}_{12}\text{H}_{22}$	[6790-27-8]	3-dodecyne	V	(442–492)	50.2	457	EB	[1986ELV/KUD]
$\text{C}_{12}\text{H}_{22}$	[22058-01-1]	4-dodecyne	V	(434–478)	50.5	449	EB	[1986ELV/KUD]
$\text{C}_{12}\text{H}_{22}$	[1978-12-2]	5-dodecyne	V	(442–491)	49.8	457	EB	[1986ELV/KUD]
$\text{C}_{12}\text{H}_{22}$	[6975-99-1]	6-dodecyne	V	(451–505)	49.1	466	EB	[1986ELV/KUD]
$\text{C}_{12}\text{H}_{22}$	[92-51-3]	<i>cis</i> -bicyclohexyl	V	(331–511)	53.8	346	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{22}$	[92-51-3]	Bicyclohexyl	TRS	(6–440)	3.7	267.4		
			TRS	(6–440)	7.26	273		
			FUS	(6–440)	6.86	276.8	AC	[1998CHI/COW]
			TRS	(225–470)	1.54	256.1		
			TRS	(225–470)	0.74	267.5		
			TRS	(225–470)	7.08	273.5		
			FUS	(225–470)	6.78	277.2	DSC	[1996DOM/HEA, 1983ORO/MRA]
			V	(425–577)	50.1	435		[1981WIE/KOB, 1980WIE/KOB]
			V	(425–577)	42.5	525		[1981WIE/KOB, 1980WIE/KOB]
$\text{C}_{12}\text{H}_{22}$	[6975-99-1]	6-dodecyne	V		58.0 ± 0.2	298	C	[1978MON/ROS]
			V		58.5 ± 0.6	298	C	[1978MAN, 1978MON/ROS]
$\text{C}_{12}\text{H}_{22}$	[66330-07-2]	Perhydroacenaphthylene	V	(422–514)	49.6	437	EB	[2000ROH/CEN]
$\text{C}_{12}\text{H}_{22}\text{Cl}_4$	[210115-98-3]	1,2,11,12-tetrachlorododecane	V		81.9			[1998DRO/TOM]
$\text{C}_{12}\text{H}_{22}\text{N}_2$	[60964-49-0]	1-octyl-2-methylimidazole	V	(323–373)	83.8 ± 0.2	298	GS	[2011EME/POR2]
$\text{C}_{12}\text{H}_{22}\text{N}_2\text{O}_2$	[56403-09-9]	1,8-diaza-2,9-dioxocyclotetradecane	TRS		13.6	517.4		
			FUS		49.3	617.8	DSC	[1993SCH/KVA]
$\text{C}_{12}\text{H}_{22}\text{N}_2$	[53657-08-2]	1-nonylimidazole	(328–372)		85.6 ± 0.2	298	GS	[2011EME/POR]
$\text{C}_{12}\text{H}_{22}\text{N}_6$	[16268-79-4]	1-(piperidinyl)-3,5-(dimethylamino)-(s)-triazine						

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{22}\text{O}$	[58879-21-3]	<i>trans</i> -2-cyclohexylcyclohexanol	FUS		23.22	361.5	DSC	[1991ACR, 1989BRA/RYT]
			FUS	(5–337)	14.52	325.8	AC	[1997MAK/KAB]
	[830-13-7]	Cyclododecanone	SUB	(293–325)	96.6 ± 0.6	309	ME	[1997MAK/KAB]
			SUB		98.6 ± 0.5	320	C	[1997MAK/KAB]
	[33956-49-9]	<i>trans,trans</i> -8,10-dodecadien-1-ol	V	(328–364)	83.2 ± 1.2	346	ME	[1997MAK/KAB]
			V		80.3 ± 0.3	346	C	[1997MAK/KAB]
$\text{C}_{12}\text{H}_{22}\text{O}$	[33956-49-9]	<i>trans,trans</i> -8,10-dodecadien-1-ol	FUS		16.85	335.6	DSC	[1996ROU/JIM, 1998GON/SZW]
			FUS		16.75		DSC	[1972WOL]
			SUB	(282–300)	83.2 ± 0.3	298	ME	[1996ROU/JIM]
			SUB	(282–300)	83.3 ± 0.3	291	ME	[1996ROU/JIM]
			V	(373–443)	61	388	A	[1987STE/MAL, 1972WOL]
			V	(408–450)	57.9	423	A,EB	[1987STE/MAL, 1976MEY/HOT]
			V	(458–556)	54.7	473	A,EB	[1987STE/MAL, 1976MEY/HOT]
			V	(373–443)	65.5 ± 0.6	298	VP	[1972WOL]
			V		92.3 ± 2.6	298	CGC	[2015SCH/HAR]
			V					
$\text{C}_{12}\text{H}_{22}\text{O}$	[81149-96-4]	<i>(Z)</i> -2-dodecenal						
			V	(323–363)	72.5	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[20407-84-5]	<i>(E)</i> -2-dodecenal						
			V	(323–363)	72.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[68141-15-1]	<i>(Z)</i> -3-dodecenal						
			V	(323–363)	69.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[76595-72-7]	<i>(E)</i> -3-dodecenal						
			V	(323–363)	70.2	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[21944-98-9]	<i>(Z)</i> -4-dodecenal						
			V	(323–363)	69.4	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[174155-48-7]	<i>(E)</i> -4-dodecenal						
			V	(323–363)	69.9	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[68820-33-7]	<i>(Z)</i> -5-dodecenal						
			V	(323–363)	69.1	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[68820-34-8]	<i>(E)</i> -5-dodecenal						
			V	(323–363)	69.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[126745-61-7]	<i>(Z)</i> -6-dodecenal						
			V	(323–363)	69.2	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[174155-49-8]	<i>(E)</i> -6-dodecenal						
			V	(323–363)	67.7	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[63851-40-1]	<i>(Z)</i> -7-dodecenal						
			V	(323–363)	69.4	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[82944-76-1]	<i>(E)</i> -7-dodecenal						
			V	(323–363)	69.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[139909-65-2]	<i>(Z)</i> -8-dodecenal						
			V	(323–363)	70.0	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[144298-64-6]	<i>(E)</i> -8-dodecenal						
			V	(323–363)	69.8	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[56219-03-5]	<i>(Z)</i> -9-dodecenal						
			V	(323–363)	70.1	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{12}\text{H}_{22}\text{O}$	[155235-07-7]	<i>(E)</i> -9-dodecenal						

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
C ₁₂ H ₂₂ O	V	(323–363)	70.4	298	CGC	[1996KOU/HOS, 2000OVA/KOU]	
	[81892-61-7]	(Z)-10-dodecenal					
C ₁₂ H ₂₂ O	V	(323–363)	71.0	298	CGC	[1996KOU/HOS, 2000OVA/KOU]	
	[81892-62-8]	(E)-10-dodecenal					
C ₁₂ H ₂₂ O ₂	V	(323–363)	70.9	298	CGC	[1996KOU/HOS, 2000OVA/KOU]	
	[947-05-7]	Dodecanolactone					
	V	(377–403)	64.2 ± 1.1	390	MM	[1991WIB/WAL]	
C ₁₂ H ₂₂ O ₂	V	(377–403)	70.5 ± 1.7	298	MM	[1991WIB/WAL]	
	[2305-05-7]	γ-dodecanolactone					
C ₁₂ H ₂₂ O ₂	V		83.9 ± 4.6	298	CGC	[2014KOZ/GOB]	
	[713-95-1]	δ-dodecanolactone					
C ₁₂ H ₂₂ O ₂	V		84.6 ± 4.7	298	CGC	[2014KOZ/GOB]	
	[32210-23-4]	Acetic acid, 4- <i>tert</i> -butylcyclohexyl ester					
C ₁₂ H ₂₂ O ₂	V	(285–318)	63.8	300	A,ME	[1987STE/MAL, 1958SER/VOI, 1957SER/VOI]	
	V	3,3-dimethylbutanoic acid, cyclohexyl ester					
C ₁₂ H ₂₂ O ₂	V	(333–378)	62.1	298	CGC	[1999VER/HEI]	
	V	1-methylcyclohexyl pivalate					
C ₁₂ H ₂₂ O ₂	V	(333–378)	57.9	298	CGC	[1999VER/HEI]	
	V	3-methylcyclohexyl pivalate					
C ₁₂ H ₂₂ O ₂	V	(333–378)	60.5	298	CGC	[1999VER/HEI]	
	V	4-methylcyclohexyl pivalate					
C ₁₂ H ₂₂ O ₂	V	(333–378)	60.9	298	CGC	[1999VER/HEI]	
C ₁₂ H ₂₂ O ₂	[16409-45-3]	(d)-menthyl acetate					
	V	(330–500)	55.3	345	A	[1987STE/MAL, 1947STU]	
C ₁₂ H ₂₂ O ₂	[150-84-5]	Citronellyl acetate					
	V		67.8 ± 1.8	298	CGC	[2015KOZ/GOB]	
C ₁₂ H ₂₂ O ₂	V	(347–490)	68.7	362	A	[1987STE/MAL, 1947STU]	
C ₁₂ H ₂₂ O ₂	[61732-97-6]	2-(1-ethylpentyl)-4,7-dihydro-1,3-dioxepin					
	V	(333–453)	66.3	348	A	[1987STE/MAL, 1977VOI/SHC]	
C ₁₂ H ₂₂ O ₂	[2664-55-3]	Nonyl acrylate					
	FUS		23.36	236.5	AC	[1990DOM/HEA, 1985KAR/ABD]	
C ₁₂ H ₂₂ O ₂	[2157-01-9]	Octyl methacrylate					
	FUS		24.09	230.3	AC	[1990DOM/HEA, 1985KAR/ABD]	
C ₁₂ H ₂₂ O ₂	V	(384–513)	55.6	399	A	[1987STE/MAL]	
C ₁₂ H ₂₂ O ₂	[111-81-9]	Methyl 10-undecenoate					
	V	(397–524)	59.2	412	A	[1987STE/MAL]	
C ₁₂ H ₂₂ O ₂	[81634-99-3]	(Z)-3-decenyl acetate					
	V	(313–358)	69.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
C ₁₂ H ₂₂ O ₂	V	(299–313)	72.0	306	GC	[1983OLS/JON]	
C ₁₂ H ₂₂ O ₂	[81634-98-2]	(E)-3-decenyl acetate					
	V	(313–358)	70.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
C ₁₂ H ₂₂ O ₂	[67452-27-1]	(Z)-4-decenyl acetate					
	V	(313–358)	69.0	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
C ₁₂ H ₂₂ O ₂	[69222-16-8]	(E)-4-decenyl acetate					
	V	(313–358)	70.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
C ₁₂ H ₂₂ O ₂	[67446-07-5]	(Z)-5-decenyl acetate					
	V	(313–358)	69.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
C ₁₂ H ₂₂ O ₂	V	(299–313)	72.0	306	GC	[1983OLS/JON]	
	[38421-90-8]	(E)-5-decenyl acetate					

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)
C ₁₂ H ₂₂ O ₂	V	(313–358)	70.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
	[68760-70-3] V	(Z)-6-decenyl acetate (313–358)	70.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₂ H ₂₂ O ₂	V	(E)-6-decenyl acetate (313–358)	70.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
	V	(299–313)	72.0	306	GC	[1983OLS/JON]
	[13857-03-9] V	(Z)-7-decenyl acetate (313–358)	70.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₂ H ₂₂ O ₂	[13857-04-0] V	(E)-7-decenyl acetate (313–358)	71.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₂ H ₂₂ O ₂	[83808-51-9] V	(Z)-8-decenyl acetate (313–358)	71.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₂ H ₂₂ O ₂	[83808-51-9] V	(Z)-8-decenyl acetate (313–358)	71.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₂ H ₂₂ O ₃	V	Heptyl levulinate (393–558)	62.6	408	A	[1987STE/MAL]
	V		60.0	496		[1931SCH/COW]
C ₁₂ H ₂₂ O ₃	[18871-14-2] V	3-pentyl-4-acetoxytetrahydro-2 <i>H</i> -pyran (383–453)	65.8	398	A	[1987STE/MAL]
C ₁₂ H ₂₂ O ₄	[106-19-4] V	Dipropyl adipate (319–365)	75.5	342	GS	[2011LIP/KRA]
	V	(319–365)	81.0 ± 0.3	298	GS	[2011LIP/KRA]
	V	(413–540)	63.6	428	A	[1987STE/MAL]
	V	(413–540)	85.7	298	A	[1987STE/MAL, 2011LIP/KRA]
C ₁₂ H ₂₂ O ₄	[141-03-7] FUS	Dibutyl succinate	29.21	244.1		[1996DOM/HEA, 1989KHO/PUL]
	V	(313–358)	74.4	335	GS	[2011LIP/KRA]
	V	(313–358)	79.1	298	GS	[2011LIP/KRA]
C ₁₂ H ₂₂ O ₄	[926-26-1] V	Di- <i>tert</i> -butyl succinate (323–353)	68.6 ± 0.5	298	GS	[2011POR/KRA]
C ₁₂ H ₂₂ O ₄	[74295-86-6] FUS	Octyl succinate	41.8	309.7	DSC	[2016RIC/DEL]
C ₁₂ H ₂₂ O ₄	[5398-08-3] V	Isopentylmalonic acid, diethyl ester (377–420)	64.1	392	A	[1987STE/MAL, 1981TOD/BEL]
C ₁₂ H ₂₂ O ₄	[117-47-5] V	(1-methylbutyl)malonic acid, diethyl ester (395–516)	67.4	410	A	[1987STE/MAL, 1978SMI/ZEL]
C ₁₂ H ₂₂ O ₄	[106-79-6] V	Dimethyl sebacate (304–374)	86.4 ± 0.3	298	GS	[2006VER/KOZ]
C ₁₂ H ₂₂ O ₄	[2051-00-5] V	Diisopentyl oxalate (358–538)	58.6	373	A	[1987STE/MAL, 1947STU]
C ₁₂ H ₂₂ O ₄	[693-23-2] FUS	Dodecanedioic acid	52.5	401.6	DSC	[2008VEN/BAY, 2008VEN/BAY]
	FUS		49.8	400.3	DSC	[2005ROU/TEM]
	FUS		50.57	402.5	DSC	[1996DOM/HEA, 1974CIN/BER]
	FUS		53.4	402.1		[1972CHA/HAG]
	SUB	(346–377)	169 ± 4		TPD	[2007CAP/LOV]
	SUB	(298–316)	156		TPTD	[2005CHA/ZIE]
	SUB	(375–396)	153.1 ± 2.9	386	ME	[1960DAV/THO, 1970COX/PIL]
C ₁₂ H ₂₂ O ₄	V	(424–503)	130.0 ± 2.3	298	CGC	[2005ROU/TEM]
C ₁₂ H ₂₂ O ₄	[41448-84-4] Ethylene glycol dipentanoate					

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(297–325)	80.2 ± 1.0				GS	[2011MAS/KRA]
C ₁₂ H ₂₂ O ₄	[20267-20-3]	Ethylene glycol di(2,2-dimethylpropanoate)						
	V	(295–325)	69.3 ± 1.1				GS	[2011MAS/KRA]
C ₁₂ H ₂₂ O ₄	[155514-29-7]	Ethylene glycol di(2-methylbutanoate)						
	V	(297–327)	71.5 ± 1.1				GS	[2011MAS/KRA]
C ₁₂ H ₂₂ O ₄ S	[4121-12-4]	Thiodiglycolic acid, diethyl ester						
	V	(298–383)	75.7	313			A	[1987STE/MAL, 1999DYK/SVO]
C ₁₂ H ₂₂ O ₅	[902261-31-8]	Butyl[1-(butoxy carbonyl)ethyl] carbonate						
	V	(338–513)	68.1	353			A	[1987STE/MAL, 1950REH/DIX2]
C ₁₂ H ₂₂ O ₅	V	Pentyl[1-(ethoxy carbonyl)isopropyl] carbonate						
	V	(368–513)	63.8	383			A	[1987STE/MAL]
C ₁₂ H ₂₂ O ₆	[856371-29-4]	Lactic acid, <i>O</i> -ethoxycarbonyl, 2-butoxyethyl ester						
	V	(383–521)	74.6	398			A	[1987STE/MAL]
C ₁₂ H ₂₂ O ₆	[87-92-3]	Dibutyl tartrate						
	V	(428–511)	79.8	443			A	[1987STE/MAL]
C ₁₂ H ₂₂ O ₆	[4054-82-4]	(<i>d</i>)-diisobutyl tartrate						
	V	(390–597)	64.6	405			A	[1987STE/MAL]
C ₁₂ H ₂₂ O ₁₁	[528-50-7]	(<i>d</i>)-cellobiose						
	SUB	(474–488)	302 ± 44.0	481			ME	[1999OJA/SUU]
C ₁₂ H ₂₂ O ₁₁	[14641-93-1]	α -lactose						
	FUS		75.2	496.2				[2000MAC/COU, 1983RAE/SCH]
C ₁₂ H ₂₂ O ₁₁	[57-50-1]	Sucrose						
	FUS		45.21	457.2			DSC	[2014MAG/WUR]
	TRS		3.34	419.2				
	FUS		39.39	453.3			DSC	[2011LEE/THO]
[Note: The authors performed measurements as a function of heating rate, and the above values correspond to a heating rate of 2 °C/min.]								
	FUS		46.2	459	DSC			[1988SOP/KEA]
C ₁₂ H ₂₂ S	[7133-46-2]	Dicyclohexyl sulfide						
	TRS		10.01	274.7				
	FUS		5.68	284.2				[2004STE/CHI]
	V	(335–523)	65.4 ± 0.2	340	IPM,EB			[2004STE/CHI]
	V	(335–523)	62.5 ± 0.1	380	IPM,EB			[2004STE/CHI]
	V	(335–523)	59.5 ± 0.1	420	IPM,EB			[2004STE/CHI]
	V	(335–523)	56.6 ± 0.1	440	IPM,EB			[2004STE/CHI]
	V	(335–523)	53.7 ± 0.1	480	IPM,EB			[2004STE/CHI]
	V	(421–523)	69.0 ± 0.7	298	EB			[1997STE/CHI4]
C ₁₂ H ₂₂ N	[101-83-7]	Dicyclohexylamine						
	V	(295–333)	62.8 ± 0.2	314	EB			[2015VER/EME3]
	V	(295–333)	64.0 ± 0.3	298	EB			[2015VER/EME3]
	V	(408–529)	54.0	423	A			[1987STE/MAL]
C ₁₂ H ₂₂ N	[2437-25-4]	Lauronitrile						
	FUS		30.7	274.6	DSC			[2013MEK/BEN]
	V	(298–367)	74.9 ± 0.2	298	GS			[2005EME/VER]
	V		76.1 ± 0.1	298	C			[1977STRI/SUN]
	V	(393–462)	65.2	408	EB			[1971MEY/REN]
	V	(440–556)	60.7	455	A,EB			[1987STE/MAL, 1971MEY/REN, 1973MEY/HOT]
C ₁₂ H ₂₃ NO	[947-04-6]	Azacyclotridecan-2-one						
	TRS		1.1	361.2				
	FUS		15.9	424.5	DSC			[2012EME/VER]
	SUB	(370–420)	110.6 ± 0.8	298	GS			[2012EME/VER]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V				101.6 ± 0.8	298	Sub-Fus	[2012EME/VER]
C ₁₂ H ₂₃ NO ₃	[14305-32-9]	<i>N</i> -decanoylglycine						
	TRS+FUS				23.6	379.6	DSC	[2014RED/KRO]
	FUS				42.2	387.6	DSC	[1986MIY/MAT]
C ₁₂ H ₂₃ N ₇	[5512-05-0]	1-(4'-methylpiperizinyl)-3,5-bis(dimethylamino)-(s)-triazme						
	FUS				20.42	354.2	DSC	[1989BRA/RYT]
C ₁₂ H ₂₄	[294-62-2]	Cyclododecane						
	FUS				16.38	333.8	DSC	[2005HUA/SIM]
	TRS				0.6	199		
	FUS				14.8	333.8	DSC	[1987DRO/MOL, 1987DRO/EME]
	SUB				76.2	298	CGC-DSC	[1998CHI/HES]
	SUB				76.4 ± 1.7			[1957VAN]
	V				63.0	298	CGC	[1998CHI/HES]
	V		(403–453)		62.8	298	CGC	[1995CHI/HOS]
	V		(386–441)		52.6	401	A,EB	[1987STE/MAL, 1976MEY/HOT]
	V		(440–529)		49.8	455	A,EB	[1987STE/MAL, 1976MEY/HOT]
C ₁₂ H ₂₄	[112-41-4]	1-dodecene						
	TRS	(12–305)			4.55	212.9		
	FUS	(12–305)			19.87	237.9	C	[1996DOM/HEA, 1957MCC/FIN]
	V	(430–484)			49.3	445		[2011SAP/POK]
	V	(437–487)			48.6	452	EB	[1983ELV/KUU]
	V				60.8 ± 0.3	298	C	[1976STR2, 1977MAN/SEL]
C ₁₂ H ₂₄	V				60.3	298		[1971WIL/ZWO]
	V	(396–493)			51.1	411	A	[1987STE/MAL, 1950FOR/CAM]
	V	[7206-26-0]	<i>cis</i> -2-dodecene					
	V	(440–490)			49.0	455	EB	[1983ELV/KUU]
	V	[7206-13-5]	<i>trans</i> -2-dodecene					
C ₁₂ H ₂₄	V	(440–489)			49.1	455	EB	[1983ELV/KUU]
	V	[7239-23-8]	<i>cis</i> -3-dodecene					
C ₁₂ H ₂₄	V	(438–487)			48.6	453	EB	[1983ELV/KUU]
	V	[7206-27-1]	<i>cis</i> -4-dodecene					
C ₁₂ H ₂₄	V	(437–486)			48.3	452	EB	[1983ELV/KUU]
	V	[7206-15-7]	<i>trans</i> -4-dodecene					
C ₁₂ H ₂₄	V	(437–487)			48.5	452	EB	[1983ELV/KUU]
	V	[7206-16-8]	<i>trans</i> -5-dodecene					
C ₁₂ H ₂₄	V	(437–487)			48.5	452	EB	[1983ELV/KUU]
	V	[7206-29-3]	<i>cis</i> -6-dodecene					
C ₁₂ H ₂₄	V	(436–486)			48.1	451	EB	[1983ELV/KUU]
	V	[7206-17-9]	<i>trans</i> -6-dodecene					
C ₁₂ H ₂₄	V	(437–487)			48.5	452	EB	[1983ELV/KUU]
	V	[4292-75-5]	Hexylcyclohexane					
	V				55.9 ± 0.5	298	GC	[1987AZA]
C ₁₂ H ₂₄	V				59.0 ± 0.5	298	GCC	[1978FUC/PEA]
	V				59.9	298		[1971WIL/ZWO]
	V	[5617-42-5]	Heptylcyclopentane					
C ₁₂ H ₂₄	V				60.8	298		[1971WIL/ZWO]
	V	[27656-49-1]	<i>trans</i> -2,2,4,6,6-pentamethyl-3-heptene					
	V	(291–318)			65.6 ± 0.5	305	GS	[2000VER/WAN]
C ₁₂ H ₂₄	V	(291–318)			65.9 ± 0.3	298	GS	[2000VER/WAN]
	V	[27656-50-4]	<i>cis</i> -2,2,4,6,6-pentamethyl-3-heptene					
C ₁₂ H ₂₄	V	(288–318)			63.0 ± 0.5	303	GS	[2000VER/WAN]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
	V	(288–318)	63.2 ± 0.5	298	GS	[2000VER/WAN]	
C ₁₂ H ₂₄ Cl ₂	[3922-28-9] V	1,12-dichlorododecane 73.1					[1998DRO/TOM]
C ₁₂ H ₂₄ N ₂ O ₂	[10263-96-4] FUS	<i>N,N'</i> -di- <i>n</i> -propyladipamide 36.11		452			[1984DOM/EVA]
C ₁₂ H ₂₄ N ₂ O ₂	[6224-99-3] TRS FUS	Dodecandiamide 5.09 73.7	422.8 466.1		DSC		[2006BAD/DEL]
C ₁₂ H ₂₄ N ₂ O ₂	[3129-91-7] SUB SUB SUB	Dicyclohexyl ammonium nitrite (290–298) 99.1 U161.8 (308–339) 105.9	294	TE			[1987STE/MAL, 1965MAR] [1985TRU/KRA] [1961ROZ/POL]
C ₁₂ H ₂₄ O	[1724-39-6] V V	Cyclododecanol (405–468) (467–557)	68.8 57.1	420 482	A		[1987STE/MAL] [1987STE/MAL]
C ₁₂ H ₂₄ O	[112-54-9] FUS V V V	Dodecanal 43.38 (314–347) 68.3 ± 0.9 (308–353) 70.2 (350–530) 56.5	286.5 298 298 365	DSC GS CGC A			[2012BEI/RUE] [2003VER/KRA2] [1996KOU/HOS, 2000OVA/KOU] [1987STE/MAL, 1947STU]
C ₁₂ H ₂₄ O	[6175-49-1] FUS V V V V	2-dodecanone 39.48 (350–520) 61.1 71.8 ± 0.6 (386–609) 60.8 (386–609) 48.1	294.3 365 298 401 524	DSC			[2011DOM/PAD] [1987STE/MAL, 1947STU] [1977SEL] [1987STE/MAL, 1975AMB/ELL] [1975AMB/ELL]
C ₁₂ H ₂₄ O	[19321-39-2] V	Ethyl <i>p</i> -methyl ether (366–414)	50.9	381	A		[1987STE/MAL]
C ₁₂ H ₂₄ O	[20999-39-7] V	1-heptylcyclopentanol (395–524)	58.6	410	A		[1987STE/MAL, 1944MCL/EDW]
C ₁₂ H ₂₄ O	[3964-63-4] V	1-hexylcyclohexanol (380–491)	53.5	395	A		[1987STE/MAL, 1947WIL/EDW]
C ₁₂ H ₂₄ O	[69064-36-4] V	(<i>Z</i>)-2-dodecen-1-ol (333–373)	90.7	298	CGC		[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[69064-37-5] V	(<i>E</i>)-2-dodecen-1-ol (333–373)	91.0	298	CGC		[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[32451-95-9] V	(<i>Z</i>)-3-dodecen-1-ol (333–373)	89.3	298	CGC		[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[68900-87-8] V	(<i>E</i>)-3-dodecen-1-ol (333–373)	89.2	298	CGC		[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[40642-37-3] V	(<i>Z</i>)-4-dodecen-1-ol (333–373)	89.9	298	CGC		[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[81745-38-2] V	(<i>E</i>)-4-dodecen-1-ol (333–373)	90.6	298	CGC		[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[40642-38-4] V	(<i>Z</i>)-5-dodecen-1-ol (333–373)	90.2	298	CGC		[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[62936-12-3] V	(<i>E</i>)-5-dodecen-1-ol (333–373)	90.7	298	CGC		[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[40642-39-5] V	(<i>Z</i>)-6-dodecen-1-ol (333–373)	90.2	298	CGC		[2000OVA/KOU, 1994KOU/HOS]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₂₄ O	[52957-14-9]	(E)-6-dodecen-1-ol	V	(333–373)	90.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[20056-92-2]	(Z)-7-dodecen-1-ol	V	(333–373)	90.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[16695-40-2]	(E)-7-dodecen-1-ol	V	(333–373)	90.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[40642-40-8]	(Z)-8-dodecen-1-ol	V	(333–373)	91.0	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[42513-42-8]	(E)-8-dodecen-1-ol	V	(333–373)	91.0	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[35148-18-6]	(Z)-9-dodecen-1-ol	V	(333–373)	91.1	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[35237-62-8]	(E)-9-dodecen-1-ol	V	(333–373)	91.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[35289-30-6]	(Z)-10-dodecen-1-ol	V	(333–373)	92.4	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O	[35237-63-9]	(E)-10-dodecen-1-ol	V	(333–373)	91.9	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₂ H ₂₄ O ₂	[110-38-3]	Ethyl decanoate	FUS	(5–370)	32.29	253.6	AC	[2009ZAI/PAU]
			V		70.5 ± 0.8	298	CGC	[2015KOZ/GOB]
			V	(303–462)	66.1	325	Static	[2013BEN/KHI2]
			V		69.9 ± 0.7	305	C	[2009ZAI/PAU]
			V		70.5	298		[2009ZAI/PAU]
			V	(404–440)	58.4 ± 0.1	422	MM	[1991WIB/WAL]
			V	(404–440)	67.4 ± 1.3	298	MM	[1991WIB/WAL]
			V	(359–515)	59.6	374	A	[1987STE/MAL]
C ₁₂ H ₂₄ O ₂	[112-17-4]	Decyl acetate	V	(284–321)	70.2 ± 0.3	298	GS	[2006KRA/VER]
			V	(313–358)	71.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
			V	(363–515)	61.9	378	A	[1987STE/MAL]
			V	(299–313)	72	306	GC	[1983OLS/JON]
			V	(445–530)	56.3	460	DTA	[1980MEY/AWE]
C ₁₂ H ₂₄ O ₂	[61732-91-0]	4,5-dimethyl-2-heptyl-1,3-dioxolane	V	(333–453)	69.8	346	A	[1987STE/MAL, 1977VOI/SHC]
C ₁₂ H ₂₄ O ₂	[143-07-7]	Dodecanoic acid (lauric acid)	FUS		34.62	318.5	DSC	[2015CAR/CON]
			FUS		35.46	316.2	DSC	[2014WEI/HAN]
			FUS+TRS		35.6	318.3	DSC	[2014MAX/CAR]
[Note: Value includes the enthalpy for the transition that occurred at 317.9 K.]								
			FUS		35.6	316.4	DSC	[2013HUA/LU]
			FUS		31.0	316.15	DSC	[2012BEN/KHI]
			FUS		41.9	317.0	DSC	[2011EGO/MAR]
			FUS		36.9	316.8	DSC	[2011ZUO/LI]
			FUS		38.7	318.1	DSC	[2009COS/SAR]
			FUS		36.1	316.6	DSC	[2007MOR/COR]
			FUS		34.7	317.9	DSC	[2007MIS/MIS]
			FUS		36.3	317.5	DSC	[2004INO/HIS]
			FUS		U25.4	315.7	DSC	[1992BAB/HWA2]
			FUS	(90–345)	36.3	317.0	AC	[1982SCH/VAN]
			FUS		34.3	316.0	DSC	[1975BER/LEO]
			FUS		36.65	316.9		[1996DOM/HEA, 1924GAR/RAN]
			FUS		44.94	327		[1996DOM/HEA, 1885STO/WIL]
			SUB		147.2 ± 4	298	TPD	[2008CAP/LOV]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
<chem>C12H24O2</chem>	SUB	(293–303)	127.9	298	A	[1987STE/MAL]	
	SUB	(293–308)	132.6	300	ME	[1968BAC/NOV]	
	SUB	(296–314)	140.2 ± 3.3	304	ME	[1961DAV/MAL]	
	SUB	(293–313)	117.2 ± 2.9	303	ME	[1957LIT]	
	V	(393–573)	88.8	408	A	[1987STE/MAL]	
	V	(321–341)	95.8	332	ME,TE	[1982FUC/HAL]	
	V		81.3	437	I	[1943CRA]	
	[61732-93-2]	2-(1-ethylpentyl)-1,3-dioxepane					
	V	(333–373)	68.1	348	A	[1987STE/MAL, 1977VOI/SHC2]	
<chem>C12H24O2</chem>	[61732-92-1]	2-heptyl-1,3-dioxepane					
	V	(328–373)	70.3	343	A	[1987STE/MAL, 1977VOI/SHC2]	
<chem>C12H24O2</chem>	[62159-06-2]	3-heptyl-4-hydroxytetrahydro-2 <i>H</i> -pyran					
	V	(383–453)	77.6	398	A	[1987STE/MAL, 1977VOI/SHC]	
<chem>C12H24O2</chem>	[23433-02-5]	4-octyl-1,3-dioxane					
	V	(353–453)	65.5	368	A	[1987STE/MAL, 1977VOI/SHC]	
<chem>C12H24O2</chem>	[1731-86-8]	Methyl undecanoate					
	V		66.1	350	CE	[2002VAN/VAN]	
	V		67.0 ± 0.1	340	CE	[2002VAN/VAN]	
	V		70.8 ± 0.4	298	CE	[2002VAN/VAN]	
	V	(433–473)	70.6	298	CGC	[1995CHI/HOS]	
	V		71.4 ± 0.3	298	C	[1977MAN/SEL]	
	V	(393–473)	60.9	408	A,E	[1987STE/MAL, 1963ROS/SCH]	
<chem>C12H24O2</chem>	[245658-36-0]	3,3-dimethylbutanoic acid, 1,1,2-trimethylpropyl ester					
		(333–378)	57.1	298	CGC	[1999VER/HEI]	
<chem>C12H24O2</chem>	[245658-40-6]	2,2-dimethylpropanoic acid, 1,1,3-trimethylbutyl ester					
	V	(333–378)	54.2	298	CGC	[1999VER/HEI]	
<chem>C12H24O2</chem>	[245658-43-9]	2,6-dimethyl-2-heptanol propanoate					
	V	(333–378)	59.4	298	CGC	[1999VER/HEI]	
<chem>C12H24O3</chem>	[2388-12-7]	Peroxydodecanoic acid					
	SUB	(293–303)	131.4 ± 1.7	298	ME	[1980SWA/KWA]	
<chem>C12H24O3</chem>	V	Pentyl 2-butoxypropionate					
		(373–398)	47.3	385	A,I	[1987STE/MAL, 1933HEN/MUR]	
<chem>C12H24O3</chem>	[7419-98-9]	Methyl 3-octyloxypropionate					
	V	(373–513)	59.8	388	A	[1987STE/MAL]	
<chem>C12H24O4</chem>	[53759-20-9]	2,2,8,8-tetramethyl-1,3,7,9-tetraoxycyclododecane					
	FUS		23.4	383		[1975BOR]	
<chem>C12H24O4</chem>	[43091-26-5]	1,3,9,11-tetraoxacyclohexadecane					
	FUS		35.56	332		[1973DAL/EKE]	
<chem>C12H24O4</chem>	[20732-35-8]	3,6-dimethyl-3,6-di- <i>tert</i> -butyl-1,2,4,5,7,8-hexaoxacyclonane					
	V	(403–473)	53.7	298	CGC	[2007CAN/EYL]	
<chem>C12H24O6</chem>	[24748-23-0]	3,6,9-triethyl-3,6,9-trimethyl-1,2,4,5,7,8-hexaoxacyclonane					
	V	(403–473)	59.2	298	CGC	[2007CAN/EYL]	
<chem>C12H24O6</chem>	[17455-13-9]	1,4,7,10,13,16-hexaoxacyclooctadecane (18-crown-6)					
	FUS		40.0	312.3	DSC	[2016SAN/CRU]	
	FUS		35.5	312.3	DSC	[2013KOV/PUS]	
	FUS		35.5	312.6	DSC	[2011KOV/GOL]	
	FUS		40.9	312.2	DSC	[2000NIC/ORF]	
	FUS		35.66	312.4	DSC	[1998DOM, 1998DOM/VEN]	
	FUS		34.0	312.2		[1972DAL/KRI]	
	SUB		139.7 ± 3.6	298	V+F	[2016SAN/CRU]	
	SUB		119.1 ± 6.7	298	CGC–DSC	[2000NIC/ORF]	
	SUB		133.2 ± 0.3	298	C	[1990BRI/WAD]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_{12}\text{H}_{24}\text{O}_{11}$	V	1,4-O- α -D-glucopyranosyl-D-glucitol (maltitol)	(430–480)	73.6 ± 0.2	455	DTA	[2016SAN/CRU]
	V		(430–480)	98.2 ± 3.0	298	DTA	[2016SAN/CRU]
	V			86.1 ± 6.7	298	CGC	[2000NIC/ORF]
$\text{C}_{12}\text{H}_{24}\text{O}_{11}$	[585-88-6] FUS	1,4-O- α -D-glucopyranosyl-D-glucitol (maltitol)		55.07	420	DSC	[2001LEB/VAN, 2003LEB/VAN]
	FUS						
$\text{C}_{12}\text{H}_{24}\text{O}_{11}$	[534-73-6] FUS	α -(d)-glucopyranosyl-1,6-sorbitol		56.4	439	DSC	[1996CAM/FIG]
	FUS						
$\text{C}_{12}\text{H}_{24}\text{O}_{11}$	[20942-99-8] FUS	α -(D)-glucopyranosyl-1,6-mannitol		55.0	440.8	DSC	[1996CAM/FIG]
	FUS						
$\text{C}_{12}\text{H}_{24}\text{O}_{11}$	[64519-82-0] FUS	6-O- α -D-glucopyranosyl-D-arabino-hexitol (isomalt)		44.3		DSC	[2002BOR/CES]
	FUS						
$\text{C}_{12}\text{H}_{24}\text{S}_4$	[297181-32-9]	1,4,8,11-tetrathiacyclohexadecane					
	TRS (needles)			32.0	328.2		
	FUS			5.2	333.2		
	TRS (plates)			27.0	328.2		
	FUS			5.2	333.2	DSC	[2002ROC/GRI]
$\text{C}_{12}\text{H}_{25}\text{Br}$	[143-15-7]	1-bromododecane					
	V			74.8 ± 0.4	298	C	[1976STR3, 1977MAN/SEL]
	V		(411–610)	62.2	426	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
$\text{C}_{12}\text{H}_{25}\text{Cl}$	[112-52-7]	1-chlorododecane					
	V			75.8	298		[2006BOL/NER2]
	V			73.9 ± 1.4	298	GS	[2001PUR/CHI]
	V		(390–520)	70.5	298		[1984BOU/FRI, 1991BAS/SVO]
	V			71.9 ± 0.3	298	C	[1977MAN/SEL]
	V			70.3 ± 0.5	298	C	[1975STR/SUN]
	V		(389–519)	62.4	404	A,DTA	[1987STE/MAL, 1969KEM/KRE]
$\text{C}_{12}\text{H}_{25}\text{Cl}$	[2350-12-1] V	(dl)-2-chlorododecane	(283–328)	65.3	298	A	[1987STE/MAL, 1970DYK/VAN, 1962GEI/QUI]
$\text{C}_{12}\text{H}_{25}\text{Cl}$	[2350-12-1] V	(dl)-3-chlorododecane	(283–328)	65.9	298	A	[1987STE/MAL, 1970DYK/VAN, 1962GEI/QUI]
$\text{C}_{12}\text{H}_{25}\text{Cl}$	[2350-13-2] V	(dl)-4-chlorododecane	(283–328)	64.1	298	A	[1987STE/MAL, 1970DYK/VAN, 1962GEI/QUI]
$\text{C}_{12}\text{H}_{25}\text{Cl}$	[2350-14-3] V	(dl)-5-chlorododecane	(283–328)	65.9	298	A	[1987STE/MAL, 1970DYK/VAN, 1962GEI/QUI]
$\text{C}_{12}\text{H}_{25}\text{Cl}$	[26535-66-0] V	6-chlorododecane	(283–328)	65.5	298	A	[1987STE/MAL, 1970DYK/VAN, 1962GEI/QUI]
$\text{C}_{12}\text{H}_{25}\text{F}$	[334-68-9] V	1-fluorododecane	(288–328)	64.0 ± 0.2	298	GS	[1997SCH/VER]
	V		(374–533)	56.2	389	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
$\text{C}_{12}\text{H}_{25}\text{I}$	[4292-19-7] V	1-iodododecane	(426–636)	79.9	298	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN, 2006BOL/NER]
	V		(426–636)	63.5	441	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
$\text{C}_{12}\text{H}_{25}\text{NO}$	[996-97-4] V	<i>N,N</i> -diethylcaprylamide	(373–510)	71.2	388	A	[1987STE/MAL, 1968DAV/BAT]
$\text{C}_{12}\text{H}_{25}\text{NO}$	[1120-16-7] TRS	Dodecanamide		9.7	321.1		
	FUS			36.3	373.3	DSC	[2008ABA/BAD]
	SUB		(349–368)	152.7 ± 0.8	358.5	ME	[1959DAV/JON2, 1987STE/MAL]
$\text{C}_{12}\text{H}_{26}$	[112-40-3] FUS	Dodecane		34.63	263.2	DSC	[2005HUA/SIM]
	FUS			35.7	263.1	DSC	[2004MON/RAJ]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
	FUS			37.1	263.6	C	[1955TUN/STO]
	FUS			36.84	263.6		[1996DOM/HEA, 1954FIN/GRO2]
	FUS			36.58	263.5	C	[1996DOM/HEA, 1931HUF/PAR]
	SUB			100.2	298	B	[1972MOR3]
	SUB			101.7	263	B	[1963BON]
	V			62.1 ± 0.2	298	GS	[2001PUR/CHI]
	V			60.3 ± 0.8	298	CGC	[2000NIC/ORF]
	V			61.4	299	C	[1996VIT/CHA]
	V			58.1	334	C	[1996VIT/CHA]
	V			57.4	344	C	[1996VIT/CHA]
	V	(373–423)		60.7	298	CGC	[1995CHI/HOS]
	V	(363–413)		61.2	298	CGC	[1995CHI/HOS]
	V	(423–473)		61.2	298	CGC	[1995CHI/HOS]
	V			61.5	298		[1994RUZ/MAJ]
	V	(263–371)		65.7	278		[1988SAS/JOS]
	V	(278–400)		61.8	293	A	[1987STE/MAL]
	V	(298–389)		61.1	313	GS	[1986ALL/JOS]
	V			61.8 ± 0.5	298	C	[1976MEL/MAN]
	V			61.2 ± 0.2	298	C	[1974MAN4]
	V			60.4 ± 0.3	298	C	[1972MOR2]
	V			61.3	298		[1971WIL/ZWO]
	V			59.5 ± 0.2	298	C	[1963MOR/SUN]
	V	(400–492)		51.6	415	A,MM	[1987STE/MAL, 1945WIL/TAY]
C ₁₂ H ₂₆	[7045-71-8]	2-methylundecane					
	V	(356–484)		49.5	371	A	[1987STE/MAL]
C ₁₂ H ₂₆	[1002-43-3]	(<i>dl</i>)-3-methylundecane					
	V	(357–485)		48.8	372	A	[1987STE/MAL]
C ₁₂ H ₂₆	[2980-69-0]	4-methylundecane					
	V	(359–481)		51.6	374	A	[1987STE/MAL]
C ₁₂ H ₂₆	[1632-70-8]	5-methylundecane					
	V	(357–480)		50.3	372	A	[1987STE/MAL]
C ₁₂ H ₂₆	[17312-44-6]	2,3-dimethyldecane					
	V	(369–480)		50.0	384	A	[1987STE/MAL]
C ₁₂ H ₂₆	[2801-84-5]	2,4-dimethyldecane					
	V	(348–472)		47.5	363	A	[1987STE/MAL]
C ₁₂ H ₂₆	[62184-10-5]	2,4,6-trimethylnonane					
	V	(339–459)		46.4	354	A	[1987STE/MAL]
C ₁₂ H ₂₆	[62199-46-6]	3,3,6,6-tetramethyloctane					
	V	(347–463)		52.9	362	A	[1987STE/MAL]
C ₁₂ H ₂₆	[13475-82-6]	2,2,4,6,6-pentamethylheptane					
	V			49.0 ± 0.2	298	C	[1976MEL/MAN]
C ₁₂ H ₂₆ N ₂ O	[4128-38-5]	1-undecyl urea					
	FUS			38.4	385.6	DSC	[2005HAS/TAJ]
C ₁₂ H ₂₆ N ₂ O ₆ P ₂	[256374-76-2]	1,2-bis(2-oxo-5,5-dimethyl-1,3,2-dioxyphosphacyclohexyl-2-imino)ethane					
	FUS			20.6	564.7	DSC	[2013QI/WAN]
C ₁₂ H ₂₆ O	[55962-01-1]	Ethyl decyl ether					
	V			65.9 ± 0.1	298	C	[1985KUS]
C ₁₂ H ₂₆ O	[112-58-3]	Dihexyl ether					
	V			63.6 ± 0.8	298	CGC	[2000NIC/ORF]
	V	(353–393)		63.5	298	CGC	[1995CHI/HOS]
	V	(372–510)		52.9	387	A	[1987STE/MAL]
	V			64.1 ± 0.1	298	C	[1985KUS]
C ₁₂ H ₂₆ O	[51323-70-7]	Octyl <i>tert</i> -butyl ether					

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{26}\text{O}$	V	Isobutyl <i>tert</i> -octyl ether			61.4	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]
	V				51.6	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]
$\text{C}_{12}\text{H}_{26}\text{O}$	[153296-45-8]	butyl <i>tert</i> -octyl ether			52.9 ± 0.4	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]
	V							
$\text{C}_{12}\text{H}_{26}\text{O}$	[112-53-8]	1-dodecanol (lauryl alcohol)	FUS		38.46	297.53	DSC	[2015CAR/CON]
			FUS		38.4	297.8	DSC	[2014CAR/DOS]
			FUS		39.05	297.15	DSC	[2013WEI/ZHA]
			FUS		42.7	312	DSC	[2008EGO/MAR]
			FUS	(5–390)	40.31	297.3		[2003VAN/VAN]
$\text{C}_{12}\text{H}_{26}\text{O}$		FUS		U 34.3	297.0		DSC	[1992BAB/HWA, 1994BAB/BEN]
				40.17	300.2			[1993ACR, 1991CHI/BRA]
				38.42	297.0		DSC	[1978ECK/MUL]
			SUB	(285–294)	130.1 ± 1.2	290	ME	[1965DAV/KYB, 1987STE/MAL]
			SUB		129.3	298		[1965DAV/KYB]
		V		90.8 \pm 1.2	298		CGC	[2006NIC/KWE]
				(303–348)	85.8	327	GS	[2001KUL/VER2]
				(303–348)	90	298	GS	[2001KUL/VER2]
				(373–423)	91.7	298	CGC	[1995CHI/HOS]
				(353–393)	91.7	298	CGC	[1994KOU/HOS, 2000OVA/KOU]
				(303–413)	80.5	358		[1992NGU/KAS]
				(383–438)	73.8	398	A	[1987STE/MAL]
				(505–550)	57.1	520	A	[1987STE/MAL]
					84.7 \pm 0.5	343	C	[1979SEV]
					91.8 \pm 0.6	298	C	[1979SEV]
					92.0 \pm 0.6	298	C	[1977MAN/SEL]
				(297–363)	92.5	312		[1973WIL/ZWO]
				(411–487)	67.6	426		[1973WIL/ZWO]
$\text{C}_{12}\text{H}_{26}\text{O}$	[10203-28-8]	2-dodecanol	V	(425–550)	66.7	440	A,EB	[1987STE/MAL, 1970AMB/SPR]
			V	(400–538)	71.5	415	DTA	[1969KEM/KRE]
			V	(297–313)	95.4	305	ME	[1965DAV/KYB]
			V	(303–363)	83.3	333	A,ME	[1987STE/MAL, 1962GEI/QUI2]
			V	(411–487)	67.6	426		[1958ROS/PAP]
			V	(293–393)	87.0	308		[1999NGU/BER]
			V	(293–343)	85.0	318	A,ME	[1987STE/MAL, 1962GEI/QUI2]
	[10203-30-2]		(dl)-3-dodecanol	(293–343)	78.3	318	A,ME	[1987STE/MAL, 1962GEI/QUI2]
$\text{C}_{12}\text{H}_{26}\text{O}$	[10203-32-4]	4-dodecanol	V	(293–343)	80.6	318	A,ME	[1987STE/MAL, 1962GEI/QUI2]
$\text{C}_{12}\text{H}_{26}\text{O}$	[10203-33-5]	5-dodecanol	V	(293–343)	79.4	318	A,ME	[1987STE/MAL, 1962GEI/QUI2]
$\text{C}_{12}\text{H}_{26}\text{O}$	[6836-38-0]	6-dodecanol	V	(293–343)	81.5	318	A,ME	[1987STE/MAL, 1962GEI/QUI2]
$\text{C}_{12}\text{H}_{26}\text{O}$	[5457-42-1]	di- <i>tert</i> -butyl-isopropylmethanol	FUS		2.09	314	DSC	[1998VER3]
[Note: The compound likely has an unmeasured solid phase transition.]								
SUB (274–308) 59.3 \pm 0.8 298 GS [1998VER3]								
SUB (274–308) 59.7 \pm 0.8 291 GS [1998VER3]								
V (317–348) 54.9 \pm 0.8 333 GS [1998VER5]								
V (317–348) 57.0 \pm 0.8 298 GS [1998VER5]								

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
C ₁₂ H ₂₆ O ₂	V	(dl)-3,4-diethyl-3,4-dimethoxyhexane (302–332)	59.8 ± 1.3	317	GS	[1990DOG/BEC]	
C ₁₂ H ₂₆ O ₂	[5675-51-4]	1,12-dodecanediol					
	FUS		54.2	352.9	DSC	[2014BAD/NOW]	
	FUS		51.2	352	DSC	[2006UMN/KWE]	
	V		135 ± 1.2	298	CGC	[2006UMN/KWE]	
	V		119.4 ± 5.4	379		[1993PIA/FER, 2006UMN/KWE]	
			130.5 ± 5.7	298		[1993PIA/FER, 2006UMN/KWE]	
C ₁₂ H ₂₆ O ₃	[112-73-2]	Diethylene glycol dibutyl ether					
	V	(403–473)	53.8	418		[2005LEE/SU]	
	V		73.8 ± 1.7	298	GC	[2000NIC/ORF]	
	V	(293–528)	56.6	308	A	[1987STE/MAL]	
C ₁₂ H ₂₆ O ₃	[113676-50-9]	3-(nonyloxy)-1,2-propanediol					
	FUS		29.5	297.2	DSC	[1993ACR, 1990VAN/VAN]	
C ₁₂ H ₂₆ O ₄	[2167-23-9]	2,2-bis(<i>tert</i> -butylperoxy)butane					
	V	(299–323)	77.1	311	A	[1987STE/MAL, 1949DIC/RAL]	
C ₁₂ H ₂₆ O ₄	[85187-47-9]	Tripropylene glycol monoisopropyl ether					
	V	(355–530)	56.9	370	A	[1987STE/MAL, 1947STU]	
C ₁₂ H ₂₆ O ₄	[4161-33-5]	4,4'-[1,4-butanediyl bis(oxy)]bis-1-butanol					
	FUS		39.37	306.7	DSC	[1991BED/BOO]	
C ₁₂ H ₂₆ S	[112-55-0]	1-dodecanethiol					
	V	(420–581)	62.0	435		[1999DYK/SVO]	
C ₁₂ H ₂₆ S	[6294-31-1]	Dihexylsulfide					
	V	(295–452)	72.4	310		[2004SAW/MOK]	
C ₁₂ H ₂₆ S ₂	[33528-63-1]	1,12-dodecanedithiol					
	V	(454–593)	77.8	469	A	[1987STE/MAL, 1943HAL/REI, 1999DYK/SVO]	
C ₁₂ H ₂₆ S ₂	[10496-15-8]	Dihexyl disulfide					
	V	(435–601)	64.9	450		[1999DYK/SVO]	
C ₁₂ H ₂₇ N	[124-22-1]	Dodecylamine					
	V		75.3 ± 2.6	298	CGC	[2013GOB/RAT]	
	V	(443–545)	61.0	458	A,E	[1987STE/MAL, 1956MAN2]	
	V	(356–521)	63.4	371		[1947STU]	
C ₁₂ H ₂₇ N	[143-16-8]	Dihexylamine					
	V		70.8 ± 4.7	298	CGC	[2014THO/GOB]	
	V	(408–569)	55.1	423	A	[1987STE/MAL]	
	V	(408–569)	71.2 ± 2.1	298	A	[1987STE/MAL, 2014THO/GOB]	
C ₁₂ H ₂₇ N	[1120-24-7]	N,N-dimethyldecylamine					
	V	(405–564)	55.2	420	A	[1987STE/MAL]	
C ₁₂ H ₂₇ N	[102-82-9]	Tributylamine					
	V		58.0 ± 1.9	298	CGC	[2014GOB/VIK]	
	V		62.7 ± 1.3	298	CGC	[2009LIP/CHI, 2009LIP/HAN]	
	V	(432–488)	49.9	447	EB	[2008GUA/YAN]	
	V	(298–337)	64.4	313	A	[1987STE/MAL]	
	V	(333–487)	48.1	348	A	[1987STE/MAL]	
C ₁₂ H ₂₇ N	[1116-40-1]	Triisobutylamine					
	V		52.3 ± 2.2	298	CGC	[2014GOB/VIK]	
	V	(305–452)	54.3	320	A	[1987STE/MAL, 1947STU]	
C ₁₂ H ₂₇ NO ₂	[126835-64-1]	3-(nonylamino)-1,2-propanediol					
	FUS		53.2	343.2	DSC	[1993ACR, 1990VAN/VAN]	
C ₁₂ H ₂₇ O ₄ P	[126-73-8]	Tributyl phosphate					
	V	(443–483)	81.3	298	CGC	[2007PAN/ANT2]	
	V	(423–463)	78.8	298	CGC	[2007PAN/ANT2]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
C ₁₂ H ₂₇ O ₄ P	V	(453–493)	81.7	298	CGC	[2007PAN/ANT2]	
	V	(500–562)	61.4	515	A	[1987STE/MAL]	
	V	(423–562)	61.4	493		[1930EVA/DAV]	
	[126-71-6]	Triisobutyl phosphate					
C ₁₂ H ₂₇ O ₄ P	V	(443–483)	73.0	298	CGC	[2007PAN/ANT2]	
	V	(443–473)	76.3	298	CGC	[2007PAN/ANT2]	
	V	(411–537)	62.8	426	A	[1987STE/MAL, 1930EVA/DAV]	
	[2528-45-2]	Tri-sec-butyl phosphate					
C ₁₂ H ₂₇ P	V	(413–453)	69.6	298	CGC	[2007PAN/ANT2]	
	V	(443–483)	70.5	298	CGC	[2007PAN/ANT2]	
C ₁₂ H ₂₇ P	[998-40-3]	Tributyl phosphine					
	V	(353–428)	51.7 ± 0.5	390			[2001BAE]
C ₁₂ H ₂₈ N ₂	[4843-89-4]	1,12-dodecanediamine					
	FUS		67.1	341.8	DSC	[2006KHI/DAH2]	
	FUS		67.1	340.5	DSC	[2002DAL/DEL]	
	V	(345–369)	81.2	357	GS	[2011POZ/VER]	
	V	(345–369)	89.2 ± 0.6	298	GS	[2011POZ/VER]	
	V	(313–353)	110.1	328	A	[1987STE/MAL]	
	[60678-69-5]	Tetrapropyl hydrazine					
C ₁₂ H ₃₀ N ₃ P	V	(362–423)	65.2	377	A	[1987STE/MAL, 1943WES/EUC]	
	[2283-11-6]	Tris(diethylamino)phosphine					
	V		60.7 ± 0.4				[1959FOL/MOR]
C ₁₃ F ₂₈	[376-03-4]	Perfluorotridecane					
	FUS		27.9	361.7	DSC	[2012HAS/DRA]	
	SUB	(313–358)	94.3 ± 0.5	298	GS	[2012HAS/DRA]	
	V		70.6 ± 2.4	298	CGC	[2012HAS/DRA]	
C ₁₃ H ₄ Cl ₆ O	[38178-99-3]	1,2,4,5,7,8-hexachloroxanthene					
	SUB	(353–449)	147	401	T	[1986ROR]	
C ₁₃ H ₄ N ₄ O ₁₀	[185141-40-6]	2,3,5,7-tetranitroxanthone					
	FUS		33.56	514	DSC	[1997IBR/FRA]	
C ₁₃ H ₄ N ₄ O ₁₀	[54849-77-3]	2,4,5,7-tetranitroxanthone					
	FUS		32.2	593.9	DSC	[1997IBR/FRA]	
C ₁₃ H ₅ N ₃ O ₇	[129-79-3]	2,4,7-trinitrofluoren-9-one					
	TRS		2.9	430.2			
	FUS		23.5	449.2	DSC	[1980KRA/PIG]	
	TRS		4.18	430.2			
	FUS		23.01	450.2	DSC	[1975CAS/VEC]	
C ₁₃ H ₅ N ₃ O ₈	[185141-39-3]	1,2,7-trinitroxanthone					
	FUS		11.89	554.9	DSC	[1997IBR/FRA]	
[Note: Decomposes near melting point temperature.]							
C ₁₃ H ₅ N ₃ O ₈	[54849-76-2]	2,3,7-trinitroxanthone					
	FUS		24.91	538.9	DSC	[1997IBR/FRA]	
C ₁₃ H ₅ N ₃ O ₈	[131032-92-3]	2,4,7-trinitroxanthone					
	FUS		31.4	477.8	DSC	[1997IBR/FRA]	
C ₁₃ H ₆ Cl ₆ O ₂	[70-30-4]	2,2'-methylene bis(3,4,6-trichlorophenol)					
	FUS		33.26	437.5	DSC	[1991ACR, 1990DON/DRE]	
C ₁₃ H ₆ N ₂ O ₆	[185141-35-9]	1,7-dinitroxanthone					
	FUS		37.23	536.4	DSC	[1997IBR/FRA]	
C ₁₃ H ₆ N ₂ O ₆	[185141-37-1]	2,5-dinitroxanthone					
	FUS		31.37	491.2	DSC	[1997IBR/FRA]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₃ H ₆ N ₂ O ₆	[185141-38-2]	2,6-dinitroxanthone		26.13	541	DSC	[1997IBR/FRA]
	FUS						
C ₁₃ H ₆ N ₂ O ₆	[51792-18-8]	2,7-dinitroxanthone		30.59	540	DSC	[1997IBR/FRA]
	FUS						
C ₁₂ H ₇ F ₃ N ₂ O ₅	[15457-05-3]	2-nitro-1-(4-nitrophenoxy)-4-(trifluoromethyl)benzene		18.44	364.6	DSC	[1991ACR, 1990DON/DRE]
	FUS						
C ₁₂ H ₇ NO ₂	[46492-08-4]	Benz[g]isoquinoline-5,10-dione	(334–381)	108.1 ± 1.6	358	ME	[1998OJA/SUU]
	SUB						
C ₁₃ H ₇ NO ₄	[17607-01-1]	1-nitroxanthone		28.9	477.7	DSC	[1997IBR/FRA]
	FUS						
C ₁₃ H ₇ NO ₄	[20061-59-0]	2-nitroxanthone		26.75	477.9	DSC	[1997IBR/FRA]
	FUS						
C ₁₃ H ₇ NO ₄	[17607-10-2]	3-nitroxanthone		25.37	448	DSC	[1997IBR/FRA]
	FUS						
C ₁₃ H ₈ BR ₂	[16433-88-8]	2,7-dibromofluorene					
	FUS			22.7	438.8	DSC	[2015OLI/SAN]
	FUS			22.08	439.0	DSC	[2012FU/SUU]
	SUB	(361–383)	111.8 ± 0.3	372	ME	[2015OLI/SAN]	
	SUB	(361–383)	114.6 ± 0.3	298	ME	[2015OLI/SAN]	
	SUB	(382–398)	111.1 ± 0.4	390	Static	[2015OLI/SAN]	
	SUB	(382–398)	114.6 ± 0.4	298	Static	[2015OLI/SAN]	
	SUB	(328–389)	105.1 ± 1.2	359	ME	[2012FU/SUU]	
C ₁₃ H ₈ Br ₃ NO ₂	[87-10-5]	3,5-dibromo-N-(4-bromophenyl)-2-hydroxybenzamide		28.67	497.7	DSC	[1990DON/DRE]
	FUS						
C ₁₃ H ₈ Cl ₂ N ₂ O ₄	[50-65-7]	5-chloro-N-(2-chloro-4-nitrophenyl)-2-hydroxybenzamide (niclosamide)		40.7	505.4	DSC	[2005YAN/DEV]
	FUS			35.98	502.2	DSC	[2004VAN/MAL]
C ₁₃ H ₈ Cl ₂	[7012-16-0]	2,7-dichlorofluorene		19.44	398.1	DSC	[2012FU/SUU]
	FUS						
	SUB	(318–364)	95.6 ± 0.6	341	ME	[2012FU/SUU]	
C ₁₃ H ₈ Cl ₂ O	[90-98-2]	4,4'-dichlorobenzophenone					
	TRS	(90–280)	0.04	187			
	TRS	(90–280)	0.05	192			
	FUS	(90–280)	Not reported		AC	[2002DIA/LOP]	
	TRS	(10–298)	0.14	188.3			
	TRS	(10–298)	0.39	192.8			
	FUS	(10–298)	Not reported		AC	[1999HUZ/SAI]	
	FUS		21.65	338.4	DSC	[1990DON/DRE]	
[Note: The entry for [1990DON/DRE] may likely be in error. The authors give the name of the compound as 4,4'-dichlorobenzophenone in the paper; however, they give the CAS Registry number of [85-29-0] which corresponds to 2,4'-dichlorobenzophenone. The observed melting point temperature of 338.4 K is more in line with the melting point temperature of 2,4'-dichlorobenzophenone.]							
	TRS		0.15	186.1			
	TRS		0.25	189.5			
	FUS		Not reported		DSC	[1987ECO/BER, 1999HUZ/SAI]	
	FUS		30.12	420	DSC	[1991ACR, 1972PLA]	
	SUB	(349–367)	114.5 ± 0.3	358	ME	[2007RIB/AMA2]	
	SUB	(349–367)	117.5 ± 0.3	298	ME	[2007RIB/AMA2]	
C ₁₃ H ₈ F ₂ O ₃	[22494-42-4]	5-[2,4-difluorophenyl]salicylic acid (diflunisal)					
	FUS (I)		35.9	486			
	FUS (II)		35.8	485.5			
	FUS (III)		35.9	486.4	DSC	[2002PER/HAN]	
	FUS (I)		35.0	483.2			
	FUS (II)		37.3	483.2			

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{13}\text{H}_8\text{N}_2\text{O}_2$	FUS (III)				36.0	483.2	DSC	[1994MAR/MAR]
		SUB	(349–414)		119.3 ± 0.6	382	GS	[2003PER/KUR]
$\text{C}_{13}\text{H}_8\text{N}_2\text{O}_2$	[2538-68-3]	1-phenazinecarboxylic acid						
		FUS			35.44	514.5	DSC	[1997CIO/MEL]
$\text{C}_{13}\text{H}_8\text{N}_2\text{O}_5$	[21222-05-9]	3,3'-dinitrobenzophenone						
		SUB			147.4 ± 3.9	298	C	[2011RIB/AMA3]
$\text{C}_{13}\text{H}_8\text{N}_4$	[19139-24-3]	8,8,9,9-tetracyanoquadracyclo[2.2.1.0 ^{3,5} .2]nonane						
		TRS			4.14	425.8		
		TRS			0.37	462.1		
		FUS			14.47	467.9	DSC	[1984WEI/LEF]
$\text{C}_{13}\text{H}_8\text{O}$	[548-39-0]	Perinaphthenone						
		SUB	(326–348)		97.2 ± 2.5	337	ME	[1998OJA/SUU]
$\text{C}_{13}\text{H}_8\text{O}$	[486-25-9]	9-fluorenone						
		FUS			17.6	356.2	DSC	[2012MON/NOT2]
$\text{C}_{13}\text{H}_8\text{O}$	[486-25-9]	FUS	(5–520)		16.36	356.5	AC	[2012CHI/KAZ]
		FUS			14.85	353.3	DSC	[1998VER4]
		FUS			18.12	356.4		[1991ACR, 1988SAB/ELW2]
		SUB	(312–334)		94.7 ± 0.5	298	ME	[2012MON/NOT2]
		SUB	(327–352)		95.1 ± 0.5	298	Static	[2012MON/NOT2]
		SUB			92.2 ± 1.7	298	C	[2012MON/NOT2]
		SUB	(301–343)		88.5 ± 3.7	322	ME	[2010GOL/SUU]
		SUB	(324–348)		91.6 ± 1.8	336	GS	[1998VER4]
		SUB	(324–348)		93.9 ± 1.8	298	GS	[1998VER4]
		SUB			87.6 ± 0.3	319	C	[1988SAB/ELW2]
		SUB			88.4 ± 0.4	298	C	[1988SAB/ELW2]
		V	(328–441)		80.6 ± 0.2	298	Static	[2012MON/NOT2]
		V	(368–668)		79.1 ± 0.6	298	IPM,EB	[2012CHI/KAZ]
		V	(368–668)		77.3 ± 0.5	320	IPM,EB	[2012CHI/KAZ]
		V	(368–668)		74.3 ± 0.3	360	IPM,EB	[2012CHI/KAZ]
		V	(368–668)		71.3 ± 0.3	400	IPM,EB	[2012CHI/KAZ]
		V	(368–668)		68.5 ± 0.3	440	IPM,EB	[2012CHI/KAZ]
		V	(368–668)		65.8 ± 0.2	480	IPM,EB	[2012CHI/KAZ]
		V	(368–668)		63.1 ± 0.2	520	IPM,EB	[2012CHI/KAZ]
		V			60.9	435	Static	[1983SIV/MAR]
		V			59.8	475	Static	[1983SIV/MAR]
		V			59.1	525	Static	[1983SIV/MAR]
		V			58.6	565	Static	[1983SIV/MAR]
		V			57.9	595	Static	[1983SIV/MAR]
$\text{C}_{18}\text{H}_8\text{OS}$	[492-22-8]	Thioxanthone						
		FUS			28.4	486.6	DSC	[2010MON/SOU]
		FUS			35.5	487.9		[1992SAB/ELW]
		SUB	(369–387)		110.9 ± 1.2	378	ME	[2010MON/SOU]
		SUB	(369–387)		113.8 ± 1.2	298	ME	[2010MON/SOU]
$\text{C}_{13}\text{H}_8\text{O}_2$	[90-47-1]				106.5 ± 1.2	298	C	[2010FRE/GOM3]
		FUS	(5–521)		114.8 ± 0.4	298	C	[1992SAB/ELW]
		FUS			27.48	448.8	AC	[2015CHI/KAZ]
		FUS			26.6	448.3	DSC	[2010MON/SOU]
$\text{C}_{13}\text{H}_8\text{O}_2$	[90-47-1]	Xanthone			26.12	449.7		[1996DOM/HEA, 1988SAB/ELW]
		FUS			103.9 ± 0.6	352	ME	[2010MON/SOU]
		FUS			105.8 ± 0.6	298	ME	[2010MON/SOU]
		SUB	(342–362)		102.7 ± 2.3	298	C	[2009FRE/GOM2]
$\text{C}_{13}\text{H}_8\text{O}_2$	[5472-84-4]	3-hydroxy-1 <i>H</i> -phenalen-1-one			98.57 ± 0.4	298	C	[1988SAB/ELW]
		SUB	(402–432)		151.5 ± 4.7	417	ME	[1998OJA/SUU]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
<chem>C13H9Br</chem>	[1133-80-8]	2-bromofluorene	FUS		17.02	387.4	DSC	[2015OLI/SAN]
			FUS		16.02	382.3	DSC	[2012FU/SUU]
	[327-349]	SUB	(327–349)	96.7 ± 0.4	338	ME	[2015OLI/SAN]	
		SUB	(327–349)	98.1 ± 0.4	298	ME	[2015OLI/SAN]	
		SUB	(351–380)	94.1 ± 0.1	366	Static	[2015OLI/SAN]	
		SUB	(351–380)	96.4 ± 0.1	298	Static	[2015OLI/SAN]	
		SUB	(303–354)	93.1 ± 1.6	328	ME	[2012FU/SUU]	
	[374–420]	V	(374–420)	73.6 ± 0.1	397	Static	[2015OLI/SAN]	
		V	(374–420)	81.7 ± 0.1	298	Static	[2015OLI/SAN]	
<chem>C13H9Br</chem>	[1940-57-4]	9-bromofluorene	FUS		13.36	373.7	DSC	[2012FU/SUU]
			SUB	(303–344)	98.4 ± 2.5	324	ME	[2012FU/SUU]
	[6630-65-5]	9-chlorofluorene	FUS		14.21	361.2	DSC	[2012FU/SUU]
<chem>C13H9ClO</chem>	[5162-03-8]	2-chlorobenzophenone	SUB	(303–330)	94.0 ± 3.0	317	ME	[2012FU/SUU]
			SUB		100.2 ± 0.4	298	C	[2007RIB/AMA2]
	[1016-78-0]	3-chlorobenzophenone	SUB	(321–339)	108.8 ± 0.4	330	ME	[2007RIB/AMA2]
<chem>C13H9ClO</chem>			SUB	(321–339)	110.4 ± 0.4	298	ME	[2007RIB/AMA2]
[134-85-0]	4-chlorobenzophenone	SUB	(320–338)	105.4 ± 0.3	329	ME	[2007RIB/AMA2]	
		SUB	(320–338)	108.2 ± 0.3	298	ME	[2007RIB/AMA2]	
<chem>C13H9ClO2</chem>	[85-19-8]	5-chloro-2-hydroxybenzophenone	SUB	(293–367)	91.9	308	A	[1987STE/MAL, 1960SCH/HIR]
			V	(367–493)	73.3	382	A,UV	[1987STE/MAL, 1960SCH/HIR]
	[33422-33-2]	Benzoic acid, 2,4,6-trichlorophenyl hydrazide	FUS		32.71	439.7	DSC	[1990DON/DRE]
<chem>C13H9Cl3N2O</chem>	[101-20-2]	3,4,4'-trichlorocarbanilide	FUS		41.94	528.2	DSC	[2013LIM/JAN2]
			TRS		6.1	428	DSC	[2010RIB/RIB2]
			FUS		41.94	528.2	DSC	[2009ARA/SOS, 2010CHI/DEG]
			SUB		182.2 ± 1.7	298	C	[2010RIB/RIB2]
	[4394-00-7]	2-[3-(trifluoromethyl)anilino]nicotinic acid (niflumic acid)	FUS (I)		33.1	477.9		
<chem>C13H9F3N2O2</chem>			FUS (II)		37.0	476.8	DSC	[2012BAG/RED]
			FUS		30.54	478	DSC	[2012KAC/RUS]
			FUS		36.5	478	DSC	[2007PER/SUR2, 2009SUR/TER, 2008SUR/SUR, 2010SUR/PER, 2015SUR/SIM]
			FUS		35.7	476.4	DSC	[2004ROM/BUS]
			FUS		32.73	477.2	DSC	[1998BUS/PEN]
			FUS		38.0	476	DSC	[1989PIN/GON]
			SUB	(355–396)	127.8 ± 0.8	376	GS	[2007PER/SUR2, 2009SUR/TER]
			SUB	(355–396)	130.2 ± 0.8	298	GS	[2007PER/SUR2, 2009SUR/TER, 2009SUR/PER, 2008SUR/SUR]
			V		107.5	298	S–F	[2007PER/SUR2]
[260-94-6]	Acridine	FUS		20.5	383	DSC	[2016BRU/LAP]	
		FUS (VII)		17.0	382.2			

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
			Temperature range				
	FUS (monoclinic)			18.7	380.7		
	FUS (orthorhombic)			16.2	362.2	DSC	[2010BRA/GRE]
	FUS (5–439)			20.68	383.2	AC	[1989STE/CHI]
	FUS			18.58	383.2	DSC	[1975MCE/SAN]
	SUB (318–349)			97.5 ± 0.4	333	ME	[2016BRU/LAP]
	SUB (293–323)			96.8 ± 0.5	309	ME	[2016BRU/LAP]
	SUB			97.9 ± 0.7	298	ME	[2016BRU/LAP]
	SUB			86.0	430	TGA	[1998LEB/CHI]
	SUB			89.5 ± 0.2	333	C	[1994SAB/TAB2]
	SUB			91.7 ± 0.4	298	C	[1994SAB/TAB2]
	SUB			94.5	298		[1989STE/CHI]
	SUB (280–328)			92.6	295		[1987STE/MAL]
	SUB (303–328)			90.8 ± 1.3	298	TE	[1975DEK/VAN]
	SUB (303–326)			93.3 ± 0.8	298	TCM	[UR/DEK, 1975DEK/VAN]
	SUB (281–298)			91.6 ± 2.5	290	LE	[1975MCE/SAN]
	SUB (306–345)			92.8 ± 1.3	298	ME	[UR/DEK, 1975DEK/VAN]
	SUB			78.7		E	[1946ALB/WIL]
	V (388–429)			69.2 ± 0.6	410	ITG	[2016BRU/LAP]
	V			72.1		GC	[1996GOV/RUT]
	V (383–637)			71.5 ± 0.2	400	IPM,EB	[1989STE/CHI]
	V (383–637)			68.9 ± 0.1	440	IPM,EB	[1989STE/CHI]
	V (383–637)			66.4 ± 0.1	480	IPM,EB	[1989STE/CHI]
	V (383–637)			63.8 ± 0.1	520	IPM,EB	[1989STE/CHI]
	V (383–637)			61.3 ± 0.2	560	IPM,EB	[1989STE/CHI]
	V (423–621)			62.9	465		[1983SIV/KOB]
	V (423–621)			62.1	515		[1983SIV/KOB]
	V (423–621)			61.5	595		[1983SIV/KOB]
	V (402–619)			66.2	417	A	[1987STE/MAL, 1947STU]
C ₁₃ H ₉ N	[229-87-8]	3,4-benzoquinoline (phenanthridine)					
	FUS			28.8	379.1	DSC	[2016BRU/LAP]
	TRS (5–439)			0.02	354		
	FUS (5–439)			22.83	379.7	AC	[1996DOM/HEA, 1989STE/CHI]
	SUB (318–349)			103.3 ± 1.0	335	TE	[2016BRU/LAP]
	SUB (318–349)			104.4 ± 1.1	298	TE	[2016BRU/LAP]
	SUB (288–323)			100.1 ± 10.1	306	ME	[1998OJA/SUU]
	SUB			98.6	298		[1989STE/CHI]
	SUB (288–323)			94.6 ± 4	308	ME	[1975MCE/INI, 1987STE/MAL]
	SUB			107.5		ME	[1965DAV/KYB]
	V (388–453)			70.6 ± 0.7	420	ITG	[2016BRU/LAP]
	V (383–473)			74.3 ± 0.1	380	IPM	[1989STE/CHI]
	V (383–473)			71.6 ± 0.1	420	IPM	[1989STE/CHI]
	V (383–473)			68.9 ± 0.1	460	IPM	[1989STE/CHI]
C ₁₃ H ₉ N	[85-02-9]	5,6-benzoquinoline					
	SUB (288–323)			83.1 ± 3.6	308	ME	[1975MCE/INI, 1987STE/MAL]
	SUB			106.3		ME	[1972MIL]
C ₁₃ H ₉ N	[230-27-3]	7,8-benzoquinoline					
	FUS (5–439)			14.1	324.1	AC	[1996DOM/HEA, 1989STE/CHI]
	SUB			90.2 ± 2.0	298		[1989STE/CHI]
	SUB (293–323)			80.8 ± 2.5	308	ME	[1975MCE/INI, 1987STE/MAL]
	SUB			100.4		ME	[1972MIL]
	V (373–672)			71.4		GC	[1996GOV/RUT]
	V (373–672)			71.7 ± 0.1	380	IPM,EB	[1989STE/CHI]
	V (373–672)			69.0 ± 0.1	420	IPM,EB	[1989STE/CHI]
	V (373–672)			66.5 ± 0.1	460	IPM,EB	[1989STE/CHI]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₃ H ₉ NO	V	Acridone	(373–672)	64.0 ± 0.1	500	IPM,EB	[1989STE/CHI]	
	V		(373–672)	61.5 ± 0.3	540	IPM,EB	[1989STE/CHI]	
	V		(373–672)	59.0 ± 0.3	580	IPM,EB	[1989STE/CHI]	
C ₁₃ H ₉ NO	[578-95-0]	Acridone	FUS	32.5	640	DSC	[2003STO/KRZ]	
			SUB	133		DSC	[2003STO/KRZ]	
		9-fluorenoneoxime	SUB	136.2 ± 0.5	298	C	[1992SAB/ELW]	
	[2157-52-0]		SUB	(375–399)	79.6 ± 1.2	387	ME	[2010GOL/SUU]
C ₁₃ H ₉ NO ₂	[2382-08-3]	<i>N</i> -methyl-1,8-naphthalimide	SUB	(379–398)	107.4 ± 0.8	389	ME	[2000ROU/JIM]
			SUB	(379–398)	109.7 ± 0.8	298	ME	[2000ROU/JIM]
			FUS	24.75	429.9	DSC	[2014OLI/MON]	
C ₁₃ H ₉ NO ₂₂	[607-57-8]	2-nitrofluorene	SUB	(357–379)	113.6 ± 0.3	368	ME	[2014OLI/MON]
			SUB	(357–379)	116.2 ± 0.3	298	ME	[2014OLI/MON]
			SUB		114.2 ± 2.5	298	C	[2014OLI/MON]
			SUB	(349–384)	114.2 ± 3.0	366	ME	[2008GOL/SUU]
			SUB	(349–384)	116.8 ± 1.4	298	ME	[2008GOL/SUU, 2014OLI/MON]
C ₁₃ H ₉ NO ₃	[2243-80-3]	3-nitrobenzophenone	SUB		123.3 ± 2.4	298	C	[2011RIB/AMA3]
			SUB	(349–365)	119.3 ± 0.6	357	ME	[2011RIB/AMA3]
			SUB	(349–365)	121.6 ± 0.6	298	ME	[2011RIB/AMA3]
C ₁₃ H ₉ NO ₃	[1144-74-7]	4-nitrobenzophenone	SUB		122.3 ± 2.7	298	C	[2011RIB/AMA3]
			SUB	(360–375)	120.2 ± 0.7	367	ME	[2011RIB/AMA3]
			SUB	(360–375)	122.9 ± 0.7	298	ME	[2011RIB/AMA3]
C ₁₃ H ₉ NO ₄	[75965-74-1]	2-nitro-7-methoxynaphtho[2,1 <i>b</i>]furan	FUS		28.7	460.4	DSC	[2010KES/AUC]
C ₁₃ H ₁₀	[86-73-7]	Fluorene	FUS		20.3	388	DSC	[2012MON/PIN]
			FUS		19.4	386.7	DSC	[2011RIC/FU]
			FUS		18.55	387.7	DSC	[2008MOG/SEP]
			FUS		19.1	387.7	DSC	[2000LIS/JAM]
			FUS	(196–419)	19.40	387.78	AC	[1995FUJ/FUJ]
			FUS	(12–426)	19.58	387.9		[1996DOM/HEA, 1977FIN/MES]
			FUS		19.65	389.0	DSC	[1980KRA/PIG]
			FUS		19.5		DSC	[1972WAU/GET]
			FUS		19.87	387.0		[1944EIB]
			SUB	(292–320)	88.3 ± 0.2	306	ME	[2012MON/PIN]
			SUB	(292–320)	88.6 ± 0.2	298	ME	[2012MON/PIN]
			SUB	(313–378)	85.8 ± 0.1	346	PGSM	[2012MON/PIN]
			SUB	(313–378)	87.3 ± 0.1	298	PGSM	[2012MON/PIN]
			SUB		87.7 ± 1.1	298	C	[2012MON/PIN]
			SUB	(296–317)	82.6 ± 2.5		ME	[2011RIC/FU]
			SUB	(298–324)	88.1 ± 2.3	311	ME	[2010GOL/SUU]
			SUB	(298–324)	87.1 ± 1.9	311	ME	[2008GOL/SUU3]
			SUB	(289–359)	86.1 ± 0.1	298	GS	[2004VER]
			SUB		87.6	298	CGC-DSC	[1998CHI/HES]
			SUB	(313–453)	84.9	383	GS	[1995NAS/LEN]
			SUB	(323–363)	84.9 ± 0.4	343	GS	[1994RAK/VER2]
			SUB		85.1 ± 0.4	298		[1994RAK/VER2]
			SUB	(318–333)	87.0 ± 1.0	318	PG	[1988SAS/JOS]
			SUB		80.2 ± 0.2	298	C	[1987SAB/ANT]
			SUB	(348–388)	78.9	363	A	[1987STE/MAL]
			SUB	(308–347)	83.2	328	GS	[1986SAT/INO]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
	SUB	(298–343)	92.2	320	T	[1986HAN/ECK]	
	SUB	(283–323)	88.4 ± 0.6	303	GS	[1983SON/ZOL]	
	SUB	(350–388)	83.1 ± 1.3			[1977FIN/MES, 1975OSB/DOU]	
	SUB		81.8	388	B	[1975OSB/DOU]	
	SUB	(286–300)	80.3 ± 0.8	293	TE	[1960BUD]	
	SUB	(306–323)	82.8	315		[1953BRA/CLE, 1987STE/MAL]	
	SUB	(306–322)	82.8			[1953BRA/CLE2, 1960JON]	
	V	(387–412)	63.1 ± 0.2	399	PGSM	[2012MON/PIN]	
	V	(387–412)	72.1 ± 0.2	298	PGSM	[2012MON/PIN]	
	V		72.4 ± 1.7	298	CGC	[2008HAN/NUT]	
	V	(373–423)	74.4 ± 1.2	298	GC	[2006HAF/PAR]	
	V	(323–473)	66.9	398	GC	[2002LEI/CHA]	
	V		72.3	298	CGC	[1998CHI/HES]	
	V	(403–453)	72.2	298	CGC	[1995CHI/HOS]	
	V	(323–363)	65.7	298	B	[1994RAK/VER2]	
	V	(383–427)	63.3	398		[1988SAS/JOS]	
	V	(402–568)	54.2	417	A	[1987STE/MAL]	
	V	(425–639)	56.5	465		[1982SIV/KOB]	
	V	(425–639)	55.5	505		[1982SIV/KOB]	
	V	(425–639)	54.3	555		[1982SIV/KOB]	
	V	(423–573)	56.6	498	I	[1923MOR/MUR]	
C ₁₃ H ₁₀ BrCl ₂ O ₂ PS	[21609-90-5] FUS	<i>O</i> -(4-bromo-2,5-dichlorophenyl) <i>O</i> -methyl phenylphosphonothioate	31.35	345.6	DSC	[1990DON/DRE]	
C ₁₃ H ₁₀ BrN ₃ O ₄	[192219-62-8] FUS	2-cyano-6-mtro-1(2 <i>H</i>)-quinolinecarboxylic acid, 2-bromoethyl ester	19.79	419.2	DSC	[2005LIZ/ZAB]	
C ₁₃ H ₁₀ CIN ₃ O ₄	[850836-65-6] FUS	2-cyano-6-mtro-1(2 <i>H</i>)-quinolinecarboxylic acid, 2-chloroethyl ester	17.17	418.9	DSC	[2005LIZ/ZAB]	
C ₁₃ H ₁₀ CIN ₃ O ₄ S ₂	[70374-39-9] FUS FUS	(3 <i>E</i>)-6-chloro-3-[hydroxy(pyridin-2-ylamino)methylene]-2-methyl-2,3-dihydro-4 <i>H</i> -thieno[2,3- <i>e</i>][1,2]thiazin-4-one 1,1-dioxide	54.29 54.2	479.8 481.7	DSC DSC	[2013KHA/SUB] [2012KHA/ACH]	
C ₁₃ H ₁₀ Cl ₂ S	[103-17-3] FUS	<i>p</i> -chlorobenzyl <i>p</i> -chlorophenyl sulfide	32.22	343.8	DSC	[1969PLA/GLA]	
C ₁₃ H ₁₀ N ₂	[622-16-2] FUS V	<i>N,N'</i> -diphenylcarbodiimide (5–330) (500–599)	18.55 65.6	287.4 515		[1990DOM/HEA, 1984LEB/BYK] [1987STE/MAL, 1962JOH/MCE]	
C ₁₃ H ₁₀ N ₂	[90-45-9] SUB	9-aminoacridine	115	520	TGA	[1998STO/KRZ]	
C ₁₃ H ₁₀ N ₂	[716-79-0] FUS SUB	2-phenylbenzimidazole 123.0 ± 1.7	22.18 298	572.2 C		[1971KAM/MIT] [2005RIB/RIB]	
C ₁₃ H ₁₀ N ₂ O ₂	[785-80-8] FUS SUB V V	<i>N</i> -phenyl 4-nitrobenzaldehydeimine 126.0 ± 1.3 (359–387) (359–387)	24.56 37.9 96.9 ± 1.3 101.4 ± 1.3	347.2 298 373 298	DSC V+F GS GS	[1997VER/MOR] [1997VER/MOR] [1997VER/MOR] [1997VER/MOR]	
C ₁₃ H ₁₀ N ₂ O ₃	[1775-95-7] FUS	2-amino-5-nitrobenzophenone	37.9	440	DSC	[2007DRA/JAN]	
C ₁₃ H ₁₀ N ₂ O ₄	[50-35-1] FUS (I) FUS (II) FUS	Thalidomide	39.97 37.91 36.02	546.7 550.8 548.2	DSC DSC DSC	[2007LAR/PER] [2007LAR/PER] [2002GOO/LAI]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₃ H ₁₀ N ₄	[7477-73-8]	1,5-diphenyltetrazole					
	SUB	(348–363)	121.5 ± 4.2	355	ME		[1951MCE/RIG, 1970COX/PIL]
C ₁₃ H ₁₀ N ₄	[18039-45-7]	2,5-diphenyltetrazole					
	SUB	(333–353)	119.7 ± 4.2	343	ME		[1951MCE/RIG, 1970COX/PIL]
C ₁₃ H ₁₀ N ₄ O	[14031-13-1]	1-phenazinecarboxylic acid hydrazide					
	FUS		27.62	505	DSC		[1997CIO/MEL]
C ₁₃ H ₁₀ O	[3218-36-8]	4-biphenylcarboxaldehyde					
	FUS		21.09	332	DSC		[2010BAI/VAN]
C ₁₃ H ₁₀ O	[119-61-9]	Benzophenone					
	FUS	(6–351)	18.47	321.3	AC		[2002HAN/HIK]
	FUS	(5–440)	18.81	321.2	AC		[2002CHI/KNI2]
	FUS	(81–330)	18.19	324.2			[1996DOM/HEA, 1983DEK/VAN]
	FUS		16.9	321.4	C		[1963RAS/NIG]
	FUS		19.2		RC.		[1927STE/JOH]
	FUS		16.5		AC		[1922STR/PAR, 1927STE/JOH]
	FUS		18.2				[1915BRI, 1927STE/JOH]
	FUS		17.8		C		[1899TAM, 1927STE/JOH]
	FUS		18.0		C		[1894BRU, 1927STE/JOH]
	FUS		17.67	321.2			[1889EYK]
	SUB		93.1 ± 2.1	298	GS		[1998VER4]
	SUB		94.7 ± 1.0	321	DM		[1983DEK/VAN]
	SUB		92 ± 0.83	298	C		[1974SAB, 1983DEK/VAN]
	SUB	(295–313)	95.0 ± 0.2	304	ME		[1980COL/JIM2]
	SUB		84.4 ± 1.13	298	C		[1978SAB/LAF2]
	SUB	(297–317)	93.9 ± 0.5	307	TE,ME		[1977DEK/VAN]
	SUB	(293–318)	95.0 ± 1.5	305	TE		[1975DEK/VAN]
	SUB	(294–318)	92.9 ± 0.8	306	ME		[1975VAN/DEK]
	SUB	(278–311)	77.0 ± 2.5	298	ME		[1974ARS]
	SUB	(298–318)	89.96	308	ME		[1987STE/MAL, 1974PRI/POU]
	SUB	(295–304)	94.6 ± 0.8	298	TCM		[1973DEK/OON]
	SUB		93.4 ± 0.3	298	C		[1972MOR3]
	SUB	(293–319)	96.1	306			[1956SER/VOI]
	SUB		91.2				[1950NIT/SEK]
	SUB	(290–315)	78.2 ± 1.2	303			[1938WOL/WEG, 1934WOL/TRI]
	SUB		95 ± 2.5	298	TE		[1932NEU/VOL, 1970COX/PIL, 1960JON]
	SUB	(273–320)	91.2 ± 1.6	298	ME		[1925VOL/KIR]
	V	(433–673)	65.1	448	A		[1987STE/MAL]
	V	(473–579)	62.2	488			[1949DRE/SHR, 1949DRE/MAR, 1984BOU/FRI]
	V	(530–575)	59.0	545			[1904JAQ/WAS, 1984BOU/FRI]
C ₁₃ H ₁₀ O	[92-83-1]	Xanthene					
	FUS		20.67	374.6	DSC		[2008MON/SAN]
	FUS		15.87	374.3	DSC		[2000MAH/SOL]
	FUS		19.2	373.7			[1991ACR, 1988COO/SED]
	SUB		92 ± 1.1	298	C		[2010FRE/GOM2]
	SUB	(308–326)	93.2 ± 0.9	298	ME		[2008MON/SAN]
	SUB	(318–371)	92.6 ± 1.2	298	Static		[2008MON/SAN]
	SUB	(305–353)	92.5	329	T		[1986ROR]
	SUB		112.1 ± 2.1				[1958CAS/FLE3, 1970COX/PIL]

[Note: The authors refer to the compound as dibenzopyran; however, the melting point temperature corresponds to xanthene.]

V	(358–382)	73.4 ± 0.1	298	Static	[2008MON/SAN]
V	(424–589)	64.5	435	Static	[1984SIV/KOB]
V	(424–589)	61.1	475	Static	[1984SIV/KOB]
V	(424–589)	59.2	515	Static	[1984SIV/KOB]
V	(424–589)	56.7	555	Static	[1984SIV/KOB]
V	(424–589)	54.4	585	Static	[1984SIV/KOB]
V	(413–433)	88.7	423	A	[1987STE/MAL, 1958CAS/FLE3]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₃ H ₁₀ O	[1689-64-1]	9-hydroxyfluorene	FUS		24.2	428.7	DSC	[2012MON/NOT2]
			SUB	(337–359)	109.0 ± 0.8	298	ME	[2012MON/NOT2]
			SUB	(351–424)	108.3 ± 0.5	298	Static	[2012MON/NOT2]
			SUB	(326–366)	97.4 ± 2.3	346	ME	[2010GOL/SUU]
			V	(410–441)	91.6 ± 0.4	298	Static	[2012MON/NOT2]
			V		50.4	435	Static	[1983SIV/MAR]
			V		49.7	465	Static	[1983SIV/MAR]
C ₁₃ H ₁₀ O ₂	[947-84-2]	2-biphenylcarboxylic acid	SUB		121.3 ± 4.3	298	C	[2004MAT/MIR2]
			FUS		32.1	499.5	DSC	[2012UMN/HAS]
			FUS		32.26	500	DSC	[2010BAI/VAN]
C ₁₃ H ₁₀ O ₂	[92-92-2]	4-biphenylcarboxylic acid	SUB		127.5 ± 4.1	298	C	[2004MAT/MIR2]
			FUS		99.0 ± 0.4	298		[1971CAR/FIN]
			FUS		89.5 ± 4.2			[1971KIP/RAB, 1977PED/RYL]
			SUB		96.2 ± 1.7			[1947STU, 1970COX/PIL]
			V	(379–587)	62.4	394	A	[1987STE/MAL, 1947STU]
C ₁₃ H ₁₀ O ₂	[117-99-7]	(2-hydroxyphenyl)phenylmethanone	FUS		18.7	312.3	DSC	[2010DAV/GUE]
			FUS		0.67	308.2	DTA	[1989SAL/ABA]
			SUB		97.9 ± 1.9	298	C	[2010DAV/GUE]
C ₁₃ H ₁₀ O ₂	[13020-57-0]	(3-hydroxyphenyl)phenylmethanone	FUS		27.4	390.5	DSC	[2010DAV/GUE]
			SUB	(361–378)	129.9 ± 0.7	371	ME	[2010DAV/GUE]
			SUB	(361–378)	131.7 ± 0.8	298	ME	[2010DAV/GUE]
			FUS		24.4	407.7	DSC	[2010DAV/GUE]
C ₁₃ H ₁₀ O ₂	[1137-42-4]	(4-hydroxyphenyl)phenylmethanone	SUB	(377–397)	128.6 ± 0.7	384	ME	[2010DAV/GUE]
			SUB	(377–397)	130.3 ± 1.0	298	ME	[2010DAV/GUE]
			FUS		112.9 ± 1.4	347	ME	[2012FRE/GOM]
C ₁₃ H ₁₀ O ₂	[90-46-0]	9-xanthenol	SUB	(333–355)	115.2 ± 1.7	298	ME	[2012FRE/GOM]
			SUB	(333–355)	112.9 ± 1.4	347	ME	[2012FRE/GOM]
			FUS		20.07	334.5	DSC	[2005TOM/MIZ]
C ₁₃ H ₁₀ O ₃	[835-11-0]	2,2'-dihydroxybenzophenone	SUB	(100–350)	134	327	A	[1987STE/MAL]
			V	(418–485)	87.1	433	A,UV	[1987STE/MAL, 1960SCH/HIR]
C ₁₃ H ₁₀ O ₃	[118-55-8]	Phenyl salicylate (salol)	FUS (monoclinic)		15.5	302		
			FUS (orthorhombic)		19.5	315	DSC	[2016KOL/TAR]
			FUS		19.5	314.8	AC	[2014LEY/LOS]
			FUS		19.0	314.9	DSC	[2012CHA/LAY]
			FUS		19.2	315.1	DSC	[2010LAZ/RIE]
			FUS		18.4	312.7	DSC	[2006PER/CON]
			FUS (I)		16.5	304.2		
			FUS (II)		18.6	315.2	DSC	[2004RAM/COR]
			FUS		19.16	315		[2002HAN/HIK]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound							
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
<chem>C13H10O3</chem>	FUS	Diphenyl carbonate			18.98	314.2	DSC	[1995MUR/PAI]	
			SUB	(279–315)	109.1	294	A	[1987STE/MAL]	
			SUB		92.0 ± 4.2			[1947STU, 1970COX/PIL]	
	V			(423–587)	69.9	438	A,UV	[1987STE/MAL, 1960SCH/HIR]	
	[102-09-0]								
			FUS		24.30	355.95	DSC	[2008WEI/PEI]	
			FUS		23.43	355	DSC	[1971CAR/FIN]	
<chem>C13H10O3</chem>	SUB				107.6 ± 0.5	298	ME	[2014FON/GUS]	
			SUB		90 ± 8.4	298	E	[1971CAR/FIN, 1977PED/RYL]	
			V	(355–381)	80.9 ± 0.6	298	GS	[2008VER/EME2]	
	[58110-42-2]								
			SUB	(389–421)	148.7 ± 7.6	405	ME	[2014DIB/RAE]	
			SUB	(389–421)	152.6 ± 7.6	298	ME	[2014DIB/RAE]	
<chem>C13H10O4</chem>	[1470-79-7]								
			FUS		31.3	482.6	DSC	[1999PRI/HAW]	
			SUB		139		TGA	[1999PRI/HAW]	
	V				107.6		TGA	[1999PRI/HAW]	
<chem>C13H10O5</chem>	[131-55-5]								
			FUS		28.0	472	DSC	[1999PRI/HAW]	
			SUB		178.5		B	[1999PRI/HAW]	
	SUB		(363–471)		143.4	378	A	[1987STE/MAL]	
			V		150.5		TGA	[1999PRI/HAW]	
<chem>C13H10S</chem>	[261-31-4]								
			Thioxanthene						
			FUS		26.8	402.7	S–V	[2009FRE/MON]	
	FUS				26.1	401.8		[1991ACR, 1988COO/SED]	
			SUB		101.7 ± 1.6	298	C	[2009FRE/MON]	
			SUB	(339–402)	98.4 ± 0.2	370	Static	[2009FRE/MON]	
	SUB		(339–402)		100.9 ± 0.2	298	Static	[2009FRE/MON]	
			V	(383–447)	69.5 ± 0.2	415	Static	[2009FRE/MON]	
			V	(383–447)	77.8 ± 2.6	298	Static	[2009FRE/MON]	
<chem>C13H10S</chem>	[7372-88-5]	4-methylbenzothiophene							
			SUB		90.3 ± 0.7	298	C	[2010FRE/GOM]	
<chem>C13H11BrO5</chem>	[111171-29-0]	8-(hydroxymethyl)-6-bromo-2-oxo-2 <i>H</i> -1-benzopyran-3-carboxylic acid, ethyl ester							
<chem>C13H11Cl</chem>	[90-99-3]	Chlorodiphenylmethane							
			V	(381–450)	70.4	396	A	[1987STE/MAL]	
<chem>C13H11ClN2O2</chem>	[556836-77-2]	4-chloro-2'-hydroxy-4'-methoxyazobenzene							
<chem>C13H11ClO5</chem>	[111171-28-9]	8-(hydroxymethyl)-6-chloro-2-oxo-2 <i>H</i> -1-benzopyran-3-carboxylic acid, ethyl ester							
			TRS		15.53	418.2			
<chem>C13H11Cl2NO2S</chem>	[1245836-03-6]	<i>N</i> -(2,6-dichlorophenyl)-3-methylbenzenesulfonamide							
			FUS (I)		U115.4	441.4	DSC		
			FUS (II)		U107.1	440.5	DSC	[2010SAN/SAR]	

[Note: Enthalpies of fusion of both crystalline forms are out of line with other substituted benzenesulfonamides determined by the authors.]

C13H11F [579-55-5] Fluorodiphenylmethane

V (288–333) 69.8 ± 0.4 298 GS [1997SCH/VER]

C13H11N [1013-88-3] Benzophenone imine

V (308–338) 74.2 ± 1.0 323 GS [1997VER/MOR]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_{13}\text{H}_{11}\text{N}$	V	<i>N</i> -phenyl-benzaldehyde imine	(308–338)	75.7 ± 1.0	298	GS	[1997VER/MOR]
	V		(373–422)	62.3	388	A	[1987STE/MAL]
$\text{C}_{13}\text{H}_{11}\text{N}$	[538-51-2]	<i>N</i> -phenyl-benzaldehyde imine	FUS	20.42	329.7	DSC	[1997VER/MOR]
	SUB		(294–326)	97.4 ± 1.2	309	GS	[1997VER/MOR]
	SUB	<i>N</i> -phenylbenzylamine	(294–326)	98.1 ± 1.2	298	GS	[1997VER/MOR]
	SUB			93.7 ± 0.9	298	C	[1986KIR/ACR]
	SUB			85.5 ± 2.1	293	E	[1948COA/SUT]
$\text{C}_{13}\text{H}_{11}\text{N}$	[1484-12-4]	9-methylcarbazole	FUS	16.43	361.0	DSC	[2016STA/KEI]
	FUS		(13–388)	17.15	362.5	AC	[1996DOM/HEA, 1988MES/TOD]
	SUB	9-methylcarbazole	(313–332)	95.0	322	ME	[1990JIM/ROU]
	SUB		(313–332)	95.5	298	ME	[1990JIM/ROU]
	V	9-methylcarbazole		79.5 ± 3.2	298	CGC	[2009LIP/CHI, 2009LIP/HAN]
	V		(373–673)	73.4	400	EB,IPM	[1992STE/CHI]
	V		(373–673)	70.5	440	EB,IPM	[1992STE/CHI]
	V		(373–673)	67.7	480	EB,IPM	[1992STE/CHI]
	V		(373–673)	65.0	520	EB,IPM	[1992STE/CHI]
	V		(373–673)	62.1	560	EB,IPM	[1992STE/CHI]
	V		(373–673)	59.1	600	EB,IPM	[1992STE/CHI]
	V		(373–673)	55.9	640	EB,IPM	[1992STE/CHI]
$\text{C}_{13}\text{H}_{11}\text{N}$	[153-78-6]	2-aminofluorene	FUS	23.81	400.9	DSC	[2014OLI/MON]
	SUB		(345–365)	110.3 ± 0.4	355	ME	[2014OLI/MON]
	SUB		(345–365)	112.3 ± 0.4	298	ME	[2014OLI/MON]
	SUB			110.4 ± 1.7	298	C	[2014OLI/MON]
$\text{C}_{13}\text{H}_{11}\text{N}$	[5097-92-7]	<i>cis</i> -4-(2-phenylethylenyl)pyridine	FUS	9.14	400.3	DSC	[2007LIU/LIA]
$\text{C}_{13}\text{H}_{11}\text{NO}$	[1137-96-8]	<i>N</i> -phenylmethylene benzenamine <i>N</i> -oxide	SUB	115.0 ± 0.8	298	C	[1986KIR/ACR]
$\text{C}_{13}\text{H}_{11}\text{NO}$	[779-84-0]	2-hydroxybenzaldehyde <i>N</i> -phenylimine	SUB	115.9	303	A	[1987STE/MAL]
	SUB		(288–325)	129.9	378		[1958HOY/PEP]
	SUB		(348–408)				
$\text{C}_{13}\text{H}_{11}\text{NO}$	[1689-73-2]	4-hydroxybenzaldehyde <i>N</i> -phenylimine	SUB	127.9	363	A	[1987STE/MAL]
	SUB		(348–408)	116	313		[1958HOY/PEP]
	SUB		(288–338)				
$\text{C}_{13}\text{H}_{11}\text{NO}$	[93-98-1]	Benzanilide	FUS	31.2	435.0	DSC	[2012UMN/CHI]
	FUS			32.4	436.3	DSC	[2006MAT/MIR2]
	FUS			29.61	436.5	DTA	[1996DOM/HEA, 1992SAB/ELW3]
	SUB			125.4 ± 2.3	298	C	[2006MAT/MIR2]
	SUB		(352–369)	99.2	360.5	A	[1987STE/MAL, 1960AIH2]
	SUB						
$\text{C}_{13}\text{H}_{11}\text{NO}$	[1137-41-3]	4-aminobenzophenone	FUS	21.2	395.2	DTA	[2015NAT/USH]
	V			56.4	578.2	DTA,TGA	[2015NAT/USH]
$\text{C}_{13}\text{H}_{11}\text{NO}$	[1207-72-3]	<i>N</i> -methylphenothiazine	SUB	108.9 ± 0.8	298	ME	[2015OLI/FRE]
	SUB		(337–359)	103.6 ± 2.3	298	C	[2015OLI/FRE]
	SUB						
$\text{C}_{13}\text{H}_{11}\text{NO}_2$	[20357-59-9]	<i>N</i> -(2-hydroxyphenylmethylene)benzenamine <i>N</i> -oxide	SUB	116.5 ± 1.4	298	C	[1986KIR/ACR]
$\text{C}_{13}\text{H}_{11}\text{NO}_2$	[91-40-7]	<i>N</i> -phenylanthranilic acid	FUS	39.7	458.2	DSC	[2009SUR/TER, 2010SUR/PER, 2015SUR/SIM]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)
$\text{C}_{13}\text{H}_{11}\text{NO}_5$	SUB	(353–411)	123.0 ± 1.3	382	GS	[2009SUR/TER]
	SUB	(353–411)	126.0 ± 1.3	298	GS	[2009SUR/TER, 2009SUR/PER]
$\text{C}_{13}\text{H}_{11}\text{N}_3\text{O}$	[14698-29-4]	1-ethyl-1,4-dihydro-6,7-methylenedioxy-4-oxo-3-quinoline-carboxylic acid (oxolinic acid)				
	FUS		43.59	592.5	DSC	[2004ROM/BUS2]
$\text{C}_{13}\text{H}_{11}\text{N}_3\text{O}_2$	[2440-22-4]	2-(2'-hydroxy-5'-methylphenyl)benzotriazole				
	SUB	(293–333)	125.2	308	A	[1987STE/MAL]
	V	(413–433)	79.1	423	ME	[1984SUR]
	V	(404–435)	70.6	419	A,UV	[1987STE/MAL, 1960SCH/HIR]
$\text{C}_{13}\text{H}_{11}\text{N}_3\text{O}_2$	[495-84-1]	Salinazid				
	FUS		45.4	521.2	DSC	[2015BLO/SHA]
	SUB	(388–408)	109.5 ± 2.5	298	GS	[2015BLO/SHA]
$\text{C}_{13}\text{H}_{11}\text{N}_3\text{O}_2\text{S}$	[211057-65-7]	5-methyl-2-[(4-methyl-2-nitrophenyl)amino]-3-thiophene carbonitrile				
	FUS		24.57	400.2	DSC	[2001HE/GRI]
$\text{C}_{13}\text{H}_{11}\text{N}_3\text{O}_2\text{S}$	[25612-07-1]	4-amino-N-(4-cyanophenyl)benzenesulfonamide				
	FUS		30.9	451.5	DSC	[2011PER/RYZ, 2014PER/KAZ]
	SUB	(420–437)	161.8 ± 2.3	429	GS	[2011PER/RYZ]
	SUB	(420–437)	168.3 ± 2.3	298	GS	[2011PER/RYZ]
	V		147	298	Sub-Fus	[2011PER/RYZ]
$\text{C}_{13}\text{H}_{11}\text{N}_3\text{O}_4$	[191979-00-7]	2-cyano-6-nitro-1(2 <i>H</i>)-quinolmecarboxylic acid, ethyl ester				
	FUS		27.11	391.2	DSC	[2005LIZ/ZAB]
$\text{C}_{13}\text{H}_{12}$	[643-58-3]	2-methylbiphenyl				
	FUS	(6–372)	13.93	272.3	AC	[2013TKA/DRU]
	V	(301–348)	65.3 ± 0.2	298	GS	[2012NAZ/NES]
	V	(446–530)	68.3 ± 0.1	298	EB	[2005NAZ/NES, 2012NAZ/NES]
$\text{C}_{13}\text{H}_{12}$	[643-93-6]	3-methylbiphenyl				
	V	(319–366)	68.5 ± 0.3	298	GS	[2012NAZ/NES]
	V	(463–548)	71.9 ± 0.1	298	EB	[2005NAZ/NES, 2012NAZ/NES]
	V	(283–463)	69.6	298		[1993KAS/MOK]
$\text{C}_{13}\text{H}_{12}$	[644-08-6]	4-methylbiphenyl				
	TRS	(8–372)	2.93	297.5		
	FUS	(8–372)	12.29	320.3	AC	[2010VAR/EFI]
	SUB		82.7 ± 1.3	298		[2011PAS/MIR, 2014PIM/PAS]
	SUB		80.6 + 0.8	298	V+F	[2010VAR/EFI]
	SUB		80.2 ± 1.4	298	C	[1997RIB/MAT4]
	V		67.2	321	C	[2014PIM/PAS]
	V	(323–353)	69.4 ± 0.2	298	GS	[2012NAZ/NES]
	V	(323–353)	69.0 ± 0.7	298	GS	[2010VAR/EFI]
$\text{C}_{13}\text{H}_{12}$	[101-81-5]	Diphenylmethane				
	FUS	(5–438)	19.01	298.4	AC,DSC	[2005CHI/STE2]
	FUS		14.7	298.2	DSC	[2003LEE/CHO]
	FUS		U 14.9	297.6	DSC	[1992BAB/HWA, 1994BAB/BEN]
	FUS		18.58	298.3	C	[1996DOM/HEA, 1930HUF/PAR2]
	FUS		19.0	299.4		[1889EYK]
	SUB	(273–295)	88.5 ± 0.8	284	GS	[1999VER5]
	SUB	(273–295)	87.6 ± 0.8	298	GS	[1999VER5]
	SUB	(273–298)	71.5	286	EM	[1989SAS/NGU]
	SUB	(276–295)	83.3 ± 3.3	286	HSA	[1986CHI/ANN]
	SUB		82.4 ± 8		V	[1959AIH, 1970COX/PIL]
	SUB	(278–299)	64.0			[1951BRI, 1960JON]
	SUB		72.0 ± 0.8	297		[1938WOL/WEG]
	V		67.6 ± 0.2	298		[2005CHI/STE2, 2008HAN/NUT]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
	V	(343–393)	64.7 ± 0.2	298			[2006HAF/PAR]
	V	(330–588)	64.1 ± 0.1	340	IPM,EB		[2005CHI/STE2]
	V	(330–588)	61.0 ± 0.1	380	IPM,EB		[2005CHI/STE2]
	V	(330–588)	57.9 ± 0.1	420	IPM,EB		[2005CHI/STE2]
	V	(330–588)	55.0 ± 0.1	460	IPM,EB		[2005CHI/STE2]
	V	(330–588)	52.0 ± 0.2	500	IPM,EB		[2005CHI/STE2]
	V	(330–588)	48.9 ± 0.3	540	IPM,EB		[2005CHI/STE2]
	V		65.7	298	GC		[2002VAN/PAR]
	V	(303–343)	66.4 ± 0.5	323	GS		[1999VER5]
	V	(303–343)	67.9 ± 0.5	298	GS		[1999VER5]
	V	(353–433)	61.8	368			[1990SOH/OKA]
	V	(303–402)	63.7	363			[1989SAS/NGU]
	V	(295–383)	72.2	310	A		[1987STE/MAL]
	V	(423–583)	56.7	438	A		[1987STE/MAL]
	V	(425–648)	55.8	445			[1981WIE/KOB, 1980WIE/KOB]
	V	(425–648)	49.0	535			[1981WIE/KOB, 1980WIE/KOB]
	V		66.6 ± 0.1	298	C		[1972MOR]
	V	(490–555)	54.2	505			[1915CRA, 1984BOU/FRI]
C ₁₃ H ₁₂ ClNO ₂ S	[16964-20-8]	<i>N</i> -(4-methylphenyl) 3-chlorobenzenesulfonamide					
	FUS (I)		26.44	366.8			
	FUS (II)		18.16	364.8	DSC		[2010SAN/SAR]
C ₁₃ H ₁₂ ClN ₃ S	[281212-47-3]	<i>N</i> -2-(3-picolyl)- <i>N'</i> -(2-chlorophenyl) thiourea					
	FUS		11.2	400.2	DSC		[2002KEL/SZC]
C ₁₃ H ₁₂ ClN ₃ S	[457886-93-0]	<i>N</i> -2-(4-picolyl)- <i>N'</i> -(2-chlorophenyl) thiourea					
	FUS		44.5	441.2	DSC		[2002KEL/SZC]
C ₁₃ H ₁₂ ClN ₃ S	[457886-96-3]	<i>N</i> -2-(5-picolyl)- <i>N'</i> -(2-chlorophenyl) thiourea					
	FUS		24.2	460.2	DSC		[2002KEL/SZC]
C ₁₃ H ₁₂ ClN ₃ S	[457886-94-1]	<i>N</i> -2-(6-picolyl)- <i>N'</i> -(2-chlorophenyl) thiourea					
	FUS		27.3	449.7	DSC		[2002KEL/SZC]
C ₁₃ H ₁₂ ClN ₃ S	[53385-87-8]	<i>N</i> -2-(3-picolyl)- <i>N'</i> -(4-chlorophenyl) thiourea					
	FUS		16.8	391.2	DSC		[2002SZC/KEL]
C ₁₃ H ₁₂ ClN ₃ S	[53385-88-9]	<i>N</i> -2-(4-picolyl)- <i>N'</i> -(4-chlorophenyl) thiourea					
	FUS		35.2	460.2	DSC		[2002SZC/KEL]
C ₁₃ H ₁₂ ClN ₃ S	[53385-89-0]	<i>N</i> -2-(5-picolyl)- <i>N'</i> -(4-chlorophenyl) thiourea					
	FUS		51.1	473.7	DSC		[2002SZC/KEL]
C ₁₃ H ₁₂ ClN ₃ S	[53385-90-3]	<i>N</i> -2-(6-picolyl)- <i>N'</i> -(4-chlorophenyl) thiourea					
	FUS		40.1	464.2	DSC		[2002SZC/KEL]
C ₁₃ H ₁₂ FNO ₂ S	[13198-87-3]	<i>N</i> -(3-fluorophenyl) 4-methylbenzenesulfonamide					
	FUS (I)		18.61	385.1			
	FUS (II)		18.83	384.4	DSC		[2010SAN/SAR]
C ₁₃ H ₁₂ F ₂ N ₆ O	[86386-73-4]	2-(2,4-difluorophenyl)-1,3-bis(1 <i>H</i> -1,2,4-triazol-1-yl)propan-2-ol (fluconazole)					
	FUS		37.76	413.25	DSC		[2015PAT/PAT]
C ₁₃ H ₁₂ N ₂ O	[102-07-8]	1,3-diphenylurea					
	FUS		37.7		DSC		[1995STR/ARG]
	FUS		34.62	512.1	DSC		[1996DOM/HEA, 1991ACR, 1987FER/DEL]
	SUB	(445–484)	152 ± 6		TE		[1987FER/DEL]
C ₁₃ H ₁₂ N ₂ O	[442-51-3]	7-methoxy-1-methyl-9 <i>H</i> -pyrido[3,4- <i>b</i>]indole (harmine)					
	FUS		48.8	536.6	DSC		[1996BUR/DAG]
C ₁₃ H ₁₂ N ₂ O ₂	[23042-34-4]	<i>N</i> -methyl- <i>N</i> -(4-biphenyl)nitramine					
	FUS		24.0	415.1	DSC		[2002DAS/ZAL]
C ₁₃ H ₁₂ N ₂ O ₂	[17954-23-3]	2-cyano-1(2 <i>H</i>)-quinolinecarboxylic acid, ethyl ester					
	FUS		19.88	337	DSC		[2005LIZ/ZAB]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₁₃ H ₁₂ N ₂ O ₅ S	[51803-78-2]	<i>N</i> -(4-nitro-2-phenoxyphenyl)methanesulfonamide (nimesulide)	FUS		32.7	418.7	DSC
			FUS		47.4	422.2	DSC
			FUS		33.38	423	DSC
			FUS		37.3	422.5	DSC
C ₁₃ H ₁₂ N ₄ O ₂	SUB	4'-nitro-2-methylaminoazobenzene		134.7			GS
C ₁₃ H ₁₂ N ₄ O ₅ S	[1169390-40-2]	<i>N</i> -[3-[(4-nitrophenyl)sulfonyl]amino]-4-pyridinyl]aceamide	FUS		41.4	511.1	DSC
C ₁₃ H ₁₂ O	[946-80-5]	Benzyl phenyl ether	V	(368–560)	58.8	383	A
C ₁₃ H ₁₂ O	[91-01-0]	Diphenylmethanol	FUS		23.7	339.4	DSC
			FUS		23.0	338.5	DSC
	SUB	(302–317)		103.4 ± 1.0	298		ME
	SUB	(301–335)		105.7 ± 0.7	298		GS
	SUB	(301–335)		104.5 ± 0.7	318		GS
	V	(342–373)		79.4 ± 0.7	358		GS
	V	(342–373)		83.0 ± 0.7	298		GS
	V	(438–574)		65.4	453		A
	C ₁₃ H ₁₂ O	Ethyl 1-naphthyl ketone	V	(397–579)	74.1	412	A
C ₁₃ H ₁₂ O	[28994-41-4]	2-(phenylmethyl)phenol (2-benzylphenol)	FUS (I)		21.8	326.2	
			FUS (II)		17.0	288.2	DSC
			FUS		23.4	325.7	DSC
C ₁₃ H ₁₂ O	[101-53-1]	4-benzylphenol	SUB	(313–335)	97.4	324	A
C ₁₃ H ₁₂ O	[2928-43-0]	2-biphenylmethanol	FUS		19.7	324	DSC
			FUS		18.5	326.8	DSC
	SUB	(313–335)		106.0 ± 1.1	315		ME
	SUB	(313–335)		107.1 ± 1.1	298		ME
	V	(313–335)		85.6 ± 0.6	326		C
C ₁₃ H ₁₂ O	[3597-91-9]	4-biphenylmethanol	FUS		25.06	373	DSC
			FUS		27.0	375.5	DSC
	SUB	(313–335)		105.7 ± 1.8	349		C
	SUB	(313–335)		107.3 ± 1.8	298		C
	C ₁₃ H ₁₂ OS	3-acetyl-2-methyl-5-phenylthiophene	SUB	(321–339)	107.3 ± 0.4	330	ME
			SUB	(321–339)	108.9 ± 0.4	298	ME
C ₁₃ H ₁₂ O ₂	[103-16-2]	4-benzyloxyphenol	SUB	(347–369)	128.9 ± 0.6	358	ME
			SUB	(347–369)	131.0 ± 0.9	298	ME
C ₁₃ H ₁₂ O ₂	[620-92-8]	4,4'-methylene bis(phenol)	FUS		36.8	436.2	DSC
			SUB	(375–399)	140.8 ± 0.6	298	ME
	C ₁₃ H ₁₂ S	Phenyl benzyl sulfide	SUB		98.4 ± 1.4	298	C

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method References
C ₁₃ H ₁₃ BrS	[148681-80-5]	2-propyl-5-(4-bromophenyl)thiophene	FUS		15.7	360.4	DSC [1993BRE/DUN]
C ₁₃ H ₁₃ ClN ₂ O ₂ S	[34392-72-8]	4-amino-N-(5-chloro-2-methylphenyl)benzenesulfonamide	FUS		36.8	422.7	DSC [2009PER/TKA, 2014PER/KAZ]
	SUB				130 ± 1	298	GS [2009PER/TKA]
	V				104	298	S-F [2009PER/TKA]
C ₁₃ H ₁₃ ClN ₂ O ₂ S	[952915-63-8]	4-amino-N-(3-chloro-4-methylphenyl)benzenesulfonamide	FUS		45.6	477.6	DSC [2013PER/RYZ, 2014PER/KAZ]
	SUB				144.6 ± 1.8	298	GS [2013PER/RYZ]
C ₁₃ H ₁₃ ClN ₂ O ₂ S	[1039862-63-9]	4-amino-(2-chloro-4-methylphenyl)benzene sulfonamide	FUS		31.7	428.8	DSC [2014PER/KAZ]
C ₁₃ H ₁₃ ClN ₂ O ₂ S	[1016780-94-1]	4-amino-(2-chloro-4-methylphenyl)benzene sulfonamide	FUS		36.8	422.7	DSC [2014PER/KAZ]
C ₁₃ H ₁₃ ClN ₂ O ₂ S	[1094869-61-0]	4-amino-(4-chlorophenyl)-2-methylbenzene sulfonamide	FUS		35.7	446.5	DSC [2014PER/KAZ]
C ₁₃ H ₁₃ ClN ₂ O ₂ S	[1094869-83-6]	4-amino-(2-chlorophenyl)-2-methylbenzene sulfonamide	FUS		47.3	479.5	DSC [2014PER/KAZ]
C ₁₃ H ₁₃ ClN ₂ O ₃ S	[1169390-41-3]	4-amino-N-(3-chloro-2-methoxyphenyl)benzenesulfonamide	FUS		30.7	403.9	DSC [2013PER/RYZ, 2014PER/KAZ]
	SUB				147.2 ± 1.5	298	GS [2013PER/RYZ]
C ₁₃ H ₁₃ N	[552-82-9]	<i>N</i> -methyldiphenylamine	V	(376–555)	65.2	391	A [1987STE/MAL, 1947STU]
C ₁₃ H ₁₃ N	[103-32-2]	<i>N</i> -benzylaniline	FUS		20.08	313.9	DSC [1997VER]
			FUS		16.76	305.6	[1991ACR, 1983WEA]
	SUB		(293–312)		103.6 ± 1.6	303	GS [1997VER]
	SUB				51.3		[1980AIH, 1997VER]
	V		(316–343)		79.6 ± 1.1	330	GS [1997VER]
	V				79.5		[1980AIH]

[Note: The value reported in [1980AIH] for the enthalpy of sublimation is smaller than the value given for the enthalpy of vaporization. The author of [1980AIH] noted the anomalous behavior.]

C ₁₃ H ₁₃ NO	[3449-48-7]	1-keto-1,2,3,4-tetrahydro-6-methylcarbazole	FUS	26.9	468.5	DSC	[2006COR/LOP]
C ₁₃ H ₁₃ NO	[25363-55-7]	2-(4-methoxyphenyl)-5-methylpyridine	FUS	20.0	328	DSC	[2000MOR/HAR]
C ₁₃ H ₁₃ NO	[83-18-1]	2,5-dimethyl-1-phenyl-3-pyrrolecarboxaldehyde	SUB	(326–348)	106.0 ± 0.4	337	ME [2013SAN/RIB3]
	SUB		(326–348)		107.6 ± 0.4	298	ME [2013SAN/RIB3]
C ₁₃ H ₁₃ NO ₂		(<i>dl</i>)-2-(1-naphthoxy)propionamide	FUS		37.66	445	DSC [1976LEC/COL]
C ₁₃ H ₁₃ NO ₂		(<i>d</i>)-2-(1-naphthoxy)propionamide	FUS		38.07	475	DSC [1976LEC/COL]
C ₁₃ H ₁₃ N ₃	[102-06-7]	1,3-diphenylguanidine	FUS		22.52	421.15	DSC [2016XU/WAN2]
C ₁₃ H ₁₃ N ₃ O	[13256-75-2]	<i>N</i> -(4-methylphenyl)- <i>N'</i> -(2-pyridyl) urea	FUS		204.45	447	DSC [2002LU/SON, 2004SON/TAN]

[Note: The value is too large. The compound may have decomposed upon melting, or there is a decimal place error in the numerical value.]

C ₁₃ H ₁₃ N ₃ OS	[1187083-48-2]	1-(3-methylsulfanylphenyl)-3-pyridin-2-ylurea
	FUS (I)	11.1 413.2

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{13}\text{H}_{13}\text{N}_3\text{O}_4\text{S}$	[1169390-42-4]	4-amino-2-methyl- <i>N</i> -(2-nitrophenyl)benzenesulfonamide	FUS (II)		26.3	417.2		
			FUS (III)		23.0	413.2		
			FUS (IV)		34.5	426.2	DSC	[2010FUC/QUR]
$\text{C}_{13}\text{H}_{13}\text{N}_3\text{S}$	[53385-83-4]	<i>N</i> -2-(6-picoly)- <i>N'</i> -phenylthiourea	FUS		40.0	451.4	DSC	[2014PER/KAZ]
					43.5	460.7	DSC	[2002VAL/HER]
$\text{C}_{13}\text{H}_{13}\text{OP}$	[2129-89-7]	Methyldiphenylphosphine oxide	FUS		20.37	385.4	DSC	[2010HU/WAN]
$\text{C}_{13}\text{H}_{14}$	[2245-38-7]	1,6,7-trimethylnaphthalene	V	(323–473)	68.6	398	GC	[2002LEI/CHA]
$\text{C}_{13}\text{H}_{14}$	[6158-45-8]	1-isopropynaphthalene	V	(402–541)	50.4	417	A	[1987STE/MAL]
$\text{C}_{13}\text{H}_{14}$	[2027-17-0]	2-isopropynaphthalene	V	(402–541)	60.3	417	A	[1987STE/MAL]
$\text{C}_{13}\text{H}_{14}$		Isopropynaphthalene	V	(426–454)	52.8	440	EB	[1974MAN/LOG]
[Note: The authors do not specify which isomer; however they report a boiling point temperature of 268.2 °C for the compound.]								
$\text{C}_{13}\text{H}_{14}\text{ClN}_5$	[1449745-82-7]	2-butanolypyridine 6'-chloro-4'-pyrimidinylhydrazone	FUS		37	384.4	DSC	[2013PER/KAZ]
$\text{C}_{13}\text{H}_{14}\text{Cl}_2\text{N}_2\text{S}$	[1343440-37-8]	(3,4-dichlorophenyl)-[3-thia-1-azabicyclo[3.3.1]non-2-ylidene]amine	FUS		23.5	370.9	DSC	[2014BLO/OLK]
				(352–363)	122.2 ± 1.1	357	GS	[2014BLO/OLK]
			SUB	(352–363)	125.0 ± 1.1	298	GS	[2014BLO/OLK]
$\text{C}_{13}\text{H}_{14}\text{N}_2$	[1208-52-2]	2,4'-diaminodiphenylmethane	V	(353–403)	111.5	368	A	[1987STE/MAL]
$\text{C}_{13}\text{H}_{14}\text{N}_2$	[101-77-9]	4,4'-diaminodiphenylmethane	FUS		19.69	362.7	DSC	[2006KHI/DAH]
			FUS		9.23	363.7		[1996DOM/HEA, 1978MAR/CIO2]
			V	(343–393)	109.3	358	A	[1987STE/MAL]
			V	(486–545)	98.0	501	A	[1987STE/MAL]
			V	(471–545)	100.6	502	A	[1966ZAL/STR]
$\text{C}_{13}\text{H}_{14}\text{N}_2$	[6582-52-1]	2,2'-diaminodiphenylmethane	SUB	(343–403)	111.3	358	A	[1987STE/MAL]
$\text{C}_{13}\text{H}_{14}\text{N}_2\text{O}_3\text{S}$	[19837-74-2]	4-amino- <i>N</i> -(4-methoxyphenyl)benzenesulfonamide	FUS		38.6	467.4	DSC	[2009PER/TKA, 2014PER/KAZ]
			SUB		124 ± 1	298	GS	[2009PER/TKA]
			V		99.4	298	S–F	[2009PER/TKA]
$\text{C}_{13}\text{H}_{14}\text{O}_3$	[36112-95-5]	3-(1-naphthaleneyloxy)-1,2-propanediol	FUS		32.2	370.1	DSC	[2013BRE/GUB]
$\text{C}_{13}\text{H}_{14}\text{O}_3$	[56715-19-6]	(<i>S</i>)-3-(1-naphthaleneyloxy)-1,2-propanediol	FUS		39.0	383.9	DSC	[2013BRE/GUB]
$\text{C}_{13}\text{H}_{15}\text{BrN}_4\text{O}_2$	[56518-41-3]	5-[(4-bromo-3,5-dimethoxyphenyl)methyl]-2,4-pyrimidinediamine	FUS		49.9	505.4	DSC	[2007CAI/BET]
$\text{C}_{13}\text{H}_{15}\text{ClN}_2\text{S}$	[1583299-21-1]	(4-chlorophenyl)-[3-thia-1-azabicyclo[3.3.1]non-2-ylidene]amine	FUS		11.8	411.8	DSC	[2014BLO/OLK]
			SUB	(368–391)	133.1 ± 1.2	379	GS	[2014BLO/OLK]
			SUB	(368–391)	136.7 ± 1.2	298	GS	[2014BLO/OLK]
$\text{C}_{13}\text{H}_{15}\text{Cl}_2\text{N}_3$	[66246-88-6]	1-[2-(2,4-dichlorophenyl)pentyl]-1 <i>H</i> -1,2,4-triazole (penconazole)						

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)
	FUS	(78–364)	33.58	332.4	AC	[2004SUN/SON2]
$\text{C}_{13}\text{H}_{15}\text{Cl}_3\text{O}_3$	[120-39-8]	2,4,6-trichlorophenoxyacetic acid, pentyl ester				
	V	(460–573)	78.8	475	A,GC	[1987STE/MAL, 1966JEN/SCH]
$\text{C}_{13}\text{H}_{15}\text{FN}_2\text{S}$	[1639369-06-4]	4-fluoro-N-(3-thia-1-azabicyclo[3.3.1]non-2-ylidene)aniline				
	FUS		22.4	362.6	DSC	[2014SUR/PRO]
	SUB	(329–357)	90.4 ± 0.8	343	GS	[2014SUR/PRO]
	SUB	(329–357)	92.6 ± 0.8	298	GS	[2014SUR/PRO]
$\text{C}_{13}\text{H}_{15}\text{F}_{13}\text{O}$	[1193009-93-6]	1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-8-(pentyloxy)octane				
	TRS		2.09	200.6		
	FUS		26.58	226.4	DSC	[2010ZAG/CON]
$\text{C}_{13}\text{H}_{15}\text{N}$	[6303-88-4]	1,2,3,4-tetrahydro-9-methylcarbazole				
	TRS		0.68	162		
	FUS		14.67	323.8	AC	[1992STE/CHI]
	V	(370–655)	72.5	400	EB,IPM	[1992STE/CHI]
	V	(370–655)	69.6	440	EB,IPM	[1992STE/CHI]
	V	(370–655)	66.7	480	EB,IPM	[1992STE/CHI]
	V	(370–655)	63.8	520	EB,IPM	[1992STE/CHI]
	V	(370–655)	60.7	560	EB,IPM	[1992STE/CHI]
$\text{C}_{13}\text{H}_{15}\text{NO}$	[2889-58-9]	1-(1-isocyanato-1-methylethyl)-4-(1-methylethylenebenzene)				
	V	(298–463)	68.5	308	DTA,T,HSA	[1986ACH/HAS]
$\text{C}_{13}\text{H}_{15}\text{NO}_2$	[24691-76-7]	3,4-dihydro-6-methyl-2 <i>H</i> -pyran-5-carboxanilide				
	FUS		19.21	381.1	DSC	[1990DON/DRE]
$\text{C}_{13}\text{H}_{15}\text{NO}_2$	[200353-88-4]	Ethyl 4,7-dihydro-4,7-ethano-2 <i>H</i> -isoindole-1-carboxylate				
	FUS		45.4	401.8	DSC	[2000UNO/ITO]
$\text{C}_{13}\text{H}_{15}\text{N}_3\text{O}_2$	[87-47-8]	3-methyl-1-phenyl-1 <i>H</i> -pyrazol-5-yl dimethylcarbamate				
	FUS		21.39	324.3	DSC	[1990DON/DRE]
$\text{C}_{13}\text{H}_{15}\text{N}_3\text{O}_8$	[53848-89-8]	Hexyl 2,4,6-trinitrobenzoate				
	TRS		1.7	264		
	FUS		32.96	402	DSC	[1974WAR/WIL]
$\text{C}_{13}\text{H}_{16}\text{ClNO}$	[6740-88-1]	(<i>RS</i>)-2-(2-chlorophenyl)-2-(methylamino)cyclohexanone				
	FUS		26.6	365.7	DSC	[2009TAM/MIR]
$\text{C}_{13}\text{H}_{16}\text{Cl}_2\text{O}_3$	[67821-07-2]	2,4-dichlorophenoxyacetic acid, isopentyl ester				
	V	(460–573)	75.8	475	A,GC	[1987STE/MAL, 1966JEN/SCH]
$\text{C}_{13}\text{H}_{16}\text{Cl}_2\text{O}_3$	V	(460–573)	72.7	516	GC	[1966JEN/SCH]
	V	(444–573)	73.6	459	A,GC	[1987STE/MAL, 1966JEN/SCH]
	V	(460–573)	71.2	508	GC	[1966JEN/SCH]
$\text{C}_{13}\text{H}_{16}\text{F}_3\text{N}_3\text{O}_4$	[1582-09-8]	2,6-dinitro- <i>N,N</i> -dipropyl-4-(trifluoromethyl)benzenamine				
	FUS		22.32	321.4	DSC	[1991ACR, 1990DON/DRE]
$\text{C}_{13}\text{H}_{16}\text{F}_3\text{N}_3\text{O}_4$	[1861-40-1]	<i>N</i> -butyl- <i>N</i> -ethyl-2,6-dinitro-4-trifluoromethylainline (benefine)				
	FUS		36.5	338.5	DSC	[1991ACR, 1990DON/DRE]
$\text{C}_{13}\text{H}_{16}\text{N}_2$	[5766-79-0]	α -phenyl-1-piperidinoacetonitrile				
	FUS		19.71	335.2		[1997WEL/VER]
	V	(338–378)	73.2 ± 0.4	298	GS	[1997WEL/VER]
$\text{C}_{13}\text{H}_{16}\text{N}_2\text{O}_3$	[37000-08-1]	Hexahydro-1-(3-nitrobenzoyl)-1 <i>H</i> -azepine (the compound is called hexamethyleneimine <i>m</i> -nitrobenzoate in paper)				
	SUB	(310–321)	113	315		[1972ROZ/POL]
	SUB		104.6		ME	[1970POL/PER, 1972ROZ/POL]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method References
C ₁₃ H ₁₆ N ₂ O ₆	[159432-36-7]	2,3-dihydro-7-(1-methylethoxy)-3-[2-(nitrooxy)ethyl]-4 <i>H</i> -1,3-benzoxazin-4-one	FUS		32.1	344.7	DSC [1996FON/ROS]
C ₁₃ H ₁₆ O ₄	[7479-28-9]	2,3,5-trimethyl-1,4-diacetoxybenzene	FUS		22.32	381.6	DSC [2013YAN/YIN]
C ₁₃ H ₁₇ ClN ₂ O ₄	[138517-06-3]	(4-nitrophenyl)-6-chlorohexyl carbamate	FUS		30.31	360.8	DSC [1993TIE/FRA]
C ₁₃ H ₁₇ N	[14611-51-9]	(<i>R</i>)- <i>N</i> -methyl- <i>N</i> -(1-phenylpropan-2-yl)prop-1-yn-3-amine ((<i>R</i>)-deprenyl)	V		64.3 ± 2.2	298	CGC [2014GOB/VIK]
C ₁₃ H ₁₇ NO	[3626-62-8]	1-(phenacyl)piperidine	V	(381–446)	51.4	396	A [1987STE/MAL, 1969DAV/MAK, 1968DAV/BAT]
			V	(382–450)	47.2	416	Static [1969DAV/MAK]
C ₁₃ H ₁₇ NO	[13290-48-7]	1-(<i>m</i> -toluoyl)piperidine	V	(373–403)	53.8	388	A [1987STE/MAL, 1969DAV/MAK, 1968DAV/BAT]
C ₁₃ H ₁₇ NO ₃	[4134-09-2]	(<i>dl</i>)- <i>N</i> -acetylphenylalanine, ether ester	V	(438–528)	82.4	453	A [1987STE/MAL]
C ₁₃ H ₁₇ NO ₃	SUB	Morpholine cinnamate		(298–349)	118.8	313	A [1987STE/MAL]
C ₁₃ H ₁₇ N ₃ O ₂ S	[1245618-42-1]	1-[5-(4-ethoxyphenylamino)-1,2,4-thiadiazol-3-yl]-2-propanol	FUS		27.5	385.1	DSC [2010PER/VOL]
	SUB			(343–361)	152.8 ± 2.2	298	GS [2010PER/VOL]
C ₁₃ H ₁₈	[941-60-6]	1,1,4,6-tetramethylindane	FUS	(12–376)	15.74	273.6	AC [1991ACR, 1981LEE/FIN]
	V			(313–383)	59.4	328	A,EB,IPM [1987STE/MAL, 1978OSB/SCO]
	V			(313–469)	60.2	328	A,EB,IPM [1987STE/MAL, 1978OSB/SCO]
	V			(423–469)	51.9	439	A,EB,IPM [1987STE/MAL, 1978OSB/SCO]
	V			(313–469)	61.4 ± 0.5	298	EB,IP [1978OSB/SCO]
C ₁₃ H ₁₈	[1078-04-2]	1,1,4,7-tetramethylindane	FUS		11.28	245.6	AC [1991ACR, 1981LEE/FIN]
	V			(313–388)	59.6	328	A,EB,IPM [1987STE/MAL, 1978OSB/SCO]
	V			(313–469)	60.4	328	A,EB,IPM [1987STE/MAL, 1978OSB/SCO]
	V			(431–469)	52.0	446	A,EB,IPM [1987STE/MAL, 1978OSB/SCO]
	V			(313–469)	61.4 ± 0.6	298	EB,IP [1978OSB/SCO]
C ₁₃ H ₁₈ Br ₂ N ₂ O	[18683-91-5]	<i>trans</i> -4-[(2-amino-3,5-dibromophenyl)methyl]amino)cyclohexanol (ambroxol)	FUS (I)		31.46	372.7	
	FUS (II)				36.52	365.6	DSC [2004CAI/FOP]
C ₁₃ H ₁₈ CINO	[7287-36-7]	<i>N</i> -(4-chlorophenyl)-2,2-dimethylpentanamide	FUS		23.31	360.2	DSC [1990DON/DRE]
C ₁₃ H ₁₈ CINO	[2307-68-8]	<i>N</i> -(3-chloro-4-methylphenyl)-2-methylpentanamide	FUS		16.35	353.2	DSC [1990DON/DRE]
C ₁₃ H ₁₈ N ₂ O ₂	[2164-08-1]	3-cyclohexyl-6,7-dihydro-1 <i>H</i> -cyclopentapyrimidine-2,4-(3 <i>H</i> ,5 <i>H</i>)-dione	FUS		42.31	584.3	DSC [1990DON/DRE]
C ₁₃ H ₁₈ N ₂ O ₂ S ₂		<i>N</i> -allyl- <i>S</i> -ethyl- <i>N'</i> -tosylisothiourea	FUS		28.0	335.2	DSC [1992REI/HAN]
C ₁₃ H ₁₈ N ₂ O ₃	[509-86-4]	Heptabarbitone	FUS		38.6		DSC [1982TRE/VAU]
C ₁₃ H ₁₈ N ₂ O ₄	[87458-01-3]	hexyl <i>N</i> -(4-nitrophenyl) carbamate	FUS		32.74	376.7	DSC [1993TIE/FRA]
C ₁₃ H ₁₈ N ₄ O ₃	[6493-05-6]	1-(5-oxohexyl)-3,7-dimethylxanthine (pentoxifylline)	FUS		36.6	376.8	DSC [2009DOM/POB]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₃ H ₁₈ O	[5195-24-4]	4,4-dimethyl-1-phenyl-3-pentanone	(405–520)	63.5	420	A	[1987STE/MAL]
V							
C ₁₃ H ₁₈ O	[103-95-7]	p-isopropyl- α -methylhydrocinnamaldehyde	(283–499)	72.6	298	A	[1987STE/MAL]
V							
C ₁₃ H ₁₈ O	[1671-75-6]	1-phenyl-1-heptanone	(373–550)	64.6	388	A	[1987STE/MAL, 1947STU]
V							
C ₁₃ H ₁₈ O ₂	[21643-38-9]	4-hexylbenzoic acid					
TRS (liq cryst)				17.4	371		
TRS (liq					380	DSC	[1985PRI/PUC]
cryst-to-liq)							
SUB			(347–363)	123.6 ± 1.0	298	ME	[2004MON/ALM]
C ₁₃ H ₁₈ O ₂	[15687-27-1]	(±) α -methyl-4-(isobutyl)phenylacetic acid (ibuprofen)					
FUS				29.77	353.3	DSC	[2016ABI/ARM]
[Note: The authors of [2016ABI/ARM] report an enthalpy of fusion of 29.77 J/g, which we have taken to 29.77 kJ/mol.]							
FUS				24.7	352.2	DSC	[2015NOK/HOM]
FUS				26.2	348.3	DSC	[2013YUA/CAP]
FUS				25.69	347.5	DSC	[2013BOU/TEY]
FUS (I)				25.8	349		
FUS (II)				7.0	290	DSC	[2013DUD/COR, 2008DUD/DAN]
[Note: The authors of [2008DUD/DAN] report that phase II melts at 290 K, recrystallizes to phase I at 303 K, and then at 348 K phase I melts.]							
FUS				26.3	349.5	DSC	[2010ELK/ESS]
[Note: The authors of [2010ELK/ESS] report that the enthalpy of fusion decreases significantly with decreasing crystallinity.]							
FUS				25.3	347.6	DSC	[2010YUA/CAP]
FUS				28.92	347.4	DSC	[2010MIY/KHA]
FUS				26.6	352.2	DSC	[2010NOK/AMI]
FUS				25.99	348.2	DSC	[2010KRU/MAJ]
FUS				39.5	350.4	DSC	[2010CIL/ALB]
FUS				26.42	348.3	DSC	[2010HAH/GRA]
FUS				27.94	347.6	DSC	[2010HON/HUA]
FUS				31.7	351.7	DSC	[2010BAN/ARC]
FUS				26.48	350	DSC	[2010BAI/VAN]
FUS				25.47	348.5	DSC	[2009GAS/CEN]
FUS				25.0	348.2	DSC	[2007VIP/WAN]
FUS				25.47	348.6		[2007TUR/UPP]
FUS				26.6	346.4	DSC	[2006WAS/HOL]
FUS	(78–400)			26.65	348.0	AC	[2004XU/SUN]
FUS				25.0	348.4	DSC	[2004XU/SUN]
FUS				25.5	347.2	DSC	[2002GRA/RAS]
FUS				25.7	350.9	DSC	[1999LI/ZEL]
FUS				25.28		DSC	[1998REI/ZIM]
FUS				23.1	347.2		[1998MUR/BET2]
FUS				25.7	348.7	DSC	[1996BUR/KOL]
FUS				26.9	344.0	DSC	[1992DWI/SAT]
SUB				121	317		[1990ERT/HEA]
C ₁₃ H ₁₈ O ₂	[51146-56-6]	(S)- α -methyl-4-(2-methylpropyl)benzeneacetic acid ((S)-ibuprofen)					
FUS				18.3	324.5	DSC	[2013YUA/CAP]
FUS				19.0	322.8	DSC	[2012MAX/CHI]
FUS				28.3	326.9	DSC	[2010CIL/ALB]
FUS	(80–370)			18.05	324.2	AC	[2005XU/SUN]
FUS				15.4	323.5		[2001LI/GRA]
FUS				17.9	327.2	DSC	[1999LI/ZEL]
FUS				18.7	325.5	DSC	[1996BUR/KOL]
FUS				17.9	323.5	DSC	[1993ROM/RHO]
FUS				19.9	319.0	DSC	[1992DWI/SAT]
V			(443–474)	106.0 ± 5.5	298	CGC	[2012MAX/CHI]
C ₁₃ H ₁₈ O ₂	[51146-57-7]	(R)- α -methyl-4-(2-methylpropyl)benzeneacetic acid ((R)-ibuprofen)					
FUS				18.1	324.5	DSC	[2013YUA/CAP]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₁₃ H ₁₈ O ₃	[200570-98-5]	3-hexyloxybenzoic acid	FUS		22.72	343	DSC
C ₁₃ H ₁₈ O ₃	[1142-39-8]	4-hexyloxybenzoic acid	TRS		5.95	342.2	DSC
	SUB	(363–379)		130.8 ± 0.4	371	ME	[2010FON/SAN]
	SUB (II)	(363–379)		139.4 ± 0.9	298	ME	[2010FON/SAN]
C ₁₃ H ₁₈ O ₅ S	[26225-79-6]	(<i>dl</i>)-2-ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuranylmethanesulfonate	FUS		26.25	344.1	DSC
C ₁₃ H ₁₈ O ₇	[138-52-3]	2-(hydroxymethyl)phenyl- β -(<i>D</i>)-glucopyranoside, (<i>D</i>)-salicin	FUS		55.5	474.7	DSC
C ₁₃ H ₁₉ BrO ₄	[929259-37-0]	1-bromo-2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}benzene	V	(333–370)	96.1 ± 0.4	298	GS
C ₁₃ H ₁₉ NO	[18859-19-3]	3-phenylpropionic acid, <i>N,N</i> -diethylamide	V	(353–439)	46.5	368	A
C ₁₃ H ₁₉ NO	[141271-51-4]	(4 <i>R,5R</i>)-2,2,3,4-tetramethyl-5-phenyl-1,3-oxazolidine	V	(293–301)	61.6 ± 1.8	298	[1998GUD/TOR]
C ₁₃ H ₁₉ NO ₂	[3129-92-8]	Cyclohexyl ammonium benzoate	SUB	(289–298)	103.1	293.5	A
C ₁₃ H ₁₉ NO ₂	[13476-55-6]	Hexyl 4-aminobenzoate	FUS		33.1	334.2	DSC
C ₁₃ H ₁₉ NO ₂	[7461-26-9]	Hexyl <i>N</i> -phenylcarbamate	FUS		32.76	328	[1971PRI]
C ₁₃ H ₁₉ NO ₂	[147169-48-0]	(<i>S</i>)- <i>tert</i> -butyl-1-phenylethylcarbamate	FUS		29.73	359.5	DSC
C ₁₃ H ₁₉ NO ₄	[73243-69-3]	<i>N</i> -phenylethyl-5-amino-1,5-dideoxy- <i>(D)</i> -glucopyranose	FUS		39.9	455.8	DSC
C ₁₃ H ₁₉ NO _{4S}	[57-66-9]	4-[(dipropylamino)sulfonyl]benzoic acid (probenecid)	FUS		33.57	471	DSC
			FUS		40.9	472.1	DSC
C ₁₃ H ₁₉ N ₃ O ₃	[16577-64-3]	1-hexyl-3-(4-nitrophenyl) urea	FUS		25.47	384.4	DSC
C ₁₃ H ₁₉ N ₃ O ₄	[40487-42-1]	<i>N</i> -(1-ethylpropyl)-2,6-dinitro-3,4-xylidine	FUS		25.19	327.5	DSC
C ₁₃ H ₂₀	[1078-71-3]	Heptylbenzene	V	(292–353)	64.2 ± 0.2	298	GS
			V	(423–527)	54.0	438	A
			V		64.9	298	[1971WIL/ZWO]
C ₁₃ H ₂₀ N ₂ O ₂	[59-46-1]	2-(diethylamino)ethyl 4-aminobenzoate (procaine)	FUS		26.07	428.6	DTA
			FUS		26.2	335	DSC
							[2010BAI/VAN]

[Note: There is a significant difference noted in the melting point temperatures determined by the two research groups.]

C ₁₃ H ₂₀ N ₂ O ₂ S ₂	[81261-44-1]	<i>N</i> -isobutyl- <i>S</i> -methyl- <i>N'</i> -tosylisothiourea	FUS	29.4	363.2	DSC	[1992REI/HAN]
C ₁₃ H ₂₀ N ₂ O ₂ S ₂	[120563-91-9]	<i>N</i> - <i>tert</i> -butyl- <i>S</i> -methyl- <i>N'</i> -tosylisothiourea	FUS	30.4	394.2	DSC	[1992REI/HAN]
C ₁₃ H ₂₀ N ₂ O ₂ S ₂	[145198-70-5]	<i>N</i> -isopropyl- <i>S</i> -ethyl- <i>N'</i> -tosylisothiourea	FUS	29.1	392.2	DSC	[1992REI/HAN]
C ₁₃ H ₂₀ O	V	Butyl cumyl ether	(278–318)	63.8 ± 0.5	298	GS	[2001VER/HEI2]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₃ H ₂₀ O	[127-41-3]	α -ionone					
		V (352–523)	62.0	367	A	[1987STE/MAL, 1947STU]	
		V (286–333)	67.5	301	A, ME	[1987STE/MAL, 1957SER/VOI]	
C ₁₃ H ₂₀ O	[14901-07-6]	β -ionone					
	V (291–334)	69.0	306	A, ME	[1987STE/MAL, 1957SER/VOI]		
C ₁₃ H ₂₀ O	[16647-05-5]	6,10-dimethyl-4,5,9-undecatrien-2-one					
		V (349–421)	63.6 ± 1.4	385	Static	[1988BAG/GUR]	
C ₁₃ H ₂₀ O	[141-10-6]	6,10-dimethyl-3,5,9-undecatrien-2-one					
		V (382–457)	67.6 ± 1.1	420	Static	[1988BAG/GUR]	
C ₁₃ H ₂₀ O	[79-77-6]	4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one					
		V (373–442)	49.6 ± 1.1	408	Static	[1988BAG/GUR]	
C ₁₃ H ₂₀ O ₂	[500-67-4]	1,3-dihydroxy-5-heptylbenzene					
	V (443–504)	91.6	458	A, GC	[1987STE/MAL, 1975KUN/LIL]		
C ₁₃ H ₂₀ O ₂	[41395-27-1]	1,3-dihydroxy-5-methyl-2-hexylbenzene					
		V (433–493)	82.8	448	A, GC	[1987STE/MAL, 1975KUN/LIL]	
C ₁₃ H ₂₁ Cl ₃ OS	[76619-97-1]	2,3,3-trichloro-2-propenethioic acid, O-decyl ester					
		V (483–503)	79.9	GC	[1980PIT/KIS]		
C ₁₃ H ₂₁ N	[29772-98-3]	<i>N,N</i> -dimethyl-3-methyl-3-phenyl-2-butaneamine					
		V (283–330)	59.8 ± 0.7	307	GS	[1998VER/BEC]	
		V (283–330)	60.3 ± 0.7	298	GS	[1998VER/BEC]	
C ₁₃ H ₂₁ N	[29772-82-5]	<i>N</i> -methyl-2,3-dimethyl-3-phenyl-2-butaneamine					
		V (285–332)	71.9 ± 1.1	309	GS	[1998VER/BEC]	
		V (285–332)	72.5 ± 1.1	298	GS	[1998VER/BEC]	
C ₁₃ H ₂₁ N	[585-48-8]	2,6-di- <i>tert</i> -butylpyridine					
		V	56.6 ± 1.2	298	C	[2008FRI/ACR]	
		V (293–313)	57.3	298		[1979ARN/CHA]	
C ₁₃ H ₂₁ NO	[90-84-6]	2-(diethylamino)-1-phenyl-1-propanone					
	V (293–333)	71.6 ± 1.0	298	GS	[1994WEL/VER]		
C ₁₃ H ₂₁ NO	[1502-00-7]	<i>N,N</i> -dimethyl-1-adamantylcarboxamide					
		SUB (303–322)	96.9 ± 0.3	313	ME	[1993ABB/JIM, 1995ABB/JIM]	
C ₁₃ H ₂₁ NO ₂	[3246-04-6]	<i>N</i> -(3-phenoxy-2-hydroxypropyl)butylamine					
		SUB (323–348)	133.9	335.5	A	[1987STE/MAL]	
C ₁₃ H ₂₂	[886027-03-8]	2-allyl- <i>cis</i> -decahydronaphthalene					
	V (296–320)	89.9	308	A	[1987STE/MAL, 1940ZIL]		
C ₁₃ H ₂₂	[886026-95-5]	2-allyl- <i>trans</i> -decahydronaphthalene					
	V (296–320)	91.7	308	A	[1987STE/MAL, 1940ZIL]		
C ₁₃ H ₂₂	[5744-03-6]	Dodecahydrofluorene					
	V (332–525)	55.8	347	A	[1987STE/MAL]		
C ₁₃ H ₂₂	[707-35-7]	1,3,5-trimethyladamantane					
		TRS	8.19	234.4			
		FUS (8–356)	2.06	255.6	AC	[2000DRU/VAR2]	
		FUS	1.92	255.0	DSC	[1980ARN/SCH]	
		TRS	6.3	228.2			
		FUS	1.73	253.6	DSC	[1977CLA/KNO]	
		SUB (300–360)	77.8 ± 1.3	298	BG	[1977STE/WAT]	
C ₁₃ H ₂₂ Cl ₂ O ₄	[3843-83-2]	V	51.7 ± 0.2	298		[2000DRU/VAR, 2000MEL/PIM, 2000PAS/KOR]	
		V (385–482)	45.4	400		[2000PAS/KOR]	
		V	51.0 ± 0.2	313	C	[2000PAS/KOR]	
C ₁₃ H ₂₂ Cl ₂ O ₄		2,2-bis(chloromethyl)-1,3-propanediol dibutyrate					

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(454–572)		43.1	469	A	[1987STE/MAL]	
C ₁₃ H ₂₂ N ₂ O	[18530-56-8]	<i>N,N</i> -dimethyl- <i>N'</i> -(octahydro-4,7-methano-1 <i>H</i> -inden-5-yl)urea	FUS		21.74	436.5	DSC	[1990DON/DRE]
C ₁₃ H ₂₂ O ₂	[78548-53-5]	Bornyl propionate	V	(337–508)	55.9	352	A	[1987STE/MAL, 1947STU]
C ₁₃ H ₂₂ O ₃	[4427-97-8]	Dicyclohexyl carbonate	SUB	(293–313)	66.5 ± 4.2	303	ME	[1971KIP/RAB, 1977PED/RYL]
C ₁₃ H ₂₂ O ₃	[49540-31-0]	3,3,7,7-tetramethylnonanedioic anhydride	FUS		20.5	396.2		[1974BOR]
C ₁₃ H ₂₂ O ₄	[56277-85-1]	Octyl itaconate	FUS		43.7	331.2	DSC	[2016RIC/DEL]
C ₁₃ H ₂₄	[26186-02-7]	1-tridecyne	V	(439–473)	52.8	454	EB	[1986ELV/KUD]
C ₁₃ H ₂₄	[60186-80-3]	5-tridecyne	V	(448–488)	52.6	463	EB	[1986ELV/KUD]
C ₁₃ H ₂₄	[42371-66-4]	6-tridecyne	V	(448–488)	52.2	463	EB	[1986ELV/KUD]
C ₁₃ H ₂₄ Cl ₄	[3922-33-6]	1,1,1,13-tetrachlorotridecane	V	(320–370)	97.4	335	A	[1987STE/MAL, 1960MAL/MAL]
C ₁₃ H ₂₄ O	[42023-59-6]	5-methyl-2-ethyl-2-butyl-4-hexenal	V	(323–393)	69.1	338	A	[1987STE/MAL, 1974VOI/SHC]
C ₁₃ H ₂₄ N ₂	[33529-02-1]	1-decylimidazole	V	(324–374)	89.6 ± 0.3	298	GS	[2011EME/POR]
C ₁₃ H ₂₄ N ₂	[159255-01-3]	1-nonyl-2-methylimidazole	V	(328–374)	87.4 ± 0.3	298	GS	[2011EME/POR2]
C ₁₃ H ₂₄ N ₆		1-(hexamethyleneimine)-3,5-bis(dimethylamino)-(s)-triazine	FUS		16.32	335.8	DSC	[1989BRA/RYT]
C ₁₃ H ₂₄ O ₂	[4453-82-1]	Dicyclohexylmethanol	FUS		20.69	337.5	DSC	[2012YAM/SUZ]
C ₁₃ H ₂₄ O ₂	[2156-96-9]	Decyl acrylate	V	(404–536)	59.6	419	A	[1987STE/MAL]
C ₁₃ H ₂₄ O ₂	[1725-04-8]	Oxa-2-cyclotetradecanone (tridecanolactone)	TRS		18.16	290.6		
			FUS	(11–330)	9.08	300.4	AC	[1996DOM/HEA, 1981LEB/YEV]
	V	(375–405)		66.6 ± 1.1	390	MM	[1991WIB/WAL]	
	V	(375–405)		72.9 ± 1.7	298	MM	[1991WIB/WAL]	
	V	(393–443)		67.5	408	A	[1987STE/MAL]	
C ₁₃ H ₂₄ O ₂		3,3-dimethylbutanoic acid, 1-methylcyclohexyl ester	V	(333–378)	61.4	298	CGC	[1999VER/HEI]
C ₁₃ H ₂₄ O ₂		3,3-dimethylbutanoic acid, 3-methylcyclohexyl ester	V	(333–378)	63.5	298	CGC	[1999VER/HEI]
C ₁₃ H ₂₄ O ₂	[1027080-67-6]	3,3-dimethylbutanoic acid, 4-methylcyclohexyl ester	V	(333–378)	64.1	298	CGC	[1999VER/HEI]
C ₁₃ H ₂₄ O ₂	[692-86-4]	Ethyl 10-undecenoate	V	(404–532)	77.4	419	A	[1987STE/MAL]
C ₁₃ H ₂₄ O ₃	[1898-97-1]	1,4-dioxa-5-cyclopentadecanone	V	(403–443)	69.6	418	A, GC	[1987STE/MAL, 1971VOI/SHC]
C ₁₃ H ₂₄ O ₃	[36575-54-9]	1,6-dioxa-7-cyclopentadecanone	V	(403–443)	75.7	418	A, GC	[1987STE/MAL, 1971VOI/SHC]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				Method	References
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)		
C ₁₃ H ₂₄ O ₃	[36575-53-8]	1,8-dioxa-9-cyclopentadecanone					
	V	(403–443)	66.5	418		A, GC	[1987STE/MAL, 1971VOI/SHC]
C ₁₃ H ₂₄ O ₃	[18871-17-5]	3-hexyl-4-acetoxytetrahydro-2 <i>H</i> -pyran					
	V	(383–453)	72.1	398		A	[1987STE/MAL]
C ₁₃ H ₂₄ O ₃	[41780-57-8]	Octyl levulinate					
	V	(413–565)	66.3	428		A	[1987STE/MAL]
	V		65.1	507			[1933COW/SCH]
C ₁₃ H ₂₄ O ₄	[855376-33-9]	Octyl 3-acetoxypropionate					
	V	(420–440)	88.4	430		A	[1987STE/MAL, 1948FEI/FIS]
C ₁₃ H ₂₄ O ₄	[77478-67-2]	Ethylisopentylmalonic acid, ethyl methyl ester					
	V	(392–501)	73.1	407		A	[1987STE/MAL, 1981TOD/BEL]
C ₁₃ H ₂₄ O ₄	[505-52-2]	1,13-tridecanedioic acid (brassylic acid)					
	FUS		51.6	386.2		DSC	[2015TAN/DAI]
	FUS		49.4	386.3		DSC	[2005ROU/TEM]
	FUS		45.3	397.5		DSC	[1991ACR, 1974CIN/BER]
C ₁₃ H ₂₄ O ₄	[6624-57-3]	Dibutyl glutarate					
	V	(318–370)	77.2	344		GS	[2011LIP/KRA]
	V	(318–370)	83.1 ± 0.2	298		GS	[2011LIP/KRA]
C ₁₃ H ₂₄ O ₄	[43052-39-7]	Di- <i>tert</i> -butyl glutarate					
	V	(295–325)	71.7 ± 0.5	298		GS	[2011POR/KRA]
C ₁₃ H ₂₄ O ₅	[5456-15-5]	Octyl[1-(methoxycarbonyl)ethyl] carbonate					
	V	(391–566)	70.0	406		A	[1987STE/MAL, 1950REH/DIX2]
C ₁₃ H ₂₄ O ₅	[902261-31-8]	Pentyl[1-(butoxycarbonyl)ethyl] carbonate					
	V	(348–513)	70.1	363		A	[1987STE/MAL, 1950REH/DIX2]
C ₁₃ H ₂₅ N	[629-60-7]	Tridecanonitrile					
	V	(301–363)	80.3 ± 0.4	298		GS	[2005EME/VER]
	V	(380–566)	69.5	395		A	[1987STE/MAL]
C ₁₃ H ₂₅ NO	[20299-83-6]	1-octanoyl piperidine					
	V	(373–443)	50.0	388		A	[1987STE/MAL, 1968DAV/BAT]
C ₁₃ H ₂₅ NO ₃	[83871-09-4]	<i>N</i> -(1-oxoundecyl)glycine					
	TRS+FUS		26.3	383.3		DSC	[2014RED/KRO]
C ₁₃ H ₂₆	[7367-38-6]	5-butyl-4-nonene					
	V	(310–361)	55.8	325		A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₁₃ H ₂₆	[2437-56-1]	1-tridecene					
	V		65.3	298			[1971WIL/ZWO]
	V	(413–509)	53.9	428		A	[1987STE/MAL, 1955CAM/ROS]
C ₁₃ H ₂₆	[1795-20-6]	<i>n</i> -octylcyclopentane					
	V		65.8	298			[1971WIL/ZWO]
C ₁₃ H ₂₆	[5617-41-4]	<i>n</i> -heptylcyclohexane					
	FUS		22.22	232.8			[1996DOM/HEA, 1949PAR/MOO2]
	V		64.9	298			[1971WIL/ZWO]
C ₁₃ H ₂₆	[295-02-3]	Cyclotridecane					
	TRS		0.9	285.6			
	FUS		7.4	297.6		DSC	[1987DRO/MOL, 1987DRO/EME]
C ₁₃ H ₂₆ O	[53144-53-9]	5-methyl-2-ethyl-2-butyl-4-hexene-1-ol					
	V	(333–393)	76.9	348		A	[1987STE/MAL, 1974VOI/SHC]
C ₁₃ H ₂₆ O	[30089-09-9]	1-octylcyclopentanol					
	V	(468–541)	60.9	483		A	[1987STE/MAL]
C ₁₃ H ₂₆ O	[10486-19-8]	Tridecanal					
	V	(325–349)	73.3 ± 0.4	298		GS	[2003VER/KRA2]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₃ H ₂₆ O	[593-08-8]	2-tridecanone					
		FUS		44.03	301.75	DSC	[2011DOM/PAD]
		V	(335–534)	69.6	350	A	[1987STE/MAL]
		V	(424–510)	61	439	A	[1987STE/MAL]
		V	(400–628)	49.6	541		[1975AMB/ELL]
		V	(335–431)	69.8	348	EB	[1966MEY/WAG]
		V	(360–535)	62.1	375		[1947STU]
C ₁₃ H ₂₆ O	[462-18-0]	7-tridecanone					
		SUB	(287–293)	103.8	290	ME	[1938UBB]
		V	(395–600)	62.7	410	A	[1987STE/MAL]
		V	(396–623)	49.3	536		[1975AMB/ELL]
C ₁₃ H ₂₆ O	[64470-31-1]	(Z)-7-tridecen-1-ol					
	V	(343–383)	95.1	298	CGC	[2000OVA/KOU, 1994KOU/HOS]	
C ₁₃ H ₂₆ O	[64437-28-1]	(E)-7-tridecen-1-ol					
	V	(343–383)	95.6	298	CGC	[2000OVA/KOU, 1994KOU/HOS]	
C ₁₃ H ₂₆ O	[52957-10-5]	(Z)-9-tridecen-1-ol					
	V	(343–383)	95.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]	
C ₁₃ H ₂₆ O	[52957-15-0]	(E)-9-tridecen-1-ol					
	V	(343–383)	96.4	298	CGC	[2000OVA/KOU, 1994KOU/HOS]	
C ₁₃ H ₂₆ O	[34010-24-7]	(Z)-11-tridecen-1-ol					
	V	(343–383)	97.1	298	CGC	[2000OVA/KOU, 1994KOU/HOS]	
C ₁₃ H ₂₆ O	[56195-34-7]	(E)-11-tridecen-1-ol					
	V	(343–383)	97.2	298	CGC	[2000OVA/KOU, 1994KOU/HOS]	
C ₁₃ H ₂₆ O	[1604-34-8]	6,10-dimethyl-2-undecanone					
	V	(379–473)	59.3 ± 0.4	426	Static	[1988BAG/GUR]	
C ₁₃ H ₂₆ O ₂	[5452-11-9]	4,5-dimethyl-2-octyl-1,3-dioxolane					
	V	(333–453)	72.8	348	A	[1987STE/MAL, 1977VOI/SHC]	
C ₁₃ H ₂₆ O ₂	[61732-94-3]	2-octyl-1,3-dioxepane					
	V	(323–373)	61.2	338	A	[1987STE/MAL, 1977VOI/SHC2]	
C ₁₃ H ₂₆ O ₂	[1731-81-3]	undecyl acetate					
		V	(289–329)	75.1 ± 0.3	298	GS	[2006KRA/VER]
		V	(333–378)	77.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₃ H ₂₆ O ₂	[2311-59-3]	isopropyl decanoate					
	V	(363–451)	60.8	378	A	[1987STE/MAL]	
C ₁₃ H ₂₆ O ₂	[627-90-7]	ethyl undecanoate					
	FUS		36.16	259.2	AC	[2005VAN/OON]	
C ₁₃ H ₂₆ O ₂	[30673-60-0]	propyl decanoate					
	V	(369–459)	62.4	384	A	[1987STE/MAL]	
C ₁₃ H ₂₆ O ₂	[111-82-0]	methyl laurate					
		FUS		39.54	305.1	DSC	[2016LIS/FAR]
		FUS		36/5	276.5	DSC	[2013MEK/BEN]
		SUB	(262–273)	121.8 ± 2.1	267	ME	[1965DAV/KYB, 1987STE/MAL]
		V		71.4	350	CE	[2002VAN/VAN]
		V		70.7 ± 0.2	356	CE	[2002VAN/VAN]
		V		76.6 ± 0.4	298	CE	[2002VAN/VAN]
		V	(295–452)	74.9	310		[2001BUR/JOS]
		V	(393–463)	76.8	298	GC	[1997KRO/VEL]
		V	(453–543)	53.3	498	GC	[1993HUS/SAR]
		V	(287–333)	83.6	302	A	[1987STE/MAL]
		V		76.5 ± 0.7	298	C,GC	[1980FUC/PEA]
		V		77.2 ± 0.6	298	C	[1977MAN/SEL]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	Enthalpy	CAS Registry Number	Compound	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		Temperature range					
C ₁₃ H ₂₆ O ₂	V	(407–540)	63.6	422	A	[1987STE/MAL, 1963ROS/SCH]	
	V	(336–409)	71.4	351	MG,OM	[1952SCO/MAC]	
	V	(373–439)	62.3	388		[1944ALT/TRI]	
C ₁₃ H ₂₆ O ₂	[245658-41-7]	3,3-dimethylbutanoic acid, 1,1,3-trimethylbutyl ester					
	V	(333–378)	58.4	298	CGC	[1999VER/HEI]	
C ₁₃ H ₂₆ O ₂	V	2,6-dimethyl-2-heptanol butanoate					
	V	(333–378)	62.5	298	CGC	[1999VER/HEI]	
C ₁₃ H ₂₆ O ₂	[245658-44-0]	2-methylpropanoic acid, 1,1,5-trimethylhexyl ester					
	V	(333–378)	60.8	298	CGC	[1999VER/HEI]	
C ₁₃ H ₂₆ O ₂	[638-53-9]	tridecanoic acid					
	TRS		8.14	306.1			
	FUS		38.2	314.6	DSC	[2011EGO/MAR]	
	TRS		0.06	287.7			
	TRS		8.5	309.1			
	FUS		33.0	314.6	DSC	[2007GBA/NEG]	
	TRS	(90–340)	8.72	307.1			
	FUS	(90–340)	33.74	315	AC	[1996DOM/HEA, 1982SCH/VAN2]	
	FUS		33.1	314.5			[1975BER/LEO]
	SUB	(271–282)	112.5		TPTD	[2005CHA/ZIE]	
	SUB	(282–299)	170		TPTD	[2001CHA/TOB]	
	[Note: Experimental values based on the TPTD method are often inconsistent with values determined using other experimental methods.]						
C ₁₃ H ₂₆ O ₂	V	(409–585)	90.1	424	A	[1987STE/MAL]	
	V	(328–350)	100.4 ± 2.0	340	ME,TE	[1982DEK/SCH]	
C ₁₃ H ₂₆ O ₃	[42175-34-8]	decyl lactate					
	V	(349–556)	76.6	364	A	[1987STE/MAL, 1950REH/DIX]	
C ₁₃ H ₂₆ O ₃	[500787-64-4]	octyl 3-ethoxypropionate					
	V	(398–543)	56.9	413	A	[1987STE/MAL, 1948DIX/REH]	
C ₁₃ H ₂₆ O ₃	[14144-56-0]	pentyl 3-pentyloxypropionate					
	V	(378–498)	62.3	393	A	[1987STE/MAL, 1947REH/DIX]	
C ₁₃ H ₂₆ O ₃	[40915-96-6]	peroxytridecanoic acid					
	SUB	(293–303)	142.7 ± 5	298	ME	[1980SWA/KWA]	
C ₁₃ H ₂₆ O ₄	[2277-23-8]	2,3-dihydroxypropyl decanoate					
	V	(479–524)	111.7	502	DSC	[2014DAM/MAT]	
[Note: The authors of [2014DAM/MAT] gave a CAS Registry Number of [26402-22-2] which was not consistent with the IUPAC chemical name in the paper.]							
C ₁₃ H ₂₇ Br	[765-09-3]	1-bromotridecane					
	V	(425–628)	64.6	440	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]	
C ₁₃ H ₂₇ Cl	[822-13-9]	1-chlorotridecane					
	V		81.3	298		[2006BOL/NER2]	
	V	(414–611)	63.0	429	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]	
C ₁₃ H ₂₇ F	[1536-21-6]	1-fluorotridecane					
	V	(387–558)	58.9	402	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]	
C ₁₃ H ₂₇ I	[35599-77-0]	1-iodotridecane					
	V	(440–655)	85.0	298	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN, 2006BOL/NER]	
	V	(440–655)	66.1	455	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]	
C ₁₃ H ₂₇ NO	[27563-67-3]	N-methyl dodecanamide					
	SUB	(323–337)	116.6 ± 0.8	330	ME	[1959DAV/JON, 1987STE/MAL]	
C ₁₃ H ₂₇ NO ₂	[6280-24-6]	N-decyl lactamide					
	V	(413–483)	97.9	428	A	[1987STE/MAL, 1950RAT]	
C ₁₃ H ₂₇ NO ₂		O-decyl lactamide					
	V	(413–483)	95.0	428	A	[1987STE/MAL]	

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References	
C ₁₃ H ₂₈	[629-50-5]	tridecane	TRS	7.9	254.4			
			FUS	29.62	267.3	DSC	[2005HUA/SIM]	
			TRS	7.7	255.2			
			FUS	28.9	267.7	DSC	[2004MON/RAJ]	
			TRS	7.66	255			
			FUS	28.49	267.8		[1996DOM/HEA, 1954FIN/GRO2]	
			SUB	91.4	298	B	[1972MOR3]	
			V	65.3	309	C	[1996VIT/CHA]	
			V	64.9	314	C	[1996VIT/CHA]	
			V	64.2	324	C	[1996VIT/CHA]	
			V	63.3	334	C	[1996VIT/CHA]	
			V	62.4	344	C	[1996VIT/CHA]	
			V	62.3	349	C	[1996VIT/CHA]	
			V	66.7	298		[1994RUZ/MAJ]	
			V	65.6	308	C	[1979SUN/SVE]	
			V	64.6	318	C	[1979SUN/SVE]	
			V	61.7	348	C	[1979SUN/SVE]	
			V	66.5 ± 0.2	298	C	[1979SUN/SVE]	
			V	66.4 ± 0.3	298	C	[1972MOR2]	
			V	66.2	298		[1971WIL/ZWO]	
			V	(417–511)	432	A	[1987STE/MAL, 1955CAM/ROS]	
C ₁₃ H ₂₈	[1560-97-0]	2-methyldodecane	V	(373–503)	52.5	388	A	[1987STE/MAL]
C ₁₃ H ₂₈	[17312-57-1]	3-methyldodecane	V	(372–504)	51.4	387	A	[1987STE/MAL]
C ₁₃ H ₂₈	[6117-97-1]	4-methyldodecane	V	(372–501)	52.0	387	A	[1987STE/MAL]
C ₁₃ H ₂₈	[17453-93-9]	5-methyldodecane	V	(368–500)	50.6	383	A	[1987STE/MAL]
C ₁₃ H ₂₈	[17312-77-5]	2,3-dimethylundecane	V	(383–500)	53.2	398	A	[1987STE/MAL]
C ₁₃ H ₂₈	[17312-80-0]	2,4-dimethylundecane	V	(365–490)	52.1	380	A	[1987STE/MAL]
C ₁₃ H ₂₈	[62108-27-4]	2,4,6-trimethyldecane	V	(352–478)	48.7	367	A	[1987STE/MAL]
C ₁₃ H ₂₈	[17312-74-2]	5-ethyl-5-methyldecane	V	(273–307)	61.4 ± 1.1	290	HSA	[1995CHI/HES]
			V		60.5 ± 1.1	298		[1995CHI/HES]
			V		61.4 ± 1.8	298	CGC	[1995CHI/HES]
C ₁₃ H ₂₈	[17312-63-9]	5-butylnonane	V	(298–365)	52.6	313	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₁₃ H ₂₈	[35660-96-9]	Tri- <i>tert</i> -butylmethane	FUS		3.53	358.2	DSC	[1986FLA/BEC]
			SUB		55.4	298	CGC–DSC	[1998CHI/HES]
			SUB	(265–319)	57.0 ± 0.4	288	T	[1997VER/NOL]
			SUB	(273–306)	57.7 ± 2.8	290	HSA	[1995CHI/HES]
			SUB		61.1 ± 1.3			[1995CHI/HES]
			SUB	(295–330)	7.7 ± 0.1	311		[1986FLA/BEC]
C ₁₃ H ₂₈ N ₂ O	[2158-09-0]	1-dodecyl urea	TRS		1.3	275.4		
			FUS		46.6	379.2	DSC	[2005HAS/TAJ]
C ₁₃ H ₂₈ O	[508181-43-9]	Pentyl <i>tert</i> -octyl ether	V	(278–303)	55.9 ± 0.3	298	GS	[UR/VER, 2002VER, 2003VER/KRA]

TABLE 11. Phase change enthalpies of C₁₂ to C₁₃ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₃ H ₂₈ O	[112-70-9]	1-tridecanol						
	TRS				20.8	317.4		
	FUS				24.87	318.3	DSC	[2008EGO/MAR]
[Note: Transition temperatures reported in [2008EGO/MAR] are considerably higher than melting points reported in synthetic papers and other thermodynamic papers.]								
	FUS	(5–370)			44.78	304.7		[2003VAN/VAN]
	FUS (β)				45.1	304.6		
	FUS (γ)				41.42	304.5		
	FUS (α)				23.3	303.5		
	TRS (β to γ)				3.6	301.6		
	TRS (β to α)				22.09	305.8		
	TRS (γ to α)				18.74	306.6	AC	[1974MOS/MOU]
	V				94.7 ± 0.4	298	CGC	[2006NIC/KWE]
	V	(307–348)			91.1	327	GS	[2001KUL/VER2]
	V	(307–348)			95.8	298	GS	[2001KUL/VER2]
	V	(313–373)			87.4	343		[1992NGU/KAS]
	V	(431–568)			69.2	446	A	[1987STE/MAL]
C ₁₃ H ₂₈ O	[42930-67-6]	2,2-dimethyl-3- <i>tert</i> -butyl-3-heptanol						
	V	(379–513)			58.3	394		[1973WIL/ZWO]
C ₁₃ H ₂₈ O		3,3,5,5-tetramethyl-4-ethyl-4-heptanol						
	V	(393–526)			55.9	408		[1973WIL/ZWO]
C ₁₃ H ₂₈ O		3,3,6-trimethyl-4-isopropyl-4-heptanol						
	V	(381–512)			59.1	396		[1973WIL/ZWO]
C ₁₃ H ₂₈ O		3,3,6-trimethyl-4-propyl-4-heptanol						
	V	(383–513)			60.1	398		[1973WIL/ZWO]
C ₁₂ H ₂₈ O	[32579-70-7]	2,2,5-trimethyl-3- <i>tert</i> -butyl-3-hexanol						
	V	(377–513)			57.6	392		[1973WIL/ZWO]
C ₁₃ H ₂₈ O	[41902-42-5]	Tri- <i>tert</i> -butylmethanol						
	TRS				7.2	302		
	FUS				3.43	390	DSC	[1996DOM/HEA, 1983MAS/STE]
	SUB (plastic)	(278–318)			56.5 ± 1.0	298	TE	[1983MAS/STE]
	SUB (crys)	(269–300)			63.2 ± 1.2	298	TE	[1983MAS/STE]
C ₁₃ H ₂₈ O ₂	[13362-52-2]	1,13-tridecanediol						
	FUS+TRS				54.4	350.3	DSC	[2014BAD/NOW]
	TRS				28.9	343		
	FUS				17.8	351	DSC	[1999OGA/NAK]
	V				122.0 ± 7.6	372	TE	[1994PIA/FER, 2006UMN/KWE]
	V				132.8 ± 7.8	298	TE	[1994PIA/FER, 2006UMN/KWE]
C ₁₃ H ₂₈ O ₂ S	[24724-30-9]	3-(decylthio)-1,2-propanediol						
	TRS				17.3	291.9		
	FUS				17.3	311.9	DSC	[1993ACR, 1990VAN/VAN]
C ₁₃ H ₂₈ O ₃	[10430-97-4]	3-(decyloxy)-1,2-propanediol						
	FUS				38.9	311	DSC	[1993ACR, 1990VAN/VAN]
C ₁₃ H ₂₈ O ₄	[57499-93-1]	Tripropylene glycol, monobutyl ether						
	V	(374–543)			67.1	389	A	[1987STE/MAL, 1947STU]
C ₁₃ H ₂₈ O ₅ S ₂	[123483-21-6]	(<i>L</i>)-arabinose dibutyl dithioacetal						
	FUS				41.5	380.4	DSC	[1989VAN/VAN]
C ₁₃ H ₂₈ S	[19484-26-5]	1-tridecanethiol						
	V	(433–598)			64.7	448		[1999DYK/SVO]
C ₁₃ H ₂₉ N	[2869-34-3]	Tridecylamine						
	V	(458–562)			60.1	473	A,E	[1987STE/MAL, 1956MAN2]
C ₁₃ H ₂₉ NO ₂	[1191-45-3]	3-(decylamino)-1,2-propanediol						
	FUS				54.8	346.6	DSC	[1993ACR, 1990VAN/VAN]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References	
C ₁₄ D ₁₀	[1517-22-2]	Phenanthrene-d ₁₀		1.77		[1967RIN/DAM]		
			TRS					
			SUB	(283–323)	92.2 ± 1.1	GS	[1983SON/ZOL]	
C ₁₄ D ₁₀	[1719-06-8]	Anthracene-d ₁₀		78.4	298	CGC	[2008ZHA/UNH]	
			V					
				78.6				
C ₁₄ F ₃₀	[307-62-0]	Perfluorotetradecane		31.5 31.9 2.1 2.8 31.3 2.00 3.01 (313–358)	375.6 378.0 169.6 177.4 377.4 170.4 178.6 298	DSC DSC AC DSC	[2012HAS/DRA] [1999VIS/TER] [1994JIN/BOL] [1994LEB/BYK] [2012HAS/DRA] [2012HAS/DRA]	
				FUS				
				FUS				
				TRS				
				FUS				
				TRS				
				(5–325)				
				2.8				
				3.01				
				(313–358)	102.4 ± 1.0	GS	[2012HAS/DRA]	
C ₁₄ H ₅ F ₂₅	[89109-68-2]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosofluorotetradecane		20.4 20.8	344 344.2	DSC DSC	[1988HOP/PUG] [1986RUS/RAB]	
				FUS				
				FUS				
C ₁₄ H ₆ Cl ₂ N ₂ O ₄	[66121-41-3]	1-amino-4-nitro-5,8-dichloroanthraquinone		158.2			[1968TSU/KOJ, 1988BAU/PER]	
C ₁₄ H ₆ N ₂ O ₆	[66121-37-7]	1,4-dinitroanthraquinone	SUB	131			[1968TSU/KOJ, 1988BAU/PER]	
C ₁₄ H ₆ N ₆ O ₁₂	[20062-22-0]	1,2-bis(2,4,6-trinitrophenyl)ethylene	SUB	(434–479)	179.9	449	LE	[1987STE/MAL, 1969ROS/DIC]
					180.3			[1968MAR/ARM, 1966ROS]
C ₁₄ H ₇ ClF ₃ NO ₅	[50594-66-6]	5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoic acid	FUS	37.67	436.6	DSC	[1990DON/DRE]	
C ₁₄ H ₇ ClO ₂	[82-44-0]	1-chloroanthraquinone	FUS	29.24	435.2	DSC	[2013YOU/GAO]	
C ₁₄ H ₇ ClO ₂	[131-09-9]	2-chloroanthraquinone	FUS	39.0	483	DTA	[1996DOM/HEA, 1992SAB/ELW3]	
C ₁₄ H ₇ NO ₄	[82-34-8]	1-nitroanthraquinone	SUB	(407–440)	139.7 108.9 ± 2.1 137.9 ± 1.7 115.5	422 396	A C TE,ME	[1987STE/MAL] [1982MUR/SAK] [1970KOJ] [1968TSU/KOJ, 1988BAU/PER]
C ₁₄ H ₈	[187-78-0]	Paracylene	SUB	(324–354)	82.0 83.2	342 298	ME	[2002DIO/KIY] [2002DIO/KIY]
C ₁₄ H ₈ Br ₂	[3278-82-8]	1,5-dibromoanthracene	FUS	(358–408)	32.1 116.7 ± 3.0	482.4	DSC	[2010GOL/KUL] [2008GOL/SUU2]
C ₁₄ H ₈ Br ₂	[15810-15-8]	9,10-dibromophenanthrene	FUS	(353–409)	16.33 114.3 ± 1.5	451.2 381	DSC ME	[2012FU/SUU] [2012FU/SUU]
C ₁₄ H ₈ Br ₂	[523-27-3]	9,10-dibromoanthracene	FUS	(324–354)	28.7 27.0	497.8 497.9	DSC DSC	[2015SOL/VAR] [2010GOL/KUL]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_8\text{Br}_6\text{O}_2$	[37853-59-1]	SUB	(359–392)	110.1	375	ME	[2010FU/RIC]
		SUB	(359–391)	114.2 ± 2.8		ME	[2008GOL/SUU2]
	FUS			36.8	500.4	DSC	[2014KUR/TAK]
		SUB	(373–423)	167	398	GS	[2014KUR/TAK]
$\text{C}_{14}\text{H}_8\text{ClNO}_2$	[42899-83-2]		3-chloro-N-phenylphthalimide	29.14	466.05	DSC	[2016DU/XU]
		FUS					
$\text{C}_{14}\text{H}_8\text{Cl}_2$	[605-48-1]		9,10-dichloroanthracene	25.1	486.5	DSC	[2015SOL/VAR]
		FUS		27.4	485.0	DSC	[2010GOL/KUL]
	SUB		(316–376)	113.9 ± 4.5		ME	[2008GOL/SUU2]
$\text{C}_{14}\text{H}_8\text{Cl}_2\text{N}_2\text{O}_2$	[81-42-5]		1,4-diamino-2,3-dichloro-9,10-anthraquinone (disperse violet 28)				
		SUB	(373–493)	64.9	443	GC	[2002SAW/SHI]
[Note: The above value seems abnormally small for an enthalpy of sublimation for a compound of this size.]							
$\text{C}_{14}\text{H}_8\text{Cl}_4$	[3424-82-6]		1-chloro-2-(2,2-dichloro-1-(4-chlorophenylethenyl)benzene				
		FUS		23.84	349.8	DSC	[1990DON/DRE]
$\text{C}_{14}\text{H}_8\text{Cl}_4$	[72-55-9]		1,1-dichloro-2,2-bis(4-chlorophenyl)ethylene (<i>p,p'</i> -DDE)				
		FUS		23.55	360.4	DSC	[1990DON/DRE]
	SUB			74.2			[1995RUL/RAK, 1989LUB/JAN]
		V	(343–453)	87.2	398	GC	[1990HIN/BID2]
$\text{C}_{14}\text{H}_8\text{Cl}_6$	[3563-45-9]		1,1,1-trichloro-2-chloro-2,2-bis(4-chlorophenyl)ethane				
		SUB		89.4			[1995RUL/RAK, 1989LUB/JAN]
$\text{C}_{14}\text{H}_8\text{O}_2$	[635-12-1]		1,4-anthraquinone				
		FUS		31.4	500.8	DSC	[2013DAV/JIM]
		SUB		134.5 ± 3.8	298	ME	[2013DAV/JIM]
$\text{C}_{14}\text{H}_8\text{O}_2$	[84-65-1]		9,10-anthraquinone				
		FUS		36.3	556.8	DSC	[2010MON/SOU]
		FUS		33.2	558.7	DSC	[2010GOL/KUL]
		FUS		34.26	557.53	DTA	[1992SAB/ELW3]
		FUS		34.8	556.9	DSC	[1990DON/DRE]
		FUS		32.57	558	C	[1996DOM/HEA, 1917HIL/DUS]
		SUB	(377–395)	112.8 ± 1.6	386	ME	[2010MON/SOU]
		SUB	(377–395)	116.0 ± 1.6	298	ME	[2010MON/SOU]
		SUB	(346–400)	115.0 ± 5.0	373	ME	[2010GOL/SUU]
				111.3		GS	[1987SHI/OHK, 1991HOR]
		SUB	(373–453)	98.3	413	GS	[1977NIS/ISH, 1978NIS/ISH]
		SUB		113.0 ± 0.8	298	C	[1973BAR/MAL]
		SUB		107.5 ± 0.8	434	ME	[1973BAR/MAL]
		SUB	(397–471)	107.9 ± 0.8		ME	[1973BAR/MAL]
		SUB	(355–356)	U 105.9		TGA	[1971ASH]
		SUB	(470–590)	127.0 ± 3.0		C	[1971BEE/LIN]
		SUB		136.6 ± 3	298	C	[1971BEE/LIN]
		SUB		116.1 ± 1.7		ME, TE	[1970KOJ]
				115.1		ME	[1968TSU/KOJ, 1988BAU/PER]
		SUB	(343–403)	126.4	373	ME	[1958HOY/PEP, 1987STE/MAL]
		SUB		112.1	298		[1956MAG, 1970COX/PIL]
		SUB		110.9	298		[1956BEY/NIC]
		SUB		107.9	298		[1954JOR]
		SUB		104.6	367	ME	[1952INO/SHI]
		SUB		108	298	ME	[1952INO/SHI]
		V	(559–660)	64.3	574	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_8\text{O}_2$	[84-11-7]		9,10-phenanthraquinone				

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_8\text{O}_3$	[129-43-1]	SUB		108.1	289	C	[1989RIB/RIB]
		SUB		132	383		[1956MAG, 1970COX/PIL]
		SUB	1-hydroxy-9,10-anthraquinone	113.4		GS	[1987SHI/OHK, 1991HOR]
		SUB	(333–383)	120.6	358		[1958HOY/PEP, 1987STE/MAL]
$\text{C}_{14}\text{H}_8\text{O}_3$	[605-32-3]	SUB		101.3 ± 0.4	407	HSA	[1956BEY/NIC]
		SUB	2-hydroxy-9,10-anthraquinone	136.8		GS	[1987SHI/OHK, 1991HOR]
		SUB	(393–453)	153.1	408	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_8\text{O}_3$	[74553-57-4]	SUB	9-hydroxy-1,4-anthraquinone	108.2 ± 2.2	386	ME	[2002JIM/ROU]
		SUB	(377–394)	109.5 ± 2.2	298	ME	[2002JIM/ROU]
		SUB					
$\text{C}_{14}\text{H}_8\text{O}_3$	[6050-13-1]	SUB	2,2'-biphenyldicarboxylic anhydride	120.7 ± 4.0	298	C	[2005MAT/MIR2]
		SUB	(433–490)	91.4	448	A	[1987STE/MAL]
		SUB					
$\text{C}_{14}\text{H}_8\text{O}_4$	[72-48-0]	SUB	1,2-dihydroxyanthraquinone	123.8	383	A	[1987STE/MAL]
		SUB	(368–498)	121.9 ± 0.5	469	C	[1973MAL/BAR]
		SUB	(434–505)	121.5 ± 0.4	469	ME	[1973MAL/BAR]
		SUB		123.9	403	ME	[1958HOY/PEP]
$\text{C}_{14}\text{H}_8\text{O}_4$	[81-64-1]	FUS	1,4-dihydroxy-9,10-anthraquinone (quinizarin)	19.41	473.2	DSC	[2015CHE/SVA]
		SUB	(363–393)	115.3	363	TGA, GS	[2003HIN/RAF]
		SUB		114.6		GS	[1987SHI/OHK, 1991HOR]
		SUB	(353–373)	102.4 ± 4.4	363		[1984KRI]
		SUB	(473–553)	89.1	513	GS	[1977NIS/ISH, 1978NIS/ISH]
		SUB	(394–463)	121.9 ± 0.8	429	ME	[1973MAL/BAR]
		SUB		121.1 ± 4	429	C	[1973MAL/BAR]
		SUB	(324–351)	U 94.5	338	TGA	[1971ASH]
		SUB		123.5	376		[1958HOY/PEP, 1987STE/MAL]
		SUB		103.5 ± 1.3	409	HSA	[1956BEY/NIC]
$\text{C}_{14}\text{H}_8\text{O}_4$	[117-12-4]	V	(469–633)	74.0	484	A	[1987STE/MAL, 1947STU]
		SUB	1,5-dihydroxyanthraquinone				
		SUB		123.2 ± 7		ME	[1973BAR/MAL]
		SUB	(363–433)	126.8	398	ME	[1958HOY/PEP, 1987STE/MAL]
		SUB		111.3	456	HSA	[1956BEY/NIC]
$\text{C}_{14}\text{H}_8\text{O}_4$	[117-10-2]	SUB	1,8-dihydroxyanthraquinone	117.6	298	HSA	[1956BEY/NIC]
		TRS		4.96	437.16		
		FUS		20.06	471.2	DSC	[2015CHE/KHA]
		SUB		116.8		ME	[1973BAR/MAL]
		SUB	(333–403)	123	368	ME	[1958HOY/PEP, 1987STE/MAL]
		SUB	(335–356)	U 96.5	345	TGA	[1971ASH]
		SUB		105.8 ± 8	404	HSA	[1956BEY/NIC]
		SUB		109.6 ± 8	298	HSA	[1956BEY/NIC]
$\text{C}_{14}\text{H}_8\text{O}_4$	[84-60-6]	2,6-dihydroxyanthraquinone					[1958HOY/PEP, 1987STE/MAL]
$\text{C}_{14}\text{H}_8\text{O}_6$	[81-60-7]	1,4,5,8-tetrahydroxyanthraquinone					[1958HOY/PEP, 1987STE/MAL]
$\text{C}_{14}\text{H}_9\text{Br}$	[7321-27-9]	FUS	2-bromoanthracene	26.23	493.6	DSC	[2012FU/SUU]
		SUB	(334–390)	101.3 ± 0.6	362	ME	[2012FU/SUU]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₉ Br	[1564-64-3]	9-bromoanthracene		19.2	375.9	DSC	[2010GOL/KUL]
		FUS	(315–368)	100.5 ± 1.8		ME	[2008GOL/SUU2]
C ₁₄ H ₉ Br	[573-17-1]	9-bromophenanthrene		14.91	335.2	DSC	[2012FU/SUU]
		FUS	(304–344)	97.9 ± 4.1	324	ME	[2012FU/SUU]
C ₁₄ H ₉ Cl	[4985-70-0]	1-chloroanthracene		14.14	355.2	DSC	[1970GUA/SAR]
C ₁₄ H ₉ Cl	[17135-78-3]	2-chloroanthracene		27.2	495.7	DSC	[2010GOL/KUL]
		FUS	(331–371)	99.3 ± 2.7		ME	[2008RIB/SCH]
C ₁₄ H ₉ Cl	[716-53-0]	9-chloroanthracene		22.0	376.6	DSC	[2015SOL/VAR]
		FUS		18.66	379.2	DSC	[1970GUA/SAR]
		SUB		106.6 ± 0.9			[1985KIS/VEI]
C ₁₄ H ₉ Cl	[947-72-8]	9-chlorophenanthrene		14.99	320.1	DSC	[2012FU/SUU]
		FUS	(301–318)	88.5 ± 1.7	310	ME	[2012FU/SUU]
C ₁₄ H ₉ ClF ₂ N ₂ O ₂	[35367-38-5]	<i>N</i> -[(4-chlorophenylamino)carbonyl]-2,6-difluorobenzamide		55.99	499.5	DSC	[1990DON/DRE]
C ₁₄ H ₉ ClF ₂ N ₂ O ₂	[154598-52-4]	(<i>S</i>)-6-chloro-4-(2-cyclopropylethynyl)-1,4-dihydro-4-(trifluoromethyl)-2 <i>H</i> -3,1-benzoxazin-2-one (efavirenz)		15.31	410.0	DSC	[2015NUR/BOO]
		FUS		18.20	414.6	DSC	[2012CHA/ARO]
C ₁₄ H ₉ ClN ₂ O ₄	[12217-79-7]	1,5-diaminochloro-4,8-dihydroxyanthraquinone (C.I. disperse blue 56)					
	SUB	(483–533)	93.3	498	A		[1987STE/MAL]
C ₁₄ H ₉ ClO ₃	[4889-73-0]	2-benzoyl-3-chlorobenzoic acid		35.50	506.3	DSC	[2013YOU/GAO]
C ₁₄ H ₉ Cl ₂ NO ₃	[42576-02-3]	Methyl 5-(2,4-dichlorophenoxy)-2-nitrobenzoate		26.31	358.3	DSC	[1991ACR, 1990DON/DRE]
C ₁₄ H ₉ Cl ₃	[1022-22-6]	1-chloro-2,2-bis(4-chlorophenyl)ethylene		25.52	337.9	DSC	[1969PLA/GLA]
C ₁₄ H ₉ C ₁₃ N ₂ OS	[68786-66-3]	5-(chloro-6-(2,3-dichlorophenoxy)-2-(methylthio)-1 <i>H</i> -benzimidazole (triclabendazole)					
		FUS (II)	37.8	450.2			
C ₁₄ H ₉ Cl ₅	[50-29-3]	FUS (II)	30.9	439.2	DSC		[2012TOT/BHO]
		FUS	26.28	382.1	DSC		[1991ACR, 1990DON/DRE]
		SUB	(273–313)	120.2 ± 1.0	293	GS	[1994WAN/SHU]
		SUB	(323–363)	115	338	A	[1987STE/MAL]
		SUB	(293–353)	110	304	GS	[1980ROT]
		SUB	(293–313)	117.8	303	GS	[1972SPE/CLI]
		SUB	(323–363)	117.5	338	GS	[1956DIC, 1960JON]
		SUB	(313–363)	84	338	GS	[1949KUH/MAS]
		SUB	(339–373)	118	356	TE	[1947BAL]
		V		106.1 ± 1.3	398	GS	[2001PUR/CHI]
		V	(343–453)	93.2	398	GC	[1990HIN/BID2]
C ₁₄ H ₉ Cl ₅	[789-02-6]	1,1,1-trichloro-2-(4-chlorophenyl)-2-(2-chlorophenyl)ethane (<i>p,o'</i> -DDT)					
	V	(343–453)	88.6	398	GC		[1990HIN/BID2]
C ₁₄ H ₉ Cl ₅	[789-02-6]	1-chloro-2-(2,2,2-trichloro-1-(4-chlorophenyl)ethyl)benzene		23.09	345.8	DSC	[1990DON/DRE]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₉ Cl ₅	V	DDT (313–363)	83.7	338			[1949KUH/MAS]
C ₁₄ H ₉ Cl ₅ O	[10606-46-9]	2-chloro- α -(4-chlorophenyl)- α -(trichloromethyl)benzenemethanol	25.2	396.3	DSC		[1991ACR, 1990DON/DRE]
C ₁₄ H ₉ Cl ₅ O	[115-32-2]	4-chloro- α -(4-chlorophenyl)- α -(trichloromethyl)benzenemethanol	19.56	347.2	DSC		[1990DON/DRE]
C ₁₄ H ₉ F ₃ O ₂	[893-33-4]	4,4,4-trifluoro-1-(2-naphthyl)-butan-1,3-dione	108.7 ± 0.6	298	ME		[1997RIB/GON]
C ₁₄ H ₉ F ₁₇ O ₂	[1996-88-9]	Perfluorooctylethylene methacrylate	5.0	210			
	TRS		9.0	253	DSC		[1992HOP/FAU]
C ₁₄ H ₉ F ₂₁ O	[39239-81-1]	ω -perfluorodecyl-1-butanol	21.3	360	DSC		[1991HOP/MOL]
C ₁₄ H ₉ NO ₂	[82-45-1]	1-aminoanthraquinone	26.3	524.7	DSC		[2002SAW/SHI]
	FUS		28.78	524.2			[1988BAU/PER]
	SUB	(423–443)	121.1	433	GC		[2002SAW/SHI]
	SUB		121.8		GS		[1987SHI/OHK, 1991HOR]
	SUB	(413–443)	126.5	428	A		[1987STE/MAL]
	SUB	(368–393)	116.3 ± 3.9	380			[1984KRI]
	SUB	(473–553)	103.3	513	GS		[1977NIS/ISH, 1978NIS/ISH]
	SUB	(361–386)	U 90.9	374	TGA		[1971ASH]
	SUB		125.9 ± 2.5		TE,ME		[1970KOJ]
	SUB		131				[1968TSU/KOJ, 1988BAU/PER]
	SUB		113 ± 0.4	463	HSA		[1956BEY/NIC]
C ₁₄ H ₉ NO ₂	[117-79-3]	2-aminoanthraquinone	136.8		GS		[1987SHI/OHK, 1991HOR]
	SUB		143.5 ± 2.9		TE,ME		[1970KOJ]
	SUB		162.3				[1968TSU/KOJ, 1988BAU/PER]
C ₁₄ H ₉ NO ₂	[602-60-8]	9-nitroanthracene	20.1	420.4	DSC		[2010KES/AUC]
	FUS						
	SUB	(361–377)	111.9 ± 0.6	369	ME		[2006RIB/AMA3]
	SUB	(361–377)	115.4 ± 0.6	298	ME		[2006RIB/AMA3]
C ₁₄ H ₉ NO ₃	[116-85-8]	1-hydroxy-4-aminoanthraquinone	129.3	443	GC		[2002SAW/SHI]
	SUB	(433–453)	127.2		GS		[1987SHI/OHK, 1991HOR]
	SUB	(418–438)	131.3	428	A		[1987STE/MAL, 1980ROD/KRU]
	SUB	(444–473)	144	458.5	A		[1987STE/MAL]
	SUB		119.6				[1984KAR/KRU]
	SUB		133.5 ± 2.1		TE,ME		[1970KOJ]
	SUB		120.1				[1968TSU/KOJ, 1988BAU/PER]
C ₁₄ H ₉ N ₃ O ₄	[82-33-7]	1,4-diamino-5-nitroanthraquinone	U50.2	513	GS		[1977NIS/ISH, 1978NIS/ISH]
	SUB (not crystalline)	(473–553)					
C ₁₄ H ₁₀	[120-12-7]	Anthracene	27.4	490	DSC		[2015RIC/FU]
	FUS		24.96	489.5	DSC		[2015DIN/YIN]
	FUS		27.8	487	DSC		[2011RIC/FU]
	FUS		28.2	489.7	DSC		[2010GOL/KUL]
	FUS		27.8	490	DSC		[2010RIC/FU, 2010RIC/SUU, 2011RIC/FU]
	FUS	(463–503)	29.8	492	DSC		[2003ROJ/ORO]
	FUS		31.5	491	DSC		[2003STO/KRZ]
	FUS		28.8	489.4	DSC		[2000LIS/JAM]
	FUS		29.0	490.6	DSC		[1980RAD/RAD]
	FUS		28.97	491.3	DSC		[1980KRA/PIG]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound		Method	References
		Enthalpy	Temperature range		
	FUS			29.0	[1972WAU/GET]
	FUS	(5–520)		29.37	[1996DOM/HEA, 1970GOU/GIR]
	FUS			27.9	[1969ROB/SCO]
	FUS			28.83	[1950UEB/ORT]
	FUS			28.87	[1917HIL/DUS]
	SUB	(300–373)		97.1	[2015RIC/FU]
	SUB	(321–360)		99.8 ± 0.5	[2011FON/PFO]
	SUB	(321–360)		100.8 ± 0.5	[2011FON/PFO]
	SUB	(322–367)		100.5 ± 0.3	[2011SAN/LIM]
	SUB	(322–367)		101.8 ± 0.3	[2011SAN/LIM]
	SUB	(331–375)		99.2 ± 0.9	[2011SAN/LIM]
	SUB	(331–375)		100.6 ± 0.9	[2011SAN/LIM]
	SUB	(300–373)		97.1 ± 1.1	[2010RIC/FU, 2011RIC/FU]
	SUB	(322–348)		98.5 ± 3.3	[2010GOL/SUU, 2008GOL/SUU3]
	SUB	(339–399)		97.6 ± 1.3	[2009SID/SID]
	SUB	(339–399)		98.2	[2009SID/SID]
	SUB	(320–355)		97.9 ± 0.6	[2009OJA/CHE]
	SUB	(320–350)		98.4 ± 0.7	[2009OJA/CHE]
	SUB	(320–354)		95.6 ± 1.2	[2006CHE/OJA]
	SUB	(340–360)		98.8 ± 0.4	[2006RIB/MON]
	SUB	(340–360)		100.2 ± 0.4	[2006RIB/MON]
	SUB	(348–368)		102.5 ± 1.9	[2004VER]
	SUB			96.3 ± 0.7	[2003ROJ/ORO]
	SUB			106	[2003STO/KRZ]
	SUB	(348–368)		102.5 ± 1.9	[2002LI/SHI]
	SUB	(423–488)		94.5	[1999EMM/PIC]
	SUB	(338–353)		102.5	[1998KLO/LAU]
	SUB			99.4	[1998CHI/HES]
	SUB	(318–363)		100.0 ± 2.8	[1998OJA/SUU]
	SUB	(343–448)		84.0 ± 3.0	[1997TES/PIK]
	SUB	(313–453)		99.7	[1995NAS/LEN]
	SUB	(318–373)		98.7	[1986ROR]
	SUB	(313–363)		102.6	[1986HAN/ECK]
	SUB			100 ± 2	[1985KIS/VEI]
	SUB	(353–399)		94.3	[1983BEN/BIE]
	SUB	(283–323)		91.8 ± 0.9	[1983SON/ZOL]
	SUB	(323–353)		91.2	[1982GRA/FOS]
	SUB			97.4 ± 1.1	[1981BRO/MCE]
	SUB			97.8 ± 0.1	[1980DYG/STE]
	SUB	(337–361)		104.5 ± 1.5	[1980DEK]
	SUB	(358–393)		94.8	[1979MAC/PRA]
	SUB	(363–448)		98.8 ± 0.4	[1977DYG/STE]
	SUB	(328–372)		97.2	[1976TAY/CRO]
	SUB			97.1	[1975ADE/BRO]
	SUB	(323–353)		102.9 ± 4.8	[1975DEK/VAN]
	SUB	(283–323)		95.8 ± 6	[1973MCE/SAN]
	SUB	(353–432)		101.0 ± 0.5	[1973MAL/GIG]
	SUB			99.7	[1973MAL/GIG]
	SUB	(290–358)		84.1	[1972WIE]
	SUB	(373–403)		100.3	[1971ROG]
	SUB			U126 ± 4	[1971BEE/LIN]
	SUB	(368–480)		90.1	[1967BRA/SMI]
	SUB	(342–359)		98.3 ± 2.1	[1964KEL/RIC, 1970COX/PIL]
	SUB	(327–346)		90 ± 0.13	[1960BUD]
	SUB			100.8	[1958HOY/PEP, 1970COX/PIL]
	SUB	(303–373)		103.4 ± 2.9	[1958HOY/PEP, 1970COX/PIL]
	SUB			100.8 ± 4.2	[1958HOY/PEP, 1970COX/PIL]
	SUB	(396–421)		97.5 ± 2	[1953STE]
	SUB	(339–353)		102.1	[1953BRA/CLE]
	SUB	(338–353)		102.1 ± 2.1	[1953BRA/CLE2, 1970COX/PIL]
	SUB			92.0 ± 2.1	[1952INO/SHI]
	SUB			90.4	[1951INO]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB			95.4			[1951NIT/SEK]
	SUB			95.0			[1950NIT/SEK3]
	SUB	(378–398)		97.3 ± 1.2		RG	[1949SEA/HOP2]
	SUB			104.6 ± 4.2			[1949KLA, 1970COX/PIL]
	SUB			93.3 ± 4.2	353		[1938WOL/WEG]
	V			66.7	498	DSC	[2003ROJ/ORO, 2008HAN/NUT]
	V			78.5	298	CGC	[2008ZHA/UNH]
	V	(413–473)		79.5 ± 1.2	298	GC	[2006HAF/PAR]
	V	(323–473)		72.4	398	GC	[2002LEI/CHA]
	V			79.1	298	CGC	[2001PUR/CHI]
	V			79.8	298	CGC	[1998CHI/HES]
	V	(453–503)		79.6	298	CGC	[1995CHI/HOS]
	V	(343–453)		69.7	398	GC	[1990HIN/BID2]
	V	(504–615)		58.6	519	A	[1987STE/MAL]
	V			62.1	500		[1979KUD/KUD2, 2008HAN/NUT]
	V	(500–616)		59.2	558	I	[1923MOR/MUR]
	V	(500–616)		60.3	515	I	[1923MOR/MUR, 1984BOU/FRI]
	V	(496–614)		59.6	555	I	[1922NEL/SEN]
	V	(496–614)		60.7	511	I	[1922NEL/SEN, 1984BOU/FRI]
C ₁₄ H ₁₀	[85-01-8]	Phenanthrene					
	FUS			15.2	372	DSC	[2015RIC/FU]
	FUS			16.1	371.1	DSC	[2011RIC/FU]
	FUS			16.69	372.1	DSC	[2008WEI]
	FUS			14.09	371.3	DSC	[2008MOG/SEP]
	FUS			18.1		DSC	[2003SHA/KAN]
	FUS	(353–383)		16.6	367.6	DSC	[2003ROJ/ORO]
	TRS			0.22	347.5		
	FUS			16.2	372.9	DSC	[2000LIS/JAM]
	TRS			0.22	347.5		
	FUS	(12–408)		16.46	372.4		[1996DOM/HEA, 1977FIN/MES]
	FUS			15.72	373.8	DTA	[1992SAB/ELW3]
	FUS			18.23		DSC	[1992SHA/SHA]
	FUS			16.3		DSC	[1972WAU/GET]
	TRS			1.1	341.9	DTA	[1966MAT]
	TRS			1.6	341.2		[1966ARN/DAM, 1967RIN/DAM]
	FUS			18.0	373.2	C	[1964RAS/BAS]
	FUS			17.5	372.2	DTA	[1958VAR]
	TRS			2.6	342		
	FUS			18.62	373		[1950UEB/ORT]
	FUS			17.15	371.4		[1944EIB]
	FUS			17.14	371.7		[1941SCH]
	SUB	(296–313)		88.5	304	ME	[2015RIC/FU]
	SUB	(303–372)		89.9 ± 0.8	298	GS	[2014ABO/MOK]
	SUB	(296–308)		88.5 ± 1.0		ME	[2011RIC/FU]
	SUB	(296–333)		92.1 ± 0.2	314	ME	[2011FON/PFO]
	SUB	(296–333)		92.7 ± 0.2	298	ME	[2011FON/PFO]
	SUB	(323–363)		88.0 ± 1.0	343	TGA	[2007SID/ATA]
	SUB	(313–333)		91.6 ± 0.4	323	ME	[2006RIB/MON]
	SUB	(313–333)		92.5 ± 0.4	298	ME	[2006RIB/MON]
	SUB			89.6 ± 0.8	298	DSC	[2003ROJ/ORO]
	SUB			92 ± 1		LE	[1998PRI/HAW]
	SUB			90.5	298	CGC–DSC	[1998CHI/HES]
	SUB	(303–333)		95.0 ± 4.4	318	ME	[1998OJA/SUU]
	SUB	(313–453)		88.9	383	GS	[1995NAS/LEN]
	SUB			87.2 ± 1.1	350	DSC	[1988TOR/BAR]
	SUB			90.9 ± 1.7	298	DSC	[1988TOR/BAR]
	SUB	(323–348)		96.2	335	GS	[1986SAT/INO]
	SUB	(317–362)		82 ± 2	340	TE	[1983FER/IMP]
	SUB	(283–323)		95.0 ± 0.6	303	GS	[1983SON/ZOL]
	SUB	(315–335)		92.5 ± 2	298	TE,ME	[1980DEK]
	SUB	(325–364)		87.2	345	GS	[1979MAC/PRA]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₄ H ₁₀	[501-65-5]	SUB		87.2	372	B	[1975OSB/DOU]
		SUB	(300–330)	87.4 ± 0.8	298	TE	[1975DEK/VAN]
		SUB	(312–326)	86.6 ± 0.8	298	TCM	[UR/DEK, 1975DEK/VAN]
		SUB		90.9 ± 0.4	298	C	[1972MOR, 1977PED/RYL]
		SUB	(346–368)	76.5	358		[1967BRA/SMI]
		SUB	(279–315)	84.1 ± 2.5	297	TE	[1960BUD]
		SUB	(273–333)	95.9	303		[1958HOY/PEP, 1970COX/PIL]
		SUB	(310–323)	86.6			[1953BRA/CLE2, 1970COX/PIL, 1960JON]
		SUB		90.7 ± 1.2	315	ME	[1952INO/SHI]
		SUB		81.6	323	ME	[1951INO]
		SUB		92.9			[1949KLA, 1970COX/PIL]
		SUB		84.1 ± 0.8	313		[1938WOL/WEG]
		V	(373–471)	78.2 ± 0.6	298	GS	[2014ABO/MOK]
		V		78.7	298	CGC	[2008ZHA/UNH]
		V	(413–483)	79.0 ± 1.2	298	GC	[2006HAF/PAR]
		V		68.9	388	DSC	[2003ROJ/ORO]
		V	(323–473)	72.2	398	GC	[2002LEI/CHA]
		V		78.7	298	CGC	[1998CHI/HES]
		V		72.5		GC	[1996GOV/RUT]
		V	(403–453)	78.5	298	CGC	[1995CHI/HOS]
		V	(343–453)	71.2	398	GC	[1990HIN/BID2]
		V	(391–613)	58.2	406	A	[1987STE/MAL]
		V	(373–423)	69.6	388	A	[1987STE/MAL, 1975OSB/DOU]
		V		71.2	372		[1977FIN/MES]
		V		69.7	390		[1977FIN/MES]
		V		67.5	420		[1977FIN/MES]
		V	(476–620)	57.2	548	I	[1923MOR/MUR]
		V	(476–620)	61.2	491	I	[1923MOR/MUR, 1984BOU/FRI]
		V	(505–614)	59.3	560	I	[1922NEL/SEN]
		V	(505–614)	61.2	520	I	[1922NEL/SEN, 1984BOU/FRI]
C ₁₄ H ₁₀ BrN	[114772-54-2]	Diphenylacetylene					
		FUS	(8–371)	21.04	332	AC	[2011TKA/VAR]
		FUS		21.5	335	DSC	[2002STE/CHI3]
		FUS		20.5	334		[1996DOM/HEA, 1986CHI/ANN]
		FUS		20.0	331.5	DSC	[1993DIO/MIN]
		SUB		95.3	298	CGC–DSC	[1998CHI/HES]
		SUB	(298–316)	95.1 ± 1.1	298	ME	[1993DIO/MIN]
		SUB	(299–321)	90.0 ± 4.5	310	HSA	[1986CHI/ANN]
		SUB	(299–321)	88.7 ± 1.25	313	TE	[1938WOL/WEG, 1938WEG, 1960JON]
		V	(439–517)	63.8 ± 0.2	440	EB	[2002STE/CHI3]
C ₁₄ H ₁₀ BrN	[114772-54-2]	4'-bromomethyl-2-cyanobiphenyl		29.49	399.2	DSC	[2015YAN/WU]
C ₁₄ H ₁₀ ClFN ₂ O ₂	[57160-48-2]	1-(2-fluorobenzoyl)-3-(4-chlorophenyl)urea		32.9	465	DSC	[2014OZA/NAK]
C ₁₄ H ₁₀ ClFN ₂ O ₂	[1634626-32-6]	1-(3-fluorobenzoyl)-3-(4-chlorophenyl)urea		39.1	510	DSC	[2014OZA/NAK]
C ₁₄ H ₁₀ ClFN ₂ O ₂	[1634626-33-7]	1-(4-fluorobenzoyl)-3-(4-chlorophenyl)urea		41.6	532	DSC	[2014OZA/NAK]
C ₁₄ H ₁₀ Cl ₂ N ₂ O ₂	[57160-47-1]	1-(2-chlorobenzoyl)-3-(4-chlorophenyl)urea		35.5	471	DSC	[2014OZA/NAK]
C ₁₄ H ₁₀ Cl ₂ N ₂ O ₂	[57160-49-3]	1-(4-chlorobenzoyl)-3-(4-chlorophenyl)urea		40.8	518	DSC	[2014OZA/NAK]
C ₁₄ H ₁₀ Cl ₂ N ₄ O ₂ S	[126728-18-5]	<i>N,N'</i> -bis[(2-chloro-3-pyridinyl)carbonyl]carbamimidothioic acid, methyl ester		10.23	415.4	DSC	[2009PLA/LIZ]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₁₀ Cl ₂ O ₂	[83-05-6]	bis(4-chlorophenyl)acetic acid	FUS		31.66	440.2	DSC	[1991ACR, 1990DON/DRE]
C ₁₄ H ₁₀ Cl ₄	[72-54-8]	1,1-dichloro-2,2-bis(4-chlorophenyl)ethane <i>p,p'</i> -DDD	FUS		27.31	382.1	DSC	[1991ACR, 1990DON/DRE]
	V	(343–453)		88.5	398		GC	[1990HIN/BID2]
C ₁₄ H ₁₀ Cl ₄	[121107-48-0]	(2,2',4,6'-tetrachloro-5-methyldiphenyl)methane	V		98.6	298	GC	[1996VAN/VAN]
C ₁₄ H ₁₀ Cl ₄	[121107-46-8]	(2,2',4,5'-tetrachloro-5-methyldiphenyl)methane	V		101	298	GC	[1996VAN/VAN]
	V			92.4			GC	[1996GOV/RUT]
C ₁₄ H ₁₀ Cl ₄	[121107-54-8]	(2,2',5,5'-tetrachloro-4-methyldiphenyl)methane	V		101.2	298	GC	[1996VAN/VAN]
	V			92.6			GC	[1996GOV/RUT]
C ₁₄ H ₁₀ Cl ₄	[121107-44-6]	(2,2',4,4'-tetrachloro-5-methyldiphenyl)methane	V		101.3	298	GC	[1996VAN/VAN]
	V			92.8			GC	[1996GOV/RUT]
C ₁₄ H ₁₀ Cl ₄	[121107-47-9]	(2,2',4,6'-tetrachloro-3-methyldiphenyl)methane	V		100.1	298	GC	[1996VAN/VAN]
C ₁₄ H ₁₀ Cl ₄	[121107-83-3]	(2',3,4,6'-tetrachloro-6-methyldiphenyl)methane	V		101.1	298	GC	[1996VAN/VAN]
C ₁₄ H ₁₀ Cl ₄	[121107-43-5]	(2,2',4,4'-tetrachloro-3-methyldiphenyl)methane	V		101.8	298	GC	[1996VAN/VAN]
	V			93.0			GC	[1996GOV/RUT]
C ₁₄ H ₁₀ Cl ₄	[121107-65-1]	(2,3',4,4'-tetrachloro-5-methyldiphenyl)methane	V		103.8	298	GC	[1996VAN/VAN]
C ₁₄ H ₁₀ Cl ₄	[121107-77-5]	(2',3,4,4'-tetrachloro-6-methyldiphenyl)methane	V		103	298	GC	[1996VAN/VAN]
	V			94.2			GC	[1996GOV/RUT]
C ₁₄ H ₁₀ F ₃ NO ₂	[530-78-9]	2-[3-(trifluoromethyl)phenyl]amino]benzoic acid (flufenamic acid)	FUS		27.13	408	DSC	[2010BAI/VAN]
	FUS				26.7	407	DSC	[2007PER/SUR2, 2009SUR/TER, 2008SUR/SUR, 2015SUR/SIM]
	FUS				27.0	407.3	DSC	[2004ROM/BUS]
	SUB	(339–376)		119.4 ± 0.7	358		GS	[2007PER/SUR2, 2009SUR/TER]
	SUB	(339–376)		121.2 ± 0.7	298		GS	[2007PER/SUR2, 2009SUR/TER, 2009SUR/PER, 2008SUR/SUR]
	V			101.6	298		S-F	[2007PER/SUR2]
C ₁₄ H ₁₀ F ₄	[425-32-1]	1,1,2,2-tetrafluoro-1,2-diphenylethane	FUS		28.83	399.2		[1997SCH/VER]
	SUB			101.8	298			[1997SCH/VER]
C ₁₄ H ₁₀ N ₂ O ₂	[128-95-0]	1,4-diaminoanthraquinone	FUS		24.2	484.2		[1988BAU/PER]
	SUB			143			GS	[1987SHI/OHK, 1991HOR]
	SUB	(448–474)		151.2	461			[1987STE/MAL, 1980ROD/KRU]
	SUB			136				[1984KAR/KRU]
	SUB	(378–403)		102.6 ± 9.7	390			[1984KRI]
	SUB	(473–553)		123	513		GS	[1977NIS/ISH, 1978NIS/ISH]
	SUB			199.2 ± 2.5			TE,ME	[1970KOJ]
	SUB			123.4				[1968TSU/KOJ, 1988BAU/PER]
	SUB			138.1			GS	[1967DAT/KAN, 1991HOR]
C ₁₄ H ₁₀ N ₂ O ₂	[129-44-2]	1,5-diaminoanthraquinone						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
$\text{C}_{14}\text{H}_{10}\text{N}_2\text{O}_2$	[4870-16-0]	SUB	(405–427)	118.5 ± 4.8	416		[1984KRI]	
		TRS		1.62	401			
		FUS		26.9	457	DSC	[1998BOT/ELL]	
$\text{C}_{14}\text{H}_{10}\text{N}_2\text{O}_3$	[58658-02-9]	<i>N</i> -anilinophthalimide						
$\text{C}_{14}\text{H}_{10}\text{O}$	[90-44-8]	10-methyl-2-nitroacridin-9(10 <i>H</i>)-one		37.6	561	DSC	[2003STO/KRZ]	
		FUS						
		FUS		22.4	429.5	DSC	[2010MON/SOU]	
[Note: Some decomposition upon melting.]		FUS		26.8	429.0		[1996DOM/HEA, 1991ELW/SAB]	
		SUB	(346–365)	105.6 ± 0.8	356	ME	[2010MON/SOU]	
		SUB	(346–365)	107.6 ± 0.8	298	ME	[2010MON/SOU]	
		SUB		106.7 ± 1.8	298	C	[2010FRE/GOM2]	
		SUB		106.1 ± 0.8	298	GS	[1998VER4]	
		SUB		103.3	298		[1991ELW/SAB, 1992SAB/WAT]	
$\text{C}_{14}\text{H}_{10}\text{O}$	[30084-90-3]	2-fluorenecarboxaldehyde						
		SUB	(338–356)	100.0 ± 3.4	347	ME	[2008GOL/SUU]	
$\text{C}_{14}\text{H}_{10}\text{O}_2$	[134-81-6]	Benzil						
		FUS		22.76	369.6	DSC	[2014TU/CHE]	
		FUS		23.31	368.0	DSC	[2012CHA/LAY]	
		FUS		23.19	368.2		[2012SHA/LAL]	
		FUS		22.88	368.1	DSC	[2005FAT/KAS]	
		FUS		23.2		DSC	[2003SHA/KAN]	
		FUS		23.8	369.2	DSC	[2001RAI/VAR]	
		FUS		23.8	369.2	DSC	[1998RAI/RAI]	
		TRS	(15–300)	0.04	84.0	AC		
		FUS		23.56	368	AC	[1996DOM/HEA, 1980AND/CON]	
		TRS	(60–100)	0.05	84.1	AC	[1977DWO/FUC]	
		FUS		22.6	368.1		[1972BOO/HAU]	
		SUB		106.3 ± 2.8	298	C	[2005FAT/KAS]	
		SUB	(319–340)	98.4 ± 1.1	329		[1959AIH, 1970COX/PIL, 1987STE/MAL]	
		SUB		82.8			[1938WOL/WEG, 1938WEG, 1960JON]	
$\text{C}_{14}\text{H}_{10}\text{O}_2$	[1989-33-9]	V	(401–620)	69.2	416	A	[1987STE/MAL, 1947STU]	
		FUS		30.24	503.8	DSC	[2013OLI/CAL]	
		SUB	(384–406)	126.8 ± 0.7	395	ME	[2013OLI/CAL]	
		SUB	(384–406)	130.4 ± 0.8	298	ME	[2013OLI/CAL]	
		SUB	(349–418)	110.1 ± 4.6	383	ME	[2008GOL/SUU]	
$\text{C}_{14}\text{H}_{10}\text{O}_3$	[93-97-0]	Benzoic acid anhydride						
		FUS		17.15	313.2	DSC	[1971CAR/FIN]	
		SUB		96.2 \pm 4.2	298	B	[1971CAR/FIN, 1977PED/RYL]	
		SUB		96.7 \pm 4.2			[1947STU, 1970COX/PIL]	
		V	(416–633)	69.1	431	A	[1987STE/MAL, 1947STU]	
$\text{C}_{14}\text{H}_{10}\text{O}_3$	[82-07-5]	9-xanthenecarboxylic acid						
		SUB		125.5 \pm 3.0	298	C	[2012FRE/GOM]	
		SUB	(383–405)	126.0 ± 1.0	394	ME	[2012FRE/GOM]	
$\text{C}_{14}\text{H}_{10}\text{O}_4$	[94-36-0]	Benzoyl peroxide						
		FUS		22.59	378	FPD	[1967FIN/GRA]	
		SUB	(310–340)	97.9 ± 2.5	298	ME	[1975CAR/LAY]	
[Note: Large uncertainty in reported value. The compound may undergo some decomposition upon melting.]								
SUB (293–313) 89.7 \pm 4.2 303 ME [1971KIP/RAB, 1977PED/RYL]								

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₁₀ O ₄	[3155-16-6]	Diphenyl oxalate	FUS		31.38	403	DSC	[1971CAR/FIN]
					102.5 ± 8.4		B	[1971CAR/FIN, 1977PED/RYL]
		V		(463–598)	68.2			[1971CAR/FIN]
C ₁₄ H ₁₀ O ₄	[482-05-3]	2,2'-biphenyldicarboxylic acid	SUB		151.9 ± 3.5	298	C	[2004MAT/MIR2]
					(433–493)	166.1	A	[1987STE/MAL]
C ₁₄ H ₁₀ O ₄	[787-70-2]	4,4'-biphenyldicarboxylic acid	SUB		196.4 ± 7.1	298	C	[2004MAT/MIR2]
C ₁₄ H ₁₀ O ₄	[40498-13-3]	2,3-dihydro-1,4-dihydroxy-9,10-anthraquinone	SUB	(363–393)	110.7	363	TGA, GS	[2003HIN/RAF]
C ₁₄ H ₁₀ O ₅	[962-16-3]	<i>O</i> -phenyl- <i>O</i> , <i>O</i> -benzoyl peroxy carbonate	SUB		97.9 ± 2.5			[1975CAR/LAY, 1977PED/RYL]
					133.9 ± 4.2		E	[1971KIP/RAB, 1977PED/RYL]
C ₁₄ H ₁₀ O ₅	[552-94-3]	Salicylsalicylic acid	FUS		29.0	430.2	DSC	[2004RAM/DIO]
C ₁₄ H ₁₁ BrN ₂ S	[109768-69-6]	<i>N</i> -(4-bromophenyl)-4 <i>H</i> -3,1-benzothiazin-2-amine	FUS		24.5	478.3	DSC	[2004GON/KOS]
C ₁₄ H ₁₁ ClN ₂ O ₂	[57160-46-0]	1-benzoyl-3-(4-chlorophenyl)urea	FUS		39.1	510	DSC	[2014OZA/NAK]
C ₁₄ H ₁₁ ClN ₂ S	[461662-90-8]	<i>N</i> -(4-chlorophenyl)-4 <i>H</i> -3,1-benzothiazin-2-amine	FUS		27.5	476.4	DSC	[2004GON/KOS]
					30.09	438.2	DSC	[1990DON/DRE]
C ₁₄ H ₁₁ Cl ₂ NO ₂	[15307-86-5]	2-[(2,6-dichlorophenyl)amino]benzoic acid (diclofenac acid)	FUS		40.4	452.6	DSC	[2009SUR/TER, 2008SUR/SUR, 2010SUR/PER]
					39.4	454.2	DSC	[2007PAS/BET]
					38.4	453.7	DSC	[2003GIO/ROS]
			SUB	(323–355)	114.7 ± 1.3	339	GS	[2007PER/SUR, 2009SUR/TER]
				(323–355)	115.6 ± 1.3	298	GS	[2007PER/SUR, 2009SUR/TER, 2008SUR/SUR]
C ₁₄ H ₁₁ FO ₃	[3119-88-8]	2'-fluoro-2-hydroxy-4-methoxybenzophenone	SUB	(307–318)	109.3	312.5	EV	[1987STE/MAL, 1966GRA/BUR]
C ₁₄ H ₁₁ FO ₃	[3506-35-2]	3'-fluoro-2-hydroxy-4-methoxybenzophenone	SUB	(322–343)	U 17.3	332.5	EV	[1987STE/MAL, 1966GRA/BUR]
C ₁₄ H ₁₁ FO ₃	[3602-47-9]	4'-fluoro-2-hydroxy-4-methoxybenzophenone	SUB	(322–343)	U 37.7	332.5	EV	[1987STE/MAL, 1966GRA/BUR]
C ₁₄ H ₁₁ F ₃	[68936-77-6]	1,1,2-trifluoro-1,2-diphenylethane	FUS		28.37	354.2		[1997SCH/VER]
					93.1	298		[1997SCH/VER]
C ₁₄ H ₁₁ F ₃	[384-94-1]	1,1,1-trifluoro-2,2-diphenylethane	V	(286–328)	69.1 ± 0.9	298	GS	[1997SCH/VER]
C ₁₄ H ₁₁ IO ₃ S	[313057-05-5]	4-(2-propenoxy)phenyl 5-iodo-2-thiophene carboxylate	FUS		83.68	383.2	DSC	[2000WU/WAN]
C ₁₄ H ₁₁ N	[948-65-2]	2-phenylindole	SUB	(360–382)	111.7 ± 0.8	371	ME	[2015CAR/AMA]
					114.4 ± 0.8	298	ME	[2015CAR/AMA]
C ₁₄ H ₁₁ NO	[574-39-0]	<i>N</i> -acetylcarbazole	FUS		15.1	349.9		[2001JAM/DOB]
C ₁₄ H ₁₁ NO	[719-54-0]	10-methylacridin-9(10 <i>H</i>)-one						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₄ H ₁₁ NO ₂	[5813-90-1]	FUS		29.7	479	DSC	[2003STO/KRZ]
		SUB		105		DSC	[2003STO/KRZ]
		SUB		130.0 ± 4.2	298	C	[2012FRE/GOM]
		SUB	(399–421)	130.5 ± 1.1	410	ME	[2012FRE/GOM]
		SUB	(399–421)	136.1 ± 2.5	298	ME	[2012FRE/GOM]
C ₁₄ H ₁₁ NO ₃	[841-12-3]	<i>N</i> -salicylidene- <i>m</i> -aminobenzoic acid					
		FUS		33.11	464	DSC	[1996DOM/HEA, 1991WU/XIO]
C ₁₄ H ₁₁ NS	[150993-53-6]	2-cyanophenyl benzyl sulfide					
		SUB		117.8 ± 2.1	298	C	[2006MUL/MOZ]
C ₁₄ H ₁₁ N ₃ O ₂	[6407-69-8]	1,4,5-triaminoanthraquinone					
		SUB	(473–553)	U70.3	513	GS	[1977NIS/ISH, 1978NIS/ISH]
C ₁₄ H ₁₁ N ₃ O ₄	[191979-14-3]	2-cyano-6-nitro-1(2 <i>H</i>)-quinolinecarboxylic acid, 2-propenyl ester					
		FUS		26.87	383.7	DSC	[2005LIZ/ZAB]
C ₁₄ H ₁₁ N ₃ O ₄	[191979-17-6]	2-cyano-6-nitro-1(2 <i>H</i>)-quinolinecarboxylic acid, 1-propenyl ester					
		FUS		26.27	389.4	DSC	[2005LIZ/ZAB]
C ₁₄ H ₁₂	[1730-37-6]	1-methylfluorene					
		SUB	(285–317)	91.2 ± 0.4	298	GS	[2004VER]
		V		77.2 ± 3.6	298	CGC	[2008HAN/NUT]
		V	(361–375)	78.7 ± 0.7	298	GS	[2004VER]
		V	(323–473)	71.1	398	GC	[2002LEI/CHA]
C ₁₄ H ₁₂	[2523-37-7]	9-methylfluorene					
		FUS		16.32	319.2	DSC	[1994RAK/VER2]
		SUB	(285–317)	83.7 ± 0.6	298	GS	[2004VER]
		SUB	(318–358)	82.8 ± 0.3	338	B	[1994RAK/VER2]
		SUB		82.8 ± 0.3	298		[1994RAK/VER2]
		V	(320–353)	70.6 ± 0.3	298	GS	[2004VER]
		V	(318–358)	71.3 ± 0.2	298	GS	[2004VER]
		V	(318–358)	66.5	298	B	[1994RAK/VER2]
C ₁₄ H ₁₂	[613-31-0]	9,10-dihydroanthracene					
		SUB	(313–453)	93.9	383	GS	[1995NAS/LEN]
		SUB	(318–379)	92.4 ± 4		ME	[1975MAL/GIG, 1987STE/MAL]
		SUB		94.2 ± 0.8	298	ME	[1975MAL/GIG]
		SUB	(279–328)	93.3 ± 4	304		[1958HOY/PEP, 1970COX/PIL]
		SUB		89.5	388		[1951MAG/HAR, 1960JON]
C ₁₄ H ₁₂	[776-35-2]	9,10-dihydrophenanthrene					
		FUS	(11–350)	12.8	306.5	AC	[1996DOM/HEA, 1979LEE/HOS]
		V	(417–453)	64.0	432	A	[1987STE/MAL]
		V	(353–418)	72.3 ± 0.6	340	IPM	[1979LEE/HOS]
		V	(353–418)	76.6 ± 0.1	298	IPM	[1979LEE/HOS]
C ₁₄ H ₁₂	[530-48-3]	1,1-diphenylethylene					
		V	(298–331)	70.2 ± 0.7	314	GS	[1999VER/EBE]
		V	(298–331)	71.2 ± 0.7	298	GS	[1999VER/EBE]
		V	(360–550)	59.3	375	A	[1987STE/MAL, 1947STU]
C ₁₄ H ₁₂	[645-49-8]	<i>cis</i> -1,2-diphenylethylene (<i>cis</i> -stilbene)					
		V	(308–343)	70.5 ± 0.4	298	GS	[2009CAM/EME]
		V	(373–428)	66.5	388	A	[1987STE/MAL]
		V	(276–286)	50.3 ± 1.0	298		[1952BRA/PLE, 2009CAM/EME]
C ₁₄ H ₁₂	[103-30-0]	<i>trans</i> -1,2-diphenylethylene (<i>trans</i> -stilbene)					
		FUS	(317–411)	27.7	397.4	AC	[1985BOU/DEL]
		FUS	(8–450)	27.4	398.2	AC,DSC	[1991ACR, 1984VAN/BOU]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
<chem>C14H12BrNOS</chem>	[127351-08-0]	FUS		27.7	397.4	AC	[1985BOU/DEL]
		SUB	(324–367)	102 ± 0.4	298	GS	[2009CAM/EME]
		SUB		102	298	CGC–DSC	[1998CHI/HES]
		SUB	(298–343)	99.6	313	A	[1987STE/MAL]
		SUB		U 61.1		MS	[1983MAJ/AZZ]
		SUB	(293–338)	103.8 ± 2.5	315		[1983KRA/BEC]
		SUB		100.7 ± 0.4	298	SRFG	[1983VAN/JAC]
		SUB	(310–340)	99.6 ± 1.7	298	TE	[1975DEK/VAN]
		SUB		102.1 ± 0.6		TCM	[1973DEK/OON]
		SUB		99.2 ± 0.4			[1972MOR3]
		SUB	(303–315)	86.5 ± 0.1	309	T	[1955ENG]
		V		79.7	298	CGC	[1998CHI/HES]
		V	(453–503)	79.8	298	CGC	[1995CHI/HOS]
		V	(403–453)	79.6	298	CGC	[1995CHI/HOS]
		V	(419–580)	65.5	434	A	[1987STE/MAL]
<chem>C14H12ClNO2</chem>	[13710-19-5]	3-bromo-N-(4-methoxyphenyl)benzenecarbothioamide					
		FUS (I)		28.5	376.7		
<chem>C14H12ClN</chem>	[33442-36-3]	4-chlorobenzylidene-4'-methylaniline					
		FUS		25.58	400.4	DSC	[1999GAL/COL]
		FUS					
		FUS (white crys)		38.83	486	DSC	[2010BAI/VAN]
		FUS (yellowcrys)		41.0	484.2		
		FUS		49.0	485.8	DSC	[2009SUR/SZT, 2015SUR/SIM]
		FUS		38.6	484.3	DSC	[2009SUR/TER]
		FUS		41.2	485.3		[2007BER/WAS]
		SUB	(346–373)	125.7 ± 0.8	360	GS	[2009SUR/TER]
		SUB	(346–373)	128.4 ± 0.8	298	GS	[2009SUR/TER, 2009SUR/PER]
<chem>C14H12F2</chem>	[350-62-9]	1,1-difluoro-1,2-diphenylethane					
		FUS		24.35	339.2		[1997SCH/VER]
<chem>C14H12F3NO4S2</chem>	[37924-13-3]	1,1,1-trifluoro-N-[2-methyl-4-(phenylsulphonyl)phenyl]methanesulfonamide					
		FUS		31.79	418.4	DSC	[1990DON/DRE]
<chem>C14H12N2</chem>	[22739-29-3]	<i>N</i> -methyl-9-acridinamine					
		SUB		107	480	TGA	[1998STO/KRZ]
<chem>C14H12N2</chem>	[5291-44-1]	10-methyl-9-acridinimine					
		SUB		94	550	TGA	[1998STO/KRZ]
<chem>C14H12N2</chem>	[588-68-1]	Dibenzylideneazine					
		SUB		93.3 ± 2.1	293	E	[1948COA/SUT]
<chem>C14H12N2</chem>	[484-11-7]	2,9-dimethyl-1,10-phenanthroline					
		FUS		17.6	435.9	DSC	[2007BON/CAT]
<chem>C14H12N2</chem>	[621-72-7]	2-benzylbenzimidazole					
		SUB	(393–412)	134.5 ± 0.5	403	ME	[2005RIB/RIB]
		SUB	(393–412)	136.2 ± 0.5	298	ME	[2005RIB/RIB]
<chem>C14H12N2O2</chem>	[192998-96-2]	<i>cis</i> -5 <i>a</i> ,6,11 <i>a</i> ,12-tetrahydro[1,4]benzothiazino[3,2- <i>b</i>][1,4]-benzoxazine					
		SUB	(383–392)	122	387	ME	[1997GUD/TOR]
		SUB	(383–392)	129.0 ± 1.3	298	ME	[1997GUD/TOR]
<chem>C14H12N2O2</chem>	[730-39-2]	4-nitro-4'-methylbenzylidene aniline					
		FUS		27.3	402	DSC	[1997KER/LOC]
<chem>C14H12N2O3</chem>	[1821-33-6]	1-benzoyl-3-phenylurea					

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_{12}\text{N}_2\text{O}_4$	[42472-93-5]	<i>N</i> -methylthalidomide	FUS		32.1	477	DSC	[2014OZA/NAK]
			FUS		18.12	432.2	DSC	[2002GOO/LAI]
$\text{C}_{14}\text{H}_{12}\text{N}_2\text{O}_4$	[1801682-09-6]	<i>(E)</i> -2-methoxy-6-[(3-nitrophenyl)imino]methylphenol (orthorhombic) FUS (triclinic)			29.98	416.7		
					34.34	417.7	DSC	[2015CAR/DUB]
			SUB	(383–392)	118	387	ME	[1997GUD/TOR]
$\text{C}_{14}\text{H}_{12}\text{N}_2\text{S}_2$	[165454-33-1]	<i>cis</i> -5 <i>a</i> ,6,11 <i>a</i> ,12-tetrahydro[1,4]benzothiazno[3,2- <i>b</i>]-[1,4]benzothiazine SUB		(383–392)	123.3 ± 1.2	298	ME	[1997GUD/TOR]
			SUB	(473–553)	U82	513	GS	[1977NIS/ISH, 1978NIS/ISH]
$\text{C}_{14}\text{H}_{12}\text{N}_4\text{O}_2\text{S}$	[2475-45-8]	1,4,5,8-tetraminoanthraquinone FUS			11.23	437.2	DSC	[2009PLA/LIZ]
$\text{C}_{14}\text{H}_{12}\text{O}$	[451-40-1]	Benzyl phenyl ketone V		(396–594)	68.1	411	A	[1987STE/MAL, 1947STU]
			V		81.2 ± 1.7	298	C	[2006RIB/AMA4]
$\text{C}_{14}\text{H}_{12}\text{O}$	[131-58-8]	2-methylbenzophenone V		(435–580)	65.1	450	A	[1987STE/MAL]
			V		85.6 ± 1.2	298	C	[2006RIB/AMA4]
$\text{C}_{14}\text{H}_{12}\text{O}$	[643-65-2]	3-methylbenzophenone V		(445–585)	68.4	460	A	[1987STE/MAL]
			V		97.3 ± 1.0	298	C	[2006RIB/AMA4]
$\text{C}_{14}\text{H}_{12}\text{O}$	[134-84-9]	4-methylbenzophenone SUB		(450–492)	72.0	465	A	[1987STE/MAL]
			V					
$\text{C}_{14}\text{H}_{12}\text{O}$	[451-40-1]	Desoxybenzoin SUB			99.3 ± 4.2			[1947STU, 1970COX/PIL]
			V					
$\text{C}_{14}\text{H}_{12}\text{O}$	[24324-17-2]	9-fluorenylmethanol FUS			27.91	377.1	DSC	[2013OLI/CAL]
			FUS	(78–390)	26.27	376.6	AC	[2004DI/TAN]
			SUB	(337–359)	117.0 ± 0.2	348	ME	[2013OLI/CAL]
			SUB	(337–359)	118.8 ± 0.2	298	ME	[2013OLI/CAL]
			V	(363–400)	86.0 ± 0.1	381	CDG	[2013OLI/CAL]
			V	(363–400)	97.8 ± 0.1	298	CDG	[2013OLI/CAL]
			FUS		40.30	408.2	DSC	[2012KAN/RAI]
$\text{C}_{14}\text{H}_{12}\text{O}_2$	[579-44-2]	<i>(dl)</i> -benzoin V			98.5 ± 12.5	298	CGC	[2006PER/CON]
			V	(408–616)	69.0	423	A	[1987STE/MAL, 1947STU]
			FUS		20.44	293.1	DSC	[1990DON/DRE]
$\text{C}_{14}\text{H}_{12}\text{O}_2$	[120-51-4]	Benzyl benzoate V		(497–602)	59.7	512	A,EB	[1987STE/MAL, 1976HON/SIN]
			V	(297–353)	77.7	312	A,ME	[1987STE/MAL, 1957SER/VOI]
$\text{C}_{14}\text{H}_{12}\text{O}_2$	[5728-52-9]	Biphenyl-4-ylacetic acid (felbinac)	FUS		29.76	437	DSC	[2010BAI/VAN]
$\text{C}_{14}\text{H}_{12}\text{O}_2$	[117-34-0]	Diphenylacetic acid FUS			31.18	420.3	DSC	[2012CHA/LAY]
			FUS		29.9	420.4	DSC	[2011MON/SOU]
			FUS		31.18	420.4	DSC	[2010CHA/LAY]
			FUS		31.27	420.4		[1996DOM/HEA, 1980AND/CON]
			SUB	(357–379)	128.9 ± 0.7	308	ME	[2011MON/SOU]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_{12}\text{O}_2$	[2553-04-0]	SUB	(357–379)	131.7 ± 0.7	298	ME	[2011MON/SOU]
		FUS		0.68	350.2	DTA	[1989SAL/ABA]
[Note: Reported enthalpy of fusion is too small, and the published enthalpy and entropy of fusion data are internally inconsistent.]							
$\text{C}_{14}\text{H}_{12}\text{O}_2\text{S}$	[16212-06-9]	<i>E</i> -(2-phenylethenyl)sulfonyl benzene (phenyl <i>trans</i> -B-styrylsulfone)					
		SUB		105 ± 3.8	B	[1969MAC/MCN, 1969MAC/MCN2, 1977PED/RYL]	
$\text{C}_{14}\text{H}_{12}\text{O}_3$	[118-58-1]	Benzyl salicylate					
		V		96.8	298	CGC	[2011UMN/CHI]
		V	(295–334)	78.7	310	A,ME	[1987STE/MAL, 1955SER/VOI]
$\text{C}_{14}\text{H}_{12}\text{O}_3$	[131-57-7]	2-hydroxy-4-methoxybenzophenone					
		FUS		21.77	336.7		[2008LAG/JIM]
		SUB	(281–337)	118.9	296	A	[1987STE/MAL]
		SUB	(308–323)	U39.7	315	EV	[1966GRA/BUR]
		V	(337–413)	74.7	352	A,UV	[1987STE/MAL, 1960SCH/HIR]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[58110-44-4]	3-[5-(4-methoxyphenyl)furan-2-yl]acrylic acid					
		SUB	(395–425)	154.6 ± 6.7	410	ME	[2014DIB/RAE]
		SUB	(395–425)	160.0 ± 6.7	298	ME	[2014DIB/RAE]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[131-53-3]	2,2'-dihydroxy-4-methoxybenzophenone					
		FUS		22.0	343	DSC	[1999PRI/HAW]
		SUB		103.8	B	[1999PRI/HAW]	
		SUB	(303–342)	228	318	A	[1987STE/MAL]
		V		81.8	TGA	[1999PRI/HAW]	
		V	(342–481)	75.6	357	A,UV	[1987STE/MAL, 1960SCH/HIR]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[131-53-3]	2,4-dihydroxy-4'-methoxybenzophenone					
		FUS		35.6	436.8	DSC	[1999PRI/HAW]
		SUB		138.3	B	[1999PRI/HAW]	
		V		102.7	TGA	[1999PRI/HAW]	
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[10060-32-9]	1,2-dicarbomethoxynaphthalene		27.6	358.2	DSC	[1993ACR, 1978DOZ/FUJ]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[18713-38-7]	1,3-dicarbomethoxynaphthalene		30.5	378.7	DSC	[1993ACR, 1978DOZ/FUJ]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[7487-15-2]	1,4-dicarbomethoxynaphthalene		20.4	340.2	DSC	[1993ACR, 1978DOZ/FUJ]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[19458-95-8]	1,5-dicarbomethoxynaphthalene		26.4	392	DSC	[1993ACR, 1978DOZ/FUJ]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[16144-94-8]	1,6-dicarbomethoxynaphthalene		22.1	371.8	DSC	[1993ACR, 1978DOZ/FUJ]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[68267-12-9]	1,7-dicarbomethoxynaphthalene		20.0	363.2	DSC	[1993ACR, 1978DOZ/FUJ]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[13728-34-2]	2,3-dicarbomethoxynaphthalene		20.2	324.2	DSC	[1993ACR, 1978DOZ/FUJ]
$\text{C}_{14}\text{H}_{12}\text{O}_4$	[2549-47-5]	2,7-dicarbomethoxynaphthalene		26.6	410.2	DSC	[1993ACR, 1978DOZ/FUJ]
$\text{C}_{14}\text{H}_{12}\text{O}_5$	[82-02-0]	4,9-dimethoxy-7-methyl-5 <i>H</i> -furo[3,2 <i>g<td data-kind="ghost"></td><td data-kind="ghost"></td><td data-kind="ghost"></td><td data-kind="ghost"></td></i>					
		FUS (I)		27.9	423.5		
		FUS (II)		32.32	426.5	DSC	[1979MAS/MAL]
$\text{C}_{14}\text{H}_{13}\text{ClN}_2\text{O}_2$	[457899-89-7]	4-chloro-2'-hydroxy-4'-ethoxyazobenzene		34.3	421	DSC	[2003PAJ/ROS]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₁₃ N	V	<i>N</i> -benzybenzaldehyde-imine	V	(309–340)	83.4 ± 1.2	324	GS	[1997VER/MOR]
			V	(309–340)	85.0 ± 1.2	298	GS	[1997VER/MOR]
C ₁₄ H ₁₃ N	[86-28-2]	<i>N</i> -ethylcarbazole	FUS		16.55	342.4	DSC	[2016STA/KEI]
			FUS		15.1	343.1	DSC	[2011VER/EME]
	SUB		SUB	(313–341)	97.1 ± 1.0	298	GS	[2011VER/EME]
			SUB	(310–329)	98.4 ± 0.3	319	ME	[1990JIM/ROU]
			SUB	(310–329)	99.1 ± 0.3	298	ME	[1990JIM/ROU]
	V		V	(344–383)	83.9 ± 0.5	298	GS	[2011VER/EME]
			V	(348–373)	74.9	366	GS	[1980VAN/PRA]
			V	(348–373)	80.2 ± 1.5	298	GS	[1980VAN/PRA, 2011VER/EME]
C ₁₄ H ₁₃ NO	[519-87-9]	<i>N,N</i> -diphenylacetamide	FUS		23.4	374.4	A	[2001JAM/DOB]
			SUB	(343–376)	122.7	358		[1987STE/MAL]
C ₁₄ H ₈ NO ₂	[3585-93-1]	<i>N</i> -(4-methoxyphenylmethylene)benzenamine <i>N</i> -oxide	SUB		130.6 ± 1.2	298	C	[1986KIR/ACR]
C ₁₄ H ₁₃ N ₃ O ₃	[7209-85-0]	Vanillin isoniazid	FUS		49.7	509.7	DSC	[2015BLO/SHA]
			SUB	(394–410)	182.2 ± 3.7	298	GS	[2015BLO/SHA]
C ₁₄ H ₁₃ N ₃ O ₄	[191979-08-5]	2-cyano-6-nitro-1(2 <i>H</i>)-quinolinecarboxylic acid, propyl ester	FUS		24.99	372.2	DSC	[2005LIZ/ZAB]
C ₁₄ H ₁₃ N ₃ O ₄	[191979-12-1]	2-cyano-6-nitro-1(2 <i>H</i>)-quinolinecarboxylic acid, 1-methylethyl ester	FUS		27.75	402	DSC	[2005LIZ/ZAB]
C ₁₄ H ₁₃ N ₃ O ₄ S	[71125-38-7]	4-hydroxy-2-methyl- <i>N</i> -(5-methyl-2-thiazolyl)-2 <i>H</i> -1,2-benzothiazine-3-carboxamide-1,1-dioxide (meloxicam)	FUS		49.9	536.7	DSC	[2011DEL/HOL]
			FUS					
[Note: The authors of [2011DEL/HOL] were aware of the large difference between their measured enthalpy of fusion at the value reported in [2007BAB/SUB].]								
C ₁₄ H ₁₄	[620-83-7]	(4-methylphenyl)phenylmethane	FUS		71.73	530	DSC	[2007BAB/SUB]
			V	(293–333)	68.6 ± 0.3	313	GS	[1999VER5]
			V	(293–333)	69.5 ± 0.3	298	GS	[1999VER5]
C ₁₄ H ₁₄	[605-39-0]	2,2'-dimethylbiphenyl	FUS		2.28	293.1	ME	[1996DOM/HEA, 1987CHI/HOS]
			SUB	(283–288)	65.7	285		[1974PRI/POU, 1987STE/MAL]
C ₁₄ H ₁₄	[612-75-9]	3,3'-dimethylbiphenyl	FUS	(6–372)	18.92	282.44	AC	[2013TKA/DRU]
			V		70.7 ± 1.4	298		[2013TKA/DRU]
			V	(288–308)	71.9	298	A,ME	[1987STE/MAL, 1974PRI/POU]
C ₁₄ H ₁₄	[613-33-2]	4,4'-dimethylbiphenyl	SUB	(334–379)	95.2 ± 0.6	298	GS	[2012NAZ/NES]
			SUB		95.2 ± 1.5	298	C	[2009MIR/PAS, 2012NAZ/NES]
			SUB		95.1 ± 2.0	298	C	[1997RIB/MAT4]
			V		69.4	398.2	C	[2014PIM/PAS]
C ₁₄ H ₁₄	[1812-51-7]	2-ethylbiphenyl	FUS		2.07	267.1		[1996DOM/HEA, 1987CHI/HOS]
C ₁₄ H ₁₄	[612-00-0]	1,1-diphenylethane	V	(293–328)	68.2 ± 0.6	313	GS	[1999VER5]
			V	(293–328)	68.9 ± 0.6	298	GS	[1999VER5]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_{14}$	[103-29-7]	V	(348–405)	62.4	363	A	[1987STE/MAL]
		FUS		23.22	324.7	DSC	[2001MON/HIL5]
		TRS		2.25	273.2		
		FUS		22.73	324.3		[1996DOM/HEA, 1988MES/FIN]
		SUB	(289–303)	93.3 ± 0.9	296	ME	[2001MON/HIL5]
		SUB	(289–303)	93.2 ± 0.9	298	ME	[2001MON/HIL5]
		SUB	(293–323)	92.9	308	EM	[1989SAS/NGU]
		SUB	(273–318)	91.2 ± 0.4	295		[1983KRA/BEC]
		SUB		91.5 ± 0.7	298	B	[1980OSB/SCO]
		SUB		91.4 ± 0.5	298	C	[1972MOR]
		SUB	(286–307)	84.1 ± 0.4		V	[1959AIH, 1970COX/PIL]
		SUB	(290–317)	72.4 ± 1.3	304	ME	[1951BRI, 1938WOL/WEG, 1960JON]
		SUB		73.2			[1938WEG]
$\text{C}_{14}\text{H}_{14}$	[2141-42-6]	V	(323–473)	67.4	398	GC	[2002LEI/CHA]
		V		66.2 ± 0.2	340		[1988MES/FIN]
		V	(333–413)	64.1	373		[1989SAS/NGU]
		V	(359–557)	57.0	374	A	[1987STE/MAL, 1947STU]
$\text{C}_{14}\text{H}_{14}$	[1013-08-7]	1,2,3,4-tetrahydroanthracene					
		TRS		19.16	373.3		
		FUS		2.92	388		[1996DOM/HEA, 1987CHI/HOS2]
$\text{C}_{14}\text{H}_{14}$	[1857-75-6]	1,2,3,4-tetrahydronaphthalene					
		TRS		0.10	285		
		TRS		1.77	298		
		FUS	(5–430)	11.17	302.6	AC	[1994CHI/GAM]
$\text{C}_{14}\text{H}_{14}$	[51921-69-8]	1,2- <i>cis</i> -dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}$	[56137-64-5]	1,3-dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}$	[56137-75-8]	1,4-dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}$	[56137-80-5]	1,5-dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}$	[56137-89-4]	1,7-dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}$	[56137-90-7]	1,8-dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}$	[56137-94-1]	3,4-dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}$	[56137-95-2]	3,8-dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}$	[56138-04-6]	4,7-dimethylacenaphthene					[1974CAN/JAC]
$\text{C}_{14}\text{H}_{14}\text{ClN}_3\text{S}$	[436847-00-6]	<i>N</i> -2-(4,6-lutidyl)- <i>N'</i> -(2-chlorophenyl)thiourea					
$\text{C}_{14}\text{H}_{14}\text{ClN}_3\text{S}$	[436847-02-8]	FUS		42.2	467.2	DSC	[2002KEL/SZC]
$\text{C}_{14}\text{H}_{14}\text{ClN}_3\text{S}$				66.5	499.7	DSC	[2002SZC/KEL]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₁₄ Cl ₂ N ₂ O	[35554-44-0]	1-[2-(2,4-dichlorophenyl)-2-(propenyl)oxy]ethyl]-1 <i>H</i> -imidazole				DSC	[1990DON/DRE]
	FUS		30.5	322.6			
C ₁₄ H ₁₄ FN ₃	[150-74-3]	<i>N,N</i> -dimethyl-4-[(fluorophenyl)azo]benzenamine		91.2		UV	[1984KAR/ROD]
	SUB						
C ₁₄ H ₁₄ FN ₃ O ₂ S	[4644-89-7]	4-[[4-(dimethylamino)phenyl]azo]benzenesulfonyl fluoride		105.6		UV	[1984KAR/ROD]
	SUB						
C ₁₄ H ₁₄ F ₃ NO ₂	[41934-47-8]	4-trifluoromethyl-7-(<i>N,N</i> -diethylamino)coumarin		23.3	360	DSC	[1991ZHA/HUA]
	FUS						
C ₁₄ H ₁₄ NO ₃	[2643-00-7]	bis(4-methoxyphenyl)nitrogen oxide	(328–363)	100.7	343	A	[1987STE/MAL, 1965KAL/ROZ]
	SUB						
C ₁₄ H ₁₄ NO ₄ PS	[2104-64-5]	<i>O</i> -ethyl <i>O</i> -(4-nitrophenyl)phenylphosphonothioate		25.05	308.2	DSC	[1990DON/DRE]
	FUS						
C ₁₄ H ₁₄ N ₂	[621-09-0]	<i>N,N</i> -diphenyl ethanimidamide	(343–383)	122.6 ± 3.8	363	ME	[1958DUN/HAN]
	SUB						
C ₁₄ H ₁₄ N ₂ O ₂		4-(2-hydroxyethoxy)azobenzene		120.9		GS	[1956MAJ2, 1991HOR]
	SUB						
C ₁₄ H ₁₄ N ₂ O ₂	[156461-81-3]	<i>N</i> -methyl- <i>N</i> -nitro-4-(phenylmethyl)benzenamine		21.7	329.6	DSC	[2002DAS/ZAL]
	FUS						
C ₁₄ H ₁₄ N ₂ O ₃	[1562-94-3]	4,4'-dimethoxyazoxybenzene (<i>p</i> -azoxyanisole)		134.8 ± 3.7	298	C	[1993ACR/TUC]
	SUB						
	V	(395–418)		73.7	406	A,I	[1987STE/MAL, 1974SOL/GRU]
C ₁₄ H ₁₄ N ₂ O ₃	[57721-89-8]	2-cyano-6-methoxy-1(2 <i>H</i>)-quinolinecarboxylic acid, ethyl ester		22.37	359.1	DSC	[2005LIZ/ZAB]
	FUS						
C ₁₄ H ₁₄ N ₂ O ₃ S	[2080-33-3]	<i>N</i> -[4-[(phenylamino)sulfonyl]phenyl]acetamide		38.96	484.6	DSC	[2014LAH/KUD]
	FUS						
C ₁₄ H ₁₄ N ₂ O ₄ S	[1169390-39-9]	6-[(phenylsulfonyl)amino]-3-pyridine-carboxylic acid, ethyl ester		22.5	427.9	DSC	[2014PER/KAZ]
	FUS						
C ₁₄ H ₁₄ N ₂ O ₅ S	[349098-79-9]	4-nitro- <i>N</i> -(4-ethoxyphenyl)benzenesulfonamide		38.9	445.2	DSC	[2014PER/KAZ]
	FUS						
C ₁₄ H ₁₄ N ₄ O ₂	[3837-55-6]	3-nitro-4'-(<i>N,N</i> -dimethylamino)-azobenzene				ME	[1967GRE/JON]
	SUB	(388–412)	133.9 ± 3.8	400			
	SUB	(392–410)	133.1 ± 3.8	401		TE	[1967GRE/JON, 1987STE/MAL]
C ₁₄ H ₁₄ N ₄ O ₂	[2491-74-9]	4-nitro-4'-(<i>N,N</i> -dimethylamino)-azobenzene				ME	[1967GRE/JON, 1966JON/KRA]
	SUB	(413–425)	134.3 ± 7.5	419			
	SUB	(414–428)	135.1 ± 0.9	421		TE	[1967GRE/JON, 1987STE/MAL]
	SUB		134.3			ME	[1956MAJ2, 1991HOR]
C ₁₄ H ₁₄ O	[103-50-4]	Dibenzyl ether					
	V	(275–417)	45.6	290		A	[1987STE/MAL]
	V	(413–461)	59.4	428		A	[1987STE/MAL]
C ₁₄ H ₁₄ O	[59502-28-2]	Isopropyl 2-naphthyl ketone					
	V	(406–586)	75.9	421		A	[1987STE/MAL, 1947STU]
C ₁₄ H ₁₄ O	[52857-29-1]	2-(1-phenylethyl)phenol					
	V	(443–521)	82.8	458		A	[1987STE/MAL]
	V	(442–523)	72.8	482			[1947GOL/MAR]
C ₁₄ H ₁₄ O	[1988-89-2]	4-(1-phenylethyl)phenol					
	V	(447–517)	90.8	462		A	[1987STE/MAL]
	V	(447–523)	75.4	485			[1947GOL/MAR]
C ₁₄ H ₁₄ O	[599-67-7]	1,1-diphenylethanol		26.49	357.9	DSC	[1998VER3]
	FUS						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₄ H ₁₄ OS	[26905-24-8]	SUB	(318–348)	102.9 ± 0.8	333	GS	[1998VER3]
		SUB	(318–348)	105.0 ± 0.8	298	GS	[1998VER3]
C ₁₄ H ₁₄ O ₂	[655-48-1]	FUS	(dl)-1,2-diphenyl-1,2-dihydroxyethane	112.5 ± 2.7	298	C	[2006MUL/MOZ]
				31.38	393	DSC	[1976LEC/COL]
C ₁₄ H ₁₄ O ₂	[7501-02-2]	V	2-(2-biphenyloxy)ethanol (410–608)	34.31	420.5	DSC	[1976LEC/COL]
				71.9	425	A	[1987STE/MAL]
C ₁₄ H ₁₄ O ₂	[2081-08-5]	FUS	4,4'-ethylenobis(phenol)	27.9	399.3	DSC	[2014COS/DAV]
				137.4 ± 0.7	298	ME	[2014DAV/HER, 2014COS/DAV]
C ₁₄ H ₁₄ O ₂ S	[620-32-6]	SUB	Dibenzyl sulfone	125.5 ± 2.9			[UR/MAC, 1970COX/PIL]
C ₁₄ H ₁₄ O ₂ S	[599-66-6]	SUB	di-p-tolyl sulfone	109.6 ± 2.9			[UR/MAC, 1970COX/PIL]
C ₁₄ H ₁₄ O ₃	[22204-53-1]	S-(+)-6-methoxy- α -methyl-2-naphthaleneacetic acid (naproxen)	FUS	35.30	429.2	DSC	[2015GAU/VAN]
			FUS	29.0	426.7	DSC	[2014SAI/MUR]
			FUS	32.0	432.1	DSC	[2012ELK/ASH]
			FUS	30.3	428.7	DSC	[2012MAX/CHI]
			FUS	31.7	429.4	DSC	[2011BRA/ARD]
			FUS	33.0	428.8	DSC	[2011CAS/RIB]
			FUS	32.4	431.4	DSC	[2011ZHO/SHI]
			FUS	24.3	427.7	DSC	[2009GAS/CEN]
			FUS	28.0	429.2	DSC	[2007VIP/WAN]
			FUS	34.2	428.8	DSC	[2006WAS/HOL]
			FUS	32.76	429.6	DSC	[2005MUR/BET]
			FUS	32.24	429.8	DSC	[2002MUR/GRA]
			FUS	32.2	429.9	DSC	[1999BET/SOR, 1998SOR/NEG]
			FUS	31.73	429.3	DSC	[1998BUS/PEN2]
			FUS	31.5	428.5		[1997NEA/BHA]
			FUS	31.5	431.9	DSC	[1994WEB/MEY]
			FUS	29.41	439.2	DSC	[1993CON/VIA]
			SUB	155.2	298	V+F	[2012MAX/CHI]
			SUB	(341–397)	128.3 ± 0.5	GS	[2004PER/KUR]
			SUB	(341–397)	132.1 ± 1.8	GS	[2004PER/KUR, 2012MAX/CHI]
			V	(473–503)	131.7 ± 6.7	CGC	[2012MAX/CHI]
C ₁₄ H ₁₄ O ₃	[23981-80-8]	(RS)-naproxen	FUS	33.2	429.0	DSC	[2011BRA/ARD]
C ₁₄ H ₁₄ O ₃	[83-26-1]	2-pivaloylindan-1,3-dione (pindone)	FUS	25.99	381.5	DSC	[1991ACR, 1990DON/DRE]
C ₁₄ H ₁₄ O ₅	[111171-30-3]	8-(hydroxymethyl)-6-methyl-2-oxo-2H-1-benzopyran-3-carboxylic acid, ethyl ester	TRS	2.96	415.6		
			FUS	29.58	429.8	DSC	[1992HUA/ZHO2]
C ₁₄ H ₁₄ O ₆	[111171-31-4]	8-(hydroxymethyl)-6-methoxy-2-oxo-2H-1-benzopyran-3-carboxylic acid, ethyl ester	FUS	36.42	431.9	DSC	[1992HUA/ZHO2]
C ₁₄ H ₁₄ O ₈	[3451-02-3]	1,2,3,4-tetracarbomethoxybenzene	FUS	40.4	404.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₄ H ₁₄ O ₈	[3034-97-7]	1,2,3,5-tetracarbomethoxybenzene	FUS	32.6	389.2	DSC	[1993ACR, 1978DOZ/FUJ]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₁₄ O ₈	[635-10-9]	1,2,4,5-tetramethoxycarbonylbenzene FUS	(371–391)	35.7 140.4 ± 0.8 143.3 ± 0.8 135.9 ± 1.3	416.7 381 298 298	DSC ME ME [1995JIM/MEN] [1995JIM/MEN] [1967TUR2, 1995JIM/MEN]	[1993ACR, 1978DOZ/FUJ]
							[1995JIM/MEN]
							[1995JIM/MEN]
							[1967TUR2, 1995JIM/MEN]
C ₁₄ H ₁₄ S	[538-74-9]	Dibenzyl sulfide SUB	(80–377)	93.3 ± 5		E	[1962MAC/MAY3, 1970COX/PIL]
C ₁₄ H ₁₄ S ₂	[150-60-7]	Benzyl disulfide FUS		44.7	341.7	AC	[2007WAN/TAN]
C ₁₄ H ₁₅ F ₃ N ₂ S	[1639369-05-3]	<i>N</i> -(3-thia-1-azabicyclo[3.3.1]non-2-ylidene)-4-(trifluoromethyl)aniline FUS	(315–340)	20.2 87.6 ± 0.9 89.0 ± 0.9	364.3	DSC GS GS	[2014SUR/PRO]
							[2014SUR/PRO]
							[2014SUR/PRO]
C ₁₄ H ₁₅ N	[103-49-1]	Dibenzylamine V	(391–573)	70.5	406	A	[1987STE/MAL, 1947STU]
C ₁₄ H ₁₅ N	[606-99-5]	<i>N,N</i> -diphenyl- <i>N</i> -ethylamine V	(371–559)	63.2	386	A	[1987STE/MAL, 1947STU]
C ₁₄ H ₁₅ NO	[317820-05-6]	2-(4-ethoxyphenyl)-5-methylpyridine FUS		21.0	364	DSC	[2000MOR/HAR]
C ₁₄ H ₁₅ NO ₂ S	[16939-27-8]	<i>N</i> -(2,6-dimethylphenyl)benzene sulfonamide FUS (I)	(368–383)	38.3	424.7	DSC	[2010SAN/SAR]
C ₁₄ H ₁₅ N ₃	[60-11-7]	4-(<i>N,N</i> -dimethylamino)azobenzene SUB	(346–354)	125.3 117.6 ± 1.7 115.9 ± 1.3 120.9 ± 1.7	376 350 353 373	GC ME TE ME	[2002SAW/SHI]
							[1967GRE/JON]
							[1967GRE/JON]
							[1956MAJ, 1987STE/MAL]
							[2002SAW/SHI]
							[1985CAM/FER]
C ₁₄ H ₁₅ N ₃	[25548-37-2]	(<i>E</i>)-4-(<i>N,N</i> -dimethylamino)azobenzene SUB		132 ± 8	381	TE	[1985CAM/FER]
C ₁₄ H ₁₅ N ₃	[60-11-7]	<i>N,N</i> -dimethyl-4-phenylazoaniline FUS		23.08	389.2		[1988BAU/PER]
C ₁₄ H ₁₅ N ₃	[97-56-3]	2,3'-dimethyl-4'-aminoazobenzene SUB		112.5		GS	[1987SHI/OHK, 1991HOR]
C ₁₄ H ₁₅ N ₃ S	[92663-16-6]	<i>N</i> -2-(4,6-lutidyl)- <i>N'</i> -phenylthiourea FUS		50.9	489.7	DSC	[2002VAL/HER]
C ₁₄ H ₁₅ N ₃ S	[71196-80-0]	<i>N</i> -2-(6-picoly)- <i>N'</i> -2-tolylthiourea FUS		44.1	468.7	DSC	[2002HER/ACK]
C ₁₄ H ₁₅ N ₃ S	[476443-76-2]	<i>N</i> -2-(6-picoly)- <i>N'</i> -3-tolylthiourea FUS		33.2	460.7	DSC	[2002HER/ACK]
C ₁₄ H ₁₅ N ₃ S	[71196-81-1]	<i>N</i> -2-(6-picoly)- <i>N'</i> -4-tolylthiourea FUS		47.2	492.2	DSC	[2002HER/ACK]
C ₁₄ H ₁₆	[2717-39-7]	1,4,5,8-tetramethylnaphthalene SUB		99.8 ± 1.4	298	C	[1974MAN3, 1977PED/RYL]
C ₁₄ H ₁₆	[59919-41-4]	2,6-diethylnaphthalene FUS	(305–321)	22.36 93.6 ± 0.1	322.0	DSC Static Static	[2016SAN/OLI]
							[2016SAN/OLI]
							[2016SAN/OLI]
C ₁₄ H ₁₆	[17872-39-8]	Heptacyclo[6.6.0 ^{2,6} .0 ^{3,13} .0 ^{4,11} .0 ^{5,9} .0 ^{8,1} .0 ^{10,14}]tetradecane					

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		TRS		14.67	355		
		FUS	(5–304)	5.57	440	AC	[1994KAB/KOZ]
		SUB		79.3 ± 0.4	298	C	[1994KAB/KOZ]
		SUB	(298–349)	83.8 ± 1.2	321	ME	[1994KAB/KOZ]
		SUB	(298–349)	84.6 ± 1.2	298	ME	[1994KAB/KOZ]
C ₁₄ H ₁₆ ClN ₃ O	[67129-08-2]	2-chloro-N-(2,6-dimethylphenyl)-N-(1 <i>H</i> -pyrazol-1-ylmethyl)acetamide (metazachlor)					
		FUS (I)		19.7	356.2		
		FUS (II)		23	353.2		
		FUS (III)		26.6	349.2	DSC	[2004GRI/WEI]
C ₁₄ H ₁₆ ClN ₃ O ₂	[43121-43-3]	{1-(4-chlorophenoxy)-3,3-dimethyl-1-(1 <i>H</i> -1,2,4-triazol-1-yl)}butanone (triadimefon)					
		SUB	(298–343)	111.1 ± 2.2	303	GS	[1997DAS/DAS]
C ₁₄ H ₁₆ ClN ₃ O ₂	[43121-43-3]	1-(4-chlorophenoxy)-3,3-dimethyl-(1 <i>H</i> ,1,2,4-triazol-1-yl)-2-butanone					
		FUS		22.87	351.4	DSC	[1990DON/DRE]
C ₁₄ H ₁₆ F ₃ N ₃ O ₄	[26399-36-0]	<i>N</i> -(cyclopropylmethyl)-2,6-dmitro- <i>N</i> -propyl-4-(trifluoromethyl)benzenamine					
		FUS		22.51	305.8	DSC	[1990DON/DRE]
C ₁₄ H ₁₆ N ₂ O ₂	[2778-42-9]	1,3-bis(1-isocyanato-1-methylethyl)benzene					
		V	(298–426)	65.2	361	HSA,T,DTA	[1986ACH/HAS]
C ₁₄ H ₁₆ N ₂ O ₂	[2778-41-8]	1,4-bis(1-isocyanato-1-methylethyl)benzene					
		V	(373–428)	74.0	400	HSA,T,DTA	[1986ACH/HAS]
C ₁₄ H ₁₆ N ₂ O ₂ S	[108929-67-5]	4-amino- <i>N</i> -(4-ethylphenyl)benzenesulfonamide					
		FUS		36.3	436.2	DSC	[2009PER/TKA, 2014PER/KAZ]
		SUB		143.6 ± 0.9	298	GS	[2009PER/TKA]
		V		118.8	298	S-F	[2009PER/TKA]
C ₁₄ H ₁₆ N ₂ O ₃	[946568-73-6]	2- <i>tert</i> -butyoxycarbonyl-3-methylquinoxaline <i>N</i> -oxide					
		SUB		140.8 ± 3.1	298	C	[2012VIV/FRE]
C ₁₄ H ₁₆ N ₂ O ₄	[793716-72-0]	2- <i>tert</i> -butyoxycarbonyl-3-methylquinoxaline <i>N,N'</i> -dioxide					
		SUB		164.1 ± 1.8	298	C	[2007GOM/SOU]
C ₁₄ H ₁₆ N ₂ O ₇	[152672-90-7]	2-methylpropanoic acid 2,3-dihydro-7-(1-methylethoxy)-3-[2-(nitrooxy)-ethyl]-4-oxo-2 <i>H</i> -1,3-benzoxazin-7-yl ester					
		FUS		26	345.7	DSC	[1996FON/ROS]
C ₁₄ H ₁₆ O ₅	[20666-86-8]	Benzoyl (3-cyclohexyloxy)carbonyl peroxide					
		SUB	(293–313)	96.2 ± 4.2	303	ME	[1971KIP/RAB, 1977PED/RYL]
C ₁₄ H ₁₇ ClN ₂ S	[1583299-22-2]	(3-chloro-4-methylphenyl)-[3-thia-1-azabicyclo[3.3.1]non-2-ylidene]amine					
		FUS		22.7	406.6	DSC	[2014BLO/OLK]
		SUB	(376–396)	146.2 ± 1.8	386	GS	[2014BLO/OLK]
		SUB	(376–396)	150.5 ± 1.8	298	GS	[2014BLO/OLK]
C ₁₄ H ₁₇ ClNO ₄ PS ₂	[10311-84-9]	<i>S</i> -[2-chloro-1-(1,3-dihydro-1,3-dioxo-2 <i>H</i> -isomadol-2-yl)ethyl] <i>O,O</i> -diethylphosphorodithioate					
		FUS		25.27	340	DSC	[1990DON/DRE]
C ₁₄ H ₁₇ Cl ₂ N ₃ O	[79983-71-4]	α -butyl- α -(2,4-dichlorophenyl)-1 <i>H</i> -1,2,4-triazole-1-ethanol (\pm)-hexaconazole					
		SUB	(318–358)	160.1	338	ME	[1997GOO]
C ₁₄ H ₁₇ Cl ₃ O ₃	[2630-13-9]	Hexyl 2,4,5-trichlorophenoxyacetate					
		V	(460–573)	85.3	475	A	[1987STE/MAL]
		V	(460–573)	81.1	516		[1966JEN/SCH]
C ₁₄ H ₁₇ N		<i>N</i> -ethyl-1,2,3,4-tetrahydrocarbazole					
		FUS		12.41	282.4	DSC	[2016STA/KEI]
		V	(308–371)	82.8 ± 0.4	298	GS	[2015STA/EME]
C ₁₄ H ₁₇ NO ₂	[91-44-1]	4-methyl-7-diethylaminocoumarin					
		FUS		17.88	343.8	DSC	[1996DOM/HEA, 1989ZHA/HUA]
C ₁₄ H ₁₇ N ₅ O ₃	[51940-44-4]	8-ethyl-5,8-dihydro-5-oxo-2-(1-piperazinyl)pyrido[2,3-d]-pyrimidine-6-carboxylic acid (pipemidic acid)					

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_{18}$	[1079-71-6]	FUS			32.85	529.9		[2004ROM/BUS2]
		TRS			2.51	331.4		
		FUS			18.34	345.4		[1996DOM/HEA]
	V	(437–498)			45.6	452	A	[1987STE/MAL]
	V	(348–433)			NA		IPM	[1982GAM/CAL]
$\text{C}_{14}\text{H}_{18}$	[5325-97-3]	1,2,3,4,5,6,7,8-octahydrophenanthrene						
	V	(402–570)			55.8	417	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{18}\text{ClN}_3\text{O}_2$	[70585-35-2]	(1RS,2SR)-1-(4-chlorophenoxy)-3,3-dimethyl-1-(1 <i>H</i> -1,2,4-triazol-1-yl)-butan-2-ol (erythro triadimenol)						
	FUS (I)				32	411.2		
	FUS (II)				33.1	406.2		
	FUS (III)				25.1	385.2	DSC	[2000BUR/VAN]
$\text{C}_{14}\text{H}_{18}\text{ClN}_3\text{O}_2$	[70585-37-4]	(1RR,2SS)-1-(4-chlorophenoxy)-3,3-dimethyl-1-(1 <i>H</i> -1,2,4-triazol-1-yl)-butan-2-ol (threo triadimenol)						
	FUS				33.2	406.2	DSC	[2000BUR/VAN]
$\text{C}_{14}\text{H}_{18}\text{ClN}_3\text{O}_2$	[55219-65-3]	β -(4-chlorophenoxy)- α -(1,1-dimethylethyl)-1 <i>H</i> -1,2,4-triazole-1-ethanol						
	FUS				24.47	377.8	DSC	[1990DON/DRE]
$\text{C}_{14}\text{H}_{18}\text{Cl}_2\text{O}_3$	[1917-95-9]	Hexyl 2,4-dichlorophenoxyacetate						
	V	(444–573)			81.3	459	A,GC	[1987STE/MAL, 1966JEN/SCH]
	V	(444–573)			76.3	508	GC	[1966JEN/SCH]
$\text{C}_{14}\text{H}_{18}\text{Cl}_2\text{O}_3$	[1917-93-7]	Isohexyl 2,4-dichlorophenoxyacetate						
	V	(460–573)			69.1	475	A,GC	[1987STE/MAL, 1999DYK/SVO, 1966JEN/SCH]
	V	(460–573)			72.0	516	GC	[1966JEN/SCH]
$\text{C}_{14}\text{H}_{18}\text{N}_2$	[10075-69-1]	1,5- <i>N,N,N',N'</i> -tetramethyldiaminonaphthalene						
	SUB	(318–356)			98.6 \pm 0.4	298	GS	[2007VER/GEO]
$\text{C}_{14}\text{H}_{18}\text{N}_2$	[20734-58-1]	1,8- <i>N,N,N',N'</i> -tetramethyldiaminonaphthalene						
	SUB	(324–364)			94.7 \pm 0.8	298	GS	[2007VER/GEO]
	V	(324–364)			76.7 \pm 0.4	298	GS	[2007VER/GEO]
$\text{C}_{14}\text{H}_{18}\text{N}_2\text{O}_3$	[3625-25-0]	5-bicyclo[3.2.1]oct-2-en-3-yl-5-ethyl-2,4,6(1 <i>H,3H,5H</i>)-pyrimidinetrione (reposal)						
	FUS				22.7		DSC	[1982TRE/VAU]
$\text{C}_{14}\text{H}_{18}\text{N}_2\text{O}_5$	[81-14-1]	2,6-dimethyl-3,5-dinitro-4- <i>tert</i> -butylacetophenone						
	FUS				23.81	408.5	DSC	[2004QU/BAI]
	SUB	(293–353)			107.9	323	ME	[1953SER/VOI, 1960JON]
$\text{C}_{14}\text{H}_{18}\text{N}_2\text{S}$	[1583299-19-7]	(3-methylphenyl)-[3-thia-1-azabicyclo[3.3.1]non-2-ylidene]amine						
	FUS				26.5	398.5	DSC	[2014BLO/OLK]
	SUB	(353–376)			128.2 \pm 1.0	365	GS	[2014BLO/OLK]
	SUB	(353–376)			131.0 \pm 1.0	298	GS	[2014BLO/OLK]
$\text{C}_{14}\text{H}_{18}\text{N}_2\text{S}$	[1639369-07-5]	4-methyl- <i>N</i> -(3-thia-1-azabicyclo[3.3.1]non-2-ylidene)aniline						
	FUS				20.5	347.6	DSC	[2014SUR/PRO]
	SUB	(327–347)			99.2 \pm 0.6	337	GS	[2014SUR/PRO]
	SUB	(327–347)			101.1 \pm 0.6	298	GS	[2014SUR/PRO]
$\text{C}_{14}\text{H}_{18}\text{N}_4\text{O}_3$	[738-70-5]	5-[(3,4,5-trimethoxyphenyl)methyl]-2,4-pyrimidinediamine (trimethoprim)						
	FUS				47.44	475.0	DSC	[2015MAD/SWA]
	FUS				38.5	471.2	DSC	[2013AGA/MOS]
	FUS				48.4	477.4	DSC	[2012ELS/HAN]
	FUS				49.8	472.9	DSC	[2006WAS/HOL]
	FUS				53.65	474	DSC	[1998ISS/ELA]
	FUS				46.55			[1990TIM/CRA, 1985CHA]
$\text{C}_{14}\text{H}_{18}\text{O}$	[122-40-7]	α -pentylcinnamaldehyde						
	V	(282–333)			75.3	297	A,ME	[1987STE/MAL, 1955SER/VOI]
$\text{C}_{14}\text{H}_{18}\text{O}$	[30545-23-4]	Diamantanone						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_{18}\text{O}_2$	[180988-52-7]	SUB		$103.1 \pm .62$	320	TSGC	[1980CLA/KNO]
		FUS		27.2	351.2		[1998VER/PEN]
		SUB		97.5 ± 0.3	298		[1998VER/PEN]
$\text{C}_{14}\text{H}_{18}\text{O}_3$	[49763-96-4]		(1, <i>N,E</i>)-4,4-dimethyl-1-(3,4-methylenedioxyphenyl)-1-penten-3-ol (stiripental)				
		FUS		29.0	348.2	DSC	[1991CEO/DUG]
$\text{C}_{14}\text{H}_{18}\text{O}_4$	[131-16-8]		Dipropyl phthalate				
		V	(403–578)	73.2	418	A	[1987STE/MAL]
		V		88.7			[1948SMA/SMA]
$\text{C}_{14}\text{H}_{18}\text{O}_4$	[605-45-8]		Diisopropyl phthalate				
		V	(409–482)	66.9	474	BG	[1988KAT]
		V	(409–482)	69.0	456	BG	[1988KAT]
		V	(409–482)	74.8	430	BG	[1988KAT]
$\text{C}_{14}\text{H}_{18}\text{O}_4$	[53188-07-1]		6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid				
		FUS	(260–475)	38.7	465.5	DSC	[2014BER/SIM]
		SUB		133.8 ± 2.5	398	C	[2014BER/SIM]
		SUB		136.9 ± 2.5	298	C	[2014BER/SIM]
$\text{C}_{14}\text{H}_{19}\text{Cl}_2\text{NO}_2$	[305-03-3]		4-[<i>p</i> -[bis(2-chloroethyl)amino]benzene]butanoic acid				
	FUS			29.18	338.9	DSC	[1990DON/DRE]
$\text{C}_{14}\text{H}_{19}\text{NO}$	[36713-33-4]		2-(dimethylamino)-1,2-diphenylethanone				
	FUS			22.38	334.2		[1994WEL/VER]
$\text{C}_{14}\text{H}_{19}\text{NO}$	[18494-61-6]		Hexahydro-1-(phenylacetyl)-1 <i>H</i> -azepine				
		V	(370–418)	53.9	385	A	[1987STE/MAL, 1969DAV/MAK, 1968DAV/BAT]
	V		(371–420)	49.4	396		[1969DAV/MAK]
$\text{C}_{14}\text{H}_{19}\text{NO}_2\text{S}$	[166276-24-0]		<i>N</i> -benzoylthiocarbamic <i>O</i> -hexyl ester				
	SUB			139.7 ± 2.4	298	C	[2004RIB/SAN2]
$\text{C}_{14}\text{H}_{19}\text{N}_5\text{O}_3$	[157891-99-1]		6- <i>tert</i> -butyl-3,9-dihydro-3-[(2-hydroxyethoxy)methyl]-9-oxo-5 <i>H</i> -imidazol[1,2- <i>a</i>]pyrine				
	FUS			37.95	478.5	DSC	[1999ZIE/GOL]
$\text{C}_{14}\text{H}_{20}$	[4413-16-5]		1-cyclohexyl-1-phenylethane				
	V		(359–400)	70.8	374	A, MG	[1987STE/MAL, 1955SCH/WHI]
$\text{C}_{14}\text{H}_{20}$	[1603-61-8]		1-cyclohexyl-2-phenylethane				
	V		(372–406)	60.7	387	A, MG	[1987STE/MAL, 1955SCH/WHI]
$\text{C}_{14}\text{H}_{20}$	[2883-12-7]		1-cyclopentyl-3-phenylpropane				
	V		(373–540)	61.3	388	A, MG	[1987STE/MAL, 1955SCH/WHI]
$\text{C}_{14}\text{H}_{20}$	[1540-80-3]		1,8-cyclotetradecadiyne				
		FUS		22.6	370		[1974AUG/BOR]
		SUB	(315–364)	87.6 ± 1.0	338	HSA	[1998CHI/HES]
		SUB		94.3	298	CGC-DSC	[1998CHI/HES]
$\text{C}_{14}\text{H}_{20}$	[1079-71-6]		(317–332)	166.0 ± 3.2	325	ME	[1964FRI/BAU, 1970COX/PIL]
		SUB					
		SUB					
$\text{C}_{14}\text{H}_{20}$	[2292-79-7]		1,2,3,4,5,6,7,8-octahydroanthracene (octracene)				
		SUB	(438–499)	82.3 ± 1.2	298	BG	[1971BOY/SAN, 1977PED/RYL]
$\text{C}_{14}\text{H}_{20}$	[15972-60-8]		Pentacyclo[7.3.1.1 ^{4,7} .0 ^{2,7} .0 ^{6,11}]tetradecane (diadamantane)				
		TRS	(300–540)	4.44	407.2		
		TRS	(300–540)	8.95	440.4		
		FUS	(300–540)	8.66	517.9	AC	[1996DOM/HEA, 1978SPI/AND]
[Note: Westrum <i>et al.</i> [1978WES/MCK] report a very small thermal anomaly at 35.7 K as determined by adiabatic calorimetric measurements.]							
$\text{C}_{14}\text{H}_{20}\text{ClNO}_2$	[15972-60-8]	SUB	(305–333)	96.0 ± 0.8	319	TSGC	[1975CLA/KNO]
		SUB		117.2 ± 8		B	[1971CAR/LAY]

 $\text{C}_{14}\text{H}_{20}\text{ClNO}_2$ 2-chloro-*N*-(2,6-diethylphenyl)-*N*-(methoxymethyl)acetamide

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
<chem>C14H20Cl2</chem>	FUS			26.7	317.7	DSC	[2005SBI/VEC]
	FUS			25.31	315.9	DSC	[1990DON/DRE]
	V			85 ± 1	436	TGA	[2007VEC]
<chem>C14H20C12</chem>	V	1,2-dichloro-3,4,5,6-tetraethylbenzene (378–575)		66.2	393	A	[1987STE/MAL, 1947STU, 1970DYK/VAN]
	V	1,4-dichloro-2,3,5,6-tetraethylbenzene (364–570)		60.8	379	A	[1987STE/MAL, 1947STU, 1970DYK/VAN]
<chem>C14H20N2O</chem>	[27262-40-4]	<i>N</i> -(2,6-dimethylphenyl)-2-piperidinecarboxamide				DSC	[1997NEM/ACS]
<chem>C14H20N2OS</chem>	FUS			24.19	403.2		
	SUB			135.6 ± 2.6	298	C	[2006RIB/SAN3]
<chem>C14H20N2O2</chem>	[26328-11-0]	(−)-1-(1 <i>H</i> -indol-4-yloxy)-3-(isopropylamino)-2-propanol (pindolol)				DSC	[1999LI/ZEL, 1993NEA/SHI]
	FUS			25.69	365.7		
<chem>C14H20N2O2</chem>	[13523-86-9]	(±)-1-(1 <i>H</i> -indol-4-yloxy)-3-(isopropylamino)-2-propanol (pindolol)					
	FUS			58.0	442.9	DSC	[2010CAN/CAS]
	FUS			60.6	423.6	DSC	[2007PER/VOL]
	FUS			58.0	443.8		[2004NUN/EUS]
	FUS			57.9	442.9	DSC	[1999LI/ZEL, 1993NEA/SHI]
	SUB	(355–427)		146.0 ± 1.2	298	GS	[2007PER/VOL]
<chem>C14H20N3O5PS</chem>	[13457-18-6]	<i>O</i> -6-ethoxycarbonyl-5-methylpyrazolo[1,5- <i>a</i>]pyrimidin-2-yl <i>O,O</i> -diethyl phosphorothioate					
	FUS			27.32	324.4	DSC	[1990DON/DRE]
<chem>C14H20O</chem>	[61812-55-3]	(1-cyclohexyloxyethyl)benzene (286–338)		69.8 ± 0.5	298	GS	[2002KRA/VAS, 2002VER/HEI]
<chem>C14H20O</chem>	[30545-14-3]	Diamantan-1-ol					
	TRS			18.0	395		
	TRS			4.9	408		
	FUS			9.6	573	DSC	[1974CLA/MCK]
	SUB	(319–349)		118. ± 0.6	334		[1980CLA/KNO, 1975CLA/KNO]
<chem>C14H20O</chem>	[30545-24-5]	Diamantan-3-ol (323–354)		116.1 ± 4.4	338		[1980CLA/KNO, 1975CLA/KNO]
<chem>C14H20O</chem>	[30651-03-7]	Diamantan-4-ol					
	TRS			9.77	448		
	FUS			16.4	484	DSC	[1974CLA/MCK]
	SUB	(322–353)		117.8 ± 0.2	337		[1980CLA/KNO, 1975CLA/KNO]
<chem>C14H20O2</chem>	[3383-21-9]	3,5-di- <i>tert</i> -butyl- <i>o</i> -benzoquinone					
	FUS			26.21	388.5	DSC	[2016PAS/ABA]
	FUS			26.53	387.9	DSC	[2005FAT/KAS]
	SUB			106.1 ± 1.3	298	C	[2005FAT/KAS]
<chem>C14H20O2</chem>	[34105-76-5]	3,6-di- <i>tert</i> -butyl- <i>o</i> -benzoquinone				DSC	[2016PAS/ABA]
<chem>C14H20O2</chem>	FUS			27.98	475.3		
	SUB	4-heptylbenzoic acid (353–369)		130.0 ± 0.9	298	ME	[2004MON/ALM]
<chem>C14H20O2</chem>	[950-99-2]	2,2,5,7,8-pentamethylchroman-6-ol (260–380)		27.0	367.5	DSC	[2014BER/SIM]
	SUB	(331–352)		105.8 ± 1.6	341	ME	[2014BER/SIM]
	SUB	(331–352)		107.3 ± 1.6	298	ME	[2014BER/SIM]
	SUB			105.9 ± 0.9	341	C	[2014BER/SIM]
	SUB			107.4 ± 0.9	298	C	[2014BER/SIM]
<chem>C14H20O2</chem>	[6290-37-5]	Phenethyl hexanoate				CGC	[2015KOZ/GOB]
	V			78.8 ± 1.5	298		

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₂₀ O ₃	V	2-(4- <i>tert</i> -butylphenoxy)ethyl acetate		(391–578)	78.8	406	A	[1987STE/MAL, 1947STU]
C ₁₄ H ₂₀ O ₃	[15872-42-1]	4-heptyloxybenzoic acid						
	SUB			(355–361)	155.1 ± 1.0	358	ME	[2010FON/SAN]
	SUB			(355–361)	157.2 ± 1.2	298	ME	[2010FON/SAN]
C ₁₄ H ₂₀ O ₄	[58608-07-4]	2,5-dibutoxy-1,4-benzoquinone						
	TRS				4.7	328.3		
	TRS				2.3	364.5		
C ₁₄ H ₂₀ O ₅	FUS				31.5	473.3	DSC	[1996KEE/VAN]
	[14098-44-3]	benzo-15-crown-5						
	FUS				28.3	351.2	DSC	[2000NIC/ORF]
C ₁₄ H ₂₁ F ₃ N ₂ O ₄	SUB				128.1 ± 10.8	298	CGC–DSC	[2000NIC/ORF]
	V				98.9 ± 1.3	298	CGC	[2000NIC/ORF]
C ₁₄ H ₂₁ F ₃ N ₂ O ₄	[2768-49-2]	Proline, 1-[<i>N</i> -(trifluoroacetyl)-(l)-leucyl]methyl ester						
	SUB			(313–366)	121.3	328	A	[1987STE/MAL, 1960WEY/KLI]
C ₁₄ H ₂₁ F ₉ O	V			(366–453)	105.8	381	A	[1987STE/MAL, 1960WEY/KLI]
	[1240205-63-3]	1-[(3,3,4,4,5,5,6,6,6-nonafluorohexyl)oxy]octane						
	FUS				19.65	237.8	DSC	[2010ZAG/CON]
C ₁₄ H ₂₁ N	[861622-66-4]	<i>N</i> -ethyloctahydrocarbazole						
	FUS				20.58	316.0	DSC	[2016STA/KEI]
	V			(324–366)	81.9 ± 0.5	298	GS	[2015STA/EME]
C ₁₄ H ₂₁ NO	[121678-88-4]	4-isopropylbenzylidene <i>tert</i> -butylamine <i>N</i> -oxide						
	SUB				101.8 ± 4.1	298	C	[1989ACR/KIR]
C ₁₄ H ₂₁ N ₃ O ₃ S	[1156-19-0]	<i>N</i> -[(azepan-1-ylamino)carbonyl]-4-methylbenzenesulfonamide (tolazamide)						
	FUS (I)				38.4	444		
	FUS (II)				37.9	444	DSC	[2015BOL/ARK]
	FUS				43.44	445	DSC	[2010BAI/VAN]
C ₁₄ H ₂₁ N ₃ O ₄	[33629-47-9]	4-(1,1-dimethylethyl)- <i>N</i> -(1-methylpropyl)-2,6-dinitrobenzenearmine						
	FUS				20.84	338.8	DSC	[1990DON/DRE]
C ₁₄ H ₂₁ N ₃ S	[90473-92-0]	<i>N</i> -(diethylaminothiocarbonyl)- <i>N</i> -monoethylbenzamide						
	SUB				141.2 ± 1.2	298	C	[2006RIB/SAN3]
C ₁₄ H ₂₂	[1012-72-2]	1,4-di- <i>tert</i> -butylbenzene						
	TRS				14.4	350.7	AC, DSC	[2009CHI/STE]
	FUS				8.2	350.8	AC, DSC	[2009CHI/STE]
	FUS				22.48	341.5		[1997STE/CHI3]
	SUB			(288–333)	82.1 ± 0.4	310	GS	[1998VER]
	SUB				82.8 ± 0.4	298		[1998VER]
	SUB			(285–325)	82.8	305	ME	[1951HOP/SEA, 1987STE/MAL]
	V			(319–559)	63.0 ± 0.1	298	EB,IPM	[2009CHI/STE]
	V			(319–559)	55.8 ± 0.1	360	EB,IPM	[2009CHI/STE]
	V			(319–559)	54.6 ± 0.1	400	EB,IPM	[2009CHI/STE]
	V			(319–559)	61.4 ± 0.1	440	EB,IPM	[2009CHI/STE]
	V			(319–559)	46.4 ± 0.2	480	EB,IPM	[2009CHI/STE]
	V			(319–559)	44.6 ± 0.3	520	EB,IPM	[2009CHI/STE]
	V			(354–382)	61.4 ± 0.3	298	GS	[2008VER/KOZ2]
C ₁₄ H ₂₂	V			(387–559)	63.0 ± 0.6	298	EB	[1997STE/CHI3]
	[1014-60-4]	1,3-di- <i>tert</i> -butylbenzene						
	V			(288–333)	58.9 ± 0.5	310	GS	[1998VER]
	V				59.6 ± 0.5	298		[1998VER]
	V			(346–374)	58.0	360	A	[1987STE/MAL]
C ₁₄ H ₂₂	[2189-60-8]	Octylbenzene						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_{22}$	[777-22-0]	FUS			29.96	234.2		[1996DOM/HEA, 1948TSC]
			V	(293–462)	67.4	308		[1993KAS/MOK]
			V	(368–400)	63.1	383	A	[1987STE/MAL]
			V	(316–399)	66.2	336	GS	[1986ALL/JOS]
	[642-32-0]	2-phenyloctane						
		V	(361–392)	61.6	376	A	[1987STE/MAL]	
$\text{C}_{14}\text{H}_{22}$		V	(423–525)	70.0	298			[1971WIL/ZWO]
[38842-05-6]	1,2,3,4-tetraethylbenzene							
	V	(413–521)	62.6	438	A	[1987STE/MAL]		
$\text{C}_{14}\text{H}_{22}$	[635-81-4]	1,2,4,5-tetraethylbenzene						
		V	(338–521)	64.8	428	A	[1987STE/MAL]	
$\text{C}_{14}\text{H}_{22}\text{N}_2\text{O}$	[137-58-6]	1,2,4,5-tetraethylbenzene						
		V	(338–521)	54.5	353	A	[1987STE/MAL]	
		2-(diethylamino)- <i>N</i> -(2,6-dimethylphenyl)acetamide (lidocaine)						
		FUS		15.5	343.1	DSC	[2013MAH/MAN]	
		FUS		16.7	341	DSC	[2010BAI/VAN]	
		FUS		16.9	341.8	DSC	[2010COR/NEG]	
$\text{C}_{14}\text{H}_{22}\text{N}_2\text{O}_2\text{S}$	[451472-11-0]	<i>N,N</i> -diisobutyl- <i>N'</i> -furoylthiourea						
		SUB		141.7 ± 5.6	298	C	[2002RIB/RIB]	
$\text{C}_{14}\text{H}_{22}\text{N}_2\text{O}_3$	[56715-13-0]	$(+)$ -4-[2'-hydroxy-3'-(isopropylamino)propoxy]-phenylacetamide (atenolol)						
		FUS		36.77	420.3	DSC	[1999LI/ZEL]	
$\text{C}_{14}\text{H}_{22}\text{N}_2\text{O}_3$	[29122-68-7]	(\pm) -4-[2'-hydroxy-3'-(isopropylamino)propoxy]-phenylacetamide (atenolol)						
		FUS		37.6	425.9	DSC	[2014SAI/MUR]	
		FUS		37.5	426	DSC	[2010BAI/VAN]	
		FUS		36.6	424.5	DSC	[2010DOM/POB]	
		FUS		36.5	427.9	DSC	[2010CAN/CAS]	
		FUS		38.7	426.1	DSC	[2007PER/VOL]	
		FUS		35.66	423.4	DSC	[1999LI/ZEL]	
		SUB	(396–418)	140.0 ± 3.7	298	GS	[2007PER/VOL]	
$\text{C}_{14}\text{H}_{22}\text{N}_4\text{O}_2$	[35873-43-9]	8-heptyltheophylline		33	472.7	DSC	[1991ACR, 1989GON/KRA]	
$\text{C}_{14}\text{H}_{22}\text{N}_4\text{O}_6$	[74734-25-1]	<i>N,N'</i> -bis(2-oxo-3-oxazolidin-3-ylcarbonyl)-1,6-hexandiamine						
$\text{C}_{14}\text{H}_{22}\text{N}_4\text{O}_6\text{S}$	[19044-94-1]	4-(dipropylammo)- <i>N,N</i> -dimethyl-3,5-dinitrobenzenesulfonamide						
$\text{C}_{14}\text{H}_{22}\text{O}$	[96-76-4]	2,4-di- <i>tert</i> -butylphenol						
$\text{C}_{14}\text{H}_{22}\text{O}$	SUB	(288–327)	86.1 ± 0.3	308	GS	[1999VER2]		
		(288–327)	86.7 ± 0.3	298	GS	[1999VER2]		
			92.9 ± 2.8	298	C	[1999RIB/MAT2]		
	V	(333–368)	69.2 ± 0.5	350	GS	[1999VER2]		
		(333–368)	72.4 ± 0.5	298	GS	[1999VER2]		
		(403–537)	60.1	418	A	[1987STE/MAL]		
$\text{C}_{14}\text{H}_{22}\text{O}$	[128-39-2]	2,6-di- <i>tert</i> -butylphenol						
		FUS		16.57	310.7	DTA	[1972INO/LIA]	
		SUB		84.6 ± 0.5	298	GS	[1999VER]	
		SUB		81.5 ± 2.3	298	C	[1999RIB/MAT2]	
		SUB		U110.9	298	C	[1971BER/GIR, 1999VER]	
		V	(313–368)	63.5 ± 0.2	341	GS	[1999VER]	
		V		66.0 ± 0.2	298		[1999VER]	

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(386–530)	60.4	401	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[1138-52-9]	3,5-di- <i>tert</i> -butylphenol				
	SUB		97.7 ± 3.7	298	C	[2001RIB/MAT]
	SUB	(302–325)	68.2	313.5	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[63264-81-3]	4-(1,1-diethylbutyl)phenol				
	V	(404–549)	69.5	419	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[65152-07-0]	2,4-diisobutylphenol				
	V	(448–598)	65.0	463	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[59048-99-6]	4-[(1,2-dimethyl-1-ethyl)butyl]phenol				
	V	(415–578)	64.7	430	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[855412-93-0]	4-[(1,3-dimethyl-1-ethyl)butyl]phenol				
	V	(409–571)	60.9	424	A	[1987STE/MAL]
C ₁₄ H ₂₂ O		4-[(2,2-dimethyl-1-ethyl)butyl]phenol				
	V	(413–553)	67.0	428	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[79-70-9]	β-irone				
	V	(288–333)	72.1	303	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[127-51-5]	α-isomethylionone				
	V	(288–333)	69.5	303	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[1988-35-8]	4-(1-methyl-1-ethyl)pentylphenol				
	V	(413–578)	62.8	428	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[127-42-4]	α-methylionone				
	V	(288–333)	70.1	303	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[127-43-5]	β-methylionone				
	V	(288–333)	70.3	303	A	[1987STE/MAL]
C ₁₄ H ₂₂ O	[140-66-9]	4-(1,1,3,3-tetramethylbutyl)phenol				
	V	(309–350)	68.8 ± 0.3	329	GS	[1999VER2]
	V		70.7 ± 0.3	298	GS	[1999VER2]
	V	(381–563)	72.4	396	A	[1987STE/MAL, 1959MCD/SHR, 1984BOU/FRI]
C ₁₄ H ₂₂ O	[124765-79-3]	4- <i>tert</i> -octylphenol				
	SUB	(297–351)	96.3 ± 0.9	324	GS	[1999VER2]
	SUB	(297–351)	97.9 ± 0.9	298	GS	[1999VER2]
C ₁₁ H ₂₂ O ₂	[1020-31-1]	3,5-di- <i>tert</i> -butyl-1,2-dihydroxybenzene				
	FUS		24.1	372.8		[2000VER/SCH]
	SUB		103.7 ± 0.5	330	GS	[2000VER/SCH]
	SUB		104.7 ± 0.5	298	GS	[2000VER/SCH]
	SUB		100.1 ± 0.6	298	C	[1984CAR]
C ₁₄ H ₂₂ O ₂	[88-58-4]	2,5-di- <i>tert</i> -butyl-1,4-dihydroxybenzene				
	FUS		44.44	494.05	DSC	[2015ZHA/LIU]
	FUS		43.85	496.5	DSC	[1999VER7]
	SUB	(333–368)	108.8 ± 1.7	351	GS	[1999VER7]
	SUB	(333–368)	122.4 ± 1.7	298	GS	[1999VER7]
C ₁₄ H ₂₂ O ₄	[620-82-6]	Dicyclohexyl oxalate				
	V	(333–360)	92.1 ± 0.7	298	GS	[2008LIP/KRA]
C ₁₄ H ₂₂ O ₆	[1561-49-5]	Dicyclohexyl peroxydicarbonate				
	SUB		100.4 ± 4.2			[1971KIP/RAB, 1977STE/WAT]
	SUB	(293–313)	100.4 ± 8.3	303	ME	[1962RAB/TEL, 1970COX/PIL]
C ₁₄ H ₂₂ O ₁₁	[5334-84-9]	Diethyleneglycol, <i>O,O</i> -dicarboxylic acid, di[1-(methoxycarbonyl)-ethyl] ester				
	V	(403–493)	98.2	418	A	[1987STE/MAL, 1949REH/DIX]
C ₁₄ H ₂₃ N	[29772-98-3]	<i>N,N</i> -dimethyl-2,3-dimethyl-3-phenyl-2-butanamine				

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method
C ₁₄ H ₂₃ NO ₂	V	(280–335)	65.8 ± 1.3	308	GS	[1998VER/BEC]
	V	(280–335)	66.4 ± 1.3	298	GS	[1998VER/BEC]
C ₁₄ H ₂₄	[3578-07-2]	Decyl-α-cyanoacrylate				
	FUS	(10–330)	41.8	294.5	AC	[1993BYK/KIP]
C ₁₄ H ₂₄	[5743-97-5]	Perhydrophenanthrene				
	V	(455–551)	55.7	470	EB	[2000ROH/CEN]
C ₁₄ H ₂₄	[28071-99-0]	<i>trans-anti-trans</i> -perhydroanthracene				
	SUB	(269–313)	66.1	284	A	[1987STE/MAL]
	SUB	(275–313)	72.7 ± 3.3	294	ME	[1963MAR/FRI, 1970COX/PIL]
C ₁₄ H ₂₄	[1755-19-7]	<i>trans-syn-trans</i> -perhydroanthracene				
	SUB	(293–335)	88.1	308	A	[1987STE/MAL]
	SUB	(335–393)	87.4 ± 2.4	365	ME	[1963MAR/FRI, 1970COX/PIL]
C ₁₄ H ₂₄	[1687-36-1]	1,3,5,7-tetramethyladamantane				
	SUB	(310–350)	83.7 ± 1.3	298	BG	[1977STE/WAT]
	SUB	(295–315)	81.1 ± 10.9	305	TSGC	[1975CLA/KNO]
C ₁₄ H ₂₄	[27389-73-7]	<i>cis-anti-trans</i> -perhydrophenanthrene				
	FUS		11.16	313		[1996DOM/HEA, 1982NUZ]
C ₁₄ H ₂₄	[27425-35-0]	<i>cis-syn-trans</i> -perhydrophenanthrene				
	FUS		10.48	273		[1996DOM/HEA, 1982NUZ]
C ₁₄ H ₂₄	[2108-89-6]	<i>trans-anti-trans</i> -perhydrophenanthrene				
	FUS		11.83	283		[1996DOM/HEA, 1982NUZ]
C ₁₄ H ₂₄	[1687-36-1]	1,3,5,7-tetramethyladamantane				
	TRS		0.23	183.3		
	FUS		9.82	337.2	DSC	[1977CLA/KNO]
	SUB		81.1 ± 0.9	298		[1979CLA/KNO]
C ₁₄ H ₂₄ NO ₄ PS ₃	[741-58-2]	O,O-diisopropyl S-2-phenylsulfonylaminoethylphosphorodithioate				
	FUS		30.61	310.4	DSC	[1990DON/DRE]
C ₁₄ H ₂₄ N ₂	[101-96-2]	N,N'-di-sec-butyl-1,4-phenylenediamine				
	V	(370–507)	70.3	385	A	[1987STE/MAL]
C ₁₄ H ₂₄ N ₂	[7735-44-6]	Tetradecanedinitrile				
	TRS		1.77	261.1		
	FUS		40.17	309.6	DSC	[2007BAD/BLA]
C ₁₄ H ₂₄ O	[53131-20-7]	2,2,5,9-tetramethyl-4,8-decanedienal				
	V	(353–416)	66.4	368	A	[1987STE/MAL, 1974VOI/SHC]
C ₁₄ H ₁₄ O ₂	[13109-70-1]	Borneol butyrate				
	V	(347–520)	59.6	362	A	[1987STE/MAL, 1947STU]
C ₁₄ H ₂₄ O ₂	[24717-86-0]	(<i>dl</i>)-borneol isobutyrate				
	V	(343–516)	58.8	358	A	[1987STE/MAL, 1947STU]
C ₁₄ H ₂₄ O ₂	[106-29-6]	Geraniol butyrate				
	V	(369–531)	68.6	384	A	[1987STE/MAL, 1947STU]
C ₁₄ H ₂₄ O ₂	[2345-26-8]	Geraniol isobutyrate				
	V	(363–524)	67.8	378	A	[1987STE/MAL, 1947STU]
C ₁₄ H ₂₄ O ₂	[38300-49-1]	1,8-cyclotetradecanedione				
	FUS		27.53	417.2		[1972ALV/BOR]
C ₁₄ H ₂₄ O ₄		1,6-cyclodecanedione bis(ethylene ketal)				
	FUS		32.68	450.2		[1972ALV/BOR]
C ₁₄ H ₂₄ O ₆	[3272-32-0]	1,1,1-tris(ethoxy carbonyl)pentane				
	V	(298–343)	81.4 ± 0.4		GS	[1995RAK/VER]
C ₁₄ H ₂₅ N	[146900-30-3]	N-ethyl-dodecahydrocarbazole				
	V		68.4 ± 0.5	298	GS	[2012VER/EME3]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₂₆	[638-60-8] V	2-tetradecyne (458–491)		57.1	473		[1986ELV/KUD]
C ₁₄ H ₂₆	[60212-32-0] V	3-tetradecyne (455–494)		56.3	470		[1986ELV/KUD]
C ₁₄ H ₂₆	[60212-32-0] V	5-tetradecyne (453–490)		55.5	468		[1986ELV/KUD]
C ₁₄ H ₂₆	[3730-08-3] V	6-tetradecyne (461–484)		55.6	473		[1986ELV/KUD]
C ₁₄ H ₂₆	[35216-11-6] V	7-tetradecyne (478–505)		53.6	491		[1986ELV/KUD]
C ₁₄ H ₂₆	[2883-07-0] V	1-cyclohexyl-3-cyclopentylpropane (371–403)		64.5	386	A	[1987STE/MAL]
C ₁₄ H ₂₆	[2319-61-1] V	1,1-dicyclohexylethane (370–402)		62.1	385	A	[1987STE/MAL]
C ₁₄ H ₂₆	[3321-50-4] V	1,2-dicyclohexylethane (371–402)		65.4	386	A	[1987STE/MAL]
C ₁₄ H ₂₆ N ₂	[42032-30-4] V	1-decyl-2-methylimidazole (343–383)		91.8 ± 0.4	298	GS	[2011EME/POR2]
C ₁₄ H ₂₆ O	[53965-17-6] V	cis-2,2,5,9-tetramethyl-4,8-decadiene-1-ol (363–393)		94.0	378	A	[1987STE/MAL, 1974VOI/SHC]
C ₁₄ H ₂₆ O	[53965-18-7] V	trans-2,2,5,9-tetramethyl-4,8-decadiene-1-ol (363–393)		86.3	378	A	[1987STE/MAL, 1974VOI/SHC]
C ₁₄ H ₂₆ O	[3021-89-4] V	2-pentyl-2-nonenal (384–553)		65.7	399		[1987MIL/FEN2]
C ₁₄ H ₂₆ O	[142628-55-5] V	(Z)-2-tetradecenal (353–393)		82.5	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[51534-36-2] V	(E)-2-tetradecenal (353–393)		82.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[174155-51-2] V	(Z)-3-tetradecenal (353–393)		79.4	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[174155-50-1] V	(E)-3-tetradecenal (353–393)		80.1	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[115018-49-0] V	(Z)-4-tetradecenal (353–393)		79.2	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[115018-39-8] V	(E)-4-tetradecenal (353–393)		79.9	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[63851-42-3] V	(Z)-5-tetradecenal (353–393)		78.4	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[174155-52-3] V	(E)-5-tetradecenal (353–393)		79.1	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[174155-53-4] V	(Z)-6-tetradecenal (353–393)		78.5	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[174155-54-5] V	(E)-6-tetradecenal (353–393)		79.3	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[65128-96-3] V	(Z)-7-tetradecenal (353–393)		78.7	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[37011-96-4] V	(E)-7-tetradecenal (353–393)		79.2	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₄ H ₂₆ O	[169054-69-7]	(Z)-8-tetradecenal					

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_{14}\text{H}_{26}\text{O}$	V	(353–393)	78.8	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
	[174155-55-6] V	(E)-8-tetradecenal (353–393)	79.3	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}$	[53939-27-8] V	(Z)-9-tetradecenal (353–393)	79.1	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
	[71377-13-4] V	(E)-9-tetradecenal (353–393)	79.5	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}$	[144525-16-6] V	(Z)-10-tetradecenal (353–393)	79.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
	[148238-39-5] V	(E)-10-tetradecenal (353–393)	79.8	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}$	[35237-64-0] V	(Z)-11-tetradecenal (353–393)	80.3	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
	[35746-21-5] V	(E)-11-tetradecenal (353–393)	80.5	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}$	[174155-56-7] V	(Z)-12-tetradecenal (353–393)	80.8	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
	[124499-92-9] V	(E)-12-tetradecenal (353–393)	80.8	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}$	[99914-84-8] V	2-(1,2-dimethylpropyl)-5,6-dimethylheptenal (385–535)	60.0	400	EB	[1987MIL/FEN2]
	[3021-89-4] V	2-pentyl-2-nonenal (385–553)	65.0	409	EB	[1987MIL/FEN2]
$\text{C}_{14}\text{H}_{26}\text{O}$	[295-17-0] SUB	Cyclotetradecanone	80.75			[1938WOL/WEG, 1960JON]
	[37608-02-9] FUS	4,4,8,8-tetramethylcyclodecanone	16.32	378.2		[1976BOR/DAL]
$\text{C}_{14}\text{H}_{26}\text{O}_2$	[3179-47-3] FUS	Decyl methacrylate	30.55	250.7	AC	[1996DOM/HEA, 1985KAR/ABD]
	V	(350–541)	62.7	365	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{26}\text{O}_2$	[84801-15-0] V	(Z)-2-dodecenyl acetate (333–378)	79.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]
	[84801-16-1] V	(E)-2-dodecenyl acetate (333–378)	81.0	298	GC	[1997KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}_2$	[38363-24-5] V	(Z)-3-dodecenyl acetate (333–378)	79.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]
	[56218-63-4] V	(E)-3-dodecenyl acetate (333–378)	79.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}_2$	[38363-25-6] V	(Z)-4-dodecenyl acetate (333–378)	78.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
	[38363-26-7] V	(E)-4-dodecenyl acetate (333–378)	79.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}_2$	[16676-96-3] V	(Z)-5-dodecenyl acetate (333–378)	79.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]
	[16676-97-4] V	(E)-5-dodecenyl acetate (333–378)	80.0	298	GC	[1997KOU/HOS, 2000OVA/KOU]
$\text{C}_{14}\text{H}_{26}\text{O}_2$	[16974-12-2] V	(Z)-6-dodecenyl acetate (333–378)	79.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₂₆ O ₂	[29868-16-4]	(E)-6-dodecenyl acetate					
	V	(333–378)	80.0	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
	V	(333–378)	79.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
	V	(303–317)	77.5	310	GC	[1983OLS/JON]	
C ₁₄ H ₂₆ O ₂	[16695-41-3]	(E)-7-dodecenyl acetate					
	V	(333–378)	80.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
	V		79.3 ± 5.4	298	CGC	[2016GOO/HAS]	
	V	(333–378)	80.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
C ₁₄ H ₂₆ O ₂	[38363-29-0]	(E)-8-dodecenyl acetate					
	V	(333–378)	80.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
	V						
C ₁₄ H ₂₆ O ₂	[16974-11-1]	(Z)-9-dodecenyl acetate					
	V	(333–378)	80.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
	V						
C ₁₄ H ₂₆ O ₂	[35148-19-7]	(E)-9-dodecenyl acetate					
	V	(333–378)	81	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
	V						
C ₁₄ H ₂₆ O ₂	[35148-20-0]	(Z)-10-dodecenyl acetate					
	V	(333–378)	81.4	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
	V						
C ₁₄ H ₂₆ O ₂	[35153-09-4]	(E)-10-dodecenyl acetate					
	V	(333–378)	81.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]	
	V						
C ₁₄ H ₂₆ O ₃	[5963-13-3]	1,7-dioxa-8-cyclohexadecanone					
	V	(403–453)	73.3	418	A	[1987STE/MAL]	
	V						
C ₁₄ H ₂₆ O ₃	[23144-23-2]	3-heptyl-4-acetoxytetrahydro-2 <i>H</i> -pyran					
	V	(383–453)	74.4	398	A	[1987STE/MAL]	
	V						
C ₁₄ H ₂₆ O ₃	[872803-07-1]	Nonyl levulinate					
	V	(423–571)	69.4	438	A	[1987STE/MAL]	
	V		68.4	516		[1933COW/SCH]	
C ₁₄ H ₂₆ O ₄	[821-38-5]	1,14-tetradecanedioic acid					
	FUS + TRS		56.9	398	DSC	[2006VEN/MET]	
	FUS		56.5	397.3	DSC	[2005ROU/TEM]	
	V	(424–503)	127.4 ± 2.3	298	CGC	[2005ROU/TEM]	
	V						
C ₁₄ H ₂₆ O ₄	[105-99-7]	Dibutyl adipate					
	V	(314–373)	84.2	349	GS	[2011LIP/KRA]	
	V	(314–373)	88.5 ± 0.5	298	GS	[2011LIP/KRA]	
	V	(435–563)	68.7	450	A	[1987STE/MAL]	
	V	(435–563)	96.9	298		[1987STE/MAL, 2011LIP/KRA]	
C ₁₄ H ₂₆ O ₄	[20270-53-5]	di- <i>tert</i> -butyl adipate					
	V	(323–366)	74.3 ± 0.3	298	GS	[2011POR/KRA]	
	V						
C ₁₄ H ₂₆ O ₄		Diethyl ethyl(isopentyl)malonate					
	V	(388–526)	75.3	403	A	[1987STE/MAL]	
	V						
C ₁₄ H ₂₆ O ₄	[77-24-7]	2-methylheptane-5,5-dicarboxylic acid, diethyl ester					
	V	(394–427)	70.1	409	A	[1987STE/MAL]	
	V						
C ₁₄ H ₂₆ O ₄	[110-40-7]	Diethyl decanedioate					
	V	(398–579)	74.1	413	A	[1987STE/MAL, 1947STU]	
	V						
C ₁₄ H ₂₆ O ₅		Ethyl[1-(1-octyloxycarbonyl)ethyl]carbonate					
	V	(413–513)	74.0	428	A	[1987STE/MAL, 1950REH/DIX2]	
	V						
C ₁₄ H ₂₆ O ₅	[902261-33-0]	Hexyl[1-(1-butoxycarbonyl)ethyl]carbonate					
	V	(357–501)	72.1	372	A	[1987STE/MAL, 1950REH/DIX2]	
	V						
C ₁₄ H ₂₆ O ₆ S	[5423-27-8]	Dibutyl 3,3'-sulfonyldipropionate					
	FUS		31.4	344	DSC	[1994WAN/KUO]	
	FUS						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₂₇ N	[629-63-0]	Myristonitrile						
			V	(327–369)	84.2 ± 0.2	298	GS	[2005EME/VER]
			V	(391–580)	71.4	406	A	[1987STE/MAL]
C ₁₄ H ₂₇ NO ₃	[7596-88-5]	<i>N</i> -dodecanoylglycine						
			TRS + FUS		32.7	388.8	DSC	[2014RED/KRO]
			FUS		48.4	393.1	DSC	[1986MIY/MAT]
C ₁₄ H ₂₇ NO ₃	[14379-35-2]	<i>N</i> -octanoyl-(<i>L</i>)-leucine						
			TRS		7.6	357.1	DSC	[1986MIY/MAT]
C ₁₄ H ₂₇ NO ₃	[107396-11-2]	<i>N</i> -octanoyl-(<i>DL</i>)-leucine						
			TRS		6.8	353.6	DSC	[1986MIY/MAT]
			FUS		27.2	367.1	DSC	[1986MIY/MAT]
C ₁₄ H ₂₈	[295-17-0]	Cyclotetradecane						
			TRS		16.5	321.9		
			FUS		9.3	329.3	DSC	[1987DRO/MOL, 1987DRO/ROT, 1987DRO/EME]
			FUS		28.7	328		[1970BOR/DAL]
			SUB		95.6	298	CGC–DSC	[1998CHI/HES]
			SUB	(300–321)	97.9 ± 1.7	310	HSA	[1992CHI/HES]
			SUB	(295–307)	134.8 ± 1.5	301	ME	[1964FRI/BAU, 1970COX/PIL]
			SUB	(285–290)	89.3 ± 0.4	287	TM	[1955ENG]
			V		62.3 ± 0.2	343		[1992CHI/HES]
			V		65.3 ± 0.2	298		[1992CHI/HES]
C ₁₄ H ₂₈	V	3- <i>tert</i> -butyl-1-methyl-4-isopropylcyclohexane						
C ₁₄ H ₂₈	[2883-05-8]	(1-methylheptyl)cyclohexane						
			V	(364–397)	60.4	379	A	[1987STE/MAL]
C ₁₄ H ₂₈	[1795-15-9]	Octylcyclohexane						
			V	(367–399)	62.7	382	A	[1987STE/MAL]
			V		69.8	298		[1971WIL/ZWO]
C ₁₄ H ₂₈	[2882-98-6]	Nonylcyclopentane						
C ₁₄ H ₂₈	V							
			V		70.7	298		[1971WIL/ZWO]
C ₁₄ H ₂₈	[1120-36-1]	1-tetradecene						
			V		70.2	298		[1971WIL/ZWO]
			V	(430–527)	56.5	445	A	[1987STE/MAL, 1955CAM/ROS]
C ₁₄ H ₂₈	[54845-26-0]	2,2,3,5,5,6,6-heptamethyl-3-heptene						
C ₁₄ H ₂₈	V	(303–355)						
			V		51.2	318	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₁₄ H ₂₈	[4789-35-9]	<i>trans</i> -1,4-di- <i>tert</i> -butylcyclohexane						
C ₁₄ H ₂₈	FUS							
			FUS		17.15	363.2		[1968VAN/HOE]
C ₁₄ H ₂₈	[4789-34-8]	<i>cis</i> -1,4-di- <i>tert</i> -butylcyclohexane						
C ₁₄ H ₂₈	FUS							
			FUS		8.79	293.2		[1968VAN/HOE]
C ₁₄ H ₂₈ N ₂ O ₂	[163678-36-2]	Tetrapropyloxamide						
			FUS		21.0	317.2	TGA,DSC	[2003CLO/JAN]
C ₁₄ H ₂₈ N ₂ O ₂	V							
			V		67.0	489	TGA, DSC	[2003CLO/JAN]
C ₁₄ H ₂₈ N ₂ O ₂	[61382-93-2]	Tetradecandiamide						
C ₁₄ H ₂₈ O	FUS							
			FUS		77.45	469.3	DSC	[2006BAD/DEL]
C ₁₄ H ₂₈ O	[5770-04-7]	1-octylcyclohexanol						
C ₁₄ H ₂₈ O	V	(373–403)						
			V		105.6	388	A	[1987STE/MAL]
C ₁₄ H ₂₈ O	[75039-85-9]	(<i>Z</i>)-2-tetradecen-1-ol						
C ₁₄ H ₂₈ O	V	(353–393)						
			V		101.1	298	CGC	[2000OVA/KOU, 1994KOU/HOS]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₄ H ₂₈ O	[75039-86-0]	(E)-2-tetradecen-1-ol	(353–393)	101.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[68892-27-3]	(Z)-3-tetradecen-1-ol	(353–393)	99.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[68900-86-7]	(E)-3-tetradecen-1-ol	(353–393)	99.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[40642-41-9]	(Z)-4-tetradecen-1-ol	(353–393)	100.0	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[59101-24-5]	(E)-4-tetradecen-1-ol	(353–393)	100.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[40642-42-0]	(Z)-5-tetradecen-1-ol	(353–393)	100.3	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[62936-14-5]	(E)-5-tetradecen-1-ol	(353–393)	100.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[68760-63-4]	(Z)-6-tetradecen-1-ol	(353–393)	100	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[68760-62-3]	(E)-6-tetradecen-1-ol	(353–393)	100.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[40642-43-1]	(Z)-7-tetradecen-1-ol	(353–393)	99.9	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[37011-95-3]	(E)-7-tetradecen-1-ol	(353–393)	100.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[64470-32-2]	(Z)-8-tetradecen-1-ol	(353–393)	100.3	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[64437-34-9]	(E)-8-tetradecen-1-ol	(353–393)	101.4	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[35153-15-2]	(Z)-9-tetradecen-1-ol	(353–393)	100.6	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[52957-16-1]	(E)-9-tetradecen-1-ol	(353–393)	101	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[57393-02-9]	(Z)-10-tetradecen-1-ol	(353–393)	101.1	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[64437-35-0]	(E)-10-tetradecen-1-ol	(353–393)	101.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[34010-15-6]	(Z)-11-tetradecen-1-ol	(353–393)	101.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[35153-18-5]	(E)-11-tetradecen-1-ol	(353–393)	101.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[70711-48-7]	(Z)-12-tetradecen-1-ol	(353–393)	102.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[70711-49-8]	(E)-12-tetradecen-1-ol	(353–393)	102.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
	V						
C ₁₄ H ₂₈ O	[2345-27-9]	2-tetradecanone		49.12	306.7	DSC	[1996DOM/HEA, 1979SUN/SVE2]
	FUS						
	SUB		130.9 ± 0.5	298	C	[1979SUN/SVE2]	
	V	(411–560)	65.6	426	A	[1987STE/MAL]	
	V	(549–643)	55.6	564	A	[1987STE/MAL]	
	V		82.1 ± 0.6	298	S-F	[1979SUN/SVE2]	
	V	(412–643)	51.6	556		[1975AMB/ELL]	

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_{28}\text{O}$	[6137-34-4]	7-tetradecanone	V	(372–551)	64.4	387	A	[1987STE/MAL, 1947STU]
			V	(438–462)	66.9	450	A, ME	[1987STE/MAL, 1938UBB]
$\text{C}_{14}\text{H}_{28}\text{O}$	[124-25-4]	Tetradecanal	V	(334–370)	77.4 ± 0.4	298	GS	[2003VER/KRA2]
			V	(343–383)	80.2	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
			V	(372–571)	63.4	387	A	[1987STE/MAL, 1947STU]
$\text{C}_{14}\text{H}_{28}\text{O}$	[112-66-3]	Dodecyl acetate	V	(289–333)	79.6 ± 0.3	298	GS	[2006KRA/VER]
			V	(333–378)	81.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
			V	(398–540)	70.5	413	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{28}\text{O}_2$	[106-33-2]	Ethyl dodecanoate	FUS		36.07	273.2	DSC	[2014ROB/BAR]
			FUS		9.31	271.5		[1996DOM/HEA, 1934KIN/GAR]
			FUS		40.4	271.5	Cryst	[1934KIN/GAR]
			V	(313–462)	68.0 ± 0.9	388	Static	[2011BEN/KHI]
			V	(313–462)	79.3 ± 0.9	298	Static	[2011BEN/KHI]
			V	(420–464)	59.2	464	DSC	[2011SIL/FAL]
			V	(423–483)	80.0	298	GC	[1997KRO/VEL]
			V	(386–435)	67.2	401	A	[1987STE/MAL]
			V					
			V					
$\text{C}_{14}\text{H}_{28}\text{O}_2$	[1731-88-0]	Methyl tridecanoate	V		74.0	350	CE	[2002VAN/VAN]
			V		72.3 ± 0.1	368	CE	[2002VAN/VAN]
			V		80.0 ± 0.5	298	CE	[2002VAN/VAN]
			V		81.3 ± 0.7	298	GC, C	[1980FUC/PEA]
			V		82.7 ± 0.8	298	C	[1977MAN/SEL]
			V	(377–504)	72.6	392	A,E	[1987STE/MAL, 1963ROS/SCH]
$\text{C}_{14}\text{H}_{28}\text{O}_2$	[245658-44-0]	2,2-dimethylpropanoic acid, 1,1,5-trimethylhexyl ester	V	(333–378)	61.3	298	CGC	[1999VER/HEI]
$\text{C}_{14}\text{H}_{28}\text{O}_2$	[544-63-8]	Tetradecanoic acid (myristic acid)	FUS		43.95	328.9	DSC	[2015CAR/CON]
			FUS+TRS		43.8	328.1	DSC	[2014MAX/CAR]
[Note: Value includes the enthalpy for the transition that occurred at 321.7 K.]								
$\text{C}_{14}\text{H}_{28}\text{O}_2$	[90-340]	AC	FUS		43.4	325.3	DSC	[2013HUA/LU]
			FUS		45.1	327.1	DSC	[2011DAN/JIN]
			FUS		45.1	327.6	DSC	[2010SAR/BIC]
			FUS		45.75	326.2	DSC	[2010HON/HUA]
			FUS		48.35	328.9	DSC	[2009COS/SAR]
			TRS		1.8	315		
			TRS		6.4	325.3		
			FUS		45.0	326.5	DSC	[2007MOR/COR]
			FUS		40.1	326.6	DSC	[2007MIS/MIS]
			FUS		45.2	327.5	DSC	[2004INO/HIS]
			FUS	(90–340)	45.1	327	AC	[1996DOM/HEA, 1982SCH/VAN]
			FUS		42.3	325.9	DSC	[1975BER/LEO]
			FUS		44.7	327.4		[1964ADR/DEK]
			FUS		36.28	317		[1996DOM/HEA, 1885STO/WIL]
			SUB		168.6 ± 9	298	TPD	[2008CAP/LOV]
			SUB	(272–288)	125.6	280	TPTD	[2005CHA/ZIE]
			SUB	(282–305)	174	293	TPTD	[2001CHA/TOB]
[Note: Experimental values based on the TPTD method are often inconsistent with values determined using other experimental methods.]								
$\text{C}_{14}\text{H}_{28}\text{O}_2$	[312-325]	TPD	SUB	(312–325)	139.7 ± 3.8	318	ME	[1961DAV/MAL, 1970COX/PIL]
			V		110.7 ± 6.1	298	CGC	[2015WIL/GOB]
			V		111.2 ± 8.0	298	CGC	[2013WIL/CHI]
			V	(383–459)	100.4	398	A	[1987STE/MAL]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{14}\text{H}_{28}\text{O}_3$	V	(423–599)		91.6	438	A	[1987STE/MAL]
	V	(339–358)		104.1 ± 2.0	349	ME, TE	[1982DEK/SCH]
	V			88.9	455	I	[1943CRA]
$\text{C}_{14}\text{H}_{28}\text{O}_3$	V	Decyl 3-methoxypropionate (403–513)		68.9	418	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{28}\text{O}_3$	[19816-73-0] SUB	Peroxytetradecanoic acid (293–303)		156.0 ± 4.1		ME	[1980SWA/KWA]
$\text{C}_{14}\text{H}_{28}\text{O}_4$	[56444-61-2] FUS	2,2,9,9-tetramethyl-1,3,8,10-tetraoxacyclotetradecane		30.5	409.4		[1975BOR]
$\text{C}_{14}\text{H}_{28}\text{O}_4$	[55208-76-9] V	3,3,6,6-tetrapropyl-1,2,4,5-tetraoxacyclohexane (403–473)		65.1	298	CGC	[2007CAN/EYL]
$\text{C}_{14}\text{H}_{28}\text{O}_6$	[125590-73-0] TRS	2-ethylhexyl α -D-glucoside		33.47	341.2		
	FUS			3.56	387.2	DSC	[1998NIL/SOE]
$\text{C}_{14}\text{H}_{28}\text{O}_6$	[125590-74-1] FUS	2-ethylhexyl β -D-glucoside		10.88	330.2	DSC	[1998NIL/SOE]
$\text{C}_{14}\text{H}_{29}\text{Br}$	[112-71-0] V	1-bromotetradecane (437–645)		67.1	452	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
$\text{C}_{14}\text{H}_{29}\text{Cl}$	[2425-54-9] V	1-chlorotetradecane		86.6	298		[2006BOL/NER2]
	V	(313–373)		80.2	313	GC	[1980JON/MAT]
	V	(313–373)		78.0	333	GC	[1980JON/MAT]
	V	(313–373)		74.4	353	GC	[1980JON/MAT]
	V	(313–373)		72.9	373	GC	[1980JON/MAT]
	V	(414–570)		68.7	429	A, DTA	[1987STE/MAL, 1969KEM/KRE]
$\text{C}_{14}\text{H}_{29}\text{F}$	[593-33-9] V	1-fluorotetradecane (288–335)		73.5 ± 0.4	298	GS	[1997SCH/VER]
	V	(400–593)		61.4	415	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
$\text{C}_{14}\text{H}_{29}\text{I}$	[19218-94-1] V	1-iodotetradecane (452–672)		90.0	298	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN, 2006BOL/NER]
	V	(452–672)		68.6	467	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
$\text{C}_{14}\text{H}_{29}\text{NO}$	[638-58-4] SUB	Tetradecanamide (248–375)		167.4 ± 2.5	352	ME	[1959DAV/JON2, 1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[629-59-4] FUS	Tetradecane		43.3	279.1	DSC	[2005HUA/SIM]
	FUS			42.7	278.3	DSC	[2004MON/RAJ]
	FUS			42.8	278.3	DSC	[1999MET/RAJ]
	FUS			45.07	279.0		[1996DOM/HEA, 1954FIN/GRO2]
	TRS			0.18	194.0		
	FUS			44.27	288.7		[1996DOM/HEA, 1934PAR/LIG]
	SUB			117.6	298	B	[1972MOR3]
	V	(303–462)		68.5	325	Static	[2013BEN/KHI2]
	V	(283–313)		71.6 ± 1.3	298	GS	[2009LEG/BAC]
	V			72.1	298	GS	[2001PUR/CHI]
	V			72.0 ± 2.4	298	CGC	[2000NIC/ORF]
	V			69.0	324	C	[1996VIT/CHA]
	V			68.6	329	C	[1996VIT/CHA]
	V			67.9	334	C	[1996VIT/CHA]
	V			66.8	344	C	[1996VIT/CHA]
	V			65.7	359	C	[1996VIT/CHA]
	V	(423–473)		71.2	298	CGC	[1995CHI/HOS]
	V	(363–413)		71.4	298	CGC	[1995CHI/HOS]
	V			71.7	298		[1994RUZ/MAJ]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_{14}\text{H}_{30}$	V	(313–433)	67.8	328	A	[1987STE/MAL]
	V	(343–395)	64.1	361	GS	[1986ALL/JOS]
	V		70.1	313	C	[1979SUN/SVE]
	V		68.9	328	C	[1979SUN/SVE]
	V		71.8 ± 0.6	298	C	[1979SUN/SVE]
	V		71.1 ± 0.4	298	C	[1972MOR2]
	V		71.7	298		[1971WIL/ZWO]
	V		68.7 ± 0.2	298	C	[1963MOR/SUN]
	V	(432–529)	57.1	447	A	[1987STE/MAL, 1955CAM/ROS]
	V	(429–468)	57.8	449	ME	[1938UBB]
$\text{C}_{14}\text{H}_{30}$	[1560-96-9]	2-methyltridecane				
	V	(388–530)	56.3	403	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[6418-41-3]	3-methyltridecane				
	V	(389–521)	55.1	404	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[26730-12-1]	4-methyltridecane				
	V	(386–520)	54.2	401	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[25117-31-1]	5-methyltridecane				
	V	(385–518)	53.8	400	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[26730-14-3]	7-methyltridecane				
	V	(357–389)	59.0	372	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[6117-98-2]	2,3-dimethyldodecane				
	V	(385–519)	53.4	400	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[6117-99-3]	2,4-dimethyldodecane				
	V	(379–509)	54.0	394	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[107771-01-7]	2,4,6-trimethylundecane				
	V	(368–491)	53.2	383	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}$	[5171-86-8]	2,2,3,4,6,6-heptamethylheptane				
	V	(313–366)	54.5	366	A, MG	[1987STE/MAL, 1955SCH/WHI]
$\text{C}_{14}\text{H}_{30}$	[5171-86-8]	Hexaethylmethane (3,3,4,4-tetraethylhexane)				
	V	(298–307)	63.9 ± 1.2	298	GS	[1997VER/NOL]
	V	(283–302)	65.7 ± 1.2	292	GS	[1973BEC/RUC, 1995CHI/HES]
	V		65.0 ± 1.2	298		[1973BEC/RUC]
$\text{C}_{14}\text{H}_{30}$	[65149-84-0]	2,2,3,3,4,4,5,5-octamethylhexane				
	V	(288–325)	56.9 ± 0.7	298	GS	[1997VER/NOL]
$\text{C}_{14}\text{H}_{30}\text{N}_2\text{O}$	[842173-55-1]	1-tridecyl urea				
	TRS		1.5	261.6		
	TRS		2.8	306.5		
	FUS		46.0	384.6	DSC	[2005HAS/TAJ]
$\text{C}_{14}\text{H}_{30}\text{O}$	[629-64-1]	Dihexyl ether				
	V	(360–547)	63.1	375	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{30}\text{O}$	V	4-methylpentyl <i>tert</i> -octyl ether				
			57.5	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]
$\text{C}_{14}\text{H}_{30}\text{O}$	V	3-methylpentyl <i>tert</i> -octyl ether				
			58.0	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]
$\text{C}_{14}\text{H}_{30}\text{O}$	V	3,3-dimethylbutyl <i>tert</i> -octyl ether				
			56.4	298	CGC	[UR/VER, 2002VER, 2003VER/KRA]
$\text{C}_{14}\text{H}_{30}\text{O}$	[508181-44-0]	Hexyl <i>tert</i> -octyl ether				
	V	(296–326)	59.8 ± 0.6	298	GS	[2003VER/KRA]
	V		59.2	298		[UR/VER, 2002VER]
$\text{C}_{14}\text{H}_{30}\text{O}$	[112-72-1]	1-tetradecanol				
	FUS		45.81	311.1	DSC	[2015CAR/CON]
	FUS		25.9	311.2	DSC	[2014CAR/DOS]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	
	FUS + TRS			47.6	311.4	DSC	[2014MAX/CAR]
[Note: Value includes the enthalpy for the transition that occurred at 310.5 K.]							
	FUS			44.4	310.2	DSC	[2011ZUO/LI]
	FUS			47.8	309.9	DSC	[2011ZUO/LI]
	FUS			47.29	308.1	DSC	[2009ZEN/CAO]
	FUS			45.66	311.15	DSC	[1978ECK/MUL]
	FUS + TRS			47.01	311.2		
	FUS (α)			25.1	310.8		
	TRS (β to γ)			1.8	306		
	TRS (γ to α)			23.81	311		
	TRS (γ to α)			22.01	311.6		
	FUS + TRS			49.51	311	AC	[1974MOS/MOU]
	SUB			126.0 \pm 0.6			[1977MAN/SEL]
	SUB		(293–307)	143.9	300	ME	[1965DAV/KYB]
	V		(479–520)	65.9	494	EB	[2010CEN/ROH]
	V			98.9 \pm 2.5	298	CGC	[2006NIC/KWE]
	V		(312–346)	93.6	328	GS	[2001KUL/VER2]
	V		(312–346)	98.7	298	GS	[2001KUL/VER2]
	V		(333–438)	81.8	386		[1992NGU/KAS]
	V		(317–358)	109	332	A	[1987STE/MAL]
	V			102.2 \pm 2.3	298	C	[1977MAN/SEL]
	V		(313–358)	106.4	328		[1973WIL/ZWO]
	V		(424–569)	76.6	439	A	[1987STE/MAL, 1969KEM/KRE]
	V		(313–326)	104.2	320	ME	[1965DAV/KYB]
C ₁₄ H ₃₀ O	[4706-81-4]	2-tetradecanol					
	V		(313–428)	95.7	328		[1999NGU/BER]
C ₁₄ H ₃₀ O ₂	[4536-30-5]	2-(dodecyloxy)ethanol					
	V		(414–467)	71.5	429	A	[1987STE/MAL, 1974NAK/EDA]
C ₁₄ H ₃₀ O ₂	[19812-64-7]	1,14-tetradecanediol					
	FUS			63.5	359.2	DSC	[2014BAD/NOW]
	FUS			61.9	360.4	DSC	[1999OGA/NAK]
	V			149.7 \pm 2.4	298	CGC	[2006UMN/KWE]
	V			128.1 \pm 5.8	386		[1993PIA/FER, 2006UMN/KWE]
	V			141.7 \pm 6.2	298		[1993PIA/FER, 2006UMN/KWE]
C ₁₄ H ₃₀ O ₂ S	[126835-75-4]	3-(undecylthio)-1,2-propanediol					
	TRS			2.5	280.2		
	TRS			4.9	289.1		
	TRS			4.6	295.2		
	FUS			18.3	317.4	DSC	[1993ACR, 1990VAN/VAN]
C ₁₄ H ₃₀ O ₃	[10430-98-5]	3-(undecyloxy)-1,2-propanediol					
	FUS			43.1	311.7	DSC	[1993ACR, 1990VAN/VAN]
C ₁₄ H ₃₀ O ₄ S ₂		2-deoxy-(D)-glucose dibutyl dithioacetal					
	FUS			60.3	409.5	DSC	[1989VAN/VAN]
C ₁₄ H ₃₀ O ₄ S ₂		(L)-rhamnose dibutyl dithioacetal					
	FUS			37.9	389.9	DSC	[1989VAN/VAN]
[Note: The authors report that there are several transitions prior to melting.]							
C ₁₄ H ₃₀ O ₅ S ₂	[115395-52-3]	(D)-glucose dibutyl dithioacetal					
	FUS			50.2	399	DSC	[1989VAN/VAN]
C ₁₄ H ₃₀ O ₅ S ₂	[68747-93-3]	(D)-galactose dibutyl dithioacetal					
	FUS			46.4	399.2	DSC	[1989VAN/VAN]
C ₁₄ H ₃₀ S	[2079-95-0]	1-tetradecanethiol					
	V		(446–614)	67.3	461		[1999DYK/SVO]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₄ H ₃₀ S ₂	[10496-16-9]	Dihethyl disulfide	(458–630)	69.8	473		[1999DYK/SVO]
C ₁₄ H ₃₁ N	V						
	[2470-68-0]	Dihethylamine		81.2 ± 7.1	298	CGC	[2014THO/GOB]
	V		(435–605)	60.0	450	A	[1987STE/MAL]
C ₁₄ H ₃₁ N	V		(435–605)	81.7 ± 2.6	298	A	[1987STE/MAL]
	[112-18-5]	N,N-dimethyldodecylamine					
	V		(283–324)	69.5	299		[2004FUL/RUZ]
C ₁₄ H ₃₁ N	V		(380–604)	64.4	395	A	[1987STE/MAL]
	[2016-42-4]	Tetradecylamine					
	V			85.5 ± 2.8	298	CGC	[2013GOB/RAT]
C ₁₄ H ₃₁ NO ₂	V		(471–577)	62.4	486	A,E	[1987STE/MAL, 1956MAN2]
	FUS	3-(undecylamino)-1,2-propanediol		58.2	348.8	DSC	[1993ACR, 1990VAN/VAN]
C ₁₄ H ₃₁ O ₂ P	[3011-76-5]	Dihethylphosphinic acid					
	V		(482–664)	64.1	573		[1971NAK/SMI]
C ₁₅ F ₃₂	[2264-03-1]	Perfluoropentadecane					
	FUS			35.1	388.1	DSC	[2012HAS/DRA]
	SUB		(312–368)	109.4 ± 0.4	298	GS	[2012HAS/DRA]
C ₁₅ F ₃₃ N	V			82.7 ± 3.9	298	CGC	[2012HAS/DRA]
	[338-84-1]	tris(perfluoropentyl)amine					
	V		(471–491)	49.9	481		[1995CIA/DU]
C ₁₅ H ₈ C ₁₃ NO ₂	[77765-38-9]	2,2,4-trichloro-5-(2-naphthalenylamino)-4-cyclopentene-1,3-dione					
	V		(453–483)	91.4	468	GC	[1980SHA/SAD]
C ₁₅ H ₉ N	[1210-12-4]	9-cyanoanthracene					
	FUS			25.19	445.2	DSC	[1970GUA/SAR]
C ₁₅ H ₉ N ₃	[217-88-9]	Pyrido[2,3-f] [1,7]phenanthroline					
	V		(648–707)	65.1	663	A	[1987STE/MAL, 1962JOH/MCE]
C ₁₅ H ₉ N ₃	[217-81-2]	Pyrido[3,2-f] [1,7]phenanthroline					
	V		(648–706)	67.4	663	A,I	[1987STE/MAL, 1962JOH/MCE]
C ₁₅ H ₁₀	[203-64-5]	4 <i>H</i> -cyclopenta[def]phenanthrene					
	V			83.4 ± 0.7	298	CGC	[2008HAN/NUT]
C ₁₅ H ₁₀ ClFN ₂ O	[2886-65-9]	7-chloro-1,3-dihydro-5-(2'-fluorophenyl)-2 <i>H</i> -1,4-benzodiazepin-2-one (desalkylflurazepam)					
	FUS			30.7	481.2	DSC	[2008WAS/HOL]
C ₁₅ H ₁₀ Cl ₂ N ₂ O ₂	[50264-69-2]	1-[(2,4-dichlorophenyl)methyl]-1 <i>H</i> -indazole-3-carboxylic acid					
	FUS			45.92	480.2	DSC	[1998PAL/WEH]
C ₁₅ H ₁₀ Cl ₂ N ₂ O ₂	[846-49-1]	7-chloro-5-(2-chlorophenyl)-1,3-dihydro-3-hydroxy-2 <i>H</i> -1,4-benzodiazepin-2-one ((±)lorazepam)					
	FUS			75.2	453.2	DSC	[2008WAS/HOL]
	FUS			92.57	446.5	DSC	[2001VER/AUG]
C ₁₅ H ₁₀ N ₂ O ₂	[2536-05-2]	2,2'-diisocyanatodiphenylmethane					
	V		(343–413)	90.1	358	A	[1987STE/MAL]
C ₁₅ H ₁₀ N ₂ O ₂	[5873-54-1]	2,4'-diisocyanatodiphenylmethane					
	V		(343–413)	89.3	358	A	[1987STE/MAL]
C ₁₅ H ₁₀ N ₂ O ₂	[101-68-8]	4,4'-diisocyanatodiphenylmethane					
	FUS			27.3	313.6		[1996DOM/HEA, 1977LEB/EVS]
	V		(343–413)	90.5	358	A	[1987STE/MAL]
	V		(442–530)	93.8	457	A	[1987STE/MAL]
	V		(442–530)	90.6	483	A	[1966ZAL/STR]
C ₁₅ H ₁₀ O	[886-38-4]	Diphenylcyclopropenone					

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
$\text{C}_{15}\text{H}_{10}\text{O}$	[642-31-9]	SUB	(353–378)	119.7 ± 8	365	HSA	[1985STE/GAN]	
		SUB	(323–343)	141 ± 4	333	ME	[1976HOP/BOS, 1987STE/MAL]	
	[613-08-1]	FUS		17.9	379.4	DSC	[2010GOL/KUL]	
		FUS		17.61	377.2	DSC	[1970GUA/SAR]	
$\text{C}_{15}\text{H}_{10}\text{O}_2$	[723-62-6]	SUB	(329–363)	100.6 ± 3.9	346	ME	[2008GOL/SUU]	
		FUS		36.9	559.1	DSC	[2010GOL/KUL]	
		SUB	(401–421)	134.8 ± 3.4	411	ME	[2008GOL/SUU]	
$\text{C}_{15}\text{H}_{10}\text{O}_2$	[525-82-6]	FUS		34.7	495.6	DSC	[2010GOL/KUL]	
		SUB	(403–423)	134.9 ± 0.9	413	ME	[2011RIB/SAN]	
		SUB	(403–423)	139.4 ± 0.9	298	ME	[2011RIB/SAN]	
		SUB	(385–420)	120.1 ± 3.8	402	ME	[2008GOL/SUU]	
		SUB	(385–420)	125.5 ± 3.8	298	ME	[2008GOL/SUU, 2011RIB/SAN]	
$\text{C}_{15}\text{H}_{10}\text{O}_2$	[82-39-3]	FUS	2-phenyl-4 <i>H</i> -1-benzopyran-4-one (flavone)	20.32	369.9	DSC	[2009SOU/MAT]	
		SUB		108.2 ± 1.7	298	C	[2009SOU/MAT]	
		SUB						
$\text{C}_{15}\text{H}_{10}\text{O}_3$	[3274-20-2]	1-methoxy-9,10-anthraquinone				GS	[1987SHI/OHK, 1991HOR]	
		SUB		128		HSA	[1956BEY/NIC]	
		SUB		106.6	385			
$\text{C}_{15}\text{H}_{10}\text{O}_3$	[60466-75-3]	2-methoxy-9,10-anthraquinone				GS	[1987SHI/OHK, 1991HOR]	
		SUB		124.7		HSA	[1956BEY/NIC]	
		SUB		118.4 ± 0.4	419			
$\text{C}_{15}\text{H}_{10}\text{O}_3$	[13057-72-2]	9-methoxy-1,4-anthraquinone				ME	[2002JIM/ROU]	
		SUB	(363–386)	130.5 ± 2.3	375	ME	[2002JIM/ROU]	
		SUB	(363–386)	131.5 ± 2.3	298			
$\text{C}_{15}\text{H}_{10}\text{O}_3$	[480-40-0]	7-hydroxyisoflavone				DSC	[2016GON/ZHA]	
		FUS (I)		24.6	487.3			
		FUS (II)		30.1	488.0			
$\text{C}_{15}\text{H}_{10}\text{O}_4$	[486-66-8]	5,7-dihydroxy-2-phenyl-4 <i>H</i> -1-benzoyran-4-one (chrysin)				DSC	[2007CHE/HUM]	
		FUS		39.2	558.2			
		SUB						
$\text{C}_{15}\text{H}_{10}\text{O}_4$	[56973-60-5]	7-hydroxy-3-(4-hydroxyphenyl)chromen-4-one (daidzein)				DSC	[2014ZEN/PAN]	
		FUS		35.05	588.8			
		SUB						
$\text{C}_{15}\text{H}_{10}\text{O}_4$	[117-39-5]	3-benzoyloxyphthalide					[1989ROR/RUT]	
		SUB	(343–388)	U 125.3	366			
		SUB						
$\text{C}_{15}\text{H}_{10}\text{O}_7$	[42874-03-3]	2-(3,4-dihydroxyphenyl)-3,5,7-trihydroxy-4 <i>H</i> -1-benzopyran-4-one (quercetin)						
		TRS		4.88	381.6			
		FUS		51.08	587.8	DSC	[2010BOG/GON]	
		FUS		41.5	595.2	DSC	[2007CHE/HUM]	
$\text{C}_{15}\text{H}_{11}\text{ClF}_3\text{NO}_4$	[1088-11-5]	2-chloro-1-(3-ethoxy-4-nitrophenoxy)-4-(trifluoromethyl)benzene						
		FUS		30.07	358.8	DSC	[1991ACR, 1990DON/DRE]	
$\text{C}_{15}\text{H}_{11}\text{C1N}_2\text{O}$	[604-75-1]	7-chloro-1,3-dihydro-5-phenyl-2 <i>H</i> -1,4-benzodiazepin-2-one (nordazepam)						
		FUS (I)		24.45	494.5			
		FUS (II)		34	489.9			
		FUS (III)		27.4	489.2			
$\text{C}_{15}\text{H}_{11}\text{ClN}_2\text{O}_2$		FUS (IV)		33.62	487.4	TGA	[1996DOM/HEA, 1992CHA/MOU]	
		7-chloro-1,3-dihydroxy-5-phenyl-2 <i>H</i> -1,4-benzodiazepin-2-one ((±)-oxazepam)						
		FUS		86.4	478.8	DSC	[2008WAS/HOL]	
$\text{C}_{15}\text{H}_{11}\text{F}_3\text{O}_3$	[3119-86-6]	FUS		84.11	467.5	DSC	[2001VER/AUG]	
		2-hydroxy-2'-trifluoromethyl-4-methoxybenzophenone						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$C_{15}H_{11}F_3O_3$	[7396-89-6]	SUB	(323–363)	U 13.3	338	EV	[1987STE/MAL, 1966GRA/BUR]
		SUB	(313–323)	103.8	318	EV	[1987STE/MAL, 1966GRA/BUR]
$C_{15}H_{11}F_3O_3$	[7396-90-9]	2-hydroxy-3'-trifluoromethyl-4-methoxybenzophenone					
		SUB	(313–333)	91.0	323	EV	[1987STE/MAL, 1966GRA/BUR]
$C_{15}H_{11}N$	[612-96-4]	2-phenylquinoline					
		SUB	(337–351)	103.1 ± 0.8	344	ME	[1997RIB/MAT3]
		SUB	(337–351)	105.4 ± 0.9	298	ME	[1997RIB/MAT3]
$C_{15}H_{11}NO_2$	[82-38-2]	1-methylamino-9,10-anthraquinone					
		FUS		28.81	443.2		[1991BAU/WEB]
		SUB		112.6			[1984KAR/KRU]
		SUB	(363–383)	115.9 ± 3.5	373		[1984KRI]
		SUB	(384–405)	123.8 ± 3.3	395	ME	[1960BRA/BIR, 1987STE/MAL]
		SUB		123.8		ME	[1964JON/SED, 1991HOR, 1966JON/KRA]
		SUB		115.5 ± 0.4	461	HSA	[1956BEY/NIC]
		SUB		114.7 ± 3	406	HSA	[1956BEY/NIC]
		V	(433–493)	103.5	448	A	[1987STE/MAL]
		$C_{15}H_{11}NO_2$	l-amino-2-methyl-9,10-anthraquinone				
$C_{15}H_{11}NO_2$	[82-28-0]	SUB	(360–388)	124.6 ± 7.3	374		[1984KRI]
$C_{15}H_{11}NO_3S$	[313057-09-9]	4-(2-propenoxy)phenyl 5-cyano-2-thiophene carboxylate					
		FUS		103.8	361.5	DSC	[2000WU/WAN]
$C_{15}H_{11}NO_4$	[2379-90-0]	l-amino-2-methoxy-4-hydroxy-9,10-anthraquinone					
		SUB		132			[1984KAR/KRU]
$C_{15}H_{11}N_3O_2$	[6407-80-3]	4-hydroxy-3-(phenylazo)-2(<i>1H</i>)-quinolinone (Disperse Yellow 4)					
		SUB		127.2			[1968TSU/KOJ, 1988BAU/PER]
$C_{15}H_{12}$	[610-48-0]	l-methylanthracene					
		V		87.0 ± 1.0	298	CGC	[2008HAN/NUT]
$C_{15}H_{12}$	[613-12-7]	2-methylanthracene					
		V		84.5 ± 2.7	298	CGC	[2008HAN/NUT]
		V	(413–473)	84.4 ± 1.2	298	GC	[2006HAF/PAR]
		V	(323–473)	76.1	398	GC	[2002LEI/CHA]
$C_{15}H_{12}$	[779-02-2]	9-methylanthracene					
		SUB	(329–345)	99.8 ± 1.0	337	ME	[2006RIB/AMA2]
		SUB	(329–345)	101.8 ± 1.0	298	ME	[2006RIB/AMA2]
		SUB		99.4 ± 1.0			[1985KIS/VEI]
		SUB		98.9		RG	[1958KLO]
		V		88.1 ± 1.0	298	CGC	[2008HAN/NUT]
		V	(354–402)	98.9	369	A	[1987STE/MAL]
		V	(423–587)	58.5	465		[1983SIV/KOB]
		V	(423–587)	58.1	515		[1983SIV/KOB]
		V	(423–587)	56.5	555		[1983SIV/KOB]
$C_{15}H_{12}$	[832-69-9]	1-methylphenanthrene					
		V		84.5 ± 1.4	298	CGC	[2008HAN/NUT]
		V	(323–473)	76.3	398	GC	[2002LEI/CHA]
$C_{15}H_{12}$	[832-64-4]	4-methylphenanthrene					
		TRS	(12–445)	0.02	182		
		TRS	(12–445)	0.03	295		
		FUS	(12–445)	14.04	324.9	AC	[1996DOM/HEA, 1989CHI/HOS]
		V	(368–647)	74.4 ± 0.2	380	EB,IPM	[1989CHI/HOS]
		V	(368–647)	71.8 ± 0.1	420	EB,IPM	[1989CHI/HOS]
		V	(368–647)	69.2 ± 0.1	460	EB,IPM	[1989CHI/HOS]
		V	(368–647)	66.7 ± 0.1	500	EB,IPM	[1989CHI/HOS]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_{15}\text{H}_{12}$	V	2-phenylindene	(368–647)	64.2 ± 0.1	540	EB,IPM	[1989CHI/HOS]
	V		(368–647)	61.6 ± 0.1	580	EB,IPM	[1989CHI/HOS]
$\text{C}_{15}\text{H}_{12}\text{Br}_4\text{O}_2$	[4505-48-0]	2,2',6,6'-tetrabromo-4,4-isopropylidenediphenol		84.3 ± 0.7	298	CGC	[2008HAN/NUT]
	FUS			29.1	451.5	DSC	[2008KUR/KAW]
$\text{C}_{15}\text{H}_{12}\text{ClN}_5\text{O}_4$	SUB	5-[(4-chloro-2-nitrophenylazo)-1-ethyl-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-3-pyridinecarbonitrile		153 ± 3		ME	[2008KUR/KAW]
	FUS			35.16	500.2		[1991BAU/WEB]
$\text{C}_{15}\text{H}_{12}\text{N}_2$	[668-94-0]	4,5-diphenylimidazole		32.34	505	DSC	[2007SIF/AIT]
	FUS						
$\text{C}_{15}\text{H}_{12}\text{N}_2\text{O}$	[298-46-4]	$5H$ -dibenz[<i>b,f</i>]azepme-5-carboxamide (carbamazepine)					
	FUS (I)			29.1	449.2		
	FUS (III)			26.2	465.2	DSC	[2014RAG]
	FUS			U37.1	465.0	DSC	[2012JEG/PRA]
	FUS			25.54	465	DSC	[2010BAI/VAN]
	FUS			25.6	465.3	DSC	[2009GOO/ROD]
	FUS (I)			27.1	452.4		
	FUS (III)			26.3	463.7	DSC	[2007DEF/RAN]
	FUS			25.7	464.3	DSC	[2004MCG/SAU]
	FUS (I)			25.52	466.7		
	FUS (II)			26.82	464.4		
	FUS (III)			24.89	464.7	DSC	[2003GRZ/LAN]
	FUS			23.63	464.4	DSC	[2001NAI/SIR]
	FUS			24.5	464.5	DSC	[2001EDW/SKE]
	FUS			24.5			[1984KAN/YAM, 2001EDW/SKE]
$\text{C}_{15}\text{H}_{12}\text{N}_2\text{O}_2$	[1220-94-6]	1-amino-4-(<i>N</i> -methylamino)anthra-9,10-quinone	SUB	140.6		GS	[1967DAT/KAN, 1991HOR]
$\text{C}_{15}\text{H}_{12}\text{N}_2\text{O}_2$	[57-41-0]	5,5-diphenyl-2,4-imidazolidinedione (phenytoin)	FUS	38.85	576.2	DSC	[2016LED/CAM]
			FUS	38.50	571.2	DSC	[2015GAU/VAN]
			FUS	40.1	568.8	DSC	[2006WAS/HOL, 2008WAS/HOL]
			FUS	47.08	570.8	DSC	[2003NOK/BOL]
			FUS	36.29	574		[1985OHM/LIP]
$\text{C}_{15}\text{H}_{12}\text{N}_2\text{O}_2$	[52955-48-3]	<i>N</i> -(<i>N'</i> -methylanilino)phthalamide	TRS	3.6	374		
			FUS	21.7	399	DSC	[1998BOT/ELL]
$\text{C}_{15}\text{H}_{12}\text{N}_2\text{O}_2$	[28721-07-5]	10,11-dihydro-10-oxo-5 <i>H</i> -dibenz[<i>b,f</i>]azepine-5-carboxamide (oxcarbazepine)	FUS (I)	40.3	495.6	DSC	
			FUS (II)	33.3	491.4	DSC	
			FUS (III)	26.07	486.2	DSC	[2010LUT/MAT]
[Note: All three polymorphic forms decomposed on melting.]							
$\text{C}_{15}\text{H}_{12}\text{N}_2\text{O}_3$	[2872-48-2]	1,4-diamino-2-methoxyanthra-9,10-quinone	FUS	35.29	515.2		[1988BAU/PER]
			SUB	147.0			[1984KAR/KRU]
			SUB	151.9		GS	[1967DAT/KAN, 1991HOR]
$\text{C}_{15}\text{H}_{12}\text{N}_4$	[7385-99-1]	2-quinolinylhydrazone-(2-pyridinecarboxaldehyde)	FUS	38	475.4	DSC	[2013PER/KAZ]
$\text{C}_{15}\text{H}_{12}\text{N}_4\text{O}_2$	[340820-68-0]	4-phenyl-5-(2-pyridinyl)-4 <i>H</i> -1,2,4-triazole-3-carboxylic acid, methyl ester	FUS	24.4	465.2	DSC	[2005SIK/MOD]
$\text{C}_{15}\text{H}_{12}\text{O}$	[1210-35-1]	Dibenzosuberone	FUS	17.15	305.5	DSC	[1998VER4]
			SUB	109.3 ± 1.5	298		[1998VER4]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(314–338)	90.0 ± 1.5	326	GS	[1998VER4]		
C ₁₅ H ₁₂ O	[2395-96-2]	9-methoxyanthracene						
	SUB		110.6 ± 1.5					[1985KIS/VEI]
C ₁₅ H ₁₂ O	[1139-82-8]	5,7-dihydro-6 <i>H</i> -dibenzo[<i>a,c</i>]cyclohepten-6-one		18.16	350.3	DSC	[1998VER4]	
	FUS							
	SUB	(323–347)	95.6 ± 0.8	298	GS	[1998VER4]		
C ₁₅ H ₁₂ OS	[1215-43-6]	monthiodibenzoylmethane						
	SUB		125.5 ± 4.9	298	C	[2004RIB/SAN3]		
C ₁₅ H ₁₂ O ₂	[120-46-7]	Dibenzoylmethane						
	SUB		113.3 ± 4.8	298	C	[2004RIB/SAN3]		
	SUB	(339–348)	114.4 ± 0.9	343	ME	[1992RIB/MON]		
	SUB	(339–348)	115.7 ± 0.9	298	ME	[1992RIB/MON]		
C ₁₅ H ₁₂ O ₂	[120-46-7]	1,3-diphenyl-1,3-propanedione						
	V	(368–383)	60.1	375	A	[1987STE/MAL]		
C ₁₅ H ₁₂ O ₂	[487-26-3]	2,3-dihydro-2-phenyl-4 <i>H</i> -1-benzopyran-4-one (flavanone)						
	FUS		21.04	349.5	DSC	[2009SOU/MAT]		
	SUB		107.2 ± 2.3	298	C	[2009SOU/MAT]		
C ₁₅ H ₁₂ O ₅	[480-41-1]	2,3-dihydro-5,7-dihydroxy-2-(4-hydroxyphenyl)-4 <i>H</i> -1-benzopyran-4-one (naringenin)						
	FUS		39.8	523.2	DSC	[2007CHE/HUM]		
C ₁₅ H ₁₂ O ₈	[27200-12-0]	Dihydromyricetin						
	FUS		30.11	525.2	DSC	[2015ZHA/CAI]		
C ₁₅ H ₁₃ ClN ₂ O ₂	[107485-57-4]	1-(2-methylbenzoyl)-3-(4-chlorophenyl)urea						
	FUS		35.2	474	DSC	[2014OZA/NAK]		
C ₁₅ H ₁₃ ClN ₂ O ₂	[1634626-34-8]	1-(4-methylbenzoyl)-3-(4-chlorophenyl)urea						
	FUS		38.9	511	DSC	[2014OZA/NAK]		
C ₁₅ H ₁₃ ClN ₂ O ₃	[107485-58-5]	1-(2-methoxybenzoyl)-3-(4-chlorophenyl)urea						
	FUS		26.0	438	DSC	[2014OZA/NAK]		
C ₁₅ H ₁₃ ClN ₂ O ₅	[1562-85-2]	Gallocyanine (C. I. Disperse Blue 95)						
	SUB	(433–493)	88.2	448	A	[1987STE/MAL]		
C ₁₅ H ₁₃ ClN ₂ S	[688319-94-0]	N-(2-methyl-4-chlorophenyl)-4 <i>H</i> -3,1-benzothiazin-2-amine						
	FUS		17.5	495.8	DSC	[2004GON/KOS]		
C ₁₅ H ₁₃ Cl ₂ NO ₂	[117-27-1]	1,1-(di- <i>p</i> -chlorophenyl)-2-nitropropane						
	FUS		21.39	354.3	DSC	[1990DON/DRE]		
C ₁₅ H ₁₃ FO ₂	[5104-49-4]	2-fluoro- α -methyl[1,1'-biphenyl]-4-acetic acid (<i>R,S</i> flurbiprofen)						
	FUS		28.2	387.1	DSC	[2012UMN/HAS]		
	FUS		27.41	388	DSC	[2010BAI/VAN]		
	FUS		27.8	387.0	DSC	[2009GAS/CEN]		
	FUS		28.0	387.9	DSC	[2007VIP/WAN]		
	FUS		27.9	386.7	DAC	[1999HEN/KUH]		
	SUB		110.2 ± 0.5	298				
	SUB	(342–378)	108.4 ± 0.5	360	GS	[2003PER/KUR]		
	V		127.5 ± 5.5	298	CGC	[2012UMN/HAS]		
C ₁₅ H ₁₃ FO ₂	[51543-40-9]	2-fluoro- α -methyl[1,1'-biphenyl]-4-acetic acid (<i>R</i> flurbiprofen)						
	FUS		23.3	380.6	DSC	[2012UMN/HAS]		
[Note: The above enthalpy of fusion includes two solid-solid phase transition enthalpies totaling 0.5 kJ/mol.]								
	V		127.4 ± 4.7	298	CGC	[2012UMN/HAS]		
C ₁₅ H ₁₃ NO	[3558-24-5]	1-methyl-2-phenylindole						
	SUB	(331–353)	109.5 ± 0.7	342	ME	[2015CAR/AMA]		
	SUB	(331–353)	111.1 ± 0.7	298	ME	[2015CAR/AMA]		

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₅ H ₁₃ NO	[68347-34-2]	2,10-dimethylacridin-9(10 <i>H</i>)-one	FUS	22.4	426	DSC	[2003STO/KRZ]
			SUB	119		DSC	[2003STO/KRZ]
C ₁₅ H ₁₃ NO	[2207-41-2]	10-ethylacridin-9(10 <i>H</i>)-one	FUS	27.5	434	DSC	[2003STO/KRZ]
			SUB	117		DSC	[2003STO/KRZ]
C ₁₅ H ₁₃ NO ₂	[23825-32-3]	<i>N</i> -benzoyl- <i>N</i> -methylbenzamide	SUB	(246–269)	116.8 ± 0.4	ME	[1997ROU/JIM]
				(246–269)	120.1 ± 0.4	ME	[1997ROU/JIM]
			FUS (I)	28.62	431.2	DSC	
C ₁₅ H ₁₃ NO ₃	[74103-06-3]	5-benzoyl-2,3-dihydro-1 <i>H</i> -pyrrolizine-1-carboxylic acid (ketorolac)	FUS (II)	171.74	430.2	DSC	
			FUS (III)	25.42	426.2	DSC	[2004SOH/SEO]
C ₁₅ H ₁₃ N ₃ O ₄ S	[36322-90-4]	2 <i>H</i> -1,2-benzothiazine-3-carboxyamide-4-hydroxy-2-methyl- <i>N</i> -2-pyridinyl-1,1-dioxide (piroxicam)	FUS	35.85	473.7	DSC	[2013SOT/HOL]
			FUS	34.4	473.4	DSC	[2010LAV/PIR]
			FUS	36.3	473.4	DSC	[2006WAS/HOL, 2008WAS/HOL]
			FUS	35.0	473.9	DSC	[2006DRE/SHA]
			FUS	35.0	474.5		[1998GIO/GAZ]
			FUS	34.5	473	DSC	[1998BUS/PEN]
C ₁₅ H ₁₃ N ₅	[120356-41-4]	[1-(2-pyridinyl)ethylidene]hydrazone-(4-(1 <i>H</i>)-quinazolinone)	FUS	42	484.7	DSC	[2013PER/KAZ]
C ₁₅ H ₁₄	[833-48-7]	10,11-dihydro-5 <i>H</i> -dibenzo[<i>a,d</i>]cycloheptene (dibenzosuberane)	FUS	23.33	348.0	DSC	[2011MIR/MAT]
			SUB	103.6 ± 2.0	298	C	[2011MIR/MAT]
C ₁₅ H ₁₄ ClN	[113788-74-2]	4-chlorobenzylidene-4'-ethylaniline	FUS	17.21	358.4	DSC	[1999GAL/COL]
C ₁₅ H ₁₄ Cl ₂ N ₄ O ₃	[6232-56-0]	4-(<i>N</i> -methyl- <i>N</i> -2-hydroxyethylamino)-4'-nitro-2',6'-dichloroazobenzene	SUB	135.1			[1968TSU/KOJ, 1988BAU/PER]
C ₁₅ H ₁₄ Cl ₃ O ₂ PS	[57875-65-7] V	(chloromethyl)thiophosphinic acid, <i>O,O</i> -bis(2-chloro-4-methylphenyl) ester	(343–365)	93.2	354	A	[1987STE/MAL, 1999DYK/SVO]
C ₁₅ H ₁₄ F ₃ N ₃	[6232-56-0]	<i>N,N</i> -dimethyl-4-[[4-(trifluoromethyl)phenyl]azo]benzenamine	SUB	95.8		UV	[1984KAR/ROD]
C ₁₅ H ₁₄ F ₃ N ₃ O	[1494-75-3]	<i>N,N</i> -dimethyl-4-[[4-(trifluoromethoxy)phenyl]azo]benzenamine	SUB	96.8		UV	[1984KAR/ROD]
C ₁₅ H ₁₄ F ₃ N ₃ S	[1494-77-5]	<i>N,N</i> -dimethyl-4-[[4-(trifluoromethyl)thio]phenyl]azo]benzenamine	SUB	100.8		UV	[1984KAR/ROD]
C ₁₅ H ₁₄ N ₂	[3295-59-8]	<i>N,N</i> -dimethyl-9-acridinamine	SUB	86.0	510	TGA	[1998STO/KRZ]
C ₁₅ H ₁₄ N ₂	[213623-43-9]	<i>N</i> -methyl-10-methylacridinimine	SUB	72.0	480	TGA	[1998STO/KRZ]
C ₁₅ H ₁₄ N ₂ OS	[109768-68-5]	<i>N</i> -(4-methoxyphenyl)-4 <i>H</i> -3,1-benzothiazin-2-amine	FUS	16.1	436.2	DSC	[2004GON/KOS]
C ₁₅ H ₁₄ N ₂ S	[109768-67-4]	<i>N</i> -(4-methylphenyl)-4 <i>H</i> -3,1-benzothiazin-2-amine	FUS	19.9	448.4	DSC	[2004GON/KOS]
C ₁₅ H ₁₄ N ₄ O	[129618-40-2]	11-cyclopropyl-5,11-dihydro-4-methyl-6 <i>H</i> -dipyrido[3,2- <i>b</i> :2',3'- <i>e</i>][1,4]diazepin-6-one (nevirapine)	FUS (O)	27.03	518.3		
			FUS (I)	19.50	515.9		

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{15}\text{H}_{14}\text{O}$	[102-04-5]	1,3-diphenylacetone	FUS (II)		22.89	514.3	DSC	[2013CHA/ARO]
			FUS		27.0	307.2	S-V	[2010LIM/SOU]
			FUS		20.2	307.2	DSC	[1993ACR, 1991CHI/BRA]
	[10435-68-4]	4,5,6-trimethylbenzoxalene	SUB		111.6 ± 2.3	298	C	[2010LIM/SOU]
			SUB		89.1 ± 5			[1954SPR/WHI, 1977PED/RYL, 1970COX/PIL]
	[2571-39-3]	3,4-dimethylbenzophenone	V		84.6 ± 2.5	298	C	[2010LIM/SOU]
			V	(398–604)	65.7	413	A	[1987STE/MAL, 1947STU]
$\text{C}_{15}\text{H}_{14}\text{O}$	[1210-34-0]	5 <i>H</i> -10,11-dihydrodibenzo[<i>a,d</i>]cyclohexane-5-ol	SUB		139.7 ± 2.5			[1966GEI/QUI, 1970COX/PIL]
$\text{C}_{15}\text{H}_{14}\text{O}$	[4359-34-6]	2,2-diphenyl-1,3-dioxolane	FUS		19.0	365.2	DSC	[2005PER/BAN]
$\text{C}_{15}\text{H}_{14}\text{O}_2$	[7144-65-2] or [4698-96-8]	1-biphenyloxy-2,3-epoxypropane	SUB		107.9 ± 0.8	298	C	[2008GOM/AMA]
$\text{C}_{15}\text{H}_{14}\text{O}_2$	[2929-45-5]	(2-hydroxy-4,6-dimethylphenyl)phenylmethanone	FUS		15.9	328.1		[1998VER/PEN]
			SUB		99.7 ± 1.1	298		[1998VER/PEN]
	[5558-66-7]	2,2-diphenylacetic acid	V	(331–370)	84.6 ± 0.6	298	GS	[2002VER]
			V	(331–370)	81.2 ± 0.6		GS	[1998VER/PEN]
$\text{C}_{15}\text{H}_{14}\text{O}_2$	[72108-22-6]	4,4'-dihydroxy- α -methylstilbene	FUS		80.0	423	A	[1987STE/MAL]
[Note: Reported enthalpy of fusion is too small, and the published enthalpy and entropy of fusion data are internally inconsistent.]								
$\text{C}_{15}\text{H}_{14}\text{O}_2$	[16212-08-1]	(<i>E</i>)-1-methyl-4-(2-phenylethenyl)sulfonyl benzene	SUB		20.82	465.2	DSC	[2000PUN]
[Note: DSC thermogram showed an un-quantified transition between 373 and 393 K.]								
$\text{C}_{15}\text{H}_{14}\text{O}_2$	[606-83-7]	3,3-diphenylacetic acid	FUS		33.1	446.1	DSC	[2011MON/SOU]
			SUB	(366–386)	125.8 ± 0.5	376	ME	[2011MON/SOU]
	[54897-33-5]	(<i>Z</i>)-1-methyl-4-(2-phenylethenyl)sulfonyl benzene	SUB	(366–386)	129.0 ± 0.5	298	ME	[2011MON/SOU]
$\text{C}_{15}\text{H}_{14}\text{O}_2$	[15889-70-0]	2-hydroxy-4-ethoxybenzophenone	FUS		30.4	428.5	DSC	[2011MON/SOU]
			SUB	(366–386)	128.9 ± 0.4	376	ME	[2011MON/SOU]
	[6547-53-1]	4-(phenylmethoxy)benzeneacetic acid	SUB	(366–386)	132.3 ± 0.4	298	ME	[2011MON/SOU]
$\text{C}_{15}\text{H}_{14}\text{O}_2\text{S}$	[16212-08-1]	(<i>E</i>)-1-methyl-4-(2-phenylethenyl)sulfonyl benzene	SUB		116.3 ± 3.8		B	[1969MAC/MCN, 1969MAC/MCN2, 1977PED/RYL]
$\text{C}_{15}\text{H}_{14}\text{O}_3$	[15889-70-0]	2-hydroxy-4-ethoxybenzophenone	V	(373–433)	90.7	403	ME	[1984SUR]
$\text{C}_{15}\text{H}_{14}\text{O}_3$	[6547-53-1]	4-(phenylmethoxy)benzeneacetic acid	FUS		29.3	396.1	DSC	[2006KUR/PER]
			SUB	(378–387)	107.3 ± 3.0	383	GS	[2006KUR/PER]
$\text{C}_{15}\text{H}_{14}\text{O}_3$	[3459-92-5]	Dibenzyl carbonate	V	(342–373)	96.7 ± 0.7	298	GS	[2008KOZ/EME]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₅ H ₁₄ O ₄	[6131-38-0]	2-hydroxy-4,4'-dimethoxybenzophenone	FUS		37.6	390.4	DSC	[1999PRI/HAW]
			SUB		121.1		B	[1999PRI/HAW]
			V		83.5		TGA	[1999PRI/HAW]
C ₁₅ H ₁₄ O ₄ S	[313057-13-5]	4-(2-propenoxy)phenyl 5-methoxy-2-thiophene carboxylate	FUS		66.94	336.9	DSC	[2000WU/WAN]
C ₁₅ H ₁₄ O ₅	[131-54-4]	2,2'-dihydroxy-4,4'-dimethoxybenzophenone	FUS		33.2	412.3	DSC	[1999PRI/HAW]
			SUB		130.2		B	[1999PRI/HAW]
			V		96.9		TGA	[1999PRI/HAW]
			V	(406–497)	77.4	423	A,UV	[1987STE/MAL, 1960SCH/HIR]
C ₁₅ H ₁₄ O ₆	[490-46-0]	(2 <i>R</i> - <i>cis</i>)-2-(3,4-dihydroxyphenyl)-3,4-dihydro-2 <i>H</i> -1-benzopyran-3,5,7-triol (epicatechin)	FUS		56.72	525.0	DSC	[2010PAR/LEE]
C ₁₅ H ₁₅ Cl	[13389-70-3]	Chloro-di-4-tolylmethane	V	(406–453)	75.2	421	A	[1987STE/MAL]
C ₁₅ H ₁₅ ClN ₂ O ₂	[1982-47-4]	3-[4-[4-chlorophenoxy]phenyl]-1,1-dimethylurea	FUS		34.87	425.8	DSC	[1991ACR, 1990DON/DRE]
C ₁₅ H ₁₅ ClN ₂ O ₂	[556836-79-4]	4-chloro-2'-hydroxy-4'-propoxyazobenzene	FUS		29.8	371	DSC	[2003PAJ/ROS]
C ₁₅ H ₁₅ ClO ₅	[111171-33-6]	8-(hydroxymethyl)-6-chloro-5,7-dimethyl-2-oxo-2 <i>H</i> -1-benzopyran-3-carboxylic acid, ethyl ester	TRS		3.59	446.5		
			FUS		25.08	456.4	DSC	[1992HUA/ZHO2]
C ₁₅ H ₁₅ F ₁₇ O	[1240205-61-1]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-10-(pentyloxy)decane	FUS		36.82	253.8	DSC	[2010ZAG/CON]
C ₁₅ H ₁₅ N	[1484-10-2]	<i>N</i> -propylcarbazole	FUS		19.57	320.4	DSC	[2016STA/KEI]
			V	(324–371)	87.8 ± 0.4	298	GS	[2015EME/VAR]
C ₁₅ H ₁₅ N	[1484-09-9]	<i>N</i> -isopropylcarbazole	FUS		18.26	393.9	DSC	[2016STA/KEI]
			TRS		0.64	137.5	DSC	[1986BER/COL]
			TRS		0.38	180		
			FUS		17.73	395.2	DSC	[1991ACR, 1990KAL/DRE]
			SUB	(340–375)	97.7 ± 1.0	298	GS	[2015EME/VAR]
C ₁₅ H ₁₅ NO	[954-21-2]	<i>N</i> -methyl diphenylacetamide	FUS		30.23	439.8	DSC	[1990DON/DRE]
C ₁₅ H ₁₅ NO	[1404112-28-2]	<i>N</i> -(4'-methylbiphenyl-3-yl)acetamide	FUS		29.0	422.4	DSC	[2015OWU/CHE]
C ₁₅ H ₁₅ NO	[1215-21-0]	<i>N</i> -(4'-methylbiphenyl-4-yl)acetamide	FUS		28.9	498.3	DSC	[2015OWU/CHE]
C ₁₅ H ₁₅ NO ₂	[61-68-7]	2-[(2,3-dimethylphenyl)amino]benzoic acid (mefenamic acid)	FUS		41.5	503.2	DSC	[2015GAU/VAN]
			FUS		U71.2	503.1	DSC	[2010DOM/POB]
			FUS		38.24	502.0	DSC	[2010AVU/ALE]
			FUS		38.7	503.5	DSC	[2009SUR/TER, 2010SUR/PER, 2015SUR/SIM]
			TRS		18.1	463.2		
			FUS		38.25	503.6	DSC	[2004ROM/BUS]
			FUS		38.2	503.6	DSC	[1999ROM/ESC]
			SUB	(357–398)	132.7 ± 0.8	377	GS	[2009SUR/TER]
			SUB	(357–398)	136.3 ± 0.8	298	GS	[2009SUR/TER, 2009SUR/PER]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₅ H ₁₅ NO ₃	[24033-07-6]	2-methoxy-4-[(4-methoxyphenyl)imino]methylphenol					
	FUS			18.53	408	DSC	[2008SIN/DAS]
C ₁₅ H ₁₅ N ₃ O ₂	[2832-40-8]	<i>N</i> -[4-[(2-hydroxy-5-methylphenyl)azo]phenyl]acetamide (Disperse Yellow 3)					
	SUB	(403–465)		107	434	GS	[1989NIS/AND]
	SUB			140.6			[1968TSU/KOJ, 1988BAU/PER]
C ₁₅ H ₁₅ N ₃ O ₃	[191979-02-9]	6-(acetylamino)-2-cyano-1(2 <i>H</i>)-quinoliniccarboxylic acid, ethyl ester					
	FUS			35.02	441.2	DSC	[2005LIZ/ZAB]
C ₁₅ H ₁₅ N ₃ O ₄	[191979-19-8]	2-cyano-6-nitro-1(2 <i>H</i>)-quinoliniccarboxylic acid, butyl ester					
	FUS			25.16	359.1	DSC	[2005LIZ/ZAB]
C ₁₅ H ₁₅ N ₃ O ₄	[191979-23-4]	2-cyano-6-nitro-1(2 <i>H</i>)-quinoliniccarboxylic acid, 2-methylpropyl ester					
	FUS			28.26	388.8	DSC	[2005LIZ/ZAB]
C ₁₅ H ₁₆	[1335-47-3]	Ditolylmethane					
	V	(573–673)		51.8	588		[1964MAN]
	V			63.0			[1958MAT/GEL]
C ₁₅ H ₁₆	[1530-03-6]	1,1-diphenylpropane					
	V	(298–343)		71.4 ± 0.4	321	GS	[1999VER5]
	V	(298–343)		72.8 ± 0.4	298	GS	[1999VER5]
C ₁₅ H ₁₆	[1081-75-0]	1,3-diphenylpropane					
	V	(342–577)		61.5	357	A	[1987STE/MAL, 1959GIL/TOM]
C ₁₅ H ₁₆	[20282-30-8]	3-isopropylbiphenyl					
	V			74.3 ± 0.4	323	C	[2015PAS/MIR]
	V			73.2 ± 0.5	333	C	[2015PAS/MIR]
	V			72.4 ± 0.5	343	C	[2015PAS/MIR]
	V			71.6 ± 0.5	353	C	[2015PAS/MIR]
	V			70.3 ± 0.5	363	C	[2015PAS/MIR]
	V			69.5 ± 0.5	373	C	[2015PAS/MIR]
	V	(434–574)		79.0 ± 0.1	298	EB	[2012NAZ/NES]
	V	(303–358)		76.4 ± 0.8	298	GS	[2012NAZ/NES]
	V	(323–372)		76.6 ± 0.5	298	C	[2012NAZ/NES]
C ₁₅ H ₁₆ N ₂ O	[611-92-7]	<i>N,N'</i> -dimethyl- <i>N,N'</i> -diphenylurea (methyl centralite)					
	FUS			33.47	395.05	DSC	[2010MEK/KHI, 2013TRA/KHI]
C ₁₅ H ₁₆ N ₂ O ₂	[12771-68-5]	α -cyclopropyl- α -(4-methoxyphenyl)-5-pyrimidinemethanol					
	FUS			26.63	383.1	DSC	[1990DON/DRE]
C ₁₅ H ₁₆ N ₂ O ₂	[191979-21-2]	2-cyano'-1(2 <i>H</i>)-quinoliniccarboxylic acid, isobutyl ester					
	FUS			22.5	347.5	DSC	[2005LIZ/ZAB]
C ₁₅ H ₁₆ N ₂ O ₂ S	[6601-00-9]	<i>N,N'</i> -bis(3-methoxyphenyl)thiourea					
	FUS			43.83	405.2	DSC	[2002ABB/WOH]
C ₁₅ H ₁₆ N ₂ O ₃	[16460-28-9]	<i>N,N'</i> -bis(3-methoxyphenyl)urea					
	FUS			36.76	443.2	DSC	[2002ABB/WOH]
C ₁₅ H ₁₆ N ₂ O ₂	[191979-07-4]	2-cyano-6-methoxy-1(2 <i>H</i>)-quinoliniccarboxylic acid, propyl ester					
	FUS			15.6	339.9	DSC	[2005LIZ/ZAB]
C ₁₅ H ₁₆ N ₄ O	[1632026-76-6]	4-phenyl-1-(1,1-dimethylethyl)-6,7-dihydro-1 <i>H</i> -pyrazol[3,4 <i>d</i>]pyridazin-7-one					
	FUS			26.3	446	DSC	[2013FRI/VIL]
C ₁₅ H ₁₆ N ₄ O ₂	[4313-14-8]	3-methyl-3'-nitro-4, <i>N,N</i> -dimethylaminoazobenzene					
	SUB	(368–393)		101.7 ± 1.7	381	ME	[1967GRE/JON]
	SUB	(370–388)		98.7 ± 2.5	379	TE	[1967GRE/JON]
	V	(370–388)		98.6	379	A	[1987STE/MAL]
C ₁₅ H ₁₆ N ₄ O ₂	[92114-99-3]	3-methyl-4'-nitro-4, <i>N,N</i> -dimethylaminoazobenzene					
	SUB	(369–392)		125.5 ± 1.3	381	TE	[1967GRE/JON, 1987STE/MAL]
	SUB	(371–390)		126.4 ± 3.8	381	ME	[1967GRE/JON]
C ₁₅ H ₁₆ N ₄ O ₆	[74734-24-0]	2,4-bis(2-oxo-3-oxazolidin-3-ylcarbonylamino)toluene					
	FUS			5.2	479.5	DSC	[1990SHI/HAY]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
C ₁₅ H ₁₆ O	[885-77-8]	di-(4-tolyl)methanol	(413–478)	81.7	428	A	[1987STE/MAL]	
V								
C ₁₅ H ₁₆ O	[26370-27-4]	1'-isovaleronaphthone	(409–593)	76.2	424	A	[1987STE/MAL, 1947STU]	
V								
C ₁₅ H ₁₆ O	[599-64-4]	4-(1-methyl-1-phenylmethyl)phenol (<i>p</i> - α -cumylphenol)	FUS	22.8	346.2	DSC	[1998JAM/PAL]	
FUS				21.68	346.4	AC	[1996DOM/HEA, 1957MAS]	
C ₁₅ H ₁₆ O ₂	[80-05-7]	2,2-bis(4-hydroxyphenyl)propane (bisphenol A)	FUS	31.6	431.2	DSC	[2014COS/DAV]	
FUS				30.1	433		[1996DOM/HEA, 1985NOV/TSV]	
SUB		(370–394)		137.9 ± 0.7	298	ME	[2014DAV/HER, 2014COS/DAV]	
V		(466–634)		102.2	481	A	[1987STE/MAL, 1947STU]	
C ₁₅ H ₁₆ O ₂	[2235-01-0]	Dimethoxydiphenylmethane	FUS	27.8	380	DSC	[1998VER/PEN]	
SUB				103.9 ± 1.7	298		[1998VER/PEN]	
C ₁₅ H ₁₆ O ₃	FUS	Methyl 2-(6-methoxy-2-naphthyl)propionate		28.1	367.7	DSC	[1994WEB/MEY]	
C ₁₅ H ₁₆ S ₂	[14252-46-1]	2,2-bis(phenylthio)propane	FUS	24.4	329		[1997STE/CHI]	
C ₁₅ H ₁₇ Br ₂ NO ₂	[1689-99-2]	3,5-dibromo-4-hydroxybenzonitrile octanoyl ester	FUS	26.49	318.3	DSC	[1990DON/DRE]	
C ₁₅ H ₁₇ ClN ₂ O ₂	[33083-17-9]	(<i>RS</i>)-1-(4-chlorophenoxy)-1-imidazol-1-yl-3,3-dimethyl-2-butanone	FUS	29.0	372.0	DSC	[2014KIM/LIM]	
C ₁₅ H ₁₇ ClN ₄	[88671-89-0]	α -butyl- α -(4-chlorophenyl)-1 <i>H</i> -1,2,4-triazole-1-propanenitrile (myclobutanil)	FUS	30.93	348.8		[2005SUN/LIU2]	
C ₁₅ H ₁₇ NO ₂	[16112-55-3]	<i>N</i> -(2-hydroxy-3-phenoxypropyl)phenylamine	SUB	113.9	328	A,ME	[1987STE/MAL, 1976KUZ/MIR]	
SUB				113.8 ± 2.1		ME	[1976KUZ/MIR]	
V		(343–373)		99.9	358	A,ME	[1987STE/MAL, 1976KUZ/MIR]	
C ₁₅ H ₁₇ NO ₂ S	[923767-70-8]	<i>N</i> -(2,6-dimethylphenyl)-3-methylbenzenesulfonamide	FUS (I)	15.91	394.0			
FUS (II)				25.79	397.5	DSC	[2010SAN/SAR]	
C ₁₅ H ₁₈	[86-89-5]	1-pentylnaphthalene	V	(415–535)	62.7	430	A	[1987STE/MAL]
C ₁₅ H ₁₈ Cl ₂ N ₂ O ₃	[19666-30-9]	3-[2,4-dichloro-5-(1-methyletheroxy)phenyl]-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3 <i>H</i>)-one	FUS	26.39	360.6	DSC	[1990DON/DRE]	
C ₁₅ H ₁₈ N ₂	[101-72-4]	4-isopropylaminodiphenylamine	SUB	(323–348)	120.7	335	GS	[1971FEL/KUZ]
C ₁₅ H ₁₈ N ₂ O	[102518-79-6]	5-amino-11-ethylidene-5,6,9,10-tetrahydro-7-methyl-5,9-methanocycloocta[<i>b</i>]pyridin-2(<i>l,H</i>)-one	FUS (II)		19.5	505.6		
FUS (III)					22.3	497.8	DSC	[2013ZHA/LU]
C ₁₅ H ₁₈ N ₂ O ₆	[485-31-4]	2- <i>sec</i> -butyl-4,6-dinitrophenyl 3-methylcrotonate	FUS		18.89	341.3	DSC	[1990DON/DRE]
C ₁₅ H ₁₈ O	[20490-22-6]	2,4,6-triallylphenol	V	(423–571)	61.0	438	A	[1987STE/MAL]
C ₁₅ H ₁₈ O	[5737-13-3]	4 <i>H</i> -cyclopenta[def]phenanthren-4-one	FUS		16.3	443.9	DSC	[2010KES/AUC]
C ₁₅ H ₁₉ BrN ₂ S	[1383254-31-6]	<i>N</i> -(4-bromophenyl)-1-thia-3-azaspiro[5.5]undec-2-en-2-amine	FUS		44.3	448.3	DSC	[2012BLO/OLK]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References	
<chem>C15H19ClN2S</chem>	[1383254-32-7]	SUB	(374–411)	139.9 ± 1.6	392	GS	[2012OLK/SHA]	
		V		112.1	298	Sub-Fus	[2012OLK/SHA]	
	[1383254-32-7]	FUS		41.9	435.7	DSC	[2012BLO/OLK]	
		SUB	(369–403)	137.3 ± 1.5	436	GS	[2012OLK/SHA]	
<chem>C15H19Cl3O3</chem>	[1928-41-2]	V	(460–573)	92.3	475	A,GC	[1987STE/MAL, 1966JEN/SCH]	
		TRS		2.07	312			
<chem>C15H19N3O8</chem>	[53848-88-7]	FUS		29.16	396.7	DSC	[1974WAR/WIL]	
		V	(460–573)	88.3	475	A,GC	[1987STE/MAL, 1966JEN/SCH]	
		V	(460–573)	81.9	516	GC	[1966JEN/SCH]	
<chem>C15H20Cl2O3</chem>	[1917-96-0]	V	(460–573)	77.3	475	A,GC	[1987STE/MAL, 1966JEN/SCH]	
		V	(460–573)	75.9	516	GC	[1966JEN/SCH]	
		V	(460–573)	2.4-dichlorophenoxyacetic acid, 1-propylbutyl ester				
<chem>C15H20Cl2O4</chem>	[3966-11-8]	V	(443–573)	82.5	458	A	[1987STE/MAL]	
		V	(460–573)	41.08	457	DSC	[1982MAR/MIR]	
<chem>C15H20N2O4S</chem>	[968-81-0]	FUS		41.08				
		SUB	(342–369)	123.2 ± 2.0	356	GS	[2012OLK/SHA]	
		V		109.2	298	Sub-Fus	[2012OLK/SHA]	
<chem>C15H20N2S</chem>	[1383254-23-6]	FUS	N-phenyl-1-thia-3-azaspiro[5.5]undec-2-en-2-amine	21.6	386.5	DSC	[2012BLO/OLK, 2012OLK/SHA]	
		SUB	(359–389)	123.2 ± 2.0	356	GS	[2012OLK/SHA]	
		V	(359–389)	109.2	298	Sub-Fus	[2012OLK/SHA]	
<chem>C15H20N2S</chem>	[1583299-20-0]	FUS	(4-ethylphenyl)-[3-thia-1-azabicyclo[3.3.1]non-2-ylidene]amine	16.4	394.6	DSC	[2014BLO/OLK]	
		SUB	(359–389)	98.2 ± 1.0	374	GS	[2014BLO/OLK]	
		SUB	(359–389)	101.9 ± 1.0	298	GS	[2014BLO/OLK]	
<chem>C15H20N4O4</chem>	[31167-32-5]	FUS	1,1'-(1,5-pentanediyl)bisthymine	32.03	524	DSC	[2002ITA/KAM]	
<chem>C15H20O2</chem>	[546-43-0]	V	Helenine, alantolactone	112.7	445	A	[1987STE/MAL]	
<chem>C15H21NO</chem>	[13430-30-3]	FUS	2-methyl-1-phenyl-2-N-piperidinyl-1-propanone	16.74	310.2		[1994BEC/RUE]	
		SUB		94.8 ± 1.3		B	[1994WEL/VER]	
<chem>C15H21NO2</chem>	[57-42-1]	FUS	1-methyl-4-phenylpiperidine-4-carboxylic acid ethyl ester (meperidine)	24.6	308.2	DSC	[1988ROY/FLY]	
<chem>C15H21NO4</chem>	[57837-19-1]	FUS	Methyl N-(2-methoxyacetyl)-n-(2,6-xylyl)-(dl)-alaninate	26.46	345.5	DSC	[1990DON/DRE]	
<chem>C15H21N3O3S</chem>	[21187-98-4]	FUS	<i>N</i> -(4-methylbenzenesulfonyl)- <i>N'</i> -[3-azabicyclo(3.3.0)oct-3-yl]urea (gliclazide)	44.2	444.6	DSC	[2006WAS/HOL]	
<chem>C15H22</chem>	[26460-76-4]	SUB	1-methyldiamantane	(310–333)	80.7 ± 0.4	321	TSGC	[1975CLA/KNO]
<chem>C15H22</chem>	[30545-28-9]	SUB	3-methyldiamantane	(305–327)	103.1 ± 1.0	316	TSGC	[1975CLA/KNO]
<chem>C15H22</chem>	[28375-86-2]		4-methyldiamantane					

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
$\text{C}_{15}\text{H}_{22}\text{ClNO}_2$	[51218-45-2]	SUB	(310–333)	79.4 ± 1.25	321	TSGC	[1975CLA/KNO]	
		FUS		17.0	299	DSC	[2005SBI/VEC]	
	V			70 ± 1	436	TGA	[2007VEC]	
$\text{C}_{15}\text{H}_{22}\text{N}_2\text{O}$	[24358-84-7]	FUS	N -(2,6-dimethylphenyl)-1-methyl-2-piperidinecarboxamide	17.77	426.2	DSC	[1997NEM/ACS]	
$\text{C}_{15}\text{H}_{22}\text{N}_2\text{O}_2$	[5124-30-1]		Dicyclohexylmethane-4,4'-diisocyanate	(326–404)	80.4	341	A	[1987STE/MAL]
$\text{C}_{15}\text{H}_{22}\text{N}_2\text{O}_4$	[92700-71-5]	FUS	Octyl N -(4-nitrophenyl) carbamate	38.85	383.6	DSC	[1993TIE/FRA]	
$\text{C}_{15}\text{H}_{22}\text{N}_2\text{O}_5$	[138517-11-0]		(4-nitrophenyl)-8-hydroxyoctyl carbamate	44.07	386.9	DSC	[1993TIE/FRA]	
$\text{C}_{15}\text{H}_{22}\text{O}_2$	[16225-26-6]	SUB	3,5-di- <i>tert</i> -butylbenzoic acid	(339–357)	108.4 ± 4.2	348	ME	[1974ROU/TUR, 1987STE/MAL, 1977PED/RYL]
$\text{C}_{15}\text{H}_{22}\text{O}_2$	[37942-07-7]		3,5-di- <i>tert</i> -butyl-2-hydroxybenzaldehyde	(296–312)	95.7 ± 0.5	304	ME	[2010RIB/GON]
$\text{C}_{15}\text{H}_{22}\text{O}_2$	SUB	(296–312)	96.0 ± 0.5	298	ME	[2010RIB/GON]		
	[3575-31-3]	4-octylbenzoic acid						
	SUB (I)	(357–365)	134.7 ± 1.5	298	ME	[2004MON/ALM]		
$\text{C}_{15}\text{H}_{22}\text{O}_3$	SUB (II)	(367–372)	135.4 ± 1.3	298	ME	[2004MON/ALM]		
	[79785-45-8]	FUS	3-octyloxybenzoic acid	33.12	347.1	DSC	[2001LAI/LEE]	
	SUB							
$\text{C}_{15}\text{H}_{22}\text{O}_3$	SUB	(363–372)	141.1 ± 0.9	368	ME	[2010FON/SAN]		
	SUB (II)	(363–372)	161.4 ± 1.2	298	ME	[2010FON/SAN]		
	SUB		163.0 ± 1.2	298		[2010RIB/FER3]		
$\text{C}_{15}\text{H}_{22}\text{O}_3$	[19715-19-6]	3,5-di- <i>tert</i> -butylsalicylic acid	22.92	437.5	DSC	[2003YU/TAN]		
	FUS				DSC	[2003YU/TAN]		
$\text{C}_{15}\text{H}_{22}\text{O}_5$	SUB		83.9 ± 2.6					
	[63968-64-9]	Octahydro-3,6,9-trimethyl-3,12-epoxy-12 <i>H</i> -pyran[4,3- <i>j</i>]-1,2-benzodioxepin-10(3 <i>H</i>)-one (artemisinine)	21.0	424.6				
	FUS							
	(orthorhombic)							
	FUS (triclinic)		19.9	427.1	DSC	[2014HOR/SEI]		
$\text{C}_{15}\text{H}_{23}\text{NO}_2$	FUS (I)		22.8	428.2				
	FUS (II)		23.41	428.1	DSC	[1997CHA/YUE]		
$\text{C}_{15}\text{H}_{23}\text{NO}_2$	[23846-72-2]	(+)-1-(<i>o</i> -allylphenoxy)-3-(isopropylamino)-2-propanol (alprenolol)	23.78	298.5	DSC	[1999LI/ZEL]		
$\text{C}_{15}\text{H}_{23}\text{NO}_2$	[13655-52-2]	(±)-1-(<i>o</i> -allylphenoxy)-3-(isopropylamino)-2-propanol (alprenolol)	35.61	331.2	DSC	[1999LI/ZEL]		
$\text{C}_{15}\text{H}_{23}\text{N}_3\text{O}_2$	[135742-55-1]	<i>N</i> -capryl-pyrazinamide	50.58	360.5	DSC	[1991LIU/GUO]		
$\text{C}_{15}\text{H}_{23}\text{N}_3\text{O}_4\text{S}$	[23672-07-3]	(−)- <i>N</i> -1-(ethylpyrrolidin-2-ylmethyl)-2-methoxy-5-sulfamoylbenzamide (sulpiride)	42.01	459.5		[1999LI/ZEL, 1987PIT/VAL]		
$\text{C}_{15}\text{H}_{23}\text{N}_3\text{O}_4\text{S}$	[15676-16-1]	(±)- <i>N</i> -1-(ethylpyrrolidin-2-ylmethyl)-2-methoxy-5-sulfamoylbenzamide (sulpiride)	46.15	451	DSC	[1999LI/ZEL, 1987PIT/VAL]		
$\text{C}_{15}\text{H}_{24}$	[1081-77-2]	Nonylbenzene						
	V	(304–466)	74.1 ± 0.5	298	MM	[1998MOK/RAU, 2006VER/KOZ]		
	V	(316–415)	69.7	331	GS	[1986ALL/JOS]		
	V		74.8	298		[1971WIL/ZWO]		

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₅ H ₂₄	[717-74-8]	1,3,5-triisopropylbenzene					
		V	(283–323)	64.3 ± 0.3	303	GS	[1998VER7]
		V	(283–323)	64.6 ± 0.6	298	GS	[1998VER7]
		V	(282–388)	67.4	297		[1993KAS/MOK]
C ₁₅ H ₂₄	[15181-11-0]	1,3-di- <i>tert</i> -butyl-5-methylbenzene					
		SUB	(275–301)	82.4 ± 0.5	288	T	[1998VER]
		SUB	(275–301)	81.8 ± 0.5	298	T	[1998VER]
		V	(309–338)	61.8 ± 0.9	310	GS	[1998VER]
		V	(309–338)	63.3 ± 0.9	298	GS	[1998VER]
C ₁₅ H ₂₄	[18794-84-8]	(E)-β-farnesene					
	V		(363–473)	72.5	298	GC	[2005HOS/GRY]
C ₁₅ H ₂₄	[87-44-5]	β-caryophyllene					
	V		(363–463)	65.5	298	GC	[2005HOS/GRY]
C ₁₅ H ₂₄ N ₂ O ₃	[490-98-2]	4-(butylamino)-2-hydroxybenzoic acid, 2-(dimethylamino)ethyl ester (salicaine)					
	FUS			26.8	319.4	DSC	[2006SCH/SCH]
C ₁₅ H ₂₄ O	[497-39-2]	2,4-di- <i>tert</i> -butyl-5-methylphenol					
	V		(376–555)	67.0	391	A	[1987STE/MAL, 1947STU]
C ₁₅ H ₂₄ O	[616-55-7]	2,4-di- <i>tert</i> -butyl-6-methylphenol					
	V		(359–543)	59.8	374	A	[1987STE/MAL]
C ₁₅ H ₂₄ O	[128-37-0]	2,6-di- <i>tert</i> -butyl-4-methylphenol					
		FUS		19.08	345.0	DSC	[2010PAR/LEE]
		FUS		19.85	341.7	DSC	[1999VER]
		FUS		23.85	343.7	DTA	[1972INO/LIA]
		SUB		91.9 ± 3.2	298	C	[2001RIB/MAT]
		SUB	(298–338)	86.8 ± 0.8	319	GS	[1999VER]
		SUB	(298–338)	88.0 ± 0.8	298	GS	[1999VER]
		SUB	(303–343)	87.8	318	GS	[1987STE/MAL, 1971FEL/KUZ]
		SUB		U117.3	298	C	[1971BER/GIR, 1999VER]
		V	(303–343)	87.8	318	A	[1987STE/MAL]
		V	(358–536)	61.5	373	A	[1987STE/MAL, 1947STU]
C ₁₅ H ₂₄ O	[2219-84-3]	2-methyl-4-(1,1,3,3-tetramethylbutyl)phenol					
	V		(447–683)	67.1	462	A	[1987STE/MAL]
C ₁₅ H ₂₄ O	[2219-84-3]	3-methyl-4-(1,1,3,3-tetramethylbutyl)phenol					
	V		(436–549)	65.5	451	A	[1987STE/MAL]
C ₁₅ H ₂₄ O	[4979-46-8]	4-methyl-2-(1,1,3,3-tetramethylbutyl)phenol					
	V		(415–545)	65.0	430	A	[1987STE/MAL]
C ₁₅ H ₂₄ O	[406944-31-8]	4-(3,6-dimethylheptan-3-yl)phenol					
	V			89.4	298	ME	[2001LAL/SCH]
C ₁₅ H ₂₄ O	[104-40-5]	4-nonylphenol					
	V		(487–595)	65.0	502	A,EB	[1987STE/MAL, 1976HON/SIN]
C ₁₅ H ₂₄ O	[115-71-9]	α-santalol					
	V		(293–450)	58.3	308	A	[1987STE/MAL]
C ₁₅ H ₂₄ O ₂	[1991-52-2]	2,5-di- <i>tert</i> -butyl-4-methoxyphenol					
		FUS		26.9	374.4		[1972ALV/BOR]
	V		(423–453)	64.4	438	A	[1987STE/MAL]
C ₁₅ H ₂₄ O ₂	[6121-64-8]	1,3-dimethoxy-5-heptylbenzene					
	V		(419–488)	75.5	434	A,GC	[1987STE/MAL, 1975KUN/LIL]
C ₁₅ H ₂₄ O ₂	[41442-51-7]	1,3-dimethoxy-5-methyl-2-hexylbenzene					
	V		(410–475)	72.3	425	A,GC	[1987STE/MAL, 1975KUN/LIL]
C ₁₅ H ₂₄ O ₄	[1152-57-4]	Dicyclohexyl malonate					

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(324–353)	93.7 ± 1.1	298	GS	[2008LIP/KRA]
C ₁₅ H ₂₄ O ₆	[64617-28-3]	Aconitic acid, tripropyl ester				
	V	(359–500)	72.3	374	A	[1987STE/MAL, 1953MAG/MOD]
C ₁₅ H ₂₆ O	[489-86-1]	Guaiol				
	V	(373–561)	62.2	388	A	[1987STE/MAL]
C ₁₅ H ₂₆ O ₆		Camphorenic acid, triethyl ester				
	V	(423–574)	69.0	438	A	[1987STE/MAL, 1947STU]
C ₁₅ H ₂₆ O ₆	[5333-54-0]	Tripropyl 1,2,3-propanetricarboxylate				
	V	(360–460)	76.5	375	A	[1987STE/MAL, 1953MAG/MOD]
C ₁₅ H ₂₆ O ₆	[60-01-5]	Tributyrin				
	V	(324–354)	98.5 ± 0.4	298	GS	[2010MAS/KRA]
	V		83.5	308	TGA	[1990KIS/SHO]
	V		84.9 ± 2.5	298	TGA	[1990KIS/SHO]
	V	(318–364)	81.4	333	A	[1987STE/MAL, 1949PER/WEB2]
	V		107.1 ± 1.0	298	C	[1986NIL/WAD]
	V	(318–364)	88.2	298	T	[2010MAS/KRA, 1949PER/WEB2]
C ₁₅ H ₂₆ O ₆	[14295-64-8]	Glycerol tri(2-methypropanoate)				
	V	(329–371)	95.3 ± 0.6	298	GS	[2010MAS/KRA]
C ₁₅ H ₂₈ Cl ₄	[3922-32-5]	1,1,1,15-tetrachloropentadecane				
	V	(340–392)	103.5	355	A	[1987STE/MAL, 1960MAL/MAL]
C ₁₅ H ₂₈ O	[1604-35-9]	3,7,11-trimethyl-1-dodecyn-3-ol				
	V	(401–524)	43.2 ± 1.1	463	Static	[1988BAG/GUR, 1986WHI]
C ₁₅ H ₂₈ O	[502-72-7]	Cyclopentadecanone				
	FUS		8.8	338.4	DSC	[1997JIM/ROU]
	SUB	(296–315)	86.0 ± 0.6	305	ME	[1938WOL/WEG, 1960JON] [1997JIM/ROU]
	SUB		77.4 ± 0.8			[1970COX/PIL]
C ₁₅ H ₂₈ O ₂	[2156-97-0]	Dodecyl acrylate				
	V	(432–573)	64.6	447	A	[1987STE/MAL]
C ₁₅ H ₂₈ O ₂	[106-02-5]	1,15-pentadecanolide				
	FUS		7.0	309.5	DSC	[2011EME/VER]
	SUB		85.9 ± 0.5	298	V + F	[2011EME/VER]
	SUB	(290–310)	81.3	300	ME	[1987STE/MAL, 1960JON, 1954SER/VOI]
	V	(318–378)	77.3	318	GS	[2011EME/VER]
	V	(318–378)	74.6	348	GS	[2011EME/VER]
	V	(318–378)	73.2	363	GS	[2011EME/VER]
	V	(318–378)	71.8	378	GS	[2011EME/VER]
	V	(318–378)	79.1 ± 0.5	298	GS	[2011EME/VER]
	V	(363–443)	78.2	378	A	[1987STE/MAL]
	V	(310–320)	74.2	315	A,ME	[1987STE/MAL, 1954SER/VOI]
C ₁₅ H ₂₈ O ₂	[65954-19-0]	(Z)-4-tridecenyl acetate				
	V		82.7 ± 5.5	298	CGC	[2016GOO/HAS]
C ₁₅ H ₂₈ O ₂	[34270-22-9]	(Z)-7-tridecenyl acetate				
	V	(343–388)	84.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₅ H ₂₈ O ₂	[56577-30-1]	(E)-7-tridecenyl acetate				
	V	(343–388)	84.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₅ H ₂₈ O ₂	[35835-78-0]	(Z)-9-tridecenyl acetate				
	V	(343–388)	85.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₅ H ₂₈ O ₂	[52957-19-4]	(E)-9-tridecenyl acetate				
	V	(343–388)	85.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₅ H ₂₈ O ₂	[33951-95-0]	(Z)-11-tridecenyl acetate				

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(343–388)	86.4	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₅ H ₂₈ O ₂	[56195-36-9]	(E)-11-tridecenyl acetate				
	V	(343–388)	86.4	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₅ H ₂₈ O ₂	[56219-06-8]	Methyl Z 9-tetradecenoate				
	V		87.1 ± 0.7	298	CGC	[2007LIP/KAP]
C ₁₅ H ₂₈ O ₂	[106-02-5]	Pentadecanolactone				
	TRS		27.3	283		
	FUS	(10–370)	6.99	308.5	AC	[1984DOM/EVA, 1981LEB/YEV]
C ₁₅ H ₂₈ O ₃	[37826-51-0]	Decyl levulinate				
	V	(423–580)	76.1	438	A	[1987STE/MAL]
	V		72.0	524		[1933COW/SCH]
C ₁₅ H ₂₈ O ₃	[6707-60-4]	1,6-dioxa-7-cycloheptadecanone				
	V	(403–463)	75.9	418	A	[1987STE/MAL]
C ₁₅ H ₂₈ O ₅	[1085702-05-1]	Decyl[1-(methoxycarbonyl)ethyl]carbonate				
	V	(411–592)	73.8	426	A	[1987STE/MAL, 1950REH/DIX2]
C ₁₅ H ₂₉ N	[2570-26-5]	Pentadecanenitrile				
	V	(336–372)	88.1 ± 0.3	298	GS	[2005EME/VER]
	V	(403–596)	75.5	418	A	[1987STE/MAL]
C ₁₅ H ₂₉ NO ₃		2-[2-ethyl(hexanoyloxy)]propionic acid, butylamide				
	V	(378–433)	81.0	393	A	[1987STE/MAL]
C ₁₅ H ₂₉ NO ₃	[22220-07-1]	<i>N</i> -decanoyl-(<i>L</i>)-valine				
	TRS		21.3	378.1		
	FUS		15.4	380.6	DSC	[1986MIY/MAT]
C ₁₅ H ₂₉ NO ₃	[83871-16-3]	<i>N</i> -decanoyl-(<i>DL</i>)-valine				
	FUS		63.1	358.1	DSC	[1986MIY/MAT]
C ₁₅ H ₂₉ NO ₃		<i>N</i> -dodecanoyl-(<i>L</i>)-alanine				
	FUS		37.6	356.1	DSC	[1986MIY/MAT]
C ₁₅ H ₂₉ NO ₃	[19184-57-7]	<i>N</i> -(1-oxotridecyl)glycine				
	TRS + FUS		35.9	390.5	DSC	[2014RED/KRO]
C ₁₅ H ₃₀	[1795-21-7]	Decylcyclopentane				
	FUS	(11–321)	33.14	251	AC	[1996DOM/HEA, 1965MES/TOD]
	V	(358–411)	71.1	373	A	[1987STE/MAL]
	V		75.7	298		[1971WIL/ZWO]
	V	(453–553)	59.7	468	A,MM	[1987STE/MAL, 1954CAM/FOR]
C ₁₅ H ₃₀	[2883-02-5]	Nonylcyclohexane				
	V		74.7	298		[1971WIL/ZWO]
C ₁₅ H ₃₀	[13360-61-7]	1-pentadecene				
	V	(375–407)	65.2	390	A	[1987STE/MAL]
	V	(423–658)	53.2	570		[1975AMB/ELL]
	V		75.1	298		[1971WIL/ZWO]
	V	(443–543)	59.3	458	A	[1987STE/MAL, 1955CAM/ROS]
C ₁₅ H ₃₀	[295-48-7]	Cyclopentadecane				
	TRS		8.5	210.1		
	FUS		8.5	336.6	DSC	[1987DRO/MOL, 1987DRO/EME]
	SUB		74.6 ± 0.4			[1957VAN, 1970COX/PIL]
C ₁₅ H ₃₀ N ₃ PS ₆	[69267-80-7]	Phosphorus-tris(<i>N,N</i> -diethyldithiocarbamate)				
	SUB		143 ± 2	298		[1987AIR/DES]
C ₁₅ H ₃₀ O	[56218-94-1]	(<i>Z</i>)-9-pentadecen-1-ol				
	V	(363–403)	105.3	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₅ H ₃₀ O	[64437-40-7]	(<i>E</i>)-9-pentadecen-1-ol				

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_{15}\text{H}_{30}\text{O}$	[64437-42-9]	V	(363–403)	105.9	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
		V	(363–403)	105.9	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
$\text{C}_{15}\text{H}_{30}\text{O}$	[64437-44-1]	(<i>E</i>)-10-pentadecen-1-ol					
		V	(363–403)	106.2	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
$\text{C}_{15}\text{H}_{30}\text{O}$	[69282-63-9]	(<i>Z</i>)-11-pentadecen-1-ol					
		V	(363–403)	106.3	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
$\text{C}_{15}\text{H}_{30}\text{O}$	[69222-14-6]	(<i>E</i>)-11-pentadecen-1-ol					
		V	(363–403)	106.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
$\text{C}_{15}\text{H}_{30}\text{O}$	[158906-50-4]	(<i>Z</i>)-12-pentadecen-1-ol					
		V	(363–403)	106.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
$\text{C}_{15}\text{H}_{30}\text{O}$	[69222-15-7]	(<i>E</i>)-12-pentadecen-1-ol					
		V	(363–403)	107	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
$\text{C}_{15}\text{H}_{30}\text{O}$	[158906-51-5]	(<i>Z</i>)-13-pentadecen-1-ol					
		V	(363–403)	107.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
$\text{C}_{15}\text{H}_{30}\text{O}$	[158906-52-6]	(<i>E</i>)-13-pentadecen-1-ol					
		V	(363–403)	107.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
$\text{C}_{15}\text{H}_{30}\text{O}$	[2345-28-0]	2-pentadecanone					
		FUS		54.39	312.2	DSC	[1996DOM/HEA, 1979SUN/SVE2]
		SUB		139.3 ± 1.6	298	C	[1979SUN/SVE2]
		V	(422–575)	67.8	437	A	[1987STE/MAL]
		V	(559–658)	57.9	574	A	[1987STE/MAL]
		V		85.4 ± 1.7	298	S–F	[1979SUN/SVE2]
$\text{C}_{15}\text{H}_{30}\text{O}$	[818-23-5]	8-pentadecanone					
		V	(443–568)	65.3	458	A	[1987STE/MAL]
		V	(443–589)	65.4	458	A	[1987STE/MAL, 1975AMB/ELL]
		V	(444–590)	53.0	567		[1975AMB/ELL]
		V	(438–462)	61.9	450	A,ME	[1987STE/MAL, 1938UBB]
$\text{C}_{15}\text{H}_{30}\text{O}_2$	[124-10-7]	Methyl tetradecanoate (methyl myristate)					
		FUS		45.72	293.9	DSC	[2016LIS/FAR]
		FUS		50.21	291.6	DSC	[1993ACR, 1991CHI/BRA]
		SUB		137.7 ± 2.1	281	ME	[1965DAV/KYB]
		V	(333–462)	75.9 ± 0.4	398	Static	[2011BEN/KHI]
		V	(333–462)	90.1 ± 0.4	298	Static	[2011BEN/KHI]
		V		79.8	350	CE	[2002VAN/VAN]
		V		76.0 ± 0.2	382	CE	[2002VAN/VAN]
		V		85.9 ± 0.8	298	CE	[2002VAN/VAN]
		V	(393–473)	86.6	298	GC	[1997KRO/VEL]
		V	(453–543)	65.3	498	GC	[1993HUS/SAR]
		V		86.2 ± 1.0	298	GC,C	[1980FUC/PEA]
$\text{C}_{15}\text{H}_{30}\text{O}_2$	[28267-29-0]	87.0 ± 0.9	298	C			[1977MAN/SEL]
		V	(389–519)	75.6	404	A	[1987STE/MAL, 1963ROS/SCH]
		V	(364–417)	77.4	379	MG, OM	[1952SCO/MAC]
		FUS		40.7	272.4	AC	[2005VAN/OON]
		Ethyl tridecanoate					
$\text{C}_{15}\text{H}_{30}\text{O}_2$	[10233-13-3]	Isopropyl dodecanoate					
		V	(305–452)	81.5	320		[2001BUR/JOS]
$\text{C}_{15}\text{H}_{30}\text{O}_2$	[3681-78-5]	Propyl dodecanoate					
		V	(423–483)	84.7	298	GC	[1997KRO/VEL]
		V	(396–479)	66.9	411	A	[1987STE/MAL, 1948BON/ATH, 1984BOU/FRI]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₅ H ₃₀ O ₂	[1072-33-9]	Tridecyl acetate	V	(313–358)	87.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₅ H ₃₀ O ₂	[245658-47-3]	3,3-dimethylbutanoic acid, 1,1,5-trimethylhexyl ester	V	(333–378)	67.4	298	CGC	[1999VER/HEI]
C ₁₅ H ₃₀ O ₂	[1002-84-2]	Pentadecanoic acid	TRS		8.7	319.6		
			FUS		44.8	325	DSC	[2011EGO/MAR]
			TRS		8.2	321.9		
			FUS		40.4	325.5	DSC	[2007GBA/NEG, 2008GBA/NEG, 2009GBA/NEG]
			TRS	(90–345)	8.12	318.7		
			FUS	(90–345)	41.52	325.7	AC	[1996DOM/HEA, 1982SCH/VAN2]
			FUS		46.1	324.9		[1976BER/BER, 1975BER/LEO]
			TRS		7.3	319.3		
			FUS		42.7	325.9		[1964ADR/DEK]
			SUB	(275–293)	144.3		TPTD	[2005CHA/ZIE]
			SUB	(283–305)	178		TPTD	[2001CHA/TOB]
[Note: Experimental values based on the TPTD method are often inconsistent with values determined using other experimental methods.]								
			V		116.6 ± 9.2	298	CGC	[2013WIL/CHI]
			V	(431–613)	94	446	A	[1987STE/MAL]
			V	(347–367)	108.5 ± 2.0	357	ME,TE	[1982DEK/SCH]
C ₁₅ H ₃₀ O ₃	[4617-33-8]	15-hydroxypentadecanoic acid	SUB	(294–316)	103		TPTD	[2005CHA/ZIE]
[Note: Experimental values based on the TPTD method are often inconsistent with values determined using other experimental methods.]								
C ₁₅ H ₃₀ O ₃	[6283-92-7]	Dodecyl lactate	V	(367–583)	80.5	382	A	[1987STE/MAL, 1950REH/DIX]
C ₁₅ H ₃₀ O ₃	[70160-09-7]	Decyl 2-ethoxypropionate	V	(423–523)	69.8	438	A	[1987STE/MAL, 1948DIX/REH]
C ₁₅ H ₃₀ O ₆	[63364-38-5]	3,3,6,6,9,9-tetraethyl-1,2,4,5,7,8-hexaoxacyclononane	V	(403–473)	63.6	298	CGC	[2007CAN/EYL]
C ₁₅ H ₃₁ Br	[629-72-1]	1-bromopentadecane	V	(450–661)	69.5	465	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₅ H ₃₁ Cl	[4862-03-7]	1-chloropentadecane	V		92.6	298		[2006BOL/NER2]
			V	(439–645)	55.4	454	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₅ H ₃₁ F	[1555-17-5]	1-fluoropentadecane	V	(413–593)	63.8	428	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₅ H ₃₁ I	[35599-78-1]	1-iodopentadecane	V	(464–673)	94.6	298	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN, 2006BOL/NER]
			V	(464–673)	70.6	479	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₅ H ₃₁ NO	[7438-09-7]	N-methyl tetradecanamide	SUB	(332–347)	130.4 ± 0.8	340	ME	[1959DAV/JON, 1987STE/MAL]
C ₁₅ H ₃₁ NO ₂	[5468-40-6]	N,N-dihexyl lactamide	V	(418–453)	79.4	433	A	[1987STE/MAL, 1953FEI/FIL]
C ₁₅ H ₃₁ NO ₂	[5422-41-3]	N-dodecyl lactamide	V	(408–476)	103.9	423	A	[1987STE/MAL, 1950RAT]
C ₁₅ H ₃₂	[629-62-9]	Pentadecane	TRS		8.88	269.3		
			FUS		34.62	282.3	DSC	[2015VEL/ORT]
			TRS		9.37	270.5		
			FUS		36.8	282.8	DSC	[2005HUA/SIM]
			TRS		8.7	270.3		

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	FUS			34.2	282.7	DSC	[2004MON/RAJ]
	TRS			9.17	270.9		
	FUS			34.2	282.7	DSC	[1999MET/RAJ]
	TRS			9.17	270.9		
	FUS			34.6	283.1		[1996DOM/HEA, 1954FIN/GRO2]
	SUB			107.8	298	B	[1972MOR3]
	V			72.9	334	C	[1996VIT/CHA]
	V			71.8	344	C	[1996VIT/CHA]
	V	(453–503)		75.7	298	CGC	[1995CHI/HOS]
	V	(423–473)		76.2	298	CGC	[1995CHI/HOS]
	V	(363–413)		76.4	298	CGC	[1995CHI/HOS]
	V			76.8	298		[1994RUZ/MAJ]
	V	(366–409)		67.5	381	A	[1987STE/MAL]
	V	(333–409)		66.4	350	GS	[1986ALL/JOS]
	V			75.4 ± 1.2	298	C	[1979SUN/SVE]
	V			70.8	353	C	[1979SUN/SVE]
	V			68.8	373	C	[1979SUN/SVE]
	V			72.2 ± 1.2	333	C	[1979SUN/SVE]
	V			76.2 ± 0.4	298	C	[1972MOR2]
	V			76.2	298		[1971WIL/ZWO]
	V	(447–546)		59.6	462	A	[1987STE/MAL, 1955CAM/ROS]
	V	(430–464)		61.9	447	ME	[1938UBB]
C ₁₅ H ₃₂	[1560-95-8]	2-methyltetradecane					
	V	(402–537)		58.8	417	A	[1987STE/MAL]
C ₁₅ H ₃₂	[18435-22-8]	3-methyltetradecane					
	V	(403–538)		58.4	418	A	[1987STE/MAL]
C ₁₅ H ₃₂	[25117-24-2]	4-methyltetradecane					
	V	(398–536)		55.9	413	A	[1987STE/MAL]
C ₁₅ H ₃₂	[25117-32-2]	5-methyltetradecane					
	V	(398–535)		56.1	413	A	[1987STE/MAL]
C ₁₅ H ₃₂	[18435-20-6]	2,3-dimethyltridecane					
	V	(399–537)		56.3	414	A	[1987STE/MAL]
C ₁₅ H ₃₂	[61868-05-1]	2,4-dimethyltridecane					
	V	(393–523)		57.9	408	A	[1987STE/MAL]
C ₁₅ H ₃₂	[103387-11-7]	2,4,6-trimethyldodecane					
	V	(382–508)		55.8	397	A	[1987STE/MAL]
C ₁₅ H ₃₂ N ₂ O	[32954-73-7]	1-tetradecyl urea					
	TRS			1.0	227.1		
	TRS			1.7	369.2		
	FUS			50.9	387.4	DSC	[2005HAS/TAJ]
C ₁₅ H ₃₂ O	[629-76-5]	1-pentadecanol					
	FUS			29.6	316.4	DSC	[2004VEN/CAL]
	FUS	(298–380)		53.62	316.9		[2003VAN/VAN]
[Note: The value of 53.62 includes both the enthalpy of fusion as well as the enthalpy of solid-to-solid transition that occurs at 315.4 K.]							
	TRS (β to α)			23.64	316		
	FUS (α)			30.35	316.9		
	FUS (β)			54.73	316.6	AC	[1974MOS/MOU]
	V		103.5 ± 3.3	298	CGC		[2006NIC/KWE]
	V	(319–358)	95.5	339	GS		[2001KUL/VER2]
	V	(319–358)	102.5	298	GS		[2001KUL/VER2]
	V	(353–393)	107.2	298	CGC		[1994KOU/HOS, 2000OVA/KOU]
	V	(343–393)	92.4	368			[1992NGU/KAS]
	V	(438–600)	75.0	453	A		[1987STE/MAL]
	V	(453–584)	72.4	468	A		[1987STE/MAL]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{15}\text{H}_{32}\text{O}_2$	[14722-40-8]	1,15-pentadecanediol	TRS		38.3	349.0		
			FUS		27.0	361.2	DSC	[2014BAD/NOW]
			TRS		33.0	346.2		
			FUS		24.2	364.0	DSC	[2009EGO/MAR]
			TRS		35.1	349.4		
			FUS		23.6	361.4	DSC	[1999OGA/NAK]
		V			124.3 ± 3.8	390	TE	[1994PIA/FER, 2006UMN/KWE]
			V		139.2 ± 4.4	298	TE	[1994PIA/FER, 2006UMN/KWE]
$\text{C}_{15}\text{H}_{32}\text{O}_2\text{S}$	[18023-86-4]	3-(dodecylthio)-1,2-propanediol	TRS		18.1	299		
			FUS		20.3	325.5	DSC	[1993ACR, 1990VAN/VAN]
$\text{C}_{15}\text{H}_{32}\text{O}_3$	[1561-07-5]	3-(dodecyloxy)-1,2-propanediol	FUS		51.4	323	DSC	[1993ACR, 1990VAN/VAN]
$\text{C}_{15}\text{H}_{32}\text{O}_4$	[4161-34-6]	5,5'-[1,5-pentanediylibis(oxy)]bis-1-pentanol	FUS		35.66	302.7	DSC	[1991BED/BOO]
$\text{C}_{15}\text{H}_{32}\text{O}_5$	V	Tetrapropylene glycol monoisopropyl ether	(389-566)		71.5	404	A	[1987STE/MAL, 1947STU]
$\text{C}_{15}\text{H}_{32}\text{O}_5\text{S}_2$	FUS	(<i>L</i>)-arabinose dipentyl dithioacetal			37.3	368	DSC	[1989VAN/VAN]
$\text{C}_{15}\text{H}_{32}\text{S}$	[25276-70-4]	1-pentadecanethiol	V	(459–629)	69.8	474		[1999DYK/SVO]
$\text{C}_{15}\text{H}_{33}\text{N}$	[2570-26-5]	1-aminopentadecane	V	(400–594)	71.2	415	A,E	[1987STE/MAL, 1956MAN2]
$\text{C}_{15}\text{H}_{33}\text{NO}_2$	[821-91-0]	3-(dodecylamino)-1,2-propanediol	FUS		62.1	351.9	DSC	[1993ACR, 1990VAN/VAN]
$\text{C}_{15}\text{H}_{33}\text{O}_4\text{P}$	[2528-38-3]	Tripentyl phosphate	V	(443–473)	92.3	298	CGC	[2007PAN/ANT2]
			V	(443–483)	90.7	298	CGC	[2007PAN/ANT2]
$\text{C}_{15}\text{H}_{33}\text{O}_4\text{P}$	[919-62-0]	Triisopentyl phosphate	V	(453–493)	86.6	298	CGC	[2007PAN/ANT2]
			V	(483–513)	86.5	298	CGC	[2007PAN/ANT2]
$\text{C}_{15}\text{H}_{33}\text{O}_4\text{P}$	[646521-37-1]	Tri- <i>sec</i> -pentyl phosphate	V	(463–493)	80.7	298	CGC	[2007PAN/ANT2]
			V	(453–493)	81.5	298	CGC	[2007PAN/ANT2]
$\text{C}_{15}\text{H}_{33}\text{O}_4\text{P}$	[45241-53-0]	Tri-(2-methylbutyl) phosphate	V	(463–493)	86.1	298	CGC	[2007PAN/ANT2]
			V	(493–523)	86.7	298	CGC	[2007PAN/ANT2]
$\text{C}_{16}\text{F}_{34}$	[355-49-7]	<i>n</i> -perfluorohexadecane	FUS		38.7	399.7	DSC	[2012HAS/DRA]
			FUS		37	401.8	DSC	[1999VIS/TER]
			TRS		3.2	174.6		
			TRS		1.5	183.9		
			FUS		37.3	400.0	DSC	[1994JIN/BOL]
			TRS	(5–320)	0.87	175.5		
			TRS	(5–320)	1.88	177.3		
			TRS	(5–320)	1.16	186.9	AC	[1994LEB/BYK]
			TRS	(5–320)	0.87	175.5		
			TRS	(5–320)	1.88	177.3	AC	[1993LEB/BYK]
			TRS		1.13	176.5		
			TRS		3.01	177.7		
			TRS		1.89	186.7		
			FUS		U 61.09	402.2	DSC	[1986STA]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
<chem>C16H6Br4N2O2</chem>	[2475-31-2]	SUB	(288–303)	104.6	295	ME	[1951BRA/WAG, 1987STE/MAL]
		V		88.4 ± 1.4	298	CGC	[2012HAS/DRA]
<chem>C16H6O7</chem>	[1823-59-2]	SUB	(519–634)	129	577	GS	[1986NIS/AND]
<chem>C16H9Br</chem>	[1714-29-0]	FUS		35.77	501.75	DSC	[2015LI/WAN]
		SUB	1-bromopyrene (321–368)	99.2 ± 4.4		ME	[2008GOL/SUU2]
<chem>C16H9BrN2O2</chem>	[6492-73-5]	SUB	5-bromo-2-(1,3-dihydro-3-oxo-2H-indol-2-ylidene)-1,2-dihydro-3H-indol-3-one(C.I. Vat Blue 3) (519–634)	57.0	577	GS	[1986NIS/AND]
<chem>C16H9Cl</chem>	[34244-14-9]	FUS	1-chloropyrene	11.6	393.3	DSC	[2012FU/SUU]
		SUB	(333–384)	103.2 ± 2.9	358	ME	[2012FU/SUU]
		TRS		0.7	147		
<chem>C16H9F25</chem>	[89109-69-3]	TRS		1.4	314		
		FUS		21.0	349	DSC	[1991HOP/MOL, 1988HOP/PUG]
		TRS		1.4	312.2		
		FUS		20.9	349.2	DSC	[1986RUS/RAB]
		FUS	1-nitropyrene	18.9	425.9	DSC	[2010KES/AUC]
<chem>C16H9NO2</chem>	[5522-43-0]	SUB	(379–408)	125.2 ± 3.8		ME	[2008GOL/SUU]
		FUS	3-nitrofluoranthene	22.6	435.0	DSC	[2010KES/AUC]
<chem>C16H10</chem>	[206-44-0]	FUS	Fluoranthene				
		FUS		19.4	382.5	DSC	[2012MON/NOT]
		FUS		18.2	382.5	DSC	[2011RIC/FU]
		FUS		18.87	381.0	DSC	[1973CAS/VEC]
		FUS	(5–450)	18.74	383.4	AC	[1996DOM/HEA, 1971WON/WES]
		SUB	(297–374)	105.7 ± 1.6	336	GS	[2014ABO/MOK]
		SUB	(297–374)	107.0 ± 3.4	298	GS	[2014ABO/MOK]
		SUB	(349–375)	99.8 ± 0.3	362	ME	[2012MON/NOT]
		SUB	(349–375)	101.5 ± 0.3	298	ME	[2012MON/NOT]
		SUB		96.3 ± 0.9	298	C	[2012MON/NOT]
		SUB	(308–338)	94.2 ± 0.9		ME	[2011RIC/FU]
		SUB	(327–359)	96.9 ± 2.8	343	ME	[2008GOL/SUU3]
		SUB	(313–453)	98.3	383	GS	[1995NAS/LEN]
		SUB	(283–323)	84.6 ± 0.9	303	GS	[1983SON/ZOL]
		SUB		99.2 ± 0.8	298	C	[1972MOR, 1977PED/RYL]
		SUB	(328–353)	102.1 ± 2	340	ME	[1965BOY/CHR, 1970COX/PIL]
		SUB	(298–358)	102.6	328		[1958HOY/PEP]
		V	(384–433)	75.8 ± 1.8	408	GS	[2014ABO/MOK]
		V	(384–433)	81.0 ± 2.1	298	GS	[2014ABO/MOK]
		V	(355–404)	79.7 ± 0.1	380	ME	[2012MON/NOT]
		V	(355–404)	88.4 ± 0.1	298	ME	[2012MON/NOT]
<chem>C16H10</chem>	[129-00-0]	V	(423–493)	86.8 ± 1.3	298	GC	[2005RIB/GOM]
		V	(323–473)	79.3	398	GC	[2002LEI/CHA]
		V	(343–453)	77.4	398	GC	[1990HIN/BID2]
		V	(503–658)	62.2	518	A	[1987STE/MAL, 1955TSY/YA]
		Pyrene					
		FUS		17.4	423.9	DSC	[2015SAN/OLI]
		FUS		16.18	424	DSC	[2010RIC/FU, 2011RIC/FU]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
	FUS			17.4	422.2	DSC	[2004GUP/SIN]
	FUS		(403–433)	16.7	422.4	DSC	[2003ROJ/ORO]
	FUS			17.28	425.4	DSC	[1980KRA/PIG]
	FUS			15.3		DSC	[1972WAU/GET]
	TRS			0.29	120.8		
	FUS		(5–479)	17.36	423.8	AC	[1996DOM/HEA, 1971WON/WES]
	SUB		(345–369)	98.3 ± 0.6	356	ME	[2015SAN/OLI]
	SUB		(345–369)	100.1 ± 0.6	298	ME	[2015SAN/OLI]
	SUB		(333–375)	97.1 ± 1.2		ME	[2011RIC/FU]
	SUB		(324–359)	93.1	341	ME	[2010FU/RIC]
	SUB		(315–378)	97.1	346	ME	[2010RIC/FU]
	SUB		(341–418)	103.3 ± 2.1	380	ME	[2009SID/SID]
	SUB		(341–418)	104.5	298	ME	[2009SID/SID]
	SUB		(322–381)	97.8 ± 3.3	352	ME	[2008GOL/SUU3]
	SUB			98.5 ± 1.0	298	DSC	[2003ROJ/ORO]
	SUB		(308–398)	103.1 ± 6.5	353	ME	[1998OJA/SUU]
	SUB		(313–453)	97.9	383	GS	[1995NAS/LEN]
	SUB		(369–383)	100.3 ± 0.3	353	PG	[1988SAS/JOS]
	SUB		(283–323)	91.2 ± 0.5	303	GS	[1983SON/ZOL]
	SUB		(398–423)	100.2 ± 0.4	410	IPM	[1980SMI/STE]
	SUB			101.0 ± 0.5		C	[1974MAL/BAR]
	SUB		(348–419)	100.8 ± 1.5		ME	[1974MAL/BAR]
	SUB			95.7		ME	[1953BRA/CLE2, 1977PED/RYL, 1970COX/PIL]
	SUB		(298–363)	100.5	330	ME	[1958HOY/PEP]
	SUB		(345–358)	100.1 ± 1.7	351	ME	[1952INO/SHI]
	V			92.4 ± 1.1	298	CGC	[2008HAN/NUT]
	V		(423–493)	87.2 ± 1.3	298	GC	[2006TEO/BAR]
	V			66.1	443	DSC	[2003ROJ/ORO]
	V		(343–453)	78.6	398	GC	[1990HIN/BID2]
	V		(413–467)	76	428		[1988SAS/JOS]
	V		(398–458)	76.4	440	IPM	[1980SMI/STE]
	V		(513–668)	73	528	A	[1987STE/MAL, 1955TSY/YA]
C ₁₆ H ₁₀ ClN ₃ O	[191978-95-7]	1-[(2-chloro-3-pyridinyl)carbonyl]-1,2-dihydro-2-quinolinecarbonitrile					
	FUS			50.89	489.8	DSC	[2005LIZ/ZAB]
C ₁₆ H ₁₀ N ₂ O ₂	[482-89-3]	2-(1,3-dihydro-3-oxo-2 <i>H</i> -indol-2-ylidene)-1,2-dihydro-3 <i>H</i> -indol-3-one (C.I. Vat Blue 1)					
	SUB		(519–634)	136	577	GS	[1986NIS/AND]
	SUB			148.2	298		[1986NIS/AND, 2014MIR/CHI]
C ₁₆ H ₁₀ O	[5315-79-7]	1-hydroxypyrene					
	SUB		(369–394)	129.0 ± 3.2	382	ME	[1998OJA/SUU]
C ₁₆ H ₁₀ O	[243-24-3]	2,3,5,6-dibenzoxalene (benz[<i>b</i>]indeno[1,2- <i>e</i>]pyran)					
	SUB		(375–388)	125.9	381.5	A	[1987STE/MAL]
	SUB			129.4 ± 1.3			[1966GEI/QUI, 1970COX/PIL]
C ₁₆ H ₁₀ O	[955-83-9]	2,5-diphenylfuran					
	SUB			102	340	HSA	[1989SCH/PEN]
C ₁₆ H ₁₀ O	[205-39-0]	Benzo[<i>b</i>]naphtho[1,2 <i>d</i>]furan					
	FUS			13.7	315.9	DSC	[2010KES/AUC]
C ₁₆ H ₁₀ O	[239-30-5]	Benzo[<i>b</i>]naphtho[2,1 <i>d</i>]furan					
	FUS			20.9	373.7	DSC	[2010KES/AUC]
C ₁₆ H ₁₀ S	[239-35-0]	1,2-benzodiphenylene sulfide					
	SUB		(325–373)	111.9 ± 1.2	349	ME	[1998OJA/SUU]
C ₁₆ H ₁₀ S	[205-43-6]	Dibenzo[<i>b</i>]naphtho[1,2 <i>d</i>]thiopnene					
	FUS			19.0	375.5	DSC	[2010KES/AUC]
C ₁₆ H ₁₀ S ₄	[5632-29-1]	2,2',5',2'',5'',2'''-quaterthiophene					
	SUB		(383–413)	132.6		ME	[1998KLO/LAU]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB	(428–457)	145.6			ME	[1998KLO/LAU]
C ₁₆ H ₁₁ F ₃ O	[172424-69-0]	4-ethoxy-2',3',4'-trifluorodiphenylacetylene					
	FUS		32.2	356.8		DSC	[1995HSU/TSA]
C ₁₆ H ₁₁ N	[13055-58-8]	5-cyano-5 <i>H</i> -dibenzo[<i>a,d</i>]cycloheptene					
	FUS		13.9	374.2		DSC	[2011PER/CON]
C ₁₆ H ₁₁ N ₃ O	[191978-94-6]	1-[(3-pyridinyl)carbonyl]-1,2-dihydro-2-quinolinecarbonitrile					
	FUS		31.01	412.5		DSC	[2005LIZ/ZAB]
C ₁₆ H ₁₂	[6572-60-7]	[2.2]-paracyclophane-1,9-diene					
	FUS		30.71	505.9		DSC	[2003DEM/KOZ]
	SUB	(318–343)	92.0 ± 1.2	331		GS	[2003DEM/KOZ]
	SUB	(318–343)	93.1 ± 1.2	298		GS	[2003DEM/KOZ]
C ₁₆ H ₁₂	[605-02-7]	1-phenylnaphthalene					
	FUS	(5–442)	15.55	297.5		AC	[2014CHI/STE]
	SUB	(313–453)	88.6	383		GS	[1995NAS/LEN]
[Note: The authors of [1995NAS/LEN] label the value as an enthalpy of sublimation.]							
C ₁₆ H ₁₂	V	(375–630)	75.1 ± 0.3	380	IPM,EB	[2014CHI/STE]	
	V	(375–630)	71.8 ± 0.3	420	IPM,EB	[2014CHI/STE]	
	V	(375–630)	68.6 ± 0.3	460	IPM,EB	[2014CHI/STE]	
	V	(375–630)	65.4 ± 0.3	500	IPM,EB	[2014CHI/STE]	
	V	(375–630)	62.2 ± 0.3	540	IPM,EB	[2014CHI/STE]	
	V	(375–630)	58.8 ± 0.5	580	IPM,EB	[2014CHI/STE]	
	V	(375–630)	55.2 ± 0.8	620	IPM,EB	[2014CHI/STE]	
	V		81.1 ± 1.8	298	C	[2008ROU/LIM]	
C ₁₆ H ₁₂	[612-94-2]	2-phenylnaphthalene					
	FUS	(5–442)	22.62	374.8	AC	[2014CHI/STE]	
	FUS		17.9	373.5	DSC	[2008ROU/LIM]	
	SUB	(333–353)	106.6 ± 0.4	343	ME	[2008ROU/LIM]	
	SUB	(333–353)	107.6 ± 0.6	298	ME	[2008ROU/LIM]	
	V	(483–604)	69.3 ± 0.3	500	EB	[2014CHI/STE]	
	V	(483–604)	66.2 ± 0.3	540	EB	[2014CHI/STE]	
	V	(483–604)	63.0 ± 0.4	580	EB	[2014CHI/STE]	
C ₁₆ H ₁₂ ClN ₅	[142740-67-8]	2-benzoylpyridine 6'-chloro-3'-pyridazinylhydrazone					
	FUS		35	440.3	DSC	[2013PER/KAZ]	
C ₁₆ H ₁₂ ClN ₅	[907968-02-9]	2-benzoylpyridine 6'-chloro-4'-pyrimidinylhydrazone					
	FUS		34	456.3	DSC	[2013PER/KAZ]	
C ₁₆ H ₁₂ Cl ₂ N ₂ O ₂ S	[20098-72-0]	<i>N,N'</i> -bis(4-chlorobenzoyl)carbamimidothioic acid, methyl ester					
	FUS		14.14	455.3	DSC	[2009PLA/LIZ]	
C ₁₆ H ₁₂ F ₂	[145698-42-6]	4-ethyl-3',4'-difluorodiphenylacetylene					
	FUS		16.6	301.2	DSC	[1995HSU/TSA]	
C ₁₆ H ₁₂ F ₂ O	[172424-66-7]	4-ethoxy-2',4'-difluorodiphenylacetylene					
	FUS		27.0	343.4	DSC	[1995HSU/TSA]	
C ₁₆ H ₁₂ N ₂	[6672-73-7]	5-cyano-7 <i>H</i> -dibenzo[<i>a,c</i>]cyclohepten-6-amine					
	FUS		14.86	374.1	DSC	[2013PER/CON]	
C ₁₆ H ₁₂ N ₂ O	[842-07-9]	2-hydroxy-1-phenylazonaphthalene					
	SUB	(350–374)	116.7 ± 5.4	362			[1984KRI]
C ₁₆ H ₁₂ N ₂ O ₃	[19803-53-3]	(3-methyl-2-quinoxalinyl)phenylmethanone <i>N,N'</i> -dioxide					
	SUB		153.8 ± 1.8	298	C		[2007GOM/SOU]
C ₁₆ H ₁₂ O ₂	[134852-10-1]	5-hydroxymethylene-5 <i>H</i> -6,7-dihydronaphthaleno[<i>a,c</i>]cyclohepten-6-one					
	FUS		16.9	357.7	DSC		[2006PER/CON]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V				116.1 ± 12.1	298	CGC	[2006PER/CON]
C ₁₆ H ₁₂ S ₂	[16212-85-4]	3,6-diphenyl-1,2-dithiin						
		SUB			174.5 ± 2.5	355		[1973GEI/SAW, 1977PED/RYL]
		SUB			183.1 ± 2.5	298		[1973GEI/SAW, 1977PED/RYL]
C ₁₆ H ₁₂ S ₂	[92802-27-2]	2,6-diphenyl-1,4-dithiin						
		FUS (I)			20.9	336.6		
C ₁₆ H ₁₃ CIN ₂ O	[439-14-5]	7-chloro-1,3-dihydro-1-methyl-5-phenyl-2 <i>H</i> -1,4-benzodiazepin-2-one (diazepam)						
		FUS			26.12	404.1	DSC	[2016AMA/DEG]
		FUS			24.7	404.8	DSC	[2006WAS/HOL]
C ₁₆ H ₁₃ CIN ₂ O ₂	[846-50-4]	7-chloro-1,3-dihydro-3-hydroxy-1-methyl-5-phenyl-2 <i>H</i> -1,4-benzodiazepin-2-one (temazepam)						
		FUS (I)			27.97	433.9	DSC	[2011JET/BHO]
		FUS (II)			26.46	432.5	DSC	[2011JET/BHO]
		FUS (III)			20.75	411.7	DSC	[2011JET/BHO]
		FUS			27.4	432.6		[1998VAN/AUG]
		FUS			25.58	432.5	DSC	[1992RIC/MCC]
C ₁₆ H ₁₃ C ₂ NO ₄	[89796-99-6]	2-[2-[2-[(2,6-dichlorophenyl)amino]phenyl]acetyl]oxyacetic acid (aceclofenac)						
		FUS			42.25	426	DSC	[2010BAI/VAN]
C ₁₆ H ₁₃ FO	[127727-79-1]	4-ethoxy-4'-fluorodiphenylacetylene						
		FUS			22.8	354.4		[1995HSU/TSA]
C ₁₆ H ₁₃ N	[90-30-2]	<i>N</i> -phenyl-1-naphthylamine						
		SUB	(313–333)	96.5		323	GS	[1987STE/MAL, 1971FEL/KUZ]
C ₁₆ H ₁₃ N	[135-88-6]	<i>N</i> -phenyl-2-naphthylamine						
		SUB	(333–363)	115.8		348	GS	[1987STE/MAL, 1971FEL/KUZ]
		V	(383–520)	88.7		398	A	[1987STE/MAL]
C ₁₆ H ₁₃ NO	[37170-96-0]	9-acetamidoanthracene						
		SUB	(446–500)	134.8		461	RG	[1958KLO, 1987STE/MAL]
C ₁₆ H ₁₃ NO	[93-45-8]	<i>N</i> -(4-hydroxyphenyl)-2-naphthylamine						
		SUB	(373–408)	126.8		390	GS	[1971FEL/KUZ]
C ₁₆ H ₁₃ NO ₂	[5960-55-4]	1-(dimethylamino)-9,10-anthaquinone						
		SUB	(396–408)	U 3.6		402	A	[1987STE/MAL]
C ₁₆ H ₁₃ NO ₂	[4465-58-1]	1-(2-hydroxyethylamino)-9,10-anthaquinone						
		SUB	(403–417)	152.7		410	ME	[1960BRA/BIR, 1966JON/KRA]
C ₁₆ H ₁₃ NO ₃	[483362-77-2]	1-[(4-nitrophenyl)ethynyl]-4-ethoxybenzene						
		FUS		26.02		388.1	DSC	[2002SPA/DZI]
C ₁₆ H ₁₃ NO ₅	[17869-07-7]	1-amino-2-hydroxyethoxy-4-hydroxy-9,10-anthaquinone						
		SUB		135.2				[1984KAR/KRU]
C ₁₆ H ₁₃ NO ₇	[175033-36-0]	2-acetoxybenzoic acid, 3'-(nitrooxymethyl)phenyl ester						
		FUS (I)		33.79		335.2		
		FUS (II)		26.83		328.5	DSC	[2004FOP/SAN]
C ₁₆ H ₁₃ N ₃ O ₂	[929692-89-7]	2-phenylcarbamoyl-3-methylquinoxaline <i>N</i> -oxide						
		SUB		145.1 ± 2.3		298	C	[2012VIV/FRE]
C ₁₆ H ₁₃ N ₃ O ₂	[31983-89-8]	3-methyl- <i>N</i> -phenyl-2-quinoxalinecarboxamide-1,4-dioxide						
		SUB		145.1 ± 5.6		298	ME	[2007GOM/SOU2]
C ₁₆ H ₁₃ N ₃ O ₃	[31431-39-7]	methyl (5-benzoyl-1 <i>H</i> -benzimidazol-2-yl)carbamate (mebendazole)						
		FUS		71.43		518.2	DSC	[2015GAU/VAN]
C ₁₆ H ₁₄	[781-17-9]	4,5,9,10-tetrahydropyrene						
		TRS		1.85		319.9		

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{16}\text{H}_{14}$	TR			0.13	385.1		
	FUS			17.09	412.8	AC,DSC	[1993CHI/KNI2]
	SUB	(385–410)		90.4	400	IP	[1993CHI/KNI2]
	V			70.9	440	EB,IPM	[1993CHI/KNI2]
	V			68.1	480	EB,IPM	[1993CHI/KNI2]
	V			65.3	520	EB,IPM	[1993CHI/KNI2]
	V			62.5	560	EB,IPM	[1993CHI/KNI2]
$\text{C}_{16}\text{H}_{14}$	V			59.5	600	EB,IPM	[1993CHI/KNI2]
	V			56.4	640	EB,IPM	[1993CHI/KNI2]
	[20279-21-4]	1,2,3,10 <i>b</i> -tetrahydrofluoranthene					
	V	(400–469)		68.0	415	A	[1987STE/MAL]
	[781-43-1]	9,10-dimethylanthracene					
	SUB	(363–378)		109.4 ± 1.7	371	ME	[2006RIB/AMA2]
	SUB	(363–378)		113.0 ± 1.7	298	ME	[2006RIB/AMA2]
$\text{C}_{16}\text{H}_{14}$	SUB	(372–382)		114.6	377	A	[1987STE/MAL]
	SUB			110.6 ± 1.5			[1985KIS/VEI]
	SUB	(381–434)		103.2	396	RG	[1958KLO, 1987STE/MAL]
	V			94.5 ± 0.2	298	CGC	[2008HAN/NUT]
	[52251-71-5]	2-ethylanthracene					
	SUB	(343–359)		104.9 ± 0.6	351	ME	[2006RIB/AMA2]
	SUB	(343–359)		107.6 ± 0.6	298	ME	[2006RIB/AMA2]
$\text{C}_{16}\text{H}_{14}$	V			91.4 ± 1.1	298	CGC	[2008HAN/NUT]
	[1576-69-8]	2,7-dimethylphenanthrene					
	SUB			106.7 ± 0.8		ME	[1965KAR/KYB, 1970COX/PIL]
	[3674-69-9]	4,5-dimethylphenanthrene					
	SUB	(313–453)		85.7	383	GS	[1995NAS/LEN]
	SUB			104.6 ± 1.3		ME	[1965KAR/KYB, 1970COX/PIL]
	[604-83-1]	9,10-dimethylphenanthrene					
$\text{C}_{16}\text{H}_{14}$	SUB			119.5 ± 1.3			[1966GEI/QUI, 1970COX/PIL]
	[886-65-7]	1,4-diphenyl-1,3-butadiene					
	SUB			87.0		RG	[1958KLO]
	[31297-12-8]	[2.2]-paraacyclophane-1-ene					
	FUS			17.61	469.9	DSC	[2003DEM/KOZ]
	SUB	(318–343)		93.3 ± 1.1	331	GS	[2003DEM/KOZ]
	SUB	(318–343)		94.4 ± 1.1	298	GS	[2003DEM/KOZ]
$\text{C}_{16}\text{H}_{14}\text{Cl}_2\text{O}_2$	[4359-34-6]	1,1-dichloro-2,2-bis(4-methoxyphenyl)ethylene					[1995RUL/RAK, 1989LUB/JAN]
$\text{C}_{16}\text{H}_{14}\text{Cl}_2\text{O}_3$	[510-15-6]	Ethyl 2-hydroxy-2,2-bis(4-chlorophenyl)acetate (chlorobenzilate)					
	FUS			23.48	310.4	DSC	[1991ACR, 1990DON/DRE]
$\text{C}_{16}\text{H}_{14}\text{Cl}_2\text{O}_3$	[51338-27-3]	Methyl 2-(4-(2,4-dichlorophenoxy)phenoxy)propionate					
	FUS			27.08	314.4	DSC	[1990DON/DRE]
$\text{C}_{16}\text{H}_{14}\text{F}_4\text{N}_4\text{O}_2$	[80135-84-8]	<i>N</i> -methyl- <i>N</i> -(2,2,3,3-tetrafluoropropyl)-4-[(4-nitrophenyl)azo]benzenamine					
	SUB			100.8		UV	[1984KAR/ROD]
$\text{C}_{16}\text{H}_{14}\text{N}_2$	[19311-79-6]	1-methyl-3,5-diphenylpyrazole					
	FUS	(70–370)		17.46	332.9	AC	[2001DI/SUN]
$\text{C}_{16}\text{H}_{14}\text{N}_2\text{OS}$	[688319-93-9]	<i>N</i> -(4-acetylphenyl)-4 <i>H</i> -3,1-benzothiazin-2-amine					
	FUS			16.1	436.2	DSC	[2004GON/KOS]
$\text{C}_{16}\text{H}_{14}\text{N}_2\text{O}_2$	[2475-44-7]	1,4-bis(<i>N</i> -methylamino)anthra-9,10-quinone					
	SUB	(385–413)		151.8 ± 3.9	399		[1984KRI]
	SUB			150.2		GS	[1967DAT/KAN, 1991HOR]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₆ H ₁₄ N ₂ O ₂	[65990-96-7]	2-methyl-3-(phenylmethyl)quinoxaline-1,4-dioxide					
	SUB		146.6 ± 3.2	298		C	[2004RIB/GOM2]
C ₁₆ H ₁₄ N ₂ O ₂ S	[19921-98-3]	<i>N,N'</i> -dibenzoylcarbamimidothioic acid, methyl ester					
	FUS		10.00	422.2		DSC	[2009PLA/LIZ]
C ₁₆ H ₁₄ N ₂ O ₃ S	[181695-72-7]	4-(5-methyl-3-phenyl-4-isoxazolyl)benzenesulfonamide (valdecoxib)					
	FUS		30.35	446.4		DSC	[2004AMB/MAH]
C ₁₆ H ₁₄ N ₄	[70845-34-0]	[1-(2-pyridinyl)ethylidene]hydrazone-(2-(1 <i>H</i>)-quinolinone)					
	FUS		31	416.6		DSC	[2013PER/KAZ]
C ₁₆ H ₁₄ N ₄ O ₂	[340820-69-1]	4-(4-methylphenyl)-5-(2-pyridinyl)-4 <i>H</i> -1,2,4-triazole-3-carboxylic acid, methyl ester					
	FUS		38.2	423.4		DSC	[2005SIK/MOD]
C ₁₆ H ₁₄ O	[838-15-3]	2,3:6,7-dibenzocycloocta-2,6-dien-1-one					
	FUS		17.2	366.6		DSC	[2003PER/CON]
	SUB		103.3 ± 3.2	298		V+F	[2003PER/CON]
C ₁₆ H ₁₄ O	V		90.6 ± 2.0	298		CGC	[2003PER/CON]
	[6374-70-5]	2,3: 7,8-dibenzocycloocta-2,7-dien-1-one					
	FUS		27.8	420		DSC	[2003PER/CON]
C ₁₆ H ₁₄ O ₂	SUB		112.8 ± 4.1	298		V+F	[2003PER/CON]
	V		92.0 ± 2.9	298		CGC	[2003PER/CON]
C ₁₆ H ₁₄ O ₂	[103-41-3]	Benzyl cinnamate (446–623)	89.4	461	A		[1987STE/MAL, 1947STU]
C ₁₆ H ₁₄ O ₂	[495-71-6]	1,2-dibenzoylethane					
	TRS		0.22	187			
C ₁₆ H ₁₄ O ₂	FUS		38.99	418.6	RC		[1996DOM/HEA, 1932SPA/THO]
	SUB		123.0 ± 2.0				[1985KIS/VEI]
C ₁₆ H ₁₄ O ₃	[22071-15-4]	(±) α -(3-benzoylphenyl)propionic acid ((±)-ketoprofen)					
	FUS		29.65	368.2		DSC	[2015GAU/VAN]
	FUS		44.5	369.8		DSC	[2014ARD/ELN]
	FUS		28.8	365.9		DSC	[2013YAD/KUM]
	FUS		45.5	369.4		DSC	[2013DIX/KUL]
	FUS		U87.3	370		DSC	[2011TIT/FUL]
	FUS		28.31	368		DSC	[2010BAI/VAN]
	FUS		20.3	366.3		DSC	[2010YUA/CAP]
	FUS		30.83	369.2		DSC	[2010BAN/ARC]
	FUS		26.0	369.7		DSC	[2009CIR/MAE]
	FUS		21.5	366.2		DSC	[2009GAS/CEN]
	FUS		28.4			DSC	[2007BLA/SCH]
	FUS		37.3	368		DSC	[2006WAS/HOL, 2008WAS/HOL]
	FUS		27.38	367.7		DSC	[2004LU/CHI]
C ₁₆ H ₁₄ O ₃	FUS		25.04	369			[1998MUR/BET2, 1999MUR/FAU]
	FUS		28.23	367.4			[1995ESP/BIS]
	SUB	(341–365)	110.1 ± 0.5		GS		[2003PER/KUR2]
C ₁₆ H ₁₄ O ₃	[22161-81-5]	(+) α -(3-benzoylphenyl)propionic acid ((+)-ketoprofen)					
	FUS		22.78	348.6		DSC	[2004LU/CHI]
C ₁₆ H ₁₄ O ₃	[36330-85-5]	3-(4-biphenylcarbonyl)propionic acid (fenbufen)					
	FUS		73.84	459.1		DSC	[2011DOM/POB]
	FUS		42.4	458.2		DSC	[2009GAS/CEN]
	FUS		41.1	462.9		DSC	[2008KUR/PER]
	FUS		46.2	459.3		DSC	[2006WAS/HOL]
C ₁₆ H ₁₄ O ₄	SUB	(378–420)	154.9 ± 0.8	298	GS		[2008KUR/PER]
C ₁₆ H ₁₄ O ₄	[5673-22-3]	1,2- <i>cis</i> -dicarbomethoxyacenaphthene					

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
		FUS		37.66	398.2		[1974CAN/JAC]
C ₁₆ H ₁₄ O ₄	[51869-93-3]		1,2- <i>trans</i> -dicarbomethoxyacenaphthene				
		FUS		27.61	388.7		[1974CAN/JAC]
C ₁₆ H ₁₄ O ₄	[56137-73-6]		1,3-dicarbomethoxyacenaphthene				
		FUS		23.01	371.2		[1974CAN/JAC]
C ₁₆ H ₁₄ O ₄	[51870-00-9]		1,5-dicarbomethoxyacenaphthene				
		FUS		28.87	386.7		[1974CAN/JAC]
C ₁₆ H ₁₄ O ₄	[4599-96-6]		5,6-dicarbomethoxy acenaphthene				
		FUS		34.73	450.2		[1974CAN/JAC]
C ₁₆ H ₁₄ O ₆	[36063-02-2]		1,2,3-tricarbomethoxy naphthalene				
		FUS		23.7	362.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36063-03-3]		1,2,4-tricarbomethoxy naphthalene				
		FUS		32.1	393.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[68267-11-8]		1,2,5-tricarbomethoxy naphthalene				
		FUS		25.5	363	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36063-04-4]		1,2,6-tricarbomethoxy naphthalene				
		FUS		35.9	416.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[68267-10-7]		1,2,7-tricarbomethoxy naphthalene				
		FUS		36.1	427.2	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36440-23-0]		1,2,8-tricarbomethoxy naphthalene				
		FUS		24.8	366.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36440-28-5]		1,3,5-tricarbomethoxy naphthalene				
		FUS		25.9	402.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36440-29-6]		1,3,6-tricarbomethoxy naphthalene				
		FUS		37.4	469.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36440-30-9]		1,3,7-tricarbomethoxynaphthalene				
		FUS		37.2	446.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36440-24-1]		1,3,8-tricarbomethoxynaphthalene				
		FUS		27.7	388.2	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36440-25-2]		1,4,5-tricarbomethoxy naphthalene				
		FUS		26.5	402.2	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36063-05-5]		1,4,6-tricarbomethoxy naphthalene				
		FUS		30.2	409.2	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36440-26-3]		2,3,5-tricarbomethoxy naphthalene				
		FUS		41.0	401.7	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[36440-27-4]		2,3,6-tricarbomethoxynaphthalene				
		FUS		34.4	399.2	DSC	[1993ACR, 1978DOZ/FUJ]
C ₁₆ H ₁₄ O ₆	[520-33-2]		2,3-dihydro-5,7-dihydroxy-2-(3-hydroxy-4-methoxyphenyl)-4H-1-benzopyran-4-one(hesperitin)				
		FUS		35.9	499.2	DSC	[2007CHE/HUM]
C ₁₆ H ₁₅ BrO	[556052-89-2]		4-bromo-4'-(3-butenoxy)-1,1'-biphenyl				
		TRS		13.3	324.2		
		FUS		15.8	396.8	DSC	[2003WIL/VAN]
C ₁₆ H ₁₅ ClN ₂ O ₂	[107503-17-3]		1-(2-ethylbenzoyl)-3-(4-chlorophenyl)urea				
		FUS		23.9	436	DSC	[2014OZA/NAK]
C ₁₆ H ₁₅ ClN ₂ O ₃	[107183-08-4]		1-(2-ethoxybenzoyl)-3-(4-chlorophenyl)urea				
		FUS		27.0	420	DSC	[2014OZA/NAK]
C ₁₆ H ₁₅ Cl ₂ NO ₂	[117-26-0]		1,1-bis(4-chlorophenyl)-2-nitrobutane				
		FUS		15.41	330.3	DSC	[1990DON/DRE]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₆ H ₁₅ Cl ₃ O ₂	[30667-99-3]	1-methoxy-2-(2,2,2-trichloro-1-(4-methoxyphenyl)ethyl)benzene					
	FUS		22.45	347.6	DSC		[1990DON/DRE]
C ₁₆ H ₁₅ Cl ₃ O ₂	[72-43-5]	1,1'-(2,2,2-trichloroethylidene-bis(4-methoxy)benzene					
	FUS		27.48	360.6	DSC		[1990DON/DRE]
C ₁₆ H ₁₅ IO ₃ S	[313057-06-6]	4-(4-pentyloxy)phenyl 5-iodo-2-thiophene carboxylate					
	FUS		68.2	332.7	DSC		[2000WU/WAN]
C ₁₆ H ₁₅ N	[58743-76-3]	4'-propylbiphenyl-4-carbonitrile					
	FUS	(12–383)	22.7	338.8	AC		[1996DOM/HEA, 1991ASA/SOR]
	FUS (I)		19.9	338.4			
	FUS (II)		16.7	326.3	DSC		[1983HAA/PAU]
C ₁₆ H ₁₅ N	[13228-39-2]	1-ethyl-2-phenylindole					
	SUB	(327–349)	113.4 ± 0.6	338	ME		[2015CAR/AMA]
	SUB	(327–349)	115.0 ± 0.6	298	ME		[2015CAR/AMA]
C ₁₆ H ₁₅ NO	[18594-93-9]	3-anilino-1-phenylbut-2-enone					
	SUB		126.8 ± 3.0	298	C		[1993RIB/RIB]
C ₁₆ H ₁₅ NO ₄	[483362-66-9]	2-(4-nitrophenyl)-1-(4-ethoxyphenyl)ethanone					
	FUS		28.2	390.3	DSC		[2002SPA/DZI]
C ₁₆ H ₁₅ N ₅	[120356-36-7]	[1-(2-pyridinyl)propylidene]hydrazone-(1-(2H)phthalazinone)					
	FUS		34	415.0	DSC		[2013PER/KAZ]
C ₁₆ H ₁₅ N ₅ O ₃	[157892-00-7]	6-phenyl-3,9-dihydro-3-[(2-hydroxyethoxy)methyl]-9-oxo-5H-imidazol[1,2- <i>a</i>]pyrine					
	FUS		63.78	485.8	DSC		[1999ZIE/GOL]
C ₁₆ H ₁₆	[1732-13-4]	1,2,3,6,7,8-hexahydronaphthalene					
	TRS		5.02	377			
	FUS		18.09	407.7	AC,DSC		[1993CHI/KNI2]
	SUB	(390–405)	92.3	398	IP		[1993CHI/KNI2]
	V		72.0	440	EB,IPM		[1993CHI/KNI2]
	V		69.4	480	EB,IPM		[1993CHI/KNI2]
	V		66.8	520	EB,IPM		[1993CHI/KNI2]
	V		64.2	560	EB,IPM		[1993CHI/KNI2]
	V		61.5	600	EB,IPM		[1993CHI/KNI2]
C ₁₆ H ₁₆	[1633-22-3]	Tricyclo[8.2.2.2 ^{4,7}]hexadeca-4,6,10,12,13,15-hexaene ([2.2]- <i>para</i> -cyclophane)					
	FUS	(10–350)	0.21	323.2	AC		[1970AND/WES]
	SUB	(353–409)	96.4 ± 1.5		TSGC		[1980NIS/SAK]
	SUB		96.3 ± 4.2				[1973ROD/WES, 1977PED/RYL]
	SUB	(343–383)	92.9 ± 0.8	363	ME		[1966BOY, 1987STE/MAL, 1970COX/PIL]
C ₁₆ H ₁₆	[2319-97-3]	Tricyclo[9.3.1.1 ^{4,8}]hexadeca-1(15),4,6,8(16),11,13-hexaene ([2.2]- <i>meta</i> -cyclophane)					
	FUS		21.42	404	DSC		[1969SHI/MCN]
	SUB	(308–332)	91.6 ± 1.7	320	ME		[1969SHI/MCN, 1977PED/RYL, 1987STE/MAL]
	SUB		92.0 ± 2.0	298	ME		[1969SHI/MCN, 1977PED/RYL]
C ₁₆ H ₁₆	[5385-36-4]	Tricyclo[9.2.2.1 ^{4,8}]hexadeca-4,6,8(16),11,13,14-hexaene ([2.2]- <i>meta</i> - <i>para</i> -cyclophane)					
	TRS		0.98	315			
	FUS		12.76	354	DSC		[1969SHI/MCN]
	SUB	(311–328)	86.6	319	ME		[1969SHI/MCN, 1977PED/RYL, 1987STE/MAL]
	SUB		87.5 ± 0.9	298	ME		[1969SHI/MCN, 1977PED/RYL]
C ₁₆ H ₁₆	[2919-20-2]	1,1-bis(4-methylphenyl)ethene					
	FUS		23.31	334.1			[1999VER6]
	SUB	(309–332)	100.3 ± 1.4	320	GS		[1999VER6]
	SUB	(309–332)	101.0 ± 1.4	298	GS		[1999VER6]
C ₁₆ H ₁₆ ClN	[113788-75-3]	4-chlorobenzylidene-4'-propylaniline					
	FUS		24.61	343.7	DSC		[1999GAL/COL]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{16}\text{H}_{16}\text{ClN}_3\text{O}_3\text{S}$	[26807-65-8]	3-(aminosulfonyl)-4-chloro-N-(2,3-dihydro-2-methyl-1 <i>H</i> -indol-1-yl)-benzamide (indapamide)	FUS		26.7	441.0	DSC	[2015NUR/BOO]
			FUS		57.18	462.2	DSC	[2010GHU/DON]
			SUB	(348–363)	141.3 ± 3.2	298	ME	[2004RIB/GON]
$\text{C}_{16}\text{H}_{16}\text{N}_2\text{O}_2$	[94-93-9]	<i>N,N'</i> -bis(salicylaldehyde)ethylenediamine	FUS		34.09	397.9	DSC	[2004RIB/GON]
			SUB	(348–363)	141.3 ± 3.2	298	ME	[2004RIB/GON]
$\text{C}_{16}\text{H}_{16}\text{N}_2\text{O}_2$	[2299-73-2]	2-[(4-methoxyphenyl)methylene]hydrazone-4-methoxybenzaldehyde (anisaldazine)	FUS		29.75	442	DSC	[1996DOM/HEA, 1967BAR/POR]
$\text{C}_{16}\text{H}_{16}\text{N}_2\text{O}_4$	[13684-56-5]	Ethyl [3-[(phenylamino)carbonyl]oxy]phenylcarbamate]	FUS		32.75	394.1	DSC	[1990DON/DRE]
$\text{C}_{16}\text{H}_{16}\text{N}_2\text{O}_3\text{S}$	[144060-53-7]	2-(3-cyano-4-isobutoxyphenyl)-4-methyl-1,3-thiazole-5-carboxylic acid (febuxostat)	FUS (I)		27.59	486.5		
			FUS (II)		32.37	481.5		
			FUS (III)		31.04	477.0	DSC	[2015PAT/JAG]
			FUS		34.8	383.3	DSC	[2015PAN/MEH]
$\text{C}_{16}\text{H}_{16}\text{N}_2\text{O}_4$	[13684-63-4]	Methyl 3- <i>m</i> -tolylcarbamoyloxyphenylcarbamate	FUS		39.62	423.8	DSC	[1990DON/DRE]
$\text{C}_{16}\text{H}_{16}\text{N}_2\text{O}_4$	[54946-22-4]	<i>N</i> -propylthalidomide	FUS		27.28	409.2	DSC	[2002GOO/LAI]
$\text{C}_{16}\text{H}_{16}\text{O}$	[130935-82-9]	6-hydroxymethyl-5,6-dihydro-7 <i>H</i> -dibenzo[<i>a,c</i>]cycloheptane	FUS		25.9	405.7	DSC	[2005PER/BAN]
$\text{C}_{16}\text{H}_{16}\text{O}$	[29817-04-7]	5-hydroxymethyl-5,6-dihydro-7 <i>H</i> -dibenzo[<i>a,c</i>]cycloheptane	FUS		16	352.5	DSC	[2005PER/BAN]
$\text{C}_{16}\text{H}_{16}\text{O}_2$	[29783-24-2]	<i>trans</i> -9,10-bishydroxymethyl-9,10-dihydrophenanthrene	FUS		30.3	450.8	DSC	[2005PER/BAN]
$\text{C}_{16}\text{H}_{16}\text{O}_2$	[29790-58-7]	<i>trans</i> -5-hydroxymethyl-5,6-dihydro-7 <i>H</i> -dibenzo[<i>a,c</i>]cycloheptan-6-ol	FUS		31.8	460.2	DSC	[2005PER/BAN]
$\text{C}_{16}\text{H}_{16}\text{O}_2$		(<i>d</i>)-2-(<i>p</i> -methoxyphenyl)propiophenone	FUS		21.76	326	DSC	[1976LEC/COL]
$\text{C}_{16}\text{H}_{16}\text{O}_2$		(<i>dl</i>)-2-(<i>p</i> -methoxyphenyl)propiophenone	FUS		26.36	353	DSC	[1976LEC/COL]
$\text{C}_{16}\text{H}_{16}\text{O}_2$	[46863-20-1]	(2-hydroxyphenyl)-2,4,6-trimethylphenylmethanone	FUS		0.49	353.2	DTA	[1989SAL/ABA]
[Note: Reported enthalpy of fusion is too small, and the published enthalpy and entropy of fusion data are internally inconsistent.]								
$\text{C}_{16}\text{H}_{16}\text{O}_3$	[24650-42-8]	2,2-dimethoxy-1,2-diphenylethanone	FUS		20.86	338.5	DSC	[1994SAN/DEF]
$\text{C}_{16}\text{H}_{16}\text{O}_3$	[7074-00-2]	2-phenylisopropoxybenzoate	SUB	(293–313)	43.1 ± 4.2	303	ME	[1971KIP/RAB, 1977PED/RYL]
$\text{C}_{16}\text{H}_{16}\text{O}_{10}$	[3327-06-8]	Pentamethoxycarbonylbenzene	FUS		38.0	424.7	DSC	[1978DOZ/FUJ]
			SUB	(389–413)	160.0 ± 0.8	401	ME	[1995JIM/MEN]
			SUB	(389–413)	165.1 ± 0.8	298	ME	[1995JIM/MEN]
			SUB		165.1 ± 0.8	298		[1967TUR2, 1995JIM/MEN]
$\text{C}_{16}\text{H}_{17}\text{ClN}_4\text{O}_3$	[3180-81-2]	4-(<i>N</i> -ethyl- <i>N</i> -2-hydroxyethylamino)-4'-nitro-2'-chloroazobenzene	SUB		142.7			[1968TSU/KOJ, 1988BAU/PER]
$\text{C}_{16}\text{H}_{17}\text{ClN}_4\text{O}_4$	[4540-00-5]	2,2'-[3-chloro-4-[(4-nitrophenyl)azo]phenyl]imino]bis-ethanol	FUS		29.78	463.2		[1988BAU/PER]
$\text{C}_{16}\text{H}_{17}\text{Cl}_2\text{N}_5\text{O}_4$		1-[[2-chloro-4-[(2-chloro-4-nitrophenyl)azo]-5-(methylamino)phenyl]amino]-2-propanol <i>N</i> -oxide	FUS		30.62	371.2		[1991BAU/WEB]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₆ H ₁₇ F	[193472-70-7]	2-fluoro-2-methyl-1,3-diphenylpropane	FUS		29.7	332.7		[1997SCH/VER]
		SUB			102.2 ± 1.1	298		
C ₁₆ H ₁₇ F ₁₅ O	[41049-15-4]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7-pentadecafluoro-8-hexadecanone	FUS		34.2	285.8	DSC	[1992VIL/WEI]
C ₁₆ H ₁₇ N	[1484-08-8]	<i>N</i> -butylcarbazole	FUS		22.80	330.6	DSC	[2016STA/KEI]
		V			(331–373)	92.5 ± 0.6		
C ₁₆ H ₁₇ NO	[36713-33-4]	1,2-diphenyl-2- <i>N,N</i> -dimethylamino-1-ethanone	SUB		140.1 ± 1.9		B	[1994WEL/VER]
C ₁₆ H ₁₇ NO	[99081-88-6]	<i>N</i> -(4-isopropylphenylmethylene)benzenamine <i>N</i> -oxide	SUB		127.2 ± 1.7	298	C	[1986KIR/ACR]
C ₁₆ H ₁₇ NO	[957-51-7]	<i>N,N</i> -dimethyl-2,2-diphenylacetamide	FUS		25.43	407.1	DSC	[1991ACR, 1990DON/DRE]
C ₁₆ H ₁₇ N ₃ O ₃	[850836-66-7]	6-(acetylamino)-2-cyano-1(2 <i>H</i>)-quinoliniccarboxylic acid, 1-methylethyl ester	FUS		12.66	377.4	DSC	[2005LIZ/ZAB]
C ₁₆ H ₁₈	[5080-10-4]	1-(2-tolyl)-1-(4-tolyl)ethane	V	(298–473)	85.6	313	A	[1987STE/MAL, 1963BES]
C ₁₆ H ₁₈	[719-79-9]	1,1-diphenylbutane	V	(298–342)	75.9 ± 0.6	320	GS	[1999VER5]
					77.2 ± 0.6	298		
C ₁₆ H ₁₈	[1520-44-1]	(<i>dl</i>)-1,3-diphenylbutane	SUB	(288–303)	73.6	296	ME	[1974PRI/POU, 1987STE/MAL]
C ₁₆ H ₁₈	[5789-35-5]	2,3-diphenylbutane	SUB	(293–348)	96.7	326		[1984BEC/RUC]
C ₁₆ H ₁₈	[1634-11-3]	2-methyl-1,1-diphenylpropane	V	(298–338)	72.0 ± 0.5	318	GS	[1999VER5]
					73.2 ± 0.5	298		
C ₁₆ H ₁₈	[530-45-0]	1,1-bis(4-methylphenyl)ethane	V	(298–338)	75.3 ± 0.6	318	GS	[1999VER5]
					76.5 ± 0.6	298		
C ₁₆ H ₁₈	[2113-60-2]	3- <i>tert</i> -butylbiphenyl	V	(323–361)	77.1 ± 0.2	298	GS	[2012NAZ/NES]
					82.3 ± 0.3	298		
C ₁₆ H ₁₈	[1625-92-9]	4- <i>tert</i> -butylbiphenyl	FUS	(8–372)	19.87	324.7	AC	[2010VAR/EFI]
		SUB			98.0 ± 1.0	298		
		SUB			98.1 ± 2.1	298		
		V			84.0 ± 0.4	298		
		V			79.9 ± 0.8	298		
C ₁₆ H ₁₈ Cl ₄ O ₄	[3015-66-5]	Dibutyl tetrachlorophthalate	V	(368–421)	99.7	383	A,T	[1987STE/MAL, 1949PER/WEB, 1999DYK/SVO]
C ₁₆ H ₁₈ FN ₃ O ₃	[70458-96-7]	1-ethyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinoliniccarboxylic acid (norfloxacin)	FUS		32.42	492.6	DSC	[2009OLI/BER]
					39.1	492.2		
		FUS (I)			41.5	480.2		
		FUS (II)			32.97	500.2		
C ₁₆ H ₁₈ NO ₅	[3788-15-6]	bis(2,4-dimethoxyphenyl)nitrogen oxide						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	SUB	(333–363)	144.1 ± 11.4	348	A	[1987STE/MAL, 1965KAL/ROZ]
C ₁₆ H ₁₈ N ₂ O	[2496-21-1]	4- <i>n</i> -butyl-4'-hydroxyazobenzene	5.25	351.6	DSC	[1990JIN/KAN]
C ₁₆ H ₁₈ N ₂ OS	[373642-48-9]	<i>N</i> -[(3-methoxyphenyl)methyl]- <i>N'</i> -(phenylmethyl)thiourea	21.02	345	DSC	[2002ABB/WOH]
C ₁₆ H ₁₈ N ₂ O ₂	[101225-69-8]	2,2',6,6'-tetramethylazobenzene- <i>N,N</i> -dioxide	107 ± 12	298	ME	[1993ACR/TUC2]
C ₁₆ H ₁₈ N ₂ O ₃	[4792-83-0]	<i>p</i> -azoxyphenetole	126.2 ± 2.7	298	C	[1993ACR/TUC]
C ₁₆ H ₁₈ N ₂ O ₃	[191979-22-3]	2-cyano-6-methoxy-1(2 <i>H</i>)-quinolinecarboxylic acid, 2-methylpropyl ester	24.45	346.4	DSC	[2005LIZ/ZAB]
C ₁₆ H ₁₈ N ₄ O ₂	[3025-52-3]	4-(<i>N,N</i> -diethylamino)-4'-nitroazobenzene				
	SUB	(403–418)	156.6	411	GC	[2002SAW/SHI]
	SUB		146		GS	[1987SHI/OHK, 1991HOR]
	SUB	(422–441)	151.5 ± 4.2	431	ME	[1960BRA/BIR]
	V	(428–448)	94.8	438	GC	[2002SAW/SHI]
C ₁₆ H ₁₈ N ₄ O ₃	[2872-52-8]	4-(<i>N</i> -ethyl- <i>N</i> -2-hydroxyethylamino)-4'-nitroazobenzene				
	SUB		136.8		UV	[1984KAR/ROD, 1984KAR/KRU]
	SUB		189.5			[1968TSU/KOJ, 1988BAU/PER]
	SUB	(420–433)	176.6 ± 1.3	426	ME	[1960BRA/BIR, 1966JON/KRA]
C ₁₆ H ₁₈ N ₄ O ₄	[2734-52-3]	<i>N,N</i> -di(2-hydroxyethyl)-4-(4-mtrophenyl)azoaniline				
	FUS		32.43	484.2		[1988BAU/PER]
C ₁₆ H ₁₈ O	[93-96-9]	bis(α -methylbenzyl) ether				
	V	(369–554)	62.1	384	A	[1987STE/MAL, 1947STU]
C ₁₆ H ₁₈ O ₃		Ethyl 2-(6-methoxy-2-naphthyl)propionate				
	FUS		27.1	355.5	DSC	[1994WEB/MEY]
C ₁₆ H ₁₈ O ₄		2-hydroxyethyl 2-(6-methoxy-2-naphthyl)propionate				
	FUS		27.6	337.9	DSC	[1994WEB/MEY]
C ₁₆ H ₁₉ BrO ₂	[164591-96-2]	4- <i>trans</i> -(4-bromophenyl)cyclohexyl (<i>E</i>)-2-butenoate				
	FUS		28.4	388.2	DTA	[1995KEL/SCH]
C ₁₆ H ₁₉ ClO ₂	[164591-95-1]	4- <i>trans</i> -(4-chlorophenyl)cyclohexyl (<i>E</i>)-2-butenoate				
	FUS		30.2	386.2	DTA	[1995KEL/SCH]
C ₁₆ H ₁₉ FO ₂	[164591-94-0]	4- <i>trans</i> -(4-fluorophenyl)cyclohexyl (<i>E</i>)-2-butenoate				
	FUS		25.1	354.2	DTA	[1995KEL/SCH]
C ₁₆ H ₁₉ F ₃ N ₂ S	[1383254-33-8]	<i>N</i> -[4-(trifluoromethyl)phenyl]-1-thia-3-azaspiro[5.5]undec-2-en-2-amine				
	FUS		32.8	422.8	DSC	[2012BLO/OLK]
	SUB	(384–403)	122.6 ± 1.5	394	GS	[2012OLK/SHA]
	V		105.3	298	Sub-Fus	[2012OLK/SHA]
C ₁₆ H ₁₉ NO	[317820-07-8]	2-(4-butoxyphenyl)-5-methylpyridine				
	FUS		33.0	363	DSC	[2000MOR/HAR]
C ₁₆ H ₁₉ N ₃	[2481-94-9]	4-(<i>N,N</i> -diethylammo)azobenzene				
	FUS		25.7	371	DSC	[2002SAW/SHI]
	SUB	(353–368)	131.3	361	GC	[2002SAW/SHI]
	SUB		132.2		GS	[1987SHI/OHK, 1991HOR]
	SUB	(330–353)	91.4 ± 2.9	342		[1984KRI]
	SUB		106.4		UV	[1984KAR/ROD]
	SUB		106.3			[1984KAR/KRU]
	V	(373–393)	101.1	381	GC	[2002SAW/SHI]
C ₁₆ H ₁₉ N ₃ O ₂	[2452-84-8]	<i>N,N</i> -di(2-hydroxyethyl)-4-phenylazoaniline				

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$C_{16}H_{20}$	[24157-81-1]	FUS			29.96	407	298	[1988BAU/PER]
		FUS			18.84	343.0	DSC	[2016SAN/OLI]
		SUB	(301–323)		98.0 ± 0.2	298	ME	[2016SAN/OLI]
$C_{16}H_{20}ClNO_2S$	[424810-52-6]	N-adamantan-1-yl-4-chlorobenzenesulfonamide			25.3	459.9	DSC	[2016PER/VOL]
		FUS			120.1 ± 1.4	384	GS	[2016PER/VOL]
		SUB	(379–435)		126.2 ± 1.4	298	GS	[2016PER/VOL]
$C_{16}H_{20}FNO_2S$	[398995-61-2]	N-adamantan-1-yl-4-fluorobenzenesulfonamide			18.8	419.3	DSC	[2016PER/VOL]
		FUS			116.5 ± 1.2	384	GS	[2016PER/VOL]
		SUB	(363–406)		121.4 ± 1.2	298	GS	[2016PER/VOL]
$C_{16}H_{20}N_2$	[19219-01-3]	Tetracyclopropylsuccinonitrile			22.3	390		[1996DOM/HEA, 1984BER/BEC2]
		FUS			110.2 ± 1.5			[1984BER/BEC2]
		SUB						
$C_{16}H_{20}N_2OS$	[1383254-28-1]	N-1-thia-3-azaspiro[5.5]undec-2-en-2-yl-benzamide			27.9	403.4	DSC	[2012BLO/OLK, 2013OLK/BLO]
		FUS			88.3 ± 0.9	369	GS	[2013OLK/BLO]
		SUB	(353–386)		92.0 ± 0.9	298	GS	[2013OLK/BLO]
$C_{16}H_{20}N_4O_3S$	[56211-40-6]	<i>N</i> -[(l-methylethyl)amino]carbonyl-4-[(3'-methylphenyl)amino]-3-pyridinesulfonamide (torasemide)						
		FUS (I)			37.2	434.7		
$C_{16}H_{20}O_2$	[105443-43-4]	2-isopropyl-6-(l-hydroperoxy-1-methylethyl)naphthalene			24.9	335.2	DSC	[1998STE/ZAW]
		FUS			30.35	387.6	DSC	[1992TER/PAU]
$C_{16}H_{20}O_4$	[96783-79-8]	2,6-bis(l-hydroperoxy-1-methylethyl)naphthalene			38.3	394.2	DSC	[1998STE/ZAW]
		FUS			33.03	303.2	DSC	[1990DON/DRE]
$C_{16}H_{21}ClN_2S$	[1383254-30-5]	<i>N</i> -(3-chloro-4-methylphenyl)-l-thia-3-azaspiro[5.5]undec-2-en-2-amine			33.2	422.3	DSC	[2012BLO/OLK]
		FUS			114.5 ± 1.9	396	GS	[2012OLK/SHA]
		V			96.6	298	S-F	[2012OLK/SHA]
$C_{16}H_{21}Cl_3O_3$	[1928-47-8]	2,4,5-trichlorophenoxyacetic acid, (2-ethylhexyl) ester						
		V	(460–575)		85.4	475	A,GC	[1987STE/MAL, 1966JEN/SCH]
$C_{16}H_{21}Cl_3O_3$	[2630-15-1]	2,4,5-trichlorophenoxyacetic acid, octyl ester						
		V	(460–575)		92.2	475	A,GC	[1987STE/MAL, 1966JEN/SCH]
$C_{16}H_{21}N$	[61203-99-4]	4-(<i>trans</i> -4-propycyclohexyl)benzonitrile						
		TRS	(15–385)		20.4	316.3		
		FUS	(15–385)		1.1	319	AC	[1998ASA/SOR]
$C_{16}H_{21}NO_2$	[4199-09-1]	(-)-1-(isopropylamino)-3-(1-naphthyoxy)-2-propanol (propranolol)						
		FUS			36.25	344.7	DSC	[1999LI/ZEL]
		FUS			34.2	344.6	DSC	[1993NEA/SHI]
$C_{16}H_{21}NO_2$	[525-66-6]	(\pm)-l-(isopropylamino)-3-(l-naphthyoxy)-2-propanol (propranolol)						
		FUS			43.45	365.5	DSC	[1999LI/ZEL]
		FUS			38.1	365.2	DSC	[1993NEA/SHI]
$C_{16}H_{21}NO_2S$	[25192-02-3]	<i>N</i> -adamantan-1-ylbenzenesulfonamide						

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
<chem>C16H22ClNO3</chem>	[4199-10-4]	FUS		14.7	397.4	DSC	[2016PER/VOL]
		SUB	(366–394)	119.1 ± 0.8	380	GS	[2016PER/VOL]
		SUB	(366–394)	123.6 ± 0.8	298	GS	[2016PER/VOL]
<chem>C16H22ClNO3</chem>	[318-98-9]	(-)-l-(isopropylamino)-3-(l-naphthoxy)-2-propanol hydrochloride (propranolol hydrochloride)					
		FUS		36.0	467.8	DSC	[1999LI/ZEL]
<chem>C16H22ClNO3</chem>	[318-98-9]	(±)-l-(isopropylamino)-3-(l-naphthoxy)-2-propanol hydrochloride (propranolol hydrochloride)					
		FUS		16.31	437.1	DSC	[2016AMB/CER]
[Note: The authors of [2016AMB/CER] refer to the compound simply as propranolol. The purchased compound was the hydrochloride salt, and there is no mention in the paper that the compound was converted to the neutral base.]							
<chem>C16H22ClNO3</chem>	[38727-55-8]	FUS		39.0	436.6	DSC	[1999LI/ZEL]
		FUS (I)		31.3	436.2		
		FUS (II)		36.6	436.8	DSC	[1999BAR/BER]
<chem>C16H22ClNO3</chem>	[38727-55-8]	<i>N</i> -(chloroacetyl)- <i>N</i> -(2,6-diethylphenyl)glycine ethyl ester					
		FUS		23.84	318	DSC	[1990DON/DRE]
<chem>C16H22Cl2O3</chem>	[1928-43-4]	2,4-dichlorophenoxyacetic acid, (2-ethylhexyl) ester					
		V	(460–575)	83.0	475	A,GC	[1987STE/MAL, 1966JEN/SCH]
<chem>C16H22Cl2O3</chem>	[1928-43-4]	V	(460–575)	80.0	516	GC	[1966JEN/SCH]
		V	(460–575)	83.0	475	A,GC	[1987STE/MAL, 1966JEN/SCH]
<chem>C16H22Cl2O3</chem>	[1928-44-5]	V	(460–575)	80.8	516	GC	[1966JEN/SCH]
		V	(460–573)	87.9	475	A,GC	[1987STE/MAL, 1966JEN/SCH]
<chem>C16H22N2</chem>	[137274-48-7]	2,4-dichlorophenoxyacetic acid, octyl ester					
		V	(460–575)	83.4	516	GC	[1966JEN/SCH]
<chem>C16H22N2</chem>	[137274-48-7]	FUS		17.0	315.2	DSC	[1991SHE/WEI]
		FUS					
<chem>C16H22N2OS</chem>	[1383254-29-2]	<i>N</i> -(4-methoxyphenyl)-1-thia-3-azaspiro[5.5]undec-2-en-2-amine					
		FUS		29.3	388.5	DSC	[2012BLO/OLK, 2013OLK/BLO]
		SUB	(353–381)	135.0 ± 1.9	368	GS	[2013OLK/BLO]
<chem>C16H22N2S</chem>	[1383254-24-7]	SUB	(353–381)	139.1 ± 1.9	298	GS	[2013OLK/BLO]
		FUS		29.7	381.3	DSC	[2012BLO/OLK]
		SUB	(353–394)	131.6 ± 1.9	373	GS	[2012OLK/SHA]
<chem>C16H22N4O4</chem>	[53808-87-0]	V		114.8	209	Sub-Fus	[2012OLK/SHA]
		V					
		FUS		46.36	423.3	DSC	[2002CAI/BET]
		Dibutyl phthalate					
		V		99.3 ± 3.2	298	CRT	[2015GOB/CHI]
		V		92.4 ± 5.1	298	CGC	[2015GOB/CHI]
		V		95.2 ± 1.7	298	CGC	[2014GOB/CHI]
		V	(333–378)	86.8 ± 0.4	356	GS	[2014GOB/CHI]
		V	(363–423)	84.0	393	TGA	[2012VER/RAL]
		V	(363–423)	96.0 ± 0.8	298	TGA	[2012VER/RAL]
		V	(438–520)	83.6	452	BG	[1988KAT]
		V	(438–520)	80.4	462	BG	[1988KAT]
		V	(438–520)	75.4	497	BG	[1988KAT]
		V	(438–520)	74.9	512	BG	[1988KAT]
		V	(314–469)	94.0	329	A	[1987STE/MAL]
		V	(468–605)	76.1	483	A	[1987STE/MAL]
		V	(293–373)	89.8	333	GS	[1981HAL/COG, 2012VER/RAL]
		V	(293–373)	95.8 ± 0.3	298	GS	[1981HAL/COG, 2012VER/RAL]
		V	(288–313)	91.7	300		[1949BIR/BRA]
		V		93.7			[1948SMA/SMA]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₆ H ₂₂ O ₄	[4489-61-6] V	di-sec-butyl phthalate (313–373)		93.8	328	A,ME	[1987STE/MAL, 1948SMA/SMA]
C ₁₆ H ₂₂ O ₄	[1962-75-0] V	Dibutyl terephthalate (393–483)		86.2	408	A	[1987STE/MAL]
C ₁₆ H ₂₃ N	[199394-72-4] FUS	<i>N</i> -cyclohexyl-(2,4,6-trimethyl)benzaldehyde imine		25.61	339.4	DSC	[1997VER/MOR]
	SUB			104.9 ± 0.8	298	B	[1997VER/MOR]
	V	(341–368)		75.3 ± 1.0	355	GS	[1997VER/MOR]
	V	(341–368)		78.7 ± 1.0	298	GS	[1997VER/MOR]
C ₁₆ H ₂₄ N ₂	FUS	2-(4- <i>tert</i> -butylphenyl)-2-(diethylamino)acetonitrile		24.39	327.2		[1997WEL/VER]
C ₁₆ H ₂₄ N ₂ O	[98626-60-9] FUS	<i>N</i> -(2,6-dimethylphenyl)-1-ethyl-2-piperidinecarboxamide		19.9	408.2	DSC	[1997NEM/ACS]
C ₁₆ H ₂₄ N ₂ OS	[862582-66-9] FUS	2-[(diethylamino)thioxomethyl]- <i>N,N</i> -dimethylbenzamide		28.79	353.5	DSC	[2005ALT/COP]
C ₁₆ H ₂₄ N ₂ O ₂	[81994-74-3] SUB	<i>N</i> -benzoyl- <i>N',N'</i> -diisobutylurea		137.5 ± 4.4	298	C	[2000RIB/RIB]
C ₁₆ H ₂₄ N ₂ O ₄	FUS	Nonyl <i>N</i> -(4-nitrophenyl)carbamate		37.0	378.6	DSC	[1993TIE/FRA]
C ₁₆ H ₂₄ N ₂ S ₂	[862582-67-0] FUS	<i>N,N,N',N'</i> -tetraethyl-1,2-benzenedicarbothiamide		23.39	388.4	DSC	[2005ALT/COP]
C ₁₆ H ₂₄ N ₆	[125867-93-8] FUS	1-(methylphenethylamino)-3,5-bis(dimethylamino)- <i>s</i> -triazine		20.04	334.2	DSC	[1991ACR, 1989BRA/RYT]
C ₁₆ H ₂₄ O ₄	[175848-65-4] TRS FUS	2,5-dipentoxy-1,4-benzoquinone		9.0 36.5	333.7 414.6	DSC	[1996KEE/VAN]
C ₁₆ H ₂₅ Cl	[412027-20-4] V	Chloro(pentaethyl)benzene (363–558)		60.3	378	A	[1987STE/MAL, 1947STU]
C ₁₆ H ₂₅ NO ₂	[37139-21-2] FUS	Nonyl 4-aminobenzoate		44.3	343.4	DSC	[1990NEA/FLY]
C ₁₆ H ₂₅ NO ₂	[33689-71-3] FUS	Nonyl phenylcarbamate		28.07	327		[1971PRI]
C ₁₆ H ₂₅ N ₃ S	[90473-97-5] SUB	<i>N</i> -(diethylaminothiocarbonyl)- <i>N',N'</i> -diethylbenzamide		122.2 ± 2.0	298	C	[2004RIB/SAN]
C ₁₆ H ₂₆	[104-72-3] V V V V V	Decylbenzene (318–363) (313–433) (371–427) (362–557) (475–571)		78.2 ± 0.3 78.0 75.1 79.8 61.6	298 328 386 298 490	GS [1993KAS/MOK] A [1971WIL/ZWO] A,IPM	[2006VER] [1987STE/MAL, 1954CAM/FOR]
C ₁₆ H ₂₆	[605-01-6] V	Pentaethylbenzene (359–550)		56.5	374	A	[1987STE/MAL, 1947STU]
[4130-42-1] V V V V V	2,6-di- <i>tert</i> -butyl-4-ethylphenol (362–557) (362–557) (362–557) (362–557) (362–557)		62.8 60.4 58.6 57.3 52.6	348 373 398 423 473		[1953STA/MUL] [1953STA/MUL] [1953STA/MUL] [1953STA/MUL] [1953STA/MUL]	
C ₁₆ H ₂₆ O	[6287-47-4] V	4,6-di- <i>tert</i> -butyl-2-ethylphenol (413–556)		61.9	428	A	[1987STE/MAL]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{16}\text{H}_{26}\text{O}$	[70766-54-0]	V	(413–562)	57.3	423		[1953STA/MUL]
		V	(413–562)	52.6	473		[1953STA/MUL]
$\text{C}_{16}\text{H}_{26}\text{O}$	[19245-41-1]	V	2,4-di- <i>tert</i> -butyl-5,6-dimethylphenol (431–565)	69.1	446	A	[1987STE/MAL]
		V	2,4-di- <i>tert</i> -butyl-5-ethylphenol (384–563)	69.3	399	A	[1987STE/MAL]
$\text{C}_{16}\text{H}_{26}\text{O}$	[965-40-2]	V	2,4,5-triisopropylbenzyl alcohol (312–346)	113.1	327	A	[1987STE/MAL]
		V	Dicyclohexyl succinate (338–365)	98.0 ± 0.8	298	GS	[2008LIP/KRA]
$\text{C}_{16}\text{H}_{26}\text{O}_{11}$	[116401-21-9]	V	Diethylene glycol dicarboxylic acid, di[l-(ethoxycarbonyl)ethyl] ester (418–503)	99.3	433	A	[1987STE/MAL, 1949REH/DIX]
		V					
$\text{C}_{16}\text{H}_{28}$	[3752-92-9]	V	Tricyclopentylmethane (273–351)	77.8	288	A	[1987STE/MAL, 1964MOR]
		V	(371–429)	71.4	386	A	[1987STE/MAL]
$\text{C}_{16}\text{H}_{28}$	[283-68-1]	SUB	Tricyclo[8.2.2.2 ^{4,7}]hexadecane (316–338)	91.6 ± 0.9	298	ME	[1969SHI/MCN, 1977PED/RYL]
		SUB	(316–338)	85.2	327	A	[1987STE/MAL, 1969SHI/MCN]
		TRS	1,9-cyclohexadecanedione	17.95	301.2		
$\text{C}_{16}\text{H}_{28}\text{O}_2$	[31067-25-1]	FUS		8.03	351.2		[1972ALV/BOR]
		V	(E,E)-9,11-tetradecadienyl acetate	92.3 ± 3.6	298	CGC	[2016GOO/HAS]
$\text{C}_{16}\text{H}_{28}\text{O}_4$	[38734-10-0]	FUS	1,7-cyclododecanedione bis(ethylene ketal)	36.94	478.2		[1972ALV/BOR]
		FUS					
$\text{C}_{16}\text{H}_{28}\text{O}_4$	[2424-61-5]	Dodecyl maleate		52.0	324.5	DSC	[2016RIC/DEL]
		FUS					
$\text{C}_{16}\text{H}_{30}\text{N}_2$	[19219-01-3]	SUB	Tetracyclopropylsuccinonitrile				[1984BER/BEC2]
		SUB		110.2 ± 1.5			
$\text{C}_{16}\text{H}_{30}\text{O}$	[541-91-3]	V	3-methylcyclopentadecanone (391–601)	63.5	406	A	[1987STE/MAL]
		SUB	Cyclohexadecanone	82.0			[1938WOL/WEG, 1960JON]
$\text{C}_{16}\text{H}_{30}\text{O}$	[174155-58-9]	V	(Z)-3-hexadecenal (373–413)	89.9	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
		V	(E)-3-hexadecenal (373–413)	89.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{16}\text{H}_{30}\text{O}$	[174155-57-8]	V	(Z)-4-hexadecenal (373–413)	88.7	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
		V	(E)-4-hexadecenal (373–413)	88.9	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{16}\text{H}_{30}\text{O}$	[174155-59-0]	V	(Z)-5-hexadecenal (373–413)	87.8	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
		V	(E)-5-hexadecenal (373–413)	88.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
$\text{C}_{16}\text{H}_{30}\text{O}$	[88373-68-6]	V	(Z)-6-hexadecenal (373–413)	87.9	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
		V	(E)-6-hexadecenal (373–413)	88.5	298	CGC	[1996KOU/HOS, 2000OVA/KOU]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₁₆ H ₃₀ O	[56797-40-1] V	(Z)-7-hexadecenal (373–413)		87.8	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[72698-27-2] V	(E)-7-hexadecenal (373–413)		88.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[66644-98-2] V	(Z)-8-hexadecenal (373–413)		87.7	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[72698-28-3] V	(E)-8-hexadecenal (373–413)		88.4	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[56219-04-6] V	(Z)-9-hexadecenal (373–413)		88.0	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[72698-29-4] V	(E)-9-hexadecenal (373–413)		88.6	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[68279-24-3] V	(Z)-10-hexadecenal (373–413)		88.2	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[72698-30-7] V	(E)-10-hexadecenal (373–413)		88.8	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[53939-28-9] V	(Z)-11-hexadecenal (373–413)		88.5	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[57491-33-5] V	(E)-11-hexadecenal (373–413)		89.2	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[72698-31-8] V	(Z)-12-hexadecenal (373–413)		89.3	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[72698-32-9] V	(E)-12-hexadecenal (373–413)		89.3	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[71545-96-5] V	(Z)-13-hexadecenal (373–413)		89.7	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O	[72698-33-0] V	(E)-13-hexadecenal (373–413)		90.0	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[142-90-5] V	Dodecyl methacrylate (438–580)		64.9	453	A	[1987STE/MAL]
C ₁₆ H ₃₀ O ₂	[109-29-5] V	Oxa-2-cycloheptadecanone (403–463)		71.6	418	A	[1987STE/MAL]
C ₁₆ H ₃₀ O ₂	[51309-20-7] V	(Z)-2-tetradecenyl acetate (353–398)		89.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[51309-21-8] V	(E)-2-tetradecenyl acetate (353–398)		90.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[54897-65-3] V	(Z)-3-tetradecenyl acetate (353–398)		88.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[56221-90-0] V	(E)-3-tetradecenyl acetate (353–398)		89.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[54897-66-4] V	(Z)-4-tetradecenyl acetate (353–398)		87.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[56209-67-7] V	(E)-4-tetradecenyl acetate (353–398)		89.0	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[35153-13-0] V	(Z)-5-tetradecenyl acetate (353–398)		88.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[34010-13-4] V	(E)-5-tetradecenyl acetate (353–398)		89.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method
C ₁₆ H ₃₀ O ₂	[39650-11-8] V	(Z)-6-tetradecenyl acetate (353–398)	88.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[39650-10-7] V	(E)-6-tetradecenyl acetate (353–398)	88.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[16974-10-0] V	(Z)-7-tetradecenyl acetate (353–398)	88.4	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[28540-79-6] V	(E)-7-tetradecenyl acetate (353–398)	89.0	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[35835-80-4] V	(Z)-8-tetradecenyl acetate (353–398)	88.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[56218-64-5] V	(E)-8-tetradecenyl acetate (353–398)	89.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[16725-53-4] V	(Z)-9-tetradecenyl acetate (353–398)	89.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	V	(303–317)	90.0	310	GC	[1983OLS/JON]
C ₁₆ H ₃₀ O ₂	[23192-82-7] V	(E)-9-tetradecenyl acetate (353–398)	89.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[35153-16-3] V	(Z)-10-tetradecenyl acetate (353–398)	89.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[35153-17-4] V	(E)-10-tetradecenyl acetate (353–398)	89.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[20711-10-8] V	(Z)-11-tetradecenyl acetate (353–398)	90.0	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[33189-72-9] V	(E)-11-tetradecenyl acetate (353–398)	89.6 ± 3.5	298	CGC	[2016GOO/HAS]
	V	(353–398)	90.4	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[35153-20-9] V	(Z)-12-tetradecenyl acetate (353–398)	90.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[35153-21-0] V	(E)-12-tetradecenyl acetate (353–398)	90.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₆ H ₃₀ O ₂	[90176-51-5] V	Methyl-(Z)-10-pentadecenoate	91.7	298	CGC	[2007LIP/KAP]
C ₁₆ H ₃₀ O ₂	[373-49-9] TRS	cis-9-hexadecenoic acid (palmitoleic acid)	7.5	254.8		
	FUS		32.1	275.2	DSC	[1997SAT/YAN]
	SUB		152.1 ± 6.4	298	V+F	[2015WIL/GOB]
	V		123.0 ± 6.4	298	CGC	[2015WIL/GOB]
C ₁₆ H ₃₀ O ₂	[109-29-5] FUS	1,16-hexadecanolide	7.7	309.2	DSC	[2011EME/VER]
	V	(323–379)	81.7	323	GS	[2011EME/VER]
	V	(323–379)	79.8	345	GS	[2011EME/VER]
	V	(323–379)	78.2	364	GS	[2011EME/VER]
	V	(323–379)	77.0	379	GS	[2011EME/VER]
	V	(323–379)	83.8 ± 0.4	298	GS	[2011EME/VER]
C ₁₆ H ₃₀ O ₃	[6720-22-5] V	1,7-dioxa-8-cyclooctadecanone (403–463)	73.3	418	A	[1987STE/MAL]
C ₁₆ H ₃₀ O ₃	[36575-58-3] V	1,9-dioxa-2-cyclooctadecanone (403–463)	74.5	418	A	[1987STE/MAL]
C ₁₆ H ₃₀ O ₄	[14027-78-2]	Dipentyl adipate				

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method
C ₁₆ H ₃₀ O ₄	V	(449–575)	74.7	464	A	[1987STE/MAL]
	[505-54-4]	Hexadecanedioic acid				
	FUS+TRS		60.1	396.4	DSC	[2006VEN/MET]
	FUS		52.2	395.4	DSC	[2005ROU/TEM]
	SUB	(377–398)	151.0 ± 3.3	388	ME	[1960DAV/THO, 1987STE/MAL]
C ₁₆ H ₃₀ O ₄	SUB	(377–398)	155.4 ± 3.3	298	ME	[1960DAV/THO, 1999RIB/MON]
	[21668-03-1]	Dodecyl succinate				
C ₁₆ H ₃₀ O ₅	FUS		53.1	319.0	DSC	[2016RIC/DEL]
	V	Ocy[1-(butoxycarbonyl)ethyl]carbonate				
C ₁₆ H ₃₁ N	[5420-72-4]	(374–503)	76.2	389	A	[1987STE/MAL, 1950REH/DIX2]
	V	Hexadecanenitrile (palmitonitrile)				
	V	(345–382)	93.3 ± 0.4	298	A	[2005EME/VER]
C ₁₆ H ₃₁ NO ₃	V	(503–608)	70.1	518	A	[1987STE/MAL]
	[14246-55-0]	N-tetradecanoylglycine				
	TRS+FUS		38.7	393.6	DSC	[2014RED/KRO]
C ₁₆ H ₃₁ NO ₃	TRS		6.8	379.6		
	FUS		47.4	396.6	DSC	[1986MIY/MAT]
C ₁₆ H ₃₁ NO ₃	[14379-38-5]	N-decanoyl-(L)-leucine				
	TRS		1.2	343.1		
	FUS		27.5	383.1	DSC	[1986MIY/MAT]
C ₁₆ H ₃₁ NO ₃	[107396-12-3]	N-decanoyl-(DL)-leucine				
	FUS		28.9	357.1	DSC	[1986MIY/MAT]
C ₁₆ H ₃₂	[15220-85-6]	Tetraisobutylene				
	V	(381–440)	54.5	397		[1943STE]
C ₁₆ H ₃₂	[1795-16-0]	Decylcyclohexane				
	FUS	(12–300)	38.62	271.4	AC	[1991ACR, 1965FIN/MES]
	V	(371–425)	76.7	386	A	[1987STE/MAL]
	V	(469–571)	79.7	298		[1971WIL/ZWO]
C ₁₆ H ₃₂	V		61.6	484	A,MM	[1987STE/MAL, 1954CAM/FOR]
	[6785-23-5]	Undecylcyclopentane				
	V		80.6	298		[1971WIL/ZWO]
C ₁₆ H ₃₂	[629-73-2]	1-hexadecene				
	TRS		3.87	249.2		
	FUS		30.21	277.5		[1990MES/TOD]
	FUS	(12–304)	30.19	277.5	C	[1957MCC/FIN]
	V		80.3 ± 0.4	298	C	[1977MAN/SEL]
	V		80.3 ± 0.4	298	C	[1976STR2]
	V		80.1	298		[1971WIL/ZWO]
	V	(461–558)	61.5	476	A	[1987STE/MAL, 1954CAM/FOR]
C ₁₆ H ₃₂	[295-65-8]	Cyclohexadecane				
	TRS		19.6	268.9		
	FUS		7.6	333.7	DSC	[1987DRO/MOL]
	TRS		18.83	271.2		
	TRS		1.26	283.2		
	FUS		4.18	332.2	DSC	[1975BJO/BOR2]
	SUB		81.8 ± 0.4			[1957VAN, 1970COX/PIL]
C ₁₆ H ₃₂ O	[141694-91-9]	(Z)-3-hexadecen-1-ol				
	V	(373–413)	110.7	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[128999-42-8]	(E)-3-hexadecen-1-ol				
	V	(373–413)	110.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[145235-63-8]	(Z)-4-hexadecen-1-ol				

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(373–413)	110.6	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[59101-23-4]	(E)-4-hexadecen-1-ol				
	V	(373–413)	111.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[106463-48-3]	(Z)-5-hexadecen-1-ol				
	V	(373–413)	110.9	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[85388-16-5]	(E)-5-hexadecen-1-ol				
	V	(373–413)	111.4	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[40642-45-3]	(Z)-6-hexadecen-1-ol				
	V	(373–413)	110.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[34500-33-9]	(E)-6-hexadecen-1-ol				
	V	(373–413)	111	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[24880-48-6]	(Z)-7-hexadecen-1-ol				
	V	(373–413)	110.2	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[51824-10-3]	(E)-7-hexadecen-1-ol				
	V	(373–413)	111.4	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[64437-46-3]	(Z)-8-hexadecen-1-ol				
	V	(373–413)	110.4	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[64470-33-3]	(E)-8-hexadecen-1-ol				
	V	(373–413)	111.1	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[10378-01-5]	(Z)-9-hexadecen-1-ol				
	V	(373–413)	110.6	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[64437-47-4]	(E)-9-hexadecen-1-ol				
	V	(373–413)	111.3	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[64437-48-5]	(Z)-10-hexadecen-1-ol				
	V	(373–413)	111	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[54502-94-2]	(E)-10-hexadecen-1-ol				
	V	(373–413)	111.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[56683-54-6]	(Z)-11-hexadecen-1-ol				
	V	(373–413)	111.3	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[61301-56-2]	(E)-11-hexadecen-1-ol				
	V	(373–413)	111.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[72698-34-1]	(Z)-12-hexadecen-1-ol				
	V	(373–413)	111.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[72698-35-2]	(E)-12-hexadecen-1-ol				
	V	(373–413)	112.1	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[69282-65-1]	(Z)-13-hexadecen-1-ol				
	V	(373–413)	112.3	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[69282-66-2]	(E)-13-hexadecen-1-ol				
	V	(373–413)	112.6	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₆ H ₃₂ O	[18787-63-8]	2-hexadecanone				
	V	(382–580)	72.3	397	A	[1987STE/MAL]
C ₁₆ H ₃₂ O	[629-80-1]	Hexadecanal				
	V	(343–383)	89.7	298	CGC	[1996KOU/HOS, 2000OVA/KOU]
	V	(394–594)	67.6	409	A	[1987STE/MAL, 1947STU]
C ₁₆ H ₃₂ O ₂	[7132-64-1]	Methyl pentadecanoate				
	V		82.1	350	CE	[2002VAN/VAN]
	V		79.8 ± 0.2	372	CE	[2002VAN/VAN]
	V		89.3 ± 0.8	298	CE	[2002VAN/VAN]
	V	(433–473)	88.8	298	CGC	[1995CHI/HOS]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{16}\text{H}_{32}\text{O}_2$	[124-06-1]	Ethyl tetradecanoate	V		91.6 ± 0.9	298	GC,C	[1980FUC/PEA]
			V		93.5 ± 1.0	298	C	[1977MAN/SEL]
			V	(295–303)	87.9 ± 1.3	299		[1968BAC/NOV]
			V	(400–527)	78.3	415	A,E	[1987STE/MAL, 1963ROS/SCH]
$\text{C}_{16}\text{H}_{32}\text{O}_2$	[106-18-3]	Butyl dodecanoate	V	(333–462)	79.1	358	Static	[2013BEN/KHI2]
			V	(446–492)	79.0	464	DSC	[2011SIL/FAL]
			V	(407–568)	71.8	422	A	[1987STE/MAL]
			V	(423–483)	89.2	298	GC	[1997KRO/VEL]
$\text{C}_{16}\text{H}_{32}\text{O}_2$	[30673-38-2]	Isobutyl dodecanoate	V	(343–383)	75.8	358	A	[1987STE/MAL]
			V	(345–452)	80.0	360		[2001BUR/JOS]
$\text{C}_{16}\text{H}_{32}\text{O}_2$	[638-59-5]	Tetradecyl acetate	V	(303–340)	89.9 ± 0.2	298	GS	[2006KRA/VER]
			V	(353–398)	91.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]
			V	(411–462)	72.7	426	A	[1987STE/MAL]
			FUS		53.02	336.4	DSC	[2016CAR/CON]
$\text{C}_{16}\text{H}_{32}\text{O}_2$	[57-10-3]	Hexadecanoic acid (palmitic acid)	FUS		53.3	336.3	DSC	[2014MAX/CAR]
			FUS		56.18	333.75	DSC	[2012BEN/KHI]
			FUS		55.0	335.9	DSC	[2010SAR/BIC]
			FUS		55.9	335.4	DSC	[2009COS/SAR]
			TRS		3.8	318.8		
			FUS		53.9	335.4	DSC	[2009GBA/NEG]
			FUS		51.37	332.7	DSC	[2009ZEN/CAO]
			TRS		3.1	316.7		
			TRS		4.9	317.5		
			FUS		53.0	334.7	DSC	[2007MOR/COR]
			FUS		47.0	336.5	DSC	[2007MIS/MIS]
			FUS		52.3	335.8	DSC	[2004INO/HIS]
			FUS		53.4	337.7	DSC	[2001CED/PRI]
			FUS	(100-345)	53.7	335.7	AC	[1996DOM/HEA, 1982SCH/VAN]
			FUS		51.5	334.6	DSC	[1975BER/LEO]
			FUS		54.9	336.0	DTA	[1996DOM/HEA, 1967PAC]
			FUS		54.89	335.7	C	[1996DOM/HEA, 1952WAR/SIN]
			FUS		61.3	335.8		[1924STR/PAR]
			SUB		193.8 ± 11	298	TPD	[2008CAP/LOV]
			SUB	(273–303)	134		TPTD	[2005CHA/ZIE]
			SUB	(294–316)	154		TPTD	[2001CHA/TOB]

[Note: Experimental values based on the TPTD method are often inconsistent with values determined using other experimental methods.]

$\text{C}_{16}\text{H}_{32}\text{O}_3$	[764-67-0]	2-hydroxyhexadecanoic acid				
	SUB	(294–311)	121		TPTD	[2005CHA/ZIE]
$\text{C}_{16}\text{H}_{32}\text{O}_3$	[506-13-8]	16-hydroxyhexadecanoic acid				
	SUB	(316–329)	114		TPTD	[2005CHA/ZIE]

[Note: Experimental values based on the TPTD method are often inconsistent with values determined using other experimental methods.]

$\text{C}_{16}\text{H}_{32}\text{O}_3$	[506-13-8]	16-hydroxyhexadecanoic acid				
	SUB	(316–329)	114		TPTD	[2005CHA/ZIE]

[Note: Experimental values based on the TPTD method are often inconsistent with values determined using other experimental methods.]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₆ H ₃₂ O ₄	[43091-27-6]	6,6,14,14-tetramethyl-1,3,9,11-tetraoxacyclohexadecane					
	FUS			29.71	358.6		[1973DAL/EKE]
C ₁₆ H ₃₂ O ₄	[43091-28-7]	2,2,10,10-tetramethyl-1,3,9,11-tetraoxacyclohexadecane					
	FUS			25.94	371.3		[1973DAL/EKE]
C ₁₆ H ₃₂ O ₈	[33089-37-1]	1,4,7,10,13,16,19,22-octaoxacyclotetrasosane					
	FUS			34.5	292.2		[1972DAL/KRI]
C ₁₆ H ₃₃ Br	[112-82-3]	1-bromohexadecane					
	V			94.4 ± 1.5	298	C	[1996WEB/DEF2]
	V		(461–673)	71.9	476	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₆ H ₃₃ Cl	[4860-03-1]	1-chlorohexadecane					
	V			97.9	298		[2006BOL/NER2]
	V			96.4 ± 0.9	298	GS	[2001PUR/CHI]
	V			91.8 ± 1.1	298	C	[1977MAN/SEL]
	V		(439–600)	73.3	454	DTA	[1969KEM/KRE]
C ₁₆ H ₃₃ F	[408-38-8]	1-fluorohexadecane					
	V		(425–608)	66.1	440	A,E	[1970DYK/VAN]
C ₁₆ H ₃₃ I	[544-77-4]	1-iodohexadecane					
	FUS			46.2	295.4	DSC	[1992BAB/HWA, 1994BAB/BEN]
	V		(475–673)	99.6	298	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN, 2006BOL/NER]
	V		(475–673)	73.0	490	A,E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₆ H ₃₃ NO	[629-54-9]	Hexadecanamide					
	TRS			10.4	355.5		
	FUS			45.4	376	DSC	[2008ABA/BAD]
	SUB		(364–378)	181.6 ± 1.3	371	ME	[1959DAV/JON2, 1987STE/MAL]
C ₁₆ H ₃₃ NO	[74534-10-4]	N-hexyldecanamide					
	TRS			6.0	301		
	FUS			31.0	311	DSC	[1980CAR/BUS]
C ₁₆ H ₃₃ NO	[6284-08-8]	N-butyldodecanamide					
	FUS			39.0	322.1	DSC	[1980CAR/BUS]
C ₁₆ H ₃₃ NO	[57303-23-8]	N,N-dibutyoctanamide					
	V		(463–513)	75.6 ± 0.7	298	CGC	[2009PAN/ANT]
C ₁₆ H ₃₄	[544-76-3]	Hexadecane					
	FUS			53.2	290.9	DSC	[2015VEL/KHA]
	FUS			57.7	291.4	DSC	[2013JEO/JEO]
	FUS			53.0		DSC	[2005ESP/WHI]
	FUS			53.25	290.6	DSC	[2005HUA/SIM]
	FUS			53.0	290.7	DSC	[2004MON/RAJ]
	FUS			53.0	290.7	DSC	[1999MET/RAJ]
	FUS		U 48.9	293.2		DSC	[1992BAB/HWA, 1994BAB/BEN]
	FUS			53.35	291.3		[1996DOM/HEA, 1954FIN/GRO2]
	FUS			51.54	291.1		[1996DOM/HEA, 1949PAR/MOO2]
	SUB			135.1	298	B	[1972MOR3]
	SUB			134.9	291	B	[1963BON]
	SUB		(288–290)	U83.4 ± 8		ME	[1949BRA/SHE]
	V		(303–364)	74.9	333	GS	[2012VER/RAL]
	V		(303–364)	80.7 ± 0.4	298	GS	[2012VER/RAL]
	V		(323–383)	74.5	353	TGA	[2012VER/RAL]
	V		(323–383)	81.7 ± 0.8	298	TGA	[2012VER/RAL]
	V			81.8 ± 1.3	298	CGC	[2000NIC/ORF]
	V		(453–503)	81.4	298	CGC	[1995CHI/HOS]
	V		(423–473)	81.4	298	CGC	[1995CHI/HOS]
	V		(363–413)	81.2	298	CGC	[1995CHI/HOS]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_{16}\text{H}_{34}$	V	(393–583)	68.5	408		[1994MOR/KOB]
	V		81.4	298		[1994RUZ/MAJ]
	V	(505–589)	59.8	520		[1992LEE/DEM]
	V	(323–423)	74.9	338	A	[1987STE/MAL]
	V		66.9	343	GC	[1977NOV/NOV]
	V		66.2	353	GC	[1977NOV/NOV]
	V		65.6	363	GC	[1977NOV/NOV]
	V		64.9	373	GC	[1977NOV/NOV]
	V		64.2	383	GC	[1977NOV/NOV]
	V		81.4 ± 0.4	298	C	[1972MOR2]
	V		81.1	298		[1971WIL/ZWO]
	V		70.6 ± 0.4	298	C	[1963MOR/SUN]
	V	(467–563)	61.7	482	A,MM	[1987STE/MAL, 1954CAM/FOR]
	V	(299–324)	93.4	311	ME	[1949PAR/MOO]
	V	(293–308)	80.2	300	ME	[1949BRA/SHE2]
	V	(442–469)	65.7	455	ME	[1938UBB]
$\text{C}_{16}\text{H}_{34}$	[1560-93-6]	2-methylpentadecane				
	V	(417–554)	62.0	432	A	[1987STE/MAL]
	[2882-96-4]	3-methylpentadecane				
	V	(417–555)	61.0	432	A	[1987STE/MAL]
	[2801-87-8]	4-methylpentadecane				
	V	(411–553)	57.8	426	A	[1987STE/MAL]
	[25117-33-3]	5-methylpentadecane				
	V	(408–551)	57.3	423	A	[1987STE/MAL]
	[6165-40-8]	7-methylpentadecane				
	V	(355–410)	66.3	370	A	[1987STE/MAL]
	[18435-23-9]	2,3-dimethyltetradecane				
	V	(412–554)	57.4	427	A	[1987STE/MAL]
	[61868-06-2]	2,4-dimethyltetradecane				
	V	(404–539)	60.6	419	A	[1987STE/MAL]
	[103392-36-5]	2,4,6-trimethyltridecane				
	V	(395–521)	59.1	410	A	[1987STE/MAL]
$\text{C}_{16}\text{H}_{34}$	[4390-04-9]	2,2,4,4,6,8,8-heptamethylnonane				[1988AMB/GHI]
	V	(423–545)	52.4	438		
	[78715-64-7]	3,3,6,6-tetraethyloctane				
	V	(301–330)	73.0 ± 1.9	308	HSA	[1995CHI/HES]
	V		74.3 ± 1.9	298		[1995CHI/HES]
	V		72.3 ± 1.8	298	CGC	[1995CHI/HES]
$\text{C}_{16}\text{H}_{34}\text{N}_2$	[39198-34-0]	bis(1,1,3,3-tetramethylbutyl)diazene				
	V		66.5 ± 0.6	298	C	[1976ENG/MEL]
	[36653-82-4]	1-hexadecanol				
	FUS		60.96	322.9	DSC	[2016CAR/CON]
	FUS		36.4	323.3	DSC	[2014CAR/DOS]
	TRS + FUS		56.4	323.2	DSC	[2014MAX/CAR]
	FUS	(80–370)	57.7	322.2	AC	[2008XIN/TAN]
	TRS		24.2	321.1		
	FUS		33.1	321.6	DSC	[2005MET/LEF]
	FUS		33.1	321.6	DSC	[2004VEN/CAL]
	TRS		21.21	322.2		[1979KUC/SKU]
	FUS		33.97	322.9		[1979KUC/SKU]
	TRS + FUS		53.45	322.45	DSC	[1978ECK/MUL]
	TRS (γ to α)		23.7	322.2		
	FUS (α)		33.6	322.3		

[Note: The value includes the enthalpy for the transition that occurred at 322.3 K.]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	FUS (γ)			58.41	322.2	AC	[1974MOS/MOU]
	TRS			24.8	315		
	FUS			30.8	322	C	[1950KAK/SAK]
	SUB	(308–320)		167.4 ± 2.1	314	ME	[1965DAV/KYB, 1987STE/MAL]
	SUB			169.5 ± 2.1	298		[1965DAV/KYB]
	V			107.7 ± 1.2	298	CGC	[2006NIC/KWE]
	V	(328–362)		100.4	347	GS	[2001KUL/VER2]
	V	(328–362)		108.8	298	GS	[2001KUL/VER2]
	V			112.5	298	CGC	[2000OVA/KOU]
	V	(343–463)		88.2	403		[1992NGU/KAS]
	V	(509–569)		68.9	524	A	[1987STE/MAL]
	V	(415–487)		83.2	430	A	[1987STE/MAL, 1974AMB/ELL]
	V	(323–335)		109.4	329	A	[1987STE/MAL]
	V	(323–376)		112.3	338		[1973WIL/ZWO]
	V	(418–463)		78.8	423		[1973WIL/ZWO]
	V	(498–569)		70.0	513	A,EB	[1987STE/MAL, 1970AMB/SPR]
	V	(445–598)		77.3	460	DTA	[1969KEM/KRE]
	V	(323–335)		109.5	329	ME	[1965DAV/KYB]
C ₁₆ H ₃₄ O	[14852-31-4]	2-hexadecanol					
	V	(333–453)		102.2	348		[1999NGU/BER]
C ₁₆ H ₃₄ O	[629-82-3]	Dioctylether		55.75		DSC	[2014HAS/JIR]
C ₁₆ H ₃₄ O ₂	[7735-42-4]	1,16-hexadecanediol					
	FUS+TRS			72.8	366.0	DSC	[2014BAD/NOW]
	TRS			36.18	366.5		
	FUS			27.14	367.1	DSC	[2009EGO/MAR]
	FUS			64.2	365.4	DSC	[1990OGA/NAK]
	V			163.3 ± 4.8	298	CGC	[2006UMN/KWE]
	V			130.4 ± 3.6	398		[1993PIA/FER, 2006UMN/KWE]
	V			147.5 ± 4.3	298		[1993PIA/FER, 2006UMN/KWE]
C ₁₆ H ₃₄ O ₂ S	[126835-77-6]	3-(tridecythio)-1,2-propanediol					
	TRS			11.3	296.9		
	FUS			22.7	330.6	DSC	[1993ACR, 1990VAN/VAN]
C ₁₆ H ₃₄ O ₃	[10431-00-2]	3-(tridecyloxy)-1,2-propanediol					
	FUS			51.4	324.2	DSC	[1993ACR, 1990VAN/VAN]
C ₁₆ H ₃₄ O ₃	[3055-93-4]	2[2-(dodecyloxy)ethoxy]ethanol					
	V	(448–489)		82.1	463	A	[1987STE/MAL, 1974NAK/EDA]
C ₁₆ H ₃₄ O ₄ S ₂		2-deoxy-(D)-glucose dipentyl dithioacetal					
	FUS			63.1	393.3	DSC	[1989VAN/VAN]
C ₁₆ H ₃₄ O ₄ S ₂		(L)-rhamnose dipentyl dithioacetal					
	FUS			46.5	388.2	DSC	[1989VAN/VAN]
C ₁₆ H ₃₄ O ₅ S ₂	[115395-53-4]	(D)-glucose dipentyl dithioacetal					
	FUS			49.1	389	DSC	[1989VAN/VAN]
C ₁₆ H ₃₄ O ₅ S ₂	[123389-86-6]	(D)-galactose dipentyl dithioacetal					
	TRS			2.7	384.6		
	FUS			41.1	392.1	DSC	[1989VAN/VAN]
C ₁₆ H ₃₄ S	[2917-26-2]	1-hexadecanethiol					
	V	(470–643)		72.4	485		[1999DYK/SVO]
C ₁₆ H ₃₄ S	[2690-08-6]	Dioctyl sulfide					
	V	(335–442)		71.6	388		[2004SAW/MOK]
	V	(465–550)		95.0 ± 10.7	298	EB	[1997STE/CHI4]
	V	(465–550)		72.0 ± 0.6	460	EB	[1997STE/CHI4]
	V	(465–550)		67.8 ± 0.5	500	EB	[1997STE/CHI4]

TABLE 12. Phase change enthalpies of C₁₄ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)
$\text{C}_{16}\text{H}_{34}\text{S}_2$	V	(465–550)	63.7 ± 0.6	540	EB	[1997STE/CHI4]
	[822-27-5]	Dihethyl disulfide				
$\text{C}_{16}\text{H}_{35}\text{N}$	V	(479–656)	73.9	494		[1999DYK/SVO]
	[1120-48-5]	Diethylamine				
	V		92.6 ± 7.6	298	CGC	[2014THO/GOB]
	V	(448–597)	87.1 ± 1.3	298	EB	[1996STE/CHI3]
	V	(448–597)	72.2 ± 0.7	440	EB	[1996STE/CHI3]
	V	(448–597)	67.8 ± 0.6	480	EB	[1996STE/CHI3]
	V	(448–597)	63.4 ± 0.6	520	EB	[1996STE/CHI3]
$\text{C}_{16}\text{H}_{35}\text{N}$	V	(448–597)	58.6 ± 0.7	560	EB	[1996STE/CHI3]
	V	(448–597)	53.4 ± 1.1	600	EB	[1996STE/CHI3]
$\text{C}_{16}\text{H}_{35}\text{N}$	[143-27-1]	Hexadecylamine				
	V	(498–609)	66.9	513	A	[1987STE/MAL]
$\text{C}_{16}\text{H}_{35}\text{N}$	[112-75-4]	<i>N,N</i> -dimethyltetradecylamine				
	V		77.3 ± 1.9	298	CGC	[2014GOB/VIK]
$\text{C}_{16}\text{H}_{35}\text{N}$	[99916-30-0]	<i>N,N</i> -dimethyl-2-pentylhexylamine				
	V	(401–552)	64.8	425	EB	[1987MIL/FEN2]
$\text{C}_{16}\text{H}_{35}\text{NO}_2$	[126835-68-5]	3-(tridecylamino)-1,2-propanediol				
	FUS		68.7	354.9	DSC	[1993ACR, 1990VAN/VAN]
$\text{C}_{16}\text{H}_{36}\text{N}_2$	[60678-70-8]	Tetrabutyl hydrazine				
	V	(392–453)	51.1	407	A	[1987STE/MAL, 1943WES/EUC]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds

Molecular formula	CAS Registry Number	Compound					
			Temperature Range	$\Delta_{\text{trans}}H_m$ (kJ mol)	T_m (K)	Method	
C ₁₇ H ₁₀ CIN ₃ O ₃	[191978-90-2]	1-(4-chlorobenzoyl)-1,2-dihydro-6-nitro-1-quolinecarbonitrile					
	FUS		25.62	430.5	DSC	[2005LIZ/ZAB]	
C ₁₇ H ₁₀ O	[82-05-3]	Benzanthrone					
	FUS		26.36	446.8	CVC	[2014FON/GUS]	
	SUB		127.3 ± 0.6	298	ME	[2014FON/GUS]	
	SUB		(388–402)	122.5 ± 0.6	395	ME	[2011SAN/LIM]
	SUB		(388–402)	125.3 ± 1.1	298	ME	[2011SAN/LIM]
	SUB		(389–403)	122.6 ± 0.7	396	ME	[2011SAN/LIM]
	SUB		(389–403)	125.4 ± 1.1	298	ME	[2011SAN/LIM]
	SUB		(392–408)	122.4 ± 0.5	400	ME	[2011SAN/LIM]
	SUB		(392–408)	125.4 ± 1.0	298	ME	[2011SAN/LIM]
	SUB		(390–410)	122.6 ± 0.6	400	ME	[2006RIB/MON]
	SUB		(390–410)	125.6 ± 0.6	298	ME	[2006RIB/MON]
	SUB		(389–409)	121.6 ± 0.6	399	ME	[1999RIB/FER]
	SUB		(389–409)	126.6 ± 0.6	298	ME	[1999RIB/FER]
	SUB		(373–393)	129.7 ± 2.1	298	QR	[1999RIB/FER]
	SUB		(373–393)	125.5 ± 2.1	382	QR	[1999RIB/FER]
	SUB		(353–388)	119.7 ± 5.4	370	ME	[1984BUR/MOR]
	SUB		(353–388)	124.6 ± 6.0	298	ME	[1984BUR/MOR]
	SUB			114.2 ± 0.8	QR	[1979YAN/TEP]	
	SUB			115.5	398	ME	[1952INO/SHI, 1960JON]
	V		(498–673)	91.4	513	A	[1987STE/MAL, 1947STU]
C ₁₇ H ₁₀ O	[116232-62-3]	Benzo[<i>a</i>]fluorenone					
	FUS		15.6	406.9	DSC	[2010KES/AUC]	
C ₁₇ H ₁₀ O		1-pyrenecarboxaldehyde					
	TRS		2.8	340.4		[2015SAN/OLI]	
	FUS		11.0	399.9	DSC	[2015SAN/OLI]	
	SUB		(377–400)	110.9 ± 0.4	388	ME	[2015SAN/OLI]
	SUB (I)		(377–400)	114.6 ± 0.4	298	ME	[2015SAN/OLI]
	SUB (II)		(377–400)	117.4 ± 0.4	298	ME	[2015SAN/OLI]
C ₁₇ H ₁₁ ClN ₂ O ₂	[191979-25-6]	2-cyano-1(2 <i>H</i>)-quinolinecarboxylic acid, 4-chlorophenyl ester					
	FUS		37.19	424.2	DSC	[2005LIZ/ZAB]	
C ₁₇ H ₁₁ N	[225-11-6]	Benz[<i>a</i>]acridine					
	FUS		21.9	402.8	DSC	[2010KES/AUC]	
C ₁₇ H ₁₁ N	[225-51-4]	Benz[<i>c</i>]acridine					
	FUS		20.3	381.4	DSC	[2010KES/AUC]	
C ₁₇ H ₁₂	[238-84-6]	1,2-benzofluorene					
	TRS		3.8	399.9			
	FUS		18.4	462.8	DSC	[1996DOM/HEA, 1979FAR/SHA]	
	SUB		(313–453)	105.4	383	GS	[1995NAS/LEN]
	V		(323–473)	83.7	398	GC	[2002LEI/CHA]
C ₁₇ H ₁₂	[243-17-4]	2,3-benzofluorene					
	FUS		23.4	489.7	DSC	[1996DOM/HEA, 1979FAR/SHA]	
	SUB		(344–398)	119.3 ± 1.3	371	ME	[1998OJA/SUU]
	SUB		(313–453)	111.2	383	GS	[1995NAS/LEN]
	V			97.5 ± 3.9	298	CGC	[2008HAN/NUT]
	V		(323–473)	84.7	398	GC	[2002LEI/CHA]
C ₁₇ H ₁₂	[2381-21-7]	1-methylpyrene					
	V		(423–493)	92.3 ± 1.3	298	GC	[2006HAF/PAR]
C ₁₇ H ₁₂ Cl ₂ N ₄	[28911-01-5]	8-chloro-6-(2-chlorophenyl)-1-methyl-4 <i>H</i> -[1,2,4]triazolo[4,3-a][1,4]benzodiazepme (triazolam)					
	FUS		41.0	514.5	DSC	[2008WAS/HOL]	

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number Enthalpy	Compound				
		Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
C ₁₇ H ₁₂ N ₂ O ₂	[40448-93-9] FUS	2-cyano-1(2 <i>H</i>)-quinoliniccarboxylic acid, phenyl ester	31.52	399	DSC	[2005LIZ/ZAB]
C ₁₇ H ₁₂ O	[152464-07-8] FUS	4-ethynyl-1-[(4-ethynylphenyl)methoxy]benzene	21.2	371.2	DSC	[1994MEL/LIT]
C ₁₇ H ₁₂ O ₂	[24776-44-1] FUS	4-benzoyl-1-naphthol	28.64	440.6	DSC	[1991ACR, 1990DOM2]
C ₁₇ H ₁₂ O ₂	[6333-07-9] FUS	1-benzoyl-2-naphthol	31.35	414.1	DSC	[1991ACR, 1990DOM2]
C ₁₇ H ₁₂ O ₂	[21009-99-4] FUS	2-benzoyl-1-naphthol	20.18	343.9	DSC	[1991ACR, 1990DOM2]
C ₁₇ H ₁₂ O ₂	[607-55-6] FUS	1-naphthyl benzoate	16.98	329.2		[1981BYS]
C ₁₇ H ₁₂ O ₂	[93-44-7] FUS	2-naphthyl benzoate	26.23	381.2		[1981BYS]
C ₁₇ H ₁₃ CIN ₄	[28981-97-7] FUS FUS	8-chloro-1-methyl-6-phenyl-4 <i>H</i> -[1,2,4]triazolo[4,3-a][1,4]-benzodiazepine (alprazolam)	32.0 30.68	501.8 500.2	DSC DSC	[2008WAS/HOL] [2007NOV/PEE]
C ₁₇ H ₁₃ F ₃ O	[172424-70-3] FUS	4- <i>n</i> -propoxy-2', 3', 4'-trifluorodiphenylacetylene	26.1	327.3	DSC	[1995HSU/TSA]
C ₁₇ H ₁₃ N	[6626-64-8] SUB	5-methyl-5 <i>H</i> -indeno[2,1-b] quinoline	131.8 ± 1.3			[1966GEI/QUI, 1970COX/PIL]
	V	(375–388)	122.2	381	A	[1966GEI/QUI, 1970COX/PIL]
C ₁₇ H ₁₄ CIN ₅ O	[1449745-80-5] FUS	5-benzyloxyypyridine-2-aldehyde 6'-chloro-4'-pyrimidinylhydrazone	41	471.9	DSC	[2013PER/KAZ]
C ₁₇ H ₁₄ F ₂	[145698-43-7] FUS	4- <i>n</i> -propyl-3', 4'-difluorodiphenylacetylene	20.2	311	DSC	[1995HSU/TSA]
C ₁₇ H ₁₄ F ₂ O	[172424-67-8] FUS	4- <i>n</i> -propoxy-2', 4'-difluorodiphenylacetylene	25.2	326.9	DSC	[1995HSU/TSA]
C ₁₇ H ₁₄ F ₃ N ₃ O ₂ S	[169590-42-5] FUS FUS FUS FUS FUS FUS	4-[5-(3-methylphenyl)-3-(trifluoromethyl)-1 <i>H</i> -pyrazol-1-yl]-benzenesulphonamide (celecoxib)	38.48 32.07 34.9 37.42 31.86 34.35	433.2 433.8 434.3 436 437 436	DSC DSC DSC DSC DSC DSC	[2015GAU/VAN] [2015NUR/BOO] [2013MOD/DAN] [2010BAI/VAN] [2009THI/SUB] [2003CHA/GUP]
C ₁₇ H ₁₄ N ₂ O ₂	[1229-55-6] SUB	1-[(2-methoxyphenyl)azo]-2-hydroxynaphthalene (374–388)	142.4 ± 2.2	381		[1984KRI]
C ₁₇ H ₁₄ N ₂ O ₂	[1156-51-0] FUS	2,2-bis(4-cyanatophenyl)propane	26.69	355.8		[1996DOM/HEA, 1977LEB/RAB]
C ₁₇ H ₁₄ N ₄ O ₃	[243445-12-7] FUS	2[4,5-dihydro-5-oxo-4-phenyl-3-(2-pyridyl)-1,2,4-triazine-6(1 <i>H</i>)-ylidene]acetic acid, methyl ester	21.6	420.6	DSC	[2005SIK/MOD]
C ₁₇ H ₁₄ O	[24330-03-8] FUS	2:3,6:7-dibenzobicyclo[3.2.2]nona-2,6-dien-4-one	10.9	383.2	DSC	[2006PER/CON]
	V	94.5 ± 2.2	298		CGC	[2006PER/CON]
C ₁₇ H ₁₄ O ₄ S	[162011-90-7] FUS	3-phenyl-4-[4-(methylsulfonyl)phenyl]-2(5 <i>H</i>)-furanone (rofecoxib)	11.98	482.1	DSC	[2008TUN/TAB]
C ₁₇ H ₁₄ O ₅	[117-52-2] FUS	3-[1-(2-furanyl)-3-oxobutyl]-4-hydroxy-2 <i>H</i> -1-benzopyran-2-one	33.88	391.8	DSC	[1990DON/DRE]
C ₁₇ H ₁₅ F	[145698-32-4]	4- <i>n</i> -propyl-4'-fluorodiphenylacetylene				

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		FUS			24.1	324	DSC	[1995HSU/TSA]
C ₁₇ H ₁₅ FO	[145532-20-3]	4-n-propoxy-4'-fluorodiphenylacetylene			27.1	356.8	DSC	[1995HSU/TSA]
C ₁₇ H ₁₅ NO ₂	[154924-24-0]	1-[(4-nitrophenyl)ethynyl]-4-propylbenzene			23.26	351.3	DSC	[2002SPA/DZI]
C ₁₇ H ₁₅ NO ₃	[483362-78-3]	1-[(4-nitrophenyl)ethynyl]-4-propoxy benzene			31.42	377	DSC	[2002SPA/DZI]
C ₁₇ H ₁₅ NO ₃	[31842-01-0]	4-(1,3-dihydro-1-oxo-2 <i>H</i> -isoindol-2-yl)- α -methylbenzeneacetic acid (\pm)-indoprofen			36.04	485	DSC	[2010BAI/VAN]
		FUS			40.3	484.6	DSC	[2006WAS/HOL, 2008WAS/HOL]
C ₁₇ H ₁₅ NO ₃ S	[313057-10-2]	4-(4-pentyloxy)phenyl 5-cyano-2-thiophene carboxylate			72.8	337.6	DSC	[2000WU/WAN]
C ₁₇ H ₁₅ N ₃ O ₃	[111888-46-1]	3-methyl-N-(2-methylphenyl)-2-quinoxalinecarboxamide-1,4-dioxide	SUB		154.8 ± 3.0	298	ME	[2007GOM/SOU2]
C ₁₇ H ₁₆ Br ₂ O ₃	[18181-80-1]	isopropyl 4,4'-dibromobenzilate	FUS		24.55	348.1	DSC	[1996DOM/HEA, 1990DON/DRE]
C ₁₇ H ₁₆ C ₁ N ₅ O ₃	[40880-51-1]	3-[[4-[(2-chloro-4-nitrophenyl)azo]phenyl](2-hydroxyethyl)amino]propanenitrile	FUS		26.29	428.2		[1991BAU/WEB]
		SUB		(398–408)	127.1	403	GC	[2002SAW/SHI]
		V		(423–503)	104.9	463	GC	[2002SAW/SHI]
C ₁₇ H ₁₆ F ₄ N ₄ O ₂	[91488-84-5]	<i>N</i> -ethyl- <i>N</i> -(2,2,3,3-tetrafluoropropyl)-4-[4-nitrophenyl]azobenzenamine	SUB		103		UV	[1984KAR/ROD]
C ₁₇ H ₁₆ F ₄ N ₄ O ₄	[1543-74-4]	2-[[4-(4-nitrophenyl)azo]phenyl](2,2,3,3-tetrafluoropropyl)amino]ethanol	SUB		103		UV	[1984KAR/ROD]
C ₁₇ H ₁₆ N ₂ O ₄	[129555-39-1]	5-phenoxyxymethyl-3-phenylcarbamoyl-2-oxazolidone	FUS		12.9	415.9	DSC	[1990SHI/HAY]
C ₁₇ H ₁₆ OS	[37014-01-0]	tetrahydro-2,6-diphenyl-4 <i>H</i> -thiopyran-4-one	SUB		136	375	ME	[1972GEI/SAW]
		SUB		144 ± 3	298		ME	[1972GEI/SAW, 1977PED/RYL]
C ₁₇ H ₁₆ O ₄	[54334-63-3]	diphenylmethylenediacetate	FUS		27.32	392.9	DSC	[1996VER/PEN]
		SUB		(348–388)	122.1 ± 1.2	368	GS	[1996VER/PEN]
		SUB		(348–388)	123.6 ± 1.2	298	GS	[1996VER/PEN]
C ₁₇ H ₁₇ ClO ₆	[126-07-8]	([1 <i>S</i>]- <i>trans</i> -7-chloro-,2',4,6-trimethoxy-6'-methylspiro[benzofuran-2(3 <i>H</i>),1'-(2)cyclohexene]-3,4'-dione(griseofulvin)						
		FUS			39.3	489.5	DSC	[2015NUR/BOO]
		FUS (I)			42.3	493.2		
		FUS (II)			28.6	487.2		
		FUS (III)			35.6	478.2	DSC	[2013MAN/WIL]
		FUS			39.12	491	DSC	[2010BAI/VAN]
		FUS			37.8	494.2	DSC	[2010MUR/PIK2]
		FUS			36.7	489.9	DSC	[2008ZHO/ZHA]
		FUS			41.0	493.2	DSC	[2007VIP/WAN]
		FUS			44.7	491.2	DSC	[2006WAS/HOL, 2008WAS/HOL]
		FUS			41.2	493.0	DSC	[1995WUL/ALD]
		FUS			39.39	495.2		[1983GRA/ABO]
C ₁₇ H ₁₇ Cl ₂ N ₅ O ₄		<i>N</i> -[4-chloro-2-[(2-chloro-4-nitrophenyl)azo]-5-[(2-hydroxypropyl)amino]phenyl] acetamide	FUS		38.87	471.2		[1991BAU/WEB]
C ₁₇ H ₁₇ NO	[1404112-27-1]	<i>N</i> -(4'-methylbiphenyl-3-yl)cyclopropanecarboxamide						

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
		FUS		40.4	469.5	DSC	[2015OWU/CHE]
C ₁₇ H ₁₇ NO ₄	[483362-67-0]	2-(4-nitrophenyl)-1-(4-propoxyphenyl)ethanone					
		FUS		31.97	372.4	DSC	[2002SPA/DZI]
C ₁₇ H ₁₇ NO ₄	[1161-13-3]	<i>N</i> -benzyloxycarbonyl- <i>L</i> -3-phenylalanine					
		FUS	(79-395)	31.77	358.8	AC	[2010ZHA/SUN]
		FUS		27.3	359.1	DSC	[2010ZHA/SUN]
C ₁₇ H ₁₇ N ₅ O ₂	[31482-56-1]	4-nitro-4'-[<i>N</i> -2-cyanoethyl- <i>N</i> -ethylamino]azobenzene					
	SUB			147.3			[1984KAR/KRU]
C ₁₇ H ₁₇ N ₅ O ₄	[231629-80-4]	6-(4-methoxyphenyl)-3,9-dihydro-3-[(2-hydroxyethoxy)methyl]-9-oxo-5 <i>H</i> -imidazol[1,2-a]pyrine					
	FUS			48.41	507.3	DSC	[1999ZIE/GOL]
C ₁₇ H ₁₈ ClNO ₂ S	[178870-32-1]	<i>N</i> -[4-chloro-3-[(3-methyl-2-but enyl)oxy]phenyl]-2-methyl-3-furancarbothiamide					
	FUS			36.94	400.8	DSC	[2001DAM/BLA]
C ₁₇ H ₁₈ FNO ₂	[164591-98-4]	4- <i>trans</i> -(3-fluoro-4-cyanophenyl)cyclohexyl-(<i>E</i>)-but-2-enoate					
	FUS			21.1	393.2	DTA	[1995KEL/SCH]
C ₁₇ H ₁₈ FN ₃ O ₃	[85721-33-1]	1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-3-quinolinecarboxylic acid (ciprofloxacin)					
	FUS			64.48	541.5	DSC	[1994YU/ZIP]
C ₁₇ H ₁₈ N ₂ O ₃ S	[479578-81-9]	4-methoxy- <i>N</i> -[[[(3-methoxyphenyl)methyl]amino]thioxomethyl]benzamide					
	FUS			31.02	389.2	DSC	[2002ABB/WOH]
C ₁₇ H ₁₈ N ₂ O ₆	[21829-25-4]	1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-3,5-pyridinedicarboxylic acid dimethyl ester (nifedipine)					
	FUS			38.1	446.1	DSC	[2015NUR/BOO]
	FUS			37.6	446.6	DSC	[2015KUM/THI]
	FUS			38.19	446	DSC	[2010BAI/VAN]
	FUS (I)			36.0	444.2		
	FUS (II)			24.2	435.2	DSC	[2007GRO/DEV, 2011GRO/LIE]
	FUS			39.9	445.3	DSC	[2006MAR/KON]
	FUS			36.6	445.3	DSC	[2004MAR/KOZ]
	FUS			38.0	449.2	DSC	[1997SQU/NEE]
C ₁₇ H ₁₈ N ₄ O ₅	[3846-49-9]	<i>N</i> , <i>N</i> '-diethyl- <i>N</i> , <i>N</i> '-bis(4-nitrophenyl)urea (4,4'-dinitroethylcentralite)					
	FUS			35.60	420.5	DSC	[2010MEK/KHI]
C ₁₇ H ₁₈ O ₃	[15131-43-8]	2-hydroxy-4-butoxybenzophenone					
	V	(393-443)		92.7	418	ME	[1984SUR]
C ₁₇ H ₁₈ O ₃	[87-18-3]	4- <i>tert</i> -butylphenyl salicylate					
	SUB	(293-336)		137.4	308	A	[1987STE/MAL]
	V	(336-438)		90.4	351	A, UV	[1987STE/MAL, 1960SCH/HIR]
C ₁₇ H ₁₈ O ₄	[101595-31-7]	2-hydroxy-4,4'-diethoxybenzophenone					
	FUS			34.7	373.6	DSC	[1999PRI/HAW]
	SUB			134.9		B	[1999PRI/HAW]
	V			100.2		TGA	[1999PRI/HAW]
C ₁₇ H ₁₈ O ₄		2-oxopropyl 2-(6-methoxy-2-naphthyl)propionate					
	FUS			32.4	355.2	DSC	[1994WEB/MEY]
C ₁₇ H ₁₈ O ₄ S	[313057-14-6]	4-(4-pentenoxy)phenyl 5-methoxy-2-thiophene carboxylate					
	FUS			74.48	333.7	DSC	[2000WU/WAN]
C ₁₇ H ₁₈ O ₈ P ₂	[55120-33-7]	3,9-diphenoxy-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane-3,9-dioxide					
	FUS			36.46	469.58	DSC	[2010GUO/WAN2]
C ₁₇ H ₁₉ F ₃ O ₃	[164591-97-3]	4- <i>trans</i> -(trifluoromethoxyphenyl)cyclohexyl-(<i>E</i>)-but-2-enoate					
	FUS			21.6	340.2	DTA	[1995KEL/SCH]
C ₁₇ H ₁₉ NO ₃	[57-27-2]	7,8-didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol (morphine)					
	FUS			42.23	529/7	DSC	[2015MUS/MAT]
	FUS			28.87	528.2	DTA	[1988ROY/FLY]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₇ H ₁₉ NO ₃	[466-99-9]	hydromorphone			38.53	531.8	DSC	[2015MUS/MAT]
C ₁₇ H ₁₉ NO ₃	FUS	(<i>E,E</i>)-1-piperoylpiperidine (piperine)			31.38	405.7		
	[94-62-2]				25.10	401.2		
	FUS (I)				24.69	389.7	DSC	[2015PFU/CHA]
	FUS (II)							
	FUS (III)							
C ₁₇ H ₁₉ NO ₄	[72490-01-8]	<i>N</i> -[2-(4-phenoxyphenoxy)ethyl]carbamic acid, ethyl ester (fenoxy carb)						
	FUS				28.46	326.7	DSC	[2013KUH/SVA]
	FUS		(79–360)		26.98	326.3	AC	[2005SUN/LIU4]
C ₁₇ H ₁₉ NO ₄	[76-41-5]	Oxymorphone			25.01	518.3	DSC	[2015MUS/MAT]
C ₁₇ H ₁₉ N ₃ O ₃	[850836-67-8]	6-(acetylamino)-2-cyano-1(<i>2H</i>)-quinolinecarboxylic acid, 2-methylpropyl ester			19.83	404.6	DSC	[2005LIZ/ZAB]
C ₁₇ H ₁₉ N ₃ O ₃	FUS							
C ₁₇ H ₁₉ N ₃ O ₃	[191979-20-1]	6-(acetylamino)-2-cyano-1(<i>2H</i>)-quinolinecarboxylic acid, butyl ester			36.44	436.1	DSC	[2005LIZ/ZAB]
C ₁₇ H ₂₀ N ₂ O	[85-98-3]	<i>N,N'</i> -diethyl- <i>N,N'</i> -diphenylurea (ethyl centralite)			33.54	345.0	DSC	[2010MEK/KHI, 2013TRA/KHI]
C ₁₇ H ₂₀ N ₂ O ₂ S	[373642-58-1]	<i>N,N'</i> -bis[(3-methoxyphenyl)methyl]thiourea			33.22	354.7	DSC	[2002ABB/WOH]
C ₁₇ H ₂₀ O ₂	[6397-77-9]	Diethoxydiphenylmethane			19.9	323.2		[1998VER/PEN]
	SUB				97.1 ± 1.1	298		[1998VER/PEN]
C ₁₇ H ₂₀ O ₃	FUS	Propyl 2-(6-methoxy-2-naphthyl)propionate			25.3	327.1	DSC	[1994WEB/MEY]
C ₁₇ H ₂₀ O ₃	FUS							
C ₁₇ H ₂₀ O ₃	FUS	1-methylethyl 2-(6-methoxy-2-naphthyl)propionate			26.0	338.3	DSC	[1994WEB/MEY]
C ₁₇ H ₂₀ O ₄	FUS	3-hydroxypropyl 2-(6-methoxy-2-naphthyl)propionate			17.9	320.8	DSC	[1994WEB/MEY]
C ₁₇ H ₂₀ O ₄	FUS							
C ₁₇ H ₂₀ O ₄	FUS	2-hydroxypropyl 2-(6-methoxy-2-naphthyl)propionate			26.6	341.5	DSC	[1994WEB/MEY]
C ₁₇ H ₂₀ O ₅	FUS	2,3-dihydroxypropyl 2-(6-methoxy-2-naphthyl)propionate			29.0	343.9	DSC	[1994WEB/MEY]
C ₁₇ H ₂₁ ClO ₄	[104225-37-8]	3-(3-chloro-4-methoxybenzoyl)-1,2,2-trimethylcyclopentanecarboxylic acid			29.1	440.2	DSC	[1992TER/PAU]
C ₁₇ H ₂₁ F ₁₅	[139277-00-2]	1,1,1,2,3,3,4,4,5,5,6,6-dodecafluoro-2-(trifluoromethyl)hexadecane						
	TRS				3.0	220		
	FUS				18.0	261	DSC	[1992HOP/MOL]
C ₁₇ H ₂₁ N	[156-08-1]	(<i>S</i>)-benzphetamine						
	V				77.2 ± 0.7	298	CGC	[2014GOB/VIK]
C ₁₇ H ₂₁ NO ₂	[15299-99-7]	<i>N,N</i> -diethyl-2-(1-naphthoxy)propionamide			24.57	345.3	DSC	[1990DON/DRE]
C ₁₇ H ₂₁ NO ₃	[509-60-4]	4,5-epoxy-3-hydroxy-17-methylmorphinan-6-one (hydromorphone)			35.61	539.2	DSC	[1988ROY/FLY]
C ₁₇ H ₂₁ NO ₃	FUS							
C ₁₇ H ₂₁ NO ₃	[41340-25-4]	2-[<i>(1RS)-1,8-diethyl-1,3,4,9-tetrahydropyrano[3,4b]-indol-1-yl</i>]acetic acid (etodolac)			26.2	426.9	DSC	[2014RAT/DES]
C ₁₇ H ₂₁ NO ₄	[50-36-2]	Cocaine			127.2		GS	[1996ZIE/EIK]
	SUB				(294–314)	112.3 ± 2.8	GS	[1984LAW/ELI]
C ₁₇ H ₂₁ NO ₆	[146607-85-4]	3-(3-nitro-4-methoxybenzoyl)-1,2,2-trimethylcyclopentanecarboxylic acid						

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	FUS			32.36	426.9	DSC	[1992TER/PAU]
C ₁₇ H ₂₁ N ₃ O ₂	[3771-38-8]	2,2'-[[3-methyl-4-(phenylazo)phenyl]imino]bisethanol					
	FUS			31.9	384.2		[1988BAU/PER]
C ₁₇ H ₂₂ N ₂ OS	[1383254-27-0]	1-[4-(1-thia-3-azaspiro[5.5]undec-2-en-2-ylamino)phenyl]ethanone					
	FUS			32.5	436.6	DSC	[2012BLO/OLK, 2013OLK/BLO]
	SUB	(373–397)		151.6 ± 1.4	385	GS	[2013OLK/BLO]
	SUB	(373–397)		156.0 ± 1.4	298	GS	[2013OLK/BLO]
C ₁₇ H ₂₂ N ₂ O ₆	[76035-96-6]	(<i>I</i>)-menthyl 3,5-dinitrobenzoate					
	FUS			34.4	427.2	DTA	[1981CHI/GAR]
C ₁₇ H ₂₂ N ₂ O ₆	[80124-31-8]	(<i>dl</i>)-menthyl 3,5-dinitrobenzoate					
	FUS			30.6	401.2	DTA	[1981CHI/GAR]
C ₁₇ H ₂₂ O ₃	[115969-40-9]	3-(4-methylbenzoyl)-1,2,2-trimethylcyclopantanecarboxylic acid					
	FUS			30.07	468.2	DSC	[1993TER/BOU]
C ₁₇ H ₂₂ O ₃ S	[145918-70-3]	<i>p</i> -(1 <i>R</i> , 3 <i>S</i>)-3-thianisoyl-1,2,2-trimethylcyclopantanecarboxylic acid					
	FUS			23.56	393.7	DSC	[1994TER/CAS, 1993RAM/BOU]
C ₁₇ H ₂₃ NO ₂ S	[56432-99-6]	<i>N</i> -adamantan-1-yl-4-methylbenzenesulfonamide					
	FUS			25.9	437.8	DSC	[2016PER/VOL]
	SUB	(387–418)		148.1 ± 1.3	402	GS	[2016PER/VOL]
	SUB	(387–418)		154.4 ± 1.3	298	GS	[2016PER/VOL]
C ₁₇ H ₂₃ NO ₃	[172589-28-5]	3-[(hydroxyimino)phenylmethyl]-1,2,2-trimethylcyclopantanecarboxylic acid methyl ester					
	FUS			33.8	422	DSC	[1995NUR/LEL]
C ₁₇ H ₂₃ NO ₃	[51-55-8]	α -(hydroxymethyl)-benzene acetic acid, (3-endo)-8-methyl-8-azabicyclo[3.2.1]oct-3-yl ester (atropine)					
	FUS			35.5	388.5	DSC	[2009DOM/POB]
C ₁₇ H ₂₃ NO ₄	[146607-86-5]	3-(4-methoxy-3-aminobenzoyl)-1,2,2-trimethylcyclopantanecarboxylic acid					
	FUS			41.32	498.6	DSC	[1992TER/PAU]
C ₁₇ H ₂₄ N ₂ S	[1383254-25-8]	<i>N</i> -(4-ethylphenyl)-1-thia-3-azaspiro[5.5]undec-2-en-2-amine					
	FUS			42.82	412.5	DSC	[2012BLO/OLK]
	SUB	(366–394)		138.3 ± 1.8	380	GS	[2012OLK/SHA]
	V			120.2	298	Sub-Fus	[2012OLK/SHA]
C ₁₇ H ₂₄ O ₂	[6284-35-1]	Methyl benzoate					
	V	(396–574)		69.9	411	A	[1987STE/MAL, 1947STU]
C ₁₇ H ₂₅ N	[77-10-1]	1-(1-phenylcyclohexyl)piperidine (angel dust)					
	V			77.6 ± 2.1	298	CGC	[2016GOB/WAL]
C ₁₇ H ₂₆ C ₁ N	[106650-56-0]	1-(4-chlorophenyl)- <i>N</i> , <i>N</i> -dimethyl- α -(2-methylpropyl)cyclobutanemethanamine ((\pm)-sibutramine)					
	FUS			0.0608	328.0	DSC	[2013ACE/VAZ]

[Note: The authors report a numerical value of 60.8 J/mol, which is clearly too small. The units are likely wrong.]

C ₁₇ H ₂₆ N ₂ O	[84057-95-4]	<i>N</i> -(2,6-dimethylphenyl)-1-propyl-2-piperidinecarboxamide					
	FUS			44.5	414.2	DSC	[1997NEM/ACS]
C ₁₇ H ₂₆ O ₃	[79785-46-9]	3-decyloxybenzoic acid					
	FUS			33.88	345.1	DSC	[2001LAI/LEE]
C ₁₇ H ₂₇ NO ₂	[93413-69-5]	1-[2-(dimethylamino)-1 -(4-methoxyphenyl)ethyl] cyclohexanol (venlafaxine)					
	FUS (I)			27.2	348.1	DSC	
	FUS (II)			26.4	349.7	DSC	
	FUS (III)			24.4	351.3	DSC	[2009VAN/WES]
C ₁₇ H ₂₇ NO ₄	[42200-33-9]	5-[3-[(1,1-dimethylethyl)ammo]-2-hydroxypropoxy]-1,2,3,4-tetrahydro-2,3-naphthalenediol (nadolol)					
	FUS			53.0	403.4	DSA	[2010DOM/POB]
C ₁₇ H ₂₇ N ₃ O ₃	[83963-52-4]	1-decyl-3-(4-nitrophenyl) urea					
	FUS			37.92	390.6	DSC	[1993TIE/FRA]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_{\text{m}}$ (kJ/mol)	T_{m} (K)	Method	References
C ₁₇ H ₂₈	[6742-54-7]	Undecylbenzene	V	(313–364)	82.4 ± 0.4	298	GS	[2006VER]
			V	(450–622)	66.7	465		[1999DYK/SVO]
			V		84.7	298		[1971WIL/ZWO]
C ₁₇ H ₂₈ N ₂ OS	[373642-33-2]	<i>N</i> -[(3-methoxyphenyl)methyl]- <i>N'</i> -octylthiourea	FUS		37.94	350.7	DSC	[2002ABB/WOH]
C ₁₇ H ₂₈ O	[56103-67-4]		V	4-methyl-2,6-di- <i>tert</i> -pentylphenol (438–556)	65.9	453		[1987STE/MAL]
C ₁₇ H ₂₈ O ₂	[55095-35-7]	1,3-dimethoxy-2-nonylbenzene	V	(443–509)	79.2	458	A, GC	[1987STE/MAL, 1975KUN/LIL]
C ₁₇ H ₂₈ O ₄	[3220-58-4]	Dicyclohexyl glutarate	V	(341–370)	101.1 ± 0.8	298	GS	[2008LIP/KRA]
C ₁₇ H ₃₀ O ₂	[65733-18-8]	<i>S</i> -(+)-ethyl-(2 <i>E</i> ,4 <i>E</i>)-3,7,11-trimethyl-2,4-dodecadienoate	V		92.4 ± 3.6	298	CGC	[2016GOO/HAS]
C ₁₇ H ₃₀ O ₄	[23405-96-1]		FUS	Dodecyl itaconate	57.2	347.8		[2016RIC/DEL]
C ₁₇ H ₃₂	[26186-00-5]	1-heptadecyne	V	(438–607)	62.7	453		[1999DYK/SVO]
C ₁₇ H ₃₂	[61847-96-9]	2-heptadecyne	V	(446–619)	63.7	461		[1999DYK/SVO]
C ₁₇ H ₃₂	[61886-63-3]	3-heptadecyne	V	(438–607)	62.5	453		[1999DYK/SVO]
C ₁₇ H ₃₂ Cl ₄	[93479-16-4]	1,1,1,17-tetrachloroheptadecane	V	(351–418)	108	366	A	[1987STE/MAL, 1960MAL/MAL]
C ₁₇ H ₃₂ O	[3661-77-6]	Cycloheptadecanone	SUB		75.7			[1938WOL/WEG, 1960JON, 1970COX/PIL]
C ₁₇ H ₃₂ O ₂	[5637-97-8]		V	Oxa-2-cyclotetradecanone (403–463)	73.5	418		[1987STE/MAL]
C ₁₇ H ₃₂ O ₂	[21643-42-5]	Tetradecyl acrylate	V	(458–601)	69.4	473	A	[1987STE/MAL]
C ₁₇ H ₃₂ O ₂	[35835-77-9]	(<i>Z</i>)-9-pentadecenyl acetate	V	(363–408)	93.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[64437-41-8]	(<i>E</i>)-9-pentadecenyl acetate	V	(363–408)	94.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[64437-43-0]	(<i>Z</i>)-10-pentadecenyl acetate	V	(363–408)	94.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[64437-45-2]	(<i>E</i>)-10-pentadecenyl acetate	V	(363–408)	94.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[35153-25-4]	(<i>Z</i>)-11-pentadecenyl acetate	V	(363–408)	94.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[40535-40-8]	(<i>E</i>)-11-pentadecenyl acetate	V	(363–408)	94.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[70711-45-4]	(<i>Z</i>)-12-pentadecenyl acetate	V	(363–408)	95.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[73304-17-3]	(<i>E</i>)-12-pentadecenyl acetate	V	(363–408)	94.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[70711-46-5]	(<i>Z</i>)-13-pentadecenyl acetate						

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method
	V	(363–408)	95.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[39639-20-8]	(E)-13-pentadecenyl acetate				
	V	(363–408)	95.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₇ H ₃₂ O ₂	[1120-25-8]	Methyl-(Z)-9-hexadecenoate				
	V		96.4 ± 0.7	298	CGC	[2007LIP/KAP]
C ₁₇ H ₃₂ O ₂	[75190-82-8]	Methyl-(Z)-10-heptadecenoate				
	V		100.8	298	CGC	[2007LIP/KAP]
C ₁₇ H ₃₂ O ₃	[1725-00-4]	1,8-dioxa-9-cyclononadecanone				
	V	(403–463)	77.0	418	A	[1987STE/MAL]
C ₁₇ H ₃₂ O ₄	[2917-73-9]	Dibutyl nonadioate				
	V	(313–450)	88.4	328	A	[1987STE/MAL]
C ₁₇ H ₃₂ O ₅		Nonyl[1-(butoxycarbonyl)ethyl]carbonate				
	V	(420–534)	73.8	435	A	[1987STE/MAL, 1950REH/DIX2]
C ₁₇ H ₃₃ N	[5399-02-0]	Heptadecanonitrile				
	V	(348–385)	98.9 ± 0.4	298	GS	[2005EME/VER]
	V	(425–620)	81.2	440	A	[1987STE/MAL]
C ₁₇ H ₃₃ NO ₂	[42373-46-6]	N-dodecyl-(DL)-valine				
	FUS		64.4	364.6	DSC	[1986MIY/MAT]
C ₁₇ H ₃₃ NO ₃	[71448-29-8]	N-tetradecanoyl-(L)-alanine				
	FUS		52.3	367.1	DSC	[1986MIY/MAT]
C ₁₇ H ₃₃ NO ₃	[35054-70-7]	N-dodecanoyl-(DL)-valine				
	FUS		33.1	380.1	DSC	[1986MIY/MAT]
C ₁₇ H ₃₃ NO ₃	[155300-71-3]	N-(1-oxopentadecyl)glycine				
	TRS + FUS		42.6	394.8	DSC	[2014RED/KRO]
C ₁₇ H ₃₄	[5634-30-0]	Dodecylcyclopentane				
	V	(450–619)	68.0	465		[1999DYK/SVO]
	V		85.5	298		[1971WIL/ZWO]
C ₁₇ H ₃₄	[54105-66-7]	Undecylcyclohexane				
	V	(450–622)	67.0	465		[1999DYK/SVO]
	V		84.6	298		[1971WIL/ZWO]
C ₁₇ H ₃₄	[6765-39-5]	1-heptadecene				
	V	(598–746)	55.5	613		[1999DYK/SVO]
	V	(376–432)	72.3	391	A	[1987STE/MAL]
	V		84.9	298		[1971WIL/ZWO]
C ₁₇ H ₃₄	[295-97-6]	Cycloheptadecane				
	SUB		66.1 ± 0.6			[1957VAN, 1970COX/PIL]
C ₁₇ H ₃₄ O	[2922-51-2]	2-heptadecanone				
	V	(402–593)	77.0	417	A	[1987STE/MAL, 1947STU]
C ₁₇ H ₃₄ O	[6064-42-2]	7-heptadecanone				
	V		94.5 ± 1.8	298	CGC	[2006PER/CON]
C ₁₇ H ₃₄ O	[540-08-9]	9-heptadecanone				
	FUS		66.68	323.9	DSC	[1993VIL/HAM]
	V	(439–482)	78.3	454	A, ME	[1987STE/MAL, 1938UBB]
C ₁₇ H ₃₄ O ₂	[112-39-0]	Methyl hexadecanoate (methyl palmitate)				
	FUS		56.17	305.1	DSC	[2016LIS/FAR]
	FUS		50.94	300.61	DSC	[2013BEN/KHI]
	FUS		56.0	305.2	DSC	[2004CHI/ZHA]
	FUS		58.1	302.2	DSC	[2003NIK/MAR]
	FUS		53.8	302.2	DSC	[2003SUP/GOF]
	FUS		U 44.1	302.0	DSC	[1992BAB/HWA2]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_{\text{m}}$ (kJ/mol)	T _m (K)	Method
C ₁₇ H ₃₄ O ₂	FUS			68.16	307.2	DSC
				58.72	303.7	AC
				62.6	302.2	[1936KIN/GAR]
	SUB	(291–301)		152.3 ± 2	296	ME
	V			101.8 ± 3.1	298	CRT
	V			95.3 ± 4.3	298	CGC
	V			93.4	350	CE
	V			83.3 ± 0.4	397	CE
	V			96.8 ± 0.6	298	CE
	V	(463–523)		96.4	298	GC
	V	(433–473)		93.2	298	CGC
	V	(453–543)		78.2	498	GC
	V	(287–322)		U69.6	302	A
C ₁₇ H ₃₄ O ₂	V	(411–543)		82.4	426	A
	V	(378–445)		82.6	393	MG, OM
	V	(422–475)		71.4	437	[1952SCO/MAC]
						[1948BON/ATH]
C ₁₇ H ₃₄ O ₂	[110-27-0]	Isopropyl tetradecanoate				
	V	(413–466)		70.2	428	A
C ₁₇ H ₃₄ O ₂	[14303-70-9]	Propyl tetradecanoate				
	V	(420–474)		71.3	435	A
C ₁₇ H ₃₄ O ₂	[506-12-7]	Heptadecanoic acid (margaric acid)				
	TRS			7.5	331.2	
	FUS			46.5	333.5	DSC
	TRS	(90–345)		7.44	329.2	
	FUS	(90–345)		51.33	334.3	AC
	FUS			51.9	333.0	DSC
	TRS			7.3	329.6	
	FUS			51.5	334.4	[1964ADR/DEK]
	SUB	(280–302)		151		TPTD
	SUB	(291–316)		168		TPTD
						[2005CHA/ZIE]
						[2001CHA/TOB]

[Note: Experimental values based on the TPTD method are often inconsistent values determined using other experimental methods.]

C ₁₇ H ₃₄ O ₂	V		127.3 ± 9.9	298	CGC	[2013WIL/CHI]
		(449–637)	100.7	464	A	[1987STE/MAL]
		(357–382)	112.7 ± 2.0	372	ME, TE	[1982DEK/SCH]
C ₁₇ H ₃₄ O ₃	[1323-03-1]	Tetradecyllactate				
	V	(388–608)	86.4	403	A	[1987STE/MAL, 1950REH/DIX]
C ₁₇ H ₃₅ Br	[3508-00-7]	1-bromoheptadecane				
	V	(472–673)	71.6	487	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₇ H ₃₅ Cl	[62016-75-5]	1-chloroheptadecane				
		V	103.6	298		[2006BOL/NER2]
		V	(450–673)	73.2	465	A, E
C ₁₇ H ₃₅ F	[1545-17-1]	1-fluoroheptadecane				
		V	(437–623)	68.4	452	A, E
C ₁₇ H ₃₅ I	[26825-83-2]	1-iodoheptadecane				
		V	(517–673)	104.7	298	A, E
		V	(517–673)	73.0	532	A, E
C ₁₇ H ₃₅ NO	[7388-58-1]	N-methyl hexadecanamide				
		SUB	(345–355)	144.5 ± 0.8	350	ME
C ₁₇ H ₃₅ NO ₂	[96945-44-7]	N-tetradecyllactamide				
		V	(413–491)	107.5	428	A
C ₁₇ H ₃₆	[629-78-7]	Heptadecane				
		TRS		9.64	282.0	

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{17}\text{H}_{36}$	FUS			39.68	294.5	DSC	[2015VEL/ORT]
	TRS			13.0	284.3		
	FUS			41.5	294.7	DSC	[2005HUA/SIM]
	TRS			10.8			
	FUS			39.4		DSC	[2005ESP/WHI]
	TRS			10.8	284.2		
	FUS			39.4	294.7	DSC	[2004MON/RAJ]
	TRS			10.3	383.9		
	FUS			39.4	294.8	DSC	[1996ROB/ESP]
	FUS			39.4	295.8	DSC	[1992BAB/HWA, 1994BAB/BEN]
	TRS	(12–384)		10.96	284.3		
	FUS	(12–384)		40.17	295.1	AC	[1996DOM/HEA, 1967MES/GUT]
$\text{C}_{17}\text{H}_{36}$	SUB			125.1	298		[1972MOR3]
	SUB	(288–293)		131.3 ± 13	290	ME	[1949BRA/SHE, 1960JON]
	V			86.5	298		[1994RUZ/MAJ]
	V	(289–320)		91.1	304	A	[1987STE/MAL]
	V	(488–577)		62.9	503	A	[1987STE/MAL]
	V			86.0 ± 0.8	298	C	[1972MOR]
$\text{C}_{17}\text{H}_{36}$	V			86.2	298		[1971WIL/ZWO]
	V	(445–470)		71.6	457	ME	[1938UBB]
	[1560-92-5]	2-methylhexadecane					
	V	(428–569)		63.5	443	A	[1987STE/MAL, 1959TER/BRI]
	[6418-43-5]	3-methylhexadecane					
	V	(428–567)		63.4	443	A	[1987STE/MAL, 1959TER/BRI]
	[25117-26-4]	4-methylhexadecane					
	V	(420–567)		58.7	435	A	[1987STE/MAL, 1959TER/BRI]
	[25117-34-4]	5-methylhexadecane					
	V	(422–566)		59.8	437	A	[1987STE/MAL, 1959TER/BRI]
	[2882-97-5]	2,3-dimethylpentadecane					
	V	(424–569)		60.6	439	A	[1987STE/MAL, 1959TER/BRI]
$\text{C}_{17}\text{H}_{36}$	[61868-07-3]	2,4-dimethylpentadecane					
	V	(419–546)		65.2	434	A	[1987STE/MAL, 1959TER/BRI]
	[101791-53-1]	2,4,6-trimethyltetradecane					
	V	(411–534)		64.5	426	A	[1987STE/MAL]
$\text{C}_{17}\text{H}_{36}$	[93816-24-1]	4,4-dipropylundecane					
	V			78.0 ± 1.8	298	CGC	[1995CHI/HES]
$\text{C}_{17}\text{H}_{36}\text{O}$	[1454-85-9]	1-heptadecanol					
	TRS + FUS			63.4	325.3	DSC	[2006NIC/KWE]
	FUS			37.0	326.6	DSC	[2004VEN/CAL]
	FUS	(298–368)		63.06	327.3		[2003VAN/VAN]

[Note: The enthalpy of fusion value includes the enthalpy of solid-to-solid transition that occurs at 323.2 K.]

$\text{C}_{17}\text{H}_{36}\text{O}$	TRS		25.2	323.6			
	FUS		37.0	326.6	DSC	[2002VEN/RAM]	
	SUB		169.5 ± 2.2				[1965DAV/KYB, 1970COX/PIL]
	V		112.5 ± 0.5	298	CGC	[2006NIC/KWE]	
	V	(460–620)	78.3	475	A	[1987STE/MAL]	
	V	(473–623)	75.9	488	A	[1987STE/MAL]	
	[103385-34-8]	4-heptadecanol					
	FUS + TRS		35.7	311.5	DSC	[2006NIC/KWE]	
	[112283-13-3]	6-heptadecanol					
	FUS + TRS		49.0	315.8	DSC	[2006NIC/KWE]	
	V		108.6 ± 1.0	298	CGC	[2006NIC/KWE]	

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_{\text{m}}$ (kJ/mol)	T_{m} (K)	Method	References
C ₁₇ H ₃₆ O	[93658-33-4]	7-heptadecanol	FUS + TRS		28.8	314.4	DSC	[2006NIC/KWE]
	V				108.2 ± 0.8	298	CGC	[2006NIC/KWE]
C ₁₇ H ₃₆ O	[624-08-8]	9-heptadecanol	FUS + TRS		43.2	330.2	DSC	[2006NIC/KWE]
	V				108.5 ± 0.4	298	CGC	[2006NIC/KWE]
C ₁₇ H ₃₆ O ₂	[66577-59-1]	1,17-heptadecanediol	TRS		34.9	98.4	DSC	[1999OGA/NAK]
	FUS				30.8	367.3		
C ₁₇ H ₃₆ O ₂ S	[79768-75-5]	3-(tetradecylthio)-1,2-propanediol	TRS		16.3	302.5	DSC	[1993ACR, 1990VAN/VAN]
	FUS		26.8		336.4			
C ₁₇ H ₃₆ O ₃	[1561-06-4]	3-(tetradecyloxy)-1,2-propanediol	FUS		62.1	331.3	DSC	[1993ACR, 1990VAN/VAN]
C ₁₇ H ₃₆ S	[53193-22-9]	1-heptadecanethiol (481–657)	V		74.6	496		[1999DYK/SVO]
C ₁₇ H ₃₇ N	[4200-95-7]	Heptadecylamine (522–636)	V		68.2	537	A	[1987STE/MAL, 1956MAN2]
C ₁₇ H ₃₇ NO ₂	[111953-19-6]	3-(tetradecylamino)-1,2-propanediol	FUS		64.9	356.2	DSC	[1993ACR, 1990VAN/VAN]
C ₁₈ D ₁₂	[1719-03-5]	Chrysene-d ₁₂	V		106	298	CGC	[2008ZHA/UNH]
C ₁₈ D ₁₄	[1718-51-0]	<i>p</i> -terphenyl - d ₁₄	V		101.6	298	CGC	[2008ZHA/UNH]
	V				99.5 ± 4.4	298	CGC	[2008HAN/NUT]
C ₁₈ F ₁₅ P	[1259-35-4]	Tris(pentafluorophenyl)phosphene	FUS		22.1	380.0	DSC	[2008ZEL/CHU]
C ₁₈ H ₁₀	[65513-20-4]	Benzo[3,4]cyclobuta[1,2-a]biphenylene & ([3]phenylene)	SUB		115.1 ± 0.8			[2000BEC/FAU]
C ₁₈ H ₁₀	[203-12-3]	Benzo[ghi]fluoranthene	TRS		5.35	402.8	[1980SMI]	
			TRS		0.88	402.1		
			TRS		0.44	352.7		
			FUS		11.8	424		
C ₁₈ H ₁₀ BrNO ₃	[10319-14-9]	2(4-bromo-3-hydroxy-2-quinolinyl)-1 <i>H</i> -indene-1,3(2 <i>H</i>)-dione (C. I. disperse yellow 64)	SUB	(483–523)	130.6	498	A	[1987STE/MAL]
C ₁₈ H ₁₀ Br ₂	[131222-99-6]	6,12-dibromochrysene	FUS		23.81	543.2	DSC	[2012FU/SUU]
	SUB	(409–465)			141.1 ± 3.2	437	ME	[2012FU/SUU]
C ₁₈ H ₁₀ Cl ₂ O ₂ S ₂	[2379-74-0]	6-chloro-2-(6-chloro-4-methyl-3-oxobenzo[<i>b</i>]thien-2(3 <i>H</i>)-ylidine)-4-methyl-benzo[<i>b</i>]thiophen-3(2 <i>H</i>)- one (C.I. Vat Red 1)	SUB	(519–634)	148	577	GS	[1986NIS/AND]
C ₁₈ H ₁₀ Cl ₂ O ₂ S ₂	[5462-29-3]	5-chloro-2-(5-chloro-7-methyl-3-oxobenzo[<i>b</i>]thien-2(3 <i>H</i>)-ylidine)-7-methyl-benzo[<i>b</i>]thiophen-3(2 <i>H</i>)- one (C.I. Vat Violet 2)	SUB	(519–634)	93.0	577	GS	[1986NIS/AND]
C ₁₈ H ₁₀ N ₂	[22318-90-7]	(5E,11E)-dibenzo[<i>a, e</i>]cyclooctene-5,11-dicarbonitrile	FUS		31.1	463.7	DSC	[2011PER/CON]
C ₁₈ H ₁₀ O ₂	[2498-66-0]	1,2-benzantra-9,10-quinone	SUB		82.8 ± 4.0			[1956MAG, 1970COX/PIL]
C ₁₈ H ₁₀ O ₂	[1090-13-7]	5,12-tetracenequinone						

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_{\text{m}}$ (kJ/mol)	T _m (K)	Method
	SUB			108.8 ± 5.0		[1956MAG, 1970COX/PIL]
C ₁₈ H ₁₀ O ₄	[1785-52-0]	6,11-dihydroxy-5,12-naphthacenedione				
	SUB	(426–446)	144.2 ± 1.4	436	ME	[1998OJA/SUU]
C ₁₈ H ₁₁ Br	[32795-84-9]	7-bromobenz[<i>a</i>]anthracene		23.64	425.7	DSC
	FUS					[2012FU/SUU]
	SUB	(358–419)	123.2 ± 1.3	388	ME	[2012FU/SUU]
C ₁₈ H ₁₁ NO ₂	[7496-02-8]	6-nitrochrysene		28.4	486.6	DSC
	FUS					[2010KES/AUC]
C ₁₈ H ₁₁ NO ₃	[7576-65-0]	2-(3-hydroxy-2-quinolinylidene)-indeno-1,3-dione (Disperse yellow 54)				
	FUS		30.89	539.2		[1991BAU/WEB]
	SUB		125.2 ± 0.4		LE	[1998PRI/HAW]
	SUB	(483–513)	139	498		[1973MCD]
C ₁₈ H ₁₂	[92-24-0]	Naphthacene (tetracene)				
	SUB	(399–430)	124.8 ± 2.6		ME	[2009OJA/CHE]
	SUB	(386–472)	126.1 ± 9.0	429	ME	[1998OJA/SUU]
	SUB	(313–453)	126.5	383	GS	[1995NAS/LEN]
	SUB	(419–446)	143.7 ± 0.5	298	TE, ME	[1980DEK, 1967WAK/INO, 1977PED/RYL]
	SUB		124.7 ± 4	422	ME	[1970COX/PIL]
	SUB	(433–493)	128.8	473	HSA	[1965MOR]
	SUB	(433–483)	132.6	468	HSA	[1964FIE/MAC, 1952INO/SHI]
	SUB		117.2	459	ME	[1960JON]
	SUB		U92.0	384	ME	[1951INO]
	SUB		124.3			[1951MAG/HAR, 1960JON]
	V		106.2 ± 3.7	298	CGC	[2008HAN/NUT]
C ₁₈ H ₁₂	[56-55-3]	Benz[<i>a</i>]anthracene				
	FUS		20.1	433.5	DSC	[2010KES/AUC]
	FUS		23.49	434.3	DSC	[2008MOG/SEP]
	FUS		22.3	431.2	DSC	[1995HAI/SAN]
	FUS		21.38	434.3	DSC	[1991ACR, 1973CAS/VEC]
	SUB	(313–453)	115.5	383	GS	[1995NAS/LEN]
	SUB	(330–390)	113.4	345	ME	[1987STE/MAL, 1974MUR/POL]
	SUB		104 ± 2	351	TE	[1983FER/IMP]
	SUB	(283–323)	U 81.3 ± 2.5	303	GS	[1983SON/ZOL]
	SUB	(373–396)	123.3 ± 3	298	TE, ME	[1980DEK]
	SUB	(357–454)	120.5	405	ME	[1967WAK/INO, 1964KEL/RIC]
	SUB	(377–403)	104.6 ± 4.2	390	ME	[1987STE/MAL]
	SUB	(333–393)	119.7	363		[1958HOY/PEP]
	SUB		U 109.2			[1951MAG/HAR, 1960JON]
	V		105.8 ± 1.9	298	CGC	[2008HAN/NUT]
	V	(463–525)	96.6 ± 1.4	298	GC	[2006HAF/PAR]
	V	(343–453)	91.0	398	GC	[1990HIN/BID2]
C ₁₈ H ₁₂	[217-59-4]	Triphenylene				
	FUS		23.0	471.2	DSC	[2010KES/AUC]
	FUS		24.19	471.1	DTA	[1992SAB/ELW3, 1996DOM/HEA]
	FUS	(5–509)	24.74	471	AC	[1971WON/WES]
	SUB	(368–399)	124.8 ± 2.9		ME	[2008GOL/SUU3]
	SUB	(313–453)	114.5	383	GS	[1995NAS/LEN]
	SUB	(381–406)	126.5 ± 4	298	TE, ME	[1980DEK]
	SUB	(363–468)	107.6	378	A	[1987STE/MAL, 1958HOY/PEP]
	SUB	(338–398)	118 ± 4	368		[1970COX/PIL]
	SUB		107.1	425	ME	[1967WAK/INO]
	V		106.1 ± 3.9	298	CGC	[2008HAN/NUT]
	V	(323–473)	88.5	398	GC	[2002LEI/CHA]
	V	(535–768)	67.7	550		[1999DYK/SVO]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₈ H ₁₂	[218-01-9]	Chrysene (benzo[<i>a</i>]phenanthrene)	FUS		23.3	525.3	DSC	[2011RIC/FU]
			FUS		23.6	527	DSC	[2010KES/AUC]
			FUS		28.08	539.5	DSC	[2008MOG/SEP]
			TRS		3.22	512.2		
			FUS		26.15	531.4	DSC	[1973CAS/VEC]
			TRS		3.6	503	C	[1969RIN/DAM]
			SUB	(372–409)	109.9 ± 3.6	390	ME	[2008GOL/SUU3]
			SUB	(313–453)	118.8	383	GS	[1995NAS/LEN]
			SUB		131 ± 4	298	TE, ME	[1980DEK, 1967WAK/INO]
			SUB		117.6 ± 4	400	ME	[1970COX/PIL]
			SUB	(353–418)	121.4	385		[1958HOY/PEP, 1951MAG/HAR]
			SUB		117.6			[1960JON]
			V		106.2	298	CGC	[2008ZHA/UNH]
			V	(463–513)	97.0 ± 1.4	298	GC	[2006HAF/PAR]
			V	(323–473)	89.6	398	GC	[2002LEI/CHA]
			C ₁₈ H ₁₂	[195-19-7]	Benzo[<i>c</i>]phenanthrene (3,4-benzophenanthrene)			
			FUS		15.5	339.2	DSC	[2010KES/AUC, 1991ACR]
			FUS		16.32	334.7	DSC	[1973CAS/VEC, 1951MAG/HAR, 1970COX/PIL]
			SUB		106.3 ± 4.2			[1967WAK/INO]
C ₁₈ H ₁₂ F ₂	[72864-01-8]	4,4'-difluoro- <i>p</i> -terphenyl	TRS	(8–303)	0.18	127	AC	[1993SAI/YAM, 1995YAM/SAI]
C ₁₈ H ₁₂ N ₂	[119-91-5]	2,2'-biquinoline	SUB	(393–411)	129.5 ± 0.8	402	ME	[1997RIB/MAT3]
			SUB	(393–411)	134.7 ± 1.3	298	ME	[1997RIB/MAT3]
			SUB		96.6 ± 0.9			[1985SKI/PIL]
C ₁₈ H ₁₂ N ₃ O ₆ P ₃	[311-03-5]	Tris(<i>o</i> -phenylenedioxy)cyclotriphosphazene	FUS		42.56	522.2	DSC	[2011TIA/WAN]
C ₁₈ H ₁₂ O	[10435-67-3]	2-phenylindeno[2,1-b]pyran	SUB	(394–424)	132.8	409	A	[1987STE/MAL, 1966GEI/QUI]
C ₁₈ H ₁₂ O ₃	[568-73-0]	1,6-dimethylphenanthro[1,2-b]furan-10,11-dione	FUS		22.09	495.4	DSC	[1988HUA/TAN]
C ₁₈ H ₁₃ CIN ₂ O ₃	[191979-26-7]	2-cyano-6-methoxy-1(2H)-quinolinecarboxylic acid, 4-chlorophenyl ester	FUS		22.35	374.2	DSC	[2005LIZ/ZAB]
C ₁₈ H ₁₃ FO	[145532-14-5]	4-ethoxy-4'-fluorodiphenyldiacetylene	FUS		33.9	400.2	DSC	[1993JUA/CHE]
C ₁₈ H ₁₃ F ₂₅	[89109-70-6]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosofluorooctadecane	TRS		3.3	317.2		
			FUS		21.8	352.2	DSC	[1986RUS/RAB]
C ₁₈ H ₁₃ O ₄ P	[99208-50-1]	2-(6-oxido-6 <i>H</i> -dibenz[<i>c,e</i>][1,2]oxaphosphorin-6-yl)-1,4-dihydroxyphenylene	FUS		41.7	524.1	DSC	[2008FAN/WAN]
C ₁₈ H ₁₄	[84-15-1]	<i>o</i> -terphenyl	FUS		17.0	329.4	DSC	[2013ROD/ROC]
			FUS		16.9	327.8	DSC	[1997VER2]
			FUS		17.2	328.4	DSC	[1995MUR/PAI]
			FUS		17.2	329.4	AC	[1972CHA/BES]
			SUB	(312–328)	102.3 ± 0.4	320	ME	[2008RIB/SAN6]
			SUB	(312–328)	103.0 ± 0.4	298	ME	[2008RIB/SAN6]
			SUB		97 ± 1	298	B	[1979KIM/TAK]
			V	(335–368)	81.0 ± 0.4	352	GS	[1997VER2]
			V	(335–368)	84.2 ± 0.4	298	GS	[1997VER2]
			V	(576–786)	60.5	591	DSC	[1996BAC/GRZ]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound							
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
C ₁₈ H ₁₄	V	<i>m</i> -terphenyl	(343–462)	77.6	403			[1989SAS/NGU]	
			(462–650)	68.5	477	A		[1987STE/MAL]	
	[92-06-8]		FUS		25.5	361.8	DSC	[2013ROD/ROC]	
			FUS		31.0	361.2	DSC	[1997VER2]	
			FUS		22.59	360	DSC	[1971KAM/MIT]	
			SUB	(337–359)	117.0 ± 0.5	348	ME	[2008RIB/SAN6]	
			SUB	(337–359)	118.6 ± 0.7	298	ME	[2008RIB/SAN6]	
			SUB	(329–353)	115.5 ± 1.6	341	GS	[1997VER2]	
			SUB	(329–353)	118.1 ± 1.6	298	GS	[1997VER2]	
			SUB		120 ± 1	298		[1979KIM/TAK]	
			SUB	(313–363)	119	338	VP	[1958HOY/PEP]	
			V		97.2 ± 0.3	298	CGC	[2001PUR/CHI]	
			V	(462–691)	76.1	477	A	[1987STE/MAL]	
C ₁₈ H ₁₄	[92-94-4]	<i>p</i> -terphenyl	FUS		32.9	490.9	DSC	[2013ROD/ROC]	
			FUS		35.3	482.4	DSC	[1997VER2]	
			TRS	(4–298)	0.3	193.5	AC	[1988SAI/ATA]	
			TRS	(4–370)	0.33	193.5	AC	[1983CHA]	
			FUS	(320–580)	35.3	487	DSC	[1983CHA]	
			FUS		41.6	493.1	DSC	[1982WAS/RAD]	
			FUS		35.5	486.3		[1991ACR, 1979SMI2]	
			SUB	(373–395)	122.6 ± 0.3	384	ME	[2008RIB/SAN6]	
			SUB	(373–395)	125.6 ± 0.8	298	ME	[2008RIB/SAN6]	
			SUB	(353–383)	116.2 ± 2.4	368	GS	[1997VER2]	
			SUB	(353–383)	120.4 ± 2.4	298	GS	[1997VER2]	
			SUB		113 ± 2	298	B	[1979KIM/TAK]	
			SUB		118.4	397	ME	[1967WAK/INO]	
			SUB	(333–393)	120.6	363	VP	[1958HOY/PEP]	
			V		101.7	298	CGC	[2008ZHA/UNH]	
			V	(323–473)	79.2	398	GC	[2002LEI/CHA]	
			V	(499–700)	79.2	514	A	[1987STE/MAL]	
C ₁₈ H ₁₄	[959-02-4]	5,12-dihydro tetracene	SUB	(338–398)	115.9 ± 4	368		[1958HOY/PEP, 1970COX/PIL]	
			SUB		120.5			[1951MAG/HAR, 1960JON]	
			SUB						
C ₁₈ H ₁₄	[2175-90-8]	Diphenylfulvene			104.6 ± 8.3		E	[1957DAY/OES, 1970COX/PIL]	
C ₁₈ H ₁₄ C ₁₄ N ₂ O	[22916-47-8]	(<i>RS</i>)-1-(2-(2,4-dichlorobenzoyloxy)-2-(2,4-dichlorophenyl)ethyl)-1 <i>H</i> -imidazole (miconazole)	FUS		32.77	359	DSC	[2010BAI/VAN]	
C ₁₈ H ₁₄ F ₄ N ₂ O ₄ S	[90357-06-5]	(±)- <i>N</i> -[4-cyano-3-(trifluoromethyl)phenyl]-3-[(4-fluorophenyl)sulfonyl]-2-hydroxy-2-methylpropanamide (bicalutamide)	FUS		48.59	467.1	DSC	[2015NUR/BOO]	
			FUS(monoclinic)		49.5	465.5	DSC	[2011PER/NOR, 2013PER/BLO]	
			FUS		53.8	469.2	DSC	[2010AND/ABU]	
			FUS (I)		48.3	466.4			
			FUS (II)		42.9	463.8	DSC	[2008NEM/SZT]	
			FUS (I)		47.77	465.2			
			FUS (II)		43.04	462.2	DSC	[2006VEG/POL]	
			FUS		46.7	468.2	DSC	[2006REN/JIN]	
			SUB(monoclinic)	(376–421)	117.1 ± 0.6	398	GS	[2011PER/NOR, 2013PER/BLO]	
C ₁₈ H ₁₄ N ₂ O ₂	[6334-31-2]	1 -benzoyl-1,2-dihydro-6-methoxy-2-quinolinecarbonitrile	FUS		23.11	396	DSC	[2005LIZ/ZAB]	
C ₁₈ H ₁₄ N ₂ O ₃	[191979-24-5]	2-cyano-6-methoxy-1(2 <i>H</i>)-quinolinecarboxylic acid, phenyl ester	FUS		22.88	384	DSC	[2005LIZ/ZAB]	

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₈ H ₁₄ N ₄ O ₂	[21811-64-3] V	1,4-bis[(4-hydroxyphenyl)azo]benzene (473–533)	68.0	488	A	[1987STE/MAL]	
C ₁₈ H ₁₄ N ₄ O ₅ S	[599-79-1] FUS	2-hydroxy-5-[(E)-2-{4-[(pyridin-2-yl)sulfamoyl]phenyl}-diazen-1-yl]benzoic acid (sulfasalazine)	80.59	541.2	DSC	[2015GAU/VAN]	
C ₁₈ H ₁₄ O	[2432-11-3] SUB SUB	2,6-diphenylphenol (334–363) (334–363)	116.1 ± 1.1 119.1 ± 1.1	348 298	GS GS	[1998VER5] [1998VER5]	
C ₁₈ H ₁₄ O ₃	[538-56-7] FUS	Cinnamic anhydride	32.77	321.2		[1991ACR, 1983WEA]	
C ₁₈ H ₁₄ O ₃	[87205-99-0] FUS	1,2-dihydro-1,6-dimethylphenanthro[1,2-b] furan-10,11-dione	22.22	490.3	DSC	[1988HUA/TAN]	
C ₁₈ H ₁₅ C ₁ N ₂ O ₂ S	[202409-33-4] FUS FUS FUS	5-chloro-6'-methyl-3-[4-(methylsulfonyl)phenyl]-2,3'-bipyridine (etoricoxib)	25.91 32.3 30.43	408.3 413.1 407.1	DSC DSC DSC	[2015NUR/BOO] [2011DAS/NAY] [2008TUN/TAB]	
C ₁₈ H ₁₅ F ₃ O	[172424-71-4] FUS	4-butoxy-2',3',4'-trifluorodiphenylacetylene	36.0	344.4	DSC	[1995HSU/TSA]	
C ₁₈ H ₁₅ N	[603-34-9] FUS SUB V V	Triphenylamine	24.89 (322–373) 90.2 ± 1.2 (473–640)	400.2 337 298 488	DSC BG CGC A	[1993ACR, 1991CHI/BRA] [1978STE3, 1987STE/MAL] [2010LIP/CHI] [1987STE/MAL, 1949FOR/BOW]	
C ₁₈ H ₁₅ NO ₂	[3808-37-5] SUB	9-diacetylaminanthracene (399–455)	106.4	414	RG, A	[1958KLO, 1987STE/MAL]	
C ₁₈ H ₁₅ OP	[791-28-6] FUS FUS FUS SUB SUB	Triphenylphosphine oxide	23.4 24.22 23.8 131 ± 2 U66 ± 6	429.6 431.9 429 399 298	DSC DSC DSC ME, TE B, E	[1989HUI/VAN] [1991ACR, 1988KIR/DOM] [1978JOR/AIR] [1989HUI/VAN] [1978JOR/AIR]	
C ₁₈ H ₁₅ O ₃ P	[13291-46-8] FUS	(2,5-dihydroxyphenyl)diphenylphosphine oxide	37.26	487.8	DSC	[2010GUO/WAN]	
C ₁₈ H ₁₅ O ₄ P	[115-86-6] FUS SUB V V	Triphenyl phosphate (12–340)	29.61 114.4 ± 2.6 (383–413) (548–683)	322.5 298 398 563	AC B GC-RT I, A	[1991ACR, 1986RAB/PET] [1989KIR/DOM] [2014BRO/JAN] [1987STE/MAL, 1957DOB/KEL]	
C ₁₈ H ₁₅ P	[603-35-0] FUS FUS SUB SUB SUB V V	Triphenylphosphine	19.69 19.2 113.2 ± 3.0 109.2 ± 1.1 113.2 ± 2.0 96.2 ± 8.4 (483–660) (364–392)	354.4 353 298 350 298 298 498 378	DSC C T TE, ME	[1991ACR, 1988KIR/DOM] [1984GRI/KON] [1988KIR/DOM] [1984GRI/KON] [1984GRI/KON, 1988KIR/DOM] [1982PIL/SKI, 1960BED/MOR] [1987STE/MAL, 1949FOR/BOW] [1981DEK/HER]	
C ₁₈ H ₁₅ PS	[3878-45-3] SUB SUB	triphenylphosphine sulfide	(388–419)	136.8 ± 6.1 142.8 ± 6.8	403 298	HSA HSA	[1996KIR/CHI] [1996KIR/CHI]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₈ H ₁₆ FNO ₂	[86776-52-5]	4-cyano-3-fluorophenyl 4-butylbenzoate	(5–360)	22.22	288.4	AC	[2012INA/SUZ]
	FUS						
C ₁₈ H ₁₆ F ₂	[109970-65-2]	4- <i>n</i> -butyl-3',4'-difluorodiphenylacetylene		25.3	323.5	DSC	[1995HSU/TSA]
	FUS						
C ₁₈ H ₁₆ NO ₃ P	[3848-51-9]	Diphenyl anilinophosphonate		34.87	406.9	DSC	[2015YU/WAN2]
	FUS						
C ₁₈ H ₁₆ N ₂ O ₂		<i>meso</i> -2,3-dimethoxy-2,3-diphenylsuccinonitrile		25.1	469.7		[1983ZAM/KAI]
	FUS						
C ₁₈ H ₁₆ N ₂ O ₂	[2479-46-1]	1,3-bis(4-aminophenoxy)benzene		0.463	389.2	DSC	[2013ZHA/GAO]
	FUS						
[Note: The authors of [2013ZHA/GAO] reported the enthalpy of fusion in units of J mol ⁻¹ . We believe that the value is likely 46.3 kJ mol ⁻¹ .]							
C ₁₈ H ₁₆ N ₄ O	[1290504-01-6]	5-benzoyloxy pyridine-2-aldehyde 2'-pyridinylhydrazone		38	433.7	DSC	[2013PER/KAZ]
	FUS						
C ₁₈ H ₁₆ N ₄ O ₃	[243445-13-8]	2[4,5-dihydro-4-(4-methylphenyl)-5-oxo-3-(2-pyridinyl)-1,2,4-triazine-6(1 <i>H</i>)-ylidene]acetic acid, methyl ester		42.8	468.3	DSC	[2005SIK/MOD]
	FUS						
C ₁₈ H ₁₆ N ₄	[22119-35-3]	Dihydrodibenzotetra-aza-annulene	(443–583)	81.5 ± 6.4	513	T	[1983ZVE/MOT]
	SUB						
C ₁₈ H ₁₆ O ₂	[84-47-9]	2- <i>tert</i> -butyl-9,10-anthraquinone		19.12	376.2	DSC	[2014JIA/YAN]
	FUS						
	V	(483–523)		101.4	498	A	[1987STE/MAL]
	V			97.7			[1977SAS/FAL]
C ₁₈ H ₁₆ O ₃	[114390-57-7]	1,8-diphenyl-2,3,5-trioxabicyclo[4.3.0]non-7-ene		21.7	371.2	DSC	[1991JEF/JAB]
	FUS						
C ₁₈ H ₁₆ O ₈	[36063-07-7]	1,2,3,4-tetracarbomethoxynaphthalene		35.9	423.7	DSC	[1993ACR, 1978DOZ/FUJ]
	FUS						
C ₁₈ H ₁₆ O ₈	[68267-09-4]	1,2,4,5-tetracarbomethoxynaphthalene		36.4	438.2	DSC	[1993ACR, 1978DOZ/FUJ]
	FUS						
C ₁₈ H ₁₆ O ₈	[36063-08-8]	1,2,5,6-tetracarbomethoxynaphthalene		42.1	470.2	DSC	[1993ACR, 1978DOZ/FUJ]
	FUS						
C ₁₈ H ₁₆ O ₈	[68267-08-3]	1,2,6,7-tetracarbomethoxynaphthalene		34.2	407.2	DSC	[1993ACR, 1978DOZ/FUJ]
	FUS						
C ₁₈ H ₁₆ O ₈	[56110-97-5]	2,3,6,7-tetracarbomethoxynaphthalene		42.2	458.2	DSC	[1993ACR, 1978DOZ/FUJ]
	FUS						
C ₁₈ H ₁₆ O ₈	[31996-10-8]	1,4,5,8-tetracarbomethoxynaphthalene		36.1	477.2	DSC	[1993ACR, 1978DOZ/FUJ]
	FUS						
C ₁₈ H ₁₇ Cl ₂ NO ₃	[22212-55-1]	Ethyl <i>N</i> -benzoyl- <i>N</i> -(3,4-dichlorophenyl)-(dl)-alaninate		27.06	341.7	DSC	[1990DON/DRE]
	FUS						
C ₁₈ H ₁₇ F	[109970-63-0]	4- <i>n</i> -butyl-4'-fluorodiphenylacetylene		18.5	329.9	DSC	[1995HSU/TSA]
	FUS						
C ₁₈ H ₁₇ FO	[130746-61-1]	4-butoxy-4'-fluorodiphenylacetylene		25.4	346.7	DSC	[1995HSU/TSA]
	FUS						
C ₁₈ H ₁₇ NO ₃	[483362-79-4]	1-[(4-nitrophenyl)ethynyl]-4-butoxybenzene		21.84	374.7	DSC	[2002SPA/DZI]
	FUS						
C ₁₈ H ₁₇ NO ₃	[63610-08-2]	(±)-2-(4-(1-oxoisooindolin-2-yl)phenyl)butanoic acid ((±)-indobufen)		39.4	455.3	DSC	[1995VIG/ZAM]
	FUS						
C ₁₈ H ₁₇ NO ₃	[118289-97-7]	(<i>S</i>)-(+)2-(4-(1-oxoisooindolin-2-yl)phenyl)butanoic acid ((<i>S</i>)-indobufen)		33.4	471.9	DSC	[1995VIG/ZAM]
	FUS						

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₈ H ₁₇ NO ₅	[53902-12-8]	2-[[3-(3,4-dimethoxyphenyl)-1-oxo-2-propenyl]amino]benzoic acid (tranilast) FUS		48.87	486.4	DSC	[2005VOG/COH]
C ₁₈ H ₁₈	[18801-00-8]	2-(<i>tert</i> -butyl)anthracene V	(323–473)	84.5	398	GC	[2002LEI/CHA]
C ₁₈ H ₁₈	[1498-69-7]	9-butylanthracene SUB	(293–313)	108.1	303		[1987STE/MAL, 1964MOR]
	V		(422–492)	77.1	437	A	[1987STE/MAL]
	V		(328–373)	83.9	343	A	[1987STE/MAL, 1964MOR]
C ₁₈ H ₁₈	[483-65-8]	1-methyl-7-isopropylphenanthrene FUS		18.03	369		[1996DOM/HEA, 1944EIB]
	V		(539–678)	54.0	554	A	[1987STE/MAL]
C ₁₈ H ₁₈	[7396-38-5]	2,4,5,7-tetramethylphenanthrene SUB		114.2 ± 1.7		ME	[1965MCD/KIL, 1970COX/PIL]
C ₁₈ H ₁₈	[7343-06-8]	3,4,5,6-tetramethylphenanthrene SUB		133.5 ± 3.8		ME	[1965MCD/KIL, 1970COX/PIL]
C ₁₈ H ₁₈ CINS	[113-59-7]	3-(2-chloro-9 <i>H</i> -thioxanthen-9-ylidene)- <i>N,N</i> -dimethyl-1-propanamino (2-chlorprothixene) FUS		27.82	370.3	DSC	[1996DOM/HEA, 1983CHA/MAS]
	FUS			28.9	370.5	DSC	[1983MAS/CHA]
C ₁₈ H ₁₈ F ₃ N ₃ O ₃	[153168-05-9]	3-{3,5-dimethyl-4-[3-(3-methylisoxazol-5-yl)propoxy]phenyl}-5-trifluoromethyl[1,2,4]oxodiazole (pleconaril)					
	FUS (I)			29.3	336.5		
	FUS (II)			32.7	333.4	DSC	[2004COS/SCH]
C ₁₈ H ₁₈ N ₂ O ₂ S	[1000863-77-3]	<i>N,N'</i> -bis(4-methylbenzoyl)carbamimidothioic acid, methyl ester FUS		11.06	433.2	DSC	[2009PLA/LIZ]
C ₁₈ H ₁₈ N ₂ O ₄	[4471-41-4]	<i>N,N'</i> -di(2-hydroxyethyl)-1,4-diaminoanthraquinone FUS		32.34	521.2		[1988BAU/PER]
C ₁₈ H ₁₈ O ₂	[19672-37-8]	3-diphenylmethyl-2,4-pentanedione FUS		27.02	387.2		[1995NOL/VER]
	SUB		(348–383)	112.8 ± 0.4	366	T	[1995NOL/VER]
C ₁₈ H ₁₈ O ₃	[2314-09-2]	Butyl 9-hydroxy-9 <i>H</i> -fluorene-9-carboxylate FUS		25.56	343.9	DSC	[1991ACR, 1990DON/DRE]
C ₁₈ H ₁₈ O ₄	[25062-95-7]	2,2'-diphenyl-bi-(1,3-dioxolane-2-yl) FUS		32.1	456.1		[1995VER/DOG]
	SUB		(320–362)	132.8 ± 2.1	341	T	[1995VER/DOG]
C ₁₈ H ₁₈ O ₁₂	[6237-59-8]	Hexamethoxycarbonylbenzene FUS		22.5	463.7	DSC	[1978DOZ/FUJ]
	SUB		(403–422)	140.7 ± 1.1	413	ME	[1995JIM/MEN]
	SUB		(403–422)	154.3 ± 1.2	298	ME	[1995JIM/MEN]
C ₁₈ H ₁₉ BrO	[556052-88-1]	4-bromo-4'-(5-hexenyl)oxy)-1,1'-biphenyl TRS		13.8	308.2		
	FUS			16.0	393.9	DSC	[2003WIL/VAN]
C ₁₈ H ₁₉ C ₁ N ₄	[5786-21-0]	8-chloro-11-(4-methyl-1-piperazinyl)-5 <i>H</i> -dibenzo[<i>b,e</i>][1,4]diazepine (clozapine) FUS		35.9	457.1	DSC	[2006WAS/HOL]
C ₁₈ H ₁₉ C ₁ NO ₄	[72509-76-3]	(±)-ethyl methyl 1,4-dihydro-2,6-dimethyl-4-(2,3-dichlorophenyl)-3,5-pyridine dicarboxylate (felodipine) FUS		32.12	416.0	DSC	[2015NUR/BOO]
	FUS (I)			31.5	417.0		
	FUS (II)			27.6	408.0		
	FUS (III)			29.1	416.9	DSC	[2012SUR/SOL]
	FUS			30.96	420	DSC	[2010BAI/VAN]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{18}\text{H}_{19}\text{Cl}_2\text{NO}_4$	[119945-59-4]	FUS		34.8	412.3		[2007BER/WAS]
		FUS		30.8	414.8	DSC	[2006MAR/KON]
		FUS		32.1	416.7	DSC	[2004MAR/KOZ]
		FUS (I)		31.5	417.4		
		FUS (II)		26.7	405.7	DSC	[2001ROL/BUR]
		FUS		35.21	414.9	DSC	[1992SRC/KER]
$\text{C}_{18}\text{H}_{19}\text{Cl}_2\text{NO}_4$	[119945-59-4]	$(+)$ -ethyl methyl 1,4-dihydro-2,6-dimethyl-4-(2,3-dichlorophenyl)-3,5-pyridine dicarboxylate(felodipine)					
		FUS		25.4	415.7	DSC	[2001ROL/BUR]
$\text{C}_{18}\text{H}_{19}\text{N}$	[63799-11-1]	(S) -4-(2-methylbutyl)-4'-cyanobiphenyl					
		FUS		10.7	276	DSC	[1999MAY/WIT]
[Note: The compound may have phase transitions at lower temperatures.]							
$\text{C}_{18}\text{H}_{19}\text{NO}_4$	[483362-68-1]	2-(4-nitrophenyl)-1-(4-butoxyphenyl)ethanone					
		FUS		24.94	336.1	DSC	[2002SPA/DZI]
$\text{C}_{18}\text{H}_{19}\text{N}_3\text{O}$	[99614-02-5]	1,2,3,4-tetrahydro-9-methyl-3-[(2-methyl-1 <i>H</i> -imidazol-1-yl)methyl]-9 <i>H</i> -carbazol-4-one (ondanestron)					
		FUS		45.05	493	DSC	[2004DIM/DAL]
$\text{C}_{18}\text{H}_{20}$	[2913-24-8]	[3.3]para-cyclophane					
		TRS		7.36	332		
		TRS		0.46	351		
		FUS		11.76	377	DSC	[1969SHI/MCN]
		SUB	(322–343)	103.3 ± 1	298	ME	[1969SHI/MCN, 1977PED/RYL]
		SUB	(321–343)	97.8	332	A	[1987STE/MAL, 1969SHI/MCN]
$\text{C}_{18}\text{H}_{20}$	[115181-05-0]	6-(4-biphenyl)-1-hexene					
		FUS		15.1	274.5	DSC	[1989MAL/KAN]
$\text{C}_{18}\text{H}_{20}\text{BrN}_5\text{O}_5$	[191355-38-1]	8-bromo-(<i>R</i>)-7-[2-hydroxy-3-(4-acetylamino)-fenoxypropyl]-1,3-dimethylxanthine					
		FUS		37.8	492.2	DSC	[2000DAN/PRO]
$\text{C}_{18}\text{H}_{20}\text{Cl}_2$	[72-56-0]	1,1'-(2,2-dichloroethylidene)bis(4-ethylbenzene)					
		FUS		23.34	331.6	DSC	[1991ACR, 1990DON/DRE]
$\text{C}_{18}\text{H}_{20}\text{N}_2\text{O}_2$	[3955-57-5]	<i>N,N'</i> -bis(salicylaldehyde)tetramethyleneendiimine					
		FUS		35.54	362.8	DSC	[2004RIB/GON]
		SUB	(349–361)	165.1 ± 3.1	298	ME	[2004RIB/GON]
$\text{C}_{18}\text{H}_{20}\text{N}_2\text{O}_4$	[332140-31-5]	Diethyl 2,4,6,8-tetrahydro-4,8-ethanobenzo[1,2- <i>c</i> :4,5- <i>c</i> ']dipyrrole-1,7-dicarboxylate					
		FUS		18.2	439.3	DSC	[2000UNO/ITO]
$\text{C}_{18}\text{H}_{20}\text{N}_2\text{O}_4$	[54946-24-6]	<i>N</i> -pentylthalidomide					
		FUS		23.97	378.2	DTA	[2002GOO/LAI]
$\text{C}_{18}\text{H}_{20}\text{N}_2\text{O}_6$	[39562-70-4]	3-ethyl-5-methyl-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylate ((<i>RS</i>)- nitrendipine)					
		FUS		39.6	432.6	DSC	[2004MAR/KOZ]
		FUS		41.1	430.7	DSC	[1997BUR/ROL]
$\text{C}_{18}\text{H}_{20}\text{N}_6\text{O}_7$	[191355-39-2]	8-nitro-(<i>R</i>)-7-[2-hydroxy-3-(4-acetylamino)-fenoxypropyl]-1,3-dimethylxanthine					
		FUS		56.8	481.2	DSC	[2000DAN/PRO]
$\text{C}_{18}\text{H}_{20}\text{OS}$	[556052-90-5]	4'-(5-hexenoxy)-[1,1'-biphenyl]-4-thiol					
		TRS		11.6	358.4		
		FUS		13.6	384.6	DSC	[2003WIL/VAN]
$\text{C}_{18}\text{H}_{20}\text{O}_2$	[56-53-1]	Diethylstilbestrol					
		FUS		31.76	443.8	DSC	[1990DON/DRE]
$\text{C}_{18}\text{H}_{20}\text{O}_2$	[100923-74-8]	(2-hydroxyl-4,6-dimethylphenyl)-2,4,6-trimethylphenylmethanone					
		FUS		0.84	380.2	DTA	[1989SAL/ABA]
[Note: Reported enthalpy of fusion is too small, and the published enthalpy and entropy of fusion data are internally inconsistent.]							
$\text{C}_{18}\text{H}_{20}\text{O}_4$	[39716-92-2]	2-hydroxy-4-butoxy-4'-methoxybenzophenone					
		FUS		33.7	345.6	DSC	[1999PRI/HAW]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
<chem>C18H21F17O</chem>	[210896-33-6]	SUB		126.3		B	[1999PRI/HAW]
		V		92.6		TGA	[1999PRI/HAW]
		TRS		3.76	242.0		
<chem>C18H21N</chem>		FUS		38.86	264.7	DSC	[2010ZAG/CON]
		FUS	<i>N</i> -benzyl-pivalophenone imine	27.86	339.6	DSC	[1997VER/MOR]
		SUB	(318–336)	107.9 ± 3.3	327	GS	[1997VER/MOR]
<chem>C18H21NO</chem>	[97402-82-9]	SUB	(318–336)	109.7 ± 3.3	298	GS	[1997VER/MOR]
		V	(341–366)	78.3 ± 0.9	354	GS	[1997VER/MOR]
		V	(341–366)	81.6 ± 0.9	298	GS	[1997VER/MOR]
		SUB	(E)- <i>N</i> -(4-methoxybenzylidene)-4-butylamine	NA			[1989KRE/AZA]
<chem>C18H21NO3</chem>	[76-57-3]	FUS	7,8-didehydro-4,5-epoxy-3-methoxy-17-ethylmorphinan-6-ol (codeine)	24.85	429.6	DSC	[2015MUS/MAT]
		FUS		23.81	430.3		[1995YAN/YIN]
		FUS		18.28	428.2	DTA	[1988ROY/FLY]
		FUS	Oxycodone	32.17	495.1	DSC	[2015MUS/MAT]
<chem>C18H21N3S</chem>	[69186-17-0]	SUB	<i>N</i> -(diethylaminothiocarbonyl)- <i>N'</i> -phenylbenzamidine	159.4 ± 3.3	298	C	[2004RIB/SAN]
<chem>C18H21N5O5</chem>	[191355-37-0]	FUS	(<i>R</i>)-7-[2-hydroxy-3-(4-acetylamo)-fenoxypropyl]-1,3-dimethylxanthine	65.9	477.2	DSC	[2000DAN/PRO]
<chem>C18H22</chem>	[1087-49-6]	V	1,6-diphenylhexane (293–373)	88.0	308	A	[1987STE/MAL, 1964MOR]
<chem>C18H22</chem>	[109309-32-2]	V	2,2-di(<i>p</i> -tolyl)butane (298–473)	85.4	313		[1999DYK/SVO]
<chem>C18H22</chem>		V	1- <i>p</i> -tolyl-1- <i>p</i> -propylphenyl)ethane (298–473)	85.4	313		[1999DYK/SVO]
<chem>C18H22</chem>		V	1- <i>o</i> -tolyl- <i>p</i> -tolylbutane (298–473)	85.4	313		[1999DYK/SVO]
<chem>C18H22</chem>	[1889-67-4]	FUS	2,3-dimethyl-2,3-diphenylbutane	25.52	392	DSC	[1983KRA/BEC]
		SUB	(293–348)	96.7 ± 0.8	320		[1983KRA/BEC]
<chem>C18H22FNO3</chem>	[348098-52-2]	FUS	(<i>R</i>)-deoxyephedrinium (<i>S</i>)-4'-fluoromandelate	27.9	374.5	DSC	[2001VAL/SMI]
<chem>C18H22FNO3</chem>	[348098-53-3]	FUS	(<i>R</i>)-deoxyephedrinium (<i>R</i>)-4'-fluoromandelate	26.6	369.2	DSC	[2001VAL/SMI]
<chem>C18H22FNO4</chem>	[174966-70-2]	FUS	(1 <i>R</i> , 2 <i>S</i>)-ephedrinium (<i>R</i>)-4'-fluoromandelate	37.5	438.3	DSC	[2001VAL/SMI]
<chem>C18H22FNO4</chem>	[174966-62-2]	FUS	(1 <i>R</i> , 2 <i>S</i>)-ephedrinium (<i>S</i>)-4'-fluoromandelate	24.5	380.4	DSC	[2001VAL/SMI]
<chem>C18H22NO3P</chem>	[6372-21-0]	FUS	Cyclohexylphosphoramidic acid, diphenyl ester	27.57	381.7	DSC	[2015ZHA/DU]
<chem>C18H22N2O2</chem>	[100046-00-2]	SUB	2,2',4,4',6,6'-hexamethylazobenzene- <i>N,N</i> -dioxide	107 ± 12	298	ME	[1993ACR/TUC2]
<chem>C18H22N4</chem>	[118655-99-5]	FUS	<i>trans,trans</i> -1,6-diphenyl-3,3,4,4-tetramethyl-1,2,5,6-tetraazahexane	21.09	342.3	DSC	[1993ENG/WAN]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₈ H ₂₂ O ₂	[41047-48-7]	SUB		113.8 ± 1.8		V+F	[1993ENG/WAN]
		V	(348–388)	92.8 ± 1.5	368	GS	[1993ENG/WAN]
C ₁₈ H ₂₂ O ₂	[41047-48-7]	SUB	(<i>dl</i>)-2,3-dimethoxy-2,3-diphenylbutane (322–355)	114.2 ± 6.3	339		[1990DOG/BEC]
		FUS		26.36	371.5	DSC	[1976LEC/COL]
C ₁₈ H ₂₂ O ₂	[41047-48-7]	FUS	(<i>d</i> l)-anisylidene camphor	30.12	399.5	DSC	[1976LEC/COL]
		FUS		28.14	312.4	AC	[1996DOM/HEA, 1957MAS]
C ₁₈ H ₂₂ O ₂	[53-16-7]	FUS	3-hydroxyestra-1,3,5(10)-triene-17-one ((+)-estrone)	45.11	527.6	DSC	[2016MOO/RAR]
		FUS		41.7	422.2	DSC	[2010DOM/POB]
		FUS	Butyl 2-(6-methoxy-2-naphthyl)propionate	35.1	341.3	DSC	[1994WEB/MEY]
C ₁₈ H ₂₂ O ₃	[39787-30-9]	FUS	1,1-dimethylethyl 2-(6-methoxy-2-naphthyl)propionate	33.8	365.6	DSC	[1994WEB/MEY]
		FUS		20.1	328.5		[1995VER/DOG]
C ₁₈ H ₂₂ O ₄	[119291-29-1]	SUB	(351–399)	77.6 ± 0.6	375	T	[1995VER/DOG]
		TRS		17.53	409.5		
C ₁₈ H ₂₂ O ₄	[119291-29-1]	FUS		22.67	412.4	DSC	[1995BOW/HER]
		FUS	4,4'-di-(2-methoxyethoxy)biphenyl				
C ₁₈ H ₂₂ O ₅	[157396-75-3]	FUS	2-(2-hydroxyethoxy)ethyl 2-(6-methoxy-2-naphthyl)propionate	17.8	306.6	DSC	[1994WEB/MEY]
		FUS		25.0	335.2	DTA	[1995KEL/SCH]
C ₁₈ H ₂₄	[13349-10-5]	TRS	Heptacyclo[7.7.1.1 ^{3,15} .0 ^{1,12} .0 ^{2,7} .0 ^{4,13} .0 ^{6,11}]octadecane (triamantane)	1.1	293.7	DTA	[1981JEN/OBR]
		SUB	(293–313)	115.4	303	A	[1987STE/MAL, 1964MOR]
C ₁₈ H ₂₄	[1610-22-6]	V	(318–358)	84.2	333	A	[1987STE/MAL, 1947STU]
		FUS	(<i>E</i>)-9-(bicyclo[4.2.1]non-3-en-9-ylidene)bicyclo[4.2.1]non-3-ene	9.1	441.7	DSC	[1984MAR/MEL]
C ₁₈ H ₂₄	[83171-45-3]	FUS	(<i>Z</i>)-9-(bicyclo[4.2.1]non-3-en-9-ylidene)bicyclo[4.2.1]non-3-ene	27.96	440.8	DSC	[1984MAR/MEL]
		FUS	1,2,3,4,4a,7,8,9,10,12,12a-dodecahydrochrysene				
C ₁₈ H ₂₄	[3905-64-4]	SUB	(293–313)	115.4	303	A	[1987STE/MAL, 1964MOR]
		V	(318–358)	84.2	333	A	[1987STE/MAL, 1947STU]
C ₁₈ H ₂₄	[83171-44-2]	FUS	2,6-di- <i>tert</i> -butylnaphthalene	18.55	420.2	DSC	[2016SAN/OLI]
		SUB	(323–345)	99.1 ± 0.4	298	ME	[2016SAN/OLI]
C ₁₈ H ₂₄ ClNO ₂ S	[710333-38-3]	FUS	N-(3,5-dimethyladamantan-1-yl)-4-chlorobenzenesulfonamide	37.1	434.9	DSC	[2016PER/VOL]
		SUB	(365–408)	122.3 ± 1.0	386	GS	[2016PER/VOL]
		SUB	(365–408)	128.3 ± 1.0	298	GS	[2016PER/VOL]
C ₁₈ H ₂₄ FNO ₂ S	[1802842-09-6]	FUS	N-(3,5-dimethyladamantan-1-yl)-4-fluorobenzenesulfonamide	29.8	410.4	DSC	[2016PER/VOL]
		SUB	(364–391)	115.4 ± 1.6	377	GS	[2016PER/VOL]
		SUB	(364–391)	120.8 ± 1.6	298	GS	[2016PER/VOL]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₈ H ₂₄ N ₂ O ₄	[138516-98-0]	(4-nitrophenyl)-10-undecynyl carbamate	FUS	53.18	385.4	DSC	[1993TIE/FRA]
C ₁₈ H ₂₄ N ₂ O ₆	[172512-06-0]	3-[(hydroxyimino)(4-methoxy-3-nitrophenyl)methyl]-1,2,2-trimethylcyclopentanecarboxylic acid methyl ester	FUS	31.99	433	DSC	[1995NUR/LEL]
C ₁₈ H ₂₄ O		(1 <i>R</i> ,1' <i>R</i> ,6 <i>S</i> ,6' <i>S</i> ,9 <i>S</i> ,9' <i>S</i>)-dispiro(bicyclo[4.2.1]non-3-ene-9,2'-oxirane-3',9"-bicyclo[4.2.1]non-3-ene)	TRS	5.92	354.3		
			FUS	8.19	373.8	DSC	[1984MAR/MEL]
C ₁₈ H ₂₄ O		(1 <i>R</i> ,1' <i>R</i> ,6 <i>S</i> ,6' <i>S</i> ,9 <i>R</i> ,9' <i>S</i>)-dispiro(bicyclo[4.2.1]non-3-ene-9,2'-oxirane-3',9"-bicyclo[4.2.1]non-3-ene)	FUS	14.92	333.9	DSC	[1984MAR/MEL]
C ₁₈ H ₂₄ O ₃	[104225-40-3]	3-(4-ethylbenzoyl)-1,2,2-trimethylcyclopentanecarboxylic acid	FUS	22.54	387.6	DSC	[1992TER/PAU]
C ₁₈ H ₂₄ O ₃	[104225-33-4]	3-(3,4-dimethylbenzoyl)-1,2,2-trimethylcyclopentanecarboxylic acid	FUS	32.31	460.6	DSC	[1992TER/PAU]
C ₁₈ H ₂₄ O ₃	[104225-36-7]	3-(2,4-dimethylbenzoyl)-1,2,2-trimethylcyclopentanecarboxylic acid	FUS	18.81	386.8	DSC	[1992TER/PAU]
C ₁₈ H ₂₄ O ₄	[57403-79-9]	3-(4-ethoxybenzoyl)-1,2,2-trimethylcyclopentanecarboxylic acid	FUS	22.05	394.6	DSC	[1992TER/PAU]
C ₁₈ H ₂₄ O ₄	[84-64-0]	Butylcyclohexylphthalate	V	94.3	383	A	[1987STE/MAL, 1952WER]
C ₁₈ H ₂₅ NO ₃	[104225-18-5]	3-[4-(dimethylamino)benzoyl]-1,2,2-trimethylcyclopentanecarboxylic acid	FUS	25.03	445	DSC	[1992TER/PAU]
C ₁₈ H ₂₅ NO ₄	[172589-19-4]	3-[(hydroxyimino)(4-methoxyphenyl)methyl]-1,2,2-trimethylcyclopentanecarboxylic acid methyl ester	FUS	36.99	433	DSC	[1995NUR/LEL]
C ₁₈ H ₂₆ N ₂ O ₄	[138516-97-9]	(4-nitrophenyl)-10-undecenyl carbamate	FUS	43.81	376.4	DSC	[1993TIE/FRA]
C ₁₈ H ₂₆ N ₂ S	[1383254-26-9]	<i>N</i> -[4-(1-methylethyl)phenyl]-1-thia-3-azaspiro[5.5]undec-2-en-2-amine	FUS	29.2	412.7	DSC	[2012BLO/OLK]
			SUB	(365–393)	117.8 ± 1.1	GS	[2012OLK/SHA]
			V		101.7	S-F	[2012OLK/SHA]
C ₁₈ H ₂₆ O ₂	[54406-48-3]	(<i>E</i>)-(RS)-1-ethynyl-2-methylpent-2-enyl (IRS,3RS;1RS,3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate	V (I)	87.2 ± 4.8	298	CGC	[2013SPE/CHI]
			V (II)	87.0 ± 4.8	298	CGC	[2013SPE/CHI]
[Note: The authors of [2013SPE/CHI] reported the enthalpies of vaporization of the two diastereomers in the commercial sample]							
C ₁₈ H ₂₆ O ₂	[434-22-0]	17β-hydroxyestra-4-en-3-one (nandrolone)	FUS	20.6	397.2	DSC	[2015NUR/BOO]
C ₁₈ H ₂₆ O ₃	V	(<i>E</i>)-2-ethylhexyl 4-methoxycinnamate		108.9 ± 1.8	298	GC-RT	[2015PEG/CHI]
C ₁₈ H ₂₆ O ₃	V	(<i>Z</i>)-2-ethylhexyl 4-methoxycinnamate		98.9 ± 1.8	298	GC-RT	[2015PEG/CHI]
C ₁₈ H ₂₆ O ₄	[605-50-5]	Diisopentylphthalate	V	(390–610)	81.6	A	[1987STE/MAL]
C ₁₈ H ₂₆ O ₄	[131-18-0]	Dipentyl phthalate	V	(323–390)	87.3	T	[1949PER/WEB]
			V	(303–500)	99.4	A, ME	[1987STE/MAL, 1948SMA/SMA]
C ₁₈ H ₂₇ BrN ₂ O ₄	[138517-07-4]	(4-nitrophenyl)-11-bromoundecyl carbamate	FUS	58.56	395.6	DSC	[1993TIE/FRA]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
C ₁₈ H ₂₇ IN ₂ O ₄	[138517-10-9]	(4-nitrophenyl)-11-iodoundecyl carbamate	FUS	63.34	399.6	DSC	[1993TIE/FRA]	
C ₁₈ H ₂₇ NO ₃	[404-86-4]	Capsaicin	FUS	19.82	338.6	DSC	[2012YAN/WAN]	
C ₁₈ H ₂₈	[66553-12-6]	1,2,3,4-tetrahydro-6-octylnaphthalene	V	(503–574)	103.3	538	[1999DYK/SVO]	
C ₁₈ H ₂₈	[83171-46-4]	(E)-9-(bicyclo[4.2.1]nonan-9-ylidene)bicyclo[4.2.1]nonane	TRS	2.68	224.8			
			FUS	9.32	412.4	DSC	[1984MAR/MEL]	
C ₁₈ H ₂₈	[83171-47-5]	(Z)-9-(bicyclo[4.2.1]nonan-9-ylidene)bicyclo[4.2.1]nonane	TRS	10.12	344.4			
			FUS	11.04	393.3	DSC	[1984MAR/MEL]	
C ₁₈ H ₂₈ N ₂ O	[27262-45-9]	N-(2,6-dimethylphenyl)-1-butyl-2-piperidinecarboxamide	FUS	26.25	413.2	DSC	[1997NEM/ACS]	
C ₁₈ H ₂₈ O		(1 <i>R</i> ,1'' <i>R</i> ,6 <i>S</i> ,6'' <i>S</i> ,9 <i>R</i> ,9'' <i>R</i>)-dispiro(bicyclo[4.2.1]nonane-9,2'-oxirane-3',9''-bicyclo[4.2.1]nonane)	TRS	9.74	348.5			
			FUS	13.13	444.1	DSC	[1984MAR/MEL]	
C ₁₈ H ₂₈ O		(1 <i>R</i> ,1'' <i>R</i> ,6 <i>S</i> ,6'' <i>S</i> ,9 <i>R</i> ,9'' <i>S</i>)-dispiro(bicyclo[4.2.1]nonane-9,2'-oxirane-3',9''-bicyclo[4.2.1]nonane)	TRS	0.72	274.9			
			FUS	6.35	342.5	DSC	[1984MAR/MEL]	
C ₁₈ H ₂₈ O ₂	[42588-37-4]	(<i>R,S</i>)-2-propynyl (2 <i>E</i> ,4 <i>E</i>)-3,7,11-trimethyl-2,4-dodecadienoate	V	98.1 ± 3.7	298	CGC	[2016GOO/HAS]	
C ₁₈ H ₂₈ O ₄	[118476-22-5]	2,5-di- <i>n</i> -hexyloxy-1,4-benzoquinone	TRS	5.3	332.3			
			FUS	38.9	412.1	DSC	[1996KEE/VAN]	
C ₁₈ H ₂₈ S ₈	[106920-28-9]	2-[4,5-bis(propylthio)-1,3-dithiol-2-ylidene]-4,5-bis(propylthio)-1,3-dithiole	FUS	42.7	306.6	AC	[1997TAN/ATA]	
C ₁₈ H ₂₉ NO	[24973-59-9]	2,4,6-tri- <i>tert</i> -butylnitrosobenzene	SUB	91.0 ± 3.2	298	C	[1995ACR/BOT]	
C ₁₈ H ₂₉ NO ₂	[4074-25-3]	2,4,6-tri- <i>tert</i> -butylnitrobenzene	FUS	19.25	482.8	DSC	[2000VER/HEI]	
			SUB	(333–368)	94.8 ± 1.0	GS	[2000VER/HEI]	
			SUB	(333–368)	96.4 ± 1.0	GS	[2000VER/HEI]	
			SUB		81.4 ± 1.8	C	[1995ACR/BOT]	
C ₁₈ H ₂₉ NO ₃	[19408-84-5]	<i>N</i> -[(4-hydroxy-3-methoxyphenyl)methyl]-8-methylnonamide (dihydrocapsaicin)	FUS	19.0	332.5	DSC	[2011ZHA/WAN]	
C ₁₈ H ₂₉ NO ₃	[63659-18-7]	1-[4-[2-(cyclopropylmethoxy)ethyl]phenoxy]-3-[(1-methylethyl)amino]-2-propanol ((±)-betaxolol)	FUS	47.3	342.2	DSC	[2013MAR/CAS]	
C ₁₈ H ₃₀	[2090-14-4]	Perhydrochrysene	V	(273–353)	82.4	288	[1964MOR]	
C ₁₈ H ₃₀	[604-88-6]	Hexaethylbenzene	SUB	(327–352)	95.0 ± 4.0	340	HSA	
			SUB		U 41.3 ± 0.9	DSC	[1986CHI/ANN]	
			V	(407–572)	62.6	422	A	[1987STE/MAL, 1947STU]
C ₁₈ H ₃₀	[635-11-0]	1,2,4,5-tetraisopropylbenzene	FUS		19.6	393	[2002STE/CHI6]	
			V	(410–575)	61.1 ± 0.3	420	EB	[2002STE/CHI6]
			V	(410–575)	56.8 ± 0.3	460	EB	[2002STE/CHI6]
			V	(410–575)	52.3 ± 0.5	500	EB	[2002STE/CHI6]
			V	(410–575)	47.5 ± 0.9	540	EB	[2002STE/CHI6]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₈ H ₃₀	[1460-02-2]	1,3,5-tri- <i>tert</i> -butylbenzene					
		SUB	(298–341)	79.9 ± 0.3	319	T	[1998VER]
		SUB	(298–341)	81.2 ± 0.3	298	T	[1998VER]
		SUB	(273–315)	79.7 ± 0.4	294	ME	[1965DAV/KYB, 1987STE/MAL]
C ₁₈ H ₃₀	[2090-14-4]	Perhydrochrysene					
	V	(273–353)	82.3	288	A		[1987STE/MAL, 1964MOR]
C ₁₈ H ₃₀	[123-01-3]	1-phenyldodecane					
		FUS		43.1	274.6	DSC	[2000MOK/RUZ]
		SUB		135.1	275	V + F	[2000MOK/RUZ]
		V	(323–462)	89.0	298		[2000MOK/RUZ]
		V	(323–462)	92.0	275		[2000MOK/RUZ]
		V	(333–453)	83.2	348		[1993KAS/MOK]
		V	(496–609)	67.4	511	A	[1987STE/MAL]
C ₁₈ H ₃₀ N ₄ O ₂	[126235-05-0]	8-undecyltheophylline					
	FUS		25.8	433.5	DSC		[1989GON/KRA, 1991ACR]
C ₁₈ H ₃₀ O	[732-26-3]	2,4,6-tri- <i>tert</i> -butylphenol					
		FUS		19.46	405.2	DSC	[1991CHI/BRA]
		SUB		87.5 ± 0.4	298	GS	[1999VER]
		SUB	(295–339)	85.6 ± 0.4	317	ME	[1965DAV/KYB, 1987STE/MAL]
		SUB		U128.1	298	C	[1971BER/GIR, 1999VER]
		SUB	(292–313)	83.9	302		[1960AIH]
		SUB		84.2 ± 0.5	298	V	[1960AIH, 1999VER]
C ₁₈ H ₃₀ O ₂	[59968-12-6]	1,3-dimethoxy-4-decylbenzene					
	V	(443–493)	76.6	458	A, GC		[1987STE/MAL, 1975KUN/LIL]
C ₁₈ H ₃₀ O ₂	[41442-52-8]	1,3-dimethoxy-5-decylbenzene					
	V	(459–519)	78.4	474	A, GC		[1987STE/MAL, 1975KUN/LIL]
C ₁₈ H ₃₀ O ₂	[506-26-3]	6- <i>cis</i> ,9- <i>cis</i> ,12- <i>cis</i> -octadecatrienoic acid (gamma-linolenic acid)					
	V		135.9 ± 6.8	298	CGC		[2013WIL/CHI]
C ₁₈ H ₃₀ O ₂	[463-40-1]	(9Z,12Z,15Z)-9,12,15-octadecatrienoic acid (α -linolenic acid)					
	V		136.9 ± 10.4	298	CGC		[2013WIL/CHI]
C ₁₈ H ₃₀ O ₄	[47189-08-2]	1,4-bis(1,1-diethoxy ethyl)benzene (4-diacetylbenzene diethyl ketal)					
		TRS	(6–340)	1.31	168.2		
		FUS	(6–340)	23.5	326.2	AC	[1996DOM/HEA, 1978KAR/RAB2]
		SUB	(306–327)	112.5	316.5		[1978KAR/KAM, 1987STE/MAL]
C ₁₈ H ₃₀ O ₄	[849-99-0]	Dicyclohexyl adipate					
	V	(338–369)	106.3 ± 1.5	298	GS		[2008LIP/KRA]
C ₁₈ H ₃₀ O ₆	[7568-58-3]	<i>trans</i> aconitic acid, tributyl ester					
	V	(385–483)	87.4	400	A		[1987STE/MAL, 1953MAG/MOD]
C ₁₈ H ₃₀ O ₁₁	[5349-69-9]	Diethylene glycol dicarboxylic acid, di[1-(isopropoxycarbonyl)ethyl] ester					
	V	(418–493)	97.6	433	A		[1987STE/MAL, 1949REH/DIX]
C ₁₈ H ₃₀ O ₁₁	[5334-85-0]	Diethylene glycol dicarboxylic acid, di[1-(propoxycarbonyl)ethyl] ester					
	V	(418–514)	101.5	433	A		[1987STE/MAL, 1949REH/DIX]
C ₁₈ H ₃₁ N	[961-38-6]	2,4,6-tri- <i>tert</i> -butylaniline					
		FUS		19.38	426.4	DSC	[2000VER3]
	SUB	(333–368)	89.4 ± 1.1	350	GS		[2000VER3]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	SUB	(333–368)	92.5 ± 1.1	298	GS	[2000VER3]
C ₁₈ H ₃₂	[55133-89-6]	9-butyltetradecahydroanthracene				
	V	(420–456)	72.8	435	A	[1987STE/MAL]
C ₁₈ H ₃₂	[2456-43-1]	1,2-dicyclohexylcyclohexane				
	V	(375–563)	72.8	390	A	[1987STE/MAL]
C ₁₈ H ₃₂ O	[1604-32-6]	6,10,14-trimethyl-3,5-pentadecadien-2-one				
	V	(404–560)	43.4 ± 0.5	482	Static	[1988BAG/GUR]
C ₁₈ H ₃₂ O ₂	[506-21-8]	Linoelaidic acid				
	FUS		47.7	303	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[60-33-3]	(Z, Z)-9,12-octadecadienoic acid (linoleic acid)				
	FUS		34.08	268.2	DSC	[2016MAX/AQU]
	FUS		34.7	268.0	A, T	[1982JAL/ZOG, 2016MAX/AQU]
	V		134.2 ± 2.1	298	CGC	[2015WIL/GOB]
	V		134.1 ± 10.3	298	CGC	[2013WIL/CHI]
C ₁₈ H ₃₂ O ₂	[19307-18-7]	4-octadecynoic acid				
	FUS		57.94	348	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[676-30-2]	5-octadecynoic acid				
	FUS		54.41	325	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[544-74-1]	6-octadecynoic acid				
	FUS		54.92	324	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[19220-35-0]	7-octadecynoic acid				
	FUS		53.61	322	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[19220-36-1]	8-octadecynoic acid				
	FUS		55.3	320	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[506-24-1]	9-octadecynoic acid				
	FUS		54.87	319	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[19220-39-4]	10-octadecynoic acid				
	FUS		52.32	319	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[19220-40-7]	11-octadecynoic acid				
	FUS		55.97	320	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[19220-41-8]	12-octadecynoic acid				
	FUS		49.79	320	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[19220-42-9]	13-octadecynoic acid				
	FUS		55.51	322	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[34494-26-3]	14-octadecynoic acid				
	FUS		52.74	337	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[34450-17-4]	16-octadecynoic acid				
	FUS		60.1	347	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[34450-18-5]	17-octadecynoic acid				
	FUS		54.2	340	TA	[1982JAL/ZOG]
C ₁₈ H ₃₂ O ₂	[13747-10-9]	1,10-cyclooctadecanedione				
	TRS		11.84	359.2		
	FUS		27.03	371.2		[1972ALV/BOR]
C ₁₈ H ₃₂ O ₄	[38734-11-1]	1,8-cyclotetradecanedione bis(ethylene ketal)				
	FUS		30.67	457.2		[1972ALV/BOR]
C ₁₈ H ₃₂ O ₆	[38094-11-0]	Tributyl 1,2,3-propanetricarboxylate				
	V	(385–482)	87.8	400	A	[1987STE/MAL]
C ₁₈ H ₃₂ O ₆	[620-68-8]	Glycerol tri(pentanoate)				

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_{\text{m}}$ (kJ/mol)	T _m (K)	Method
	V	(340–370)	107.9 ± 0.6	298	GS	[2010MAS/KRA]
C ₁₈ H ₃₂ O ₆	[620-63-3]	Glycerol tri(3-methylbutanoate)				
	V	(341–369)	106.0 ± 1.1	298	GS	[2010MAS/KRA]
C ₁₈ H ₃₂ O ₆	[58006-18-1]	Glycerol tri(2,2-diethylpropanoate)				
	V	(313–358)	91.6.0 ± 0.7	298	GS	[2010MAS/KRA]
C ₁₈ H ₃₄	[629-89-0]	1-octadecyne				
	V	(450–623)	64.9	465		[1999DYK/SVO]
C ₁₈ H ₃₄	[61847-97-0]	2-octadecyne				
	V	(458–633)	65.7	473		[1999DYK/SVO]
C ₁₈ H ₃₄	[61886-64-4]	3-octadecyne				
	V	(449–622)	64.5	464		[1999DYK/SVO]
C ₁₈ H ₃₄	[95049-67-5]	1,4-dipentylbicyclo[2.2.2]octane				
	FUS		20.4	261.5	DSC	[1999DOU/BOT]
C ₁₈ H ₃₄	[1610-23-7]	1,6-dicyclohexylhexane				
	V	(288–373)	85.9	303	A	[1987STE/MAL, 1964MOR]
C ₁₈ H ₃₄ O	[6907-37-5]	Cyclooctadecanone				
	SUB		77.4			[1938WOL/WEG, 1960JON]
C ₁₈ H ₃₄ O ₂	[593-39-5]	cis-6-octadecenoic acid				
	FUS		59.9	302.3	DSC	[2007MOO/KOE]
	FUS		47.5	303.7	DSC	[1996DOM/HEA, 1990SAT/YOS]
	V		131.2 ± 2.1	298	CGC	[2015WIL/GOB]
C ₁₈ H ₃₄ O ₂	[112-80-1]	cis-9-octadecenoic acid (oleic acid)				
	TRS		8.08	267.3		
	FUS		42.54	285.8	DSC	[2009KNO/DUN]
	TRS		8.70	270.6		
	FUS		39.0	286.8	DSC	[2004INO/HIS]
	FUS		21.3	278	DSC	[2001CED/PRI]
	FUS (α)		39.6	286.5		
	FUS (β)		51.9	289.4	DSC	[1996DOM/HEA, 1990SAT/YOS]
	TRS		8.76	271.0		
	FUS		39.6	286.5	DSC	[1985SUZ/OGA]
	V		132.6 ± 6.6	298	CGC	[2015WIL/GOB]
	V	(441–633)	83.8	456	A	[1987STE/MAL]
C ₁₈ H ₃₄ O ₂	[112-79-8]	trans-9-octadecenoic acid (elaidic acid)				
	FUS		53.6	317.6	DSC	[1994UEN/SUE, 1997SAT/YAN]
	FUS		58.6	317		[1982JAL/ZOG]
	FUS		61.55	317.6		[1991ACR, 1983WEA]
	V		133.0 ± 10.3	298	CGC	[2013WIL/CHI]
	V	(444–635)	82.3	459	A	[1987STE/MAL, 1947STU]
C ₁₈ H ₃₄ O ₂	[2549-53-3]	Tetradecyl methacrylate				
	V	(463–611)	69.1	478	A	[1987STE/MAL]
C ₁₈ H ₃₄ O ₂	[141694-86-2]	(Z)-3-hexadecenyl acetate				
	V	(373–418)	98.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[128984-60-1]	(E)-3-hexadecenyl acetate				
	V	(373–418)	99.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[65954-24-7]	(Z)-4-hexadecenyl acetate				
	V	(373–418)	97.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[155055-27-9]	(E)-4-hexadecenyl acetate				
	V	(373–418)	98.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[34010-18-9]	(Z)-5-hexadecenyl acetate				
	V	(373–418)	98.0	298	GC	[1997KOU/HOS, 2000OVA/KOU]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number Enthalpy	Compound				
		Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₈ H ₃₄ O ₂	[56218-65-6] V	(E)-5-hexadecenyl acetate (373–418)	98.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[34010-19-0] V	(Z)-6-hexadecenyl acetate (373–418)	97.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-66-7] V	(E)-6-hexadecenyl acetate (373–418)	98.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[23192-42-9] V	(Z)-7-hexadecenyl acetate (373–418)	97.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[23192-83-8] V	(E)-7-hexadecenyl acetate (373–418)	98.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-67-8] V	(Z)-8-hexadecenyl acetate (373–418)	97.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-68-9] V	(E)-8-hexadecenyl acetate (373–418)	98.6	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[34010-20-3] V	(Z)-9-hexadecenyl acetate (373–418)	98.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-69-0] V	(E)-9-hexadecenyl acetate (373–418)	98.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-70-3] V	(Z)-10-hexadecenyl acetate (373–418)	98.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-71-4] V	(E)-10-hexadecenyl acetate (373–418)	99.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[34010-21-4] V	(Z)-11-hexadecenyl acetate (373–418)	98.9	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-72-5] V	(E)-11-hexadecenyl acetate (373–418)	99.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-73-6] V	(Z)-12-hexadecenyl acetate (373–418)	99.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[64789-90-8] V	(E)-12-hexadecenyl acetate (373–418)	99.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[56218-74-7] V	(Z)-13-hexadecenyl acetate (373–418)	100	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[69282-67-3] V	(E)-13-hexadecenyl acetate (373–418)	100.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₁₈ H ₃₄ O ₂	[13161-77-8] FUS	<i>trans</i> -3-octadecenoic acid	57.15	334	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₂	[34450-19-6] FUS	<i>trans</i> -4-octadecenoic acid	55.88	333	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₂	[7056-85-1] FUS	<i>trans</i> -5-octadecenoic acid	45.11	319	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₂	[593-40-8] FUS	<i>trans</i> -6-octadecenoic acid	60.15	326	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₂	[5684-82-2] FUS	<i>trans</i> -10-octadecenoic acid	58.52	326	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₂	[506-17-2] TRS FUS	<i>cis</i> -11-octadecenoic acid (asclepic acid)	7.8 39.8	257.8 287	DSC	[1997SAT/YAN]
C ₁₈ H ₃₄ O ₂	[693-72-1] FUS	<i>trans</i> -11-octadecenoic acid	58.49	317	TA	[1982JAL/ZOG]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₈ H ₃₄ O ₂	[13126-38-0]	<i>trans</i> -12-octadecenoic acid					
	FUS			56.71	325	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₂	[693-71-0]	<i>trans</i> -13-octadecenoic acid					
	FUS			55.62	318	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₂	[13126-42-6]	<i>trans</i> -14-octadecenoic acid					
	FUS			57.06	327	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₂	[13126-44-8]	<i>trans</i> -15-octadecenoic acid					
	FUS			58.98	331	TA	[1982JAL/ZOG]
C ₁₈ H ₃₄ O ₄	[110-33-8]	Dihexyl adipate					
	V	(470–595)		80.4	485	A	[1987STE/MAL]
C ₁₈ H ₃₄ O ₄	[109-43-3]	Dibutyl decanedioate					
	V	(468–532)		106.4	483	EB	[2008ZHU/XU]
	V	(400–532)		87.6	465		[2008ZHU/XU]
[Note: The first value is based on published Antoine constants determined from the authors' experimental data; the second value is what the authors reported from combining their experimental data with published literature data]							
	V			88.1	327	TGA	[1990KIS/SHO]
	V			91.8 ± 3.2	298	TGA	[1990KIS/SHO]
	V	(401–520)		94.3	416	A	[1987STE/MAL]
C ₁₈ H ₃₄ O ₅	[1081524-92-6]	Decyl[1-(butoxycarbonyl)ethyl]carbonate					
	V	(391–503)		79.3	406	A	[1987STE/MAL, 1950REH/DIX2]
C ₁₈ H ₃₄ O ₆	[95-08-9]	Triethylene glycol, bis(2-ethylbutyrate)					
	V	(313–528)		91.7	328	A	[1987STE/MAL]
C ₁₈ H ₃₅ N	[638-65-3]	Stearonitrile					
	FUS			56.5	315.5	DSC	[2006TEI/GON]
	V	(478–631)		78.6	493	A	[1987STE/MAL]
C ₁₈ H ₃₅ NO ₃	[2441-41-0]	<i>N</i> -hexadecanoylglycine					
	TRS + FUS			42.13	397.0	DSC	[2014RED/KRO]
	TRS			5.6	366.1		
	TRS			4.5	384.6		
	FUS			56.5	393.1	DSC	[1986MIY/MAT]
C ₁₈ H ₃₅ NO ₃	[14379-40-9]	<i>N</i> -dodecanoyl-(<i>I</i>)-leucine					
	FUS			33.5	383.1	DSC	[1986MIY/MAT]
C ₁₈ H ₃₅ NO ₃	[97850-50-5]	<i>N</i> -dodecanoyl-(<i>dl</i>)-leucine					
	TRS			28.9	341.1		
	FUS			31.0	356.6	DSC	[1986MIY/MAT]
C ₁₈ H ₃₆	[6006-34-4]	Tridecylcyclopentane					
	V	(463–634)		70.9	478		[1999DYK/SVO]
	V			90.5	298		[1971WIL/ZWO]
C ₁₈ H ₃₆	[1795-17-1]	Dodecylcyclohexane					
	FUS			45.84	258.8		[1996DOM/HEA, 1949PAR/MOO2]
	V			88.9 ± 0.8	298	GCC	[1978FUC/PEA]
	V			89.5	298		[1971WIL/ZWO]
	V	(299–324)		93.4	311	A, ME	[1987STE/MAL, 1949PAR/MOO]
C ₁₈ H ₃₆	[296-18-4]	Cyclooctadecane					
	TRS			29.29	298.2		
	FUS			9.87	346.2		[1969BOR/DAL]
C ₁₈ H ₃₆	[42506-48-9]	1,1-dimethylcyclohexadecane					
	TRS			1.26	216.2		
	TRS			0.42	221.2		
	FUS			14.23	290.2	DSC	[1975BJO/BOR2]
C ₁₈ H ₃₆	[112-88-9]	1-octadecene					

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V		(399–589)	76.4	414	A	[1987STE/MAL]
	V			90	298		[1971WIL/ZWO]
C ₁₈ H ₃₆	[24584-00-7]	<i>cis,trans</i> -1,3,5-tri- <i>tert</i> -butylcyclohexane					
	FUS			17.99	338.2		[1968VAN/HOE]
C ₁₈ H ₃₆	[24583-99-1]	<i>cis,cis</i> -1,3,5-tri- <i>tert</i> -butylcyclohexane					
	FUS			26.78	393.2		[1968VAN/HOE]
C ₁₈ H ₃₆ N ₂ O ₂	[21150-82-3]	<i>N,N'</i> -di- <i>n</i> -hexyldipamide					
	FUS			40.79	432		[1996DOM/HEA, 1953WIL/DOL]
C ₁₈ H ₃₆ O	[41207-35-6]	(<i>Z</i>)-3-octadecen-1-ol					
	V	(393–433)		120.5	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₈ H ₃₆ O	[41207-36-7]	(<i>E</i>)-3-octadecen-1-ol					
	V	(393–433)		120.0	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₈ H ₃₆ O	[143-28-2]	(<i>Z</i>)-9-octadecen-1-ol					
	V	(393–433)		119.3	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₈ H ₃₆ O	[506-42-3]	(<i>E</i>)-9-octadecen-1-ol					
	V	(393–433)		120.1	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₈ H ₃₆ O	[57716-88-8]	(<i>Z</i>)-11-octadecen-1-ol					
	V	(393–433)		119.6	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₈ H ₃₆ O	[62972-93-4]	(<i>E</i>)-11-octadecen-1-ol					
	V	(393–433)		120.4	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₈ H ₃₆ O	[69820-27-5]	(<i>Z</i>)-13-octadecen-1-ol					
	V	(393–433)		120.8	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₈ H ₃₆ O	[76836-10-7]	(<i>E</i>)-13-octadecen-1-ol					
	V	(393–433)		121.2	298	CGC	[2000OVA/KOU, 1994KOU/HOS]
C ₁₈ H ₃₆ O	[502-69-2]	6,10,14-trimethyl-2-pentadecanone					
	V	(402–500)		56.0 ± 0.6	451	Static	[1988BAG/GUR]
C ₁₈ H ₃₆ O	[638-66-4]	Octadecanal					
	V	(413–616)		75.7	428	A	[1987STE/MAL, 1947STU]
C ₁₈ H ₃₆ O ₂	[629-70-9]	Hexadecyl acetate					
	V	(373–418)		102.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]
	V	(431–469)		70.3	446	A	[1987STE/MAL]
C ₁₈ H ₃₆ O ₂	[628-97-7]	Ethyl palmitate					
	FUS			55.75	298.2	DSC	[2014ROB/BAR]
	FUS			51.8	296.2	DSC	[2003SUP/GOF]
	FUS			53.14	296		[1967OMA]
	FUS			53.09	296.4	CR	[1934KIN/GAR]
	SUB	(286–294)		150.8	290	ME	[1987STE/MAL, 1967OMA]
	V	(464–515)		91.0	464	DSC	[2011SIL/FAL]
	V	(429–466)		73.9	444	A	[1987STE/MAL]
	V	(298–318)		100.7	308	ME	[1987STE/MAL, 1967OMA]
C ₁₈ H ₃₆ O ₂	[1731-92-6]	Methyl heptadecanoate					
	FUS			48.1	304.2	DSC	[2004CHI/ZHA]
	V	(467–558)		100.8 ± 1.0	298	CGC	[2004CHI/ZHA]
	V			89.3	350	CE	[2002VAN/VAN]
	V			89.0 ± 0.7	353	CE	[2002VAN/VAN]
	V			97.0 ± 1.2	298	CE	[2002VAN/VAN]
	V	(421–525)		84.4	436	A, E	[1987STE/MAL, 1963ROS/SCH]
C ₁₈ H ₃₆ O ₂	[57-11-4]	Octadecanoic acid (stearic acid)					
	FUS			61.10	344.0	DSC	[2016CAR/CON]
	FUS			64.23	344.0	DSC	[2016MAX/AQU]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
<chem>C18H36O4</chem>	[56444-62-3]	FUS		63.02	342.8	DSC	[2012BEN/KHI]
		FUS		65.4	342.8	DSC	[2011EGO/MAR]
		FUS		67.56	344.0	DSC	[2009COS/SAR]
		FUS		72.5	342.1	DSC	[2009SAR/BIC, 2010SAR/BIC]
		TRS		5.4	324.4		
		TRS		5.7	325.9		
		FUS		63.2	342.8	DSC	[2007MOR/COR]
		FUS		60.4	338.3	DSC	[2007MOO/KOE]
		FUS		57.8	344.1	DSC	[2006TEI/GON]
		FUS		61.0	340.2	DSC	[2005GOF/SUP]
		FUS		57.1	341.9	DSC	[2004STU/WIT]
		TRS		5.7	322.2		
		FUS		68.3	342.2	DSC	[2004MIR/ROH]
		FUS		59.5	343.0	DSC	[2004INO/HIS3]
		FUS		60.0	343.9	DSC	[2001CED/PRI]
		FUS		50.93	340.2	AC	[2000YU/MEN]
		FUS		61.30	342.8		[1990SAT/YOS]
		FUS	(100–355)	61.21	342.5	AC	[1996DOM/HEA, 1982SCH/VAN]
		FUS		61.50	344		[1982JAL/ZOG]
		FUS		63.0	342.6		[1964ADR/DEK]
		FUS		68.45	342.7		[1950SIN/WAR]
		FUS		64.64	326.1		[1889EYK]
<chem>C18H37Br</chem>	[112-89-0]	SUB		204.1 ± 9	298	TPD	[2008CAP/LOV]
		SUB	(291–309)	158.5		TPTD	[2005CHA/ZIE]
		SUB	(296–319)	158		TPTD	[2001CHA/TOB]
[Note: Experimental values based on the TPTD and TPD method are often inconsistent with values determined using other experimental methods.]							
<chem>C18H37Cl</chem>	[3386-33-2]	SUB	(331–340)	166.5 ± 4.2	336	ME	[1961DAV/MAL, 1970COX/PIL]
		V		132.6 ± 8.6	298	CGC	[2013WIL/CHI]
		V	(349–415)	124.3	364	A	[1987STE/MAL]
		V	(457–649)	100.6	472	A	[1987STE/MAL]
		V	(366–389)	118.9 ± 2.0	379	ME, TE	[1982DEK/SCH]
		V		79.8	515	I	[1943CRA]
<chem>C18H36O4</chem>	[56444-62-3]	2,2,11,11-tetramethyl-1,3,10,12-tetraoxacyclooctadecane					
	FUS			35.1	373		[1975BOR]
<chem>C18H37Br</chem>	[112-89-0]	1-bromoocatadecane					
	V	(430–673)		81.0	445	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
<chem>C18H37Cl</chem>	[3386-33-2]	1-chlorooctadecane					
	V			108.8	298		[2006BOL/NER2]
	V	(333–393)		96.9	333	GC	[1980JON/MAT]
	V	(333–393)		93.4	353	GC	[1980JON/MAT]
	V	(333–393)		88.4	373	GC	[1980JON/MAT]
	V	(333–393)		86.7	393	GC	[1980JON/MAT]
	V	(472–673)		74.2	487	A	[1987STE/MAL, 1970DYK/VAN]
<chem>C18H37F</chem>	[1649-73-6]	1-fluoroocatadecane					
	V	(477–633)		68.2	492	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
<chem>C18H37I</chem>	[629-93-6]	1-iodooctadecane					
	V	(496–673)		109.3	298	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN, 2006BOL/NER]
	V	(496–673)		77.2	511	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
<chem>C18H37NO</chem>	[124-26-5]	Octadecanamide					
	TRS			2.2	298.7		
	FUS			54.8	379.7	DSC	[2008ABA/BAD]
	FUS			59.83	377.2	DSC	[1993ACR, 1991CHI/BRA]
	FUS			45.6	373.7	DSC	[1975BER/CIN]
	SUB	(367–379)		195.8 ± 4.2	373	ME	[1959DAV/JON2, 1987STE/MAL]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₈ H ₃₇ NO	[41328-72-7]	<i>N</i> -butyl tetradecanamide					
	FUS			45.0	336.1	DSC	[1993ACR, 1980CAR/BUS]
C ₁₈ H ₃₇ NO	[146985-21-9]	<i>N,N</i> -dihexyl hexanamide					
	V	(463–513)		80.4 ± 1.6	298	CGC	[2009PAN/ANT]
C ₁₈ H ₃₈	[593-45-3]	Octadecane					
	FUS			65.3	300.3	DSC	[2016BOU/HAF]
	FUS			56.8	301.6	DSC	[2015QIU/LU]
	FUS			62.0	300.2	DSC	[2015VEL/KHA]
	FUS			61.65	301.0	DSC	[2014WEI/HAN]
	FUS			61.34	301.5	CVC	[2014FON/GUS]
	FUS			63.0	303.6	DSC	[2013JEO/JEO]
	FUS			61.65	300.95	DSC	[2013WEI/ZHA]
	FUS			59.1	300.9	DSC	[2005HUA/SIM]
	FUS			60.1	301.1	DSC	[2004MON/RAJ]
	FUS			59.8	301.1	DSC	[1999MET/RAJ]
	FUS		U 50.9		301.6	DSC	[1992BAB/HWA, 1994BAB/BEN]
	FUS			61.5	301.5		[1991BAR/SCH]
	FUS			60.67	300.7		[1991CLA/LET]
	FUS			60.76	301.0		[1985KOL/SYU]
	FUS			59.4	301.1	DSC	[1983CHA/MAU]
	FUS	(12–379)		61.71	301.3	AC	[1967MES/GUT]
	FUS			61.4	301.4	AC	[1955SCH/BUS]
	FUS			61.5	301.3		[1996DOM/HEA, 1949PAR/MOO2]
	SUB			142.3	298	ME	[2014FON/GUS]
	SUB			152.7	298	C	[1972MOR3]
	SUB	(288–298)		153.0 ± 5	293	ME	[1949BRA/SHE, 1960JON, 1970COX/PIL]
	V			90.6 ± 1.0	298	CGC	[2002CHI/WEB]
	V			91.3 ± 2.9	298	GS	[2001PUR/CHI]
	V			91.4 ± 1.3	298	CGC	[2000NIC/ORF]
	V	(363–413)		91.8	298	CGC	[1995CHI/HOS]
	V	(423–473)		91.8	298	CGC	[1995CHI/HOS]
	V	(453–503)		92.8	298	CGC	[1995CHI/HOS]
	V	(413–588)		74.4	428		[1994MOR/KOB]
	V			91.4	298		[1994RUZ/MAJ]
	V	(501–548)		64.8	516		[1987STE/MAL]
	V	(335–439)		80.0	348	GS	[1986ALL/IOS]
	V	(318–361)		84.3	333	A, GS	[1987STE/MAL, 1979MAC/PRA]
	V			72.5	343	GC	[1977NOV/NOV]
	V			71.8	353	GC	[1977NOV/NOV]
	V			71.1	363	GC	[1977NOV/NOV]
	V			70.5	373	GC	[1977NOV/NOV]
	V			69.8	383	GC	[1977NOV/NOV]
	V			90.8	298		[1971WIL/ZWO]
	V	(447–474)		78.1	460	ME	[1938UBB]
	V	(447–590)		69.4	462		[1882KRA, 1984BOU/FRI]
C ₁₈ H ₃₈	[1560-89-0]	2-methylheptadecane					
	V	(442–581)		67.8	457	A	[1987STE/MAL, 1959TER/BRI]
C ₁₈ H ₃₈	[6418-44-6]	3-methylheptadecane					
	V	(441–583)		65.6	456	A	[1987STE/MAL, 1959TER/BRI]
C ₁₈ H ₃₈	[26429-11-8]	4-methylheptadecane					
	V	(429–580)		58.9	444	A	[1987STE/MAL, 1959TER/BRI]
C ₁₈ H ₃₈	[26730-95-0]	5-methylheptadecane					
	V	(432–581)		61.1	447	A	[1987STE/MAL, 1959TER/BRI]
C ₁₈ H ₃₈	[61868-02-8]	2,3-dimethylhexadecane					
	V	(466–583)		64.9	481	A	[1987STE/MAL, 1959TER/BRI]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₁₈ H ₃₈	[61868-08-4]	V	2,4-dimethylhexadecane (434–562)	69.0	449	A	[1987STE/MAL, 1959TER/BRI]
C ₁₈ H ₃₈	[101882-67-1]	V	2,4,6-trimethylpentadecane (420–550)	64.3	435	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₁₈ H ₃₈		V	4,9-diisopropylundecane (368–424)	70.0	383	A	[1987STE/MAL]
C ₁₈ H ₃₈	[62850-21-9]	SUB	1,1,2,2-tetra- <i>tert</i> -butylethane (303–366)	71.9	341	GS	[1984FLA/BEC]
		SUB	(303–366)	74.3	298	GS	[1984FLA/BEC]
C ₁₈ H ₃₈ O	[112-92-5]	1-octadecanol					
		FUS		65.35	331.3	DSC	[2016CAR/CON]
		FUS		40.3	331.6	DSC	[2014CAR/DOS]
		TRS + FUS		65.4	331.8	DSC	[2014MAX/CAR]
[Note: The value includes the enthalpy for the transition that occurred at 331.0 K.]							
		TRS + FUS		69.6	325.6	DSC	[2006NIC/KWE]
		FUS		40.1	330.1	DSC	[2004VEN/CAL]
		TRS		26.5	329.5		
		FUS		40.1	330.3	DSC	[2002VEN/RAM]
		FUS		66.67	331.2		[2001VAN/OON2]
		FUS		70.08	334.2	DSC	[1991CHI/BRA]
		FUS		55.9	332.15	DSC	[1978ECK/MUL]
		SUB	(318–329)	187.4 ± 1.3	324	ME	[1965DAV/KYB, 1987STE/MAL]
		SUB		191.2 ± 1.3	298		[1965DAV/KYB]
		V		116.8 ± 1.2	298	CGC	[2006NIC/KWE]
		V	(435–504)	86.4	450	A	[1987STE/MAL]
		V	(500–573)	76.3	515	A	[1987STE/MAL]
		V	(494–575)	76.9	509	A, EB	[1987STE/MAL, 1970AMB/SPR]
		V	(334–356)	113.5	345	A, ME	[1987STE/MAL, 1965DAV/KYB]
C ₁₈ H ₃₈ O ₂	[2136-71-2]	2-(hexadecyloxy)ethanol					
		TRS		14.94	311.7		
		FUS		37.32	318.5	DTA	[1979KUC/SKU]
C ₁₈ H ₃₈ O ₂	[3155-43-9]	1,18-octadecanediol					
		TRS		38.7	366.1		
		FUS		33.6	371.5	DSC	[1999OGA/NAK]
C ₁₈ H ₃₈ O ₄	[4161-35-7]	6,6'-[1,6-hexanediylibis(oxy)]bis-1-hexanol					
		FUS		57.96	329.1	DSC	[1991BED/BOO]
C ₁₈ H ₃₈ O ₄	[3055-94-5]	2-[2-(2-[dodecyloxy]ethoxy)ethoxy]ethanol					
		V	(475–523)	102.7	490	A	[1987STE/MAL, 1974NAK/EDA]
C ₁₈ H ₃₈ O ₄ S ₂		2-deoxy-(D)-glucose dihexyl dithioacetal					
		TRS		16.4	376.2		
		FUS		45.0	386.4	DSC	[1989VAN/VAN]
C ₁₈ H ₃₈ O ₄ S ₂		(L)-rhamnose dihexyl dithioacetal					
		FUS		48.5	388.2	DSC	[1989VAN/VAN]
C ₁₈ H ₃₈ O ₅ S ₂	[115395-54-5]	(D)-glucose dihexyl dithioacetal					
		TRS		5.9	373.6		
		FUS		44.6	377	DSC	[1989VAN/VAN]
C ₁₈ H ₃₈ O ₅ S ₂		(L)-arabinose dihexyl dithioacetal					
		TRS		6.7	345.1		
		TRS		1.0	358.2		
		FUS		39.2	367.2	DSC	[1989VAN/VAN]

TABLE 13. Phase change enthalpies of C₁₇ to C₁₈ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₈ H ₃₈ O ₉	[25990-94-7]	1,ω-dimethoxyocta(oxyethylene) FUS		60.1	276.2		[1997SCH/VER]
C ₁₈ H ₃₈ S	[2885-00-9]	1-octadecanethiol V	(492–670)	77.1	507	E	[1999DYK/SVO]
C ₁₈ H ₃₈ S ₂	[4485-77-2]	Dioctyl disulfide V	(490–650)	78.3	514		[1999DYK/SVO]
C ₁₈ H ₃₉ N	[112-69-6]	<i>N,N</i> -dimethylhexadecylamine V	(483–671)	84.8 ± 1.0	298	CGC	[2014GOB/VIK]
		V		67.3	498	A	[1987STE/MAL]
C ₁₈ H ₃₉ N	[2044-21-5]	Dinonylamine V	(486–676)	67.7	501	A	[1987STE/MAL]
C ₁₈ H ₃₉ N	[5877-76-9]	<i>N</i> -ethylhexadecylamine V	(406–613)	66.4	421	A	[1987STE/MAL, 1947STU]
C ₁₈ H ₃₉ N	[124-30-1]	Octadecylamine V	(450–635)	76.2	465	A	[1987STE/MAL]
C ₁₈ H ₃₉ O ₄ P	[2528-39-4]	Trihexyl phosphate V	(483–513)	104.8	298	CGC	[2007PAN/ANT2]
		V	(493–523)	104.9	298		[2007PAN/ANT2]
C ₁₈ H ₃₉ O ₇ P	[78-51-3]	Tris(2-butoxyethyl)phosphate V	(383–413)	102.6	398	GC-RT	[2014BRO/JAN]

TABLE 14. Phase change enthalpies of C₁₉ to C₂₉ organic compounds

Molecular Formula	CAS Registry Number	Compound					
		Enthalpy	Temperature Range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₁₉ H ₁₀ O	[3074-00-8]	6 <i>H</i> -benzo[<i>c d</i>]pyren-6-one	FUS	13.1	524.2	DSC	[2010KES/AUC]
C ₁₉ H ₁₃ F ₃ O	[145698-49-3]	4-ethoxy-4'-trifluoromethylidiphenyldiacetylene	FUS	32.73	424.9	DSC	[1993JUA/CHE]
C ₁₉ H ₁₃ NO	[67306-00-7]	1 [3-[4-(1,1-dimethylethyl)phenyl-2-methylpropyl]piperidine (fenpropidin)	V	80.9 ± 1.6	298	CGC	[2016GOB/WAL]
C ₁₉ H ₁₃ NO	[846-63-9]	2-(1-naphthyl)-5-phenyloxazole	V	(510–595)	89.2	A	[1987STE/MAL, 1975STE/SCH]
C ₁₉ H ₁₃ NO	[5472-23-1]	10-phenylacridin-9(10 <i>H</i>)-one	FUS	38.9	550	DSC	[2003STO/KRZ]
			SUB		128	DSC	[2003STO/KRZ]
C ₁₉ H ₁₄	[3351-31-3]	3-methylchrysene	FUS	16.5	445.0	DSC	[2010KES/AUC]
C ₁₉ H ₁₄	[3351-30-2]	4-methylchrysene	FUS	18.3	424.0	DSC	[2010KES/AUC]
C ₁₉ H ₁₄	[3697-24-3]	5-methylchrysene	FUS	19.0	390.7	DSC	[2010KES/AUC]
C ₁₉ H ₁₄	[1705-85-7]	6-methylchrysene	FUS	22.7	432.5	DSC	[2010KES/AUC]
C ₁₉ H ₁₄ F ₂	[145698-35-7]	4-propyl-3',4'-difluorodiphenyldiacetylene	FUS	22.03	343.7	DSC	[1993JUA/CHE]
C ₁₉ H ₁₄ O ₄		4-hydroxyphenyl-4"-hydroxybiphenyl-4'-carboxylate	FUS	49.59	566.2		[2000PUN]
C ₁₉ H ₁₅ Cl	[76-83-5]	Triphenylchloromethane	FUS	27.9	376.8	DSC	[1996DOM/HEA, 1991NAO/SEK]
C ₁₉ H ₁₅ ClN ₂ O ₃ S	[823833-98-3]	4-[(3-chlorophenyl)amino]sulfonyl- <i>N</i> -phenylbenzamide	FUS	44.81	498.4	DSC	[2014LAH/KUD]
C ₁₉ H ₁₅ F ₉ OS	[246543-99-7]	4-[(3,3,4,4,5,5,6,6,6-nonafluorohexyl)thio]methoxy]-1,1'-biphenyl	FUS	43.1	333.3	DTA	[1999DEG/GUI]
C ₁₉ H ₁₅ F ₉ S	[246543-96-4]	4-[(3,3,4,4,5,5,6,6,6-nonafluorohexyl)thio]methyl]-1,1'-biphenyl	FUS	41.0	307.1	DTA	[1999DEG/GUI]
C ₁₉ H ₁₅ N	[574-45-8]	<i>N</i> -phenyl benzophenone imine	FUS	29.14	392.3	DSC	[1997VER/MOR]
			SUB	(348–387)	115.5 ± 1.8	GS	[1997VER/MOR]
			SUB	(348–387)	119.7 ± 1.8	GS	[1997VER/MOR]
C ₁₉ H ₁₅ N ₃	[14309-25-2]	Triphenylazidomethane	SUB	(335–363)	120.6	A	[1987STE/MAL, 1974PEP/ERL]
C ₁₉ H ₁₆	[519-73-3]	triphenylmethane	FUS	20.7	367.2	DSC	[1999VER3]
			FUS	21.97	365.3	Rad. Calor.	[1996DOM/HEA, 1932SPA/THO]
			FUS	20.92	365.6		[1944EIB]
			FUS	18.2	365.5	C	[1917HIL/DUS]
			SUB	(323–353)	109.1 ± 0.6	GS	[1999VER3]
			SUB	(323–353)	106.7 ± 0.6	GS	[1999VER3]
			SUB		112	CGC-DSC	[1998CHI/HES]
			SUB	(343–363)	113.9	EM	[1989SAS/NGU]
			SUB	(303–358)	106.8	T	[1986HAN/ECK]
			SUB	(325–349)	100 ± 0.4	V	[1959AIH, 1970COX/PIL, 1987STE/MAL]
			SUB		100.7		[1986MAR/LOE, 1936CUT/BEN]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
	SUB			105 ± 0.8			[1974PEP/ERL]
	V			93.2 ± 2.2	298	CGC	[2008HAN/NUT]
	V			94.6	298	CGC	[1998CHI/HES]
	V	(453–503)		95.0	298	CGC	[1995CHI/HOS]
	V	(343–462)		82.0	403		[1989SAS/NGU]
	V	(512–643)		58.6	527	A	[1987STE/MAL]
C ₁₉ H ₁₆ ClNO ₄	[53-86-1]	1-(4-chlorobenzoyl)-5-methoxy-2-methyl-1 <i>H</i> -indole-acetic acid (indomethacin)					
	FUS			U75.4	433.6	DSC	[2015POB/DOM]
	FUS (γ -form)			38.42	434.0	DSC	[2015FER/DAL]
	FUS			40.61	438.2	DSC	[2015GAU/VAN]
	FUS			37.9	433.1	DSC	[2015SUN/YIN]
	FUS			U132.8	435.9	DSC	[2014TIT/LED]
[Note: Value reported by the authors in [2014TIT/LED] is abnormally large and out of line with values reported by other researchers.]							
	FUS			U405.6	435.9	DSC	[2011ELS/KHA]
[Note: Value reported by the authors in [2011ELS/KHA] is abnormally large and likely off by factor of ten.]							
	FUS			40.4	434.6	DSC	[2010SIV/BER]
	FUS			37.56	434	DSC	[2010BAI/VAN]
	FUS			45.02	432.3	DSC	[2010MIY/KHA]
	FUS			36.5	435.2	DSC	[2010MUR/PIK, 2010MUR/PIK2]
	FUS			43.5	434.5	DSC	[2009ACE/NIC]
	FUS			39.99	434	DSC	[2008BAS/BOS]
	FUS			38.4	433.1	DSC	[2007WAN/NOV]
	FUS			37.9	433	DSC	[2006WAS/HOL]
	FUS (I)			36.85	432.3		
	FUS (II)			32.94	426.2	DSC	[2004HAM/FEU]
	FUS			37.8	433	DSC	[2004LEG/FEU, 2007BER/WAS]
	FUS			39.46	432.6	DSC	[2001FOR/HEM]
	FUS (I)			36.13	429.2	DSC	
	FUS (II)			36.49	435.2	DSC	[2000HAN/PAR]
C ₁₉ H ₁₆ F ₈ N ₄ O ₂	[91488-85-6]	<i>N</i> -ethyl-4-[(4-nitrophenyl)azo]- <i>N</i> -(2,2,3,3,4,4,5,5-octafluoropentyl)benzenamine					
	SUB			112.6			[1984KAR/ROD]
C ₁₉ H ₁₆ F ₈ O ₂	[464213-30-7]	2,3-bis(trifluoromethyl)-4-methoxyphenyl- α,α -difluoro-4- <i>n</i> -propylbenzyl ether					
	FUS			21.3	301.4	DSC	[2002MIY/KAT]
C ₁₁ H ₁₆ N ₂ O ₃ S	[343829-78-7]	<i>N</i> -[4-[(phenylamino)sulfonyl]phenyl]benzamide					
	FUS			46.23	501.1	DSC	[2014LAH/KUD]
C ₁₉ H ₁₆ O	[76-84-6]	Triphenylmethanol					
	FUS			27.3	435.2	DSC	[2016DAV/GUE]
	FUS			27.24	441.1	DSC	[1998VER3]
	SUB	(342–358)		124.3 ± 3.2	298	ME	[2016DAV/GUE]
	SUB	(353–373)		122	363	A	[1987STE/MAL]
	SUB			121.8 ± 1.7	298	GS	[1998VER3, 1975PEP/LEB]
C ₁₉ H ₁₆ O ₂	[160731-89-5]	2-fluorenyl-2-methyl-1,3-cyclopentandione					
	FUS			24.6	395.2	DSC	[1995NOL/VER]
	SUB	(353–388)		122.3 ± 1.6	371	T	[1995NOL/VER]
C ₁₉ H ₁₆ O ₅	[111171-32-5]	8-(hydroxymethyl)-6-phenyl-2-oxo-2 <i>H</i> -1-benzopyran-3-carboxylic acid, ethyl ester					
	FUS			43.08	474.8	DSC	[1992HUA/ZHO2]
C ₁₉ H ₁₇ ClN ₂ O	[2955-38-6]	1-(cyclopropylmethyl)-5-phenyl-7-chloro-1,3-dihydro-2 <i>H</i> -1,4-benzodiazepin-2-one (prazepam)					
	FUS			27.69	419	DSC	[2001VER/AUG]
C ₁₉ H ₁₇ F ₃ O	[126315-23-9]	4-pentoxy-2',3',4'-trifluorodiphenylacetylene					
	FUS			33.1	315.8	DSC	[1995HSU/TSA]
C ₁₉ H ₁₇ NOS	[2398-96-1]	<i>N</i> -methyl- <i>N</i> -(3-methylphenyl)-1-(naphthalene-2-yloxy)methanethioamide (tolnaftate)					
	FUS			32.8	383.6	DSC	[2015NUR/BOO]
C ₁₉ H ₁₇ NO ₂	[4946-83-2]	1-piperidinoanthraquinone					
	SUB	(383–392)	U 18.3		387.5	A	[1987STE/MAL, 1977EIB/TRO]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method
	V	(395–404)	82.0	399	A	[1987STE/MAL]
C ₁₉ H ₁₇ N ₃ O ₂	[61902-16-7]	Disperse Yellow 50				
	SUB	(464–484)	69.0	474	GS	[1989NIS/AND]
C ₁₉ H ₁₈ ClN ₃ O ₅ S	[366789-02-8]	5-chloro-N-[(5S)-2-oxo-3-[4-(3-oxo-4-morpholinyl)phenyl]-5-oxazolidinyl]methyl]-2-thiophenecarboxamide (rivaroxaban)				
	FUS		46.9	508.55	DSC	[2016ZHA/FAN, 2016SUN/LIU]
C ₁₉ H ₁₈ FNO ₃	[94611-29-7]	4-cyano-2-fluorophenyl 4-pentoxybenzoate				
	FUS		36.2	359.7	DSC	[1984KEL]
C ₁₉ H ₁₈ FNO ₃	[94610-84-1]	4-cyano-3-fluorophenyl 4-pentoxybenzoate				
	FUS		37.7	341.2	DSC	[1984KEL]
C ₁₉ H ₁₈ F ₂	[109970-66-3]	4-pentyl-3',4'-difluorodiphenylacetylene				
	FUS		22.1	323.1	DSC	[1995HSU/TSA]
C ₁₉ H ₁₈ NO ₃ P	[33985-75-0]	N-(phenylmethyl)phosphoramidic acid, diphenyl ester				
	FUS		36.2	381.1	DSC	[2015WAN/DU]
C ₁₉ H ₁₈ N ₂ O ₃	[1498-88-0]	1',3'-dihydro-1',3',3'-trimethyl-6-nitrospiro[2H-1-benzopyran-2,2'-(2H)-indole]				
	FUS		34.0	453.1	AC, DC	[2004KUL/MAR]
C ₁₉ H ₁₈ N ₂ O ₃	[28092-62-8]	(3a <i>S</i> ,6a <i>R</i>)-tetrahydro-1,3-bis(phenylmethyl)-1 <i>H</i> -fluoro[3,4- <i>d</i>]imidazole-2,4-dione				
	FUS		30.29	391.9	DSC	[2016SHI/QIA]
C ₁₉ H ₁₈ O ₂	[160731-87-3]	2-diphenylmethyl-2-methyl-1,3-cyclopentandione				
	FUS		34.3	394.2		[1995NOL/VER]
	SUB	(355–393)	120.2 ± 1.1	374	T	[1995NOL/VER]
C ₁₉ H ₁₈ O ₃	[568-72-9]	6,7,8,9-tetrahydro-1,6,6-trimethylphenanthro[1,2-b]furan-10,11-dione				
	FUS		30.46	486.9		
	FUS		29.17	486	DSC	[1992HUA/ZHO, 1988HUA/TAN]
C ₁₉ H ₁₈ O ₄	[17397-93-2]	6,7,8,9-tetrahydro-6-(hydroxymethyl)1,6-dimethylphenanthro[1,2-b]-furan-10,11-dione				
	FUS		23.74	479.7	DSC	[1992HUA/ZHO]
C ₁₉ H ₁₉ F	[109970-64-1]	4-pentyl-4'-fluorodiphenylacetylene				
	FUS		25.6	337.4	DSC	[1995HSU/TSA]
C ₁₉ H ₁₉ FO	[139195-67-8]	4-pentoxy-4'-fluorodiphenylacetylene				
	FUS		27.2	330.9	DSC	[1995HSU/TSA]
C ₁₉ H ₁₉ NO ₂	[483362-76-1]	1-[(4-nitrophenyl)ethynyl]-4-pentylbenzene				
	FUS		21.46	342.7	DSC	[2002SPA/DZI]
C ₁₉ H ₁₉ NO ₃	[483362-80-7]	1-[(4-nitrophenyl)ethynyl]-4-pentyloxy benzene				
	FUS		33.56	359.9	DSC	[2002SPA/DZI]
C ₁₉ H ₁₉ NO ₄ S	[332140-29-1]	Ethyl 5-phenylsulfonyl-4,7-dihydro-4,7-ethano-2 <i>H</i> -isoindole-1-carboxylate				
	FUS		29.8	453.3	DSC	[2000UNO/ITO]
C ₁₉ H ₂₀ C ₁ NO ₄	[41859-67-0]	2-[4-[2-[(4-chlorobenzoyl)amino]ethyl]phenoxy]-2-methyl-propanoic acid (benzofibrate)				
	FUS		53.9	458.0	DSC	[2009LEM/BAT]
C ₁₉ H ₂₀ F ₃ N ₃ O ₃	[65847-85-0]	2-[3-(trifluoromethyl)-phenyl]amino-3-pyridinecarboxylic acid β-morpholino-ethyl ester (morniflumate)				
	FUS		34.5	350	DSC	[1996DOM/HEA, 1989PIN/GON]
C ₁₉ H ₂₀ N ₂ O ₂	[50-33-9]	4-butyl-1,2-diphenyl-3,5-pyrazolidinedione (phenylbutazone)				
	FUS		54.27	379.9	DSC	[2011DOM/POB]
C ₁₉ H ₂₀ O ₂	[137932-36-6]	3-diphenylmethyl-3-methyl-2,4-pentandione				
	FUS		25.1	352.2		[1995NOL/VER]
	SUB		114.4 ± 0.6	298	T, B	[1995NOL/VER]
	V	(353–386)	83.1 ± 0.5	370	GS	[1995NOL/VER]
C ₁₉ H ₂₀ O ₃	[35825-57-11]	1,2,6,7,8,9-hexahydro-1,6,6-trimethylphenanthro[1,2-b]furan-10,11-dione				
	FUS		26.46	464.6	DSC	[1988HUA/TAN]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₉ H ₂₀ O ₃		1-(diphenylmethyl)-4-methyl-2,6,7-trioxabicyclo[2.2.2]octane	FUS		32.6	443.2		[1995RAK/VER2]
C ₁₉ H ₂₀ O ₄	[85-68-7]	butyl benzyl phthalate	V		109.8 ± 2.6	298	CRT	[2015GOB/CHI]
			V		107.9 ± 0.9	298	CGC	[2015GOB/CHI]
			V		106.2 ± 2.4	298	CGC	[2014GOB/CHI]
			V	(416–516)	89.0	431	A	[1987STE/MAL]
C ₁₉ H ₂₀ O ₄	[74254-53-8]	dibenzyl ethyl malonate	V	(403–483)	94.1	418	A	[1987STE/MAL]
C ₁₉ H ₂₁ ClN ₂ O ₃ S	[112529-15-4]	5-[5-[2-(5-ethyl-2-pyridinyl)ethoxy]phenyl]methyl]-2,4-thiazolidinedione monohydrochloride	FUS		50.34	468.8	DSC	[2013TAO/SUN]
C ₁₉ H ₂₁ F ₁₉	[139277-01-3]	1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8-hexadecafluoro-2-(trifluoromethyl)octadecane	TRS		1.0	274		
			FUS		25.0	298	DSC	[1992HOP/MOL]
C ₁₉ H ₂₁ IO ₃ S	[313057-07-7]	4-(7-octenyoxy)phenyl 5-iodo-2-thiophene carboxylate	FUS		80.33	324.9	DSC	[2000WU/WAN]
C ₁₉ H ₂₁ NO	[127529-16-2]	(±)1,2-diphenyl-2-N-piperidinyl-1-ethanone	FUS		33.93	349.2		[1994WEL/VER]
			SUB		147.1 ± 1		B	[1994WEL/VER]
C ₁₉ H ₂₁ NO ₃	[483362-65-8]	2-(4-nitrophenyl)-1-(4-pentylphenyl)ethanone	FUS		29.46	363.2	DSC	[2002SPA/DZI]
C ₁₉ H ₂₁ NO ₄	[483362-69-2]	2-(4-nitrophenyl)-1-(4-pentyloxyphenyl)ethanone	FUS		27.07	353.4	DSC	[2002SPA/DZI]
C ₁₉ H ₂₂ FN ₃ O	[1649-18-9]	1-(4-fluorophenyl)-4-[4-(2-pyridinyl)-1-piperazinyl]-1-butanol (azaperone)	FUS		30.5	366.2	DSC	[1981DRA/AZI]
C ₁₉ H ₂₂ F ₈ O ₂		2,3-bis(trifluoromethyl)-4-methoxyphenyl- <i>trans</i> -4- <i>n</i> -propyl-cyclohexyl- α,α -difluoromethyl ether	FUS		21.4	314.7		[2002MIY/KAT]
C ₁₉ H ₂₃ NO	[5219-49-8]	<i>p</i> -hexyloxybenzylideneaniline	TRS	(16–385)	0.19	73.41		
			FUS	(16–385)	30.91	321.6	AC	[1996DOM/HEA, 1982TSU/SOR]
C ₁₉ H ₂₃ NO	[29743-08-6]	4-butyl- <i>N</i> -[(4-ethoxyphe nyl)methylene]benzenamine	SUB (crys)	(291–309)	30.0	309		[1981PIR/AZA]
[Note: The value is too small for an enthalpy of sublimation. The compound is likely not completely crystalline.]								
C ₁₉ H ₂₃ N ₃	[33089-61-1]	<i>N</i> -methyl- <i>N'</i> -2,4-xylyl- <i>N</i> -(<i>N</i> -2,4-xylylformimidoyl)formamidine (amitraz)	FUS (I)		26.77	355.3		
			FUS (II)		19.47	344.4		
			FUS (III)		53.14	388.6	DSC	[2004DEV/VAN]
C ₁₉ H ₂₄	[25566-92-1]	dicumenylmethane	V	(303–402)	71	318		[1999DYK/SVO]
			V	(608–704)	57.9	623		[1999DYK/SVO]
			V	(323–402)	73.7	338	A	[1987STE/MAL, 1958MAT/GEL]
C ₁₉ H ₂₄ N ₂ O ₂	[55268-74-1]	(\pm) 2-(cyclohexylcarbonyl)-1,2,3,6,7,11b-hexahydro-4 <i>H</i> -pyrazino-[2,1-a]isoquumolm-4-one ((\pm) praziquantel)	FUS		28.3	414.4	DSC	[2012RIB/AND]
			FUS		30.7	416.3	DSC	[2006PAS/ALB]
			FUS		25.73	409.4	DSC	[2004LIU/WAN]
			FUS		27.0	415.7	DSC	[1999DEL/TOR]
			FUS		30.8	412.2	DSC	[1998ELA/GIR]
C ₁₉ H ₂₄ N ₂ O ₂	[57452-97-8]	(+) 2-(cyclohexylcarbonyl)-1,2,3,6,7,11b-hexahydro-4 <i>H</i> -pyrazino-[2,1-a]isoquumolm-4-one ((+) praziquantel)	FUS		23.9	386	DSC	[1998ELA/GIR]
C ₁₉ H ₂₄ N ₂ O ₂	[57452-98-9]	(-) 2-(cyclohexylcarbonyl)-1,2,3,6,7,11b-hexahydro-4 <i>H</i> -pyrazino-[2,1-a]isoquinolin-4-one ((-) praziquantel)						

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{19}\text{H}_{24}\text{O}$	[1706-65-6]	FUS		18.48	383.8	DSC	[2004LIU/WAN]
		FUS		24.15	385.5	DSC	[1998ELA/GIR]
$\text{C}_{19}\text{H}_{24}\text{O}_3$	[104225-35-6]	2- <i>tert</i> -butyl-4-methyl-6- α -methylbenzylphenol					
		FUS		31.38	337.7	DTA	[1972INO/LIA]
$\text{C}_{19}\text{H}_{24}\text{O}_3$	[104225-35-6]	3-[(2,3-dihydro-1 <i>H</i> -inden-5-yl)carbonyl]-1,2,2-trimethylcyclopentanecarboxylic acid					
		FUS		22.5	404.3	DSC	[1992TER/PAU]
$\text{C}_{19}\text{H}_{24}\text{O}_3$		Pentyl 2-(6-methoxy-2-naphthyl)propionate					
		FUS		28.0	324.5	DSC	[1994WEB/MEY]
$\text{C}_{19}\text{H}_{26}\text{O}_2$	[63-05-8]	Androst-4-ene-3,17-dione					
		FUS		25.70	444.54	DSC	[2014TAN/XIE, 2014TAN/WAN]
$\text{C}_{19}\text{H}_{26}\text{O}_4$	[104225-25-4]	3-(4-methoxy-2,6-dimethylbenzoyl)-1,2,2-trimethylcyclopentanecarboxylic acid					
		FUS		28.31	416.7	DSC	[1992TER/PAU]
$\text{C}_{19}\text{H}_{26}\text{O}_6$	[104225-20-9]	1,2,2-trimethyl-3-(2,4,6-trimethoxybenzoyl)cyclopentanecarboxylic acid					
		FUS		29.68	432.2	DSC	[1992TER/PAU]
$\text{C}_{19}\text{H}_{27}\text{NO}_2\text{S}$	[710333-37-2]	<i>N</i> -(3,5-dimethyladamantan-1-yl)-4-methylbenzenesulfonamide					
		FUS		29.6	435.5	DSC	[2016PER/VOL]
		SUB	(375–401)	108.8 ± 1.8	388	GS	[2016PER/VOL]
		SUB	(375–401)	115.1 ± 1.8	298	GS	[2016PER/VOL]
$\text{C}_{19}\text{H}_{27}\text{NO}_3$	[172589-18-3]	3-[(3,4-dimethylphenyl)(hydroxyimino)methyl]-1,2,2-trimethylcyclopentanecarboxylic acid mel ester					
		FUS		39.14	426	DSC	[1995NUR/LEL]
$\text{C}_{19}\text{H}_{27}\text{NO}_3$	[105816-04-4]	<i>N</i> -[[<i>trans</i> -4-(1-methylethyl)cyclohexyl]carbonyl]- <i>D</i> -phenylalanine (nateglinide)					
		FUS (I)		28.4	402.1		
		FUS (II)		30.5	411.1	DSC	[2011BRU/BER]
$\text{C}_{19}\text{H}_{27}\text{NO}_4$	[172589-21-8]	3-[(hydroxyimino)(4-ethoxyphenyl)methyl]-1,2,2-trimethylcyclopentanecarboxylic acid methyl ester					
		FUS		36.75	401	DSC	[1995NUR/LEL]
$\text{C}_{19}\text{H}_{27}\text{NO}_4$	[252013-92-6]	(R)- β -cyano-3,4-dimethoxy- α , α -dimethyl- β -(1-methylethyl)benzenepropanoic acid,ethyl ester					
		FUS		36.9	386.4	DSC	[2003ROU/JIM2]
		FUS		36.82	386.2		[1999ROS/MOL]
$\text{C}_{19}\text{H}_{27}\text{NO}_5$	[172589-23-0]	3-[(hydroxyimino)(3,4-dimethoxyphenyl)methyl]-1,2,2-trimethylcyclopentanecarboxylic acid methyl ester					
		FUS		36.2	393	DSC	[1995NUR/LEL]
$\text{C}_{19}\text{H}_{27}\text{N}_3\text{O}_8$	[53848-87-6]	Dodecyl 2,4,6-trinitrobenzoate					
		TRS		7.64	325		
		FUS		29.55	394	DSC	[1974WAR/WIL]
$\text{C}_{19}\text{H}_{28}\text{N}_2$	[137274-47-6]	4-(4-heptyl-1-piperidinyl)benzonitrile					
		FUS		29.01	326.2	DSC	[1991SHE/WEI]
$\text{C}_{19}\text{H}_{28}\text{O}_2$	[58-22-0]	Testosterone					
		FUS		28.2	426.5	DSC	[2006WAS/HOL]
		FUS		29.45	428		[1994REG/CHM]
		FUS		21.3		DSC	[1983GHA/JAM]
		FUS		25.7	427.1		[1981CHA/PER]
$\text{C}_{19}\text{H}_{29}\text{BrN}_2\text{O}_4$	[138517-08-5]	(4-nitrophenyl)-12-bromododecyl carbamate					
	FUS			48.94	373.5	DSC	[1993TIE/FRA]
$\text{C}_{19}\text{H}_{30}$	[55030-46-1]	7-phenyl-6-tridecene					
		V	(391–449)	77.2	406	A, MG	[1987STE/MAL, 1955SCH/WHI]
$\text{C}_{19}\text{H}_{30}\text{O}_2$	[521-18-6]	5 α -androstane-3-one-17 β -ol					
		FUS (I)		27.15	455.5	DSC	[1996DOM/HEA, 1989MAS/DEM]
		FUS (II)		23.07	454.2		
		FUS (III)		19.79	453.0	DSC	[1989MAS/DEM]
$\text{C}_{19}\text{H}_{31}\text{N}_3\text{O}_3$	[138517-13-2]	1-dodecyl-3-(4-nitrophenyl) urea					
	FUS			40.88	390.8	DSC	[1993TIE/FRA]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₉ H ₃₂	[123-02-4]	Tridecylbenzene						
			V	(473–651)	72.0	488		[1999DYK/SVO]
			V	(343–463)	90.0	358		[1990POM/PIA]
C ₁₉ H ₃₂	[2400-01-3]	7-phenyltridecane						[1971WIL/ZWO]
			V	(413–470)	76.2	428	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₁₉ H ₃₂ O ₂	[301-00-8]	Methyl linolenate						
			V		110.5 ± 0.5	298	CGC	[2007LIP/KAP]
			V	(423–503)	102.1	298	GC	[1997KRO/VEL]
C ₁₉ H ₃₂ O ₃	[1422829-46-6]	Dipivaloyl(3-cyclopentylpropanoyl)methane						
			TRS		3.38	252.4	DSC	[2013STI/KAI]
C ₁₉ H ₃₄	[1610-24-8]	Tricyclohexylmethane						
			SUB	(301–321)	117.4	311	A	[1987STE/MAL, 1964MOR]
			V	(333–365)	81.4	348	A	[1987STE/MAL, 1964MOR]
C ₁₉ H ₃₄ O	[17687-74-0]	Tricyclohexylmethanol						
			FUS		23.8	367.2	AC	[2007YAM/SAJ]
C ₁₉ H ₃₄ O ₂	[112-62-9]	Linoleic acid, methyl ester (methyl linoleate)						
			V		107.8 ± 0.6	298	CGC	[2007LIP/KAP]
			V	(423–503)	102.2	298	GC	[1997KRO/VEL]
			V	(453–543)	77.2	498	GC	[1993HUS/SAR]
C ₁₉ H ₃₆	[2090-15-5]	1,1-dicyclohexylheptane						
			V	(293–368)	87.8	330	A	[1987STE/MAL, 1999DYK/SVO]
			V	(422–458)	73.8	437	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₁₉ H ₃₆	[26186-01-6]	1-nonadecyne	V	(462–637)	66.9	477		[1999DYK/SVO]
C ₁₉ H ₃₆	[61847-98-1]	2-nonadecyne	V	(469–648)	67.8	484		[1999DYK/SVO]
C ₁₉ H ₃₆	[61886-65-5]	3-nonadecyne	V	(460–635)	66.5	475		[1999DYK/SVO]
C ₁₉ H ₃₆ O	[6907-38-6]	Cyclononadecanone	SUB		82.4			[1938WOL/WEG, 1960JON]
C ₁₉ H ₃₆ O ₂	[112-62-9]	Methyl <i>cis</i> -9-octadecenoate (methyl oleate)						
			V		106.2 ± 0.7	298	CGC	[2007LIP/KAP]
			V	(423–503)	103.3	298	GC	[1997KRO/VEL]
			V	(433–473)	99.6	298	CGC	[1995CHI/HOS]
			V	(453–543)	77.2	498	GC	[1993HUS/SAR]
					106.8 ± 1.0	298	GCC	[1980FUC/PEA]
			V	(428–486)	83.0	443	A	[1987STE/MAL, 1964ROS/SCH]
C ₁₉ H ₃₆ O ₂	[1937-62-8]	Methyl elaidate	V	(401–458)	86.7	416	MG, OM	[1952SCO/MAC]
C ₁₉ H ₃₆ O ₂	[43211-62-7]	Allyl hexadecanoate	FUS		49.4	295.6	DSC	[1992BAB/HWA2]
C ₁₉ H ₃₆ O ₃	[141-24-2]	Methyl ricinoleate	V	(453–543)	89.3	498	GC	[1993HUS/SAR]
C ₁₉ H ₃₆ O ₄	[1429-66-9]	(2-hydroxy-3-octanoyloxypropyl) octanoate	V	(512–567)	107	540	DSC	[2014DAM/MAT]

[Note: The CAS Registry Number of [36354-80-0] given by the authors of [2014DAM/MAT] is not consistent with the IUPAC chemical name in the paper.]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
			Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₁₉ H ₃₆ O ₅	V	Undecyl[1-(butoxycarbonyl)ethyl]carbonate (438–637)	77.0	453	A	[1987STE/MAL, 1950REH/DIX2]
C ₁₉ H ₃₇ NO	[112-96-9]	Octadecyl isocyanate (388–494)	77.8	403	A	[1987STE/MAL, 1974ZHU/KON]
C ₁₉ H ₃₇ NO ₃	V	2-[2-ethyl-(hexanoyloxy)]-N,N-dibutylpropionamide (403–448)	83.0	418	A	[1987STE/MAL]
C ₁₉ H ₃₇ NO ₃	[56255-31-3]	N-hexadecanoyl-(<i>l</i>)-alanine FUS	65.3	374.1	DSC	[1986MIY/MAT]
C ₁₉ H ₃₇ NO ₃	[14379-30-7]	N-tetradecanoyl-(<i>l</i>)-valine TRS	14.9	44.53		
		FUS	20.6	365.1	DSC	[1986MIY/MAT]
C ₁₉ H ₃₇ NO ₃	[83871-19-6]	N-tetradecanoyl-(<i>dl</i>)-valine FUS	68.1	370.1	DSC	[1986MIY/MAT]
C ₁₉ H ₃₇ NO ₃	[83871-10-7]	N-(1-oxoheptadecyl)glycine TRS + FUS	50.29	397.8	DSC	[2014RED/KRO]
C ₁₉ H ₃₈	[6006-33-3]	Tridecylcyclohexane V	72.2	489		[1999DYK/SVO]
	V		94.5	298		[1971WIL/ZWO]
C ₁₉ H ₃₈	[13151-92-3]	7-cyclohexyltridecane V	75.6	406	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₁₉ H ₃₈	[1795-22-8]	Tetradecylcyclopentane V	73.6	490		[1999DYK/SVO]
	V	(475–648)	95.4	298		[1971WIL/ZWO]
C ₁₉ H ₃₈	[55044-77-4]	7-(cyclopentylmethyl)tridecane V	76.5	404	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₁₉ H ₃₈	[18435-45-5]	1-nonadecene FUS	34.9	296.5	DSC	[1992BAB/HWA, 1994BAB/BEN]
	V	(560–604)	63.3	575	A	[1987STE/MAL]
	V		95	298		[1971WIL/ZWO]
C ₁₉ H ₃₈ O	[629-66-3]	2-nonadecanone FUS	68.65	328	DSC	[1993VIL/HAM]
C ₁₉ H ₃₈ O	[504-57-4]	10-nonadecanone FUS	66.67	330	DSC	[1993RUE/SAR, 1993VIL/HAM]
C ₁₉ H ₃₈ O ₂	[112-61-8]	Methyl stearate FUS	62.97	310.59	DSC	[2013BEN/KHI]
	FUS		61.7	310.9	DSC	[2004CHI/ZHA]
	FUS		71.1	311	DSC	[2003NIK/MAR]
	FUS		62.1	311.2	DSC	[2003SUP/GOF]
	FUS		U48.0	310.2	DSC	[1992BAB/HWA2]
	FUS		64.4	310	Cryst	[1936KIN/GAR]
	SUB	(299–310)	158.2 ± 2.5	304		[1965DAV/KYB, 1987STE/MAL]
	V		107.9 ± 4.2	298	CRT	[2015GOB/CHI]
	V	(323–383)	90.2	353	TGA	[2012VER/RAL]
	V	(323–383)	106.9 ± 0.5	298	TGA	[2012VER/RAL]
	V	(467–558)	109.5 ± 2.7	298	CGC	[2004CHI/ZHA]
	V		98	350	CE	[2002VAN/VAN]
	V		90.0 ± 0.3	401	Spin rotor manom	[2002VAN/VAN]
	V		105.9 ± 1.4	298	CE	[2002VAN/VAN]
	V	(463–523)	106.2	298	GC	[1997KRO/VEL]
	V	(453–543)	75.4	498	GC	[1993HUS/SAR]
	V	(427–484)	83.2	442	A	[1987STE/MAL, 1964ROS/SCH]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₉ H ₃₈ O ₂	[14010-23-2]	Ethyl margarate (ethyl heptadecanoate)	TRS		16.57	291.2	Cryst	[1936KIN/GAR]
			FUS		36.2	298.4		
C ₁₉ H ₃₈ O ₂	[2239-78-3]	Propyl palmitate (439–477)	V	74.5	454	A	[1987STE/MAL, 1948BON/ATH, 1984BOU/FRI]	
C ₁₉ H ₃₈ O ₂	[142-91-6]	Isopropyl palmitate (433–471)	V	73.6	448	A	[1987STE/MAL, 1948BON/ATH, 1984BOU/FRI]	
C ₁₉ H ₃₈ O ₂	[646-30-0]	Nonadecanoic acid	TRS		7.4	339	DSC	[2007GBA/NEG]
			FUS		57.0	340.4		
			TRS	(90–355)	9.17	338		
			FUS	(90–355)	57.62	341.2		
			SUB	(298–315)	143.6		TPTD	[2005CHA/ZIE]
[Note: Experimental values based on the TPTD and TPD method are often inconsistent with values determined using other experimental methods.]								
C ₁₉ H ₃₈ O ₂	[35274-05-6]	Hexadecyl lactate (405–556)	SUB		198.7 ± 5		CGC	[1968BAC/NOV, 1970COX/PIL]
			V		138.0 ± 6.8	298		
			V	(511–659)	94.4	526		[1987STE/MAL]
			V	(371–394)	121.8	386		[1982DEK/SCH]
C ₁₉ H ₃₈ O ₃	[94434-74-9]	3-octyloxypropionic acid, octyl ester (443–513)	V	73.6	458	A	[1987STE/MAL]	
C ₁₉ H ₃₉ Br	[4434-66-6]	1-bromononadecane (493–673)	V	77.9	508	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]	
C ₁₉ H ₃₉ Cl	[62016-76-6]	1-chlorononadecane	V		114.7	298	A	[2006BOL/NER2]
			V	(483–673)	76.3	498		[1987STE/MAL, 1970DYK/VAN]
C ₁₉ H ₃₉ F	[1480-63-3]	1-fluorononadecane	V	(458–648)	72.5	473	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₉ H ₃₉ I	[62127-51-9]	1-iodononadecane	V	(506–673)	113.8	298	A, E	[1987STE/MAL, 1961LI/ROS, 2006BOL/NER]
			V	(506–673)	79.1	521		[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₁₉ H ₃₉ NO ₂	[6280-24-6]	N-hexadecyl lactamide (423–508)	V	111	438	A	[1987STE/MAL, 1950RAT]	
C ₁₉ H ₃₉ NO ₂	[5392-36-9]	N,N-diethyl lactamide (453–488)	V	99.3	468	A	[1987STE/MAL, 1953FEI/FIL]	
C ₁₉ H ₄₀	[629-92-5]	Nonadecane	TRS		11.20	295.0	DSC	[2015VEL/ORT]
			FUS		44.61	304.4		
			TRS		13.97	295.4		
			FUS		48.94	304.3		
			TRS		12.7	294.8		
			FUS		42.7	304.4		
			TRS		12.7	294.8		
			FUS		42.7	304.5		
			TRS		13.75	296.1		
			FUS		43.75	305.1		
			TRS		13.67	296.0		
			FUS		47.4	305.3		
			TRS		13.81	296.0		
			FUS		45.81	305.2		
			SUB		143.6	298	AC	[1955SCH/BUS]
			SUB	(288–303)	136.6	296		[1972MOR3]
								[1964MOR]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{19}\text{H}_{40}$	V	2-methyloctadecane	(423–588)	76.2	438			[1994MOR/KOB]
	V			96.4	298			[1994RUZ/MAJ]
	V		(456–606)	73.0	471	A		[1987STE/MAL]
	V			95.8	298			[1971WIL/ZWO]
$\text{C}_{19}\text{H}_{40}$	[1560-88-9]	2-methyloctadecane						
	V	2-methyloctadecane	(451–595)	67.5	466	A		[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
$\text{C}_{19}\text{H}_{40}$	[6561-44-0]	3-methyloctadecane						
	V	3-methyloctadecane	(455–597)	69.2	470	A		[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
$\text{C}_{19}\text{H}_{40}$	[10544-95-3]	4-methyloctadecane						
	V	4-methyloctadecane	(445–596)	63.3	460	A		[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
$\text{C}_{19}\text{H}_{40}$	[25117-35-5]	5-methyloctadecane						
	V	5-methyloctadecane	(445–595)	63.8	460	A		[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
$\text{C}_{19}\text{H}_{40}$	[61868-03-9]	5-methyloctadecane						
	V	5-methyloctadecane	(447–598)	64.1	462			[1999DYK/SVO, 1959TER/BRI]
	V	5-methyloctadecane	(493–598)	67.2	508	A		[1987STE/MAL]
$\text{C}_{19}\text{H}_{40}$	[61868-09-5]	2,4-dimethylheptadecane						
	V	2,4-dimethylheptadecane	(444–574)	70.6	459	A		[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
$\text{C}_{19}\text{H}_{40}$	[102013-94-5]	2,4-dimethylheptadecane						
	V	2,4-dimethylheptadecane	(435–568)	67.3	450	A		[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
$\text{C}_{19}\text{H}_{40}$	[7225-66-3]	7-hexyltridecane						
	V	7-hexyltridecane	(411–444)	75.2	426	A		[1987STE/MAL]
$\text{C}_{19}\text{H}_{40}\text{O}$	[1454-84-8]	1-nonadecanol						
	FUS	1-nonadecanol		43.3	333.9	DSC		[2004VEN/CAL]
	TRS	1-nonadecanol		29.1	329.7			
	FUS	1-nonadecanol		43.3	333.9	DSC		[2002VEN/RAM]
	FUS	1-nonadecanol		72.42	334.5			[2001VAN/OON2]
[Note: The value includes the enthalpy of a solid/solid transition that occurs at about 331 K.]								
$\text{C}_{19}\text{H}_{40}\text{O}_2$	V	1,19-nonadecanediol	(479–640)	81.7	494	A		[1987STE/MAL]
	V	1,19-nonadecanediol	(494–635)	80.0	509	A		[1987STE/MAL]
$\text{C}_{19}\text{H}_{40}\text{O}_2$	[7268-65-7]	1,19-nonadecanediol						
	TRS	1,19-nonadecanediol		37.1	358.9			
$\text{C}_{19}\text{H}_{40}\text{S}$	FUS	1,19-nonadecanediol		35.7	373.9	DSC		[1999OGA/NAK]
	V	1-nonadecanethiol	(502–682)	79.2	517	E		[1999DYK/SVO]
$\text{C}_{19}\text{H}_{41}\text{N}$	[14130-05-3]	Nonadecylamine						
	V	Nonadecylamine	(532–647)	72.7	547	A, E		[1987STE/MAL, 1956MAN2]
$\text{C}_{20}\text{D}_{12}$	[1520-96-3]	Perylene-d ₁₂						
	V	Perylene-d ₁₂		119.5	298	CGC		[2008ZHA/UNH]
$\text{C}_{20}\text{F}_{42}$	[37589-57-4]	Perfluoroeicosane						
	FUS	Perfluoroeicosane		50.3	436.2	DSC		[2012HAS/DRA]
	FUS	Perfluoroeicosane		49.4	437.4	DSC		[1999VIS/TER]
	TRS	Perfluoroeicosane		1.36	150.8			
	TRS	Perfluoroeicosane		10.0	200.0			
	FUS	Perfluoroeicosane		53.5	436.9	DSC		[1994JIN/BOL]
	TRS	Perfluoroeicosane		0.67	149.5			
	TRS	Perfluoroeicosane		11.25	202.9			
	FUS	Perfluoroeicosane	U 80.33	437.9	DSC			[1986STA]
	V	Perfluoroeicosane	113.7 ± 1.6	298	CGC			[2012HAS/DRA]
$\text{C}_{20}\text{H}_4\text{Cl}_4\text{F}_{13}\text{NO}_2$	[433932-34-4]	4,5,6,7-dichloro-2-(4-n-tridecafluorohexylphenyl)isoindole-1,3-dione						
	FUS	4,5,6,7-dichloro-2-(4-n-tridecafluorohexylphenyl)isoindole-1,3-dione		45.1	512.8	DSC		[2002JOW/DIN]
$\text{C}_{20}\text{H}_6\text{Cl}_2\text{F}_{13}\text{NO}_2$	[433932-32-2]	5,6-dichloro-2-(4-n-tridecafluorohexylphenyl)isoindole-1,3-dione						
	FUS	5,6-dichloro-2-(4-n-tridecafluorohexylphenyl)isoindole-1,3-dione		40.7	459.6	DSC		[2002JOW/DIN]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{20}\text{H}_6\text{Cl}_2\text{F}_{13}\text{NO}_2$	[433932-33-3]	4,7-dichloro-2-(4- <i>n</i> -tridecafluorohexylphenyl)isoindole-1,3-dione	TRS		18.4	413.2	DSC	[2002JOW/DIN]
			FUS		19.9	417.2		
$\text{C}_{20}\text{H}_{10}$	[5821-51-2]	Corannulene	FUS		17.3	542.3	DSC	[2002CHI/WEB]
			SUB	(390–425)	115.8	408	HSA	[2002CHI/WEB]
			SUB	(390–425)	119.5 ± 4.4	298	HSA	[2002CHI/WEB]
			SUB		116.3 ± 6.0	298	CGC+ Fus	[2002CHI/WEB]
			V		115.5 ± 2.5	298	CGC	[2002CHI/WEB]
$\text{C}_{20}\text{H}_{11}\text{Br}_2\text{NO}_2$	[158749-50-9]	2,6-dibromophenyl acridine-9-carboxylate	FUS		31.9	432	DSC	[2010ZAD/KRZ]
$\text{C}_{20}\text{H}_{11}\text{Cl}_2\text{NO}_2$	[158749-41-8]	2,6-dichlorophenyl acridine-9-carboxylate	FUS		28.5	418	DSC	[2010ZAD/KRZ]
$\text{C}_{20}\text{H}_{11}\text{F}_2\text{NO}_2$	[186801-72-9]	2,6-difluorophenyl acridine-9-carboxylate	FUS		34.3	467	DSC	[2010ZAD/KRZ]
$\text{C}_{20}\text{H}_{11}\text{F}_{14}\text{N}_3$	[502455-01-8]	2,2,3,3,4,4,4-heptafluoro- <i>N</i> -(2,2,3,3,4,4,4-heptafluoro-1-(phenylamino)-butylidene)- <i>N'</i> -phenylbutanimidamide	FUS		31.3	361	[2003SIE/WEB]	
$\text{C}_{20}\text{H}_{11}\text{NO}_2$	[63041-90-7]	6-nitrobenzo[<i>a</i>]pyrene	FUS		30.2	528.4	DSC	[2010KES/AUC]
$\text{C}_{20}\text{H}_{12}$	[198-55-0]	Perylene	FUS		32.58	551.3	DTA	[1992SAB/ELW3]
			FUS	(5–578)	31.88	550.9	AC	[1996DOM/HEA, 1993ACR, 1980WON/WES]
			FUS		31.76	553.9	DSC	[1973CAS/VEC]
			SUB	(390–432)	126.2 ± 0.82	411	ME	[2008GOL/SUU3]
			SUB	(391–424)	132.6 ± 3.6	408	ME	[1998OJA/SUU]
			SUB	(313–453)	123.2	383	GS	[1995NAS/LEN]
			SUB	(443–518)	145.2 ± 2.5	298	C, ME	[1973GIG/MAL]
			SUB		125.5 ± 4.2	298	ME	[1967WAK/INO, 1970COX/PIL]
			SUB	(383–453)	139	418		[1958HOY/PEP, 1987STE/MAL]
			SUB		129.6 ± 2.1	415	ME	[1952INO/SHI]
			SUB		121.3	370	ME	[1951INO]
			V		119.5	298	CGC	[2008ZHA/UNH]
			V		123.1 ± 1.7	298	CGC	[2002CHI/WEB]
			V	(323–473)	89.9	398	GC	[2002LEI/CHA]
$\text{C}_{20}\text{H}_{12}$	[50-32-8]	Benzo[<i>a</i>]pyrene	FUS		11.25	449	DSC	[2010RIC/SUU, 2011RIC/FU]
			FUS		14.7	451.8	DSC	[2010KES/AUC]
			FUS		13.32	447.6	DSC	[2008MOG/SEP]
			FUS		15.1	451.2	DSC	[1995HAI/SAN]
			TRS		8.49	390.2		
			FUS		17.32	454.2	DSC	[1991ACR, 1973CAS/VEC]
			SUB	(398–430)	116.2 ± 7.5		ME	[2011RIC/FU]
			SUB	(358–428)	116.2	393	ME	[2010RIC/SUU]
			SUB	(392–424)	113.3 ± 3.1	408	ME	[2008GOL/SUU3]
			SUB	(313–453)	122.5	383	GS	[1995NAS/LEN]
			SUB	(358–431)	118.3	373	ME	[1987STE/MAL, 1974MUR/POL]
			V		117.8 ± 1.0	298	CGC	[2008HAN/NUT]
			V	(463–523)	105.0 ± 1.5	298	GC	[2006HAF/PAR]
			V	(323–473)	91	398	GC	[2002LEI/CHA]
			V	(343–453)	95.5	398	GC	[1990HIN/BID2]
$\text{C}_{20}\text{H}_{12}$	[192-97-2]	Benzo[<i>e</i>]pyrene	FUS		13.8	451.3	DSC	[2010KES/AUC]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
<chem>C20H12</chem>	[207-08-9]	Benzo[<i>k</i>]fluoranthene	TRS		2.51	426.2		
			FUS		16.57	454.4	DSC	[1991ACR, 1973CAS/VEC]
			SUB	(313–453)	117.9	383	GS	[1995NAS/LEN]
			SUB	(359–423)	119.1	373	ME	[1987STE/MAL, 1974MUR/POL]
			V		118.2 ± 0.3	298	CGC	[2008HAN/NUT]
			V	(463–523)	105.0 ± 1.5	298	GC	[2006HAF/PAR]
			V	(343–453)	92	398	GC	[1990HIN/BID2]
			FUS		26.5		DSC	[2011FU/SUU]
			FUS		32.4	489.7	DSC	[2010KES/AUC]
			FUS		27.5	490.6		[2002DIO/MIN]
			SUB	(384–424)	121.5 ± 3.3		ME	[2011FU/SUU]
			SUB	(387–423)	124.2 ± 4.7	298	ME	[2002DIO/MIN]
			SUB	(363–430)	130	378	A	[1987STE/MAL]
			SUB		120 ± 10		TE	[1983FER/QUA]
			V		117.4 ± 1.1	298	CGC	[2008HAN/NUT]
			V	(463–513)	105.5 ± 1.5	298	GC	[2006HAF/PAR]
			V	(323–473)	88.5	398	GC	[2002LEI/CHA]
<chem>C20H12</chem>	[205-99-2]	Benzo[<i>b</i>]fluoranthene	FUS		18.3		DSC	[2011FU/SUU]
			FUS		19.6	441.5	DSC	[2010KES/AUC]
			SUB	(364–414)	118.8 ± 0.8		ME	[2011FU/SUU]
			SUB	(313–453)	119.2	383	GS	[1995NAS/LEN]
			V		116.8 ± 1.6	298	CGC	[2008HAN/NUT]
			V	(463–513)	104.0 ± 1.5	298	GC	[2006HAF/PAR]
			V	(323–473)	89.7	398	GC	[2002LEI/CHA]
<chem>C20H12</chem>	[205-82-3]	benzo[<i>j</i>]fluoranthene	FUS		17.9	438.3	DSC	[2010KES/AUC]
<chem>C20H12BrNO4</chem>	[59722-76-8]	1-amino-2-(4-bromophenoxy)-4-hydroxy-9,10-anthraquinone	SUB	(473–543)	163.6	413		[1978NIS/ISH]
<chem>C20H12FNO2</chem>	[1228096-41-0]	2-fluorophenyl acridine-9-carboxylate	FUS		28.1	437	DSC	[2010ZAD/KRZ]
<chem>C20H12INO2</chem>	[1268261-57-9]	2-iodophenyl acridine-9-carboxylate	FUS		32.4	438	DSC	[2010ZAD/KRZ]
<chem>C20H12N2O4</chem>	[1093974-11-8]	2-nitrophenyl acridine-9-carboxylate	FUS		24.4	422	DSC	[2010ZAD/KRZ]
<chem>C20H12O</chem>	[13345-21-6]	3-hydroxybenzo[<i>a</i>]pyrene	FUS		24.1	469.6	DSC	[2010KES/AUC]
<chem>C2OH13N</chem>	[194-59-2]	7 <i>H</i> -dibenzo[<i>c, g</i>]carbazole	FUS		20.1	429.8	DSC	[2010KES/AUC]
<chem>C20H13NO2</chem>	[109392-90-7]	Phenyl acridine-9-carboxylate	FUS		39.2	464	DSC	[2010KRZ/MAL]
<chem>C20H13NO4</chem>	[17418-58-5]	1-amino-4-hydroxy-2-phenoxy-9,10-anthraquinone (Disperse Red 60)	FUS		30.79	458.2		[1991BAU/WEB]
			SUB	(423–448)	104.9	436	GC	[2002SAW/SHI]
			SUB	(359–366)	152.5	362.5	A	[1987STE/MAL, 1977EIB/TRO]
<chem>C20H13N5O3</chem>	[194785-03-0]	1-(2'-nitrobenzylidene)-2-phenazinoylhydrazine	SUB		141.8			[1984KAR/KRU]
			SUB	(373–453)	103.8	413		[1978NIS/ISH]
			FUS		47.47	540.2	DSC	[1997CIO/MEL]

[Note: The temperature interval covered in [1987STE/MAL] may be too small for an accurate $\Delta_{\text{sub}}H$ determination.]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₁₃ N ₅ O ₃	[194785-02-9]	1-(4'-nitrobenzylidene)-2-phenazinoylhydrazine	FUS		44.8	548.2	DSC	[1997CIO/MEL]
C ₂₀ H ₁₄	[602-55-1]	9-phenylanthracene	FUS		25.5	427.6	DSC	[1979FAR/SHA]
	SUB	(313–453)		118.7	383	GS	[1995NAS/LEN]	
	SUB	(352–395)		119.7		TE	[1974SHI/GRE]	
	SUB	(353–426)		115.3	368		[1958KLO]	
	V	(323–473)		91.6	398	GC	[2002LEI/CHA]	
	V	(430–510)		84.4	445	A	[1987STE/MAL]	
	V	(435–513)		86.2	450		[1999DYK/SVO, 1974SHI/GRE]	
C ₂₀ H ₁₄	[477-75-8]	9,10-dihydro-9,10-(1',2') benzoanthracene (tryptcene)	FUS	(5–550)	30.29	527.2	AC	[1996DOM/HEA, 1970AND/WES2]
	SUB				104.6 ± 12.6			[1973ROD/WES, 1977PED/RYL]
C ₂₀ H ₁₄	[11068-27-2]	Binaphthalene	SUB	(313–453)	138.3	383	GS	[1995NAS/LEN]
C ₂₀ H ₁₄	[604-53-5]	1,1'-binaphthyl	FUS		19.2	431.2	DSC	[2005SAI/MAR]
	FUS (I)				30.5	418.2		
	FUS (II)				23.7	431.2	DSC	[1975WIL/PIN]
C ₂₀ H ₁₄	[612-78-2]	β,β'-binaphthyl	FUS		38.9	461.2	DSC	[1996DOM/HEA, 1979FAR/SHA]
C ₂₀ H ₁₄ N ₂	[1631994-28-9]	(Z)-2-phenyl-3-(4-(pyridine-2-yl)phenyl)acrylonitrile	FUS (triclinic)		83.1	392.7		
	FUS	(orthorhombic)			97.5	391.7	DSC	[2014PER/CER]
	SUB							
C ₂₀ H ₁₄ N ₂ O ₂	[4395-65-7]	1-anilino-4-aminoanthraquinone	SUB		138.6			[1984KAR/KRU]
	SUB		(473–553)	135.1			GS	[1977NIS/ISH, 1978NIS/ISH]
C ₂₀ H ₁₄ N ₂ O ₄	[56405-27-7]	1-amino-2-(4-aminophenoxy)-4-hydroxy-9,10-anthaquinone	SUB	(373–453)	U50.2	413		[1978NIS/ISH]
C ₂₀ H ₁₄ N ₄	[101-60-0]	21 <i>H</i> ,23 <i>H</i> -porphine	SUB	(424–507)	87 ± 3		F	[2004STE/STI]
C ₂₀ H ₁₄ N ₄ O	[194784-97-9]	1-benzylidene-2-phenazinoylhydrazine	FUS		45.76	512.1	DSC	[1997CIO/MEL]
C ₂₀ H ₁₄ O	[5471-63-6]	1,3-diphenylisobenzofuran	SUB		129.3 ± 3.0			[1985KIS/VEI]
C ₂₀ H ₁₄ O ₄	[94-01-9]	Dibenzoyl resorcinol	SUB	(323–399)	165.8	338	A	[1987STE/MAL]
	V	(399–493)		76.0	414	A, UV	[1987STE/MAL, 1960SCH/HIR]	
C ₂₀ H ₁₄ O ₄	[77-09-8]	Phenolphthalein	FUS		51.05	534		[1996DOM/HEA, 1984GRA/AVR]
C ₂₀ H ₁₅ BrN ₄ O ₆	[235114-51-9]	3,5-dinitro-4-(4-methoxyphenyl)aminobenzoyl (4-bromophenyl)amide	FUS		50.67	522.5		[1999KOR/LEV]
C ₂₀ H ₁₅ BrN ₄ O ₆	[235114-52-0]	3,5-dinitro-2-(4-methoxyphenyl)aminobenzoyl (4-bromophenyl)amide	FUS		38.0	478.9		[1999KOR/LEV]
C ₂₀ H ₁₅ F ₃	[68643-31-2]	1,1,1-trifluoro-2,2,2-triphenylethane	FUS		30.33	440.3		[1997SCH/VER]
	SUB			112.3 ± 1.0	298			[1997SCH/VER]
C ₂₀ H ₁₅ F ₃ O	[145698-50-6]	4-propoxy-4'-trifluoromethyl diphenyl diacetylene	FUS		18.81	315.9	DSC	[1993JUA/CHE]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₁₅ O ₅ P	[803-19-0]	bis(4-carboxyphenyl)phenylphosphine oxide	FUS		17.6	610.6	DSC	[2000WAN/WAN]
C ₂₀ H ₁₆	[58-72-0]	Triphenylethylene			20.58	339.9	DSC	[1999VER/EBE]
	FUS			(6–354)	20.35	341	AC	[1998HIK/OKA]
	SUB			(323–339)	110.1 ± 1.9	331	GS	[1999VER/EBE]
	SUB			(323–339)	112.2 ± 1.9	298	GS	[1999VER/EBE]
	V			(346–377)	88.0 ± 0.9	362	GS	[1999VER/EBE]
	V			(346–377)	91.8 ± 0.9	298	GS	[1999VER/EBE]
	V			(353–443)	89.7	398		[1989SAS/NGU]
C ₂₀ H ₁₆	[313-74-6]	7,12-dimethylbenz[<i>a</i>]anthracene	SUB	(379–390)	135		A	[1987STE/MAL, 1964KEL/RIC]
			V	(323–473)	88.9	398	GC	[2002LEI/CHA]
			V	(396–408)	112.9	402	A, ME	[1987STE/MAL, 1964RAT/SHR, 1999DYK/SVO]
			V	(379–396)	107.8		A	[1987STE/MAL, 1964KEL/RIC]
	[3697-27-6]	5,6-dimethylchrysene	SUB		130 ± 1.3			[1966GEI/QUI, 1970COX/PIL]
C ₂₀ H ₁₆			SUB		134 ± 1.3			[1966GEI/QUI, 1970COX/PIL]
			SUB	(379–408)	135 ± 2.4	394	ME	[1964KEL/RIC]
			V	(380–394)	121.7	387	A	[1987STE/MAL]
	[313-74-6]	1',9-dimethyl-1,2-benzanthracene	SUB		112.5 ± 3.3		ME	[1965KAR/KYB, 1970COX/PIL]
C ₂₀ H ₁₆	[316-51-8]	3',6-dimethyl-1,2-benzanthracene	SUB		112.5 ± 3.3		ME	[1965KAR/KYB, 1970COX/PIL]
C ₂₀ H ₁₆ F ₂	[145698-36-8]	4- <i>n</i> -butyl-3',4'-difluorodiphenyldiacetylene	FUS		24.33	340.8	DSC	[1993JUA/CHE]
C ₂₀ H ₁₆ N ₂ O ₅	[19685-09-7]	20-(<i>S</i>)-10-hydroxycamptothecin	FUS		53.38	467.2	DSC	[2010KUN/SAV]
C ₂₀ H ₁₆ O ₂	[595-91-5]	Triphenylacetic acid	SUB	(419–437)	145.5 ± 0.9	411	ME	[2011MON/SOU]
			SUB	(419–437)	152.2 ± 0.9	298	ME	[2011MON/SOU]
C ₂₀ H ₁₆ O ₄ S ₂	[3263-31-8]	6-ethoxy-2-(6-ethoxy-3-oxobenzo[<i>b</i>]thien-2(3 <i>H</i>)-ylidene)benzo[<i>b</i>]-thiophen-3(2 <i>H</i>)-one (C.I. Vat Orange 5)	SUB	(519–634)	65	577	GS	[1986NIS/AND]
C ₂₀ H ₁₇ FO ₃ S	[38194-50-2]	(<i>Z</i>)-5-fluoro-2-methyl-1-[<i>p</i> -(methylsulfinyl)benzylidene]indene-3-acetic acid (sulindac)	FUS (I)		30.3	465		
			FUS (II)		22.8	459	DSC	[2016CAV/TAR]
			FUS		33.4	460.2	DSC	[2006WAS/HOL]
			FUS (I)		27.4	460.2		
			FUS (II)		29.8	456.2	DSC	[1997TRO/MAR]
C ₂₀ H ₁₇ F ₂₅	[90499-31-3]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafuoroeicosane	TRS		2.4	192		
			TRS		6.4	329		
			FUS		23.7	361	DSC	[1991HOP/MOL, 1988HOP/PUG]
			TRS		5.6	324.2		
			FUS		21.9	355.2	DSC	[1986RUS/RAB]
C ₂₀ H ₁₇ NO	[1266338-65-1]	<i>N</i> -(4'-methylbiphenyl-4-yl)benzamide	FUS		38.5	501.7	DSC	[2015OWU/CHE]
C ₂₀ H ₁₇ N ₃ O ₄		4,11-diamino-2-butyl-1 <i>H</i> -naphth[2,3- <i>f</i>]isoindole-1,3,5,10(2 <i>H</i>)-tetraone	FUS		24.85	490.2		[1991BAU/WEB]
C ₂₀ H ₁₇ N ₃ O ₅	[12217-80-0]	4,11-diamino-2-(3-methoxypropyl)-1 <i>H</i> -naphth[2,3- <i>f</i>]isoindole-1,3,5,10(2 <i>H</i>)-tetronate (Disperse Blue 60)	V	(463–513)	106.1	488	GC	[2002SAW/SHI]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₁₇ N ₅ O ₃	[244272-56-8]	6-(2-naphthyl)-3,9-dihydro-3-[(2-hydroxyethoxy)methyl]-9-oxo-5 <i>H</i> -imidazol[1,2-a]pyrine	FUS		37.64	493.4	DSC	[1999ZIE/GOL]
C ₂₀ H ₁₈	[5271-39-6]	1,1,1-triphenylethane	FUS		19.95	375.9	DSC	[1999VER3]
	SUB	(338–363)		108.6 ± 0.9	298		GS	[1999VER3]
	SUB	(338–363)		105.4 ± 0.9	351		GS	[1999VER3]
C ₂₀ H ₁₈	[1520-42-9]	1,1,2-triphenylethane	FUS		24.39	328.2	DSC	[1999VER3]
	SUB			116.6 ± 0.5	298		V + F	[1999VER3]
	V	(335–368)		89.0 ± 0.5	351		GS	[1999VER3]
	V	(335–368)		92.2 ± 0.5	298		GS	[1999VER3]
C ₂₀ H ₁₈ N ₂ O ₂	[7385-67-3]	9-(diethylamino)-5 <i>H</i> -benzo[a]phenoxazin-5-one (nile red)	SUB	(427–515)	66 ± 2		F	[2004STE/STI]
C ₂₀ H ₁₈ O ₂	[160731-86-2]	2-fluorenyl-2-methyl-1,3-cyclohexanedione	FUS		35.7	448.2		[1995NOL/VER]
C ₂₀ H ₁₈ O ₂	[1571-75-1]	4,4'-(1-phenylethylidene)bis(phenol)	FUS		42.5	462.2	DSC	[2014COS/DAV]
	SUB	(410–490)		162.8 ± 1.2	298		ME	[2014DAV/HER, 2014COS/DAV]
C ₂₀ H ₁₈ O ₃		Phenyl 2-(6-methoxy-2-naphthyl)propionate	FUS		33.3	367.0	DSC	[1994WEB/MEY]
C ₂₀ H ₁₈ O ₆	[170464-52-5]	9-fluorenyl-tris(methoxycarbonyl)methane	FUS		32.3	407.2		[1995RAK/VER]
	SUB			132.6	298		GS	[1995RAK/VER]
C ₂₀ H ₁₉ BrS	[148681-89-4]	2- <i>n</i> -butyl-5-(4-bromobiphenyl-4-yl)thiophene	FUS		21.4	501.4		[1993BRE/DUN]
C ₂₀ H ₁₉ F ₃ O	[172424-72-5]	4- <i>n</i> -hexyloxy-2',3',4'-trifluorodiphenylacetylene	FUS		30.8	322	DSC	[1995HSU/TSA]
C ₂₀ H ₁₉ N ₇ O ₄	[41642-51-7]	Disperse Blue 165	SUB	(464–484)	90.7	474	GS	[1989NIS/AND]
[Note: The molecular structure of the compound given in the paper had a Cl group and only one CN functional group, which is different from the molecular structure given in Scifinder Scholar for Disperse Blue 165. The molecular formula for the structure in the paper is C ₂₀ H ₂₁ ClN ₇ O ₄ . The molecular weight given in the paper, 405, agrees with the molecular formula of C ₂₀ H ₁₉ N ₇ O ₄ . We have assumed that the chemical name is correct, but that the authors misdraw the molecular structure.]								
C ₂₀ H ₂₀	[26902-55-6]	Hexacyclopropylethane	V	(333–373)	85.8 ± 0.2	298	GS	[1995CHI/HES]
C ₂₀ H ₂₀	[89683-62-5]	Pagodane (undecacyclo[9.9.0.0 ^{1,5} .0 ^{2,12} .0 ^{2,18} .0 ^{3,7} .0 ^{6,10} .0 ^{8,12} .0 ^{11,15} .0 ^{13,17} .0 ^{16,20}]eicosane)	SUB	(418–473)	90.2 ± 2.3	446	T	[1994BEC/RUE]
C ₂₀ H ₂₀ FNO ₃	[94610-85-2]	4-cyano-3-fluorophenyl 4-hexyloxybenzoate	FUS		35.56	332.7		[1984KEL]
C ₂₀ H ₂₀ F ₂	[145698-44-8]	4-hexyl-3',4'-difluorodiphenylacetylene	FUS		24.3	314.9	DSC	[1995HSU/TSA]
C ₂₀ H ₂₀ F ₂ O	[145698-45-9]	4-hexyloxy-3',4'-difluorodiphenylacetylene	FUS		33.1	323.6	DSC	[1995HSU/TSA]
C ₂₀ H ₂₀ F ₂ O	[172424-68-9]	4-hexyloxy-2',4'-difluorodiphenylacetylene	FUS		34.1	320.9	DSC	[1995HSU/TSA]
C ₂₀ H ₂₀ NP	[47182-04-7]	<i>N</i> -ethyl triphenylphosphine imine	SUB		75.3 ± 8.4	298		[1982PIL/SKI, 1960CLA/FOW]
C ₂₀ H ₂₀ O ₂	[160731-88-4]	2-diphenylmethyl-2-ethyl-1,3-cyclopentandione	FUS		28.2	382.2		[1995NOL/VER]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₂₀ H ₂₀ O ₃	[87051-12-5]	SUB	(342–377)	122.8 ± 0.7	360	T	[1995NOL/VER]
		FUS		22.1	369.2	DSC	[1991JEF/JAB]
C ₂₀ H ₂₀ O ₆	[170464-52-5]	1,1,1-tris(methoxycarbonyl)-2,2-diphenylethane					
		FUS		36.1	414.2		[1995RAK/VER]
C ₂₀ H ₂₁ ClO ₄	[49562-28-9]	SUB		136	298	GS	[1995RAK/VER]
		FUS		30.9	354.8	DSC	[2016DIO/VIC]
		FUS		32.4	353.2	DSC	[2015TIP/TAK]
		FUS		33.53	352.1	DSC	[2014WAT/HUD]
		FUS		32.82	355.1	DSC	[2014XIA/CUI]
		FUS		27.3	354.6	DSC	[2011GOR/WOJ]
		FUS		33.03	354	DSC	[2010BAI/VAN]
		FUS		34.0	353.4	DSC	[2007VIP/WAN]
		FUS		33.0	353.2	DSC	[2003LAW/WAN]
		FUS		32.4	353.7	DSC	[2002ZHO/ZHA]
		FUS		33.2	353.4	DSC	[2000DIM/PAL]
C ₂₀ H ₂₁ F ₁₉ O	[144986-71-0]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-nonadecafluoro-10-eicosanone					
		FUS		53.17	317.9	DSC	[1993VIL/HAM]
C ₂₀ H ₂₁ F ₂₁	[90499-29-9]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosfluoroeicosane					
		TRS		4	317		
		FUS		24.4	337	DSC	[1991HOP/MOL]
		TRS		2.2	306.5		
		FUS		26.7	336.7		[1989VIN/RUS]
C ₂₀ H ₂₁ NO ₃ S	[313057-11-3]	4-(7-octenyoxy)phenyl 5-cyano-2-thiophene carboxylate					
		FUS		68.2	332.7	DSC	[2000WU/WAN]
C ₂₀ H ₂₁ N ₃ O ₃	[198629-74-2]	Pyrimethanil phenoxyacetate					
		FUS	(81–380)	34.28	349.4	AC	[2006SUN/LIU]
C ₂₀ H ₂₁ N ₃ O ₅ S	[87027-09-6]	2-methyl-1,1-dioxido-3-[(2-pyridinylamino)carbonyl]-2H-1,2-benzothiazin-4-yl, 2,2-dimethylpropanoic acid ester (piroxicam pivalate)					
		FUS		32.74	427	DSC	[1998GIO/GAZ]
C ₂₀ H ₂₂ N ₂ O	[263896-41-9]	2,3-dihydro-2-[(3-exo)-8-methyl-8-azabicyclo[3.2.1]oct-3-yl]-1H-benz[e]isoindol-1-one					
		FUS		29.1	448.2	DSC	[2006CAP/TRA]
C ₂₀ H ₂₂ N ₂ O ₄	[2475-40-3]	1,4-bis(propylamino)anthraquinone					
		V	(409–463)	118.3	424	A	[1987STE/MAL, 1937HIC/HEC]
C ₂₀ H ₂₂ O ₂	[160731-83-9]	3-diphenylmethyl-3-ethyl-2,4-pentandione					
		FUS		34.7	388.2		[1995NOL/VER]
		SUB	(349–387)	122.3 ± 1.5	368	T	[1995NOL/VER]
C ₂₀ H ₂₂ O ₃	FUS	(E, E)-2,4-hexadienyl 2-(6-methoxy-2-naphthyl)propionate					
				32.1	326.9	DSC	[1994WEB/MEY]
C ₂₀ H ₂₂ O ₃	FUS	3-hexinyl 2-(6-methoxy-2-naphthyl)propionate					
				28.1	335.2	DSC	[1994WEB/MEY]
C ₂₀ H ₂₂ O ₄	FUS	2-oxycyclohexyl 2-(6-methoxy-2-naphthyl)propionate					
				27.7	370.3	DSC	[1994WEB/MEY]
C ₂₀ H ₂₂ O ₆	FUS	2-isosorbid 2-(6-methoxy-2-naphthyl)propionate					
				41.4	409.1	DSC	[1994WEB/MEY]
C ₂₀ H ₂₂ O ₆	FUS	5-isosorbid 2-(6-methoxy-2-naphthyl)propionate					
				33.6	426.8	DSC	[1994WEB/MEY]
C ₂₀ H ₂₂ O ₆	FUS	2-isomannid 2-(6-methoxy-2-naphthyl)propionate					
				34.5	395.7	DSC	[1994WEB/MEY]
C ₂₀ H ₂₃ FN ₂ O	[2354-61-2]	1-(4-fluorophenyl)-4-[4-phenyl-1-piperazinyl]-1-butanone (butropipazone)					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{20}\text{H}_{23}\text{F}_{19}\text{O}$	[144986-72-1]	FUS (I)		36.7	387.2	DSC	[1981DRA/AZI]
		FUS (II)		34.7	363.7		
		TRS		3.6	346.2		
$\text{C}_{20}\text{H}_{23}\text{NO}_4$	[16590-41-3]	FUS		33.5	356	DSC	[1992VIL/WEI]
		FUS		15.64	448.2		
		FUS		14.8	448.9		
$\text{C}_{20}\text{H}_{23}\text{N}_3\text{O}_9$	[142489-47-2]	N -[N -[[2-(1,3-dihydro-1,3-dioxo-2 <i>H</i> -isoindol-2-yl)ethoxy]acetyl]-(<i>l</i> -alanyl)-(d)-glutamic acid					[1999ZAD/KER]
		FUS		54.53			
$\text{C}_{20}\text{H}_{24}$	[115181-07-2]	8-(4-biphenyl)-1-octene					[1989MAL/KAN]
$\text{C}_{20}\text{H}_{24}\text{N}_2\text{O}_6$	[63675-72-9]	21					
		FUS		291.5		DSC	
		FUS		28.2	421.1	DSC	[2015NUR/BOO]
		FUS		30.5	422.8	DSC	[2004MAR/KOZ]
$\text{C}_{20}\text{H}_{24}\text{O}_2$	[102607-41-0]	7-methyl-3-(1-methylethyl)-8-(4-methyl-3-pentenyl)-1,2-naphthalenedione (saprorthoquinone)					
	FUS	23.09					[1992HUA/ZHO]
$\text{C}_{20}\text{H}_{24}\text{O}_2$	[57-63-6]	19-norpregna-1,3,5(10)-trien-20-yne-3,17-diol (ethinyl estradiol)					[2002VAN/KRU]
$\text{C}_{20}\text{H}_{24}\text{O}_3$	[901-93-9]	27.57					
		FUS		456.2		DSC	
$\text{C}_{20}\text{H}_{24}\text{O}_3$	FUS	3-(acetoxy)- <i>o</i> -estradiol-1,3,5(10)-trien-17-one					[1990YAN/EIR]
		FUS		15	399	DSC	
$\text{C}_{20}\text{H}_{24}\text{O}_3$	FUS	(Z)-3-hexenyl 2-(6-methoxy-2-naphthyl)propionate					[1994WEB/MEY]
		FUS		29.2	312.1	DSC	
$\text{C}_{20}\text{H}_{24}\text{O}_3$	FUS	(E)-3-hexenyl 2-(6-methoxy-2-naphthyl)propionate					[1994WEB/MEY]
		FUS		23.6	306.5	DSC	
$\text{C}_{20}\text{H}_{24}\text{O}_3$	FUS	Cyclohexyl 2-(6-methoxy-2-naphthyl)propionate					[1994WEB/MEY]
		FUS		29.3	352.2	DSC	
$\text{C}_{20}\text{H}_{24}\text{O}_4\text{S}$	[313057-15-7]	4-(7-octenyl)phenyl 5-methoxy-2-thiophene carboxylate					[2000WU/WAN]
$\text{C}_{20}\text{H}_{24}\text{O}_6$	[14187-32-7]	76.57					
		FUS		332.8		DSC	
		FUS		56.0	435.7	DSC	[2016SAN/CRU]
		FUS		55.4	440.0	DSC	[2000NIC/ORF]
		FUS		57.45	435.8	DSC	[1998DOM]
		FUS		60.7	434.2	DSC	[1985BIA/GIU]
		SUB		190.6 ± 3.6	298	V + F	[2016SAN/CRU]
		SUB		178.8 ± 6.9	298	CGC-DSC	[2000NIC/ORF]
		V	(545–595)	97.9 ± 0.3	570	DTA	[2016SAN/CRU]
		V	(545–595)	154.1 ± 3.1	298	DTA	[2016SAN/CRU]
		V		137.0 ± 7.4	298	CGC	[2000NIC/ORF]
$\text{C}_{20}\text{H}_{24}\text{O}_8$	FUS	3-(β -D-glucose) 2-(6-methoxy-2-naphthyl)propionate					[1994WEB/MEY]
$\text{C}_{20}\text{H}_{25}\text{ClN}_2\text{O}_5$	[88150-42-9]	59.8					
		FUS		360.9		DSC	
		FUS	(R, S)-2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-3-(ethoxy-carbonyl)-5-(methoxycarbonyl)-6-methyl-1,4-dihydropyridine, (RS)-amlodipine				
$\text{C}_{20}\text{H}_{25}\text{ClN}_2\text{O}_5$	FUS	20.22					[2010ZEN/WAN]
		FUS	414.3				
		FUS	(S)-2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-3-(ethoxy-carbonyl)-5-(methoxycarbonyl)-6-methyl-1,4-dihydropyridine, (S)-amlodipine				
$\text{C}_{20}\text{H}_{26}$	[1625-91-8]	16.86					[2010ZEN/WAN]
		TRS	(8–373)	384.2		DSC	
		TRS	(8–373)	0.39	176.4	AC	[2010EFI/VAR]
		TRS	(8–373)	0.84	205.5	AC	[2010EFI/VAR]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{20}\text{H}_{26}\text{N}_2\text{O}_8\text{S}$	[58194-26-6]	FUS		19.97	400.8	DSC	[2010EFI/VAR]
		FUS		20.0	400.8	DSC	[2009MEL/PIM]
		TRS		1.0	322		
		FUS		18.8	402	DSC	[2002NAT/JES]
		SUB	(336–385)	108.6 ± 0.5	298	GS	[2012NAZ/NES]
		SUB		106.8 ± 3.2	298	C	[2009MEL/PIM]
		V		95.9 ± 0.6	298	S–F	[2012NAZ/NES]
		V		86.2 ± 3.2	298	S–V	[2009NTI/CHA]
$\text{C}_{20}\text{H}_{26}\text{N}_2\text{O}_8\text{S}$	[58194-26-6]	5-[bis(2-ethoxy-2-oxoethyl)amino]-4-cyano-2-(ethoxycarbonyl)-3-thiopheneacetic acid, ethyl ester (tetraethyl ranelate)					
		FUS		33.60	376.53	DSC	[2016LI/CHE]
$\text{C}_{20}\text{H}_{26}\text{O}$	[68-22-4]	19-nor-17 α -ethynyltestosterone					
		FUS		39.6	479	DSC	[1996DOM/HEA, 1979LEW/ENE]
$\text{C}_{20}\text{H}_{26}\text{O}_2$	[38107-76-5]	2- <i>tert</i> -butyl-4-methoxymethyl-6- α -methylbenzylphenol					
		FUS		29.4	371.7	DTA	[1972INO/LIA]
$\text{C}_{20}\text{H}_{26}\text{O}_3$	[57078-10-1]	1,2,2-trimethyl-3-[(5,6,7,8-tetrahydro-2-naphthalenyl)carbonyl]cyclopentanecarboxylic acid					
		FUS		22.94	421.3	DSC	[1992TER/PAU]
$\text{C}_{20}\text{H}_{26}\text{O}_3$		Hexyl 2-(6-methoxy-2-naphthyl)propionate					
		FUS		29.8	318.1	DSC	[1994WEB/MEY]
$\text{C}_{20}\text{H}_{26}\text{O}_4$	[84-61-7]	Dicyclohexyl phthalate					
		V		109.9 ± 1.0	298	CGC	[2014GOB/CHI]
		V	(391–475)	97	406	A	[1987STE/MAL, 1952WER]
$\text{C}_{20}\text{H}_{27}\text{N}$	[150-59-4]	Alverine					
		V		89.3 ± 0.2	298	CGC	[2014GOB/VIK]
$\text{C}_{20}\text{H}_{27}\text{NO}_4$	[135531-41-8]	(-)1-[[2-(3,4-dimethoxyphenyl)ethyl]amino]-3-(3-methyl-phenoxy)-2-propanol (bevantolol)					
		FUS		43.22	348.3	DSC	[1999LI/ZEL, 1993NEA/SHI]
$\text{C}_{20}\text{H}_{27}\text{NO}_4$	[59170-23-9]	(\pm)1-[[2-(3,4-dimethoxyphenyl)ethyl]amino]-3-(3-methyl-phenoxy)-2-propanol (bevantolol)					
		FUS		45.9	360.6	DSC	[1999LI/ZEL, 1993NEA/SHI]
$\text{C}_{20}\text{H}_{27}\text{N}_5\text{O}_2$	[73963-72-1]	6-[4-(1-cyclohexyl-1 <i>H</i> -tetrazol-5-yl)butoxy]-3,4-dihydro-2(1 <i>H</i>)-quinolinone (cilostazol)					
		FUS		44.7	431.9	DSC	[2015NUR/BOO]
		FUS (I)		4.72	432		
		FUS (II)		3.89	408.8		
		FUS (III)		4.28	419	DSC	[2002STO/BEH]
[Note: Reported fusion enthalpies are very small. Values are likely off by a factor of ten.]							
$\text{C}_{20}\text{H}_{27}\text{O}_4\text{P}$	[1241-94-7]	ethylhexyl diphenyl phosphate					
		V	(383–413)	99.9	398	GC-RT	[2014BRO/JAN]
$\text{C}_{20}\text{H}_{28}$	[55000-56-1]	2-butyl-3-hexylnaphthalene					
		V	(422–485)	80.8	437		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]
$\text{C}_{20}\text{H}_{28}$	[55000-55-0]	7-butyl-1-hexylnaphthalene					
		V	(418–481)	78.1	433		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]
$\text{C}_{20}\text{H}_{28}$	[55000-53-8]	1,4-dimethyl-5-octylnaphthalene					
		V	(432–496)	81.6	447		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]
$\text{C}_{20}\text{H}_{28}$	[55000-54-9]	2,6-dimethyl-3-octylnaphthalene					
		V	(430–494)	80.8	445		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]
$\text{C}_{20}\text{H}_{28}\text{O}_2$	[112018-00-5]	1-[3,5-di- <i>tert</i> -butyl-4-hydroxyphenyl]-5-hexyn-1-one (tebufelone)					
		FUS		25.14	342.2		[1993KEL/SAK]
$\text{C}_{20}\text{H}_{28}\text{O}_3$	[3129-42-8]	Testosterone formate					
		FUS		26.36	398		[1994REG/CHM]
$\text{C}_{20}\text{H}_{28}\text{O}_5$	[104225-29-8]	3-(3,4-diethoxybenzoyl)-1,2,2-trimethylcyclopentanecarboxylic acid					
		FUS		29.07	389.3	DSC	[1992TER/PAU]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₂₉ N ₃ O ₂	[85-79-0]	2-butoxy-N-[2-(diethylamino)ethyl]quinoline-4-carboxamide (dibucaine)					
	FUS		29.23	338	DSC	[2010BAI/VAN]	
C ₂₀ H ₃₀	[26902-55-6]	Hexacyclopropylethane					[1984BER/BEC]
	SUB		109.0 ± 2.1				
	[3732-31-8]	1,1'-biadamantane					
	TRS		1.15	336.3			
	TRS		1.3	509.6			
	FUS	(5–610)	70 ± 10	561	AC, SC	[2007KAR/KAB]	
C ₂₀ H ₃₀ N ₂ O ₂	SUB	(393–443)	109.1 ± 1.3	417.8	ME	[2007KAR/KAB]	
	SUB	(393–443)	113.8 ± 1.4	298	ME	[2007KAR/KAB]	
C ₂₀ H ₃₀ N ₂ O ₂	[119135-74-9]	1-nitrosoadamantane (dimer)					
	SUB		97.5 ± 1.8	298	C	[2001MAT/LEB]	
C ₂₀ H ₃₀ N ₄ O ₄	[197300-58-6]	1,1'-(1,10-decanediyl)bisthymine					
	FUS		42.56	455	DSC	[2002ITA/KAM]	
C ₂₀ H ₃₀ O ₂	[58-18-4]	17-methyl testosterone					
	FUS		25.02	437.3	DSC	[2011MEL/PIN]	
	FUS		27.8	439	DSC	[1997CEN/MEL]	
C ₂₀ H ₃₀ O ₂	FUS		22.5		DSC	[1983GHA/JAM]	
	[514-10-3]	1,2,3,4,4a,4b,5,6,10,10a-decahydro-1,4a-dimethyl-7-(1-methylethyl)-1-phenanthrenecarboxylic acid (abietic acid)					
	FUS		19.45	450.9	DSC	[2014NON/CHE, 2012NON/CHE, 2014NON/CHE2]	
C ₂₀ H ₃₀ O ₄	[84-75-3]	dihexyl phthalate					
	V	(453–533)	92	468	A	[1987STE/MAL]	
C ₂₀ H ₃₂	V	(343–387)	103	358	A, ME	[1987STE/MAL, 1948SMA/SMA]	
	[66538-96-3]	1,2,3,4-tetrahydro-6-butyl-7-hexylnaphthalene					
C ₂₀ H ₃₂	V	(413–475)	78.1	428		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]	
	[66205-02-5]	1,2,3,4-tetrahydro-7-butyl-1-hexylnaphthalene					
C ₂₀ H ₃₂	V	(409–471)	76.7	424		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]	
	[55255-59-9]	1,2,3,4-tetrahydro-2,6-dimethyl-7-octylnaphthalene					
C ₂₀ H ₃₂	V	(418–480)	79.4	433		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]	
	[55255-58-8]	1,2,3,4-tetrahydro-5,8-dimethyl-1-octylnaphthalene					
C ₂₀ H ₃₂	V	(419–481)	78.6	434		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]	
	[56419-21-7]	10,10,13,13-tetramethylcyclohexadeca-1,5-diyne					
C ₂₀ H ₃₂ O ₂	FUS		18.83	323.2		[1975BJO/BOR]	
	[506-32-1]	(5Z,8Z,11Z,14Z)-eicosatetraenoic acid					
C ₂₀ H ₃₂ O ₄	V		145.3 ± 6.8	298	CGC	[2015WIL/GOB]	
	TRS		3.6	275.8			
	TRS		17.3	372.5			
C ₂₀ H ₃₃ F ₉ O	FUS		38.4	406.2	DSC	[1996KEE/VAN]	
	[1240205-64-4]	1-[(3,3,4,4,5,5,6,6,6-nonafluorohexyl)oxy]tetradecane					
	FUS		287.7	25.01	DSC	[2010ZAG/CON]	
C ₂₀ H ₃₄	[55255-70-4]	9-cyclohexyltetradecahydroanthracene					
	V	(419–488)	74.5	434	A	[1987STE/MAL]	
C ₂₀ H ₃₄	[1459-10-5]	Tetradecylbenzene					
	V	(485–665)	74.5	500		[1999DYK/SVO]	
C ₂₀ H ₃₄ O ₂	V		99.6	298		[1971WIL/ZWO]	
	[1191-41-9]	Ethyl linolenate					
C ₂₀ H ₃₄ O ₁₁	V	(447–491)	72.7	462	A	[1987STE/MAL]	
	[908818-42-8]	Diethylene glycol dicarboxylic acid, di[1-(butoxycarbonyl)ethyl] ester					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(433–525)	103.6	448	A	[1987STE/MAL]
C ₂₀ H ₃₄ O ₁₁	V	Diethylene glycol dicarboxylic acid, di[1-(sec-butoxycarbonyl)ethyl] ester (418–513)	103.1	433	A	[1987STE/MAL]
C ₂₀ H ₃₄ O ₁₁	[5349-71-3]	Diethylene glycol dicarboxylic acid, di[1-(isobutoxycarbonyl)ethyl] ester V (415–513)	103.1	430	A	[1987STE/MAL, 1950REH/DIX3]
C ₂₀ H ₃₆ N ₂	[85688-86-4]	Tetraisobutylsuccinonitrile	34.31	360.2		[1983BAR/BEC]
C ₂₀ H ₃₆ O ₂	[544-35-4]	Ethyl linoleate				
	V	(487–537)	92.9	513		[2011SIL/FAL]
	V	(448–497)	72.6	463	A	[1987STE/MAL]
C ₂₀ H ₃₆ O ₂	[14113-56-5]	1,10-cycloelicosanedione FUS	55.06	327.2		[1972ALV/BOR]
C ₂₀ H ₃₆ O ₂	FUS	1,9-cyclohexadecanedione bis ethylene ketal	42.13	404.2		[1972ALV/BOR]
C ₂₀ H ₃₆ O ₄	[2424-62-6]	Hexadecyl maleate FUS	71.4	345.0	DSC	[2016RIC/DEL]
C ₂₀ H ₃₆ O ₆	V	(syn-cis/anti-cis) dicyclohexano-18-crown-6 124.2 ± 4.0	298	CGC	[2000NIC/ORF]	
C ₂₀ H ₃₈	[66455-55-8]	2-butyl-3-hexyldecahydronaphthalene V	76.9	422		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]
C ₂₀ H ₃₈	[66455-54-7]	7-butyl-1-hexyldecahydronaphthalene V	80.0	422		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]
C ₂₀ H ₃₈	[54964-83-9]	1,4-dimethyl-5-octyldecahydronaphthalene V	73.9	419		[1963DIX/YAR, 1984BOU/FRI, 1999DYK/SVO]
C ₂₀ H ₃₈	[54964-85-1]	2,6-dimethyl-3-octyldecahydronaphthalene V	76.4	421		[1963DIX/YAR, 1984BOU/FRI]
C ₂₀ H ₃₈	[26527-76-4]	3,4-dicyclohexyl-3,4-dimethylhexane V	78.4	359		[1999DYK/SVO, 1980BEC/KRA]
C ₂₀ H ₃₈	[765-27-5]	1-eicosyne V	68.9	488		[1999DYK/SVO]
C ₂₀ H ₃₈	[61847-99-2]	2-eicosyne V	69.8	495		[1999DYK/SVO]
C ₂₀ H ₃₈	[61886-66-6]	3-eicosyne V	68.4	485		[1999DYK/SVO]
C ₂₀ H ₃₈ O	[29171-23-1]	3,7,11,15-tetramethyl-1-hexadecyn-3-ol V	43.8 ± 1.9	430	Static	[1988BAG/GUR]
C ₂₀ H ₃₈ O ₂	[111-62-6]	Ethyl oleate V	87.6	513	DSC	[2011SIL/FAL]
	V	(487–537)	92.4	399	A	[1987STE/MAL]
C ₂₀ H ₃₈ O ₂	[2495-27-4]	Hexadecyl methacrylate V	73.1	446	A	[1987STE/MAL]
C ₂₀ H ₃₈ O ₂	[155055-33-7]	(Z)-3-octadecenyl acetate V	108.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₂₀ H ₃₈ O ₂	[155055-35-9]	(E)-3-octadecenyl acetate V	109.3	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₂₀ H ₃₈ O ₂	[693-80-1]	(Z)-9-octadecenyl acetate V	107.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₂₀ H ₃₈ O ₂	[22147-38-2]	(E)-9-octadecenyl acetate V	108.7	298	GC	[1997KOU/HOS, 2000OVA/KOU]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₃₈ O ₂	[6186-98-7] V	(Z)-11-octadecenyl acetate (393–438)		108.4	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₂₀ H ₃₈ O ₂	[69282-64-0] V	(E)-11-octadecenyl acetate (393–438)		109.1	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₂₀ H ₃₈ O ₂	[60037-58-3] V V	(Z)-13-octadecenyl acetate (393–438)		108.8 ± 3.9 108.7	298 298	CGC GC	[2016GOO/HAS] [1997KOU/HOS, 2000OVA/KOU]
		(E)-13-octadecenyl acetate (393–438)		109.8	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₂₀ H ₃₈ O ₂	[155055-36-0] V	(Z)-15-octadecenyl acetate (393–438)		110.2	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₂₀ H ₃₈ O ₂	[155055-34-8] V	(E)-15-octadecenyl acetate (393–438)		110.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
C ₂₀ H ₃₈ O ₂	[5561-99-9] TRS FUS SUB V	<i>cis</i> -11-eicosenoic acid (gondoic acid)	9.0	270	DSC	[1997SAT/YAN]	
			49.7	296.5			
			192.9 ± 2.2	298			
			143.5 ± 2.2	298			
C ₂₀ H ₃₈ O ₄	[14491-66-8] V	Dioctyl succinate (503–523)	94.2	513	A	[1987STE/MAL]	
C ₂₀ H ₃₈ O ₄	[50893-80-6] FUS	Hexadecyl succinate	66.1	337.4	DSC	[2016RIC/DEL]	
C ₂₀ H ₃₈ O ₄	[6819-09-6] V	Dipentyl sebacate (353–408)	99.2	368	A	[1987STE/MAL]	
C ₂₀ H ₃₈ O ₄	[2424-92-2] SUB SUB SUB	Eicosanedioic acid (380–395)	165.7 ± 3.3	388	ME	[1960DAV/THO, 1987STE/MAL] [1960DAV/THO, 1999RIB/MON] [1987STE/MAL]	
			170.0 ± 3.3	298			
			199.5	341	A		
C ₂₀ H ₃₈ O ₅	[1086272-76-5] V	Dodecyl[1-(butoxy carbonyl)ethyl] carbonate (408–498)	82.8	423	A	[1987STE/MAL, 1950REH/DIX2]	
C ₂₀ H ₃₉ NO ₃	[14379-41-0] FUS	<i>N</i> -tetradecanoyl-(<i>I</i>)-leucine	32.4	377.5	DSC	[1986MIY/MAT]	
C ₂₀ H ₃₉ NO ₃	[21394-55-8] TRS FUS	<i>N</i> -tetradecanoyl-(d <i>L</i>)-leucine	1.8	320.1	DSC	[1986MIY/MAT]	
			54.8	349.6			
C ₂₀ H ₃₉ NO ₃	[6333-54-6] TRS + FUS	<i>N</i> -(1-oxooctadecyl)glycine	56.1	398.1	DSC	[2014RED/KRO]	
C ₂₀ H ₄₀	[3452-07-1] V V V	1-eicosene (478–638) (573–615) 100	74.3	493	A	[1999DYK/SVO] [1987STE/MAL] [1971WIL/ZWO]	
			65	588			
			100	298			
C ₂₀ H ₄₀	[1795-18-2] V V	Tetradecylcyclohexane (486–665)	74.7	501	[1999DYK/SVO]	[1971WIL/ZWO]	
			99.4	298			
C ₂₀ H ₄₀	[4669-01-6] V V	Pentadecylcyclopentane (486–661)	76.5	501	[1999DYK/SVO]	[1971WIL/ZWO]	
			100.3	298			
C ₂₀ H ₄₀	[42506-54-7] FUS	1,1,9,9-tetramethylcyclohexadecane	25.1	364.2	DSC	[1975BJO/BOR2]	
C ₂₀ H ₄₀	[42506-49-0]	1,1,4,4-tetramethylcyclohexadecane					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{20}\text{H}_{40}$	[54157-03-8]	FUS 1,1-dimethylcyclooctadecane	FUS		25.1	303.2	DSC	[1975BJO/BOR2]
			FUS		23.85	283.2		[1974BJO/BOR]
$\text{C}_{20}\text{H}_{40}\text{O}$	[60046-87-9]	3,7,11,15-tetramethyl-1-hexadecen-3-ol V (439–468)	V	(439–468)	67.0 ± 2.0	453	Static	[1988BAG/GUR]
			V	(393–438)	113.5	298	GC	[1997KOU/HOS, 2000OVA/KOU]
$\text{C}_{20}\text{H}_{40}\text{O}_2$	[822-23-1]	Octadecyl acetate V (341–500)	Octadecyl acetate				A	[1987STE/MAL]
			V	(341–500)	94.3	356		
$\text{C}_{20}\text{H}_{40}\text{O}_2$	[111-06-8]	Butyl palmitate V (353–383)	Butyl palmitate	(353–383)	93.8	368	A	[1987STE/MAL, 1958ROM/GOR]
$\text{C}_{20}\text{H}_{40}\text{O}_2$	[1654-86-0]	Decyl decanoate V (341–398)	Decyl decanoate	(341–398)	97.8	356	A	[1987STE/MAL]
$\text{C}_{20}\text{H}_{40}\text{O}_2$	[506-30-9]	Eicosanoic acid TRS TRS FUS FUS FUS	Eicosanoic acid					
			TRS		4.1	332.8		
			TRS		6.1	333.3		
			FUS		71.6	347.8	DSC	[2007MOR/COR]
			FUS	(90–355)	69.2	348.2	AC	[1996DOM/HEA, 1982SCH/VAN]
			FUS		72.0	348.4		[1964ADR/DEK]
$\text{C}_{20}\text{H}_{40}\text{O}_2$	[111-61-5]	Ethyl stearate FUS FUS FUS FUS FUS SUB V V V V	Ethyl stearate		148.4		TPTD	[2005CHA/ZIE]
			FUS		199.6 ± 7.5	342	ME	[1961DAV/MAL, 1970COX/PIL]
			FUS		143.2 ± 4.5	298	CGC	[2015WIL/GOB]
			FUS		143.7 ± 8.0	298	CGC	[2013WIL/CHI]
			V	(477–670)	114.5	492	A	[1987STE/MAL]
			V	(380–404)	125.5	392	ME, TE	[1982DEK/SCH]
			SUB	(297–306)	161.4	301.5	ME	[1987STE/MAL, 1967OMA]
			V		109.3 ± 3.2	298	CRT	[2015GOB/CHI]
			V		109.7 ± 0.3	298	CGC	[2015GOB/CHI]
			V	(355–412)	93.5	383	GS	[2012VER/RAL]
$\text{C}_{20}\text{H}_{40}\text{O}_2$	[1731-94-8]	Methyl nonadecanoate FUS TRS FUS V V V V V V	Methyl nonadecanoate		109.4 ± 0.7	298	GS	[2012VER/RAL]
			FUS		92.2	393	TGA	[2012VER/RAL]
			TRS		109.7 ± 0.7	298	TGA	[2012VER/RAL]
			FUS		109.7	298	TGA	[2012VER/RAL]
			V	(363–423)	101.7	513	DSC	[2011SIL/FAL]
			V	(491–534)	111.9	461	A	[1987STE/MAL]
			V	(454–469)	106.8	319	A, ME	[1987STE/MAL, 1967OMA]
			V	(310–328)				
			V					
			V					
$\text{C}_{20}\text{H}_{40}\text{O}_2$	[20292-08-4]	2-ethylhexyl laurate V V	2-ethylhexyl laurate		63.8	313.2	DSC	[2004CHI/ZHA]
			TRS		19.4	304.2		
			FUS		42.8	313.2	Cryst	[1936KIN/GAR]
			V	(467–558)	109.5 ± 5.4	298	CGC	[2004CHI/ZHA]
			V		101.2	350	CE	[2002VAN/VAN]
			V		105.0 ± 2.4	326	CE	[2002VAN/VAN]
$\text{C}_{20}\text{H}_{40}\text{O}_2$	[20292-08-4]	V V			109.5 ± 2.7	298	CE	[2002VAN/VAN]
			V	(441–529)	90.1	456	A, E	[1987STE/MAL, 1963ROS/SCH]
			V					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₄₀ O ₄	[43091-29-8]	FUS	2,2,6,6,10,10,14,14-octamethyl-1,3,9,11-tetraoxacyclohexadecane	24.69	406.9		[1973DAL/EKE]
C ₂₀ H ₄₀ O ₄	[56444-63-4]	FUS	2,2,12,12-tetramethyl-1,3,11,13-tetraoxacycloicosane	45.6	369.5		[1975BOR]
C ₂₀ H ₄₁ Br	[4276-49-7]	V	1-bromoeicosane (502–673)	79.8	517	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₂₀ H ₄₁ C1	[42217-02-7]	V	1-chloroeicosane	120.2	298		[2006BOL/NER2]
		V	(492–673)	78.3	507	A	[1987STE/MAL, 1970DYK/VAN]
C ₂₀ H ₄₁ F	[676-44-8]	V	1-fluorocicosane (468–663)	74.3	483	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
		V	(516–673)	80.9	531	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
C ₂₀ H ₄₁ I	[34994-81-5]	V	1-iodocicosane (516–673)	118.5	298	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN, 2006BOL/NER]
		V	(516–673)	80.9	531	A, E	[1987STE/MAL, 1961LI/ROS, 1970DYK/VAN]
		TRS		8.0	310		
		TRS		7.0	328		
C ₂₀ H ₄₁ NO	[74534-12-6]	FUS		35.0	334	DSC	[1980CAR/BUS]
		V	<i>N,N</i> -di(2-ethylhexyl) isobutyramide (463–513)	79.1 ± 0.9	298	CGC	[2009PAN/ANT]
		V	<i>N,N</i> -dihexyl octanamide (463–513)	82.9 ± 1.0	298	CGC	[2009PAN/ANT]
C ₂₀ H ₄₂	[6912-07-8]	V	5-butylhexadecane (423–457)	77.3	438	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₀ H ₄₂	[61868-04-0]	V	2,3-dimethyloctadecane (458–612)	65.7	473	A	[1987STE/MAL, 1959TER/BRI]
C ₂₀ H ₄₂	[61868-10-8]	V	2,4-dimethyloctadecane (456–583)	75.8	471	A	[1987STE/MAL, 1959TER/BRI]
C ₂₀ H ₄₂	[112-95-8]	Eicosane					
		FUS		67.5	309.9	DSC	[2016BOU/HAF]
		FUS		69.8	308.8	DSC	[2015VEL/KHA]
		FUS		66.82	308.95	DSC	[2013BEN/KHI, 2012BEN/KHI]
		FUS		69.03	311.6	DSC	[2006KHI/BOU]
		FUS		69.8	310.2	DSC	[2006GEN/AMA]
		FUS		68.1	309.7	DSC	[2004MON/RAJ]
		FUS		68.1	309.7	DSC	[1999MET/RAJ]
		FUS		69.0	310.6	DSC	[1999GIL]
		FUS		69.0	309.6		[1991BAR/SCH]
		FUS		66.94	310.0		[1991CLA/LET]
		FUS		67.8	309.7		[1996DOM/HEA, 1985KOL/SYU]
		FUS		69.9	309.8		[1973COM]
		FUS		69.8	309.8	AC	[1955SCH/BUS]
C ₂₀ H ₄₂	SUB			61.48	309.7		[1930PAR/HUF]
				59.0	309.6		[1929PAR/TOD]
		(302–308)		172.8 ± 3.0	305		[2009RAZ/NAC]
				179.5 ± 2.0	367	B	[1994PIA/FON]
				U152.3 ± 5.0	298	B	[1991PIA/POM]
				170.4	298	C	[1972MOR3]
		V		103.9 ± 3.2	298	CRT	[2015GOB/CHI]
		V		100.4 ± 2.9	298	CGC	[2015GOB/CHI]
		V	(313–373)	99.5 ± 1.1	343		[2009RAZ/NAC]
		V		102.6 ± 1.0	298	CGC	[2002CHI/WEB]
		V		102.8 ± 2.2	298	GS	[2001PUR/CHI]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₂₀ H ₄₂	V			101.1 ± 2.0	298	CGC	[2000NIC/ORF]
	V	(453–503)		103.5	298	CGC	[1995CHI/HOS]
	V	(433–583)		78.0	448		[1994MOR/KOB]
	V			101.8	298		[1994RUZ/MAJ]
	V	(347–388)		110 ± 2	368	TE	[1994PIA/FON]
	V	(345–470)		79.0	360	TE, ME, GS	[1991PIA/POM]
	V	(388–625)		80.8	440	EB, IP	[1989CHI/NGU]
	V	(388–625)		68.3	540	EB, IP	[1989CHI/NGU]
	V	(363–460)		89.6	378		[1988SAS/JOS]
	V	(528–620)		71.1	543	A	[1987STE/MAL]
C ₂₀ H ₄₂	V	(344–380)		93.3	359	A, GS	[1987STE/MAL, 1979MAC/PRA]
	V			100.8	298		[1971WIL/ZWO]
C ₂₀ H ₄₂	[1560-86-7]	2-methylnonadecane					
	V	(465–607)		72.4	480	A	[1987STE/MAL, 1959PAR/MAC]
C ₂₀ H ₄₂	[6418-45-7]	3-methylnonadecane					
	V	(463–609)		71.3	478	A	[1987STE/MAL, 1959TER/BRI]
C ₂₀ H ₄₂	[25117-27-5]	4-methylnonadecane					
	V	(460–609)		68.4	475	A	[1987STE/MAL, 1959TER/BRI]
C ₂₀ H ₄₂	[57160-72-2]	5-methylnonadecane					
	V	(462–609)		69.1	477	A	[1987STE/MAL, 1959TER/BRI]
C ₂₀ H ₄₂	[55044-10-5]	4-propylheptadecane					
	V	(425–459)		79.2	440	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₀ H ₄₂	[102155-32-8]	2,4,6-trimethylheptadecane					
	V	(449–579)		71.9		A	[1987STE/MAL, 1999DYK/SVO]
C ₂₀ H ₄₂ O	[629-96-9]	1-eicosanol					
	TRS + FUS			78.4	337.0	DSC	[2006NIC/KWE]
	FUS			43.6	336.6	DSC	[2004VEN/CAL]
	TRS			28.4	335.5		
	FUS			43.6	336.6	DSC	[2002VEN/RAM]
	FUS			73.72	338.2		[2001VAN/OON2]
	SUB	(327–341)		218 ± 3.8	332	ME	[1965DAV/KYB, 1987STE/MAL]
	SUB			223 ± 3.8	298		[1965DAV/KYB]
	V			125.9 ± 0.8	298	CGC	[2006NIC/KWE]
	V	(488–653)		83.5	503	A	[1987STE/MAL]
C ₂₀ H ₄₂ O ₂	V	(493–648)		83.4	508	A	[1987STE/MAL]
	V	(339–358)		118.9	348	ME	[1987STE/MAL, 1965DAV/KYB]
C ₂₀ H ₄₂ O ₂	[7735-43-5]	1,20-eicosanediol					
	TRS			37	368.6		
C ₂₀ H ₄₂ O ₅	FUS			39.7	376.1	DSC	[1999OGA/NAK]
	V						
C ₂₀ H ₄₂ O ₅	[5274-68-0]	3,6,9,12-tetraoxa-1-tetracosanol					
	V	(501–543)		135.5	516	A	[1987STE/MAL, 1974NAK/EDA]
C ₂₀ H ₄₂ O ₁₀	FUS	1,ω-dimethoxynona(oxyethylene)					
				73.9	289.2		[1996YAN/YU]
C ₂₀ H ₄₂ S	[13373-97-2]	1-eicosanethiol					
	V	(512–694)		81.3	527	E	[1999DYK/SVO]
C ₂₀ H ₄₂ S ₂	[10496-18-1]	dinonyl disulfide					
	V	(518–702)		83.4	533	E	[1999DYK/SVO]
C ₂₀ H ₄₃ N	[1120-49-6]	didecylamine					
	V	(506–705)		70.9	521	A	[1987STE/MAL]
C ₂₀ H ₄₃ N	[30951-88-3]	N,N-diethylhexadecylamine					
	V	(412–628)		71.9	427	A	[1987STE/MAL, 1947STU]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₄₃ N	[124-28-7] V	<i>N,N</i> -dimethyloctadecylamine (504–701)		74.7	519	A	[1987STE/MAL]
C ₂₀ H ₄₃ N	[10525-37-8] V	eicosylamine (543–659)		74.5	558	A	[1987STE/MAL, 1956MAN2]
C ₂₀ H ₄₈ O ₂	[302-79-4] TRS	3,7-dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-nonatetraenoic acid (retinoic acid)		3.2	419.8		
	FUS (I)			37.1	456.9		[2006CAV/PAN]
	FUS (II)			36.8	456.3	DSC	[2006CAV/PAN]
C ₂₁ H ₆ N ₁₂ O ₁₈	[49753-54-0] SUB	2,4,6-tris(2,4,6-trinitrophenyl)-1,3,5-triazine (479–551)		167.9	494	A	[1987STE/MAL, 1975COV]
C ₂₁ H ₈ F ₂₈ O ₈	[464-40-4] V	pentaerythritol, tetraperfluorobutyrate (293–433)		35.5	308	I, A	[1987STE/MAL, 1957DOB/KEL]
C ₂₁ H ₁₃ F ₁₃ OS	[246543-94-2] FUS	2-(perfluoro- <i>n</i> -hexyl)ethylthiomethyl biphenyl-4-yl ether		40.6	344.8		[1999DEG/GUI]
	FUS			40.4	344.8	DTA	[1999TAF/GUI, 1999DEG/GUI]
	FUS						
C ₂₁ H ₁₃ N	[215-62-3] FUS	Dibenz[<i>a, c</i>]acridine		27.8	477.4	DSC	[2010KES/AUC]
C ₂₁ H ₁₃ N	[226-36-8] FUS	Dibenz[<i>a, h</i>]acridine		30.6	499.7	DSC	[2010KES/AUC]
C ₂₁ H ₁₃ N	[226-92-6] FUS	Dibenz[<i>a, i</i>]acridine		29.6	483.5	DSC	[2010KES/AUC]
C ₂₁ H ₁₃ N	[224-42-0] FUS	Dibenz[<i>a, j</i>]acridine		25.5	492.7	DSC	[2010KES/AUC]
C ₂₁ H ₁₄ N ₂ O ₃	[13494-38-7] SUB	2-phenyl-3-benzoylquinoxaline-1,4-dioxide		167.4 ± 4.0	298	ME	[1997ACR/POW]
C ₂₁ H ₁₄ N ₂ O ₃	[5166-47-2] SUB	1,4-diamino-2-benzoyl-9,10-anthraquinone		168.5			[1984KAR/KRU]
C ₂₁ H ₁₅ BrN ₂ O ₂	[128-83-6] SUB	1-amino-2-bromo-4-[(4-methylphenyl)amino]-9,10-anthraquinone		167.0 ± 6.0	428		[1984KRI]
C ₂₁ H ₁₅ F ₁₃ S	[246543-97-5] FUS	2-(perfluoro- <i>n</i> -hexyl)ethylthiomethyl biphenyl-4-yl		53.1	332.9	DTA	[1999TAF/GUI, 1999DEG/GUI]
C ₂₁ H ₁₅ NO ₂	[158749-37-2] FUS	2-methylphenyl acridine-9-carboxylate		30.5	415	DSC	[2010KRZ/MAL]
C ₂₁ H ₁₅ NO ₂	[158749-58-7] FUS	3-methylphenyl acridine-9-carboxylate		32	429	DSC	[2010KRZ/MAL]
C ₂₁ H ₁₅ NO ₂	[158749-59-8] FUS	4-methylphenyl acridine-9-carboxylate		30.7	446	DSC	[2010KRZ/MAL]
C ₂₁ H ₁₅ NO ₃	SUB	2-hydroxy-4-[(4-methylphenyl)amino]-9,10-anthraquinone		121.0 ± 7.6	363		[1984KRI]
[Note: Compound is listed as the 2-hydroxy-derivative in the paper; however, it is listed as the 1-hydroxy-derivative in Chem. Abstracts.]							
C ₂₁ H ₁₅ NO ₃	[1228096-42-1] FUS	2-methoxyphenyl acridine-9-carboxylate		38.8	462	DSC	[2010ZAD/KRZ]
C ₂₁ H ₁₅ N ₃	[493-77-6] SUB	2,4,6-triphenyltriazine		150.7 ± 1.2	298	ME	[2011LIM/COS]
C ₂₁ H ₁₆	[56-49-5] SUB	3-methylcholanthrene		127.2 ± 2.4	413	A	[1987STE/MAL, 1964KEL/RIC]
	V	(401–425)	(323–473)	93.8	398	GC	[2002LEI/CHA]
C ₂₁ H ₁₆	[611-48-3] FUS	1,2'-dinaphthylmethane	(12–423)	30.54	369.6		[1996DOM/HEA, 1977FIN/MES]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{21}\text{H}_{16}\text{N}_2$	[484-47-9]	2,4,5-triphenylimidazole					
		FUS		37.31	547.8	DSC	[2007SIF/AIT]
		TRS		0.73	505.7		
$\text{C}_{21}\text{H}_{16}\text{N}_2\text{O}_2$	[3179-96-2]						
		SUB	1-anilino-4-(<i>N</i> -methylamino)-9,10-anthraquinone	136.9			[1984KAR/KRU]
$\text{C}_{21}\text{H}_{16}\text{N}_4$	[35896-24-3]	(Phenyl-2-pyridinylmethylene)hydrazone-(2-(1 <i>H</i>)-quinolinone)					
$\text{C}_{21}\text{H}_{16}\text{N}_4\text{O}_2$	[194784-98-0]			35	416.8	DSC	[2013PER/KAZ]
		FUS	1-(4'-methoxybenzylidene)-2-phenazinoylhydrazine	63.26	534.3	DSC	[1997CIO/MEL]
$\text{C}_{21}\text{H}_{17}\text{F}_3\text{O}$	[145698-51-7]	4- <i>n</i> -butoxy-4'-trifluoromethylidiphenyldiacetylene		25.37	414.3	DSC	[1993JUA/CHE]
$\text{C}_{21}\text{H}_{17}\text{N}_3\text{O}_3$	[82232-20-0]	(5-cyano-3,4-diphenyl-6-oxo-1,6-dihdropyridazin-1-yl)acetate	(396–414)	131.9 ± 9.3	405	ME	[1982DEP]
$\text{C}_{21}\text{H}_{15}\text{N}_5\text{O}$	[120356-23-2]	1-phthalazinylhydrazone-(2-pyridinecarboxaldehyde), 5-(phenylmethoxy)-					
$\text{C}_{21}\text{H}_{17}\text{N}_5\text{O}$	[1290504-05-0]			40	433.2	DSC	[2013PER/KAZ]
		FUS	5-benzyloxypyridine-2-aldehyde 4'-quinazolinylhydrazone	41	458.3	DSC	[2013PER/KAZ]
$\text{C}_{21}\text{H}_{18}\text{F}_2$	[193472-73-0]	1,1-difluoro-3,3,3-triphenylpropane		28.74	370.2		[1997SCH/VER]
		SUB		113.2 ± 1.7	298		[1997SCH/VER]
$\text{C}_{21}\text{H}_{18}\text{F}_2$	[145698-37-9]	4- <i>n</i> -pentyl-3',4'-difluorodiphenyldiacetylene		30.86	355.1	DSC	[1993JUA/CHE]
$\text{C}_{21}\text{H}_{18}\text{O}_2$	[900-91-4]	3,3,3-triphenylpropanoic acid		35.4	454.3	DSC	[2011MON/SOU]
		SUB	(402–420)	145.6 ± 0.9	411	ME	[2011MON/SOU]
		SUB	(402–420)	151.8 ± 0.9	298	ME	[2011MON/SOU]
$\text{C}_{21}\text{H}_{19}\text{F}$	[193472-69-4]	1-fluoro-3,3,3-triphenylpropane		26.44	344.2		[1997SCH/VER]
		SUB		129.3 ± 0.6	298		[1997SCH/VER]
		V	(349–384)	95.9 ± 0.6	298	GS	[1997SCH/VER]
$\text{C}_{21}\text{H}_{19}\text{F}$	[193472-72-9]	2-fluoro-1,2,3-triphenylpropane		34.6	379.6		[1997SCH/VER]
		SUB		132.5 ± 3.0	298		[1997SCH/VER]
$\text{C}_{21}\text{H}_{20}\text{BrN}_7\text{O}_6$		<i>N</i> -[2-[(2-bromo-4,6-dinitrophenyl)azo]-[(2-cyanoethyl)-2-propenylamino]-4-methoxyphenyl] acetamide					
$\text{C}_{21}\text{H}_{20}\text{Br}_8\text{O}_2$	FUS			59.08	465.2		[1991BAU/WEB]
		FUS	2,2-bis[3,5-dibromo-4-(2,3-dibromopropoxy)phenyl]propane	39.63			[1999TAH/TAK]
[Note: Solid sample was precipitated from a methanol–dichloromethane mixture. Abstract implies that the compound may have other crystal forms.]							
$\text{C}_{21}\text{H}_{20}\text{Cl}_2\text{O}_3$	[61949-76-6]	(3-phenoxyphenyl)methyl- <i>cis</i> -3-(2,2-dichloroethyl)-2,2-dimethylcyclopropanecarboxylate (<i>cis</i> -permethrin)					
$\text{C}_{21}\text{H}_{20}\text{N}_4\text{O}_3$	SUB	(313–333)	108.8	323	GS, A		[1986WEL/GRA]
$\text{C}_{21}\text{H}_{20}\text{N}_4\text{O}_3$	[32828-81-2]	4-methoxy- <i>N,N</i> -bis(3-pyridinylmethyl)-1,3-benzenedicarboxamide (picotamide)		28.43	403.9	DSC	[1998MUR/BET, 1999BET/MUR]
$\text{C}_{21}\text{H}_{20}\text{O}_6$	[458-37-7]	1,7-bis(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione (curcumin)		46	454.4	DSC	[2015LIU/SVA]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₁ H ₂₀ O ₁₂	[21637-25-2]	2-(3,4-dihydroxyphenyl)-3-(β -D-glucofuranosyloxy)-5,7-dihydroxy-4 <i>H</i> -1-benzopyran-4-one (isoquercitrin)	FUS		49.8	471.2	DSC	[2007CHE/HUM]
C ₂₁ H ₂₁ N	[1159-53-1]	4-methyl- <i>N,N</i> -bis(4-methylphenyl)benzenamine	FUS		19.95	388.8	DSC	[2006MAN/ROH]
			FUS		22.96	388	DSC	[2005MAN/ROH]
			SUB		92.53		DSC	[2006MAN/ROH]
			V		72.57		DSC	[2006MAN/ROH]
C ₂₁ H ₂₁ N	[117597-62-3]	<i>N</i> -(3-methylphenyl)- <i>N,N</i> -bis(4-methylphenyl)amine	FUS		21.71	329.9	DSC	[2006MAN/ROH]
			SUB		97.64		DSC	[2006MAN/ROH]
			V		75.93		DSC	[2006MAN/ROH]
C ₂₁ H ₂₁ N	[97413-60-0]	<i>N,N</i> -bis(3-methylphenyl)- <i>N</i> -(4-methylphenyl)amine	FUS		26.39	362.7	DSC	[2006MAN/ROH]
			SUB		95.69		DSC	[2006MAN/ROH]
			V		69.29		DSC	[2006MAN/ROH]
C ₂₁ H ₂₁ N	[20676-79-3]	<i>N,N,N</i> -tris(3-methylphenyl)amine	FUS		13.07	313	DSC	[2006MAN/ROH]
			SUB		50.66		DSC	[2006MAN/ROH]
			V		37.59		DSC	[2006MAN/ROH]
C ₂₁ H ₂₁ N	[620-40-6]	Tribenzylamine	TRS		1.1	342.5		
			FUS		21.4	365.6	DSC	[2014GOB/VIK]
			V		92.4 ± 1.4	298	CGC	[2014GOB/VIK]
C ₂₁ H ₂₁ NO	[957-51-7]	<i>N,N</i> -dimethyl-2,2-diphenylbenzeneacetamide	FUS		25.43	402	DSC	[1990DON/DRE]
C ₂₁ H ₂₁ O ₃ P	[855-38-9]	Tris(4-methoxyphenyl)phosphine	FUS		25.67	403.82	DSC	[2010GUO/WAN2]
C ₂₁ H ₂₁ O ₄ P	[78-30-8]	Phosphoric acid, tris(2-tolyl) ester	V	(383–413)	99.3	398	GC-RT	[2014BRO/JAN]
			V	(293–700)	86.8	308	A, I	[1987STE/MAL, 1957DOB/KEL]
C ₂₁ H ₂₁ O ₄ P	[563-04-2]	Phosphoric acid, tris(3-tolyl) ester	V	(383–413)	103.7	398	GC-RT	[2014BRO/JAN]
			V	(398–530)	123.2	413	A	[1987STE/MAL]
C ₂₁ H ₂₁ O ₄ P	[78-32-0]	Phosphoric acid, tris(4-tolyl) ester	V	(383–413)	105.7	398	GC-RT	[2014BRO/JAN]
			V	(388–530)	104.9	408	A	[1987STE/MAL]
C ₂₁ H ₂₁ P	[1038-95-5]	Tris(4-tolyl)phosphine	FUS		28.52	417.84	DSC	[2010GUO/WAN2]
			V	(372–394)	126 ± 5	385	ME, TE	[1981DEK/HER]
C ₂₁ H ₂₃ BrFNO ₂	[10457-90-6]	1-(4-fluorophenyl)-4-[4-hydroxy-4-(4-bromophenyl)-1-piperidinyl]-1-butanone (bromoperidol)	FUS		50.8	432.7	DSC	[1981DRA/AZI]
C ₂₁ H ₂₃ ClFNO ₂	[52-86-8]	1-(4-fluorophenyl)-4-[4-hydroxy-4-(4-chlorophenyl)-1-piperidinyl]-1-butanone (haloperidol)	FUS		54.26	425	DSC	[2010BAI/VAN]
			FUS		48	422.7	DSC	[1981DRA/AZI]
C ₂₁ H ₂₃ F ₂ NO ₂	[803-45-2]	1-(4-fluorophenyl)-4-[4-hydroxy-4-(4-fluorophenyl)-1-piperidinyl]-1-butanone	FUS		34	395.2	DSC	[1981DRA/AZI]
C ₂₁ H ₂₃ NO ₅	[561-27-3]	Diacetylmorphine (heroin)						

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	SUB	(324–339)	144.5 ± 4.0	331	GS	[1984LAW/ELI]
$C_{21}H_{24}FNO_2$	[3109-12-4]	1-(4-fluorophenyl)-4-[4-hydroxy-4-phenyl-1-piperidinyl]-1-butane				
	FUS (I)		43.2	412.7		
	FUS (II)		35.2	385.2	DSC	[1981DRA/AZI]
$C_{21}H_{24}O_2$	[160731-84-0]	3-(diphenylmethyl)-3-propyl-2,4-pentanedione				
	FUS		27.1	349.2		[1995NOL/VER]
	SUB		124.7	298	T, B	[1995NOL/VER]
$C_{21}H_{25}FN_2O_2$	V	(364–392)	96.7 ± 1.7	378	GS	[1995NOL/VER]
	[1480-19-9]	1-(4-fluorophenyl)-4-[4-(2-methoxyphenyl)-1-piperazinyl]-1-butane (fluanisone)				
	FUS (I)		27.3	348.7		
	FUS (II)		31.1	343.7		
$C_{21}H_{25}F_{19}$	FUS (III)		15.7	323.7	DSC	[1981DRA/AZI]
	[139277-02-4]	1,1,1,2,3,3,4,4,5,5,6,6,7,7,8,8-hexadecafluoro-(trifluoromethyl)eicosane				
	FUS		34	310.1	DSC	[1992HOP/MOL]
$C_{21}H_{25}NO$	[122405-21-4]	4-(1-methylheptyloxy)-4'-cyanobiphenyl				
	FUS (I)		19.51	287.6		
	FUS (II)		17.07	294.3	DSC	[2004SAI/MAS]
	FUS (I)		20.8	287.8		
$C_{21}H_{26}$	FUS (II)		19.1	294.3	AC	[2001SCI/SCI]
	[6169-94-4]	[1,8]-para-cyclophane				
	SUB	(354–376)	105 ± 1.3	365		[1969SHI/MCN, 1977PED/RYL]
$C_{21}H_{26}ClN_3OS$	SUB	(354–376)	110.9 ± 2.1	298		[1969SHI/MCN, 1977PED/RYL]
	[58-39-9]	2-chloro-10-3-[1-(2-hydroxyethyl)-4-piperazinyl]propylphenothiazine (perphenazine)				
	FUS		45.3	366.8	DSC	[2015POB/DOM]
$C_{21}H_{26}Cl_2O_2$	FUS		33.7	369.8	DSC	[2012BRU/MAI]
	FUS		41.8	370	DSC	[2006WAS/HOL]
$C_{21}H_{26}Cl_2O$	[37693-01-9]	2-[(2,4-dichlorophenyl)methyl]-4-(2,4,4-trimethylpentan-2-yl)phenol (clofocitol)				
	FUS		35.13	361	DSC	[2010BAI/VAN]
$C_{21}H_{26}Cl_2O_2$	[15686-33-6]	2,2'-methylenebis(4-chloro-3-Me-isopropylphenol) (biclotymol)				
	FUS (I)		36.55	400.5		
$C_{21}H_{26}FNO$	FUS (II)		28.94	373.8	DSC	[2008CEO/TAM]
	[135529-03-2]	4-octyloxy-N-(4-fluorobenzylidene) aniline				
$C_{21}H_{26}FN_3O_4$	FUS		44.7	360.5	DSC	[1991MIY/ENO]
	[143383-65-7]	[S-(R*, S*)]-1-cyclopropyl-6-fluoro-1,4-dihydro-8-methoxy-7-[3-[1-(methylamino)ethyl]-1-pyrrolidinyl]-4-oxo-3-quinolinecarboxylic acid (premafloxacin)				
$C_{21}H_{26}N_2O_7$	FUS		60.52	471.9	DSC	[1997SCH/BER]
	[66085-59-4]	3-(2-methoxyethyl) 5-propan-2-yl 2,6-dimethyl-4-(3-nitrophenyl)-1,4-dihydropyridine-3,5-dicarboxylate (nimodipine)				
$C_{21}H_{26}O_2$	FUS		38.5	398.4	DSC	[2015NUR/BOO]
	FUS		41.7	397.2	DSC	[2013GOM/ROD]
	FUS (I)		38.8	396.7		
	FUS (II)		45.72	380.0	DSC	[2012RIE/PER]
	FUS		35.5	400.0	DSC	[2005CAR/ROD]
	FUS		40.9	400.3	DSC	[2004MAR/KOZ]
	FUS (I)		39	397.2		
	FUS (II)		46	389.2	DSC	[1995GRU/KEI]
$C_{21}H_{26}O_2$	[72-33-3]	3-methoxy-19-norpregna-1,3,5(10)-trien-20-yn-17-ol (mestranol)				
	FUS		34.55	424.1		[1985DEM/CHA]
$C_{21}H_{26}O_2$	[521-35-7]	Cannabinol				
	FUS		17.0	352.2		[2004STI/VAL]
$C_{21}H_{26}O_3$	[2549-90-8]	2-hydroxy-4-(2-ethylhexyloxy)benzophenone				
	V	(393–443)	98.7	418	ME	[1984SUR]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₁ H ₂₆ O ₃	[1843-05-6] V	2-hydroxy-4-octyloxybenzophenone (413–453)		102.1	433	ME	[1984SUR]
C ₂₁ H ₂₆ O ₃	[68100-20-9] V	2-hydroxy-4-butoxy-5- <i>tert</i> -butylbenzophenone (403–453)		90.2	428	ME	[1984SUR]
C ₂₁ H ₂₆ O ₃	[975-64-4] FUS	3-(1-oxypropoxy)-estr-1,3,5(10)-trien-17-one		23.0	409	DSC	[1990YAN/EIR]
C ₂₁ H ₂₆ O ₄	[6127-74-8] FUS	2-hydroxy-4,4'-dibutoxybenzophenone		54.0	372.1	DSC	[1999PRI/HAW]
	SUB			148.0		B	[1999PRI/HAW]
	V			94.0		TGA	[1999PRI/HAW]
C ₂₁ H ₂₆ O ₄	[96609-16-4] FUS (I) FUS (II)	4-{4-[4-(1,1-dimethylethyl)phenyl]-2-hydroxybutoxy}benzoic acid (lifibrol)		38.1 49.1	415.2 408.2	DSC	[2000BUR/LET]
C ₂₁ H ₂₇ FO ₆	[124-94-7] FUS	Triamcinolone		42.56	543		[1994REG/CHM]
C ₂₁ H ₂₇ NO	[133544-38-4] FUS	4-octyloxy- <i>N</i> -benzylidene aniline		41.47	342.7	DSC	[1991MIY/ENO]
C ₂₁ H ₂₇ N ₅ O ₄ S	[29094-61-9] FUS	<i>N</i> -[2-[4-[[[(cyclohexylamino)carbonyl]amino]sulfonyl]phenyl]ethyl]-5-methyl-2-pyrazinecarboxamide (glipizide)		55.4	471.5	DSC	[2010MUR/PIK2]
C ₂₁ H ₂₈ O ₂	[5630-53-5] FUS (monoclinic)	(7 α ,17 α)-17-hydroxy-7-methyl-19-norpregn-5(10)-en-20-yn-3-one (tibolone)		29.8	444.2	DSC	[2010BAR/ARA]
	TRS (triclinic)			21.0	421.2	DSC	[2010BAR/ARA]
	FUS (triclinic)			3.0	439.2	DSC	[2010BAR/ARA]
C ₂₁ H ₂₈ O ₃	[1097-51-4] FUS	16 α ,17 α -epoxyprogesterone		26.4	328.5	DSC	[2006NIE/GON]
C ₂₁ H ₂₈ O ₃	FUS	Heptyl 2-(6-methoxy-2-naphthyl)propionate		23.3	300.2	DSC	[1994WEB/MEY]
C ₂₁ H ₂₈ O ₄	[19427-36-2] FUS	11 α -hydroxy-16 α ,17 α -epoxyprogesterone		44.8	522.2	DSC	[2006NIE/GON]
C ₂₁ H ₂₈ O ₅	[50-24-8] FUS	Prednisolone		59.3	506	DSC	[1997CAI/GRA]
	FUS			38.86	513		[1994REG/CHM]
C ₂₁ H ₂₈ O ₅	[53-06-5] FUS	Cortisone		36.86	495		[1994REG/CHM]
C ₂₁ H ₂₉ NO ₃	[172589-24-1] FUS	3-[(hydroxymino)(5,6,7,8-tetrahydro-2-naphthalenyl)methyl]-1,2,2-trimethylcyclopentanecarboxylic acid methyl ester		38.37	425	DSC	[1995NUR/LEL]
C ₂₁ H ₂₉ N ₃ O	[3737-09-5] FUS	α -[2-[bis(1-methylethyl)amino]ethyl]- α -phenyl-2-pyridineacetamide (disopyramide)		26.7	363.7	DSC	[2008WAS/HOL]
C ₂₁ H ₃₀	[7225-71-0] V	1-undecylnaphthalene (436–502)		84.3	451	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₁ H ₃₀ O	[38256-01-8] TRS	1,1'-diadamantyl ketone		5.9	404.7		
	FUS			15.7	470		[1997GAR/RED]
	SUB	(362–378.8)		109.0 ± 1.8	298	ME	[1992ABB/JIM2]
C ₂₁ H ₃₀ O ₂	[57-83-0] FUS	Progesterone		27.8	403.2	DSC	[2010TRI/BIR]
	FUS (I)			26.71	402.2	DSC	[2009BAR/ESP]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{21}\text{H}_{30}\text{O}_2$	FUS (II)				24.78	394.8	DSC	[2009BAR/ESP]
	FUS (I)				26.16	402.4	DSC	[2003LEG/FEU, 2004DEF/RAN]
	FUS (II)				21.42	395.4	DSC	[2003LEG/FEU, 2004DEF/RAN]
	FUS (III)				16.13	377	DSC	[2003LEG/FEU, 2004DEF/RAN]
	FUS				26.7	402.2	DSC	[1997CAI/GRA]
	FUS				26.99	404		[1994REG/CHM]
	FUS (I)				27.95	401		[1979MUR/IWA, 2009BAR/ESP]
	FUS (II)				23.43	395		[1979MUR/IWA, 2009BAR/ESP]
	FUS (I)				24.43	403.5	DFC	[1973CAM/GAM, 2009BAR/ESP]
	FUS (II)				21.32	396.2	DFC	[1973CAM/GAM, 2009BAR/ESP]
$\text{C}_{21}\text{H}_{30}\text{O}_2$	[13956-29-1]	Cannabidiol						
	FUS				28.4	340.7		[2004STI/VAL]
$\text{C}_{21}\text{H}_{30}\text{O}_3$	[64-85-7]	Deoxycorticosterone						
	FUS				21.3	414.4	DSC	[1997CAI/GRA]
	FUS				27.98	414		[1994REG/CHM]
$\text{C}_{21}\text{H}_{30}\text{O}_3$	[80-75-1]	11 α -hydroxyprogesterone						
	FUS				33.3	438.6	DSC	[1997CAI/GRA]
$\text{C}_{21}\text{H}_{30}\text{O}_3$	[600-57-7]	11 β -hydroxyprogesterone						
	FUS				35.2	458.3	DSC	[1997CAI/GRA]
$\text{C}_{21}\text{H}_{30}\text{O}_3$	[1045-69-8]	Testosterone acetate						
	FUS				27.88	413		[1994REG/CHM]
$\text{C}_{21}\text{H}_{30}\text{O}_4$	[50-22-6]	Corticosterone						
	FUS				35.3	458.5	DSC	[2008WAS/HOL]
	FUS				33.8	457.4	DSC	[1997CAI/GRA]
	FUS				33.32	454		[1994REG/CHM]
$\text{C}_{21}\text{H}_{30}\text{O}_4$	[152-58-9]	11-deoxy-17-hydroxycorticosterone (cortexolone)						
	FUS				32.5	487.8	DSC	[1997CAI/GRA]
$\text{C}_{21}\text{H}_{30}\text{O}_4$	[641-77-0]	11 β ,17 α -dihydroxyprogesterone						
	FUS				47.9	481.8	DSC	[1997CAI/GRA]
$\text{C}_{21}\text{H}_{30}\text{O}_5$	[50-23-7]	Hydrocortisone						
	FUS				45.50	492.4	DSC	[2010MIY/KHA]
	FUS (I)				44.65	497.7	DSC	
	FUS (II)				41.3	494.8	DSC	[2008SUI/JES]
	FUS				42.2	494.3	DSC	[1997CAI/GRA]
	FUS				35.84	486		[1994REG/CHM]
$\text{C}_{21}\text{H}_{31}\text{NO}$	[224585-11-9]	6-dodecyloxyisoquinoline						
	FUS				38.93	321.3	DSC	[1999LIN/KO]
$\text{C}_{21}\text{H}_{32}\text{O}_2$	[2734-47-6]	Methyl (Z,Z,Z,Z,Z)-5,8,11,14,17-eicosapentaenoate	V					
					121.0 ± 0.3	298	CGC	[2007LIP/KAP]
$\text{C}_{21}\text{H}_{34}\text{O}_2$	[2566-89-4]	Methyl (Z,Z,Z,Z)-5,8,11,14-eicosatetraenoate	V					
					118.3	298	CGC	[2007LIP/KAP]
$\text{C}_{21}\text{H}_{35}\text{N}_3\text{O}_2$	[135742-56-2]	N-palmitoyl-pyrazinamide	FUS					
					51.82	362.7	DSC	[1991LIU/GUO]
$\text{C}_{21}\text{H}_{36}$	[2131-18-2]	Pentadecylbenzene	V					
			(495–677)		77.0	510		[1999DYK/SVO]
			V		104.6	298		[1971WIL/ZWO]
$\text{C}_{21}\text{H}_{36}\text{N}_2\text{OS}$	[442514-39-8]	N-[(3-methoxyphenyl)methyl]-N'-dodecylthiourea	FUS					
					52.87	361.7	DSC	[2002ABB/WOH]
$\text{C}_{21}\text{H}_{36}\text{O}$	[501-24-6]	3-pentadecylphenol	FUS					
					38.09	322.4	DSC	[2009MAO/LUO, 2010MAO/LUO]
$\text{C}_{21}\text{H}_{36}\text{O}_2$	[2566-89-4]	Methyl (Z,Z,Z)-11,14,17-eicosadienoate	V					
			V		122.6 ± 1.6	298	CGC	[2007LIP/KAP]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₂₁ H ₃₆ O ₆	V	Triisopentyl- <i>trans</i> -aconitate (396–499)	88.3	411	A	[1987STE/MAL, 1953MAG/MOD]
C ₂₁ H ₃₆ O ₆	[64617-29-4] V	Tripentyl- <i>trans</i> -aconitate (403–505)	91.4	418	A	[1987STE/MAL, 1953MAG/MOD]
C ₂₁ H ₃₈ O ₂	[61012-46-2] V	Methyl (<i>Z,Z</i>)-11,14-eicosadienoate	117.5 ± 0.5	298	CGC	[2007LIP/KAP]
C ₂₁ H ₃₈ O ₄	[59223-30-2] FUS	Hexadecyl itaconate	74.6	358.8	DSC	[2016RIC/DEL]
C ₂₁ H ₃₈ O ₆	[621-70-5] V	Glycerol tricaproate	99.9	349	TGA	[1990KIS/SHO]
	V		108.3 ± 3.8	298	TGA	[1990KIS/SHO]
	V	(356–410)	94.2	371	A, T	[1987STE/MAL, 1949PER/WEB2]
C ₂₁ H ₃₈ O ₆	[5333-56-2] V	Triisopentyl 1,2,3-propanetricarboxylate (396–508)	88.2	411	A	[1987STE/MAL, 1953MAG/MOD]
C ₂₁ H ₃₈ O ₆	[5333-53-9] V	Tripentyl 1,2,3-propanetricarboxylate (404–508)	90.2	419	A	[1987STE/MAL, 1953MAG/MOD]
C ₂₁ H ₄₀	[66326-27-0] V	1-undecyldecahydronaphthalene (426–488)	83.3	411	A	[1987STE/MAL]
C ₂₁ H ₄₀	[95115-75-6] FUS	<i>trans</i> -2-heptyl-6-butyldecalin	31.8	295.3		[1985VAR/BRI]
C ₂₁ H ₄₀	[95115-78-9] FUS	<i>trans</i> -2-heptyl-6-octyldecalin	41	308.8		[1985VAR/BRI]
C ₂₁ H ₄₀ O ₂	[2390-09-2] V	Methyl (<i>Z</i>)-11-eicosenoate	115.8 ± 0.7	298	CGC	[2007LIP/KAP]
C ₂₁ H ₄₀ O ₂	[4813-57-4] FUS	Octadecyl acrylate	37.3	298.9	DSC	[1992BAB/HWA]
C ₂₁ H ₄₁ NO ₃	[45287-42-1] TRS	<i>N</i> -hexadecanoyl-(<i>I</i>)-valine	29.1	349.1		
	FUS		54.8	366.6	DSC	[1986MIY/MAT]
C ₂₁ H ₄₁ NO ₃	[83871-20-9] FUS	<i>N</i> -hexadecanoyl-(<i>dl</i>)-valine	80.5	375.1	DSC	[1986MIY/MAT]
C ₂₁ H ₄₁ NO ₃	[914224-77-4] TRS + FUS	<i>N</i> -(1-oxononadecyl)glycine	60.3	398.9	DSC	[2014RED/KRO]
C ₂₁ H ₄₂	[1599-68-4] V	1-heneicosene (392–628)	92.8	407		[1999DYK/SVO]
C ₂₁ H ₄₂	[6812-39-1] V	Hexadecylcyclopentane (498–674)	79.2	513		[1999DYK/SVO]
	V		105.3	298		[1971WIL/ZWO]
C ₂₁ H ₄₂	[6006-95-7] FUS	Pentadecylcyclohexane	58.7	298.2	DSC	[2001YOU/SCH]
	FUS		58.3		DSC	[2000YOU/DOL]
	V	(496–677)	77.2	511		[1999DYK/SVO]
	V		104.4	298		[1971WIL/ZWO]
C ₂₁ H ₄₂ N ₃ PS ₆	[100575-31-3] SUB	Tris(dipropylthiocarbamate)phosphorous	127.4 ± 4.2		DSC, E	[1999NEV/GOU]
C ₂₁ H ₄₂ O	[22589-04-4] FUS	2-heneicosanone	77.65	333.9	DSC	[1993VIL/HAM]
C ₂₁ H ₄₂ O	[19781-72-7] FUS	11-heneicosanone	76.2	336.7		[1993RUE/SAR]
C ₂₁ H ₄₂ O ₂	[1120-28-1]	Methyl eicosanoate				

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{21}\text{H}_{42}\text{O}_2$	FUS			74.3	319.2	DSC	[2004CHI/ZHA]
				73.7	319.2	Cryst	[1936KIN/GAR]
	SUB	(311–318)		190.8 ± 10	314	ME	[1965DAV/KYB, 1987STE/MAL]
	V			111.1 ± 1.5	298	CRT	[2015GOB/CHI]
	V	(467–558)		120.9 ± 2.5	298	CGC	[2004CHI/ZHA]
	V			109.2	350	CE	[2002VAN/VAN]
	V			97.8 ± 0.2	406	CE	[2002VAN/VAN]
	V			116.4 ± 1.5	298	CE	[2002VAN/VAN]
	V	(463–523)		116.2	298	GC	[1997KRO/VEL]
	V	(453–543)		76.9	498	GC	[1993HUS/SAR]
	V	(450–540)		92.4	465	A, E	[1987STE/MAL, 1963ROS/SCH]
$\text{C}_{21}\text{H}_{42}\text{O}_2$	[112-10-7]	Isopropyl stearate					
	FUS			36.9	295.3	DSC	[2009SAR/BIC]
$\text{C}_{21}\text{H}_{42}\text{O}_2$	V	(453–483)		76.6	468	A	[1987STE/MAL]
	[18281-04-4]	Ethyl nonadecanoate					
		FUS		43.1	309		[1967OMA]
$\text{C}_{21}\text{H}_{42}\text{O}_2$	SUB	(302–308)		149.7	305	ME	[1987STE/MAL, 1967OMA]
	V	(312–328)		111	320	A, ME	[1987STE/MAL, 1967OMA]
$\text{C}_{21}\text{H}_{42}\text{O}_2$	[3634-92-2]	Propyl stearate					
	V	(458–483)		87.9	470	A	[1987STE/MAL]
$\text{C}_{21}\text{H}_{42}\text{O}_2$	[2363-71-5]	Heneicosanoic acid					
	TRS			5.0	344.6		
	FUS			63.0	346.7	DSC	[2007GBA/NEG]
	V			149.2 ± 7.1	298	CGC	[2013WIL/CHI]
$\text{C}_{21}\text{H}_{42}\text{O}_3$	[6290-55-7]	Didecyl carbonate					
	FUS			49.3	267.3	DSC	[2010KEN]
$\text{C}_{21}\text{H}_{43}\text{NO}$	[129392-93-4]	<i>N</i> -propylstearamide					
	TRS			16.02	348		
$\text{C}_{21}\text{H}_{43}\text{NO}$	FUS			50.04	354	DSC	[1995CYP/JOH]
	[173029-00-0]	<i>N</i> -heptylmyristamide					
	TRS			6.54	316		
	FUS		49.02	343	DSC	[1995CYP/JOH]	
$\text{C}_{21}\text{H}_{43}\text{NO}$	[153929-66-9]	<i>N</i> -decylundecanamide					
	TRS			0.07	337		
	FUS			42.45	344	DSC	[1995CYP/JOH]
$\text{C}_{21}\text{H}_{43}\text{NO}$	[173029-01-1]	<i>N</i> -laurylnonanamide					
	TRS			0.17	328		
	FUS			66.91	341	DSC	[1995CYP/JOH]
$\text{C}_{21}\text{H}_{43}\text{NO}$	[173029-02-2]	<i>N</i> -myristylheptanamide					
	TRS			2.08	313		
	FUS			52.68	334	DSC	[1995CYP/JOH]
$\text{C}_{21}\text{H}_{43}\text{NO}$	[79762-59-7]	<i>N</i> -stearylpropanamide					
	TRS			1.84	337		
	FUS			56.03	350	DSC	[1995CYP/JOH]
$\text{C}_{21}\text{H}_{43}\text{NO}_2$	[6280-27-9]	<i>N</i> -octadecyl lactamide					
	V	(434–542)		112.8	449	A	[1987STE/MAL, 1950RAT]
$\text{C}_{21}\text{H}_{44}$	[629-94-7]	Heneicosane					
	TRS			16.15	30.4		
	FUS			48.26	312.5	DSC	[2016BOU/DJE]
	TRS			15.7	304.3		
	FUS			46.6	313.0	DSC	[2004MON/RAJ]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	TRS			13.36	304.0		
	FUS			45.21	313.2	DSC	[2001CHE/BOU]
	FUS			46.6	313.0	DSC	[1999MET/RAJ]
	TRS			15.48	305.7		
	FUS			47.7	313.7	AC	[1996DOM/HEA, 1955SCH/BUS]
	SUB			141.8 ± 10	298	B	[1991PIA/POM]
	V	(351–462)		93.7	368		[2006SAW/MOK]
	V	(434–539)		106.8	298	CGC	[2004CHI/HAN]
	V		109.4 ± 2.6		298	CGC	[1997CHI/WIL]
	V	(365–400)		110 ± 2	382	TE	[1994PIA/FON]
	V	(352–478)		84.7	367	TE, ME, GS	[1991PIA/POM]
	V	(422–630)		88.4	437	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₂₁ H ₄₄	[1560-84-5]	2-methyleicosane					
	V	(473–621)		70.3	488	A	[1987STE/MAL]
C ₂₁ H ₄₄	[6418-46-8]	3-methyleicosane					
	V	(477–620)		74.5	492	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₁ H ₄₄	[25117-28-6]	4-methyleicosane					
	V	(471–621)		70.2	486	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₁ H ₄₄	[25117-36-6]	5-methyleicosane					
	V	(519–621)		73.2	534	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₁ H ₄₄	[75163-99-4]	2,3-dimethylnonadecane					
	V	(493–635)		68.8	508	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₁ H ₄₄	[115209-60-4]	2,4-dimethylnonadecane					
	V	(465–594)		77.0	480	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₁ H ₄₄	[114000-79-2]	2,4,6-trimethyloctadecane					
	V	(460–576)		74.9	475	A	[1987STE/MAL, 1999DYK/SVO]
C ₂₁ H ₄₄	[13475-75-7]	8-hexylpentadecane					
	V	(405–466)		78.5	420	A	[1987STE/MAL]
C ₂₁ H ₄₄ O ₂	[95008-70-1]	1,21-heneicosanediol					
	TRS			38.8	360		
	FUS			41.7	377.5	DSC	[1999OGA/NAK]
C ₂₁ H ₄₅ PO	[17262-51-0]	Triheptylphosphine oxide					
	V	(507–638)		70.8	573		[1971NAK/SMI]
The published abstract gives the formula for triheptylphosphine oxide; however, the title of the paper gives the name of trioctylphosphine oxide.							
C ₂₂ H ₁₀ O ₂	[641-13-4]	Anthranthrone (dibenzochrysene-6,12-dione)					
	SUB	(450–550)		152.2	465	A	[1987STE/MAL]
C ₂₂ H ₁₂	[191-24-2]	Benzo[ghi]perylene					
	FUS			16.3		DSC	[2011FU/SUU]
	FUS			17.37	554.2	DSC	[1991ACR, 1973CAS/VEC, 1980SMI]
	SUB	(399–454)		128.0 ± 2.0		ME	[2011FU/SUU]
	SUB	(313–453)		129.9	383	GS	[1995NAS/LEN]
	SUB	(389–468)		127.8	404	ME	[1987STE/MAL, 1974MUR/POL]
	SUB	(450–510)		135.1	465	A	[1987STE/MAL]
	SUB	(454–502)		125.5	478	ME	[1967WAK/INO]
	V		128.9 ± 1.5		298	CGC	[2008HAN/NUT]
	V	(323–473)		96.1	398	GC	[2002LEI/CHA]
C ₂₂ H ₁₂	[191-26-4]	Anthranthrene (dibenzo[def,mno]chrysene)					
	SUB			135 ± 5	479	ME	[1952INO/SHI]
C ₂₂ H ₁₂	[193-43-1]	Indeno[1,2,3-cd]fluoranthene					
	FUS			23.2	542.3	DSC	[2010KES/AUC]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₂ H ₁₂	[193-39-5]	Indeno[1,2,3-cd]pyrene	FUS		22.9		DSC	[2011FU/SUU]
			FUS		18.6	437	DSC	[2010KES/AUC]
			FUS		16.3	437.7	DSC	[1979FAR/SHA]
			FUS		21.51	435.2		[1980SMI]
			SUB	(384–424)	124.7 ± 1.5		ME	[2011FU/SUU]
C ₂₂ H ₁₂ O ₂	[3029-32-1]	6,13-pentacenequinone	SUB		116.3 ± 5.9	298		[1956MAG, 1970COX/PIL]
C ₂₂ H ₁₄	[215-58-7]	Dibenz[<i>a,c</i>]anthracene	FUS		25.82	553.5	DSC	[1991ACR, 1973CAS/VEC]
			SUB		128.8 ± 0.7	416	GS	[2014ABO/MOK]
			SUB	(313–453)	135	383	GS	[1995NAS/LEN]
			SUB	(425–452)	159 ± 6	298	TE, ME	[1980DEK]
			V	(483–523)	110.3 ± 3.5	503	GS	[2014ABO/MOK]
			V		132.3 ± 1.8	298	CGC	[2008HAN/NUT]
			V	(323–473)	97.5	398	GC	[2002LEI/CHA]
			SUB	(359–473)	128.8 ± 0.7	416	GS	[2014ABO/MOK]
			SUB	(313–453)	135	383	GS	[1995NAS/LEN]
			SUB	(425–452)	159 ± 6	298	TE, ME	[1980DEK]
C ₂₂ H ₁₄	[53-70-3]	Dibenz[<i>a,h</i>]anthracene	V	(483–523)	110.3 ± 3.5	503	GS	[2014ABO/MOK]
			V		132.3 ± 1.8	298	CGC	[2008HAN/NUT]
			V	(323–473)	97.5	398	GC	[2002LEI/CHA]
			FUS		24.5		DSC	[2011FU/SUU]
			FUS		28.4	539.7	DSC	[2010KES/AUC]
			FUS		31.16	544.2	DSC	[1991ACR, 1973CAS/VEC]
			SUB	(346–523)	127.7 ± 2.3	433	GS	[2014ABO/MOK]
			SUB	(399–449)	138.1 ± 5.6		ME	[2011FU/SUU]
			SUB		134.1		GS	[1995NAS/LEN]
C ₂₂ H ₁₄	[194-69-4]	Benzo[<i>c</i>]chrysene	SUB	(436–462)	162 ± 6	298	TE, ME	[1980DEK]
			SUB	(417–502)	141.8	457	ME	[1967WAK/INO]
			V		131.1 ± 1.4	298	CGC	[2008HAN/NUT]
			V	(323–473)	99.4	398	GC	[2002LEI/CHA]
			FUS		22.7	398.5	DSC	[2010KES/AUC]
C ₂₂ H ₁₄	[214-17-5]	1,2:6,7-dibenzophenanthrene(benzo[<i>b</i>]chrysene)	FUS		25.3	574.2	DSC	[2010KES/AUC]
			SUB		136.4	417	ME	[1967WAK/INO]
			SUB	(398–513)	136.9	413	A	[1987STE/MAL]
		Pentacene	SUB	(503–543)	117.3 ± 0.7		TGA	[2013SHA/SHT]
C ₂₂ H ₁₄	[135-48-8]	Pentacene	SUB	(443–483)	156.9 ± 13.6	463	ME	[1998OJA/SUU]
			SUB	(494–526)	154 ± 5	512	ME, TE	[1980DEK]
			SUB	(495–530)	184 ± 10	298	ME, TE	[1980DEK]
			SUB	(455–555)	157.7	505	ME	[1967WAK/INO]
		Picene	FUS		35.19	637.2	DSC	[1973CAS/VEC]
C ₂₂ H ₁₄	[213-46-7]	Picene	SUB	(409–527)	140.7	424	A	[1987STE/MAL]
			SUB	(425–488)	140.1	456	ME	[1967WAK/INO]
		1,4-bis((pyridine-3-yl) methyl)benzene	FUS		40.7	438.2	DSC	[2008STI/CIN]
C ₂₂ H ₁₄ O ₄	[3363-97-1]	1,4-bis(phenylglyoxaloyl)benzene	FUS		32.3	425.1		[1996DOM/HEA, 1977KAR/RAB]
		1,4-diphenylnaphthalene						
C ₂₂ H ₁₆	[796-30-5]	1,4-diphenylnaphthalene	SUB	(378–394)	130.4 ± 0.4	385	ME	[2012LIM/ROC]
			SUB	(378–394)	132.5 ± 0.6	298	ME	[2012LIM/ROC]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₂₂ H ₁₆	[1038-67-1]	1,8-diphenylnaphthalene					
	SUB	(361–389)	124.2 ± 0.2	376	ME	[2012LIM/ROC]	
	SUB	(361–389)	126.4 ± 0.5	298	ME	[2012LIM/ROC]	
C ₂₂ H ₁₆	[82777-03-5]	1-(4-biphenyl) naphthalene					
	SUB	(390–414)	136.1 ± 0.5	400	ME	[2012LIM/ROC]	
	SUB	(390–414)	138.9 ± 0.8	298	ME	[2012LIM/ROC]	
C ₂₂ H ₁₆	[68862-02-2]	2-(biphen-4-yl)naphthalene					
	FUS		25.1	489.5	DSC	[2008ROU/LIM]	
	SUB	(405–437)	137.1 ± 0.4	421	ME	[2008ROU/LIM]	
	SUB	(405–437)	140.2 ± 1.3	298	ME	[2008ROU/LIM]	
C ₂₂ H ₁₆	[87294-80-2]	2-(biphen-3-yl)naphthalene					
	FUS		18.5	346.3	DSC	[2008ROU/LIM]	
	V	(381–413)	104.4 ± 1.2	397	ME	[2008ROU/LIM]	
	V	(381–413)	118.6 ± 1.5	298	ME	[2008ROU/LIM]	
C ₂₂ H ₁₆ Br ₂ N ₂ S ₂	[1448890-50-3]	1,4-bis[[(4-bromophenyl)methyl]thio]phthalazine					
	FUS		23.47	457.5	DSC	[2013JIM/PLA]	
C ₂₂ H ₁₆ C ₁₂ N ₂ S ₂	[1448890-48-9]	1,4-bis[[(4-chlorophenyl)methyl]thio]phthalazine					
	FUS		20.75	416.0	DSC	[2013JIM/PLA]	
C ₂₂ H ₁₆ O	[81-37-8]	3,8-dimethylnaphtho[3,2,1-kl]xanthene (3,8-dimethylceroxene)					
	SUB	(373–433)	138.2	388	A	[1987STE/MAL]	
C ₂₂ H ₁₇ C ₁ N ₂	[23593-75-1]	1-[(2-chlorophenyl)(diphenyl)methyl]-1 <i>H</i> -imidazole(clotrimazole)					
	FUS		36.97	418.91	DSC	[2015PAT/PAT]	
	FUS		33.34	418	DSC	[2010BAI/VAN]	
C ₂₂ H ₁₇ NO ₂	[850804-64-7]	2-ethylphenyl acridine-9-carboxylate					
	FUS		30.4	393	DSC	[2010KRZ/MAL]	
C ₂₂ H ₁₇ NO ₂	[128649-37-6]	2,5-dimethylphenyl acridine-9-carboxylate					
	FUS		37.9	457	DSC	[2010KRZ/MAL]	
C ₂₂ H ₁₇ NO ₂	[216668-66-5]	2,6-dimethylphenyl acridine-9-carboxylate					
	FUS		29.1	435	DSC	[2010KRZ/MAL]	
C ₂₂ H ₁₇ NO ₂	[1262526-52-2]	3,4-dimethylphenyl acridine-9-carboxylate					
	FUS		29.2	442	DSC	[2010KRZ/MAL]	
C ₂₂ H ₁₇ NO ₂	[1262526-53-3]	3,5-dimethylphenyl acridine-9-carboxylate					
	FUS		38.4	469	DSC	[2010KRZ/MAL]	
C ₂₂ H ₁₇ NO ₃ S	[36245-88-2]	2-(3-methoxypropyl)-1 <i>H</i> -xantheno[2,2,9-def]-isoquinoline-1,3(2 <i>H</i>)-dione					
	SUB	(605–647)	111.8	620	A	[1987STE/MAL]	
	SUB	(647–685)	150.8	662	A	[1987STE/MAL]	
C ₂₂ H ₁₇ NO ₄	[126430-58-8]	2,6-dimethoxyphenyl acridine-9-carboxylate					
	FUS		23.2	480	DSC	[2010ZAD/KRZ]	
C ₂₂ H ₁₈ Br ₂ N ₄	[1448890-41-2]	N ¹ ,N ⁴ -bis[(4-bromophenyl)methyl]-1,4-phthalazinediamine					
	FUS		21.87	555.2	DSC	[2013JIM/PLA]	
C ₂₂ H ₁₈ Cl ₂ N ₄	[1448890-39-8]	N ¹ ,N ⁴ -bis[(4-chlorophenyl)methyl]-1,4-phthalazinediamine					
	FUS		U1.63	444.6	DSC	[2013JIM/PLA]	
C ₂₂ H ₁₈ Cl ₂ O ₂	[153977-22-1]	2-[4-(4-chlorophenyl)cyclohexyl]-3-chloro-1,4-naphthoquinone					
	FUS		35.0	457.2	DSC	[2010MAL/FUG]	
C ₂₂ H ₁₈ F ₂ O	[145698-40-4]	4-(6-hexenoxy)-3',4'-difluorodiphenyldiacetylene					
	FUS		37.45	370	DSC	[1993JUA/CHE]	
C ₂₂ H ₁₈ F ₂ O	[153038-12-1]	4-(<i>cis</i> -4-hexenoxy)-3',4'-difluorodiphenyldiacetylene					
	FUS		35.32	364.4	DSC	[1993JUA/CHE]	
C ₂₂ H ₁₈ F ₂ O	[153038-13-2]	4-(<i>cis</i> -3-hexenoxy)-3',4'-difluorodiphenyldiacetylene					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		FUS		30.97	364.6	DSC	[1993JUA/CHE]
C ₂₂ H ₁₈ N ₂	[60628-96-8]	1-([1,1'-biphenyl]-4-ylphenylmethyl)-1 <i>H</i> -imidazole (bifonazole)					
		FUS		39.22	424	DSC	[2010BAI/VAN]
		FUS		37.5	423.0	DSC	[2010DOM/POB]
C ₂₂ H ₁₈ N ₂ O ₂	[116-77-8]	1-amino-2-methyl-4-[(4-methylphenyl)amino]-9,10-anthraquinone					
	SUB	(418–435)	142.2 ± 2.3		426		[1984KRI]
C ₂₂ H ₁₈ N ₂ O ₂	[6408-50-0]	1-(<i>N</i> -methylamino)-4-[(3-methylphenyl)amino]-9,10-anthraquinone					
	SUB	(418–434)	129.0 ± 4.7		426		[1984KRI]
C ₂₂ H ₁₈ N ₂ O ₂	[128-85-8]	1-(<i>N</i> -methylamino)-4-[(4-methylphenyl)amino]-9,10-anthraquinone					
	SUB	(403–426)	153.9 ± 3.9		414		[1984KRI]
C ₂₂ H ₁₈ N ₂ S ₂	[1448890-46-7]	1,4-bis[(phenylmethyl)thio]phthalazine					
	FUS		25.4	500.0		DSC	[2013JIM/PLA]
C ₂₂ H ₁₈ O ₄	[523-31-9]	Dibenzyl phthalate					
	V	(445–513)		121.4	460 A		[1987STE/MAL]
C ₂₂ H ₁₈ O ₁₁	[989-51-5]	3,4,5-trihydroxybenzoic acid, (2 <i>R</i> ,3 <i>R</i>)-3,4-dihydro-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-2 <i>H</i> -1-benzopyran-3-yl ester					
	FUS		63.3	429.2		DSC	[2010PAR/LEE]
C ₂₂ H ₁₉ Br ₂ NO ₃	[52918-63-5]	(<i>S</i>)- <i>α</i> -cyano-3-phenoxybenzyl (1 <i>R</i>)- <i>cis</i> -3-(2,2-dibromovinyl)-2,2-dimethylcyclopropanecarboxylate					
	FUS		40.71	372.9		DSC	[1990DON/DRE]
Chemical Abstracts gives a CAN Registry Number of [52918-63-5] for the compound studied by the authors of reference [990DON/DRE]. The authors of the paper, however, give a Registry Number of [52918-63-5]							
C ₂₂ H ₁₉ Br ₂ NO ₃	[52918-63-5]	(1 <i>R</i> ,3 <i>R</i>)-3-(2,2-dibromoethenyl)-2,2-dimethylcyclopropanecarboxylic acid, (<i>S</i>)-cyano(3-phenoxyphenyl)methyl ester (deltamethrin)					
	FUS	(80–400)	26.73	372.2		AC	[2005XUE/WAN]
C ₂₂ H ₁₉ ClO ₃	[95233-18-4]	2-[4-(4-chlorophenyl)cyclohexyl]-3-hydroxy-1,4-naphthoquinone (atovaquione)					
	FUS		35.0	493.2		DSC	[2010MAL/FUG]
C ₂₂ H ₁₉ N ₅ O ₃	[244272-54-6]	6-(4-biphenyl)-3,9-dihydro-3-[(2-hydroxyethoxy)methyl]-9-oxo-5 <i>H</i> -imidazol[1,2-a]pyrine					
	FUS		45.43	484.5		DSC	[1999ZIE/GOL]
C ₂₂ H ₂₀ N ₂ O ₄	[36360-34-6]	<i>N,N'</i> -bis(2-methoxyphenyl)terephthalamide					
	SUB	(183–197)	197.5 ± 4.2			ME	[1973HAM/MIT, 1977PED/RYL]
C ₂₂ H ₂₀ N ₂ O ₄	[6957-81-9]	<i>N,N'</i> -bis(3-methoxyphenyl)terephthalamide				E	[1973HAM/MIT2, 1977PED/RYL]
C ₂₂ H ₂₀ N ₂ O ₄	[7144-15-2]	<i>N,N'</i> -bis(4-methoxyphenyl)terephthalamide				E	[1973HAM/MIT2, 1977PED/RYL]
C ₂₂ H ₂₀ N ₄	[90678-66-3]	<i>N¹,N⁴</i> -bis(phenylmethyl)-1,4-phthalazinediamine					
	FUS		21.0	427.3		DSC	[2013JIM/PLA]
C ₂₂ H ₂₀ N ₄ S ₂	[1448890-45-6]	4,4'-(1,4-phthalazinediyl bis(iminomethylene))bis(benzenethiol)					
	FUS		U3.52	388.7		DSC	[2013JIM/PLA]
C ₂₂ H ₂₁ Cl ₃ N ₄ O	[168273-06-1]	5-(4-chlorophenyl)-1-(2,4-dichlorophenyl)-4-methyl- <i>N</i> -1-piperidinyl-1 <i>H</i> -pyrazole-3-carboxamide(rimonabant)					
		FUS (I)		30.75	428.3		
		FUS (II)		31.12	429.2	DSC	[2013PER/BAU]
		FUS		36.1	427.9	DSC	[2007BER/WAS]
C ₂₂ H ₂₁ F	[193472-71-8]	2-benzyl-2-fluoro-1,3-diphenylpropane					
		FUS		24.35	363.6		[1997SCH/VER]
		SUB		127.5 ± 0.8	298		[1997SCH/VER]
C ₂₂ H ₂₁ F ₂₅	[93454-72-9]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafuorodocosane					
		TRS		1.0	207		
		TRS		9.5	342		
		FUS		25.8	365	DSC	[1991HOP/MOL, 1988HOP/PUG]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$C_{22}H_{22}$	[43044-69-5]	1,1,1-triphenylbutane	TRS		7.5	339.2		
			FUS		22.2	357.2	DSC	[1986RUS/RAB]
	[4742-04-5]	tribenzylmethane	FUS		21.84	351.1	DSC	[1999VER3]
			V	(323–347)	112.1 ± 1.1	335	GS	[1999VER3]
$C_{22}H_{22}$	[548-73-2]	SUB SUB	(323–347)		114.3 ± 1.1	298	GS	[1999VER3]
			(395–648)		79.0	521		[1999DYK/SVO, 1959GIL/TOM]
$C_{22}H_{22}FN_3O_2$	[79794-75-5]	1-{1-[4-(4-fluorophenyl)-4-oxobutyl]-1,2,5,6-tetrahydropyridin-4-yl}-1,3-dihydro-2 <i>H</i> -benzimidazol-2-one (droperidol)	FUS		40.0	416	DSC	[2010BAI/VAN]
$C_{22}H_{23}ClN_2O_2$	[16087-30-2]	ethyl 4-(8-chloro-5,6-dihydro-11 <i>H</i> -benzo[5,6]cyclohepta[1,2 <i>b</i>]pyridin-11-ylidene)-1-piperidinecarboxylate (loratadine)	FUS		27.3	409	DSC	[2010BAI/VAN]
			FUS		33.2	411.2	DSC	[2007RAM/CAV]
			(80–400)		18.57	322.5	AC	[2001TAN/XUE, 1999XUE/TAN]
$C_{22}H_{24}N_2O_2$	[138306-50-0]	<i>N,N'</i> -ethylenebis(3-amino-1-phenylbut-2-en-1-one)	SUB	(407–426)	192.9 ± 5.3	415	ME	[1995RIB/RIB]
			SUB	(407–426)	198.8 ± 5.3	298	ME	[1995RIB/RIB]
			FUS		16.6	351.2	DSC	[1991JEF/JAB]
$C_{22}H_{24}O_3$	[104225-44-7]	3-([1,1-biphenyl]-4-ylcarbonyl)-1,2,2,-trimethylcyclopentanecarboxylic acid	FUS		27.69	444.2	DSC	[1992TER/PAU]
$C_{22}H_{25}F_{21}$	[93454-71-8]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosofluorodocosane	TRS		6.0	334.1		
			FUS		27.0	338.1	DSC	[1992HOP/MOL]
$C_{22}H_{25}NO$	[6018-34-4]	(+)-5,7,8,15-tetrahydro-3,4-dimethoxy-6,15-dimethyl-,3]benzodioxolo-[5,6 <i>e<td>FUS</td><td></td><td>38.07</td><td>468.3</td><td></td><td>[2000KAM/YOS]</td></i>	FUS		38.07	468.3		[2000KAM/YOS]
$C_{22}H_{25}NO_3$	[126675-75-0]	2-(4-nitrophenyl)-1-[4-(<i>trans</i> -4-ethylcyclohexyl)phenyl] ethanone	FUS		37.32	445.1	DSC	[2002SPA/DZI]
$C_{22}H_{25}NO_6$	[836602-50-7]	methyl naltrexone-3-O-carbonate	FUS		10.92	393.7	DSC	[2004PIL/HAM]
$C_{22}H_{26}$	[59358-70-2]	1,1'-diphenyl-1,1'-bicyclopentyl	FUS		31.38	414	DSC	[1983KRA/BEC]
			SUB		141.4	141.4	E, B	[1983KRA/BEC]
$C_{22}H_{26}FNO_2$	[1050-79-9]	1-(4-fluorophenyl)-4-[4-hydroxy-4-(4-methylphenyl)-1-piperidinyl]-1-butanone (moperone)	FUS (I)		37.4	398.2		
			FUS (II)		15.0	468.2	DSC	[1981DRA/AZI]
			SUB	(389–398)	116.4 ± 2.3	394		
$C_{22}H_{26}N_2O_2$	[17354-14-2]	1,4-bis(<i>N</i> -butylamino)-9,10-anthraquinone (Solvent blue 35)	SUB	(398–463)	109.3	431	GC	[2002SAW/SHI]
			V	(398–463)	109.3	431	GC	[2002SAW/SHI]
$C_{22}H_{26}N_2O_2$	[19720-45-7]	1,4-bis(<i>N</i> -isobutylamino)-9,10-anthraquinone	SUB	(368–388)	96.4 ± 2.1	378		[1984KRI]
$C_{22}H_{27}NO_2$	[17230-88-5]	Pregna-2,4-dien-20-yne[2,3-d]isoxazol-17-ol (danazol)	FUS		31.9		DSC	[2010MUR/PIK2]
			FUS		35.5	501.8	DSC	[2007BER/WAS]
$C_{22}H_{28}N_2O$	[437-38-7]	<i>N</i> -phenyl- <i>N</i> [1-(2-phenylethyl)-4-piperidinyl]propanamide (fentanyl)	FUS		30.1	358.3	DSC	[2008GUP/GAN]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{22}\text{H}_{28}\text{N}_2\text{O}_2$	[145513-29-7]	FUS		22.51	357.2	DTA	[1988ROY/FLY]
		SUB	(423–493)	144.6 ± 7.2	298	V + F	[2008GUP/GAN]
		V	(423–493)	107.2 ± 4.2	458	TGA	[2008GUP/GAN]
$\text{C}_{22}\text{H}_{28}\text{N}_2\text{O}_2$	[145438-85-3]	FUS		31.9	394	DSC	[1995TOR/GUD]
		SUB	(349–358)	130.8 ± 0.8	356	ME	[1995TOR/GUD]
		FUS		20.9	396.8	DSC	[1995TOR/GUD]
$\text{C}_{22}\text{H}_{28}\text{N}_2\text{O}_2$	[145438-85-3]	SUB	(353–364)	116.6 ± 1.0	358	ME	[1995TOR/GUD]
		FUS		18.4	379.4	DSC	[1995TOR/GUD]
		SUB	(356–364)	123.1 ± 1.6	358	ME	[1995TOR/GUD]
$\text{C}_{22}\text{H}_{28}\text{O}$	[33574-11-7]	2,4,6-triisopropylbenzophenone					
		SUB	(353–364)	116 ± 7	298	C	[1982INA/MUR2]
$\text{C}_{22}\text{H}_{28}\text{O}$	[33574-16-2]	3',5'-diisopropyl-4,4-dimethyl-3-phenyl-1,2-benzocyclobuten-3-ol					
		SUB	(354–364)	117.9	298	C	[1982INA/MUR2]
$\text{C}_{22}\text{H}_{28}\text{O}_2$	[54048-10-1]	13-ethyl-17-hydroxy-11-methylene-18,19-dinorgregn-4-en-20-yn-3-one(etongestrel)					
		FUS		31.15	472.2	DSC	[2002VAN/KRU]
$\text{C}_{22}\text{H}_{28}\text{O}_3$	[2353-34-6]	3-[(1-oxobutyl)oxy]-estra-1,3,5(10)-trien-17-one					
		FUS		22.0	381	DSC	[1990YAN/EIR]
$\text{C}_{22}\text{H}_{28}\text{O}_3$	[51-98-9]	19-nor-17 α -ethynyl-17 β -acetoxy-4-androsten-3-one					
		FUS		27.3	480	DSC	[1996DOM/HEA, 1979LEW/ENE]
$\text{C}_{22}\text{H}_{28}\text{O}_{10}\text{P}_2\text{S}$	[71855-69-1]	2,2'-[sulfonylbis(4,1-phenyleneoxy)]bis[5,5-dimethyl-1,3,2-dioxaphosphorinane-2,2'-dioxide					
		FUS		41.62	551.8	DSC	[2014JIA/WAN2]
$\text{C}_{22}\text{H}_{29}\text{FO}_5$	[50-02-2]	9-fluoro-11 β ,17,21-trihydroxy-16 α -methylpregna-1,2-diene-3,20-dione(dexamethasone)					
		FUS		42.02	539		[1994REG/CHM]
$\text{C}_{22}\text{H}_{29}\text{FN}_3\text{O}_9\text{P}$	[1190307-88-0]	Isopropyl(2S)-2-[[[(2R,3R,4R,5R)-5-(2,4-dioxopyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl]-methoxy-phenoxyphosphoryl]amino]propanoate (sofosbuvir)					
		FUS (I)		21.93	372.9		
		FUS (II)		39.74	393.9		
		FUS (III)		35.80	395.4	DSC	[2015QI/HON]
$\text{C}_{22}\text{H}_{29}\text{NO}_2$	[133544-40-8]	4-n-octyloxy-N-(4-methoxybenzylidene)aniline					
		FUS		42.29	377.3	DSC	[1995MIY/NAK]
$\text{C}_{22}\text{H}_{30}\text{N}_2\text{O}_2\text{S}$	[56030-54-7]	<i>N</i> -[4-(methoxymethyl)-1-[2-(2-thienyl)ethyl]-4-piperidinyl]- <i>N</i> -phenylpropanamide (sufentanil)					
		FUS		23.85	370.2	DTA	[1988ROY/FLY]
$\text{C}_{22}\text{H}_{30}\text{O}_3$	[23257-62-7]	Octyl 2-(6-methoxy-2-naphthyl)propionate					
		FUS		29.3	306.9	DSC	[1994WEB/MEY]
$\text{C}_{22}\text{H}_{31}\text{NO}_4$	[23257-62-7]	<i>N,N</i> -bis(3-phenoxy-2-hydroxypropyl)butyl amine					
		SUB		146.0 ± 4.2		ME	[1976KUZ/MIR]
		V		131.0			[1976KUZ/MIR]
		V	(363–411)	114.3	378	A	[1987STE/MAL]
[Note: [1987STE/MAL] gives the transition as a sublimation; however, the measurement temperatures are above the reported melting point temperature of 363 K given in [1976KUZ/MIR]]							
$\text{C}_{22}\text{H}_{32}\text{O}_3$	[57-85-2]	Testosterone propionate					
	FUS			25.64	393		[1994REG/CHM]
$\text{C}_{22}\text{H}_{33}\text{F}_{13}\text{O}$	[1240205-66-6]	1-[(3,3,4,4,5,5,6,6,7,7,8,8,8,8-tridecafluorooctyl)oxy]tetradecane					
	FUS			33.19	292.4	DSC	[2010ZAG/CON]
$\text{C}_{22}\text{H}_{33}\text{N}_3\text{O}_2$	[765303-86-4]	Pyrimethanil decylate					
	FUS		(78–373)	45.88	311	AC	[2005SUN/LIU]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₂ H ₃₄ N ₄ O ₄	[501946-58-3] FUS	1,1'-(1,12-dodecanediyl)bisthymine	43.95	462	DSC	[2002ITA/KAM]	
C ₂₂ H ₃₆ O ₂	[6217-54-5] V	(4Z,7Z,10Z,13Z,16Z,19Z)-docosahexenoic acid	162.9 ± 2.3	298	CGC	[2015WIL/GOB]	
C ₂₂ H ₃₆ O ₄	[118476-23-6] TRS FUS	2,5-di- <i>n</i> -octyloxy-1,4-benzoquinone	9.4 43.0	358.2 405.8	DSC	[1996KEE/VAN]	
C ₂₂ H ₃₈	[1459-09-2] V	Hexadecylbenzene	(505–688)	79.5	520	[1999DYK/SVO]	
C ₂₂ H ₃₈	[54934-70-2] V	1,1-bis(decahydro-1-naphthyl)ethane	(432–503)	77.3	447	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₂ H ₃₈	[54934-69-9] V	1,2-bis(decahydro-1-naphthyl)ethane	(440–507)	89.3	455	A	[1987STE/MAL]
C ₂₂ H ₃₈	[54934-71-3] V	1,5-dicyclopentyl-3-(2-cyclopentylethyl)-2-pentene	(427–492)	81.4	442	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₂ H ₃₈	[62678-54-0] SUB	<i>meso</i> -3,4-di(1-cyclohexen-1-yl)-2,2,5,5-tetramethylhexane	(347–404)	117.2 ± 2.4	376	T	[1993HER/BEC]
C ₂₂ H ₃₈ N ₄ O ₂	[126235-07-2] FUS	8-pentadecyltheophylline	27.2	413.7	DSC	[1991ACR, 1989GON/KRA]	
C ₂₂ H ₄₀	[55255-85-1] V	1,5-dicyclopentyl-3-(2-cyclopentylethyl)-2-pentane	(430–494)	83.6	445	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₂ H ₄₀ O ₂	[31067-26-2] FUS	3,3,6,6,10,10,13,13-octamethylcyclotetracane-1,8-dione	24.7	492.2		[1972BOR/DAL2]	
C ₂₂ H ₄₀ O ₄	[38734-13-3] FUS	1,10-cyclooctadecanedione bis ethylene ketal	33.56	378.2		[1972ALV/BOR]	
C ₂₂ H ₄₂	SUB	<i>meso</i> -(<i>E,E</i>)-5,6-di- <i>tert</i> -butyl-2,2,9,9-tetramethyl-3,7-decadiene	(297–353)	110.0 ± 1.7	325	T	[1995HER/VER]
C ₂₂ H ₄₂	SUB	(<i>dl</i>)-(<i>E,E</i>)-5,6-di- <i>tert</i> -butyl-2,2,9,9-tetramethyl-3,7-decadiene	(297–346)	74.4 ± 1.7	307	T	[1995HER/VER]
C ₂₂ H ₄₂ O ₂	[142-77-8] V	Butyl oleate	(353–393)	97.7	368	A	[1987STE/MAL, 1958ROM/GOR]
C ₂₂ H ₄₂ O ₂	[112-86-7] TRS FUS	<i>cis</i> -13-docosenoic acid (erucic acid)	8.9 54.0	282.2 307.2	DSC	[1997SAT/YAN]	
	SUB		207.6 ± 2.2	298	V + F	[2015WIL/GOB]	
	V		154.6 ± 2.2	298	CGC	[2015WIL/GOB]	
	V		154.5 ± 7.3	298	CGC	[2013WIL/CHI]	
	V	(479–655)	98.2	494	A	[1987STE/MAL]	
C ₂₂ H ₄₂ O ₂	[506-33-2] V	<i>trans</i> -13-docosenoic acid	(482–656)	103.4	497	A	[1987STE/MAL]
C ₂₂ H ₄₂ O ₄	[123-79-5] V	Diethyl adipate	(373–493)	99.0	388	A	[1987STE/MAL]
C ₂₂ H ₄₂ O ₄	[2449-10-7] V	Dihexyl sebacate	99.9	344	TGA	[1990KIS/SHO]	
	V		106.4 ± 3.7	298	TGA	[1990KIS/SHO]	
C ₂₂ H ₄₂ O ₆	[141-19-5] V	bis(2-butoxyethyl) sebaconate	(368–423)	120.3	383	A, ME	[1987STE/MAL, 1948SMA/SMA]
C ₂₂ H ₄₃ NO ₃	[14379-42-1] FUS	<i>N</i> -hexadecanoyl-(<i>I</i>)-leucine	46.1	367.1	DSC	[1986MIY/MAT]	

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₂ H ₄₃ NO ₃	[21394-54-7]	<i>N</i> -hexadecanoyl-(<i>dl</i>)-leucine	TRS		4.3	333.1	DSC	[1986MIY/MAT]
			FUS		60.6	355.1		
C ₂₂ H ₄₃ NO ₃	[617703-96-5]	<i>N</i> -(1-oxoeicosyl)glycine	TRS + FUS		61.4	400.5	DSC	[2014RED/KRO]
C ₂₂ H ₄₃ NO ₃	[439215-41-5]	Decanoic acid,2-[(1-oxodecyl)amino]ethyl ester	FUS		63.1	337.2	DSC	[2010KAM/TAR]
C ₂₂ H ₄₄	[1599-67-3]	1-docosene	V	(401–640)	95.6	416		[1999DYK/SVO]
C ₂₂ H ₄₄	[6812-38-0]	Hexadecylcyclohexane	V	(507–689)	79.6	522	[1999DYK/SVO]	[1971WIL/ZWO]
			V		109.3	298		
C ₂₂ H ₄₄	[23014-56-4]	1,1,10,10-tetramethylcyclooctadecane	FUS		39.58	359.2		[1974BJO/BOR]
C ₂₂ H ₄₄ N ₂ O ₂	[31827-03-9]	<i>N,N'</i> -di- <i>n</i> -hexylsebacamide	FUS		53.56	415		[1996DOM/HEA, 1953WIL/DOL]
C ₂₂ H ₄₄ O ₂	[123-95-5]	Butyl stearate	FUS		41.2	296.9	DSC	[2009SAR/BIC]
			TRS	(286–304)	2.22	288.4		
			FUS	(286–304)	37.48	299.7		
			V	(352–399)	99.9	367	A, T	[1987STE/MAL, 1949PER/WEB]
C ₂₂ H ₄₄ O ₂	[18281-05-5]	Ethyleicosanoate	FUS		68.62	315	Cryst	[1967OMA] [1934KIN/GAR]
			FUS		68.6	313.6		
			SUB	(307–313)	171.5	310	ME	[1987STE/MAL, 1967OMA]
			V	(318–460)	113.7	333	A	[1987STE/MAL]
C ₂₂ H ₄₄ O ₂	[6064-90-0]	Methyl heneicosanoate	FUS		75.1	321.2	DSC	[2004CHI/ZHA]
			V		116.3 ± 3.1	298		
			V		121.7 ± 2.9	298		
			V	(459–529)	95.6	474	A, E	[1987STE/MAL, 1963ROS/SCH]
C ₂₂ H ₄₄ O ₂	[36528-28-6]	Decyldodecanoate	FUS		63.67	293.2	DSC	[1999BAL/WEI]
C ₂₂ H ₄₄ O ₂	[42232-25-7]	Hexylhexadecanoate	FUS		56.19	287.6	DSC	[1999BAL/WEI]
C ₂₂ H ₄₄ O ₂	[112-85-6]	Docosanoic acid (behenic acid)	TRS		3.6	340.9	DSC	[2013WIL/CHI] [2011EGO/MAR] [2004INO/HIS3]
			FUS		66.3	352.3		
			FUS		81.7	349.2		
			FUS		80.5	353.9		
			V		155.1 ± 7.1	298		
			V		154.7 ± 7.3	298		
			V	(373–600)	122.3	388	A	[1987STE/MAL]
C ₂₂ H ₄₄ O ₄	[56444-64-5]	2,2,13,13-tetramethyl-1,3,12,14-tetraoxacyclodocosane	FUS		61.9	374		[1975BOR]
C ₂₂ H ₄₅ Br	[6938-66-5]	1-bromodocosane	TRS		23.14	303.8	C	[1953HOF/DEC]
			FUS		44.98	317.1		
C ₂₂ H ₄₅ NO	[3061-75-4]	Docosanamide	FUS		63.3	383.3	DSC	[2008ABA/BAD]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₂ H ₄₅ NO	[74534-12-6]	<i>N</i> -hexyl hexadecanamide		57.0	343.1	DSC	[1993ACR, 1980CAR/BUS]
	FUS						
C ₂₂ H ₄₅ NO	[55334-54-8]	<i>N,N</i> -dioctylhexanamide	(463–513)	88.1 ± 1.0	298	CGC	[2009PAN/ANT]
	V						
C ₂₂ H ₄₆	[629-97-0]	docosane					
	FUS			U33.3	316.9	DSC	[2014BAE/DAH]
	TRS			28.96	317.2		
	FUS			49.16	318.1	DSC	[2013WAN/TOZ]
	TRS			27.3	315.8		
	TRS			<0.3	316.1		
	FUS			49.1	316.6	DSC	[2004MON/RAJ]
	TRS			28.61	315.5		
	FUS			47.8	316.8		[1991CLA/LET]
	TRS			36.4	314.5		
	FUS			39.8	315.2	DSC	[1991DOM/WYR]
	FUS			78.5	316.9		[1991BAR/SCH]
	TRS			29.51	315.2		
	FUS			47.84	316.1		[1990DOM/HEA]
	TRS			28.2	316.3		
	FUS			48.9	317.3		[1973COM]
	TRS + FUS			78.4	316.2		[1969ATK/RIC]
	TRS			28.2	316.2		
	FUS			48.95	317.2	AC	[1955SCH/BUS]
	SUB			172.6 ± 2.0	391	B	[1994PIA/FON]
	SUB			U151.1 ± 10	298	B	[1991PIA/POM]
	V			110.0 ± 3.2	298	CRT	[2015GOB/CHI]
	V			111.0 ± 0.1	298	CGC	[2015GOB/CHI]
	V	(434–539)		111.9	298	CGC	[2004CHI/HAN]
	V			114.9 ± 0.3	298	CGC	[2002CHI/WEB]
	V			115.6 ± 1.9	298	CGC	[1997CHI/WIL]
	V	(453–503)		115.6	298	CGC	[1995CHI/HOS]
	V	(453–573)		84.3	468		[1994MOR/KOB]
	V	(372–410)		124 ± 2	391	TE	[1994PIA/FON]
	V	(358–490)		89.9	373	TE, ME, GS	[1991PIA/POM]
	V	(353–462)		100.9	368		[1988SAS/JOS]
	V	(431–642)		91.3	446	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₂₂ H ₄₆	[1560-82-3]	2-methylheneicosane					
	V	(485–640)		76.1	500	A	[1987STE/MAL]
C ₂₂ H ₄₆	[6418-47-9]	3-methylheneicosane					
	V	(484–631)		74.4	499	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₂ H ₄₆	[25117-29-7]	4-methylheneicosane					
	V	(497–632)		70.9	494	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₂ H ₄₆	[25117-37-7]	5-methylheneicosane					
	V	(483–632)		73.9	498	A	[1987STE/MAL, 1999DYK/SVO]
C ₂₂ H ₄₆	[75163-98-3]	2,4-dimethyleicosane					
	V	(471–603)		77.5	486	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₂ H ₄₆	[102886-19-1]	2,4,6-trimethylnonadecane					
	V	(470–587)		77.3	485	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₂ H ₄₆	[71005-15-7]	8-heptylpentadecane					
	V	(298–313)		107.7	305	A	[1987STE/MAL]
C ₂₂ H ₄₆ O	[661-19-8]	1-docosanol					
	FUS	(80–400)		85.07	340.8	AC	[2008TON/TAN3]
	TRS + FUS			82.8	344.5	DSC	[2006NIC/KWE]
	FUS			86.06	343.9		[2001VAN/OON2]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
		TRS		17.24	333.9		
		FUS		46.57	345.2		[1979KUC/SKU]
		SUB	(335–341)	206.7 ± 10	330	ME	[1965DAV/KYB, 1987STE/MAL]
		SUB		238.5 ± 10	298		[1965DAV/KYB]
		V		135.9 ± 0.8	298	CGC	[2006NIC/KWE]
		V	(344–459)	115.3	351	A, ME	[1987STE/MAL, 1965DAV/KYB]
C ₂₂ H ₄₆ O ₂	[22513-81-1]	1,22-docosanediol					
		TRS		39.8	369.7		
		FUS		46.5	379.4	DSC	[1999OGA/NAK]
C ₂₂ H ₄₆ O ₄ S ₂		(L)-rhamnosediocetyl dithioacetal					
		FUS		54.7	387.9	DSC	[1989VAN/VAN]
C ₂₂ H ₄₆ S	[7773-83-3]	1-docosanethiol					
		V	(437–680)	107.7	452	E	[1999DYK/SVO]
C ₂₃ H ₁₅ ClO ₃	[3691-35-8]	2-[(4-chlorophenyl)phenylacetyl]-1 <i>H</i> -indene-1,3(2 <i>H</i>)-dione					
		FUS		34.54	416.5	DSC	[1990DON/DRE]
C ₂₃ H ₁₅ F ₁₇ OS	[246544-01-4]	2-(perfluoro- <i>n</i> -octyl)ethylthiomethyl biphenyl-4-yl ether					
		FUS		47.4	362.1	DTA	[1999DEG/GUI]
C ₂₃ H ₁₅ F ₁₇ S	[246543-98-6]	2-(perfluoro- <i>n</i> -octyl)ethylthiomethyl biphenyl-4-yl					
		FUS		58.3	353.2	DTA	[1999DEG/GUI]
C ₂₃ H ₁₉ NO ₂	[1041479-15-5]	2-isopropylphenyl acridine-9-carboxylate					
		FUS		29.0	396	DSC	[2010KRZ/MAL]
C ₂₃ H ₁₉ NO ₂	[1134294-42-0]	2,4,6-trimethylphenyl acridine-9-carboxylate					
		FUS		24.4	405	DSC	[2010KRZ/MAL]
C ₂₃ H ₁₉ NO ₄	[1134099-90-3]	(S)-2-(2-nitro-1-phenylethyl)-1,2-diphenylpropane-1,3-dione					
		FUS		32.0	408.8	DSC	[2014GON/KUD]
C ₂₃ H ₁₉ NO ₄	[697745-86-1]	(R, S)-2-(2-nitro-1-phenylethyl)-1,2-diphenylpropane-1,3-dione					
		FUS		38.3	432.9	DSC	[2014GON/KUD]
C ₂₃ H ₂₁ F ₃ O	[145698-52-8]	4- <i>n</i> -hexyloxy-4'-trifluoromethylidiphenyldiacetylene					
		FUS		33.98	394.8	DSC	[1993JUA/CHE]
C ₂₃ H ₂₁ F ₇ N ₄ O ₃	[170729-80-3]	5-[[2(R,3S)-2-[(1R)-1-[3,5-bis(trifluoromethyl)phenyl]ethoxy]-3-(4-fluorophenyl)-4-morpholinyl]methyl]-1,2-dihydro-3 <i>H</i> -1,2,4-triazol-3-one (Aprepitant)					
		FUS (I)		53.7	526.8	DSC	
		FUS (II)		52.4	526.2	DSC	[2008BRA/GEL]
C ₂₃ H ₂₂ O ₆	[83-79-4]	[2R-(2α,6α,12α)]-1,2,12,12a-tetrahydro-8,9-dimethoxy-2-(1-methylethyl)-[1]benzopyran-6(6a <i>H</i>)-one (Rotenone)					
		FUS		35.64	437.9	DSC	[1990DON/DRE]
C ₂₃ H ₂₄ FN ₃ O ₂ S	[127625-29-0]	2-[3-[4-(<i>p</i> -fluorophenyl)-1-piperazinyl]propyl]-2 <i>H</i> -naphth[1,8-cd]isothiazole 1,1-dioxide (fananserin)					
		FUS (I)		25.6	366.3		
		FUS (II)		27.8	375.1		
		FUS (III)		29.4	374.8	DSC	[2001GIO/TER]
C ₂₃ H ₂₄ N ₆ O ₄		2-[[4-[(2-acetoxy)ethyl]butylamino]-2-methylphenyl]azo]-5-nitro-1,3-benzenedicarbonitrile					
		FUS		37.88	424.2		[1991BAU/WEB]
C ₂₃ H ₂₄ O ₆	[170464-53-6]	Tris(ethoxycarbonyl)-9-fluorenylmethane					
		SUB		143.2	298	GS	[1995RAK/VER]
		V	(359–393)	107.5 ± 0.7		GS	[1995RAK/VER]
C ₂₃ H ₂₅ BrN ₆ O ₁₀		N-[5-[bis[(2-acetoxy)ethyl]amino]-2-[(2-bromo-4,6-dinitrophenyl)azo]-4-methoxyphenyl]acetamide					
		FUS		57.28	421.2		[1991BAU/WEB]
C ₂₃ H ₂₅ F	[154393-25-6]	1-adamantylfluorodiphenylmethane					
		SUB	(353–393)	125.9 ± 1.3	373	T	[1994SCH/BEC]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₃ H ₂₆ O ₆	[183212-67-1]	1,1,1-tris(ethoxycarbonyl)-2,2-diphenylethane					
		FUS		29.5	333.2		[1995RAK/VER]
		SUB		140.1	298	GS	[1995RAK/VER]
C ₂₃ H ₂₇ C ₁₂ N ₃ O ₂	[129722-12-9]	(344–394)	109.3 ± 1.0			GS	[1995RAK/VER]
		FUS (I)		38.36	422.1	DSC	
		FUS (II)		41.51	416.3	DSC	
		FUS (III)		39.97	412.4	DSC	
C ₂₃ H ₂₇ FN ₄ O ₂	[106266-06-2]	FUS (IV)		40.76	408.1	DSC	[2009BRA/GEL]
		3-[2-[4-(6-fluoro-1,2-benzisoxazol-3-yl)-1-piperidinyl]ethyl]-6,7,8,9-tetrahydro-2-methyl-4 <i>H</i> -pyrido[1,2-a]pyrimidin-4-one					
		FUS		43.94	442.38	DSC	[2014MEA/SVA]
C ₂₃ H ₂₇ NO ₃	[126675-76-1]	2-(4-nitrophenyl)-1-[4-(<i>trans</i> -4-propylcyclohexyl)phenyl]ethanone					
C ₂₃ H ₂₇ NO ₃ S	[313057-12-4]	FUS		38.87	436.5	DSC	[2002SPA/DZI]
		4-(7-undecenoxy)phenyl 5-cyano-2-thiophenecarboxylate					
		FUS		52.72	346.1	DSC	[2000WU/WAN]
C ₂₃ H ₂₇ NO ₆	[836602-51-8]	Ethyl natrexone-3-O-carbonate					
C ₂₃ H ₂₈ ClN ₃ O ₅ S	[10238-21-8]	FUS		18.99	404.2	DSC	[2004PIL/HAM]
		5-chloro- <i>N</i> -[2-[4-[[[(cyclohexylamino)carbonyl]amino]sulfonyl]phenyl]ethyl]-2-methoxybenzamide(glyburide)					
		FUS		41.89	450.2	DSC	[2015GAU/VAN]
		FUS		55.4	446.9	DSC	[2010MUR/PIK2]
C ₂₃ H ₂₈ N ₂ O ₅		FUS		46.3	446.8	DSC	[2007BER/WAS, 2006WAS/HOL]
		FUS		53.35	450.2	DSC	[2000HAN/PAR]
		FUS					
C ₂₃ H ₂₈ N ₂ O ₅		<i>N,N</i> -dimethyl naltrexone-3-O-carbamate					
C ₂₃ H ₃₀ O ₃	[128788-26-1]	FUS		22.01	480.2	DSC	[2009VAD/BAN]
		3-[(1-oxopentyl)oxy]-estra-1,3,5(10)-trien-17-one					
		FUS		25	398	DSC	[1990YAN/EIR]
C ₂₃ H ₃₀ O ₄ S	[313057-16-8]	4-(7-undecenoxy)phenyl 5-methoxy-2-thiophenecarboxylate					
C ₂₃ H ₃₀ O ₆	[52-21-1]	FUS		61.92	334.1	DSC	[2000WU/WAN]
		Prednisoloneacetate					
		FUS		42.3	515	DSC	[1997CEN/MEL]
C ₂₃ H ₃₀ O ₆	[50-04-4]	FUS		38.67	511	DSC	[1994REG/CHM]
		Cortisone acetate					
C ₂₃ H ₃₁ NO	[164667-96-3]	FUS		38.43	509	DSC	[1994REG/CHM]
		4- <i>n</i> -octyloxy- <i>N</i> -(3,5-dimethylbenzylidene)aniline					
C ₂₃ H ₃₁ NO ₃	[164667-97-4]	FUS		37.73	324.7	DSC	[1995MIY/NAK]
		4- <i>n</i> -octyloxy- <i>N</i> -(3,5-dimethoxybenzylidene)aniline					
C ₂₃ H ₃₂ N ₂ O ₂ S	[910-86-1]	FUS		35.3	316.3	DSC	[1995MIY/NAK]
		<i>N,N'</i> -[4-(3-methylbutoxy)phenyl]thiourea					
C ₂₃ H ₃₂ O ₂	[119-47-1]	FUS		38.1	415.3	DSC	[2011LI/BOU]
		3,3'-di- <i>tert</i> -butyl-5,5'-dimethyl-2,2-dihydroxydiphenylmethane					
C ₂₃ H ₃₂ O ₃	[27811-56-9]	FUS		29.33	403.7	DTA	[1972INO/LIA]
		Estra-1,3,5(10)-triene-3-ol-17 β pentanoate					
C ₂₃ H ₃₂ O ₄	[56-47-3]	FUS		29.45	420.7	DSC	[1986DEM/MAS]
		Deoxycorticosterone acetate					
C ₂₃ H ₃₂ O ₆	[50-03-3]	FUS		29.66	430	DSC	[1994REG/CHM]
		Hydrocortisone acetate					
C ₂₃ H ₃₂ O ₆	[50-03-3]	FUS		53.64	480	DSC	[1997CEN/MEL]
		FUS		36.95	496	DSC	[1994REG/CHM]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₃ H ₃₄ O ₂	[2566-90-7]	(Z,Z,Z,Z,Z,Z)-4,7,10,13,16,19-docosahexaenoate				CGC	[2007LIP/KAP]
	V		131.8 ± 0.2		298		
C ₂₃ H ₃₄ O ₃	[3410-54-6]	Testosterone butyrate		24.75	382		[1994REG/CHM]
	FUS						
C ₂₃ H ₃₅ N ₃ O ₈	[53848-86-5]	Hexadecyl 2,4,6-trinitrobenzoate					
	TRS		18.6	349.3			
	FUS		29.54	393.3	DSC	[1974WAR/WIL]	
C ₂₃ H ₃₆ N ₂ O ₂	[98319-26-7]	(5α,17β)-N-(1,1-dimethylethyl)-3-oxo-4-azaandrost-1-ene-17-carboxamide(finasteride)					
	TRS (I)		4.1	503.2			
	FUS (I)		33.2	530.2			
	FUS (II)		32.8	530.2	DSC	[2000WEN/BAU]	
	SUB	(463–488)	143.7		TGA	[1997ELD]	
C ₂₃ H ₃₇ BrN ₂ O ₄	[138317-09-6]	(4-nitrophenyl)-16-bromohexadecyl carbamate					
	FUS		62.62	382.9	DSC	[1993TIE/FRA]	
C ₂₃ H ₃₉ N ₃ O ₃	[6313-97-9]	1-hexadecyl-3-(4-nitrophenyl) urea					
	FUS		53.94	392.6	DSC	[1993TIE/FRA]	
C ₂₃ H ₄₀	[14752-75-1]	Heptadecylbenzene (414–664)	98.5	429			[1999DYK/SVO]
C ₂₃ H ₄₂ O ₂	[61012-47-3]	Methyl (Z,Z)-13,16-docosadienoate					
	V		127.9	298	CGC	[2007LIP/KAP]	
C ₂₃ H ₄₂ O ₃	[5420-17-7]	Tetrahydrofurfuryl oleate (353–398)	98.7	368	A	[1987STE/MAL]	
C ₂₃ H ₄₄	[95115-76-7]	<i>trans</i> -2-heptyl-6-hexyldecalin					
	FUS		38.91	312.2			[1985VAR/BRI]
C ₂₃ H ₄₄	[95115-79-0]	<i>trans</i> -2-pentyl-6-octyldecalin					
	FUS		43.51	314.2			[1985VAR/BRI]
C ₂₃ H ₄₄ O ₂	[1120-34-9]	methyl erucate					
	V		125.6 ± 1.2	298	CGC	[2007LIP/KAP]	
	V	(463–523)	123.8	298	GC	[1997KRO/VEL]	
	V	(453–543)	93.5	498	GC	[1993HUS/SAR]	
C ₂₃ H ₄₄ O ₄	[17598-93-5]	(3-decanoxyoxy-2-hydroxypropyl) decanoate					
	V	(536–565)	124.1	551	DSC	[2014DAM/MAT]	
[Note: The CAS Registry Number of [53988-07-1] that the authors of [2014DAM/MAT] give is not consistent with the IUPAC chemical name in the paper.]							
C ₂₃ H ₄₄ O ₅	[820-17-7]	1-aceto-3-stearin					
	FUS		41.69	319.9			[1996DOM/HEA, 1955WAR/VIC]
C ₂₃ H ₄₅ NO ₃	V	2-lauryloxy- <i>N,N</i> -dibutylpropionamide (443–458)	90.6	450	A	[1987STE/MAL]	
C ₂₃ H ₄₅ NO ₃	[914224-79-6]	<i>N</i> -(1-oxoheneicosyl)glycine					
	TRS + FUS		64.0	400.8	DSC	[2014RED/KRO]	
C ₂₃ H ₄₆	[55124-77-1]	9-cyclohexylheptadecane (456–492)	83.9	471	A	[1987STE/MAL]	
C ₂₃ H ₄₆	[19781-73-8]	Hexadecylcyclohexane (414–664)	97.6	429			[1999DYK/SVO]
C ₂₃ H ₄₆	[18835-32-0]	1-tricosene (409–652)	98.5	424			[1999DYK/SVO]
C ₂₃ H ₄₆	[27519-02-4]	Z-9-tricosene (muscalure)					
	V		114.4 ± 1.0	298	CGC	[2013SPE/CHI]	
C ₂₃ H ₄₆	[35857-62-6]	E-9-tricosene					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V				114.5 ± 1.0	298	CGC	[2013SPE/CHI]
C ₂₃ H ₄₆ O	[540-09-0]	12-tricosanone	FUS		78.03	342.2		[1993RUE/SAR]
C ₂₃ H ₄₆ O ₂	[929-77-1]	Methyl docosanoate (methyl behenate)	FUS		83.5	327.2	DSC	[2004CHI/ZHA]
			FUS		82.3	327.2	Cryst	[1936KIN/GAR]
			V	(463–513)	126.0 ± 0.3	298	GC	[2006HAF/PAR]
			V	(467–558)	126.1 ± 2.5	298	CGC	[2004CHI/ZHA]
			V	(463–523)	126.1	298	GC	[1997KRO/VEL]
			V	(453–543)	81.0	498		[1993HUS/SAR]
			V	(467–539)	98.2	482	A	[1987STE/MAL, 1963ROS/SCH]
C ₂₃ H ₄₆ O ₂	[2433-96-7]	Tricosanoic acid	TRS		2.5	349.9		
			FUS		75.0	352	DSC	[2007GBA/NEG]
C ₂₃ H ₄₆ O ₃	[102542-57-4]	Decyl 3-decyloxypropionate						
	V	(453–523)			90.2	468	A	[1987STE/MAL]
C ₂₃ H ₄₈	[55124-79-3]	9-hexylheptadecane						
	V	(450–486)			82.6	465	A	[1987STE/MAL]
C ₂₃ H ₄₈	[1560-81-2]	2-methyldocosane						
	V	(495–652)			79.7	510	A	[1987STE/MAL]
C ₂₃ H ₄₈	[25117-30-0]	4-methyldocosane						
	V	(493–643)			76.3	508	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₃ H ₄₈	[25163-52-4]	5-methyldocosane						
	V	(492–644)			75.6	507	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₃ H ₄₈	[638-67-5]	Tricosane	TRS		<0.3	310.5		
			TRS		19.6	312.4		
			TRS		<0.3	317.2		
			FUS		52.6	320.2	DSC	[2004MON/RAJ]
			TRS		23.06	313.9		
			FUS		50.86	320.9	DSC	[2001CHE/BOU]
			TRS		<0.3	310.5		
			TRS		19.6	312.4		
			TRS		<0.3	317.2		
			FUS		52.6	320.2		[1998ROB/MON, 2001CHE/BOU]
			TRS		21.50	313.5		
			FUS		52.25	320.8		[1991BAR/SCH]
			TRS		21.76	313.7		
			FUS		53.97	320.7	AC	[1990DOM/HEA, 1955SCH/BUS]
			SUB		U146.8 ± 10	298	B	[1991PIA/POM]
C ₂₃ H ₄₈	[95491-58-0]	1,23-tricosanediol	V	(412–462)	93.5	427		[2006SAW/MOK]
			V	(434–539)	117	298	CGC	[2004CHI/HAN]
			V		118.7 ± 0.1	298	GS	[2001PUR/CHI]
			V		119.7 ± 2.3	298	CGC	[2000NIC/ORF]
			V		120.5 ± 2.0	298	CGC	[1991DIK/KAB]
			V	(370–416)	123 ± 1	393	TE	[1994PIA/FON]
			V	(370–490)	92	385	TE, ME, GS	[1991PIA/POM]
C ₂₃ H ₄₈ O ₂	[66375-01-7]	1-tricosanethiol	V	(314–353)	110.4	329	A	[1987STE/MAL]
			V	(440–653)	94	455	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₂₃ H ₄₈ S								

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(444–690)		110.1	459	E	[1999DYK/SVO]	
$\text{C}_{24}\text{F}_{50}$	[1766-41-2]	Perfluorotetracosane	FUS		63.2	461.1	DSC	[2012HAS/DRA]
			FUS		56.0	461.7	DSC	[1999VIS/TER]
			TRS		14.0	217.5		
			FUS		63.2	461.7	DSC	[1994JIN/BOL]
			TRS		3.89	202.7		
			FUS	U 100.8	465.2		DSC	[1986STA]
	V			141.0 ± 1.7	298	CGC	[2012HAS/DRA]	
$\text{C}_{24}\text{H}_8\text{O}_6$	[128-69-8]	3,4,9,10-perylenetetracarboxylic dianhydride	SUB	(653–793)	185.6 ± 0.5		TGA	[2013SHA/SHT]
$\text{C}_{24}\text{H}_{12}$	[191-07-1]	coronene	FUS		21.2	709	DSC	[2009TOR/CAM]
			FUS		19.2	710.5		[1991ACR, 1980SMI]
			SUB	(473–483)	126.6 ± 1.7	478	ME	[2009TOR/CAM]
			SUB	(473–483)	131.0 ± 1.7	298	ME	[2009TOR/CAM]
			SUB	(421–504)	133.1 ± 5.1	463	ME	[1998OJA/SUU]
			SUB	(313–453)	143.2	383	GS	[1995NAS/LEN]
			SUB	(427–510)	135.9	468	ME	[1987STE/MAL, 1974MUR/POL]
			SUB		128.4		ME	[1967WAK/INO]
			SUB	(433–513)	147	473		[1958HOY/PEP]
			SUB	(476–555)	143.2	407	ME	[1952INO/SHI]
			SUB		148.5	407	ME	[1951INO]
	V			148.0 ± 0.5	298	CGC	[2002CHI/WEB]	
	V		(323–473)	104.2	398	GC	[2002LEI/CHA]	
$\text{C}_{24}\text{H}_{12}$	[102234-01-5]	bis-benzo[3,4]cyclobuta[1,2-a:1',2'-c]biphenylene ([4]phenylene)	SUB		131.0 ± 4.2			[2000BEC/FAU]
$\text{C}_{24}\text{H}_{12}\text{O}_2$	[3302-52-1]	3,4:9,10-dibenzpyrene-5,8-quinone	SUB		112.5 ± 5.4			[1956MAG, 1970COX/PIL]
$\text{C}_{24}\text{H}_{14}$	[192-65-4]	Dibenzo[<i>a,e</i>]pyrene	FUS		32.1	517.9	DSC	[2010KES/AUC]
			FUS		30.5	520.2	DSC	[1991ACR, 1973CAS/VEC]
			SUB	(414–506)	146.4	429	A	[1987STE/MAL]
			SUB	(434–526)	137.6	480	ME	[1967WAK/INO]
$\text{C}_{24}\text{H}_{14}$	[192-51-8]	Dibenzo[<i>fg,op</i>]naphthacene	SUB	(430–555)	147.4	445	A	[1987STE/MAL]
			SUB	(454–526)	146.9	490	ME	[1967WAK/INO]
(called 1,2,6,7-dibenzpyrene in paper, which we have taken to be dibenzo[<i>fo,op</i>]naphthacene based upon the melting point temperature reported in the paper)								
$\text{C}_{24}\text{H}_{14}$	[191-30-0]	Dibenzo[<i>a,J</i>]pyrene	FUS		24.68	501.2	DSC	[1991ACR, 1973CAS/VEC]
$\text{C}_{24}\text{H}_{14}$	[189-55-9]	Benzo[<i>rst</i>]pentaphene	FUS		27.87	556.8	DSC	[1991ACR, 1973CAS/VEC]
$\text{C}_{24}\text{H}_{14}$	[5385-75-1]	Dibenzo[<i>a,e</i>]fluoranthene	FUS		24.0	505.5	DSC	[2010KES/AUC]
$\text{C}_{24}\text{H}_{14}\text{S}_6$	[88493-55-4]	2,2',5',2'',5'',2''',5''',2'''''-sexithiophene	SUB	(503–563)	207.1		ME	[1998KLO/LAU]
			SUB	(543–573)	211.3		ME	[1998KLO/LAU]
$\text{C}_{24}\text{H}_{15}\text{Br}_3$	[7511-49-1]	1,3,5-tris(4-bromophenyl)benzene	SUB		177 ± 3		ME	[2010GUT/HEC]
$\text{C}_{24}\text{H}_{16}$	[14620-98-5]	<i>trans</i> -heptacyclene	SUB		140.0 ± 3.1	433	ME	[2006SAN/BER]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{24}\text{H}_{16}$	[15065-28-8]	<i>cis</i> -heptacyclene	SUB		149.0 ± 3.1	298	ME	[2006SAN/BER]
			SUB		120.2 ± 4.2	404	ME	[2006SAN/BER]
			SUB		126.5 ± 4.2	298	ME	[2006SAN/BER]
			SUB		129.3 ± 2.7	298	C	[2006SAN/BER]
$\text{C}_{24}\text{H}_{16}\text{F}_6\text{N}_2\text{S}_2$	[1448890-49-0]	1,4-bis[[[4-(trifluoromethyl)phenyl]methyl]thio]phthalazne	FUS		14.55	387.3	DSC	[2013JIM/PLA]
$\text{C}_{24}\text{H}_{16}\text{N}_2\text{O}_2$	[1806-34-4]	2,2'-(1,4-phenylene)bis(5-phenyl)oxazole	SUB		140	480	Optical A	[1989SCH/PEN]
			SUB	(600–680)	94.4	615		[1987STE/MAL, 1975STE/SCH]
$\text{C}_{24}\text{H}_{18}$	[1165-14-6]	1,2,3-triphenylbenzene	SUB	(373–395)	131.7 ± 0.6	384	ME	[2010RIB/SAN2]
			SUB	(373–395)	134.1 ± 1.1	298	ME	[2010RIB/SAN2]
			SUB		147.8 ± 0.7	298	ME	[2011LIM/ROC]
$\text{C}_{24}\text{H}_{18}$	[612-71-5]	1,3,5-triphenylbenzene	FUS		32.6	445.2	DSC	[1997VER2]
			FUS		33.4	446		[1982LEB/BYK]
			SUB	(404–428)	143.5 ± 0.6	416	ME	[2011SAN/LIM]
			SUB	(404–428)	147.9 ± 1.1	298	ME	[2011SAN/LIM]
			SUB	(405–426)	144.0 ± 0.4	416	ME	[2011SAN/LIM]
			SUB	(405–426)	148.4 ± 1.0	298	ME	[2011SAN/LIM]
			SUB	(408–428)	145.0 ± 0.4	418	ME	[2011SAN/LIM]
			SUB	(408–428)	149.5 ± 1.0	298	ME	[2011SAN/LIM]
			SUB		146 ± 4		ME	[2010GUT/HEC]
			SUB	(407–429)	141.2 ± 0.7	418	ME	[2006RIB/MON]
			SUB	(407–429)	147.8 ± 0.7	298	ME	[2006RIB/MON]
			SUB		150.9	298	CGC–DSC	[1998CHI/HES]
			SUB	(364–388)	145.6 ± 0.9	376	T	[1997VER2]
			SUB		150.3 ± 0.9	298		[1997VER2]
			SUB		152 ± 0.3	298	C, ME	[1974MAL/BAR]
			SUB	(410–444)	142	425	ME	[1974MAL/BAR, 1987STE/MAL]
			SUB	(384–400)	142.2	422	ME	[1967WAK/INO]
			SUB		149.7 ± 4.1	298	ME	[1958HOY/PEP, 1970COX/PIL]
			V		133.4 ± 2.0	298	GCG	[2008HAN/NUT]
			V		140	298	CGC	[1998CHI/HES]
			V	(500–735)	77.5	515	A	[1987STE/MAL, 1962VOH/KAN]
			V	(454–500)	118	469	A	[1987STE/MAL, 1974MAL/BAR]
$\text{C}_{24}\text{H}_{18}$	[641-96-3]	<i>o</i> -quaterphenyl	FUS		27.2	390.6	DSC	[2013ROD/ROC]
$\text{C}_{24}\text{H}_{18}$	[1166-18-3]	<i>m</i> -quaterphenyl	FUS		27.7	360.0	DSC	[2013ROD/ROC]
$\text{C}_{24}\text{H}_{18}$	[135-70-6]	<i>p</i> -quaterphenyl	FUS		53.4	594.4	DSC	[2013ROD/ROC]
			TRS	(4–301)	0.41	233	AC	[1985SAI/ATA]
			FUS		57.6	586.7	DSC	[1982WAS/RAD]
			FUS		37.8	587.2	DSC	[1991ACR, 1979SMI2]
			V		136.1 ± 1.6	298	CGC	[2008HAN/NUT]
$\text{C}_{24}\text{H}_{18}\text{F}_6\text{N}_4$	[1448890-40-1]	N^1,N^4 -bis[[4-(trifluoromethyl)phenyl]methyl]-1,4-phthalazinediamine	FUS		5.86	390.7	DSC	[2013JIM/PLA]
$\text{C}_{24}\text{H}_{18}\text{N}_2\text{S}_2$	[109538-04-7]	4,4'-bis(2-thienylmethylideamino)- <i>trans</i> -stilbene	TRS (liq cryst)		44.9	567.2		
			TRS (liq cryst-to-liq)		0.2	580.2	DTA	[1978KOS/BUD]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₄ H ₁₈ N ₂ S ₂	[109538-10-5]	1,2-bis[5-(β -azastyryl)-2-thienyl]- <i>trans</i> -ethylene					
	FUS			45.9	501.2	DTA	[1978KOS/BUD]
C ₂₄ H ₁₈ N ₆ S ₂	[1448890-44-5]	Thiocyanic acid, <i>C,C'</i> -[1,4-phthalazinediylbis(iminomethylene-4,1-phenylene)] ester					
	FUS			20.77	494.9	DSC	[2013JIM/PLA]
C ₂₄ H ₂₀ N ₆ O ₃	[139481-59-7]	2-ethoxy-1-[[2'-(2 <i>H</i> -tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]-1 <i>H</i> -benzimidazole-7-carboxylic acid (candesartan cilexetil)					
	FUS (I)			27.74	442	DSC	[2013CUI/YIN]
C ₂₄ H ₂₀ O ₆	[614-33-5]	Glycerol tribenzoate					
	V	(423–476)		123.5	438	A, T	[1987STE/MAL, 1949FOR/NOR]
C ₂₄ H ₂₁ NO ₂	[1041479-16-6]	2- <i>tert</i> -butylphenyl acridine-9-carboxylate					
	FUS			39.8	462	DSC	[2010KRZ/MAL]
C ₂₄ H ₂₁ F ₂ NO ₃	[163222-33-1]	(3 <i>R</i> ,4 <i>S</i>)-1-(4-fluorophenyl)-3-[(3 <i>S</i>)-3-(4-fluorophenyl)-3-hydroxypropyl]-4-(4-hydroxyphenyl)azetidin-2-one (ezetimibe)					
	FUS			38.24	435.2	DSC	[2015GAU/VAN]
	FUS			38.59	437.6	DSC	[2014SUG/KAI]
C ₂₄ H ₂₂ N ₂ O ₂ S ₂	[1448890-47-8]	1,4-bis[[4-methoxyphenyl)methyl]thio]phthalazine					
	FUS			30.4	403.4	DSC	[2013JIM/PLA]
C ₂₄ H ₂₄ N ₂ O ₄	[111841-85-1]	4-(methoxymethyl)-6-(phenylmethoxy)-9 <i>H</i> -pyrido[3,4- <i>b</i>]indole-3-carboxylic acid, 1-methylethyl ester					
	FUS			38.83	424		[1999WIN]
	FUS (I)			36.8			
	FUS (II)			34.8			
	FUS (III)			40.0		DSC	[1996BEC/OTT]
C ₂₄ H ₂₄ N ₄ O ₂	[1448890-38-7]	<i>N^{1,N⁴}</i> -bis[(4-methoxyphenyl)methyl]-1,4-phthalazinediamme					
	FUS			18.3	421.1	DSC	[2013JIM/PLA]
C ₂₄ H ₂₄ O ₄	[89702-41-0]]	Syn4,9-bis(methoxycarbonyl)pagodane (dimethyl undecacyclo[9.9.0.0 ^{1,5} .0 ^{2,12} .0 ^{2,18} .0 ^{3,7} .0 ^{6,10} .0 ^{8,12} .0 ^{11,15} .0 ^{13,17} .0 ^{16,20}]eicosane-4-syn, 9-syn-dicarboxylate)					
	SUB	(393–447)		146.1 ± 3.0	420	T	[1994BEC/RUE]
C ₂₄ H ₂₄ O ₄	[124316-65-0]	1,6-bis(methoxycarbonyl)dodecahedrane (dimethylundecacyclo[9.9.0.0 ^{2,9} .0 ^{3,7} .0 ^{4,20} .0 ^{5,18} .0 ^{6,16} .0 ^{8,15} .0 ^{10,14} .0 ^{12,19} .0 ^{13,17}]eicosane-1,6-dicarboxylate)					
	SUB	(395–450)		139.7 ± 1.3	422	T	[1994BEC/RUE]
C ₂₄ H ₂₅ F ₂₅	[89109-71-7]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosofluorotetacosane					
	TRS			14.6	351		
	FUS			23.2	361	DSC	[2008NUN/CLA]
	TRS			10.0	352.1		
	FUS			26.0	364.1	DSC	[1992HOP/MOL]
	TRS			11.3	353.2		
	FUS			24.5	362.2	DSC	[1986RUS/RAB]
C ₂₄ H ₂₅ F ₂₅	[116177-49-2]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosofluoro-14-methyltricosane					
	TRS			9.0	220		
	FUS			25.0	347.1	DSC	[1992HOP/MOL]
C ₂₄ H ₂₆ N ₂ O ₂	[14580-70-2]	1,5-dipiperidylanthraquinone					
	SUB	(408–458)		173.3	428		[1958HOY/PEP, 1987STE/MAL]
C ₂₄ H ₂₆ N ₂ O ₄	[72956-09-3]	1-(9 <i>H</i> -carbazol-4-yloxy)-3-[[2-(2-methoxyphenoxy)ethyl]amino-2-propanol (carvedilol)					
	FUS			57.6	387.3	DSC	[2007BER/WAS]
C ₂₄ H ₂₇ NO ₄	[3088-05-9]	bis[<i>N,N</i> -(2-hydroxy-3-phenoxy)propyl]phenylamine					
	V	(388–423)		131	403	A	[1987STE/MAL]
C ₂₄ H ₂₇ NO ₅ S	[97322-87-7]	5-[[4[(3,4-dihydro-6-hydroxy-2,5,7,8-tetramethyl-2 <i>H</i> -1-benzopyran-2-yl)methoxy]phenyl]methyl-2,4-thiazolidinedione(troglitazone)					
	FUS			48.8	412.4	DSC	[2007BER/WAS]
C ₂₄ H ₂₈ FN ₅ O	[265667-22-9]	<i>N</i> -methyl-[1-[1-(2-fluorophenethyl)piperidin-4-yl]-1 <i>H</i> -indol-6-yl]acetamide					
	FUS (I)			38.2	421.3		
	FUS (II)			35.2	413		[2002KUS/ASH]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₄ H ₂₉ NO ₃	[126675-77-2]	2-(4-nitrophenyl)-1-[4-(<i>trans</i> -4-butylcyclohexyl)phenyl]ethanone					
C ₂₄ H ₂₉ NO ₃	FUS			36.4	426.9	DSC	[2002SPA/DZI]
	[120014-06-4]	(<i>RS</i>)-2-[(1-benzyl-4-piperidyl)methyl]-5,6-dimethoxy-2,3-dihydroinden-1-one (donepezil)					
	FUS (I)			27.1	366.4	DSC	
	FUS (II)			29.4	369.6	DSC	
C ₂₄ H ₂₉ NO ₆	FUS (III)			32.0	365.4	DSC	
	FUS (IV)			33.2	371.4	DSC	[2013PAR/LEE]
C ₂₄ H ₂₉ NO ₆	[836602-52-9]	Propyl naltrexone-3-O-carbonate					
C ₂₄ H ₂₉ NO ₆	FUS			20.97	379.2	DSC	[2004PIL/HAM]
	[836602-53-0]	Isopropyl naltrexone-3-O-carbonate					
C ₂₄ H ₂₉ N ₅ O ₃	FUS			26.62	427.2	DSC	[2004PIL/HAM]
	[137862-53-4]	<i>N</i> -(1-oxopentyl)- <i>N</i> -[2'-(2 <i>H</i> -tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl-L-valine (valsartan)					
C ₂₄ H ₃₀	FUS			26.13	385.2	DSC	[2008CAS/MAL]
	[59358-71-3]	1,1-diphenyl-1,1'-bicyclohexyl					
	FUS			29.71	455	DSC	[1983KRA/BEC]
C ₂₄ H ₃₀ N ₂ O ₂ S	SUB			150.2		E, B	[1983KRA/BEC]
	FUS	<i>N,N'</i> -bis[4-(1,1-dimethylethyl)benzoyl]carbamimidothioic acid, methyl ester					
C ₂₄ H ₃₀ O ₃				11.51	415.4	DSC	[2009PLA/LIZ]
	[67392-87-4]	Drospirenone					
C ₂₄ H ₃₀ O ₄	FUS			22.1	472.6	DSC	[2015NUR/BOO]
	[140-24-9]	Dibenzyl sebacate					
	V	(368–550)		114.3	383	A	[1987STE/MAL]
	V	(405–463)		112.2	420	T	[1949PER/WEB]
C ₂₄ H ₃₀ O ₄	V	(373–432)		121	388	T	[1939VER/MAR]
	[167321-36-0]	2,2'-diphenyl-bi(5,5-dimethyl-1,3-dioxan-2-yl)					
	SUB	(372–420)		130.2 ± 1.8	396	T	[1995VER/DOG]
C ₂₄ H ₃₁ FO ₆	[76-25-5]	Triamcinoloneacetonide					
C ₂₄ H ₃₁ FO ₆	FUS			45.29	566		[1994REG/CHM]
	[1177-87-3]	Dexamethasone acetate					
C ₂₄ H ₃₁ FO ₆	FUS			37.72	503		[1994REG/CHM]
	[4384-23-0]	[6.6]-para-cyclophane					
C ₂₄ H ₃₂	SUB	(352–371)		108.8 ± 0.8	362		[1969SHI/MCN, 1977PED/RYL]
	SUB	(352–371)		115.1 ± 2.1	298		[1969SHI/MCN, 1977PED/RYL]
C ₂₄ H ₃₂	[115181-13-0]	8-[4-(4'- <i>n</i> -butylbiphenyl)]-1-octene					
	TRS (liq cryst)			2.2	248.6		
C ₂₄ H ₃₂	TRS (liq cryst-to-liq)			9.6	315.6	DSC	[1989MAL/KAN]
	[63058-78-6]	3-[(1-oxohexyl)oxy]-estra-1,3,5(10)-trien-17-one					
C ₂₄ H ₃₂ O ₃	FUS			23.0	370	DSC	[1990YAN/EIR]
	[167321-36-0]	2,2'-diphenyl-bi(5,5-dimethyl-1,3-dioxan-2-yl)					
C ₂₄ H ₃₂ O ₄	FUS			49.8	507.1		[1995VER/DOG]
	[52-01-7]	17-hydroxy-7α-mercaptopro-3-oxo-17α-pregn-4-ene-21-carboxylic acid, γ-lactone,acetate(spironolactone)					
	FUS (II)			20.77	481.6	DSC	[2014ZHA/WAN]
	FUS (II)			22.9	480	DSC	[2007ESP/NIC]
C ₂₄ H ₃₂ O ₄	FUS (I)			20	478		
	FUS (II)			22.1	483		[1991AGA/LEG]
C ₂₄ H ₃₂ O ₈	[14174-09-5]	Dibenzo[24-crown-8]					
	FUS			53.7	373.9	DSC	[2016SAN/CRU]
	FUS (82 % Crys)	(10–500)		51.3	375.5	DSC	[2004BYK/LEB]
	FUS (100 % Crys)			62.5		DSC	[2002LEB/BYK, 2004BYK/LEB]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{24}\text{H}_{33}\text{F}_{17}\text{O}$	TRS			16.6	354.1		
	FUS			52.25	375.4		[1998DOM, 1985RAE/SOL]
	SUB			232.9 ± 3.6	298	V + F	[2016SAN/CRU]
	V	(545–595)		112.0 ± 0.2	570	TGA	[2016SAN/CRU]
	V	(545–595)		190.4 ± 0.2	298	TGA	[2016SAN/CRU]
$\text{C}_{24}\text{H}_{33}\text{F}_{17}\text{O}$	[699008-59-8]	1-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)oxy]tetradecane					
	FUS			45.12	300.3	DSC	[2010ZAG/CON]
$\text{C}_{24}\text{H}_{34}$	[1603-53-8]	1,1-diphenyldodecane					
	TRS			1.92	191		
	FUS			38.83	281.4		[1996DOM/HEA, 1960KAR/STR]
$\text{C}_{24}\text{H}_{34}\text{N}_4\text{O}_5\text{S}$	[93479-97-1]	3-ethyl-2,5-dihydro-4-methyl-N-[2-[4-[[[[trans-4-methylcyclohexyl]amino] carbonyl] amino] sulfonyl]phenyl] ethyl-2-oxo-1 <i>H</i> -pyrrole-1-carboxami(glimepiride)					
	FUS			53.3	485.7	DSC	[2007BER/WAS]
$\text{C}_{24}\text{H}_{36}\text{O}_3$	[3129-43-9]	Testosteronevalerate					
	FUS			24.57	380		[1994REG/CHM]
$\text{C}_{24}\text{H}_{36}\text{O}_5$	[75330-75-5]	2-methylbutanoicacid, (1S,3R,7S,8S,8aR)-1,2,3,7,8,8a-hexahydro-3,7-dimethyl-8-[2-[(2R,4R)-tetrahydro-4-hydroxy-6-oxo-2 <i>H</i> -pyran-2-yl]ethyl]-1-naphthalenyl ester (lovastatin)					
	FUS			36.53	444.3	DSC	[2008TUN/TAB]
	FUS			43.14	445.5	DSC	[2008NTI/CHM]
	FUS			43.1	445.2	DSC	[2007SOU/CON]
$\text{C}_{24}\text{H}_{37}\text{N}_3\text{O}$	[218765-43-6]	Pyrimethanil laurate					
	FUS	(78–340)		67.24	321.5	AC	[2004SUN/LIU]
$\text{C}_{24}\text{H}_{38}\text{O}_4$	[117-81-7]	bis(2-ethylhexyl)phthalate					
	V			116.9 ± 3.8	298	CRT	[2015GOB/CHI]
	V			122.8 ± 3.3	298	CGC	[2015GOB/CHI]
	V			115.9 ± 3.8	298	CGC	[2014GOB/CHI]
	V	(373–660)		102.5	388	A	[1987STE/MAL]
	V	(393–503)		107.6	408		[1952WER]
$\text{C}_{24}\text{H}_{38}\text{O}_4$	V	(385–440)		110.7	390	T	[1949PER/WEB]
	V						
$\text{C}_{24}\text{H}_{38}\text{O}_4$	[6422-86-2]	bis(2-ethylhexyl)terephthalate					
	V			123.2 ± 1.1	298	CGC	[2014GOB/CHI]
$\text{C}_{24}\text{H}_{38}\text{O}_4$	[131-15-7]	bis(1-methylheptyl)phthalate					
	V	(393–435)		93.1	408	A	[1987STE/MAL, 1952WER]
$\text{C}_{24}\text{H}_{38}\text{O}_4$	[131-20-4]	bis(6-methylheptyl)phthalate					
	V	(383–490)		92.4	398	A	[1987STE/MAL, 1952WER]
$\text{C}_{24}\text{H}_{38}\text{O}_4$	[117-84-0]	Diethyl phthalate					
	V			122.7 ± 3.2	298	CRT	[2015GOB/CHI]
	V			131.6 ± 5.7	298	CGC	[2015GOB/CHI]
	V			122.6 ± 1.4	298	CGC	[2014GOB/CHI]
	V	(423–523)		99.5	438	A	[1987STE/MAL]
	V	(383–433)		107.6	398	T	[1949PER/WEB]
$\text{C}_{24}\text{H}_{40}$	[62155-50-4]	1-cyclohexyl-1-phenyldodecane					
	FUS			35.19	275.8		[1996DOM/HEA, 1960KAR/STR]
$\text{C}_{24}\text{H}_{40}\text{N}_8\text{O}_4$	[58-32-2]	2,2',2'',2'''-[(4,8-di-1-piperidinylpyrimido[5,4-d]pyrimidine-2,6-diyl)-dinitrilo]-tetrakis-ethanol (dipyridamole)					
	FUS (I)			44.05	442.8		
	FUS (II)			33.2	441.9	DSC	[2006ADH/BAS]
$\text{C}_{24}\text{H}_{40}\text{O}_3$	FUS			28	438.9	DSC	[2002BER/MAR]
	FUS						
$\text{C}_{24}\text{H}_{40}\text{O}_3$		5-(1,1-dimethylheptyl)-2-[(1 <i>R</i> ,2 <i>R</i> ,5 <i>R</i>)-5-hydroxy-2-(3-hydroxypropyl)cyclohexyl]phenol					
	FUS			18.4	357		[2004VAL/KIP]
$\text{C}_{24}\text{H}_{40}\text{O}_4$	[175848-64-3]	2,5-di- <i>n</i> -nonyloxy-1,4-benzoquinone					
	TRS			8.0	352.6		
	TRS			24.2	383.8		

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		FUS			47.1	402.7	DSC	[1996KEE/VAN]
C ₂₄ H ₄₁ F ₉ O	[1240205-69-9]	1-[(3,3,4,4,5,5,6,6,6-nonafluorohexyl)oxy]octadecane	FUS		28.56	291.7	DSC	[2010ZAG/CON]
C ₂₄ H ₄₂	[2456-68-0]	Hexapropylbenzene	V	(458–606)	68.4	473	A	[1987STE/MAL, 1937GRO/IPA]
C ₂₄ H ₄₂	[4445-07-2]	Octadecylbenzene	V	(423–675)	101	438		[1999DYK/SVO]
C ₂₄ H ₄₂ O ₆	[64617-30-7]	<i>trans</i> trihexyl aconitate	V	(423–512)	98.2	438	A	[1987STE/MAL, 1953MAG/MOD]
C ₂₄ H ₄₂ O ₁₁	V	Di[1-(2-ethylbutyloxycarbonyl)ethyl] diethylene glycol dicarboxylate		(448–538)	110.1	463	A	[1987STE/MAL]
C ₂₄ H ₄₂ O ₁₁	V	Di[1-(2-hexyloxycarbonyl)ethyl] diethylene glycol dicarboxylate		(443–548)	111	458	A	[1987STE/MAL]
C ₂₄ H ₄₄	V	9-decyltetradecahydroanthracene		(501–536)	103.2	516	A	[1987STE/MAL]
C ₂₄ H ₄₄	V	9-decyltetradecahydrophenanthrene		(502–542)	92.0	517	A	[1987STE/MAL]
C ₂₄ H ₄₄ O ₂	[31067-27-3]	3,3,7,7,11,11,15,15-octamethylcyclohexadecane-1,9-dione	FUS		34.3	423.2		[1972BOR/DAL2]
C ₂₄ H ₄₄ O ₄	[38734-14-4]	1,11-cycloicosanedione bis ethylene ketal	FUS		43.72	362.2		[1972ALV/BOR]
C ₂₄ H ₄₄ O ₆	[140-04-5]	O-acetylricinoleic acid, butyl ester	V	(378–423)	105.2	393	A	[1987STE/MAL]
C ₂₄ H ₄₄ O ₆	[38094-13-2]	Trihexyl 1,2,3-propanetricarboxylate	V	(422–526)	98.1	437	A	[1987STE/MAL]
C ₂₄ H ₄₄ O ₆	[620-67-7]	Glyceroltriheptanoate	V	(401–452)	84.4	416		[2001BUR/JOS]
C ₂₄ H ₄₆	[18254-57-4]	1,1-dicyclohexylidodecane	FUS		44.35	300.6		[1996DOM/HEA, 1960KAR/STR]
C ₂₄ H ₄₆	[95746-44-4]	2,11-dicyclohexylidodecane	FUS		43.93	300.6		[1996DOM/HEA, 1960KAR/STR]
C ₂₄ H ₄₆	[95115-77-8]	<i>trans</i> -2,6-diheptyldecalin	FUS		40.17	326.7		[1985VAR/BRI]
C ₂₄ H ₄₆ O ₂	[506-37-6]	(15Z)-tetracosenoic acid	FUS		60.3	315	DSC	[2015WIL/GOB]
		SUB			228.9 ± 2.4	298	V + F	[2015WIL/GOB]
		V			170.6 ± 2.3	298	CGC	[2015WIL/GOB]
C ₂₄ H ₄₆ O ₄	[20270-50-2]	bis(3,5,5-trimethylhexyl)adipate	V	(353–413)	107.6	368	A, ME	[1987STE/MAL, 1948SMA/SMA]
C ₂₄ H ₄₇ NO ₃	[14246-59-4]	N-(1-oxododecyl)glycine	TRS + FUS		71.0	402.2	DSC	[2014RED/KRO]
C ₂₄ H ₄₇ NO ₃	[1213779-59-9]	Undecanoic acid, 2-[(1-oxoundecyl)amino]ethyl ester	FUS		53.6	340.1	DSC	[2010KAM/TAR]
C ₂₄ H ₄₈	[4445-06-1]	Octadecylcyclohexane	V	(422–675)	100.3	437		[1999DYK/SVO]
C ₂₄ H ₄₈	[10192-32-2]	1-tetracosene	V	(418–663)	101	433		[1999DYK/SVO]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₄ H ₄₈	[297-03-0]	Cyclotetraacosane	TRS FUS		38.0	297	DSC	[1987DRO/MOL, 1987DRO/EME]
					10.8	322		
C ₂₄ H ₄₈ O ₂	[5908-87-2]	Ethyldocosanoate	FUS TRS FUS		77.82	321	[1967OMA]	[1996DOM/HEA, 1934KIN/GAR]
					26.0	312.3		
					52.0	321		
			SUB	(313–318)	196.5	315.5	ME	[1987STE/MAL, 1967OMA]
			V	(327–344)	127.5	335	A, ME	[1987STE/MAL, 1967BER/WES]
C ₂₄ H ₄₈ O ₂	[2433-97-8]	Methyl tricosanoate (473–528)	V		99.8	488	A, E	[1987STE/MAL, 1963ROS/SCH]
C ₂₄ H ₄₈ O ₂	[557-59-5]	Tetracosanoic acid	TRS FUS		4.94	351	DSC	[2015WIL/GOB]
					84.5	356.5		
			SUB		253.0 ± 3.2	298	V+ F	[2015WIL/GOB]
			V		170.7 ± 2.3	298	CGC	[2015WIL/GOB]
C ₂₄ H ₄₉ Cl	[6422-18-0]	1-chlorotetraacosane (543–774)	V		72.4	558	A	[1987STE/MAL, 1970DYK/VAN]
C ₂₄ H ₅₀	[1928-30-9]	2-methyltricosane (450–664)	V		89.3	465	A	[1987STE/MAL]
C ₂₄ H ₅₀	[22331-09-5]	5-methyltricosane (503–653)	V		79.6	518	A	[1987STE/MAL, 1999DYK/SVO, 1959TER/BRI]
C ₂₄ H ₅₀	[646-31-1]	Tetraacosane	TRS		27.4	321.5	DSC	[2016BOU/HAF]
					49.6	324.2		
			TRS		31.18	320.4	DSC	[2013BEN/KHI, 2012BEN/KHI]
			FUS		55.51	324.5		
			TRS		33.18	321	DSC	[2007HAF/MAH]
			FUS		59.31	324.1		
			TRS		30.3	319	DSC	[2004MON/RAJ]
			TRS		<0.3	319.6		
			FUS		53.8	323.4	DSC	[1999GIL]
			TRS		33.6	322.6		
			FUS		52.0	324.4	DSC	[1991DOM/WYR]
			TRS		27.68	318.9		
			FUS		57.31	323.65	DSC	[1991BAR/SCH]
			TRS		29.16	321.0		
			FUS		54.4	323.8	DSC	[1991CLA/LET]
			TRS		31.5	321.1		
			FUS		54.0	323.5	DSC	[1973COM]
			TRS		31.3	321.4		
			FUS		54.7	323.9	AC	[1969ATK/RIC]
			TRS + FUS		86.8	322.9		
			TRS		31.3	321.3	AC	[1996DOM/HEA, 1955SCH/BUS]
			FUS		54.89	324.1		
			TRS + FUS		85.8	323.5	AC	[1948MAZ]
			SUB	(308–323)	164.9 ± 1.8	315		
			SUB		162 ± 12	298		
			V		116.1 ± 3.1	298	CRT	[2009RAZ/NAC]
			V		121.5 ± 2.9	298	CGC	[1991PIA/POM]
			V	(333–373)	105.1 ± 0.5	353		[2009GOB/CHI]
			V	(334–452)	112	349	GC	[2007GOB/CHI]
			V	(434–539)	121.9	298	CGC	[2004LEE/LAI]
			V		126.8 ± 0.4	298	CGC	[2004CHI/HAN]
								[2002CHI/WEB]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{24}\text{H}_{50}$	V			125.7 ± 1.6	298	CGC	[2000NIC/ORF]
	V			126.2 ± 2.3	298	CGC	[1997CHI/WIL]
	V	(453–588)		92.6	468		[1994MOR/KOB]
	V	(386–425)		126 ± 2	405	TE	[1994PIA/FON]
	V	(382–523)		95.2	397	TE, ME, GS	[1991PIA/POM]
	V	(451–497)		86.2 ± 4.6	474	GS	[1990PIA/SCA]
	V	(373–463)		111.2	388		[1988SAS/JOS]
	V	(498–573)		86.6	513	A, E	[1987STE/MAL, 1966KUD/ZWO]
	[22331-52-8]	12-methyltricosane					
	V	(435–454)		84.5	445	GC	[1982REC/GRE, 1999DYK/SVO]
$\text{C}_{24}\text{H}_{50}\text{O}$	[4542-57-8]	13-oxapentacosane					
	TRS			4.6	303.8		
$\text{C}_{24}\text{H}_{50}\text{O}_2$	FUS			92.88	304.62	DSC	[2004TYA/BIS]
	[2136-74-5]	2-(docosanoxy)ethanol					
	TRS			12.92	317.2	DTA	[1979KUC/SKU]
$\text{C}_{24}\text{H}_{50}\text{O}_2$	FUS			43.93	335.9		
	[22513-82-2]	1,24-tetracosanediol					
	TRS			42.7	372.7		
	FUS			51.2	381.5	DSC	[1999OGA/NAK]
$\text{C}_{24}\text{H}_{50}\text{O}_4\text{S}_2$		(<i>I</i>)-rhamnose dinonyl dithioacetal					
	TRS			24.7	342.1		
$\text{C}_{24}\text{H}_{50}\text{S}$	FUS			54.4	387.4	DSC	[1989VAN/VAN]
	[16331-24-1]	1-tetracosanethiol					
$\text{C}_{24}\text{H}_{51}\text{N}$	V	(451–700)		112.2	466	E	[1999DYK/SVO]
	V			100.1 ± 1.4	298	CGC	[2014GOB/VIK]
	V	(415–536)		110.4 ± 15.0	298	EB	[1996STE/CHI3]
$\text{C}_{24}\text{H}_{51}\text{O}_4\text{P}$	V	(505–702)		70.6	520	A	[1987STE/MAL]
	[78-42-2]	tris(2-ethylhexyl)phosphate					
$\text{C}_{25}\text{H}_{20}$	V	(383–413)		106.0	398	GC-RT	[2014BRO/JAN]
	[630-76-2]	Tetraphenylmethane					
	FUS			48.28	554.2	DSC	[1999VER3]
	SUB	(363–388)		140.0 ± 1.3	298	GS	[1999VER3]
	SUB	(363–383)		135.4 ± 1.3	376	GS	[1999VER3]
	SUB	(396–466)		150.6 ± 4	298	TE, ME	[1972KAN, 1977PED/RYL]
	SUB	(404–466)		143.3	419		[1987STE/MAL, 1972KAN]
$\text{C}_{25}\text{H}_{22}\text{O}_{10}$	[22888-70-6]	2-[<i>(2R,3R)</i> -2,3-dihydro-3-(4-hydroxy-3-methoxyphenyl)-2-(hydroxymethyl)-1,4-benzodioxin-6-yl]-2,3-dihydro-3,5,7-trihydroxy-4 <i>H</i> -1-benzopyran-4-one (silybin)					
	FUS			44.87	424	DSC	[2005ZHA/BAI, 2006BAI/YAN, 2005YAO/BAI]
$\text{C}_{25}\text{H}_{26}$	[55334-57-1]	3-phenylethyl-1,5-diphenyl-2-pentene					
	V	(469–541)		86.8	484		[1999DYK/SVO]
$\text{C}_{25}\text{H}_{28}$	[66374-88-7]	3-phenylethyl-1,5-diphenylpentane					
	V	(498–542)		87.3	513	A	[1987STE/MAL, 1999DYK/SVO]
$\text{C}_{25}\text{H}_{28}\text{N}_6\text{O}$	[138402-11-6]	Irbesartan					
	SUB (α)	(403–421)		197.2 ± 20		ME	[2009TAU/SIT]
$\text{C}_{25}\text{H}_{28}\text{O}_3$	SUB (β)	(403–421)		254.5 ± 20		ME	[2009TAU/SIT]
	[50-50-0]	Estra-1,3,5(10)-triene-3,17-diol(17P), 3-benzoate					
	FUS			41.75	464.1		[1985DEM/CHA]
	[67-78-7]	Triamcinolone diacetate					
$\text{C}_{25}\text{H}_{31}\text{FO}_8$	FUS			38.31	508		[1994REG/CHM]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₅ H ₃₁ NO ₃	[483362-62-5]	2-(4-nitrophenyl)-1-[4-[2-(<i>trans</i> -4-propylcyclohexyl)ethyl]phenyl] ethanone					
	FUS			35.56	420	DSC	[2002SPA/DZI]
C ₂₅ H ₃₁ NO ₃	[126675-78-3]	2-(4-nitrophenyl)-1-[4-(<i>trans</i> -4-pentylcyclohexyl)phenyl]ethanone					
	FUS			34.48	415.8	DSC	[2002SPA/DZI]
C ₂₅ H ₃₂ N ₂ O ₅		<i>N,N</i> -diethyl naltrexone-3-O-carbamate					
	FUS			21.56	419.7	DSC	[2009VAD/BAN]
C ₂₅ H ₃₂ O ₂	[76208-41-8]	17-phenyl testosterone					
	TRS			23.3	388.5		
	FUS			44.2	450	DSC	[1997CEN/MEL]
C ₂₅ H ₃₄ O ₃	[65445-09-2]	19-nor-17 <i>α</i> -ethynyl-17 <i>β</i> -(2,2-dimethylpropionoxy-4-androsten-3-one					
	FUS			37.8	500	DSC	[1996DOM/HEA, 1979LEW/ENE]
C ₂₅ H ₃₄ O ₃	[2985-59-3]	2-hydroxy-4-dodecyloxybenzophenone					
	V	(413-453)		115.5	433	ME	[1984SUR]
C ₂₅ H ₃₄ O ₃	[118924-66-6]	3-[(1-oxoheptyl)oxy]-estr-1,3,5(10)-trien-17-one					
	FUS			21.0	338	DSC	[1990YAN/EIR]
C ₂₅ H ₃₄ O ₆	[51333-22-3]	16 <i>α</i> ,17 <i>α</i> -(butyldenedioxy)-11 <i>β</i> ,21-dihydroxypregna-1,4-diene-3,20-dione (budesonide)					
	FUS			34.7	534	DSC	[2009MOT/CAR]
C ₂₅ H ₃₄ O ₈	[2203-97-6]	Hydrocortisone hemisuccinate					
	FUS			41.34	444	DSC	[1997CEN/MEL]
C ₂₅ H ₃₄ O ₈ P ₂	[60699-49-2]	2,2'-(1-methylethylidene)bis(4,1-phenyleneoxy)bis[5,5-dimethyl-1,3,2-dioxaphosphorinane]-2,2'-dioxide					
	FUS			39.82	469.0	DSC	[2014JIA/WAN3]
C ₂₅ H ₃₆	[7225-70-9]	1-phenyl-3-phenethylundecane					
	V	(456-521)		91.9	471	A	[1987STE/MAL, 1999DYK/SVO]
C ₂₅ H ₃₆ O ₂	[119-47-1]	2,2'-methylenebis(6- <i>tert</i> -butyl-4-methylphenol)					
	SUB	(383-403)		114	393	GS	[1971FEL/KUZ]
C ₂₅ H ₃₈	[55191-63-4]	1-pentadecylnaphthalene					
	V	(474-524)		98.1	489	A	[1987STE/MAL]
	V	(474-540)		96.7	489	A	[1987STE/MAL]
C ₂₅ H ₃₈ O ₅	[79902-63-9]	2,2-dimethylbutanoic acid, (1S,3R,7S,8S,8aR)-1,2,3,7,8,8 <i>a</i> -hexahydro-3,7-dimethyl-8-[2-[(2 <i>R</i> ,4 <i>R</i>)-tetrahydro-4-hydroxy-6-oxo-2 <i>H</i> -pyran-2-yl]ethyl]-1-naphthalenyl ester (simvastatin)					
	FUS			30.13	415.1	DSC	[2015YAN/YIN]
	FUS			30.0	412.3	DSC	[2015NUR/BOO]
	FUS			28.4	413.3	DSC	[2014SIM/DIO]
	FUS	(293-423)		30.4	414.1	DSC	[2013SIM/BER]
	FUS			24.5	410.9	DSC	[2011ACE/HIN]
	FUS			28.3	411.7		[2010OLI/YOS]
	FUS			29.55	412.5	DSC	[2009SHA/DEN]
	FUS			32.17	412.6	DSC	[2009NTI/CHA]
	FUS			28.6	412.3		[2008GRA/STR]
	FUS			29.59	413.8	DSC	[2008TUN/TAB]
	FUS			31.8	415.2	DSC	[2007SOU/CON]
	FUS			32.6	412.7		[2007JUN/KIM]
	FUS			22.4	410		[2006ISM]
C ₂₅ H ₃₉ N ₃ O ₈	[53848-85-4]	Octadecyl 2,4,6-trinitrobenzoate					
	TRS			25.4	364.1		
	FUS			30.0	392.3	DSC	[1974WAR/WIL]
C ₂₅ H ₄₀	[55334-30-0]	1-cyclohexyl-6-cyclopentyl-3-phenethylhexane					
	V	(486-525)		87.7	501	A	[1987STE/MAL, 1999DYK/SVO]
C ₂₅ H ₄₀	[55334-31-1]	1,7-dicyclopentyl-4-(2-phenethyl)heptane					
	V	(487-525)		92.0	502	A, MG	[1987STE/MAL, 1955SCH/WHI, 1999DYK/SVO]
C ₂₅ H ₄₂	[334-29-2]	1-hexadecylindane					
	V	(495-536)		87.0	510	A, MG	[1987STE/MAL, 1955SCH/WHI, 1999DYK/SVO]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₅ H ₄₂	[66374-91-2]	5-pentadecyl-1,2,3,4-tetrahydronaphthalene	(471–534)	99.4	486	A	[1987STE/MAL, 1999DYK/SVO]
	V						
C ₂₅ H ₄₄	[29136-19-4]	Nonadecylbenzene	(431–686)	103.6	446		[1999DYK/SVO]
	V						
C ₂₅ H ₄₄	[66374-92-3]	1,5-dicyclohexyl-3-(2-cyclohexylethyl)-2-pentene	(485–524)	88.0	500	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V						
C ₂₅ H ₄₄	[66374-93-4]	1,7-dicyclopentyl-4-(3-cyclopentylpropyl)-3-heptene	(483–522)	89.0	498	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V						
C ₂₅ H ₄₄	[5637-96-7]	3-octyl-1-phenylundecane	(476–513)	89.4	491	A	[1987STE/MAL]
	V						
C ₂₅ H ₄₄	[5637-96-7]	9-(2-phenylethyl)heptadecane	(448–513)	88.3	463	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V						
C ₂₅ H ₄₄	[4445-08-3]	9-(4-tolyl)octadecane	(472–507)	92.0	487	A, MG	[1987STE/MAL, 1955SCH/WHI, 1999DYK/SVO]
	V						
C ₂₅ H ₄₄	[7225-65-2]	6-octyl(hexylhydrobenz[de]anthracene)	(467–534)	93.8	482		[1999DYK/SVO]
	V						
C ₂₅ H ₄₄ O ₈	[15834-04-5]	pentaerythritol tetrapentanoate	(334–413)	120.8	350		[2007RAZ/MOK]
	V						
C ₂₅ H ₄₆	[55401-70-2]	1-cyclohexyl-3-(cyclohexylethyl)-6-cyclopentylhexane	(487–524)	91.4	502	A	[1987STE/MAL]
	V						
C ₂₅ H ₄₆	[55401-72-4]	4-(2-cyclohexylethyl)-1,7-dicyclopentylheptane	(471–524)	88.8	486	A	[1987STE/MAL]
	V						
C ₂₅ H ₄₆	[2090-16-6]	1,5-dicyclohexyl-3-(2-cyclohexylethyl)pentane	(318–418)	107.6	333	A	[1987STE/MAL, 1964MOR]
	V						
C ₂₅ H ₄₆	[55429-35-1]	1,7-dicyclopentyl-4-(3-cyclopentylpropyl)heptane	(457–525)	87.6	472	A	[1987STE/MAL]
	V						
C ₂₅ H ₄₆	[55429-35-1]	1,7-dicyclopentyl-4-(3-cyclopentylpropyl)heptane	(486–525)	88.9	501	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V						
C ₂₅ H ₄₆ O ₆	[33599-07-4]	1,2-diaceto-3-stearin	FUS	45.56	208.3		[1996DOM/HEA, 1955WAR/VIC]
C ₂₅ H ₄₈	[7225-69-6]	1-cyclohexyl-3-(2-cyclohexylethyl)undecane	(480–516)	95.2	495	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V						
C ₂₅ H ₄₈	[7225-68-5]	1-cyclopentyl-4-(3-cyclopentylpropyl)dodecane	(480–518)	88.5	495	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V						
C ₂₅ H ₄₈	[55401-73-5]	1-hexyldecylhexahydroindane	(492–532)	87.6	507	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V						
C ₂₅ H ₄₈	[66359-82-8]	1-pentadecyldecahydronaphthalene	(464–529)	93.4	479	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V						
C ₂₅ H ₄₈ N ₂ O ₂ S	[1383124-08-0]	1,3-didodecanoyl thiourea	FUS	50.5	315.7	DSC	[2011ALK/TEK]
C ₂₅ H ₄₈ N ₆ O ₈	[70-51-9]	<i>N'</i> -[5-[[4-[[5-(acetylhydroxyamino)pentyl]amino]-1,4-dioxobutyl]-hydroxyammo]pentyl]- <i>N</i> -(5-aminopentyl)- <i>N</i> -hydroxybutanediamide (deferoxamine)	FUS	105.3	411.1	DSC	[2000IHN/VEN]
C ₂₅ H ₄₈ O ₂	[2733-88-2]	Methyl Z 15-tetracosenoate	V	135.3 ± 1.1	298	CGC	[2007LIP/KAP]
C ₂₅ H ₄₈ O ₄	[2064-80-4]	Diethyl nonanedioate	V	(393–523)	104.3	A	[1987STE/MAL]
C ₂₅ H ₄₈ O ₄₈ P ₄	[75607-57-7]	Tetra(3,5-dimethyl-1,3-dioxaphosphorinanyl-2-oxy)neopentane	FUS	48.4	466.1	DSC	[2014JIA/WAN]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{25}\text{H}_{50}$	[22349-03-7]	Nonadecylcyclohexane	FUS		79.9	315.7	DSC	[2001YOU/SCH]
			FUS		78.8	313.2	DSC	[2000YOU/DOL]
			FUS		77.79	316.2	DSC	[2000SIR/HER]
			V	(430–686)	102.8	445		[1999DYK/SVO]
$\text{C}_{25}\text{H}_{50}$	[16980-85-1]	1-pentacosene	V	(426–674)	103.7	441		[1999DYK/SVO]
$\text{C}_{25}\text{H}_{50}$	[25446-35-9]	9-(2-cyclohexylethyl)heptadecane	V	(490–513)	88.6	495	A	[1987STE/MAL, 1955SCH/WHI]
$\text{C}_{25}\text{H}_{50}$	[5638-09-5]	9-(3-cyclopentylpropyl)heptadecane	V	(476–514)	86.9	491	A	[1987STE/MAL, 1999DYK/SVO]
$\text{C}_{25}\text{H}_{50}$	[24306-18-1]	9-octyl-8-heptadecene	V	(441–500)	92.3	456	A	[1987STE/MAL, 1999DYK/SVO]
$\text{C}_{25}\text{H}_{50}\text{O}$	[2123-19-5]	13-pentacosanone	FUS		96.17	347	DSC	[2000NAK/SHI]
$\text{C}_{25}\text{H}_{50}\text{O}_2$	[2442-49-1]	Methyl tetracosanoate	FUS		90.0	331.2	DSC	[2004CHI/ZHA]
			V	(467–558)	136.6 ± 2.5		CGC	[2004CHI/ZHA]
			V	(422–452)	146.2	437		[2001BUR/JOS]
			V	(483–536)	100.8	498	A	[1987STE/MAL]
$\text{C}_{25}\text{H}_{50}\text{O}_2$	[18281-07-7]	Ethyl tricosanoate	FUS		57.32	326		[1967OMA]
			SUB	(316–322)	175.2	319	ME	[1987STE/MAL, 1967OMA]
			V	(336–359)	121.8	347	A, ME	[1987STE/MAL, 1967BER/WES]
$\text{C}_{25}\text{H}_{50}\text{O}_3$	[6627-45-8]	Didodecyl carbonate	FUS		50.35	295.5	DSC	[2012KEN]
			FUS		79.7	290.5	DSC	[2010KEN]
$\text{C}_{25}\text{H}_{52}$	[7225-64-1]	9-octylheptadecane	V	(470–505)	93.4	485	A, MG	[1987STE/MAL, 1955SCH/WHI]
$\text{C}_{25}\text{H}_{52}$	[629-99-2]	Pentacosane	TRS		27.3	318.8		
			FUS		51.2	327.1	DSC	[2016BOU/HAF]
			TRS		23.9	309		
			TRS		1.07	312.9		
			FUS		55.53	325.9	DSC	[2006KHI/BOU]
			TRS		<0.4	310.5		
			TRS		0.4	319.4		
			TRS		23.6	320.0		
			TRS		<0.4	322.6		
			FUS		57.8	326.4	DSC	[2004MON/RAJ]
			TRS		<0.4	310.5		
			TRS		0.4	319.4		
			TRS		23.6	320.0		
			TRS		<0.4	322.6		
			FUS		57.18	326.4		[1998ROB/MON, 2001CHE/BOU]
			TRS		0.3	311.9		
			TRS		27.45	320.7		
$\text{C}_{25}\text{H}_{52}$	[629-99-2]	Pentacosane	FUS		56.66	327.0	DSC	[2001CHE/BOU]
			TRS		26.50	320.0		
			FUS		56.75	326.7		[1991BAR/SCH]
			TRS		26.07	320.2		
			FUS		57.74	326.7	AC	[1996DOM/HEA, 1955SCH/BUS]
			TRS + FUS		78.9	326.5		[1929PAR/TOD]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{29}\text{H}_{58}$	[79370-85-7]	SUB		173.6 ± 10	298	B	[1991PIA/POM]
		V		119.1 ± 3.1	298	CRT	[2015GOB/CHI]
		V		126.7 ± 4.4	298	CGC	[2015GOB/CHI]
		V	(382–462)	106.6	397		[2006SAW/MOK]
		V	(434–539)	126.8	298	CGC	[2004CHI/HAN]
		V		128.6 ± 2.2	298	GS	[2001PUR/CHI]
		V		127.6 ± 0.8	298	CGC	[2000NIC/ORF]
		V		129.8 ± 2.9	298	CGC	[1997CHI/WIL]
		V	(397–434)	126 ± 1	415	TE	[1994PIA/FON]
		V	(390–531)	97.6	405	TE, ME, GS	[1991PIA/POM]
		V	(461–498)	90.9 ± 5.7	479	GS	[1990PIA/SCA]
		V	(457–675)	99.2	472	A, E	[1987STE/MAL, 1966KUD/ZWO]
$\text{C}_{25}\text{H}_{52}$		12-ethyltricosane					
		V	(435–454)	84.6	444	GC	[1982REC/GRE, 1999DYK/SVO]
$\text{C}_{25}\text{H}_{52}$	[1560-78-7]	2-methyltetracosane					
		V	(425–670)	104.6	440		[1999DYK/SVO]
$\text{C}_{25}\text{H}_{52}$	[126724-71-8]	5,5-bis(3,3'-dimethylbutyl)-2,2,8,8-tetramethylnonane					
		FUS		48.53	472.7		[1990MEN/LIA]
		V		91.9 ± 1.8	298	CGC	[1995CHI/HES]
$\text{C}_{25}\text{H}_{52}$	[163983-29-7]	7,7-dihexyltridecane					
		V		115.3 ± 1.8	298	CGC	[1995CHI/HES]
$\text{C}_{25}\text{H}_{52}\text{S}$	[66359-74-8]	1-pentacosanethiol					
		V	(458–709)	114.2	473	E	[1999DYK/SVO]
$\text{C}_{26}\text{H}_{14}$	[190-84-1]	1,12-phenyleneperylene (naphtha[1,2,3,4-ghi]perylene)					
		FUS		17.28	541.5		[1991ACR, 1980SMI]
$\text{C}_{26}\text{H}_{15}\text{C}_{12}\text{N}_5\text{O}_2$	[68808-70-8]	1,3-bis(cyano-4-chlorophenylcarbamoyl-methylene)isoindolin					
		FUS		123	679.2		[1993GRU]
$\text{C}_{26}\text{H}_{16}$	[191-68-4]	dibenzol[g, p]chrysene					
		SUB	(408–493)	142.2	423	A	[1987STE/MAL]
		SUB	(417–500)	141.8	458	ME	[1967WAK/INO]
$\text{C}_{26}\text{H}_{18}$	[1499-10-1]	9,10-diphenylanthracene					
		SUB	(313–453)	137.5	383	GS	[1995NAS/LEN]
		SUB		116.4			[1958KLO]
		SUB	(393–433)	143.6	413		[1958HOY/PEP, 1987STE/MAL]
		SUB	(481–502)	156.9 ± 4.2	492	HSA	[1953STE, 1970COX/PIL]
		V	(323–473)	102.7	398	GC	[2002LEI/CHA]
$\text{C}_{26}\text{H}_{18}$	[1530-12-7]	9,9'-bifluorenyl					
		FUS		36.9	519.2		[1994RAK/VER2]
		SUB	(383–408)	131.8 ± 1.1	395	T	[1994RAK/VER2]
		SUB		132.6 ± 1.1	298		[1994RAK/VER2]
		V	(383–408)	95.7		B	[1994RAK/VER2]
$\text{C}_{26}\text{H}_{18}\text{N}_2\text{O}_4$	[6408-72-6]	disperse violet 31					
		V	(453–523)	59.9	468	A	[1987STE/MAL]
$\text{C}_{26}\text{H}_{20}$	[632-51-9]	Tetraphenylethene					
		FUS		37.45	496.1	DSC	[1999VER/EBE]
		SUB	(343–389)	129.3 ± 0.7	366	GS	[1999VER/EBE]
		SUB		133.4 ± 0.7	298	GS	[1999VER/EBE]
$\text{C}_{26}\text{H}_{20}\text{N}_2\text{O}_2$	[3073-87-8]	2,2'-(1,4-phenylene)bis(4-methyl-5-phenyl)oxazole					
		SUB		150	480		[1989SCH/PEN]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₆ H ₂₂	[632-50-8]	1,1,2,2-tetraphenylethane					
	SUB			136.8 ± 2.9	298	GS	[1990BEC/DOG2]
	SUB	(370–423)		131.4 ± 2.1	396	GS	[1990BEC/DOG2]
C ₂₆ H ₂₂	[2294-94-2]	1,1,1,2-tetraphenylethane					
	SUB			132.6 ± 2.1	298	GS	[1990BEC/DOG2]
	SUB	(340–400)		128.7 ± 2.1	370	GS	[1990BEC/DOG2]
	SUB			126.4 ± 1.7	434	HSA	[1956BEY/NIC]
C ₂₆ H ₂₂ N ₂ O ₂ S ₂	[109538-15-0]	1,2-bis[5-(4-methoxy-β-azastyryl)-2-thienyl]- <i>trans</i> -ethylene					
	TRS (liq cryst)			63.5	538.2		
	TRS (liq cryst-to-liq)			0.8	567.2	DTA	[1978KOS/BUD]
C ₂₆ H ₂₆	[35117-21-6]	Pentacyclo[18.2.2.2 ^(9,12) .0 ^(4,15) .0 ^(4,15) .0 ^(6,17)]hexacos-4,6 ⁽¹⁷⁾ ,9,11,-15,20,22,23,25-nonane (triple layered [2.2]paracyclophe)					
	SUB	(299–412)		119.1 ± 1.5		TSGC	[1980NIS/SAK]
	SUB	(299–412)		125.9 ± 2.5	298	TSGC	[1980NIS/SAK]
C ₂₆ H ₂₆ N ₂ O ₆ P ₂	[34670-52-5]	Phosphoramidic acid, <i>N,N'</i> -1,2-ethanediylbis- <i>P,P',P'</i> -tetraphenyl ester					
	FUS			44.23	412.36	DSC	[2015CHE/DU]
C ₂₆ H ₂₈ Cl ₂ N ₄ O ₄	[65277-42-1]	1-[4-(4-[(2R,4S)-2-(2,4-dichlorophenyl)-2-(1 <i>H</i> -imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl)piperazin-1-yl] ethan-1-one (ketoconazole)					
	FUS			57.7	421.7	DSC	[2010AVU/ALE]
	FUS			52.85	423	DSC	[2010BAI/VAN]
	FUS			48.2	422.5	DSC	[2010BAL/MAH]
C ₂₆ H ₂₈ N ₂	[298-57-7]	(<i>E</i>)-1-(diphenylmethyl)-4-(3-phenylprop-2-enyl)piperazine(cinnarizine)					
	FUS			37.13	394	DSC	[2015PAU/HAR]
	FUS			40.87	394	DSC	[2010BAI/VAN]
C ₂₆ H ₂₉ F ₂₅	[93454-73-0]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosfluorohexacosane					
	TRS			16.3	363		
	FUS			26.1	366	DSC	[1991HOP/MOL, 1988HOP/PUG]
	FUS			26	359.2	DSC	[1986RUS/RAB]
C ₂₆ H ₂₉ NO	[10540-29-1]	2-[4-[(1 <i>Z</i>)-1,2-diphenyl-1-butene-1-yl]phenoxy]- <i>N,N</i> -dimethyllethanamine (tamoxifen)					
	FUS			34	371	DSC	[2007BER/WAS]
C ₂₆ H ₂₉ N ₃ O ₆	[55985-32-5]	1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylic acid, 3-methyl-5-[2-[methyl(phenylmethyl)amino]ethyl] ester					
	FUS			46.0	444.5	DSC	[2004MAR/KOZ]
C ₂₆ H ₃₂	[103042-85-9]	6-octyl-1,2,3,4-tetrahydronaphthacene					
	V	(503–574)		103.2	518	A	[1987STE/MAL]
C ₂₆ H ₃₂ O ₆		1,4,5,8-tetrakis(propoxy)-9,10-anthraquinone					
	FUS			28.63	473.9		[2001NOR/TOU]
C ₂₆ H ₃₃ NO ₃	[483362-63-6]	2-(4-nitrophenyl)-1-[4-[2-(<i>trans</i> -4-butylcyclohexyl)ethyl]phenyl]ethanone					
	FUS			35.9	408.6	DSC	[2002SPA/DZI]
C ₂₆ H ₃₃ NO ₆	[103890-78-4]	4-[2-[(1 <i>E</i>)-3-(1,1-dimethylethoxy)-3-oxo-1-propenyl]phenyl]-1,4-dihydro-2,6-dimethyl-3,5-pyridinedicarboxylic acid, diethyl ester (lacidipine)					
	FUS			45.96	455.3	DSC	[2001FOR/HEM]
C ₂₆ H ₃₄	[2883-70-7]	9-dodecylanthracene					
	V	(495–566)		99.4	510	A	[1987STE/MAL]
C ₂₆ H ₃₄	[3788-61-2]	9-dodecylphenanthrene					
	V	(495–568)		95.7	510	A	[1987STE/MAL]
C ₂₆ H ₃₄ O ₄		1,4,5,8-tetrapropoxy anthracene					
	FUS + TRS			43.93	410.2		[2001NOR/TOU]
[Note: The authors report only the total enthalpy of melting. Numerical value contains enthalpies for two solid–solid transitions that occur at 370.7 K and 385.5 K. Larger tetraalkoxy-derivatives show liquid crystalline behavior.]							
C ₂₆ H ₃₆ O ₃	[63042-30-8]	3-[(1-oxooctyl)oxy]-estra-1,3,5(10)-trien-17-one					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method	References
		FUS		24.0	348	DSC	[1990YAN/EIR]
C ₂₆ H ₃₈	[55268-63-8] V	1,1-diphenyltetradecane (467–530)		98.2	482	A	[1987STE/MAL]
C ₂₆ H ₃₈	[55268-62-7] V	1,1-di(4-tolyl)dodecane (466–529)		98.3	481	A	[1987STE/MAL]
C ₂₆ H ₃₈	[5171-91-5] FUS	2,3-dimethyl-2,3-bis(4- <i>tert</i> -butylphenyl)-butane 43.93		493	DSC	[1983KRA/BEC]	
		SUB		161.9		E, B	[1983KRA/BEC]
C ₂₆ H ₃₈ O ₂	[3000-49-5] FUS	3β-octyloxy-estra-1,3,5(10)-trien-17-one 19.0		331	DSC	[1990YAN/EIR]	
C ₂₆ H ₄₀	[95258-25-6] V	5-octyl-1,2,3,4,4 <i>a</i> ,5,7,8,9,10,12,12 <i>a</i> -dodecahydronaphthacene (479–549)		91.9	494	A, MG	[1987STE/MAL, 1955SCH/WHI, 1999DYK/SVO]
C ₂₆ H ₄₀ O ₂	[128805-68-5] FUS	3-(octyloxy)-estra-1,3,5(10)-trien-17-ol 21.0		338	DSC	[1990YAN/EIR]	
C ₂₆ H ₄₁ F ₁₃ O	[1240205-68-8] FUS	1-[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoroctyl)oxy]octane 37.34		300.6	DSC	[2010ZAG/CON]	
C ₂₆ H ₄₂	[66374-86-5] V	1,1-bis(dodecahydroacenaphthylene-5-yl)ethane (482–541)		110.9	497	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₄₂ O	[141784-31-8] TRS (liq cryst) TRS (liq cryst-to-liq)	<i>trans</i> -1-(4-heptanoylphenyl)-4-heptylcyclohexane 16.49 7.71		343.2	344.7	DSC	[1992FUR/BUT]
C ₂₆ H ₄₂ O ₄	[14103-61-8] V	bis(3,5,5-trimethylhexyl)phthalate (333–393)		113.6	348	A	[1987STE/MAL]
C ₂₆ H ₄₂ O ₄	[84-76-4] V	Dinonyl phthalate (333–393)		108.9	348	A	[1987STE/MAL]
C ₂₆ H ₄₆	[2655-95-0] V	1,4-didecylbenzene (468–536)		95.2	483	A	[1987STE/MAL]
C ₂₆ H ₄₆	[2398-68-7] V	1-phenyleicosane (499–538)		94.7	514	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₄₆	[2398-66-5] V	2-phenyleicosane (492–531)		90.4	507	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₄₆	[2400-02-4] V	3-phenyleicosane (489–526)		92.1	504	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₄₆	[2400-03-5] V	4-phenyleicosane (487–527)		88.2	502	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₄₆	[2400-04-6] V	5-phenyleicosane (485–521)		94.3	500	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₄₆	[2398-64-3] V	7-phenyleicosane (483–520)		93.8	498	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₄₆	[2398-65-4] V	9-phenyleicosane (483–520)		91.9	498	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₄₆	[55191-36-1] V	8-(4-tolyl)nonadecane (482–517)		94.5	497	A	[1987STE/MAL]
C ₂₆ H ₄₈	[55401-75-7] V	9-dodecyltetrahydroanthracene (501–536)		102.7	519		[1999DYK/SVO]
C ₂₆ H ₄₈	[55334-01-5] V	9-dodecyltetrahydrophenanthrene (502–542)		90.8	522		[1999DYK/SVO]
C ₂₆ H ₄₈ N ₆ O ₉	[326813-31-4]	Formamide deferoxamine					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		FUS			92.93	430.8	DSC	[2000IHN/VEN]
C ₂₆ H ₄₈ O ₂	[25006-68-2]	4,4,7,7,13,13,16,16-octamethylcyclooctadecane-1,10-dione			50.6	492.2		[1972BOR/DAL2]
C ₂₆ H ₄₈ O ₄	[45302-47-4]	Docosyl maleate			87.1	355.2	DSC	[2016RIC/DEL]
C ₂₆ H ₅₀	[700004-11-1]	9-[α -(<i>cis</i> -bicyclo[3.3.0]octyl)methyl]heptadecane	V	(455–518)	92.3	470	A	[1987STE/MAL, 1999DYK/SVO]
C ₂₆ H ₅₀	[55334-09-3]	1,1-bis(4-methylcyclohexyl)dodecane	V	(484–520)	93.5	499	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₀	[55334-08-2]	1,1-dicyclohexyltetradecane	V	(493–529)	97.7	508	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₀	[55401-76-8]	1,1-dicyclopentylhexadecane	V	(471–525)	113.1	486	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₀	[55334-11-7]	2-hexadecylbicyclopentyl	V	(495–532)	97.7	510	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₀ N ₆ O ₁₀ S	[130281-67-3]	Methylsulfonamide deferoxamine	FUS		117.8	416	DSC	[2000IHN/VEN]
C ₂₆ H ₅₀ O ₄	[122-62-3]	(<i>dl</i>) bis(2-ethylhexyl)sebacate	V	(308–453)	114.9	323	A	[1987STE/MAL]
C ₂₆ H ₅₀ O ₄	[2432-87-3]	Dioctyl sebacate	V		109.7	368	TGA	[1990KIS/SHO]
			V		120.8 ± 4.2	298	TGA	[1990KIS/SHO]
			V	(413–523)	107.1	428	A	[1987STE/MAL]
C ₂₆ H ₅₀ O ₄	[103572-58-3]	Docosyl succinate	FUS		93.0	346.8	DSC	[2016RIC/DEL]
C ₂₆ H ₅₁ NO ₃	[5168-42-3]	Dodecanoic acid, 2-[(1-oxododecyl)amino]ethyl ester	FUS		76.1	348.8	DSC	[2010KAM/TAR]
C ₂₆ H ₅₂	[4443-55-4]	1-cyclohexyleicosane	V	(499–538)	94.2	514	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[4443-56-5]	2-cyclohexyleicosane	V	(494–530)	98.3	509	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[4443-57-6]	3-cyclohexyleicosane	V	(492–530)	94	507	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[4443-58-7]	4-cyclohexyleicosane	V	(488–524)	98.3	503	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[4443-59-8]	5-cyclohexyleicosane	V	(488–524)	98.3	503	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[4443-60-1]	7-cyclohexyleicosane	V	(486–523)	93.6	501	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[4443-61-2]	9-cyclohexyleicosane	V	(486–523)	93.6	501	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[104338-48-9]	11-cyclohexyleicosane	FUS		48.7	269.9		[1949PAR/MOO2]
C ₂₆ H ₅₂	[6703-82-8]	1-cyclopentylheneicosane	V	(498–537)	93.8	513	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[6703-81-7]	11-cyclopentylheneicosane	V	(486–524)	92.4	501	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₂	[18835-33-1]	1-hexacosene	V	(434–684)	106.1	449		[1999DYK/SVO]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₆ H ₅₂	[23014-57-5]	1,1,4,4,10,10,13,13-octamethylcyclooctadecane					
	TRS			6.74	427.2		
	FUS			20.17	438.2		[1972BOR/DAL, 1969BOR/DAL]
C ₂₆ H ₅₂ N ₂ O ₂	[7003-56-7]	<i>N,N'</i> -1,2-ethanediylibis(dodecanamide)					
	FUS			54.3	311.7	DSC	[2011ALK/CAN]
C ₂₆ H ₅₂ O ₂	[55373-89-2]	Methyl pentacosanoate					
	FUS			92.0	332.2	DSC	[2004CHI/ZHA]
	V	(467–558)		142.0 ± 4.5	298	CGC	[2004CHI/ZHA]
C ₂₆ H ₅₂ O ₂	[24634-95-5]	Ethyl tetracosanate					
	TRS			28.2	317.7		
	FUS			57.8	327.4		[1996DOM/HEA, 1934KIN/GAR]
C ₂₆ H ₅₂ O ₂	[22412-97-1]	Tetradecyl dodecanoate					
	FUS			82.5	311.3	DSC	[2011AYD/OKU]
C ₂₆ H ₅₂ O ₂	[29710-34-7]	Hexadecyl decanoate					
	FUS			73.9	302.6	DSC	[2012AYD/AYD]
C ₂₆ H ₅₂ O ₂	[506-46-7]	Hexadecasonic acid					
	FUS + TRS			88.5	358.8	DSC	[2015WIL/GOB]
	SUB			257.8 ± 3.5	298	V + F	[2015WIL/GOB]
	V			177.2 ± 2.4	298	CGC	[2015WIL/GOB]
C ₂₆ H ₅₃ NO	[74534-13-7]	<i>N</i> -decyl hexadecanamide					
	TRS			5.0	333		
	FUS			63.0	347	DSC	[1980CAR/BUS]
C ₂₆ H ₅₄	[55282-16-1]	5-butylhexacosane (482–518)		94.0	497	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[55282-15-0]	7-butylhexacosane (480–514)		97.2	495	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[55282-14-9]	9-butylhexacosane (479–516)		91.9	494	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[13475-76-8]	11-butylhexacosane (480–516)		93.3	495	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[55282-13-8]	5,14-dibutylhexadecane (458–508)		89.3	473	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[15874-03-0]	6,11-dipentylhexadecane (468–504)		88.9	483	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[55282-12-7]	3-ethyl-5-(2-ethylbutyl)octadecane (467–503)		88.4	482	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[55282-11-6]	11-(1-ethylpropyl)heneicosane (474–509)		93.5	489	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[629-87-8]	2-methylpentacosane (433–680)		107.2	448		[1999DYK/SVO]
C ₂₆ H ₅₄	[79370-84-6]	12-propyltricosane (435–454)		91	445		[1982REC/GRE, 1999DYK/SVO]
C ₂₆ H ₅₄	[55282-17-2]	3-ethyltetracosane (490–529)		90	505	A	[1987STE/MAL]
C ₂₆ H ₅₄	[630-01-3]	Hexacosane					
	TRS			33.6	327.8		
	FUS			61.1	330.9	DSC	[2007GNA/PLA]
	TRS			32.6	325		
	FUS			60.1	329.1	DSC	[2004MON/RAJ]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	TRS			34.1	327.5		
	FUS			59.4	330.1	DSC	[1999GIL]
	TRS			32.2	324.4		
	FUS			57.6	328.2	DSC	[1992LOU/ROU]
	TRS			30.4	324.4		
	FUS			63.9	329.2	DSC	[1991DOM/WYR]
	TRS			32.82	325.8		
	FUS			59.79	329.6		[1991CLA/LET]
	TRS			33.5	325.6		
	FUS			60.0	329.2		[1991BAR/SCH]
	TRS	(13–358)		33.43	325.5		
	TRS	(13–358)		60.70	329.3	AC	[1976AND/MAR]
	TRS			34.2	326.6		
	FUS			59.5	329.6		[1973COM]
	TRS			32.2	326.5		
	FUS			59.5	329.5	AC	[1996DOM/HEA, 1955SCH/BUS]
	SUB			177.2 ± 10	298	B	[1991PIA/POM]
	V			122.0 ± 3.1	298	CRT	[2015GOB/CHI]
	V			131.8 ± 5.7	298	CGC	[2015GOB/CHI]
	V	(434–539)		131.7	298	CGC	[2004CHI/HAN]
	V			139.3 ± 0.5	298	CGC	[2002CHI/WEB]
	V			136.4 ± 0.2	298	GS	[2001PUR/CHI]
	V			140.0 ± 2.2	298	CGC	[1997CHI/WIL]
	V	(391–437)		132 ± 1	414	TE	[1994PIA/FON]
	V	(404–546)		97.6	419	TE, ME, GS	[1991PIA/POM]
	V	(455–519)		99.0 ± 3.8	487	GS	[1990PIA/SCA]
	V	(466–685)		101.6	481	A, E	[1987STE/MAL, 1966KUD/ZWO]
	V	(478–530)		94.5	493	A	[1987STE/MAL]
C ₂₆ H ₅₄	[55333-99-8]	7-hexyleicosane					
	V	(479–512)		101.1	494	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[55282-10-5]	11-neopentylheneicosane					
	V	(476–511)		93	491	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄	[14739-72-1]	11-pentylheneicosane					
	V	(478–512)		96.3	493	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₆ H ₅₄ O	[506-52-5]	1-hexacosanol					
	TRS + FUS			103.8	353.1	DSC	[2006NIC/KWE]
	TRS			16.74	332.2		
	FUS			67.78	351.7		[1970TRA/LOM]
	V			148.0 ± 0.8	298	CGC	[2006NIC/KWE]
C ₂₆ H ₅₄ O ₄ S ₂	[123389-97-9]	(<i>I</i>)-rhamnose didecyl dithioacetal					
	FUS			26.1	332.3		
	FUS			53.2	385.2	DSC	[1989VAN/VAN]
C ₂₆ H ₅₄ S	[16331-25-2]	1-hexacosanethiol					
	V	(465–718)		116.2	480	E	[1999DYK/SVO]
C ₂₇ H ₁₉ NO	[2083-09-2]	2,5-bis(1,1'-biphenyl)oxazole					
	V	(605–685)		109.7	610	A, I	[1987STE/MAL, 1975STE/SCH]
C ₂₇ H ₁₉ NO	[76733-99-8]	2-phenyl-5-(<i>p</i> -terphenyl-4-yl)oxazole					
	FUS			42.0	504.2	DSC	[2001DIN/MUR]
C ₂₇ H ₁₉ NO	[362612-65-5]	2-(<i>p</i> -terphenyl-4-yl)-5-phenyloxazole					
	FUS			37.0	485.2	DSC	[2001DIN/MUR]
C ₂₇ H ₃₀ F ₆ N ₂ O ₂	[164656-23-9]	Dutasteride					
	FUS			34.4	522.1	DSC	[2015NUR/BOO]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₇ H ₃₀ N ₂	[221641-35-6]	2-(hept-1-ynyl)-5(4- <i>p</i> -hexylphenylbuta-1,3-diyenyl) pyrimidine					
	FUS		39.0	426	DSC		[1999HUD/SHE]
C ₂₇ H ₃₀ O ₃	[71203-39-9]	19-nor-17 <i>α</i> -ethynyl-17 <i>β</i> -(benzoyloxy)-4-androsten-3-one					
	FUS		41.5	531	DSC		[1996DOM/HEA, 1979LEW/ENE]
C ₂₇ H ₃₀ O ₁₆	[153-18-4]	3-[[6-O-(6-deoxy- <i>α</i> -L-mannopyranosyl)- <i>β</i> -D-glucopyranosyl]-oxy]-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4 <i>H</i> -1-benzopyran-4-one (rutin)					
	FUS		82.3	450.2	DSC		[2007CHE/HUM]
C ₂₇ H ₃₂ O ₃	[138306-51-1]	Spiro[8.5.0 ^(3,7)]-3,5-diphenyl-1,2,8-trioxa-10,12-tetramethyltetradec-5-ene					
	FUS		15.0	389.2	DSC		[1991JEF/JAB]
C ₂₇ H ₃₃ O ₄ P	[64532-95-2]	tris(2-isopropylphenyl)phosphate					
	V	(383–413)	108.5	398	GC-RT		[2014BRO/JAN]
C ₂₇ H ₃₄ F ₂ O ₇	[23674-86-4]	21-(acetoxy)-6,9-difluoro-11-hydroxy-17-(1-oxobutoxy)pregna-1,4-diene-3,20-dione					
	FUS (α)		32.3	470.9			
	FUS (β)		33.0	464.6			
	FUS (γ)		32.5	467.1	DSC		[2015GIA/PAL]
C ₂₇ H ₃₅ NO ₃	[483362-64-7]	2-(4-nitrophenyl)-1-[4-[2-(<i>trans</i> -4-pentylcyclohexyl)ethyl]phenyl]ethanone					
	FUS		37.95	409	DSC		[2002SPA/DZI]
C ₂₇ H ₃₆ N ₂ O ₅		<i>N,N</i> -diisopropyl naltrexone-3-O-carbamate					
	FUS		19.95	421.2	DSC		[2009VAD/BAN]
C ₂₇ H ₃₆ O ₈	[73771-04-7]	17-[(ethoxy carbonyl)oxy]-11-hydroxy-21-(1-oxopropoxy)pregna-1,4-diene-3,20-dione					
	FUS		35.8	460.4	DSC		[2010NET/BAR]
	FUS		36.9	356/2	DSC		[2009NET/NOV]
C ₂₇ H ₃₇ FO ₆	[2152-44-5]	Betamethasone valerate					
	FUS (I)		32.9	468.2			
	FUS (II)		27.0	455.8	DSC		[2015NAT/JES]
C ₂₇ H ₃₈ O	[3836-23-5]	19-nor-17 <i>α</i> -ethynyl-17 <i>β</i> -(heptanoyloxy)-4-androsten-3-one					
	FUS		21.6	340	DSC		[1996DOM/HEA, 1979LEW/ENE]
C ₂₇ H ₃₈ O ₃	[105755-75-7]	3-[(1-oxononyl)oxy]-estradiol-1,3,5(10)-trien-17-one					
	FUS		24.0	337	DSC		[1990YAN/EIR]
C ₂₇ H ₄₀	[55334-13-9]	5-pentadecylacenaphthene					
	V	(500–568)	105.7	534	A, MG		[1987STE/MAL, 1955SCH/WHI]
C ₂₇ H ₄₀ N ₄ O ₂	[182410-21-5]	2,2'-(2,8,10-trimethylpyrido[3,2-g]quinoline-4,6-diyl)bis(oxy)]-bis[<i>N,N</i> -diethylethanamine]					
	FUS		16.1	415.3	DSC		[2008ABB/KAL]
C ₂₇ H ₄₂ Cl ₂ N ₂ O ₆	[530-43-8]	Hexadecanoic acid, [R-(R*,R*)]-2-[(dichloroacetyl)amino]-3-hydroxy-3-(4-nitrophenyl)propyl ester (chloramphenicol palmitate)					
	FUS		64.02	368.2			[1998VAN/KEL, 1977BUR2, 1970BOR]
	FUS (I)		51.04	367.3			
	FUS (II)		41.3	360.8			[1985OHM/LIP]
	FUS (I)		65.7	363.5			
	FUS (II)		46.4	359.9			
	FUS (III)		45.5	359.5	DSC		[1985KAN/OTS]
C ₂₇ H ₄₂ O ₃	[512-04-9]	(3 <i>β</i> ,25 <i>R</i>)-spirost-5-en-3-ol (diosgenin)					
	FUS		34.43	485.5	DSC		[2014ZHA/WAN2]
	FUS		34.06	480.3	DSC		[2014CHE/QI]
C ₂₇ H ₄₃ NO ₂ S	[1892540-83-8]	<i>N</i> -(3,5-dimethyladamantan-1-yl)-2,4,6-triisopropylbenzenesulfonamide					
	SUB	(419–438)	139.7 ± 2.7	428	GS		[2016PER/VOL]
	SUB	(419–438)	151.6 ± 2.7	298	GS		[2016PER/VOL]
C ₂₇ H ₄₄ O	[313-04-2]	Desmosterol					
	FUS		15.9	388.2	DSC		[2009CHE/SU]
C ₂₇ H ₄₆ O	[57-88-5]	Cholesterol					

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{27}\text{H}_{47}\text{F}_9\text{O}$	[1240205-71-3]	FUS		28.5	421.7	DSC	[2009CHE/SU]
		FUS	(300–440)	25.1	423.2	DSC	[2008PEN/JIA]
		TRS		2.71	311.7		
		FUS		21.11	423.2	DSC	[2003KAL/PAU]
		FUS		26.5	422.5	DSC	[2001IWA/MIN]
		TRS	(5–425)	3.9	306.7		
		FUS		28.4	422.3	AC	[1998VAN/VAN]
		TRS		2.5	304.8		[1996DOM/HEA, 1988PET/TSY]
		FUS		27.41	420.2		[1996DOM/HEA]
		TRS		2.9	308.0	DSC	[1984EGL/STR]
		TRS		3.6	312.2		
		FUS		29.8	425.2	DSC	[1975MAR/SHU]
		FUS		25.9	420.2	DSC	[1970DAV/POR]
		FUS		29.8	422.2	DSC	[1969GEN]
		TRS		2.9	310.7	DSC	[1968VAN/SKO]
$\text{C}_{27}\text{H}_{48}$	[481-21-0]	SUB	(386–414)	142.5 ± 0.9		ME	[2009OJA/CHE]
		V		153.7 ± 0.8	298	CGC	[2006NIC/KWE]
		V	(411–447)	114.9	426	A	[1987STE/MAL, 1937HIC/HEC]
$\text{C}_{27}\text{H}_{47}\text{F}_9\text{O}$	[1240205-71-3]	FUS		36.07	304.9	DSC	[2010ZAG/CON]
		FUS					
$\text{C}_{27}\text{H}_{48}$	[481-21-0]	FUS		25.4	351.8	C	[2000MOK/RUZ]
		SUB		133.8	298		[2000MOK/RUZ]
		V		108.4	352		[2000MOK/RUZ]
		V	(481–538)	115.6	496	A	[1987STE/MAL]
$\text{C}_{27}\text{H}_{48}$	[40775-09-5]	Henicosylbenzene					
		V	(446–705)	108.4	461		[1999DYK/SVO]
$\text{C}_{27}\text{H}_{48}$	[6703-80-6]	FUS		64.77	294.3		[1949PAR/MOO2]
		V	(491–529)	93.5	506	A, MG	[1987STE/MAL, 1955SCH/WHI]
		FUS					
$\text{C}_{27}\text{H}_{48}\text{N}_2\text{OS}$	[467434-73-7]	<i>N</i> -[(3-methoxyphenyl)methyl]- <i>N'</i> -octadecylthiourea					
		FUS		64.17	375.2	DSC	[2002ABB/WOH]
$\text{C}_{27}\text{H}_{48}\text{O}$	[80-97-7]	5 α -cholestane-3 β -ol		22.6	413.5	DSC	[2001IWA/MIN]
		FUS					
$\text{C}_{27}\text{H}_{48}\text{O}$	[516-92-7]	5 β -cholestane-3 α -ol		15.8	385.8	DSC	[2001IWA/MIN]
		FUS					
$\text{C}_{27}\text{H}_{48}\text{O}$	[360-68-9]	5 β -cholestane-3 β -ol		16.1	373.8		[2002MIN/SAK]
		FUS					
$\text{C}_{27}\text{H}_{50}$	[55282-69-4]	5-pentadecyldodecahydroacephthalene					
		V	(486–554)	98.1	501	A	[1987STE/MAL]
$\text{C}_{27}\text{H}_{50}\text{N}_6\text{O}_9$	[5722-48-5]	Acetamide deferoxamine		118.4	448.9	DSC	[2000IHN/VEN]
		FUS					
$\text{C}_{27}\text{H}_{50}\text{O}_4$	[138115-03-4]	Docosyl itaconate		93.3	360.1	DSC	[2016RIC/DEL]
		FUS					
$\text{C}_{27}\text{H}_{50}\text{O}_6$	[538-23-8]	Glycerol trioctanoate					
		V		118.7	386	TGA	[1990KIS/SHO]
		V		135.4 \pm 4.7	298	TGA	[1990KIS/SHO]
$\text{C}_{27}\text{H}_{54}$	[6703-99-7]	V	(396–453)	116	411	A, T	[1987STE/MAL, 1949PER/WEB2]
		V	(485–529)	107	500	A	[1987STE/MAL]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₇ H ₅₄	[6703-79-3]	11-(cyclopentylmethyl)heneicosane	(492–529)	94.4	507	A	[1987STE/MAL]
C ₂₇ H ₅₄	V						
C ₂₇ H ₅₄	[26718-82-1]	henicosylcyclohexane	(445–460)	107.8	460		[1999DYK/SVO]
C ₂₇ H ₅₄	V						
C ₂₇ H ₅₄	[15306-27-1]	1-heptacosene	(441–694)	108.7	456		[1999DYK/SVO]
C ₂₇ H ₅₄	V						
C ₂₇ H ₅₄	[163983-30-0]	1-decyl-1-undecylcyclohexane		133.6 ± 1.8	298	CGC	[1995CHI/HES]
C ₂₇ H ₅₄ N ₃ PS ₆	[194281-16-8]	tris(diisobutylthiocarbamate)phosphorous		138 ± 3		DSC, E	[1997DES/DES]
C ₂₇ H ₅₄ N ₆	[38565-87-6]	tris-N,N-diisobutylamino-1,3,5-triazine		35.81	372.6	DSC	[1986LAT/HOE]
C ₂₇ H ₅₄ O ₂	[5802-82-4]	Methyl hexacosanoate		101.3	336.2	DSC	[2004CHI/ZHA]
C ₂₇ H ₅₄ O ₂	FUS						
C ₂₇ H ₅₄ O ₂	V	(467–558)	147.1 ± 4.5	298	CGC	[2004CHI/ZHA]	
C ₂₇ H ₅₄ O ₂	[36617-20-6]	Tetradecyl tridecanoate		85.38	313.2	DSC	[2011AYD/OKU2]
C ₂₇ H ₅₆	[593-49-7]	Heptacosane					
C ₂₇ H ₅₆	TRS		0.3	312.9			
C ₂₇ H ₅₆	TRS		2.5	322.3			
C ₂₇ H ₅₆	TRS		27.1	325.9			
C ₂₇ H ₅₆	FUS		62.8	331.6	DSC	[2004MON/RAJ]	
C ₂₇ H ₅₆	TRS		0.3	315.2			
C ₂₇ H ₅₆	TRS		2.52	323.6			
C ₂₇ H ₅₆	TRS		27.78	326.8			
C ₂₇ H ₅₆	FUS		61.70	332.4	DSC	[2001CHE/BOU]	
C ₂₇ H ₅₆	TRS		1.7	321.0			
C ₂₇ H ₅₆	TRS		27.2	327.1			
C ₂₇ H ₅₆	FUS		64.3	332.4	DSC	[1999GIL]	
C ₂₇ H ₅₆	TRS		2.26	318.0			
C ₂₇ H ₅₆	TRS		26.28	325.4			
C ₂₇ H ₅₆	TRS		0.3	312.9			
C ₂₇ H ₅₆	TRS		2.5	322.3			
C ₂₇ H ₅₆	TRS		27.1	325.9			
C ₂₇ H ₅₆	FUS		62.8	331.6		[1998ROB/MON, 2001CHE/BOU]	
C ₂₇ H ₅₆	FUS		59.05	332.1	DSC	[1992LOU/ROU]	
C ₂₇ H ₅₆	TRS		2.38	320.3			
C ₂₇ H ₅₆	TRS		26.57	326.2			
C ₂₇ H ₅₆	FUS		60.42	332.0	AC	[1955SCH/BUS]	
C ₂₇ H ₅₆	TRS		19.65	321.2			
C ₂₇ H ₅₆	FUS		58.10	332.2		[1938VER, 2001CHE/BOU]	
C ₂₇ H ₅₆	SUB		196.0 ± 30	298	B	[1991PIA/POM]	
C ₂₇ H ₅₆	V	(401–441)	132 ± 1	423	TE	[1994PIA/FON]	
C ₂₇ H ₅₆	V	(508–570)	94.2	523	ME, TE, GS	[1991PIA/POM]	
C ₂₇ H ₅₆	V	(401–441)	116.9 ± 3.0	421	TE	[1990POM/PIA]	
C ₂₇ H ₅₆	V	(473–695)	104.3	488	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₂₇ H ₅₆	[1561-02-0]	2-methylhexacosane					
C ₂₇ H ₅₆	V	(441–690)	109.6	456			[1999DYK/SVO]
C ₂₇ H ₅₆	[55282-29-6]	8-hexyl-8-pentylhexadecane		125.7 ± 1.8	298	CGC	[1995CHI/HES]
C ₂₇ H ₅₆	V						
C ₂₇ H ₅₆	[55282-28-5]	8,8-dipentylheptadecane		128.1 ± 1.8	298	CGC	[1995CHI/HES]
C ₂₇ H ₅₆	V						

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	References
C ₂₇ H ₅₆	[55282-32-1] V	10-hexyl-10-methyleicosane		129.9 ± 1.8	298	CGC	[1995CHI/HES]
C ₂₇ H ₅₆	[55282-30-9] V	5-ethyl-5-methyltetracosane		133.8 ± 1.8	298	CGC	[1995CHI/HES]
C ₂₇ H ₅₆ S	[66291-85-8] V	1-heptacosanethiol (471–727)		118.3	486	E	[1999DYK/SVO]
C ₂₈ H ₁₂ Cl ₂ N ₂ O ₄	[130-20-1] SUB	C.I. Vat Blue 6 (519–634)		199	577	GS	[1986NIS/AND]
C ₂₈ H ₁₄	[190-39-6] SUB SUB V	Phenanthro [1,10,9,8-opqra]perylene (580–630)		180.5 180.7 ± 5	605	ME	[1987STE/MAL] [1952INO/SHI] [1987STE/MAL]
C ₂₈ H ₄₄ N ₂ O ₄	[81-77-6] V	C.I. Vat Blue 4 (519–634)		167	577	GS	[1986NIS/AND]
C ₂₈ H ₁₆	[192-47-2] FUS	1,2,4,5,7,8-tribenzopyrene (dibenzo(h,rst)pentaphene)		28.8	608		[1980SMI]
C ₂₈ H ₁₈	[1055-23-8] SUB SUB SUB	9,9'-bianthryl (413–473)		128.4 ± .2 127.9 148.1	443		[1970COX/PIL, 1958HOY/PEP] [1958HOY/PEP, 1987STE/MAL] [1951MAG/HAR, 1960JON]
C ₂₈ H ₁₈	[20532-03-0] SUB	9,9'-biphenanthryl		151.5			[1951MAG/HAR, 1960JON]
C ₂₈ H ₂₀ S	[362612-62-2] FUS	3-(<i>p</i> -terphenyl-4-yl)-5-phenylthiophene		43	561.2	DSC	[2001DIN/MUR]
C ₂₈ H ₂₀ S	[362612-62-2] FUS	2-(<i>p</i> -terphenyl-4-yl)-4-phenylthiophene		42	554.2	DSC	[2001DIN/MUR]
C ₂₈ H ₂₀ S	[56316-86-0] FUS	2,5-bis(biphenyl-4-yl)thiophene		39	595.2	DSC	[2001DIN/MUR]
C ₂₈ H ₂₂	[15300-82-0] SUB SUB V	9,9'-dimethyl-9,9'-bifluorenyl (368–403)		118.7 ± 1.3 119.7 ± 1.3	386 298	T	[1994RAK/VER2] [1994RAK/VER2] [1994RAK/VER2]
C ₂₈ H ₂₂ N ₂ O ₂	FUS	1,4-[bis[(4-methylphenyl)amino]-9,10-anthracenedione		36.59	491.2		[1991BAU/WEB]
C ₂₈ H ₂₄ O ₄	[74568-07-3] SUB	Calix[4]arene-25,26,27,28-tetrol		167 ± 2		ME	[2008SUR, 2011SUR/VOR]
C ₂₈ H ₂₄ O ₈	[125748-07-4] FUS	2,8,14,20-tetramethyl-4,6,10,12,16,18,20,24-octahydroxyresorci[4]arene (calix[4]resorcinarene)		38.2	578.6	DSC	[2010FRA/SAL]
C ₂₈ H ₂₄ O ₁₆ S ₄	[112269-92-8] FUS	4-sulfonato-calix[4]arene		192.4	549.8	DSC	[2005YAN/MAN]
C ₂₈ H ₂₆ N ₄ O ₈	[74734-27-3] FUS (I) FUS (II)	1,4-bis(3-phenylcarbamoyl-2-oxo-5-oxazolidin-5-ylmethoxy)benzene		10.1 5.1	475.2 502.2	DSC	[1990SHI/HAY]
C ₂₈ H ₂₈ N ₂ O ₆ P ₂	[34670-63-8] FUS	Tetraphenylpiperazine-1,4-diylidiphosphonate		59.95	457.8	DSC	[2014FEN/TAN]
C ₂₈ H ₂₈ P ₂	[7688-25-7] FUS SUB	1,4-bis(diphenylphosphino)butane (425–455)		45.3 171.6 ± 2.5	405.9 443	DTA B	[1989HUI/VAN] [1989HUI/VAN]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(425–455)	126.3 ± 2	443	ME	[1989HUI/VAN]
C ₂₈ H ₂₉ F ₂ N ₃ O	[2062-78-4]	1-[1-[4,4-bis(4-fluorophenyl)butyl]-4-piperidyl]-2-benzimidazolinone (pimozone)				
	FUS		42.74	492	DSC	[2010BAI/VAN]
	FUS		46.9	493.5	DSC	[2008THI/SUB]
C ₂₈ H ₃₀ N ₄	[1257-25-6]	2,3,7,8,12,13,17,18-octamethylporphyrin				
	SUB		192 ± 8.3		ME	[2011SUR/VOR]
	SUB		(593–653)	268 ± 11	GS	[2001NIK/SUL]
C ₂₈ H ₃₁ FN ₄₀	[68844-77-9]	1-[(4-fluorophenyl)methyl]-N-[1-[2-(4-methoxyphenyl)ethyl]-4-piperidyl]-1 <i>H</i> -benzimidazol-2-amine (astemizole)				
	FUS		51.1	447.6	DSC	[2007BER/WAS]
C ₂₈ H ₃₁ F ₂₅	[93454-74-1]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosofluoroctacosane				
	FUS		41.8	367	DSC	[1988HOP/PUG]
	FUS		43.1	263.2	DSC	[1986RUS/RAB]
C ₂₈ H ₃₂	[55282-03-6]	1,7-diphenyl-4-(3-phenylpropyl)-3-heptene				
	V	(488–556)	98.0	503	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₈ H ₃₄	[55282-64-9]	1,7-diphenyl-4-(3-phenylpropyl)heptane				
	V	(490–557)	100.3	505	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₈ H ₃₅ FO ₇	[51022-69-6]	Amcinonide				
	FUS		33.1	527.1	DSC	[2015NUR/BOO]
C ₂₈ H ₃₆ N ₄	[4475-42-7]	5,10,15,20,22, 24-hexahydro-5,5,10,10,15,15,20,20-octamethyl-21 <i>H</i> ,23 <i>H</i> -porphine				
	SUB		96.0 ± 3.5		ME	[2011SUR/VOR]
C ₂₈ H ₃₈	[59358-73-5]	1,1-diphenyl-1,1'-bicyclooctyl				
	FUS		35.98	432	DSC	[1983KRA/BEC]
	SUB		174.5		E, B	[1983KRA/BEC]
C ₂₈ H ₄₀ O ₃	[128788-27-2]	3-[(1-oxodecyl)oxy]-estra-1,3,5(10)-trien-17-one				
	FUS		29.0	344	DSC	[1990YAN/EIR]
C ₂₈ H ₄₀ O ₁₀	[17455-25-3]	Dibenzo[30-crown-10]				
	TRS		0.98	346.3		
	FUS		86.5	377.6	DSC	[2016SAN/CRU]
	SUB		255.7 ± 5.3	298	V + F	[2016SAN/CRU]
	V	(545–595)	110.2 ± 0.9	570	TGA	[2016SAN/CRU]
	V	(545–595)	186.9 ± 3.9	298	TGA	[2016SAN/CRU]
C ₂₈ H ₄₁ F ₁₇ O	[1240205-67-7]	1-[(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl)oxy]octadecane				
	FUS		49.46	312.9	DSC	[2010ZAG/CON]
C ₂₈ H ₄₄ O	[57-87-4]	Ergosterol				
	SUB	(318–412)	147.0 ± 0.9		ME	[2009OJA/CHE]
	V	(421–454)	118.7	436	A	[1987STE/MAL, 1937HIC/HEC]
C ₂₈ H ₄₆ O	[141784-32-9]	<i>trans</i> -1-heptyl-4-(4-nonanoylphenyl)cyclohexane				
	TRS (liq cryst)		20.8	343.4		
	TRS (liq cryst-to-liq)		11.32	353.3	DSC	[1992FUR/BUT]
C ₂₈ H ₄₆ O ₂	[4351-55-7]	Cholesterol formate				
	FUS		21.9	370.0	DSC	[1970DAV/POR]
C ₂₈ H ₄₆ O ₄	[26761-40-0]	Diisodecyl phthalate				
	V	(371–496)	79.3	386	A	[1987STE/MAL]
C ₂₈ H ₄₈ O ₄	[175848-67-6]	2,5-di- <i>n</i> -undecyloxy-1,4-benzoquinone				
	TRS		12.9	367.4		
	TRS		28.4	390		
	FUS		52.1	397.2	DSC	[1996KEE/VAN]
C ₂₈ H ₅₀	[5634-22-0]	Docosylbenzene				

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(453–715)	110.8	468			[1999DYK/SVO]
C ₂₈ H ₅₀	[55334-72-0]	2-decyl-1-phenyldodecane					
	V	(497–532)	102.5	512	A		[1987STE/MAL]
C ₂₈ H ₅₀ O ₁₁		di[1-(2-ethylhexyl)oxycarbonyl]ethyl diethylene glycol dicarboxylate					
	V	(463–553)	116.6	478	A		[1987STE/MAL]
C ₂₈ H ₅₀ O ₁₁	[5348-55-0]	Di[1-(octyloxycarbonyl)ethyl] diethylene glycol dicarboxylate					
	V	(463–564)	112.5	478	A		[1987STE/MAL]
C ₂₈ H ₅₂	[55334-73-1]	1,7-dicyclohexyl-4-(3-cyclohexylpropyl)heptane					
	V	(482–549)	98.7	497	A, MG		[1987STE/MAL, 1955SCH/WHI]
C ₂₈ H ₅₂ N ₆ O ₉	[326813-19-8]	Propylamide deferoxamine					
	FUS		116.9	449.6	DSC		[2000IHN/VEN]
C ₂₈ H ₅₂ O ₂	[29844-60-8]	4,4,8,8,14,14,18,18-octamethylcycloicosane-1,11-dione					
	FUS		36.8	418.2			[1972BOR/DAL2]
C ₂₈ H ₅₄	[55255-74-8]	1-cyclohexyl-2-(cyclohexylmethyl)pentadecane					
	V	(501–536)	105.4	516	A, MG		[1987STE/MAL, 1955SCH/WHI]
C ₂₈ H ₅₅ NO ₃	[1213779-60-2]	Tridecanoic acid, 2-[1-oxotridecyl]amino]ethyl ester					
	FUS		68.6	349.9	DSC		[2010KAM/TAR]
C ₂₈ H ₅₆	[61828-07-7]	Docosylcyclohexane					
	V	(452–715)	110	467			[1999DYK/SVO]
C ₂₈ H ₅₆	[18835-34-2]	1-octacosene					
	V	(448–703)	111	463			[1999DYK/SVO]
C ₂₈ H ₅₆	[6704-00-3]	11-(cyclohexylmethyl)heneicosane					
	V	(499–538)	94.2	514	A, MG		[1987STE/MAL, 1955SCH/WHI]
C ₂₈ H ₅₆	[55255-73-7]	2,2,4,10,12,12-hexamethyl-7-(3,5,5-trimethylhexyl)-6-tridecene					
	V	(426–488)	83.8	441	A, MG		[1987STE/MAL, 1955SCH/WHI]
C ₂₈ H ₅₆	[29844-61-9]	1,1,5,5,11,11,15,15-octamethylcycloicosane					
	FUS		47.7	439.2			[1972BOR/DAL2]
C ₂₈ H ₅₆ O ₂	[55682-91-2]	Methyl heptacosanoate					
	FUS		100.7	336.2	DSC		[2004CHI/ZHA]
	V	(467–558)	152.2 ± 4.5	298	CGC		[2004CHI/ZHA]
C ₂₈ H ₅₆ O ₂	[29030-81-7]	Ethyl hexaconsanate					
	TRS		31.11	322.7			
	FUS		63.7	322.7	Cryst.		[1996DOM/HEA, 1934KIN/GAR]
C ₂₈ H ₅₆ O ₂	[3234-85-3]	Tetradecyl tetradecanoate					
	FUS		89.4	314.8	DSC		[2011AYD/OKU]
C ₂₈ H ₅₆ O ₂	[20834-06-4]	Hexadecyl dodecanoate					
	FUS		83.0	311.4	DSC		[2012AYD/AYD]
C ₂₈ H ₅₈	[1561-00-8]	2-methylheptacosane					
	V	(448–700)	111.9	463			[1999DYK/SVO]
C ₂₈ H ₅₈	[3035-75-4]	2,2,4,10,12,12-hexamethyl-7-(3,5,5-trimethylhexyl)tridecane					
	V	(308–393)	98.5	323	A		[1987STE/MAL, 1964MOR]
	V	(429–491)	84.9	444	A, MG		[1987STE/MAL, 1955SCH/WHI]
C ₂₈ H ₅₈	[55373-86-9]	7-hexyldocosane					
	V	(506–531)	100.7	518	A		[1987STE/MAL]
C ₂₈ H ₅₈	[630-02-4]	Octacosane					
	TRS		37.77	329.65			
	FUS		67.47	333.25	DSC		[2013BEN/KHI, 2012BEN/KHI]
	TRS		31.52	329.6			
	FUS		67.38	334.2	DSC		[2007HAF/MAH]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	TRS			35.2	329.4		
	FUS			63.0	333.4	DSC	[2004MON/RAJ]
TRS + FUS				99.1	336.3	DSC	[2000PAU/MEH]
	TRS			36.7	331.9		
	FUS			65.3	334.9	DSC	[1999GIL]
	TRS			33.7	330.4		
	FUS			66.5	334.0	DSC	[1991DOM/WYR]
	TRS			33.7	330.7		
	FUS			63.4	334.7		[1991CLA/LET]
	TRS			35.4	321.3		
	FUS			64.6	334.5		[1973COM]
	TRS			35.44	331.4		
	FUS			64.64	334.5	AC	[1996DOM/HEA, 1955SCH/BUS]
	TRS			24.5	330.1		
	FUS			66.9	334.4	C	[1953HOF/DEC]
TRS + FUS				95.0	334.5		[1948MAZ]
	SUB	(323–329)		195.8 ± 2.2	326		[2009RAZ/NAC]
	SUB			208.9 ± 10	298	B	[1991PIA/POM]
	V			128.6 ± 3.3	298	CRT	[2015GOB/CHI]
	V			142.3 ± 8.6	298	CGC	[2015GOB/CHI]
	V	(339–412)		117.4 ± 1.2	376		[2009RAZ/NAC]
	V	(354–517)		118.5	369	GC	[2007MOK/RAZ]
	V	(434–539)		141.9	298	CGC	[2004CHI/HAN]
	V			150.8 ± 0.5	298	CGC	[2002CHI/WEB]
	V			150.7 ± 1.7	298	CGC	[2000NIC/ORF]
	V			152.4 ± 2.9	298	CGC	[1997CHI/WIL]
	V	(483–588)		100.5	498		[1994MOR/KOB]
	V	(407–456)		135 ± 3	431	TE	[1994PIA/FON]
	V	(426–493)		105.5	441	TE, ME,	[1991PIA/POM]
	V					GS	
	V	(473–515)		103.1 ± 3.0	494	GS	[1990PIA/SCA]
	V	(450–575)		100.6	500	EB, IP	[1989CHI/NGU]
	V	(450–575)		98.1	560	EB, IP	[1989CHI/NGU]
	V	(300–390)		131.7	315	A	[1987STE/MAL]
	V	(481–705)		106.6	496	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₂₈ H ₅₈	[13475-77-9]	9-octyleicosane					
	V	(460–530)		106.8	475	A	[1987STE/MAL]
C ₂₈ H ₅₈ O	[5412-98-6]	15-oxanonacosane					
	TRS			8.37	315.6		
	FUS			113.39	316.8	DSC	[2004TYA/BIS]
C ₂₈ H ₅₈ S	[16331-26-3]	1-octacosanethiol					
	V	(477–736)		120.2	492	E	[1999DYK/SVO]
C ₂₉ H ₃₅ NO ₂	[84371-65-3]	17β-hydroxy-11β-[4-(dimethylamino)-phenyl]-17α-(prop-1-ynyl)-estra-4,9-dien-3-one (mifepristone)					
	FUS			31.7	467.1	DSC	[2006WAS/HOL]
C ₂₉ H ₄₁ NO ₄	[52485-79-7]	17-(cyclopropylmethyl)-α-(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-6-methoxy-α-methyl-6,14-ethenomorphinan-7-methanol					
	FUS			26.8	491.3	DSC	[1995STI/DUA]
C ₂₉ H ₄₂ O ₃	[105755-76-8]	3-[(1-oxoundecyl)oxy]-estra-1,3,5(10)-trien-17-one					
	FUS			34.0	345	DSC	[1990YAN/EIR]
C ₂₉ H ₄₄ O ₂	[118-82-1]	3,3',5,5'-tetra- <i>tert</i> -butyldiphenylmethane-4,4'-diol					
	FUS			42.97	447.7	DTA	[1972INO/LIA]
C ₂₉ H ₄₇ F ₁₃ O	[1240205-73-5]	1-[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)oxy]heneicosane					
	FUS			49.56	314.0	DSC	[2010ZAG/CON]
C ₂₉ H ₄₈ O	[83-48-7]	β-stigmasterol					
	SUB	(390–417)		168.4 ± 1.4		ME	[2009OJA/CHE]

TABLE 14. Phase change enthalpies of C₁₉–C₂₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₂₉ H ₄₈ O ₂	[604-35-3] FUS	Cholesterol acetate		20.4	387.8	DSC	[1970DAV/POR]
C ₂₉ H ₅₀	[55373-90-5] V	11-(2,5-dimethylphenyl)-10-heneicosene (471–534)		99.2	486	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₉ H ₅₀ O	[83-46-5] SUB	β -sitosterol (389–410)		143.8 ± 0.5		ME	[2009OJA/CHE]
C ₂₉ H ₅₂	[61828-04-4] V	Tricosylbenzene (459–724)		113.2	474		[1999DYK/SVO]
C ₂₉ H ₅₂	[18835-35-3] V	1-nonacosene (455–713)		113.3	470		[1999DYK/SVO]
C ₂₉ H ₅₂	[55373-91-6] V	11-(2,5-dimethylphenyl)heneicosane (472–535)		100.8	487	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₂₉ H ₅₂ N ₆ O ₁₁	[84211-47-2] FUS	Succinamide deferoxamine		101	436.2	DSC	[2000IHN/VEN]
C ₂₉ H ₅₄ N ₆ O ₉	[326813-21-2] FUS	Butylamide deferoxamine		111.4	451.1	DSC	[2000IHN/VEN]
C ₂₉ H ₅₆ N ₂ O ₂ S	[1383124-22-8] FUS	1,3-ditetradecanoyl thiourea		59.4	320.6	DSC	[2011ALK/TEK]
C ₂₉ H ₅₆ O ₄	[10525-39-0] FUS	neopentyl glycol dilaurate		45.8	283.9	DSC	[2013SAR/ALK]
C ₂₉ H ₅₈	[61828-08-8] V	tricosylcyclohexane (459–724)		112.3	474		[1999DYK/SVO]
C ₂₉ H ₅₈ O ₂	[55682-92-3] FUS	methyl octacosanoate		109.7	340.2	DSC	[2004CHI/ZHA]
	V	(467–558)		157.5 ± 4.5	298	CGC	[2004CHI/ZHA]
C ₂₉ H ₅₈ O ₂	[36617-31-9] FUS	tetradecyl pentadecanoate		94.25	318.6	DSC	[2011AYD/OKU2]
C ₂₉ H ₅₈ O ₃	[153821-35-3] FUS	ditetradecyl carbonate		97.39	309.5	DSC	[2012KEN]
	FUS			103.2	305.0	DSC	[2010KEN]
C ₂₉ H ₆₀	[1560-98-1] V	2-methyloctacosane (455–709)		114.2	470		[1999DYK/SVO]
C ₂₉ H ₆₀	[630-03-5] TRS	nonacosane		0.2	314.2		
	TRS			2.47	325.4		
	TRS			30.03	331.8		
	FUS			66.94	336.8	DSC	[2001CHE/BOU]
	TRS			1.8	325.1		
	TRS			30.5	332.2		
	FUS			70.8	337.1	DSC	[1999GIL]
	TRS			29.71	331.4		
	FUS			66.11	336.6	AC	[1996DOM/HEA, 1955SCH/BUS]
	V	(422–452)		112.5	437		[2006SAW/MOK]
	V	(434–539)		147.1	298	CGC	[2004CHI/HAN]
	V	(423–457)		137 ± 3	440	TE	[1994PIA/FON]
	V	(423–456)		137.1 ± 3.0	439	TE	[1990POM/PIA]
	V	(488–714)		109	503	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₂₉ H ₆₀ S	[66213-92-1] V	1-nonacosanethiol (483–744)		122	498	E	[1999DYK/SVO]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T_m (K)	Method	Reference	
C ₃₀ H ₁₄ O ₂	[128-70-1]	8,16-pyranthenedione (C. I. Vat Orange 9)	(503–543)	197.7	518	A	[1987STE/MAL]	
	SUB			181.2	498	ME	[1951INO]	
	SUB							
C ₃₀ H ₁₆	[191-13-9]	Pyranthrene		194.5 ± 6.7	595	ME	[1952INO/SHI]	
C ₃₀ H ₂₂	[13476-68-1]	1,3-bis(biphenyl-4-yl)benzene	FUS	55.0	548.2	DSC	[2001DIN/MUR]	
C ₃₀ H ₂₂	[13478-57-4]	1-(<i>p</i> -terphenyl-4-yl)-3-phenylbenzene	FUS	56.0	531.2	DSC	[2001DIN/MUR]	
C ₃₀ H ₂₂	[3383-32-2]	1,2,4,5-tetraphenylbenzene	SUB	161.4 ± 1.6	298	ME	[2011LIM/ROC]	
C ₃₀ H ₂₂	[6243-23-8]	<i>o</i> -quinquephenyl	FUS	32.4	428.8	DSC	[2013ROD/ROC]	
C ₃₀ H ₂₂	[16716-13-5]	<i>m</i> -quinquephenyl	FUS	31.2	387.1	DSC	[2013ROD/ROC]	
C ₃₀ H ₂₄ N ₂	[14118-16-2]	1,4-bis(diphenylamino)benzene	FUS	44.1	475.4	DSC	[2013COS/SAN]	
	SUB	(440–461)		176.6 ± 0.3	451	ME	[2013COS/SAN]	
	SUB	(440–461)		178.8 ± 1.6	298	ME	[2013COS/SAN]	
C ₃₀ H ₂₄ O ₈ P ₂	[51732-57-1]	Phosphoric acid, <i>P,P'</i> -1,4-phenylene <i>P,P,P',P'</i> -tetraphenyl ester	FUS	61.38	381.5	DSC	[2015YU/WAN]	
C ₃₀ H ₂₈ O ₄	[142433-64-5]	25,27-dimethoxycalix[4]arene-26,28-diol	SUB	75 ± 2		ME	[2008SUR]	
C ₃₀ H ₃₀	[2819-41-2]	1,1,6,6-tetraphenylhexane	V	(511–579)	108.1	526	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₀ H ₃₀ N ₄ O ₂	[270586-12-4]	α,Ω-bis(azobenzene-4-oxy)hexane	FUS		73.53	442.2	DSC	[2000BLA/LUC]
C ₃₀ H ₃₂ P ₂	[19845-69-3]	1,6-bis(diphenylphosphino)hexane	FUS		66.8	399.4	DSC	[1998ZHA/TAN]
C ₃₀ H ₃₄	[40339-27-3]	1,10-di(1-naphthyl)decane	V	(540–616)	108.6	555	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₀ H ₃₇ F ₂₅	[93454-75-2]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosofluorotricontane	FUS		49.7	370	DSC	[1988HOP/PUG]
			FUS		47.8	365.2	DSC	[1986RUS/RAB]
C ₃₀ H ₄₀ O ₆	[351902-43-7]	1,4,5,8-tetrakis(butoxy)-9,10-anthraquinone	FUS		32.28	473.9	DSC	[2001NOR/TOU]
C ₃₀ H ₄₂ O ₄	[351902-48-2]	1,4,5,8-tetrabutoxyanthracene	FUS + TRS		49.93	410.2	DSC	[2001NOR/TOU]
[Note: Authors report only the total enthalpy of melting. The numerical value contains enthalpies for two solid–solid transitions that occur at 370.7 K and 385.5 K. Larger tetraalkoxy-derivatives show liquid crystalline behavior.]								
C ₃₀ H ₄₄ O ₃	[128788-28-3]	3-[<i>(1</i> -oxododecyl)oxy]-estra-1,3,5(10)-trien-17-one	FUS		31.0	342	DSC	[1990YAN/EIR]
C ₃₀ H ₄₆	[85668-74-2]	3,4-diethyl-3,4-bis(<i>4-tert</i> -butylphenyl)-hexane	FUS		29.71	400	DSC	[1983KRA/BEC]
	SUB				167.8		E, B	[1983KRA/BEC]
C ₃₀ H ₄₆ F ₄ O ₂	[79312-06-4]	Cholesteryl 2,2,3,3-tetrafluoropropionate	FUS		28.6	422.6	DSC	[1981YAN/NAB]
C ₃₀ H ₄₆ O ₂ S	[1620-93-5]	bis[3,5-di- <i>tert</i> -butyl-4-hydroxybenzyl]sulfide	FUS		43.1	417.2	DTA	[1972INO/LIA]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
C ₃₀ H ₄₆ O ₃	[4481-62-3]	3-oxo-lup-20(29)-en-28-oic acid (betulonic acid)					
	FUS		26.3	530.5	DSC	[2016TAN/SHI]	
C ₃₀ H ₄₉ BrO ₂	[73112-93-3]	Cholesteryl α-bromopropionate					
	FUS		35.7	409.5	DSC	[1981YAN/NAB]	
C ₃₀ H ₄₉ ClO ₂	[79312-05-3]	Cholesteryl α-chloropropionate					
	FUS		48.5	409.1	DSC	[1981YAN/NAB]	
C ₃₀ H ₅₀ O ₂	[473-98-3]	3β-lup-20(29)-ene-3,28-diol (betulin)					
	FUS		55.17	528.1	DSC	[2016MOO/RAR]	
	FUS		40.3	518.3	DSC	[2013DRE/MIK]	
	(orthorhombic)						
	FUS		55.16	527.9	DSC	[2008ZHA/YAN]	
C ₃₀ H ₅₄	[55268-64-9]	1,10-bis(decahydro-1-naphthyl)decane					
	V	(520–583)	119.7	535	A, MG	[1987STE/MAL, 1955SCH/WHI]	
C ₃₀ H ₅₄	[55281-91-9]	1,1,6,6-tetracyclohexylhexane					
	V	(501–569)	103	516	A	[1987STE/MAL]	
C ₃₀ H ₅₄	[61828-05-5]	Tetracosylbenzene					
	V	(466–732)	115.3	481		[1999DYK/SVO]	
C ₃₀ H ₅₄ O ₆	[52193-50-7]	trans-tris(2-ethylhexyl)aconitate					
	V	(437–551)	97.1	452	A	[1987STE/MAL, 1953MAG/MOD]	
C ₃₀ H ₅₄ O ₆	[5400-99-7]	tris(2-ethylhexyl)-1,2,3-propanetricarboxylate					
	V	(438–551)	97.9	453	A	[1987STE/MAL, 1953MAG/MOD]	
C ₃₀ H ₅₆ N ₆ O ₉	[103991-47-5]	Valeramide deferoxamine					
	FUS		123.1	453.6	DSC	[2000IHN/VEN]	
C ₃₀ H ₅₆ O ₂	[37465-23-9]	5,5,8,8,16,16,19,19-octamethylcyclodocosane-1,12-dione					
	FUS		47.7	442.2		[1972BOR/DAL2]	
C ₃₀ H ₅₈ O ₄	[2432-89-5]	Didecyl sebacate					
	V		120.5	405	TGA	[1990KIS/SHO]	
	V		138.7 ± 4.9	298	TGA	[1990KIS/SHO]	
C ₃₀ H ₅₉ NO ₃	[111672-54-9]	Tetradecanoic acid, 2-[(1-oxotetradecyl)amino]ethyl ester					
	FUS		94.1	356.8	DSC	[2010KAM/TAR]	
C ₃₀ H ₆₀	[61828-09-9]	Tetracosylcyclohexane					
	V	(465–733)	114.6	480		[1999DYK/SVO]	
C ₃₀ H ₆₀	[18435-53-5]	1-tricontene					
	V	(462–721)	115.4	477		[1999DYK/SVO]	
C ₃₀ H ₆₀	[37590-56-0]	1,1,4,4,12,12,15,15-octamethylcycloodocosane					
	FUS		58.58	411.2		[1972BOR/DAL]	
C ₃₀ H ₆₀	[72443-19-7]	15-triacontene					
	TRS		30.96	324.2			
	FUS		49.79	325.2	DSC	[2004TYA/BIS]	
C ₃₀ H ₆₀ N ₂ O ₂	[5136-46-9]	N,N'-1,2-ethanediylbis(tetradecanamide)					
	FUS		62.5	323.9	DSC	[2011ALK/CAN]	
C ₃₀ H ₆₀ N ₂ O ₂	[7672-70-0]	N,N'-1,6-hexanediylibis(dodecanamide)					
	FUS		52.9	312.0	DSC	[2010CAN/ALK]	
C ₃₀ H ₆₀ O ₂	[4536-26-9]	Tetradecyl hexadecanoate					
	FUS		96.8	321.2	DSC	[2012AYD/OKU]	
C ₃₀ H ₆₀ O ₂	[2599-01-1]	Hexadecyl tetradecanoate					
	FUS		102.0	322.6	DSC	[2012AYD/AYD]	
C ₃₀ H ₆₀ O ₂	[3234-84-2]	Octadecyl dodecanoate					
	FUS		91.03	315.4	DSC	[2013AYD]	

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T _m (K)	Method	Reference	
C ₃₀ H ₆₀ O ₄	[56444-66-7]	FUS	2,2,6,6,9,9,13,13,17,17,20,20-dodecamethyl-1,3,12,14-tetraoxacyclodocosane	57.3	406.4		[1975BOR]	
C ₃₀ H ₆₀ O ₁₅	[109635-67-8]	FUS	45-crown-15	70.6	311.2	DSC	[1996YAN/YU]	
C ₃₀ H ₆₁ Br	[4209-22-7]	1-bromotricontane						
	TRS			23.85	330.2			
	FUS			79.5	339.6	C	[1953HOF/DEC]	
C ₃₀ H ₆₂	[111-01-3]	V	2,6,10,15,19,23-hexamethyltetracosane (squalane)	(363–513)	116.2	A	[1987STE/MAL]	
C ₃₀ H ₆₂	[55319-83-0]	V	9-octyldocosane	(518–588)	109.3	A	[1987STE/MAL]	
C ₃₀ H ₆₂	[638-68-6]	Triacontane						
	TRS			36.5	331.2			
	FUS			70.1	338.0	DSC	[2016BOU/HAF]	
	TRS			34.7	336.9			
	FUS			63.4	340.5	DSC	[2012PLA/KOT]	
	TRS			41.4	336.4			
	FUS			74.3	339.3	DSC	[1999GIL]	
	TRS			37.49	111.82			
	FUS			68.83	338.7		[1996DOM/HEA, 1973COM]	
	V	(434–539)		152.3	298	CGC	[2004CHI/HAN]	
	V			164.5 ± 0.4	298	CGC	[2000NIC/ORF]	
	V	(422–487)		143 ± 2	454	TE	[1994PIA/FON]	
	V	(495–723)		111.3	510	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₃₀ H ₆₂	[1560-75-4]	V	2-methylnonacosane	(461–718)	116.8	476	[1999DYK/SVO]	
C ₃₀ H ₆₂ S	[66213-99-8]	V	1-triacontanethiol	(488–751)	124	503	E	[1999DYK/SVO]
C ₃₀ H ₆₃ N	[1070-01-5]	V	N,N,N-tridecylamine	(545–759)	76.8	560	A	[1987STE/MAL]
C ₃₁ H ₁₅ NO ₃	[3271-76-9]	SUB	C.I. Vat Green 3	(519–634)	155	577	GS	[1986NIS/AND]
C ₃₁ H ₃₂ O ₂ P ₂	[32305-98-9]	TRS	(−)-2,3-O-isopropylidene-2,3-dihydroxy-1,4-bis(diphenylphosphino)butane	(78–380)	3.42	348.7		
	FUS	(78–380)		38.61	364.2	AC	[2000WU/TAN]	
C ₃₁ H ₃₄	[56247-76-8]	V	1,1-di(1-naphthyl)-1-undecene	(518–588)	109.3	533	A	[1987STE/MAL]
C ₃₁ H ₄₃ NO ₅	[171018-28-3]	FUS	3-(acetoxy)-17-(cyclopropylmethyl)-α-(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-6-methoxy- α -methyl-6,14-ethenomorphan-7-methanol		22.4	440.3	DSC	[1995STI/DUA]
C ₃₁ H ₄₄ O ₂	[1187741-89-4]	FUS	3,3'-bis(1-cyclohexylethyl)-5,5'-dimethyldiphenylmethane-2,2'-diol		29.29	400.7	DTA	[1972INO/LIA]
C ₃₁ H ₄₇ F ₁₇ O	[1240205-74-6]	FUS	1-[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl]oxy]heneicosane		63.13	331.3	DSC	[2010ZAG/CON]
C ₃₁ H ₄₈	[55319-81-8]	V	1-(1-decylundec-1-enyl)naphthalene	(499–567)	105.1	514	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₁ H ₄₈ O ₂ S ₂	[23288-49-5]	FUS	4,4'-(propane-2,2-diylbis(thio)]bis(2,6-di- <i>tert</i> -butylphenol) (probucol)		34.52	399.2	DSC	[2015GAU/VAN]
	FUS				29.4	399.5	DSC	[2015NUR/BOO]
	FUS				34.22	400	DSC	[2010BAI/VAN]
C ₃₁ H ₅₂ O ₂	[1180-43-4]		Cholesteryl α -methylpropionate					

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
		FUS		25.2	400.7	DSC	[1981YAN/NAB]
C ₃₁ H ₅₂ O ₃	[58-95-7] V	α-tocopherol acetate (466–524)		60.1 ± 1.3	496	Static	[1988BAG/GUR]
C ₃₁ H ₅₆	[55373-96-1] V	1,1-bis(decahydro-1-naphthyl)undecane (525–561)		110.5	540	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₁ H ₅₆	[61828-06-6] V	Pentacosylbenzene (472–741)		117.5	487		[1999DYK/SVO]
C ₃₁ H ₅₆	[6006-90-2] V	13-phenylpentacosane (495–560)		106.7	510	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₁ H ₆₀	[55320-00-8] V	1-(1-decylnoundecyl)decahydronaphthalene (523–560)		107	538	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₁ H ₅₈ N ₆ O ₉	[326813-24-5] FUS	Caproylamide deferoxamine		119.2	450.1	DSC	[2000IHN/VEN]
C ₃₁ H ₆₂	[18435-54-6] V	1-hentriaccontene (468–730)		117.7	483		[1999DYK/SVO]
C ₃₁ H ₆₂	[61828-10-2] V	Pentacosylcyclohexane (472–741)		116.6	487		[1999DYK/SVO]
C ₃₁ H ₆₂	[6697-15-0] V	13-cyclohexylpentaconsane (495–560)		106.7	510	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₁ H ₆₂ O	[502-73-8] FUS	16-hentricontanone		117.1	356.4	DSC	[1994NAK/TAK]
C ₃₁ H ₆₂ O ₂	[36617-47-7] FUS	Tetradecyl heptadecanoate		101.39	319.9	DSC	[2011AYD/OKU2]
C ₃₁ H ₆₄	[1560-72-1] V	2-methyltriacontane (468–726)		118.8	483		[1999DYK/SVO]
C ₃₁ H ₆₄	[55320-06-4] FUS	11-decylnheicosane		71.13	282.3		[1996DOM/HEA, 1945FIS/NAY]
	V	(298–313)		110.9	305	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₁ H ₆₄	[630-04-6] TRS FUS TRS TRS FUS	Hentriacontane		27.53 81.86 1.9 30.8 72.4	334.7 341.3 327.1 337.1 341.1	DSC	[2016BOU/DJE]
	V	(534–565)		157.3	298	CGC	[2004CHI/HAN2]
	V	(433–474)		146 ± 2	450	TE	[1994PIA/FON]
	V	(503–732)		113.8	518	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₃₁ H ₆₄ S	[5340-24-9] V	1-hentricontanethiol (494–759)		125.7	509	E	[1999DYK/SVO]
C ₃₂ H ₂ Br ₁₆ N ₈	[28746-04-5] SUB	Hexadecabromophthalocyanine (438–493)		109.2 ± 16.3	453	ME	[1987STE/MAL, 1970BON/CAT]
C ₃₂ H ₂ Cl ₁₆ N ₈	[28888-81-5] SUB	Hexadecachlorophthalocyanine (398–443)		141.0 ± 17.6	413	ME	[1987STE/MAL, 1970BON/CAT]
C ₃₂ H ₁₄	[190-26-1] TRS FUS SUB	Ovalene		8.08 17.4 211.7 ± 7.9	729 770.1 600	ME	[1980SMI] [1952INO/SHI]
C ₃₂ H ₁₈ N ₈	[574-93-6] SUB SUB	β-29H,31H-phthalocyanine (633–773) (598–698)		201.5 ± 0.1 223.8 ± 1.3		TGA ME	[2013SHA/SHT] [2000SEM/BAS]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	
C ₃₂ H ₂₈ N ₂	[138171-14-9]	N,N'-diphenyl-N,N'-di-p-tolylbenzene-1,4-diamine	FUS SUB SUB	44.0 (439–458) (439–458)	463.5 178.4 ± 0.5 180.2 ± 1.6	DSC ME ME	[2013COS/SAN] [2013COS/SAN] [2013COS/SAN]
C ₃₂ H ₃₀ N ₂ O ₆ P ₂	[382596-16-9]	N,N'-[1,3-phenylenebis(methylene)]bis(phosphoramido acid)	FUS	41.69	383.1	DSC	[2014DU/WAN]
C ₃₂ H ₃₄	[116422-69-6]	1,8-bis(4-biphenyl)octane	FUS	56	415.2	DSC	[1989MAL/KAN]
C ₃₂ H ₃₄	[116422-70-9]	1,8-bis[4-(4'-ethylbiphenyl)]butane	FUS	46	454.2	DSC	[1989MAL/KAN]
C ₃₂ H ₃₈ N ₄	[1154424-99-3]	1,4-bis((1-benzylpiperidin-4-ylimino)methyl)benzene	FUS	38.7	427.2	DSC	[2008STI/CIN]
C ₃₂ H ₃₈ O ₆	[99022-53-4]	Hexa-2,4-diyne-1,6-diyl-bis(4-hexyloxybenzoate)	FUS	49.27	334.2	DSC	[1990BEL/BAL]
C ₃₂ H ₃₉ ClO ₃	[71203-42-4]	Norethindrone-6-(4-chlorophenyl)hexanoate	FUS	28.8	413	DSC	[1996DOM/HEA, 1979LEW/ENE]
C ₃₂ H ₄₁ F ₂₅	[89109-72-8]	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosofluorodriaccontane	TRS	4.1	250		
			TRS	7.1	308		
			FUS	58.5	373	DSC	[1988HOP/PUG]
			FUS	43.4	369.2	DSC	[1986RUS/RAB]
C ₃₂ H ₄₁ NO ₂	[50679-08-8]	α-[4-(1,1-dimethylethyl)phenyl]-4-(hydroxydiphenylmethyl)-1-piperidinebutanol (terfenadine)	FUS	42.4	423.2	DSC	[2010MUR/PIK2]
			FUS	58.1	422.8	DSC	[2007BER/WAS]
C ₃₂ H ₄₄ O ₇	[126544-47-6]	Ciclesonide	FUS	25.0	478.4	DSC	[2015NUR/BOO]
C ₃₂ H ₄₅ NO ₅	[171018-29-4]	17-(cyclopropylmethyl)-α-(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-6-methoxy-α-methyl-(1-oxopropoxy)-6,14-ethenomorphinan-7-methanol	FUS	27.1	410.2	DSC	[1995STI/DUA]
C ₃₂ H ₄₈ O ₃		(Z)-9-octadecen-1-yl 2-(6-methoxy-2-naphthyl)propionate	FUS	31.5	278.2	DSC	[1994WEB/MEY]
C ₃₂ H ₄₈ O ₃		(E)-9-octadecen-1-yl 2-(6-methoxy-2-naphthyl)propionate	FUS	74.2	309.4	DSC	[1994WEB/MEY]
C ₃₂ H ₅₀	[85668-75-3]	2,4,5,7-tetramethyl-4,5-bis(4- <i>tert</i> -butylphenyl)-octane	SUB	182.8		E, B	[1983KRA/BEC]
C ₃₂ H ₅₀	[85668-73-1]	4,5-diethyl-4,5-bis(4- <i>tert</i> -butylphenyl)-octane	SUB	182.4		E, B	[1983KRA/BEC]
C ₃₂ H ₅₀ O ₃		Octadecyl 2-(6-methoxy-2-naphthyl)propionate	FUS	82.0	334.2	DSC	[1994WEB/MEY]
C ₃₂ H ₅₂ N ₆ O ₉	[105185-40-8]	Benzoylamide deferoxamine	FUS	107	453.8	DSC	[2000IHN/VEN]
C ₃₂ H ₅₈	[13024-80-1]	Hexacosylbenzene	V	(478–749)	119.6	493	[1999DYK/SVO]
C ₃₂ H ₆₀ O ₂	[37608-12-1]	5,5,9,9,17,17,21,21-octamethylcyclotetracosane-1,13-dione	FUS	32.6	380.2		[1972BOR/DAL2]
C ₃₂ H ₆₃ NO ₃	[154957-72-9]	Pentadecanoic acid, 2-[(1-oxopentadecyl)amino]ethyl ester	FUS	84.9		DSC	[2010KAM/TAR]
C ₃₂ H ₆₄	[18435-55-7]	1-dotriacontene	V	(474–738)	119.8	489	[1999DYK/SVO]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T_m (K)	Method	Reference
C ₃₂ H ₆₄	[61828-11-3]	Hexacosylcyclohexane	(478–749)	118.6	493		[1999DYK/SVO]
	V						
C ₃₂ H ₆₄ O ₂	[7505-12-6]	Ethyl triacontanoate		33.7	334.7		
	TRS			75.0	341.5	Cryst	[1996DOM/HEA, 1934KIN/GAR]
C ₃₂ H ₆₄ O ₂	[17661-50-6]	Tetradecyl octadecanoate		106.7	322.8	DSC	[2011AYD/OKU]
	FUS						
C ₃₂ H ₆₄ O ₂	[540-10-3]	Hexadecyl hexadecanoate		104.6	324.4	DSC	[2012AYD/AYD]
	FUS						
C ₃₂ H ₆₄ O ₂	[3234-81-9]	Octadedcyl tetradecanoate		97.87	322.1	DSC	[2013AYD]
	FUS						
C ₃₂ H ₆₄ O ₄	[56444-67-8]	2,2,6,6,10,10,14,14,18,18,22,22-dodecamethyl-1,3,13,15-tetraoxacyclotetracosane		39.7	342.5		[1975BOR]
	FUS						
C ₃₂ H ₆₄ O ₁₆	[71092-61-0]	48-crown-16		59.1	312.2	DSC	[1996YAN/YU]
	FUS						
C ₃₂ H ₆₆	[55401-55-3]	11-decyldocosane		108.7	538	A, MG	[1987STE/MAL, 1955SCH/WHI]
	V	(523–559)					
C ₃₂ H ₆₆	[544-85-4]	Dotriacontane					
	TRS		27.1	340.3			
	FUS		74.4	344.0	DSC	[2012PLA/KOT]	
	TRS		43.7	339.2			
	FUS		78.0	342.5	DSC	[2005VEN/CUE]	
	TRS		40.59	339.1			
	FUS		79.74	341.9	DSC	[2003TOZ/INA]	
	TRS		41.9	340.7			
	FUS		75.7	343.2	DSC	[1999GIL]	
	TRS		42.7	338.9			
	FUS		76.0	342.1	DSC	[1983CHA/MAU]	
	TRS		41.38	338.7			
	FUS		76.57	343.5			[1996DOM/HEA, 1973COM]
	SUB		271.1 ± 2.5				[1970COX/PIL]
	V	(534–565)	162.5	298	CGC	[2004CHI/HAN2]	
	V	(437–477)	147 ± 1	456	TE	[1994PIA/FON]	
	V	(361–395)	130.5	376	A	[1987STE/MAL]	
	V	(510–741)	116	535	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₃₂ H ₆₆	[55401-54-2]	9-octyltetacosane					
	V	(501–563)	114.8	516	A, MG	[1987STE/MAL, 1955SCH/WHI]	
C ₃₂ H ₆₆	[1720-12-3]	2-methylhentriacontane					
	V	(474–735)	120.9	489			[1999DYK/SVO]
C ₃₂ H ₆₆ O	[4113-12-6]	17-oxatritriacontane					
	FUS		109.7	326.2	DSC	[2014HAS/JIR]	
	TRS		10.46	323.2			
	FUS		116.73	324.7	DSC	[2004TYA/BIS]	
C ₃₂ H ₆₆ S	[66256-05-1]	1-dotriacontanethiol					
	V	(499–766)	127.5	514	E	[1999DYK/SVO]	
C ₃₃ H ₃₄ N ₄ O ₆	[123524-52-7]	((3-[1-(diphenylmethyl)-3-azetidinyl]-5-(1-methylethyl-2-amino-1,4-dihydro-6-methyl-4-(3-nitrophenyl)-3,5-pyridinecarboxylate (azelnidipine)))					
	FUS (I)		13.1	402.3			
	FUS (II)		48.4	472.2	DSC	[2012LI/YAN]	
C ₃₃ H ₃₄ O ₃	[71203-40-2]	Norethindrone-biphenyl-4-carboxylate					
	FUS		31.6	462	DSC	[1996DOM/HEA, 1979LEW/ENE]	
C ₃₃ H ₄₀ O ₃	[71203-41-3]	Norethindrone-4-cyclohexybenzoate					

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound								
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T_m (K)	Method	Reference		
$C_{33}H_{46}O_4$	[128805-69-6]	FUS 17 β -4-heptoxybenzoyloxy testosterone	FUS		36.8	482	DSC	[1996DOM/HEA, 1979LEW/ENE]		
					22.0	373	DSC	[1990YAN/EIR]		
$C_{33}H_{47}NO_5$	[171018-30-7]	17-(cyclopropylmethyl)- α -(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-6- α -methyl-(1-methoxyoxobutoxy)-6,14-ethenomorphinan-7-methanol	FUS		32.4	422.1	DSC	[1995STI/DUA]		
					22.5	374	DSC	[1996DOM/HEA, 1979LEW/ENE]		
$C_{33}H_{48}O_3$	[71203-38-8]	Norethindrone- <i>trans</i> -3-(4-butylcyclohexyl)propionate	FUS		22.6	398	DSC	[1996DOM/HEA, 1979LEW/ENE]		
					41.51	448.15	DSC	[2016YOU/WAN]		
$C_{33}H_{50}O_6P_2$	[26741-53-7]	bis(2,4-di- <i>trans</i> -butylphenyl)phosphityrithiol diphosphite	FUS		119	447.7	DSC	[2000IHN/VEN]		
					81.1	346	ME	[2000LIA/MA]		
$C_{33}H_{54}O_6$	[3319-31-1]	Tri(2-ethylhexyl)trimellitate (331–371)	V		79.0	346	ME	[2000LIA/MA]		
					130.7	455.3	DSC	[2000IHN/VEN]		
$C_{33}H_{62}N_6O_9$	[99899-52-2]	Octanoylamide deferoxamine	FUS		121.5	499		[1999DYK/SVO]		
					124.6	452	A	[1987STE/MAL]		
$C_{33}H_{64}N_2O_2S$	[1383435-49-1]	1,3-dihexadecanoyl thiourea	FUS		82.3	325.2	DSC	[2011ALK/TEK]		
					55.8	294.1	DSC	[2013SAR/ALK]		
$C_{33}H_{66}$	[61828-12-4]	Heptacosylcyclohexane (484–757)	V		120.6	499		[1999DYK/SVO]		
					121.8	495		[1999DYK/SVO]		
$C_{33}H_{66}O_2$	[36610-48-7]	Tetradecyl nonadecanoate	FUS		100.57	323.4	DSC	[2011AYD/OKU2]		
					101.6	316.3	DSC	[2012KEN]		
$C_{33}H_{66}O_3$	[13784-52-6]	Dihexadecyl carbonate	FUS		111.8	316.3	DSC	[2010KEN]		
					105.02	344	Rad. Calor.	[1996DOM/HEA, 1932SPA/THO]		
$C_{33}H_{68}$	[630-05-7]	Tritriacontane	TRS		0.2	336.6		[1999GIL]		
					26.6	341.2		[1996DOM/HEA, 1932SPA/THO]		
					83.1	344.8	DSC	[1999GIL]		
					105.02	344	Rad. Calor.	[1996DOM/HEA, 1932SPA/THO]		
			FUS		105.0	344.3		[1929PAR/TOD]		
			V	(534–565)	167.6	298	CGC	[2004CHI/HAN2]		
			V	(438–480)	148 ± 1	458	TE	[1994PIA/FON]		
			V	(517–749)	118	532	A, E	[1987STE/MAL, 1966KUD/ZWO]		

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
C ₃₃ H ₆₈	[1720-11-2]	2-methyldotriacontane V	(480–743)	122.9	495		[1999DYK/SVO]
C ₃₃ H ₆₈ S	[66214-20-8]	1-tritriacontanethiol V	(504–773)	129.1	519	E	[1999DYK/SVO]
C ₃₄ H ₁₆ O ₂	[116-71-2]	Dibenzanthrone (violanthrone) SUB	(513–548)	208.8	528		[1987STE/MAL]
		SUB		202.9	542	ME	[1951INO]
C ₃₄ H ₁₆ O ₂	[128-64-3]	Isodibenzanthrone (isoviolanthrone) SUB	(523–553)	221.1	538		[1987STE/MAL]
		SUB		215.5	537	ME	[1951INO]
C ₃₄ H ₁₈	[81-31-2]	Violanthrene SUB		223.8 ± 8.8	590	ME	[1952INO/SHI, 1960JON]
C ₃₄ H ₁₈	[188-87-4]	Violanthrene A (mp 478 °C) (anthra[9,1,2-cde]benzo[rst]pentaphene) SUB	(562–724)	195.8	653	ME	[1967WAK/INO]
C ₃₄ H ₁₈	[190-93-2]	Violanthrene B (mp 330 °C) SUB	(555–625)	153.5	590	ME	[1967WAK/INO]
[Note: This entry is likely the original reference for benzo[rst]phenanthro[1,10,9-cde]pentaphene listed in [1987STE/MAL]. Chemical abstracts cites [1967WAK/INO] as reporting the heat of sublimation for benzo[rst]phenanthro[1,10,9-cde]pentaphene.]							
C ₃₄ H ₁₈	[190-93-2]	Benzo[rst]phenanthro[1,10,9-cde]pentaphene SUB	(478–603)	154.1	493	A	[1987STE/MAL]
C ₃₄ H ₁₈	[4430-29-9]	Isoviolanthrene A (mp 510 °C) SUB	(588–724)	218	590	ME	[1952INO/SHI, 1960JON]
C ₃₄ H ₁₈	[191-79-7]	Tetrabenz{o,de,hi,op,st}pentacene SUB	(348–448)	118.5	363		[1987STE/MAL]
		SUB	(350–450)	118	400	ME	[1967WAK/INO]
C ₃₄ H ₂₄	[751-38-2]	1,2,3,4-tetraphenylnaphthalene SUB	(430–448)	150.9 ± 0.4	439	ME	[2012LIM/ROC]
		SUB	(430–448)	154.2 ± 0.8	298	ME	[2012LIM/ROC]
C ₃₄ H ₂₄	[82777-02-4]	1,8-bis[(1,1'-biphenyl)-4-yl]naphthalene SUB	(454–473)	174.8 ± 0.6	464	ME	[2012LIM/ROC]
		SUB	(454–473)	178.5 ± 1.1	298	ME	[2012LIM/ROC]
C ₃₄ H ₃₁ ClN ₂ O ₃	[119887-41-1]	Spiro[isobenzofuran-1(3H),9' (9H)-7'-chloro-6'-(methylecylohexylamino)-3'-methyl-2'-anilinoxanthene]-3-one FUS		49.0	442.2	DSC	[1988NAK/KIT]
C ₃₄ H ₃₂ N ₂ O ₃	[55250-84-5]	Spiro[isobenzofuran-1(3H),9' (9H)-6'-(methylecylohexylamino)-3'-methyl-2'-anilinoxanthene]-3-one FUS		39.9	476.2	DSC	[1988NAK/KIT]
C ₃₄ H ₃₈	[116422-71-0]	1,6-bis[4-(4'-ethylbiphenyl)]hexane TRS		3.9	393.2		
		FUS		35	422.2	DSC	[1989MAL/KAN]
C ₃₄ H ₄₉ NO ₅	[171018-31-8]	17-(cyclopropylmethyl)-α-(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-6-methoxy-α-methyl-(1-oxopentoxy)-6,14-ethenomorphinan-7-methanol FUS		24.0	379.1	DSC	[1995STI/DUA]
C ₃₄ H ₅₂ N ₂ O ₄	[32687-78-8]	N,N'-bis[3-(3,5-di- <i>tert</i> -butyl-4-hydroxyphenyl)propionyl]hydrazine TRS		19.47	474.1		
		FUS		41.5	503	DSC	[2008COG/HIL]
C ₃₄ H ₅₄	[85668-72-0]	4,5-dipropyl-4,5-bis(4- <i>tert</i> -butylphenyl)-octane FUS		40.58	419	DSC	[1983KRA/BEC]
		SUB		198.3		E,B	[1983KRA/BEC]
C ₃₄ H ₅₄ O ₈ S ₂	[849904-11-6]	2,2'-[butane-1,4-diylbis(oxy)]bis(5-nonylbenzenesulfonic acid) FUS		26.0	422.3	DSC	[2009XIE/YAN]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T_m (K)	Method	Reference
C ₃₄ H ₆₂	[61828-26-0]	Octacosylbenzene (490–764)	V	123.4	505			[1999DYK/SVO]
C ₃₄ H ₆₆ O ₄	[2432-88-4]	Didodecyl sebacate	V	131.9	420	TGA	[1990KIS/SHO]	
	V		V	154.5 ± 5.4	298	TGA	[1990KIS/SHO]	
C ₃₄ H ₆₇ NO ₃	[55349-67-2]	Hexadecanoic acid, 2-[(1-oxohexadecyl)amino]ethyl ester	FUS	110.5	363.1	DSC	[2010KAM/TAR]	
C ₃₄ H ₆₈	[61828-13-5]		V	122.4	505			[1999DYK/SVO]
C ₃₄ H ₆₈	[61868-12-0]	1-tetratriacontene	V	123.7	501			[1999DYK/SVO]
C ₃₄ H ₆₈	[87292-56-6]	17-tetratriacontene	TRS	33.47	332.8			
			FUS	51.46	334.3	DSC	[2004TYA/BIS]	
C ₃₄ H ₆₈ N ₂ O ₂	[5518-18-3]	<i>N,N'</i> -1,2-ethanediylbis(hexadecanamide)	FUS	80.9	325.7	DSC	[2011ALK/CAN]	
C ₃₄ H ₆₈ N ₂ O ₂	[61261-68-5]		FUS	62.8	320.2	DSC	[2010CAN/ALK]	
C ₃₄ H ₆₈ O ₂	[22413-04-3]	Tetradecyl eicosonate	FUS	102.5	326.0	DSC	[2011AYD/OKU]	
C ₃₄ H ₆₈ O ₂	[1190-63-2]	Hexadecyl octadecanoate	FUS	109.0	327.8	DSC	[2012AYD/AYD]	
C ₃₄ H ₆₈ O ₂	[2598-99-4]	Octadecyl hexadecanoate	FUS	111.83	330.5	DSC	[2013AYD]	
C ₃₄ H ₆₈ O ₁₇	[109635-68-9]	51-crown-17	FUS	66.6	301.2	DSC	[1996YAN/YU]	
C ₃₄ H ₇₀	[55429-84-0]	11-decyldocosane	V	(537–574)	552	A, MG	[1987STE/MAL, 1955SCH/WHI]	
C ₃₄ H ₇₀	[55429-83-9]	9-octylhexacosane	V	(537–575)	552	A, MG	[1987STE/MAL, 1955SCH/WHI]	
C ₃₄ H ₇₀	[14167-59-0]	Tetratriacontane	TRS	0.41	342.8			
			TRS	46.65	343.5			
			FUS	95.64	346.1	DSC	[2006WAN/TOZ]	
			TRS	46.9	343.1			
			FUS	82.9	345.8	DSC	[2005VEN/CUE]	
			TRS	36.5	343.2			
			FUS	72.0	346.4	DSC	[1999GIL]	
			TRS	48.0	342.7			
			FUS	79.9	346.0		[1973COM]	
			TRS	48.03	341.1			
C ₃₄ H ₇₀			FUS	79.96	345.6		[1996DOM/HEA, 1931GAR/VAN]	
			V	(534–565)	298	CGC	[2004CHI/HAN2]	
			V	(446–497)	471	TE	[1994PIA/FON]	
			V	(372–402)	387	A	[1987STE/MAL]	
			V	(523–756)	538	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₃₄ H ₇₀	[66214-27-5]	2-methyltritriacontane	V	(486–750)	124.8	501		[1999DYK/SVO]
C ₃₄ H ₇₀ S	[66214-28-6]	1-tetratriacontanethiol	V	(509–780)	130.7	524	E	[1999DYK/SVO]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T_m (K)	Method	Reference
C ₃₅ H ₂₈ Cl ₂ N ₈ O ₄	[84625-61-6]	4-[4-[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]phenyl]-2,4-dihydro-2-(1-methylpropyl)-3H-1,2,4-triazol-3-one(itraconazole)	FUS		57.57	441	DSC	[2010BAI/VAN]
			FUS		69.9	438.6	DSC	[2007BER/WAS]
C ₃₅ H ₃₇ N ₃	[500362-45-8]	4-butylphenyl-[6-(4-butylphenyl)methyl-9-methyl-9H-carbazol-3-ylmethylene)]amine	FUS		29.6	460.2	DSC	[2002BEL/MAN]
C ₃₅ H ₃₇ N ₃ O ₂	[500362-50-5]	4-butoxyphenyl-[6-(4-butoxyphenyl)methyl-9-methyl-9H-carbazol-3-yl-methylene)]amine	FUS		34.4	475.2	DSC	[2002BEL/MAN]
C ₃₅ H ₅₀ N ₂ O ₈	[874908-00-6]	2-methylacrylic acid 11-[4-(6,7,9,10,12,13,15,16-octahydro-5,8,11,14,17-pentaoxabenzenocyclopentadecen-2-ylazo)phenoxy]undecyl ester						
			FUS		48.7	379.7	DSC	[2005NIS/WAT]
C ₃₅ H ₅₁ NO ₅	[171018-32-9]	17-(cyclopropylmethyl)- α -(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-6-methoxy- α -methyl-(1-oxohexyloxy)-6,14-ethenomorphinan-7-methanol	FUS		22.6	352.6	DSC	[1995STI/DUA]
C ₃₅ H ₅₆ N ₂ O ₉ S	[1432661-12-5]	Valnemulin hydrogen fumarate	FUS		25.06	408.5	DSC	[2015OUE/WAN]
C ₃₅ H ₆₄	[56247-97-3]	15-phenylnonacosane (523–550)	V		126.5	536	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₅ H ₆₄	[61828-27-1]	Nonacosylbenzene (495–771)	V		125.4	510		[1999DYK/SVO]
C ₃₅ H ₆₆ O ₅	[1130761-31-7]	18-oxopentatriacontanedioic acid	FUS		115	400.7		
			FUS		102	395.6	DSC	[2009YAM/TES]
C ₃₅ H ₆₈ O ₄	[818-21-3]	1,3-propanediol, dipalmitate	FUS		133	329.8	DSC	[2007ABE/BOU]
C ₃₅ H ₇₀	[61828-14-6]	Nonacosylcyclohexane (495–771)	V		124.4	510		[1999DYK/SVO]
C ₃₅ H ₇₀	[61868-13-1]	1-pentatriacontene (492–761)	V		125.5	507		[1999DYK/SVO]
C ₃₅ H ₇₀	[55521-27-2]	15-cyclohexylnonacosane (548–581)	V		129	563	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₅ H ₇₀ O	[504-53-0]	18-pentatriacontanone	FUS		126	361.6	DSC	[2009YAM/TES]
C ₃₅ H ₇₂	[630-07-9]	Pentatriacontane	FUS		135	347.5	DSC	[2009YAM/TES]
			TRS		41.09	344.7		
			FUS		86.4	347.2		[1996DOM/HEA]
			V	(534–565)	178	298	CGC	[2004CHI/HAN2]
			V	(529–764)	122.4	544	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₃₅ H ₇₂	[14167-65-8]	2-methyltetratriacontane (491–758)	V		126.9	506		[1999DYK/SVO]
C ₃₅ H ₇₂ S	[66576-86-1]	1-pentatriacontanethiol (514–787)	V		132.2	529	E	[1999DYK/SVO]
C ₃₆ H ₁₈	[191-48-0]	Decacyclene	FUS		25.4	666		[1980SMI]
C ₃₆ H ₂₄	[7059-70-3]	1,3,5-tri-alpha-naphthylbenzene	FUS		42.26	472		[1967MAG]
C ₃₆ H ₂₈ N ₂	[15546-43-7]	<i>N,N,N',N'</i> -tetraphenylbiphenyl-4,4'-diamine	FUS		46.2	504.6	DSC	[2013COS/SAN]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
<chem>C36H30N3O6P3</chem>	[1184-10-7]	SUB	(481–501)	195.1 ± 0.5	491	ME	[2013COS/SAN]
		SUB	(481–501)	198.5 ± 2.0	298	ME	[2013COS/SAN]
<chem>C36H32N2O4</chem>	[158547-46-7]	FUS		51.07	387.11	DSC	[2012JIA/WAN, 2011TIA/WAN2]
		TRS		33.5	537.9		
<chem>C36H42</chem>	[116422-72-1]	FUS		8.4	556.3	DSC	[1995EIS/DEN]
		TRS		42	402.2	DSC	[1989MAL/KAN]
<chem>C36H42</chem>	[116445-91-1]	1,4-bis[4-(4'-n-butylbiphenyl)]butane					
		TRS (liq cryst)		12	404.2	DSC	[1989MAL/KAN]
		TRS (liq cryst-to-liq)		24	464.2		
<chem>C36H44N2S4</chem>	[109537-97-5]	FUS	bis[4-(5-heptyl-2-thienylmethylidenamino)phenyl]disulfide	36.1	356.2	DTA	[1978KOS/BUD]
<chem>C36H46N4</chem>	[2683-82-1]	FUS	2,3,7,8,12,13,17,18-octaethyl-21 <i>H</i> ,23 <i>H</i> -porphine	37.97	616.2	DSC	[2011DEC/MAH]
<chem>C36H46O4</chem>	[92341-28-1]	4,4'-didecanoxydiphenyldiacetylene					
		TRS		44.9	308		
<chem>C36H53NO5</chem>	[171018-33-0]	FUS		42.2	403	DSC	[1996DOM/HEA, 1984OZC/ASR]
			17-(cyclopropylmethyl)-α-(1,1-dimethylethyl)-4,5-epoxy-18,19-dihydro-6-methoxy-α-methyl-(1-oxoheptyloxy)-6,14-ethenomorphinan-7-methanol	19.3	360	DSC	[1995STI/DUA]
<chem>C36H54O12</chem>	[65201-68-5]	Benzene hexa- <i>n</i> -pentanoate					
		TRS	(13–390)	8.8	173.1		
		TRS	(13–390)	15.3	313.2		
		TRS	(13–390)	1.4	349.9		
		FUS	(13–390)	30.3	379.5	AC	[2001ASA/SOR]
<chem>C36H58O4</chem>	[5956-67-2]	FUS	Lup-20(29)-ene-3,28-diol, dipropanoate(betulin dipropionate)	33	436.8	DSC	[2014DRE/MIK]
<chem>C36H60O6</chem>	[53894-23-8]	V	Triisononanyltrimellitate	102.2	349	ME	[2000LIA/MA]
<chem>C36H62O4</chem>	[2915-60-8]	V	Ditetradecyl phthalate	126	431	T	[1987STE/MAL, 1949PER/WEB]
<chem>C36H62O4</chem>	[175848-69-8]	TR	2,5-di- <i>n</i> -pentadecyloxy-1,4-benzoquinone	21.7	385.9		
		FUS		101.7	393.5	DSC	[1996KEE/VAN]
<chem>C36H62O4</chem>	[39262-14-1]	FUS	20- <i>O</i> -β-D-glycopyranosyl-20(S)-protopanaxadiol	18.88	451.2	DSC	[2012LI/YAN]
<chem>C36H66</chem>	[50715-02-1]	V	Triacetylbenzene				
<chem>C36H70O4</chem>	[26719-63-1]	(501–778)	(501–778)	127	516		[1999DYK/SVO]
		FUS (92 % crystalline)		106.6	335.2		
		FUS (100 % crystalline)		115.7	335.2	DSC	[2013CAB/BOG]
		FUS		162.4	339	DSC	[2008ZHA/WUM]
<chem>C36H71NO3</chem>	[154957-71-8]	FUS	Heptadecanoic acid, 2-[(1-oxoheptadecyl)amino]ethyl ester	106.7	364.4	DSC	[2010KAM/TAR]
<chem>C36H72</chem>	[61868-14-2]		1-hexatriacontene				

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T_m (K)	Method	Reference
	V	(497–768)		127.4	512		[1999DYK/SVO]
C ₃₆ H ₇₂	[61828-15-7]	Triacetylcylohexane					
	V	(500–778)		126.3	515		[1999DYK/SVO]
C ₃₆ H ₇₂ O ₂	[22413-05-4]	Hexadecyl eicosanoate					
	FUS			121.6	332.5	DSC	[2012AYD/AYD]
C ₃₆ H ₇₂ O ₂	[2778-96-3]	Octadecyl octadecanoate					
	FUS			115.41	332.4	DSC	[2013AYD]
C ₃₆ H ₇₂ O ₁₈	[71092-62-1]	54-crown-18					
	FUS			81.6	317.2	DSC	[1996YAN/YU]
C ₃₆ H ₇₄	[630-06-8]	Hexatriacontane					
	TRS			11.73	347.3		
	TRS			24.72	348.3		
	FUS			81.6	350.2	DSC	[2006KHI/BOU]
	TRS			0.47	343.6		
	TRS			15.02	348.8		
	TRS			28.52	347.1		
	FUS			102.51	349.2	DSC	[2006WAN/TOZ]
	TRS			49.2	346.0		
	FUS			173.5	348.8	DSC	[2005VEN/CUE]
	TRS			30.3	347		
	FUS			87.6	349	DSC	[2004MAR/KAI]
	TRS	(80–370)		10.1	345.4		
	TRS	(80–370)		32.1	346.8		
	FUS	(80–370)		87.5	348.9	AC	[1999WAN/TAN]
	TRS			43.4	347.2		
	FUS			89.0	349.4	DSC	[1999GIL]
	TRS			15.3	345.1		
	TRS			31.6	346.9		
	FUS			86.0	348.7	DSC	[1991JIN/WUN]

[Note: Authors of Ref. [1991JIN/WUN] reported that only the last two transition enthalpies and temperatures did not on crystallization change from the melt.]

	TRS		9.9	345.3		
	TRS		30.5	347.1		
	FUS		130.7	349.2		[1973COM]
	TRS		9.92	345.4		
	TRS		30.54	347.1		
	FUS		88.83	349.2	AC	[1996DOM/HEA, 1955SCH/BUS]
	V	(534–565)	182.8	298	CGC	[2004CHI/HAN2]
	V	(452–516)	157 ± 2	484	TE	[1994PIA/FON]
	V	(535–571)	124.4	550	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₃₆ H ₇₄	[55517-89-0]	13-undecylpentacosane				
	V	(548–580)	132.9	563	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₆ H ₇₄	[66576-73-6]	2-methylpentatriacontane				
	V	(497–765)	128.7	512		[1999DYK/SVO]
C ₃₆ H ₇₄	[67309-30-2]	18-methylpentatriacontane				
	FUS		99.0	325.2	DSC	[2005IKE/YAM]
C ₃₆ H ₇₄ O	[6297-03-6]	19-oxaheptatriacontane				
	FUS		106.7	333.2	DSC	[2014HAS/JIR]
	TRS		10.88	333.2		
	FUS		105.86	335.3	DSC	[2004TYA/BIS]
C ₃₆ H ₇₄ O ₁₈		1,ω-dimethoxyheptadeca(oxyethylene)				
	FUS		136.6	301.2	DSC	[1996YAN/YU]
C ₃₆ H ₇₄ S	[66577-23-9]	1-hexatriacontanethiol				

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method
	V	(518–793)		134	533	E	[1999DYK/SVO]
C ₃₆ H ₇₅ N	[102-87-4]	Tridodecylamine					
	V	(579–807)		82.1	594	A	[1987STE/MAL]
C ₃₇ H ₄₈ N ₄ O ₅	[192725-17-0]	Lopinavir					
	FUS			28.4	365.2	DSC	[2015NUR/BOO]
C ₃₇ H ₄₈ N ₆ O ₅ S ₂	[155213-67-5]	2,4,7,12-tetraazatridecan-13-oic acid, 10-hydroxy-2-methyl-5-(1-methylethyl)-1-[2-(1-methylethyl)-4-thiazolyl]-3,6-dioxo-8,11-bis(phenylmethyl)-, 5-thiazolylmethyl ester (ritonavir)					
	FUS			67.6	394.1	DSC	[2015NUR/BOO]
	FUS			65.34	399	DSC	[2010BAI/VAN]
	FUS			57.9	395.5		[2002ZHO/ZHA]
C ₃₇ H ₅₂ O ₄	[129108-06-1]	3β-n-octyloxy-17β-butyroxybenzoyloxy estradiol					
	FUS			27.0	332	DSC	[1990YAN/EIR]
C ₃₇ H ₆₈	[61828-28-2]	Hexatriacontylbenzene					
	V	(506–785)		128.8	521		[1999DYK/SVO]
C ₃₇ H ₆₈ O ₈	[7299-99-2]	Pentaerythritol tetra-2-ethylhexanoate					
	V	(355–443)		126.4	370		[2007RAZ/MOK]
C ₃₇ H ₇₀ O ₆	[30283-10-4]	1-caprylic-2-lauryl-3-myristic glycerol					
	V	(464–526)		131.7	479	A, T	[1987STE/MAL, 1949PER/WEB2]
C ₃₇ H ₇₂ O ₄	[69341-24-8]	Neopentyl glycol dipalmitate					
	FUS			71.9	308.1	DSC	[2013SAR/ALK]
C ₃₇ H ₇₄	[61828-16-8]	Hentriacontylcyclohexane					
	V	(505–785)		128.1	520		[1999DYK/SVO]
C ₃₇ H ₇₄	[61868-15-3]	1-heptatriacontene					
	V	(502–775)		129.2	517		[1999DYK/SVO]
C ₃₇ H ₇₄ O ₃	[5346-14-5]	Dioctadecyl carbonate					
	FUS			115.1	328.3	DSC	[2012KEN]
	FUS			126.3	319.6	DSC	[2010KEN]
C ₃₇ H ₇₆	[7194-84-5]	Heptatriacontane					
	V	(534–565)		187.5	298	CGC	[2004CHI/HAN2]
	V	(471–511)		155 ± 2	491	TE	[1994PIA/FON]
	V	(541–778)		126.4	556	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₃₇ H ₇₆	[66577-06-8]	2-methylhexatriacontane					
	V	(502–772)		130.5	517		[1999DYK/SVO]
C ₃₇ H ₇₆ S	[66577-07-9]	1-heptatriacontanethiol					
	V	(523–799)		135.3	538	E	[1999DYK/SVO]
C ₃₈ H ₃₀	[18909-18-7]	1-diphenylmethylene-4-triphenylmethyl-2,5-cyclohexadiene					
	SUB	(348–394)		114.6	363	A	[1987STE/MAL]
C ₃₈ H ₃₀ O ₂	[596-30-5]	bis(triphenylmethyl)peroxide					
	SUB	(392–434)		158.1	407	A	[1987STE/MAL]
C ₃₈ H ₃₂ N ₂	[65181-78-4]	4,4'-bis[N-(3-methylphenyl)-N-phenylamino]biphenyl					
	FUS			40.4	442.2		[2013COS/SAN]
C ₃₈ H ₅₀ O ₄	[71332-86-0]	4,4'-diundecanoyloxydiphenyldiacetylene					
	TRS			18.1	339		
	TRS			7.59	359		
	FUS			36.2	399	DSC	[1996DOM/HEA, 1984OZC/ASR]
C ₃₈ H ₅₈ O ₆ S	[41484-35-9]	3,5-bis(1,1-dimethylethyl)4-hydroxybenzenepropanoic acid, 1,1'-(thiodi-2,1-ethanediyl) ester					
	FUS (I)			49.09	340.6		
	FUS (II)			48.80	350.5	DSC	[2015ZHA/OUY]
C ₃₈ H ₆₂	[85668-76-4]	5,6-dibutyl-5,6-bis(4- <i>tert</i> -butylphenyl)-decane					

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
C ₃₈ H ₆₇ NO ₁₀	[150785-53-8]	FUS		43.1	386	DSC	[1983KRA/BEC]
		SUB		220.9		E, B	[1983KRA/BEC]
C ₃₈ H ₆₈ N ₂ O ₂	[312952-55-9]	FUS		36.7	434.9		[2002ZHO/ZHA]
		TRS		78	367.2		
C ₃₈ H ₆₈ O ₄	[118476-26-9]	FUS		32		DSC	[2000AKU/IUC]
		TRS		6.8	357.7		
		TRS		14.1	370.9		
		TRS		19.0	389		
		FUS		83	394.2	DSC	[1996KEE/VAN]
C ₃₈ H ₆₈ S ₈	[105782-51-2]	TRS	(10–330)	0.16	94.3		
		TRS	(10–330)	4.92	215.8		
		FUS	(10–330)	89.3	322.5	AC	[1997TAN/ATA]
		FUS		45.5	498.9	DSC	[2014AGA/MOS]
C ₃₈ H ₆₉ NO ₁₃	[81103-11-9]	FUS		54.1	500.9	DSC	[2009RAJ/MIS]
		FUS					
C ₃₈ H ₇₀	[61828-29-3]	Dotriacetylbenzene					
	V	(511–791)	130.4	526			[1999DYK/SVO]
C ₃₈ H ₇₄ O ₄	[26719-47-1]	Ditetradecyl sebacate					
		FUS		120.3	324.0	DSC	[2012AYD]
		V		142.8	440	TGA	[1990KIS/SHO]
		V		170.6 ± 5.9	298	TGA	[1990KIS/SHO]
C ₃₈ H ₇₅ NO ₃	[14351-40-7]	V	(431–483)	135.5	446	A, T	[1987STE/MAL, 1949PER/WEB]
		FUS		122.2	367.8	DSC	[2010KAM/TAR]
		FUS					
		V					
C ₃₈ H ₇₆	[61828-17-9]	Dotriacetylhexane					
	V	(510–792)	129.8	525			[1999DYK/SVO]
C ₃₈ H ₇₆	[61868-16-4]	1-octatriacontene					
	V	(507–782)	131	522			[1999DYK/SVO]
C ₃₈ H ₇₆	[62978-78-3]	19-octatriacontene					
		TRS		7.53	321		
		TRS		34.31	338.4		
		FUS		66.53	340.8	DSC	[2004TYA/BIS]
C ₃₈ H ₇₆ N ₂ O ₂	[343933-17-5]	N,N'-1,6-hexanediylibis(hexadecanamide)					
	V		85.7	332.5		DSC	[2010CAN/ALK]
C ₃₈ H ₇₆ O ₂	[22432-79-7]	Octadecyl eicosanoate					
	V		127.76	338.1		DSC	[2013AYD]
C ₃₈ H ₇₈	[7194-85-6]	Octatriacontane					
		V	(534–565)	192.6	298	CGC	[2004CHI/HAN2]
		V	(471–511)	160 ± 2	491	TE	[1994PIA/FON]
		V	(546–785)	128.5	561	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₃₈ H ₇₈	[66576-92-9]	2-methylheptatriacontane					
	V	(507–779)	132.2	522			[1999DYK/SVO]
C ₃₈ H ₇₈ S	[66576-93-0]	1-octatriacontanethiol					
	V	(527–805)	136.7	542	E		[1999DYK/SVO]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T_m (K)	Method	Reference
C ₃₉ H ₄₅ N ₃ O ₂	[500362-51-6]	4-hexyloxyphenyl-[6-(4-hexyloxyphenyl)methyl-9-methyl-9 <i>H</i> -carbazol-3-yl-methylene)]amine	FUS		25.4	459.2	DSC	[2002BEL/MAN]
C ₃₉ H ₇₂	[55517-74-3]	17-phenyltritriacontane	V	(544–571)	147.1	557	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₉ H ₇₂	[61828-30-6]	Tritriacontylbenzene	V	(516–798)	132	531		[1999DYK/SVO]
C ₃₉ H ₇₄ O ₆	[538-24-9]	Glycerol trilaurate	FUS		118.03	319.7	DSC	[2016CAR/CON]
			FUS		116.45	319.39	DSC	[2014MAX/COS, 2016CAR/CON]
			FUS		114.22	319.55		[1982OLL/PER, 2016CAR/CON]
			FUS		123.51	319.5		[1996DOM/HEA, 1947CHA/SIN]
			V		221.1		TGA	[2002GOO/GEL]
			V		147.1	438	TGA	[1990KIS/SHO]
			V		180.0 ± 6.3	298	TGA	[1990KIS/SHO]
			V	(458–520)	137.6	473	A, T	[1987STE/MAL, 1949PER/WEB2]
C ₃₉ H ₇₆ O ₄	[17367-44-1]	1,3-propanediol, distearate	FUS		110	329.8	DSC	[2007ABE/BOU]
C ₃₉ H ₇₈	[61868-17-5]	1-nontriacontene	V	(512–788)	132.5	527		[1999DYK/SVO]
C ₃₉ H ₇₈	[61828-18-0]	Triatriacontylcyclohexane	V	(515–798)	131.4	530		[1999DYK/SVO]
C ₃₉ H ₇₈	[55517-75-4]	17-cyclohexyltritriacontane	V	(570–602)	131.9	585	A, MG	[1987STE/MAL, 1955SCH/WHI]
C ₃₉ H ₇₈ O	[22986-70-5]	20-nonatricontanone	FUS		147.2	365.8	DSC	[2000NAK/SHI]
			FUS		153	365.6	DSC	[1994NAK/TAK]
C ₃₉ H ₈₀	[7194-86-7]	Nonatriacontane	V	(552–791)	130.3	567	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₃₉ H ₈₀	[66576-59-8]	2-methyloctatriacontane	V	(512–785)	133.8	527		[1999DYK/SVO]
C ₃₉ H ₈₀	[857685-80-4]	18-butylpentatriacontane	FUS		104	318.5	DSC	[2005IKE/YAM]
C ₃₉ H ₈₀ S	[66576-60-1]	1-nonatriacontanethiol	V	(531–811)	138.1	546	E	[1999DYK/SVO]
C ₄₀ H ₃₈ N ₄ O ₄	[130048-21-4]	bis(4- <i>n</i> -butyl-1'-diazophenyl)isophthalate	FUS		16.0	469.2	DSC	[1990JIN/KAN]
C ₄₀ H ₄₀ N ₂ O ₄	[158547-48-9]	3,3',4,4'-biphenyltetracarboxy- <i>N,N'</i> -bis(4- <i>n</i> -hexylphenyl)diimide	TRS (liq cryst)		19.9	432.4		
			TRS (liq cryst)		26.2	513.8		
			TRS (liq cryst-to-liq)		9.5	563.3	DSC	[1995EIS/DEN]
C ₄₀ H ₄₆ O ₈	[161282-95-7]	6,7,9,10,12,13,15,16,18,19-decahydro-32,35-dimethoxy-31 <i>H</i> -4,21-(methano[1,3]benzenomethano)-26,30-metheno-25 <i>H</i> -dibenzo[q,z]-[1,4,7,10,13,16]hexaoxacycloheptacosin	SUB		82 ± 2	ME	[2008SUR]	
C ₄₀ H ₄₈ N ₂ O ₂ S ₂	[1620387-53-2]	<i>N,N'</i> -[dithiobis(6,1-hexanediyloxy-4,1-phenylenemethylidyne)]bis[4-methylbenzenamine]	FUS		74.8	393.7	DSC	[2014YEA/OSM]
C ₄₀ H ₅₀	[116422-73-2]	1,8-bis[4-(4'- <i>n</i> -butylbiphenyl)]octane	TRS (liq cryst)		13.0	398.2		
			TRS (liq cryst-to-liq)		27.0	414.2	DSC	[1989MAL/KAN]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mole)	T_m (K)	Method	Reference
C ₄₀ H ₅₄ O ₄	[92341-29-2]	4,4'-didodecanoyloxydiphenyldiacetylene		50.2 44.0	374 401	DSC	[1996DOM/HEA, 1984OZC/ASR]
		TRS					
		FUS					
C ₄₀ H ₅₆	[7235-40-7]	β -carotene		56.0	456		[2003TRE/KAS]
C ₄₀ H ₇₀ O ₁₃	[76185-96-1] V	Dipentaerythritol hexapentanoate (393–534)		168.7 ± 2.1		DSC	[2011GAR/NAC]
C ₄₀ H ₇₂ O ₄	[175848-70-1]	2,5-di-heptadecyloxy-1,4-benzoquinone		13.0 120.9	383.6 395.3	DSC	[1996KEE/VAN]
		TRS					
		FUS					
C ₄₀ H ₇₄	[61828-31-7] V	Tetracontylbenzene (520–804)	133.8	535			[1999DYK/SVO]
C ₄₀ H ₇₈ O ₄	[42234-77-5]	Ditetradecyl 1,12-dodecanedioate	139.3	328.1	DSC		[2012AYD]
C ₄₀ H ₇₈ O ₄	[33587-21-2] FUS (93 % crystalline)	1,4-butanediol distearate	115.9	331.2	DSC	[2013CAB/BOG]	
	FUS (100 % crystalline)		124.0	331.2	DSC		[2007LI/DIN]
C ₄₀ H ₇₉ NO ₃	[154957-70-7] FUS	Nonadecanoic acid, 2-[(1-oxononadecyl)amino]ethyl ester	118.4	368.0	DSC	[2010KAM/TAR]	
C ₄₀ H ₈₀	[61868-18-6] V	1-tetracontene (517–794)	134	532			[1999DYK/SVO]
C ₄₀ H ₈₀	[61828-19-1] V	Tetracontylcyclohexane (520–804)	132.9	535			[1999DYK/SVO]
C ₄₀ H ₈₂	[4181-95-7]	Tetracontane	2.51 8.6 143.94 121.1 14.02 133.44 (323–523) (557–798)	345 347.7 354.6 353.2 345.4 353.2 298 572	DSC DSC CGC A, E	[2006WAN/TOZ] [2005VEN/CUE] [1992LOU/ROU] [2008CHI/WAN] [1987STE/MAL, 1966KUD/ZWO]	
C ₄₀ H ₈₂	[66576-48-5] V	2-methylnonatricontane (517–791)	135.3	532			[1999DYK/SVO]
C ₄₀ H ₈₂	[304457-95-2]	20-methylnonatricontane	120	331.4	DSC		[2004YAM/NEM]
[Note: The DSC curve showed no solid-solid phase transition in the temperature range of $T = 300$ K to $T = 360$ K.]							
C ₄₀ H ₈₂ S	[66576-49-6] V	1-tetracontanethiol (535–817)	139.6	550	E		[1999DYK/SVO]
C ₄₁ H ₄₄ N ₂ O ₉	[832684-74-9]	3,3'-di(<i>N</i> -cyclopropylmethyl)-4,5-epoxy-14-hydroxymorphinan-6-one-3-yl)carbonate	17.5	490.6	DSC		[2004HAM/HAM]
C ₄₁ H ₇₆	[61828-32-8] V	Pentriacontylbenzene (525–810)	135.2	540			[1999DYK/SVO]
C ₄₁ H ₇₆ O ₈	[41058-87-1]	3,5,5-trimethylhexanoic acid, 2,2-bis[[3,5,5-trimethyl-1-oxohexyl)oxy]-methyl]-1,3-propanediyl ester	51.3	304			[1996PYD/VAR]
C ₄₁ H ₈₂	[66576-37-2] V	1-hentetracontene (521–800)	135.8	536			[1999DYK/SVO]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
C ₄₁ H ₈₂	[61828-20-4] V	Pentatriacontylcyclohexane (524–810)		134.5	539		[1999DYK/SVO]
C ₄₁ H ₈₄	[7194-87-8] FUS	Hentetracontane		176.2	355.1	DSC	[2016BOU/DJE]
	TRS + FUS			149.2	354.3	DSC	[2003BRI/BOU]
	FUS			134.5	357.5	DSC	[2000PAU/MEH]
	V	(562–804)		134.1	577	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₄₁ H ₈₄	[66576-38-3] V	2-methyltetracontane (521–797)		137.1	536		[1999DYK/SVO]
C ₄₁ H ₈₄	[857685-81-5] FUS	18-hexylpentatricontane		107	314	DSC	[2005IKE/YAM]
C ₄₁ H ₈₄ S	[66576-39-4] V	1-hentetracontanethiol (539–822)		140.8	554	E	[1999DYK/SVO]
C ₄₂ H ₂₈	[517-51-1] SUB	5,6,11,12-tetraphenyltetracene (453–523)		160.6 ± 4.2	488		[1958HOY/PEP, 1970COX/PIL]
C ₄₂ H ₃₀	[992-04-1] SUB	Hexaphenylbenzene		175.5 ± 2.1	298	ME	[2011LIM/ROC]
	SUB		(573–643)	195 ± 6		TGA	[2011MAL/GAG]
C ₄₂ H ₃₃ N ₃	[126717-23-5] FUS	1,3,5-tris(diphenylamino)benzene		62.1	526.3	DSC	[2013COS/SAN]
	SUB		(471–511)	198.3 ± 0.4	493	ME	[2013COS/SAN]
	SUB		(471–511)	200.8 ± 2.0	298	ME	[2013COS/SAN]
C ₄₂ H ₃₆ O ₂₄ S ₆	[102088-39-1] FUS	4-sulfonato-calix[6]arene		242.2	534.8	DSC	[2005YAN/MAN]
C ₄₂ H ₄₄ N ₂ O ₄	[158547-49-0] TRS (liq cryst)	3,3',4,4'-biphenyltetracarboxy-N,N'-bis(4-n-heptylphenyl)diimide		18.8	411		
	TRS (liq cryst)			24.7	504.9		
	TRS (liq cryst-to-liq)			11.1	560.8	DSC	[1995EIS/DEN]
C ₄₂ H ₅₂ N ₂ O ₂ S ₂	[1620387-54-3] FUS	N,N'-[dithiobis(6,1-hexanediyloxy-4,1-phenylenemethylidyne)]bis[4-ethylbenzenamie]	52.6	373.9	DSC	[2014YEA/OSM]	
C ₄₂ H ₅₂ N ₂ O ₄ S ₂	[109537-98-6] FUS	1,2-bis[4-(5-octyl-2-thienylmethylidenamino)phenylcarboxyloxy]ethane	57.4	369.2	DTA	[1978KOS/BUD]	
C ₄₂ H ₆₁ NO ₄	[425406-53-7] FUS	2,7-dihexyloxy-9-(3,5-dihexyloxyphenyl)carbazole	41.02	350.2	DSC	[2002PER/LOP]	
C ₄₂ H ₆₆ O ₁₂	[65201-69-6] TRS	Benzene-hexa-n-hexanoate	(13–393)	25.67	251.6		
	TRS		(13–393)	12.27	291.5		
	TRS		(13–393)	16.26	348.3		
	FUS		(13–393)	33.5	368.7	AC	[1996DOM/HEA, 1980SOR/TSU]
C ₄₂ H ₇₈	[61828-33-9] V	Hexatriacontylbenzene (529–815)		129	544		[1999DYK/SVO]
C ₄₂ H ₈₂ O ₄	[26719-48-2] V	Dihexadecyl sebacate		149.8	460	TGA	[1990KIS/SHO]
	V			183.8 ± 6.4	298	TGA	[1990KIS/SHO]
C ₄₂ H ₈₂ O ₄	[42234-41-3] FUS	Ditetradecyl 1,14-tetradecanedioate		134.8	330.6	DSC	[2012AYD]
C ₄₂ H ₈₃ NO ₃	[1213779-61-3] FUS	Eicosanoic acid, 2-[(1-oxoeicosyl)amino]ethyl ester		140.6	371.9	DSC	[2010KAM/TAR]
C ₄₂ H ₈₄	[21807-60-3] V	1-dotetracontene (526–806)		137.1	541		[1999DYK/SVO]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
C ₄₂ H ₈₄	[61828-21-5]	Hexatriacontylcyclohexane	(529–816)	135.8	544		[1999DYK/SVO]
C ₄₂ H ₈₆	V						
	[7098-20-6]	Dotetracontane		2.11	344.6		
	TRS			8.46	348.6		
	TRS			165.97	357.3	DSC	[2006WAN/TOZ]
	V	(323–523)		213.5	298	CGC	[2008CHI/WAN]
C ₄₂ H ₈₆	V	(567–810)		136	582	A, E	[1987STE/MAL, 1966KUD/ZWO]
	[66576-40-7]	2-methylhentetracontane	(526–803)	138.5	541		[1999DYK/SVO]
C ₄₂ H ₈₆	[55470-97-8]	2,2,4,15,17,17-hexamethyl-7,12-bis(3,5,5-trimethylhexyl)octadecane					
C ₄₂ H _{86S}	V	(512–575)		118.3	527	A, MG	[1987STE/MAL, 1955SCH/WHI]
	[66576-41-8]	1-dotetracontanethiol					
C ₄₂ H _{87N}	V	(543–828)		142.1	558	E	[1999DYK/SVO]
	[27911-72-4]	Tritetradecylamine	(609–848)	86.6	624	A	[1987STE/MAL]
C ₄₃ H ₃₂	[1202852-27-4]	2-methyl-3',4',5',6'-tetraphenyl-1,2':2',1"-terphenyl	(573–643)	180 ± 9		TGA	[2011MAL/GAG]
C ₄₃ H ₅₃ N ₃	[500362-46-9]	4-octylphenyl-[6-(4-octylphenyl)methyl-9-methyl-9 <i>H</i> -carbazol-3-ylmethylene]Jamine					[2002BEL/MAN]
C ₄₃ H ₈₀	FUS			33.1	425.2	DSC	
	[66576-74-7]	Heptatriacontylbenzene	(533–821)	138.3	548		[1999DYK/SVO]
C ₄₃ H ₈₆	[66576-75-8]	Heptatriacontylcyclohexane	(533–821)	137.4	548		[1999DYK/SVO]
C ₄₃ H ₈₆	[66576-76-9]	1-tritetracontene	(530–812)	138.7	545		[1999DYK/SVO]
C ₄₃ H ₈₈	[66576-76-9]	Tritetracontane	(572–820)	137.7	587	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₄₃ H ₈₈	[66576-77-0]	2-methyldotetracontane	(530–809)	140	545		[1999DYK/SVO]
C ₄₃ H _{88S}	[66576-78-1]	1-tritetracontanethiol	(547–833)	143.2	562	E	[1999DYK/SVO]
C ₄₄ H ₂₆ Br ₄ N ₄	[68772-71-4]	5,10,15,20-tetrakis(3-bromophenyl)porphine				GS	[2000PER/GOL]
C ₄₄ H ₂₆ Br ₄ N ₄	SUB			204 ± 4			
	[29162-73-0]	5,10,15,20-tetrakis(4-bromophenyl)porphine				GS	[2000PER/GOL]
C ₄₄ H ₂₆ Cl ₄ N ₄	[22112-77-2]	5,10,15,20-tetrakis(4-chlorophenyl)porphine				GS	[2000PER/GOL]
C ₄₄ H ₂₆ F ₄ N ₄	[27185-62-2]	5,10,15,20-tetrakis(2-fluorophenyl)porphine				GS	[2000PER/GOL]
C ₄₄ H ₂₆ F ₄ N ₄	[37095-43-5]	5,10,15,20-tetrakis(4-fluorophenyl)porphine				GS	[2000PER/GOL]
C ₄₄ H ₃₀ N ₄	SUB			178 ± 4			
	[917-23-7]	5,10,15,20-tetraphenylporphine				DSC	[2011DEC/MAH]
	FUS			38.4	726.2	DSC	[2010GAM/CAM]
	FUS			44.2	723.5	DSC	
	SUB	(626–707)		142 ± 3		F	[2004STE/STI]
C ₄₄ H ₃₀ N ₄	SUB	(543–555)		171 ± 2	550	ME	[2002TOR/CAM]
	SUB			240 ± 7		GS	[2000PER/GOL]
	SUB (I)	(560–630)		267 ± 9			[1994GOL/PER]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
C ₄₄ H ₃₄	SUB (II)			185 ± 10			[1994GOL/PER]
	SUB	(588–678)		110.9 ± 5.0	603	ME	[1987STE/MAL, 1970BON/CAT]
C ₄₄ H ₄₈ N ₂ O ₄	[1202852-28-5]	2,6-dimethyl-3',4',5',6'-tetraphenyl-1,2':2',1''-terphenyl				TGA	[2011MAL/GAG]
C ₄₄ H ₄₈ N ₂ O ₄	SUB	(573–643)		169 ± 5			
	TRS (liq cryst)			36.1	428.5		
	TRS (liq cryst)			21.3	499.2		
C ₄₄ H ₅₆ O ₄	TRS (liq cryst-to-liq)			8.5	553.5	DSC	[1995EIS/DEN]
	[60705-62-6]	4- <i>tert</i> -butylcalix[4]arene					
C ₄₄ H ₆₃ N ₃ O ₂	SUB		U378 ± 35			ME	[2011SUR/VOR]
	[583032-62-6]	2-[3,5-bis[4-(dodecyloxy)phenyl]-1 <i>H</i> -pyrazol-1-yl]pyridine					
C ₄₄ H ₈₀ O ₄	FUS		47.3	344.2		DSC	[2003MAY/TOR]
	TRS						
	FUS		16.2	385.5			
C ₄₄ H ₈₂	TRS		134	396.2		DSC	[1996KEE/VAN]
	[66576-79-2]	Octatriacontylbenzene					
C ₄₄ H ₈₈	V	(537–826)	139.7		552		[1999DYK/SVO]
	[66576-80-5]	Octatriacontylcyclohexane					
C ₄₄ H ₈₈	V	(537–827)	138.7		552		[1999DYK/SVO]
	[66576-81-6]	1-tetratetracontene					
C ₄₄ H ₉₀	V	(534–818)	140.1		549		[1999DYK/SVO]
	[7098-22-8]	Tetratetracontane					
C ₄₄ H ₉₀	FUS		138.1	358.5		DSC	[2005VEN/CUE]
	FUS		145.5	360.9		DSC	[1995HAM/MEH]
[Note: Authors of [1995HAM/MEH] refer to the value as the total transition enthalpy.]							
C ₄₄ H ₉₀	TRS		18.2	347.7			
	FUS		152.9	358.8		DSC	[1991JIN/WUN]
[Note: Authors of [1991JIN/WUN] reported that only the last transition enthalpy and temperature did not change on crystallization from the melt.]							
C ₄₄ H ₉₀	V	(323–523)	223.7 ± 0.9		298	CGC	[2008CHI/WAN]
	V		146		387		[1973IVA/GUJ]
	V	(577–821)	139.3		592	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₄₄ H ₉₀	[66576-82-7]	2-methyltritetraccontane					
C ₄₄ H ₉₀	V	(534–815)	141.5		549		[1999DYK/SVO]
	V						
C ₄₄ H ₉₀ S	[66576-83-8]	1-tetratetracontanethiol				E	[1999DYK/SVO]
C ₄₅ H ₃₉ N ₃	V	(551–838)	144.1		566		
	[138143-23-4]	1,3,5-tris[(3-methylphenyl)phenylamino]benzene					
C ₄₅ H ₈₄	FUS		50.3	455.8		DSC	[2013COS/SAN]
	V						
C ₄₅ H ₈₄	[66576-61-2]	Nontriacontylbenzene					
C ₄₅ H ₈₆ O ₆	V	(541–832)	141		556		[1999DYK/SVO]
	[60138-25-2]	(<i>dl</i>)-1-lauric-2-myristic-3-palmitic glycerol					
C ₄₅ H ₈₆ O ₆	V	(491–551)	147.8		506	A, T	[1987STE/MAL, 1949PER/WEB2]
	V						
C ₄₅ H ₈₆ O ₆		(<i>dl</i>)-1-myristic-2-capric-3-stearic glycerol					
C ₄₅ H ₈₆ O ₆	V	(490–551)	148.4		505	A, T	[1987STE/MAL, 1949PER/WEB2]
	V						
C ₄₅ H ₈₆ O ₆	[555-45-3]	Glycerol trimyristate					
C ₄₅ H ₈₆ O ₆	FUS		141.97	330.90		DSC	[2014MAX/COS]
	FUS		111.6	305.2		DSC	[2010SAR/BIC]
	FUS		153.4	326.5		DSC	[2007HIM/MAC]
[Note: The value reported by [2007HIM/MAC] based on crystallization with a cooling scan rate of 0.1 K/min.]							
C ₄₅ H ₈₆ O ₆	FUS		152.2	330.2			[1996DOM/HEA, 1947CHA/SIN]
	V		199.05			TGA	[2002GOO/GEL]

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method
C ₄₅ H ₉₀	V			155.8	469	TGA
	V			199.2 ± 6.9	298	TGA
	V	(488–551)		147.8	503	A, T
C ₄₅ H ₉₀	[66576-62-3]	Nonatriacontylcyclohexane				[1990KIS/SHO]
	V	(541–832)		140.1	556	[1999DYK/SVO]
C ₄₅ H ₉₀	[66576-63-4]	1-pentatetracontene				[1999DYK/SVO]
	V	(538–823)		141.5	553	
C ₄₅ H ₉₂	[7098-23-9]	Pentatetracontane				[1987STE/MAL, 1966KUD/ZWO]
	V	(582–827)		141	597	A, E
C ₄₅ H ₉₂	[66576-64-5]	2-methyltetrapentadecane				[1999DYK/SVO]
	V	(538–820)		142.9	553	
C ₄₅ H ₉₂ S	[66576-65-6]	1-pentatetracontanethiol				[1999DYK/SVO]
	V	(554–843)		145.6	569	E
C ₄₆ H ₃₂ N ₂	[500615-71-4]	4,4'-bis[2-(1-pyrenyl)ethyl]-2,2'-bipyridine				[2011DEC/MAH]
	FUS			52.1	506.2	DSC
C ₄₆ H ₈₆	[66576-67-8]	Tetracontylbenzene				[1999DYK/SVO]
	V	(545–837)		142.3	560	
C ₄₆ H ₉₀ O ₄	[3072-03-5]	Diocadecyl sebacate				[1990KIS/SHO]
	V			157.5	480	TGA
	V			197.7 ± 6.9	298	TGA
C ₄₆ H ₉₂	[66576-68-9]	1-hexatetracontene				[1999DYK/SVO]
	V	(542–828)		142.8	557	
C ₄₆ H ₉₂	[66576-69-0]	Tetracontylcyclohexane				[1999DYK/SVO]
	V	(545–837)		141.3	560	
C ₄₆ H ₉₄	[7098-24-0]	Hexatetracontane				[1987STE/MAL, 1966KUD/ZWO]
	TRS			23.9	341.4	
	FUS			156.6	360.7	DSC
	V	(323–523)		233.3	298	CGC
	V	(586–832)		142.8	601	A, E
C ₄₆ H ₉₄	[66564-10-1]	2-methylpentatetracontane				[2003BRI/BOU]
	V	(542–826)		144.2	557	
C ₄₆ H ₉₄ S	[66564-11-2]	1-hexatetracontanethiol				[1999DYK/SVO]
	V	(557–847)		146.7	572	E
C ₄₇ H ₆₄ N ₄ O ₁₂	[61379-65-5]	3-[[4-cyclopentyl-1-piperazinyl]imino]methyl]-2,7-(epoxypentadeca[1,11,13]trienimino)-naphtho[2,1- <i>b</i>]furan (rifamycin)				[2010ZHO/LI]
	FUS			10.68	446.4	DSC
C ₄₇ H ₈₈	[66564-12-3]	Hentetracontylbenzene				[1999DYK/SVO]
	V	(549–842)		143.5	564	
C ₄₇ H ₉₀ O ₆	V	(<i>dl</i>)-1-myristic-2-lauric-3-stearic glycerol				[1987STE/MAL, 1949PER/WEB2]
		(493–558)		150.5	508	A, T
C ₄₇ H ₉₀ O ₆	V	(<i>dl</i>)-1-palmitic-2-capric-3-stearic glycerol				[1987STE/MAL, 1949PER/WEB2]
		(507–559)		154.8	522	A, T
C ₄₇ H ₉₄	[66564-13-4]	Hentetracontylcyclohexane				[1999DYK/SVO]
	V	(548–842)		142.8	563	
C ₄₇ H ₉₄	[66576-01-0]	1-heptatetracontene				[1999DYK/SVO]
	V	(546–833)		143.9	561	
C ₄₇ H ₉₆	[7098-25-1]	Heptatetracontane				[1987STE/MAL, 1966KUD/ZWO]
	V	(591–837)		144.2	606	A, E
C ₄₇ H ₉₆	[66576-02-1]	2-methylhexatetracontane				[1999DYK/SVO]
	V	(546–831)		145.3	561	

TABLE 15. Phase change enthalpies of C₃₀ to C₄₉ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mole)	T _m (K)	Method	Reference
C ₄₇ H ₉₆ S	[66576-03-2]	1-heptatetracontanethiol V	(561–852)	147.6	576	E	[1999DYK/SVO]
C ₄₈ H ₃₈ N ₄	[37083-40-2]	5,10,15,20-tetrakis(2-methylphenyl)porphine SUB		159 ± 5		GS	[2000PER/GOL]
C ₄₈ H ₃₈ N ₄	[50849-45-1]	5,10,15,20-tetrakis(3-methylphenyl)porphine SUB		177 ± 5		GS	[2000PER/GOL]
C ₄₈ H ₃₈ N ₄	[14527-51-6]	5,10,15,20-tetrakis(4-methylphenyl)porphine SUB		178 ± 3		GS	[2000PER/GOL]
C ₄₈ H ₃₈ N ₄ O ₄	[22112-78-3]	5,10,15,20-tetrakis(4-methoxyphenyl)porphine SUB	(561–565)	213 ± 12	563	ME	[2002TOR/CAM]
C ₄₈ H ₄₀ P ₂	[100165-87-5]	2,2'-bis(di-4-toluenephosphino)-1,1'-binaphthyl FUS	(80–660)	41.98	528.3	AC, DSC	[1997ZHA/GAO]
C ₄₈ H ₆₆ N ₆ O ₆	[88122-99-0]	4,4',4''-(1,3,5-triazine-2,4,6-triyltriamino)tris(benzoic acid), 1,1',1''-tris(2-ethylhexyl) ester FUS		55.2	397.3	DSC	[2010ROD/CRI]
C ₄₈ H ₉₀	[66576-04-3]	Dotetracontylbenzene V	(552–846)	144.9	567		[1999DYK/SVO]
C ₄₈ H ₉₄ O ₄	[61682-72-2]	1,4-butanediol dibehenate FUS (97 % crystalline)		153.7	347.2		
		FUS (100 % crystalline)		158.0	347.2	DSC	[2013CAB/BOG]
C ₄₈ H ₉₆	[66576-05-4]	Dotetracontylcyclohexane V	(552–847)	143.9	567		[1999DYK/SVO]
C ₄₈ H ₉₆	[66576-06-5]	1-octatetracontene V	(549–838)	145.4	564		[1999DYK/SVO]
C ₄₈ H ₉₆	[36355-90-5]	Cyclooctatetracontane FUS		140	359	DSC	[1987DRO/MOL]
		FUS		136.2	362.4	DSC	[1987DRO/EME]
C ₄₈ H ₉₈	[7098-26-2]	Octatetracontane V	(323–523)	243.0 ± 0.2	298	CGC	[2008CHI/WAN]
		V	(595–843)	145.9	610	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₄₈ H ₉₈	[66576-07-6]	2-methylheptatetracontane V	(550–836)	146.5	565		[1999DYK/SVO]
C ₄₈ H ₉₈ S	[66576-08-7]	1-octatetracontanethiol V	(564–856)	148.7	579	E	[1999DYK/SVO]
C ₄₉ H ₉₂	[66576-09-8]	Tritetracontylbenzene V	(556–851)	145.9	571		[1999DYK/SVO]
C ₄₉ H ₉₄ O ₆		(<i>dl</i>)-1-palmitic-2-lauryl-3-stearic glycerol V	(506–567)	160	521	A, T	[1987STE/MAL, 1949PER/WEB2]
C ₄₉ H ₉₈	[66576-10-1]	1-nonatetracontene V	(553–843)	146.4	568		[1999DYK/SVO]
C ₄₉ H ₉₈	[66576-11-2]	Tritetracontylcyclohexane V	(556–852)	144.9	571		[1999DYK/SVO]
C ₄₉ H ₁₀₀	[7098-27-3]	Nonatetracontane V	(599–847)	147.5	614	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₄₉ H ₁₀₀	[66576-12-3]	2-methyloctatetracontane V	(553–840)	147.9	568		[1999DYK/SVO]
C ₄₉ H ₁₀₀ S	[66576-13-4]	1-nonatetracontanethiol V	(567–861)	149.7	582	E	[1999DYK/SVO]

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₅₀ H ₉₄	[66576-14-5]	Tetratetracontylbenzene V	(559–856)	147.1	574		[1999DYK/SVO]
C ₅₀ H ₁₀₀	[63911-02-4]	1-pentacontene V	(556–848)	147.8	571		[1999DYK/SVO]
C ₅₀ H ₁₀₀	[66576-15-6]	Tetratetracontylcyclohexane V	(559–856)	146.2	574		[1999DYK/SVO]
C ₅₀ H ₁₀₂	[6596-40-3]	Pentacontane FUS		185	366.9	DSC	[1995HAM/MEH]
[Note: The authors [1995HAM/MEH] refer to the value as the total transition enthalpy.]							
		FUS		170.7	365.6	DSC	[1991JIN/WUN]
		V	(323–523)	252.5 ± 0.2	298	CGC	[2008CHI/WAN]
		V	(603–852)	149	618	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₀ H ₁₀₂	[66576-16-7]	2-methylnonadecacontane V	(557–845)	148.8	572		[1999DYK/SVO]
C ₅₀ H ₁₀₂ S	[66576-17-8]	1-pentacontanethiol V	(570–865)	150.7	585	E	[1999DYK/SVO]
C ₅₁ H ₆₉ N ₃	[500362-48-1]	4-dodecylphenyl-[6-(4-dodecylphenyl)methyl-9-methyl-9 <i>H</i> -carbazol-3-yl-methylene]amine FUS		34.5	412.2	DSC	[2002BEL/MAN]
C ₅₁ H ₉₆	[66576-18-9]	Pentatetracontylbenzene V	(562–860)	148.3	577		[1999DYK/SVO]
C ₅₁ H ₉₆ O ₆	[60138-20-7]	1-myristic-2-palmitic-3-stearic glycerol V	(508–572)	157.9	523	A, T	[1987STE/MAL, 1949PER/WEB2]
C ₅₁ H ₉₆ O ₆	[555-44-2]	Glycerol tripalmitate (tripalmitin)					
	FUS		165.88	338.98	DSC	[2014MAX/COS]	
	FUS		150.1	333.7	DSC	[2010SAR/BIC]	
	FUS		162.6	340.5	DSC	[2010HON/HUA]	
	FUS		121	337.4	DSC	[2006LI/ROD]	
	FUS (β)		177.2	339	DSC	[1999VAN/TEN]	
	FUS		179.37	338.9		[1996DOM/HEA, 1947CHA/SIN]	
	V		U474.3		TGA	[2002GOO/GEL]	
	V		166.3	483	TGA	[1990KIS/SHO]	
	V		217.1 ± 7.6	298	TGA	[1990KIS/SHO]	
	V	(506–572)	160.8	521	A, T	[1987STE/MAL, 1949PER/WEB2]	
C ₅₁ H ₁₀₀ ClN ₅	[106486-51-5]	2,4-bis(<i>N,N'</i> -didodecylamino-6-chloro-1,3,5-triazine) FUS		34.25	307.5	DSC	[1986LAT/HOE]
C ₅₁ H ₁₀₂	[66576-19-0]	1-henpentacontene V	(560–852)	148.6	575		[1999DYK/SVO]
C ₅₁ H ₁₀₂	[66576-20-3]	Pentatetracontylcyclohexane V	(562–861)	147.4	577		[1999DYK/SVO]
C ₅₁ H ₁₀₂ N ₆	[38565-86-5]	Tris(<i>N,N'</i> -dioctylamino-1,3,5-triazine) FUS		74.25	312.7	DSC	[1986LAT/HOE]
C ₅₁ H ₁₀₄	[7667-76-7]	Henpentacontane					
	TRS		1.7	337			
	TRS		6.9	342.1			
	FUS		175.5	365.7	DSC	[1995TAK/URA]	
	TRS		1.75	337			
	TRS		5.3	343			
	FUS		170.4	365.6	DSC	[1994NAK/TAK]	
C ₅₁ H ₁₀₄	V	(607–857)	150.6	622	A, E	[1987STE/MAL, 1966KUD/ZWO]	
	V	(560–850)	150	575		[1999DYK/SVO]	

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
C ₅₁ H ₁₀₄ S	[66575-82-4]	1-henpentanethiol	(573–869)	151.6	588	E	[1999DYK/SVO]
	V						
C ₅₂ H ₃₄ O ₂	[3432-73-3]	1,4-bis(2,4,5-triphenylcyclopentadienone-3-yl)benzene	(300–650)	68.8	594.4		[2005SMI/KUL]
	FUS						
C ₅₂ H ₉₄ O ₁₃	[76939-66-7]	Dipentaerythritol hexaheptanoate	(473–534)	266.7 ± 19.4			[2011GAR/NAC]
	V						
C ₅₂ H ₉₈	[66575-84-6]	Hexatetracontylbenzene	(566–864)	149.1	581		[1999DYK/SVO]
	V						
C ₅₂ H ₉₈ O ₈	[124107-97-7]	Erythritol tetralaurate		137.4	264.2	DSC	[2013SAR/KAR]
	FUS						
C ₅₂ H ₁₀₄	[66575-85-7]	1-dopentaccontene	(563–857)	149.8	578		[1999DYK/SVO]
	V						
C ₅₂ H ₁₀₄	[66575-86-8]	Hexatetracontylcyclohexane	(565–865)	148.5	580		[1999DYK/SVO]
	V						
C ₅₂ H ₁₀₆	[7719-79-1]	Dopentaccontane					
	TRS			22.1	351.8		
	FUS			185.4	366.7	DSC	[1995TAK/URA]
	TRS			17.1	352.0		
	FUS			171.8	366.7	DSC	[1994NAK/TAK]
	V		(323–523)	261.8 ± 1.5	298	CGC	[2008CHI/WAN]
	V		(611–861)	152	626	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₂ H ₁₀₆	[66575-87-9]	2-methylhenpentaccontane	(563–854)	151.2	578		[1999DYK/SVO]
	V						
C ₅₂ H ₁₀₆ O ₂₆		1,ω-dimethoxypentacosa(oxyethylene)					
	FUS			209.7	316.2	DSC	[1996YAN/YU]
C ₅₂ H ₁₀₆ S	[66575-88-0]	1-dopentaccontanethiol	(575–873)	152.6	590	E	[1999DYK/SVO]
	V						
C ₅₃ H ₉₈ O ₆		1,3-bis(hexadecanoyloxy-2-(9-cis-octadecenoyloxy)propane)					
	FUS			149.7	311.4		[1984PER, 1978TIM]
C ₅₃ H ₁₀₀	[66575-89-1]	Heptatetracontylbenzene	(569–868)	150.1	584		[1999DYK/SVO]
	V						
C ₅₃ H ₁₀₆	[66563-49-3]	Heptatetracontylcyclohexane	(568–869)	149.6	583		[1999DYK/SVO]
	V						
C ₅₃ H ₁₀₆	[66577-50-2]	1-tripentaccontene	(566–861)	150.9	581		[1999DYK/SVO]
	V						
C ₅₃ H ₁₀₈	[7719-80-4]	Tripentaccontane					
	V		(615–866)	153.4	630	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₃ H ₁₀₈	[66575-90-4]	2-methyldopentaccontane	(566–858)	152.3	581		[1999DYK/SVO]
	V						
C ₅₃ H ₁₀₈ S	[66575-91-5]	1-tripentaccontanethiol	(578–877)	153.7	593	E	[1999DYK/SVO]
	V						
C ₅₄ H ₁₀₂	[66575-92-6]	Octatetracontylbenzene	(572–873)	151.1	587		[1999DYK/SVO]
	V						
C ₅₄ H ₁₀₈	[66575-93-7]	Octatetracontylcyclohexane	(571–873)	150.6	586		[1999DYK/SVO]
	V						
C ₅₄ H ₁₀₈	[66575-94-8]	1-tetrapentaccontene	(569–865)	151.9	584		[1999DYK/SVO]
	V						
C ₅₄ H ₁₀₈ O ₂₇	[182292-69-9]	81-crown-27		155.6	314.2	DSC	[1996YAN/YU]
	FUS						

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₅₄ H ₁₁₀	[5856-66-6]	Tetrapentacontane	TRS		39	344.9		
			FUS		177.2	368	DSC	[2003BRI/BOU]
		V	(323–523)		271.0 ± 1.7	298	CGC	[2008CHI/WAN]
			(618–870)		155	633	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₄ H ₁₁₀	[66575-95-9]	2-methyltripentacontane	V	(569–863)	153.4	584		[1999DYK/SVO]
C ₅₄ H ₁₁₀ S	[66575-96-0]	1-tetrapentacontanethiol	V	(581–881)	154.4	596	E	[1999DYK/SVO]
C ₅₅ H ₁₀₂ O ₆		2-hexadecanoyloxy-1,3-bis(9-cis-octadecenoyloxy)propane	FUS		125.5	291.9		[1984PER, 1978TIM]
C ₅₅ H ₁₀₄	[66575-98-2]	Nontetracontylbenzene	V	(575–877)	152.1	590		[1999DYK/SVO]
C ₅₅ H ₁₁₀	[66575-99-3]	Nonatetracontylcyclohexane	V	(574–877)	151.6	589		[1999DYK/SVO]
C ₅₅ H ₁₁₀	[66576-00-9]	1-pentapentacontene	V	(572–869)	152.9	587		[1999DYK/SVO]
C ₅₅ H ₁₁₂	[5846-40-2]	Pentapentacontane	V	(622–874)	156.3	637	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₅ H ₁₁₂	[66575-60-8]	2-methyltetrapentacontane	V	(572–867)	154.3	587		[1999DYK/SVO]
C ₅₅ H ₁₁₀ S	[66575-61-9]	1-pentapentacontanethiol	V	(584–885)	155	599	E	[1999DYK/SVO]
C ₅₆ H ₄₈ O ₃₂ S ₈	[137407-62-6]	4-sulfonato-calix[8]arene	FUS		350.6	543.1	DSC	[2005YAN/MAN]
C ₅₆ H ₇₈ O ₈	[122356-76-7]	2,23,28,38-tetrakis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,18,19-decahydro-32,35-dimethoxy-31 <i>H</i> -4,21-(methano[1,3]benzenomethano)-26,30-metheno-25 <i>H</i> -dibenzo[q,z][1,4,7,10,13,16]hexaoxacycloheptacosin	SUB		78 ± 1	ME	[2008SUR]	
C ₅₆ H ₁₀₆	[66575-62-0]	Pentacontylbenzene	V	(577–880)	153.2	592		[1999DYK/SVO]
C ₅₆ H ₁₀₈	[66575-63-1]	1-hexapentacontene	V	(575–873)	154.5	588		[1999DYK/SVO]
C ₅₆ H ₁₀₈	[66575-64-2]	Pentacontylcyclohexane	V	(577–881)	152.4	592		[1999DYK/SVO]
C ₅₆ H ₁₁₄	[7719-82-6]	Hexapentacontane	V	(323–523)	279.7 ± 1.5	298	CGC	[2008CHI/WAN]
			V	(625–878)	157.8	640	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₆ H ₁₁₄	[66575-65-3]	2-methylpentapentacontane	V	(575–871)	155.9	588		[1999DYK/SVO]
C ₅₆ H ₁₁₄ O ₂₈		1, ω -dimethoxyheptacosa(oxyethylene)	FUS		224.6	315.2	DSC	[1996YAN/YU]
C ₅₆ H ₁₁₄ S	[66575-66-4]	1-hexapentacontanethiol	V	(586–888)	156	601	E	[1999DYK/SVO]
C ₅₇ H ₅₄ N ₆ O ₆	[130048-22-5]	1,3,5-tris(4- <i>n</i> -butyl-4')-diazenylphenyl)benzenetricarboxylate	FUS		11.3	443.2	DSC	[1990JIN/KAN]
C ₅₇ H ₁₀₄ O ₆	[537-39-3]	1,2,3-tris(<i>trans</i> -9-octadecenoyl)glycerol (trielaidin)	FUS (I)		157.07	314.8	DSC	
			FUS (II)		84.2	288	DSC	[2003VAN/VAN2]
C ₅₇ H ₁₀₄ O ₆	[122-32-7]	2,3-bis[[<i>Z</i>)-octadec-9-enoyl]oxy]propyl (<i>Z</i>)-octadec-9-enoate (triolein)						

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method
		FUS		114.6	278.6	DSC
C ₅₇ H ₁₀₈	[66575-67-5]	henpentacontylbenzene				
	V	(580–884)	154.1	595		[1999DYK/SVO]
C ₅₇ H ₁₀₈ O ₆	[2846-04-0]	1,3-distearic-2-oleic glycerol				
	V	(523–593)	165.8	538	A, T	[1987STE/MAL, 1949PER/WEB2]
C ₅₇ H ₁₁₀ O ₆	[555-43-1]	glycerol tristearate (tristearin)				
	FUS		115.7	346.0	DSC	[2015FRE/SAO]
	FUS (α)		115.4	328.1		
	FUS (β)'		144.8	338.5		
	FUS (β)		293.5	345.6	DSC	[2009DAS/BRE]
	FUS		133.1	336.7	DSC	[2009SAR/BIC, 2010SAR/BIC]
	FUS		196.6	334.7	DSC	[2007HIM/MAC]
[Note: Value of [2007HIM/MAC] based on crystallization measurement with a cooling scan rate of 0.1 K/min						
	FUS (I)	(10–370)	197.6	345.9	AC	
	FUS (I)		195.8	346.0	DSC	
	FUS (II)	(10–370)	129.1	327.3	AC	
	FUS (II)		114.1	327.3	DSC	[2005MAT/VAN]
	FUS		188.0	346.2	DSC	[1982OLL/PER, 2015FRE/SAO]
	FUS		203.26	345.7		[1996DOM/HEA, 1947CHA/SIN]
	V		220.8		TGA	[2002GOO/GEL]
	V		174.9	506	TGA	[1990KIS/SHO]
	V		236.2 ± 8.3	298	TGA	[1990KIS/SHO]
	V	(521–588)	167.5	536	A, T	[1987STE/MAL, 1949PER/WEB2]
C ₅₇ H ₁₁₄	[66575-68-6]	henpentacontylcyclohexane				
	V	(580–885)	153.3	595		[1999DYK/SVO]
C ₅₇ H ₁₁₄	[66575-69-7]	1-heptapentacontene				
	V	(578–877)	154.6	593		[1999DYK/SVO]
C ₅₇ H ₁₁₆	[5856-67-7]	heptapentacontane				
	V	(629–882)	158.9	644	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₇ H ₁₁₆	[66575-70-0]	2-methylhexapentacontane				
	V	(578–875)	155.9	593		[1999DYK/SVO]
C ₅₇ H ₁₁₆ S	[66575-71-1]	1-heptapentacontanethiol				
	V	(589–892)	156.7	604	E	[1999DYK/SVO]
C ₅₈ H ₁₁₀	[66575-73-3]	Dopentacontylbenzene				
	V	(583–888)	155.7	598		[1999DYK/SVO]
C ₅₈ H ₁₁₆	[66575-74-4]	Dopentacontylcyclohexane				
	V	(582–888)	154.3	597		[1999DYK/SVO]
C ₅₈ H ₁₁₆	[66575-75-5]	1-octapentacontene				
	V	(580–881)	155.8	595		[1999DYK/SVO]
C ₅₈ H ₁₁₈	[7667-78-9]	Octapentacontane				
	V	(323–523)	288.5 ± 1.8	298	CGC	[2008CHI/WAN]
	V	(632–886)	160.3	647	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₈ H ₁₁₈	[66575-76-6]	2-methylheptapentacontane				
	V	(581–879)	156.8	596		[1999DYK/SVO]
C ₅₈ H ₁₁₈ S	[66575-77-7]	1-octapentacontanethiol				
	V	(591–895)	157.4	606	E	[1999DYK/SVO]
C ₅₉ H ₈₅ N ₃	[500362-49-2]	4-hexadecylphenyl-[6-(4-hexadecylphenyl)methyl-9-methyl-9 <i>H</i> -carbazol-3-yl-methylene]amine				
	FUS		52.1	405.2	DSC	[2002BEL/MAN]
C ₅₉ H ₉₀ N ₄	[303-98-0]	2-[(2E,6E,10E,14E,18E,22E,26E,30E,34E)-3,7,11,15,19,23,27,31,35,39-decamethyl-2,6,10,14,18,22,26,30,34,38-tetracontadecaen-1-yl]-5,6-dimethoxy-3-methyl-2,5-cyclohexadiene-1,4-dione (ubidecarenone)				

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
		FUS		82	322.5	DSC	[2006LI/ROD]
C ₅₉ H ₁₁₂	[66575-78-8] V	Triptycontylbenzene (585–891)		155.9	600		[1999DYK/SVO]
C ₅₉ H ₁₁₈	[66575-80-2] V	Triptycontylcyclohexane (585–892)		155	600		[1999DYK/SVO]
C ₅₉ H ₁₁₈	[66575-79-9] V	1-nonapentacontene (583–885)		156.4	598		[1999DYK/SVO]
C ₅₉ H ₁₂₀	[7667-79-0] V	Nonapentacontane (635–890)		161.8	650	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₅₉ H ₁₂₀	[66575-49-3] V	2-methyloctapentacontane (583–882)		157.9	598		[1999DYK/SVO]
C ₅₉ H ₁₂₀ S	[66575-50-6] V	1-nonapentacontanethiol (593–899)		158.3	608	E	[1999DYK/SVO]
C ₆₀	[99685-96-8] TRS	Buckminsterfullerene					
				9.0	261.4	DSC	[1993DEB/DWO]
		SUB	(890–1000)	175.0 ± 0.4	945	TGA	[2015MAR/CAM]
		SUB	(890–1000)	186.3 ± 1.2	298	TGA	[2015MAR/CAM]
		SUB	(775–1033)	180 ± 2	298	ME	[2000SCH/MAT]
		SUB	(789–907)	152.8 ± 0.1	897	GS	[1998PAN/MAL]
		SUB		183.5 ± 1.0	298		[1998PAN/MAL]
		SUB		179.2 ± 3.5	298		[1996GON/SUN, 1998PAN/MAL]
		SUB	(730–990)	175.2 ± 2.9	860	ME, TE	[1995PIA/GIG]
		SUB		181 ± 2.0	298	ME, TE	[1995PIA/GIG]
		SUB		219.6		TGA	[1995YAS/TAK]
		SUB	(546–722)	180 ± 10.0	634	UV	[1994DAI/MAC]
		SUB		158 ± 3.0	700	ME	[1994POP/DRA]
		SUB		168.5 ± 1.2	298	ME	[1994POP/DRA, 1998PAN/MAL]
		SUB		181.1 ± 2.6	298	ME	[1994KOR/SID, 1998PAN/MAL]
		SUB		181.4 ± 2.3	700	MS	[1994SAI/LAK, 1992MAT/SAI]
		SUB		158.6	773	ME	[1993MAT/SAI]
		SUB		184.1 ± 3.1	298	GS	[1992PAN/CHA, 1998PAN/MAL]
		SUB		183.2 ± 3.5	298	ME	[1992MAT/SAI, 1998PAN/MAL]
		SUB		180.6 ± 1.5	298	ME	[1992ABR/OLA2, 1998PAN/MAL]
		SUB	(673–873)	159.0 ± 4.2		ME	[1992ABR/OLA2]
		SUB		>163 (powder)		TGA	[1992CHE/KOR]
		SUB	(640–800)	167.8 ± 5.4	707	ME, MS	[1991PAN/SAM]
		SUB		U138.5	600		[1991TOK/HAY]
		SUB		U90.0		ME, MS	[1990HAU/CON]
C ₆₀ F ₁₆		Hexadecafluorobuckminsterfullerene					
	SUB			186 ± 9		ME, MS	[2000MAR/BOL]
C ₆₀ F ₁₈	[172760-25-7] SUB	Octadecafluorobuckminsterfullerene (591–671)		197 ± 10	627	ME	[2002GIG/BAL]
C ₆₀ F ₃₆		Hexatriacontylfluorobuckminsterfullerene (4 isomer average) (422–525)		134 ± 6	473	MS	[1996BOL/MER]
C ₆₀ F ₃₆	[150180-35-1] SUB	Hexatriacontylfluorobuckminsterfullerene 139 ± 8					[2000PAP/KOL]
	SUB	(408–539)	135 ± 8.0	466		ME, MS	[1999BOL/MAR]
C ₆₀ F ₄₂	SUB	Dotetracontylfluorobuckminsterfullerene (430–510)	110 ± 10			ME, MS	[2000EME/NIK]
C ₆₀ F ₄₄	SUB	Tetratetracontylfluorobuckminsterfullerene (430–510)	112 ± 6		ME, MS		[2000EME/NIK]
C ₆₀ F ₄₄ O	SUB	Tetratetracontafluorotetratetracontahydro-[5,6]fullereno-C60-Ih-oxirene (430–510)	111 ± 3		ME, MS		[2000EME/NIK]

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
C ₆₀ F ₄₆	SUB	Hexatetracontylfluorobuckminsterfullerene (430–510)	114 ± 7			ME, MS	[2000EME/NIK]
C ₆₀ F ₄₈	[143471-98-1] SUB	Octatetracontylfluorobuckminsterfullerene (395–528)	109 ± 7.0	476		ME, MS	[1999BOL/MAR, 2000BOL/GAL]
C ₆₀ F ₄₈	TRS FUS	Fluorinated fullerene (10–355) (10–355)	7 Not determined	329.6		AC	[1999DRU/GAL]
C ₆₀ H ₁₈	[130797-14-7] SUB	Octadecahydrobuckminsterfullerene	≥186			E	[2000KOR/DOR, 2001DOR/LOB]
C ₆₀ H ₃₆	[130797-17-0] SUB	Hexatriacontylhydrobuckminsterfullerene	193 ± 10	298		[2007KAR/KAB2]	
	SUB	(560–680)	162 ± 5			MS	[2000KOR/DOR, 2001DOR/LOB]
	SUB		152	630			[2001DOR/LOB]
	SUB		175	298			[2001DOR/LOB]
C ₆₀ H ₉₀ N ₆ O ₁₄	[155030-63-0] FUS	Cyclo[(αR)-α-hydroxy-4-(4-morpholinyl)benzenepropanoyl-N-methyl-L-leucyl-(2R)-2-hydroxypropanoyl-N-methyl-L-leucyl-(αR)-α-hydroxy-4-(4-morpholinyl)benzenepropanoyl-N-methyl-L-leucyl-(2R)-2-hydroxypropanoyl-N-methyl-L-leucyl] (emodepside)	58.6	467.6	DSC	[2009BAR/BON]	
C ₆₀ H ₁₁₄	[66575-51-7] V	Tetrapentacontylbenzene (588–895)	156.6	603		[1999DYK/SVO]	
C ₆₀ H ₁₁₄ O ₈	[74319-77-0] FUS	Erythritol tetramyrystate	174.3	284.0	DSC	[2013SAR/KAR]	
C ₆₀ H ₁₂₀	[66575-52-8] V	1-hexacontene (586–888)	157.1	601		[1999DYK/SVO]	
C ₆₀ H ₁₂₀	[66575-53-9] V	Tetrapentacontylcyclohexane (587–895)	156	602		[1999DYK/SVO]	
C ₆₀ H ₁₂₂	[7667-80-3] FUS	Hexacontane	186.8	373.2	DSC	[1992LOU/ROU]	
	V	(323–523)	299.9 ± 2.0	298		CGC	[2008CHI/WAN]
	V	(638–893)	163	653	A, E		[1987STE/MAL, 1966KUD/ZWO]
C ₆₀ H ₁₂₂	[66575-54-0] V	2-methylnonapentacontane (586–886)	158.5	601		[1999DYK/SVO]	
C ₆₀ H ₁₂₂ S	[66575-55-1] V	1-hexacontanethiol (595–902)	159.1	610	E	[1999DYK/SVO]	
C ₆₁ H ₁₁₆	[66563-50-6] V	Pentapentacontylbenzene (590–898)	157.5	605		[1999DYK/SVO]	
C ₆₁ H ₁₂₂	[66563-51-7] V	1-henhexacontene (588–891)	158	603		[1999DYK/SVO]	
C ₆₁ H ₁₂₂	[66563-52-8] V	Pentapentacontylcyclohexane (590–899)	156.6	605		[1999DYK/SVO]	
C ₆₁ H ₁₂₄	[7667-81-4] V	Henhexascontane (642–897)	163.9	657	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₆₁ H ₁₂₄	[66563-53-9] V	2-methylhexacontane (588–889)	159.4	603		[1999DYK/SVO]	
C ₆₁ H ₁₂₄ S	[66563-54-0] V	1-henhexacontanethiol (597–905)	159.6	612	E	[1999DYK/SVO]	
C ₆₂ H ₁₁₈	[66563-55-1] V	Hexapentacontylbenzene (592–902)	158.4	607		[1999DYK/SVO]	
C ₆₂ H ₁₂₄	[66563-56-2]	1-dohexacontene					

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
	V	(590–895)	158.6	605			[1999DYK/SVO]
C ₆₂ H ₁₂₄	[66563-57-3]	Hexapentacontylcyclohexane					
	V	(592–902)	157.5	607			[1999DYK/SVO]
C ₆₂ H ₁₂₆	[7719-83-7]	Dohexacontane					
	V	(323–523)	306.8 ± 0.1	298	CGC	[2008CHI/WAN]	
	V	(645–901)	165.2	660	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₆₂ H ₁₂₆	[66563-58-4]	2-methylhexacontane					
	V	(590–892)	160.1	605			[1999DYK/SVO]
C ₆₂ H ₁₂₂ S	[66563-59-5]	1-dohexacontanethiol					
	V	(599–908)	160.1	614	E	[1999DYK/SVO]	
C ₆₃ H ₁₂₀	[66563-60-8]	Heptapentacontylbenzene					
	V	(595–905)	158.9	610			[1999DYK/SVO]
C ₆₃ H ₁₂₆	[66563-61-9]	Heptapentacontylcyclohexane					
	V	(594–905)	158.2	609			[1999DYK/SVO]
C ₆₃ H ₁₂₆	[66563-62-0]	1-trihexacontene					
	V	(593–899)	159.8	608			[1999DYK/SVO]
C ₆₃ H ₁₂₆ N ₆	[106486-49-1]	Tris(<i>N,N'</i> -didecylamino)-1,3,5-triazine					
	FUS		87.68	314.4	DSC	[1986LAT/HOE]	
C ₆₃ H ₁₂₈	[7719-84-8]	Trihexacontane					
	V	(647–904)	116.7	662	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₆₃ H ₁₂₈	[66563-63-1]	2-methylhexacontane					
	V	(593–897)	161.3	608			[1999DYK/SVO]
C ₆₃ H ₁₂₈ S	[66563-64-2]	1-trihexacontanethiol					
	V	(602–911)	161.1	617	E	[1999DYK/SVO]	
C ₆₄ H ₁₁₈ O ₁₃	[127304-08-9]	Dipentaerythritol isononanoate					
	V	(473–553)	185.9 ± 2.4				[2011GAR/NAC]
C ₆₄ H ₁₂₂	[66563-65-3]	Octapentacontylbenzene					
	V	(597–908)	159.5	612			[1999DYK/SVO]
C ₆₄ H ₁₂₈	[66563-66-4]	Octapentacontylcyclohexane					
	V	(596–908)	158.8	611			[1999DYK/SVO]
C ₆₄ H ₁₂₈	[66563-36-8]	1-tetrahexacontene					
	V	(595–902)	160.5	610			[1999DYK/SVO]
C ₆₄ H ₁₃₀	[7719-87-1]	Tetrahexacontane					
	V	(323–523)	315.4 ± 0.4	298	CGC	[2008CHI/WAN]	
	V	(650–907)	168.3	665	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₆₄ H ₁₃₀	[66563-37-9]	2-methyltrihexacontane					
	V	(595–900)	161.9	610			[1999DYK/SVO]
C ₆₄ H ₁₃₀ S	[66563-38-0]	1-tetrahexacontanethiol					
	V	(604–914)	161.6	619	E	[1999DYK/SVO]	
C ₆₅ H ₁₂₂ O ₁₀	FUS	Xylitol pentalaurate		196.5	316.7	DSC	[2015BIC/SAR]
C ₆₅ H ₁₂₄	[66563-39-1]	Nonapentacontylbenzene					
	V	(599–911)	160.1	614			[1999DYK/SVO]
C ₆₅ H ₁₃₀	[66563-40-4]	Nonapentacontylcyclohexane					
	V	(599–912)	159.9	614			[1999DYK/SVO]
C ₆₅ H ₁₃₀	[66563-41-5]	1-pentahexacontene					
	V	(597–905)	161.1	612			[1999DYK/SVO]
C ₆₅ H ₁₃₂	[7719-88-2]	Pentahexacontane					
	V	(653–910)	169	668	A, E	[1987STE/MAL, 1966KUD/ZWO]	

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
C ₆₅ H ₁₃₂	[66563-42-6] V	2-methyltetrahexacontane (597–903)		162.5	612		[1999DYK/SVO]
C ₆₅ H ₁₃₂ S	[66563-43-7] V	1-pentahexacontanethiol (606–917)		162.1	621	E	[1999DYK/SVO]
C ₆₆ H ₈₀ O ₁₀	[1196990-927] FUS	1,3-bis[4-(4-tetradecyloxybenxoxyloxy)benxoxyloxy]naphthalene		73.8	401.1	DSC	[2009GIM/CLE]
C ₆₆ H ₈₀ O ₁₀	[1196990-961] TRS FUS	1,7-bis[4-(4-tetradecyloxybenxoxyloxy)benxoxyloxy]naphthalene		15.4 54	418.2 428.4	DSC	[2009GIM/CLE]
C ₆₆ H ₈₄ O ₆	[78092-53-2] SUB	<i>p</i> - <i>tert</i> -butylcalix[6]arene	U225 ± 14			ME	[2011SUR/VOR]
C ₆₆ H ₁₀₉ NO ₄	[425406-55-9] FUS	2,7-didodecyloxy-9-(3,5-didodecyloxyphenyl)carbazole	61.87	333.2	DSC	[2002PER/LOP]	
C ₆₆ H ₁₂₆	[66563-44-8] V	Hexacontylbenzene (602–914)		161.2	617		[1999DYK/SVO]
C ₆₆ H ₁₃₂	[66563-45-9] V	Hexacontylcyclohexane (601–915)		160.5	616		[1999DYK/SVO]
C ₆₆ H ₁₃₂	[66563-46-0] V	1-hexahexacontene (599–908)		161.7	614		[1999DYK/SVO]
C ₆₆ H ₁₃₄	[7719-89-3] V V	Hexahexacontane (323–523) (656–914)	324.0 ± 1.0	298 170	671	CGC A, E	[2008CHI/WAN] [1987STE/MAL, 1966KUD/ZWO]
C ₆₆ H ₁₃₄	[66563-47-1] V	2-methylpentahexacontane (599–906)		163.1	614		[1999DYK/SVO]
C ₆₆ H ₁₃₄ S	[66563-48-2] V	1-hexahexacontanethiol (607–920)		162.8	622	E	[1999DYK/SVO]
C ₆₇ H ₁₂₈	[66563-72-2] V	Henhexacontylbenzene (603–917)		162.1	618		[1999DYK/SVO]
C ₆₇ H ₁₂₈	[66563-73-3] V	Henhexacontylcyclohexane (603–917)		160.9	618		[1999DYK/SVO]
C ₆₇ H ₁₃₄	[66563-74-4] V	1-heptahexacontene (601–911)		162.3	616		[1999DYK/SVO]
C ₆₇ H ₁₃₆	[7719-90-6] V	Heptahexacontane (659–937)		170.9	674	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₆₇ H ₁₃₄	[66563-75-5] V	2-methylhexahexacontane (601–909)		163.7	616		[1999DYK/SVO]
C ₆₇ H ₁₃₄ S	[66563-76-6] V	1-heptahexacontanethiol (609–922)		163.2	624	E	[1999DYK/SVO]
C ₆₈ H ₁₃₀	[66563-75-5] V	Dohexacontylbenzene (605–920)		162.6	620		[1999DYK/SVO]
C ₆₈ H ₁₃₀ O ₈	[1353634-77-1] FUS	Erythritol tetrapalmitate	216.3	295.1	DSC		[2012SAR/KAR]
C ₆₈ H ₁₃₆	[66563-78-8] V	Dohexacontylcyclohexane (605–920)		161.5	620		[1999DYK/SVO]
C ₆₈ H ₁₃₆	[66563-79-9] V	1-octahexacontene (603–913)		162.8	618		[1999DYK/SVO]
C ₆₈ H ₁₃₈	[7719-91-7] V V	Octahexacontane (323–523) (661–920)	331.9 ± 0.2	298 172.3	676	CGC A, E	[2008CHI/WAN] [1987STE/MAL, 1966KUD/ZWO]

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
C ₆₈ H ₁₃₈	[66563-80-2]	2-methylheptahexacontane	(603–912)	164.3	618		[1999DYK/SVO]
	V						
C ₆₈ H ₁₃₈ S	[66563-81-3]	1-octahexacontanethiol	(611–925)	163.6	626	E	[1999DYK/SVO]
	V						
C ₆₉ H ₁₃₂	[66563-82-4]	Trihexacontylbenzene	(607–923)	163.1	622		[1999DYK/SVO]
	V						
C ₆₉ H ₁₃₈	[66563-83-5]	1-nonhexacontene	(605–916)	163.4	620		[1999DYK/SVO]
	V						
C ₆₉ H ₁₃₈	[66563-93-7]	Trihexacontylcyclohexane	(607–923)	162	622		[1999DYK/SVO]
	V						
C ₆₉ H ₁₄₀	[7719-92-8]	Nonahexacontane	(664–923)	173.2	679	A, E	[1987STE/MAL, 1966KUD/ZWO]
	V						
C ₆₉ H ₁₄₀	[66563-94-8]	2-methyloctacontane	(605–914)	164.9	620		[1999DYK/SVO]
	V						
C ₆₉ H ₁₄₀ S	[66577-83-1]	1-nonacontanethiol	(612–928)	164.4	627	E	[1999DYK/SVO]
	V						
C ₇₀	[115383-22-7]	Fullerene-C ₇₀					
	SUB	(890–1000)	182.7 ± 0.7	945	TGA	[2015MAR/CAM]	
	SUB	(890–1000)	194.5 ± 1.7	298	TGA	[2015MAR/CAM]	
	SUB	(864–1099)	199 ± 2	298	ME	[2000SCH/MAT]	
	SUB	(783–904)	189.8 ± 3.1	844	ME	[1996PIA/GIG]	
	SUB		200 ± 6.0	298		[1996PIA/GIG]	
	SUB		174 ± 3.0	740	ME	[1994POP/DRA]	
	SUB		193.4 ± 1.5	750	MS	[1994SAI/LAK]	
	SUB		186.6	788	ME	[1993MAT/SAI]	
	SUB	(673–873)	188.3 ± 4.2		ME	[1992ABR/OLA2]	
	SUB	(640–800)	180.0 ± 9.2	739	ME, MS	[1991PAN/SAM]	
C ₇₀ H ₁₃₄	[66577-84-2]	Tetrahexacontylbenzene	(609–925)	163.6	624		[1999DYK/SVO]
	V						
C ₇₀ H ₁₄₀	[66577-85-3]	1-heptacontene	(607–919)	163.9	622		[1999DYK/SVO]
	V						
C ₇₀ H ₁₄₀	[66577-86-4]	Tetrahexacontylcyclohexane	(608–926)	162.8	623		[1999DYK/SVO]
	V						
C ₇₀ H ₁₄₂	[7719-93-9]	Heptacontane					
	V	(323–523)	340.3 ± 0.3	298	CGC	[2008CHI/WAN]	
	V	(666–926)	174.4	681	A, E	[1987STE/MAL, 1966KUD/ZWO]	
C ₇₀ H ₁₄₂	[66577-87-5]	2-methylnonahexacontane	(607–917)	165.4	622		[1999DYK/SVO]
	V						
C ₇₀ H ₁₄₂ S	[66577-88-6]	1-heptacontanethiol	(614–930)	164.8	621	E	[1999DYK/SVO]
	V						
C ₇₁ H ₁₃₆	[66577-89-7]	Pentahexacontylbenzene	(611–928)	164.4	626		[1999DYK/SVO]
	V						
C ₇₁ H ₁₄₂	[66577-90-0]	1-henheptacontene	(609–922)	164.4	624		[1999DYK/SVO]
	V						
C ₇₁ H ₁₄₂	[66577-91-1]	Pentahexacontylcyclohexane	(610–928)	163.3	625		[1999DYK/SVO]
	V						
C ₇₁ H ₁₄₄	[7667-82-5]	Henheptacontane	(669–928)	175.2	684	A, E	[1987STE/MAL, 1966KUD/ZWO]
	V						
C ₇₁ H ₁₄₄	[66577-92-2]	2-methylheptacontane	(609–920)	165.9	624		[1999DYK/SVO]
	V						
C ₇₁ H ₁₄₄ S	[66577-93-3]	1-henheptacontanethiol					

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(616–933)	165.1	631	E	[1999DYK/SVO]
C ₇₂ F ₃₆	[888472-41-1]	1,6,11,16,18,26,36,44,46,49,54,60-dodecahydro-1,6,11,16,18,26,36,44,46,49,54,60-dodekakis(trifluoromethyl)-[5,6]fullerene-C60-Ih	140 ± 5	512	ME, MS	[2007GRU/ALE]
C ₇₂ H ₉₆ O ₄₈	[23661-37-2]	Hexakis(2,3,4-tri-O-acetyl)- α -cyclodextrin	74.37	505.7	DSC	[2006BET/SOR]
C ₇₂ H ₁₃₈	[66577-94-4]	Hexahexacontylbenzene				
	V	(613–931)	164.5	628		[1999DYK/SVO]
C ₇₂ H ₁₄₄	[63217-76-5]	Cyclodoheptacontane				
	FUS		220.4	380.2	DSC	[1987DRO/EME]
	FUS		220	379.3	DSC	[1987DRO/MOL]
C ₇₂ H ₁₄₄	[66577-95-5]	1-doheptacontene				
	V	(610–924)	165.3	625		[1999DYK/SVO]
C ₇₂ H ₁₄₄	[66577-96-6]	Hexahexacontylcyclohexane				
	V	(612–931)	163.8	627		[1999DYK/SVO]
C ₇₂ H ₁₄₆	[7667-83-6]	Doheptacontane				
	V	(323–523)	348.4 ± 0.3	298	CGC	[2008CHI/WAN]
	V	(671–931)	176.4	686	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₇₂ H ₁₄₆	[66577-97-7]	2-methylhexaheptacontane				
	V	(611–923)	166.4	626		[1999DYK/SVO]
C ₇₂ H ₁₄₆ S	[66577-98-8]	1-doheptacontanethiol				
	V	(617–935)	165.8	632	E	[1999DYK/SVO]
C ₇₃ H ₁₀₈ O ₁₂	[6683-19-8]	Tetrakis[methylene-3-(3,5-di- <i>tert</i> -butyl-4-hydroxyphenylpropionate)methane				
	FUS		65.95	385.8	DSC	[2009WEI/CHE]
C ₇₃ H ₁₄₀	[66577-99-9]	Heptahexacontylbenzene				
	V	(614–933)	165.4	629		[1999DYK/SVO]
C ₇₃ H ₁₄₆	[66578-00-5]	Heptahexacontylcyclohexane				
	V	(614–933)	164.2	629		[1999DYK/SVO]
C ₇₃ H ₁₄₆	[66578-01-6]	1-triheptacontene				
	V	(612–927)	165.7	627		[1999DYK/SVO]
C ₇₃ H ₁₄₈	[7667-84-7]	Triheptacontane				
	V	(674–934)	177.1	689	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₇₃ H ₁₄₈	[66578-02-7]	2-methyldoheptacontane				
	V	(613–926)	166.9	628		[1999DYK/SVO]
C ₇₃ H ₁₄₈ S	[66577-64-8]	1-triheptacontanethiol				
	V	(619–938)	166.2	634	E	[1999DYK/SVO]
C ₇₄ H ₁₄₂	[66577-65-9]	Octahexacontylbenzene				
	V	(616–936)	165.8	631		[1999DYK/SVO]
C ₇₄ H ₁₄₈	[66577-66-0]	Octahexacontylcyclohexane				
	V	(615–936)	165	630		[1999DYK/SVO]
C ₇₄ H ₁₄₈	[66577-67-1]	1-tetraheptacontene				
	V	(614–930)	166.2	629		[1999DYK/SVO]
C ₇₄ H ₁₅₀	[7667-85-8]	Tetraheptacontane				
	V	(323–523)	356.2 ± 0.1	298	CGC	[2008CHI/WAN]
	V	(676–936)	178.2	691	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₇₄ H ₁₅₀	[66577-68-2]	2-methyltriheptacontane				
	V	(615–928)	167.4	630		[1999DYK/SVO]
C ₇₄ H ₁₅₀ S	[66577-69-3]	1-tetraheptacontanethiol				

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method
	V	(620–940)	166.9	635	E	[1999DYK/SVO]
C ₇₅ H ₁₄₂ O ₁₀	FUS	Xylitol pentamyristate	240.2	323.5	DSC	[2015BIC/SAR]
C ₇₅ H ₁₄₄	[66577-70-6]	Nonahexacontylbenzene				
	V	(618–938)	166.3	633		[1999DYK/SVO]
C ₇₅ H ₁₅₀	[66577-71-7]	Nonahexacontylcyclohexane				
	V	(617–632)	165.4	632		[1999DYK/SVO]
C ₇₅ H ₁₅₀	[66577-72-8]	1-pentaheptacontene				
	V	(616–932)	166.7	631		[1999DYK/SVO]
C ₇₅ H ₁₅₀ N ₆	[106486-50-4]	Tris(<i>N,N</i> -didodecylamino)-1,3,5-triazine				
	FUS		119.19	320.3	DSC	[1986LAT/HOE]
C ₇₅ H ₁₅₂	[7667-86-9]	Pentaheptacontane				
	V	(678–939)	179.4	693	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₇₅ H ₁₅₂	[66577-73-9]	2-methyltetraheptacontane				
	V	(616–931)	168.2	631		[1999DYK/SVO]
C ₇₅ H ₁₅₂ S	[66577-74-0]	1-pentaheptacontanethiol				
	V	(622–942)	167.2	637	E	[1999DYK/SVO]
C ₇₆	[135113-15-4]	Fullerene-C76				
	SUB	(637–911)	190 ± 7	764	ME	[1998BOL/MAR]
	SUB	(834–1069)	206 ± 4.0	298	TE	[1997BRU/GIG]
C ₇₆	[142136-39-8]	Fullerene-C76 (D2-isomer)				
	SUB	(940–1020)	190.4 ± 3.1	978	TGA	[2015MAR/CAM]
	SUB	(940–1020)	202.9 ± 6.2	298	TGA	[2015MAR/CAM]
C ₇₆ H ₉₄ N ₄	[89372-90-7]	5,10,15,20-tetrakis(3,5-di- <i>tert</i> -butylphenyl)porphine				
	SUB		209 ± 5			[2000PER/GOL]
C ₇₆ H ₁₄₆	[66577-75-1]	Heptacontylbenzene				
	V	(619–941)	167	634		[1999DYK/SVO]
C ₇₆ H ₁₄₆ O ₈	[117204-16-7]	Erythritol tetrastearate				
	FUS		248.0	303.6	DSC	[2012SAR/KAR]
C ₇₆ H ₁₅₂	[66577-76-2]	Heptacontylcyclohexane				
	V	(619–941)	165.8	634		[1999DYK/SVO]
C ₇₆ H ₁₅₂	[66577-77-3]	1-hexaheptacontene				
	V	(617–935)	167.5	632		[1999DYK/SVO]
C ₇₆ H ₁₅₄	[7667-87-0]	Hexaheptacontane				
	V	(323–523)	364.3 ± 0.3	298	CGC	[2008CHI/WAN]
	V	(680–941)	80.4	695	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₇₆ H ₁₅₄	[66577-78-4]	2-methylpentaheptacontane				
	V	(618–933)	168.7	633		[1999DYK/SVO]
C ₇₆ H ₁₅₄ S	[66577-79-5]	1-hexaheptacontanethiol				
	V	(623–945)	169.8	638		[1999DYK/SVO]
C ₇₇ H ₁₄₈	[66577-80-8]	Henheptacontylbenzene				
	V	(621–943)	167.4	636		[1999DYK/SVO]
C ₇₇ H ₁₅₄	[66577-81-9]	Henheptacontylcyclohexane				
	V	(620–943)	166.6	635		[1999DYK/SVO]
C ₇₇ H ₁₅₄	[66577-82-0]	1-heptaheptacontene				
	V	(619–937)	167.9	634		[1999DYK/SVO]
C ₇₇ H ₁₅₆	[7719-94-0]	Heptaheptacontane				
	V	(682–944)	181.4	697	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₇₇ H ₁₅₆	[66575-56-2]	2-methylhexaheptacontane				

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
	V	(620–936)	169.1	635			[1999DYK/SVO]
C ₇₇ H ₁₅₆ S	[66575-57-3]	1-heptaheptacontanethiol					
	V	(625–947)	168.2	640	E		[1999DYK/SVO]
C ₇₈	[136316-32-0]	Fullerene-C78					
	SUB	(810–1010)	194.6 ± 5.7	920	TGA		[2015MAR/CAM]
	SUB	(810–1010)	206.0 ± 11.5	298	TGA		[2015MAR/CAM]
C ₇₈ H ₁₀₈	[125594-11-8]	2,3,6,7,10,11-hexakis(1-decynyl)triphenylene					
	FUS		63	314.2	DSC		[1996DOM/HEA, 1990PRA/KOH]
C ₇₈ H ₁₅₀	[66327-30-8]	Doheptacontylbenzene					
	V	(622–945)	167.3	637			[1999DYK/SVO]
C ₇₈ H ₁₅₆	[66327-31-9]	Doheptacontylcyclohexane					
	V	(622–945)	166.9	637			[1999DYK/SVO]
C ₇₈ H ₁₅₆	[66327-32-0]	1-octaheptacontene					
	V	(621–940)	168.3	636			[1999DYK/SVO]
C ₇₈ H ₁₅₈	[7719-85-9]	Octaheptacontane					
	V	(638–691)	372.1 ± 3.7	298	CGC		[2008CHI/LIP]
	V	(685–946)	181.8	700	A, E		[1987STE/MAL, 1966KUD/ZWO]
C ₇₈ H ₁₅₈	[66327-33-1]	2-methylheptaheptacontane					
	V	(621–939)	169.9	636			[1999DYK/SVO]
C ₇₈ H ₁₅₈ S	[66375-13-1]	1-octaheptacontanethiol					
	V	(626–949)	168.8	641	E		[1999DYK/SVO]
C ₇₉ H ₁₅₂	[66327-34-2]	Triheptacontylbenzene					
	V	(623–947)	168	638			[1999DYK/SVO]
C ₇₉ H ₁₅₈	[66327-35-3]	1-nonaheptacontene					
	V	(622–942)	169.1	637			[1999DYK/SVO]
C ₇₉ H ₁₅₈	[66327-36-4]	Triheptacontylcyclohexane					
	V	(623–948)	167.7	638			[1999DYK/SVO]
C ₇₉ H ₁₆₀	[7719-86-0]	Nonaheptacontane					
	V	(687–949)	182.7	702	A, E		[1987STE/MAL, 1966KUD/ZWO]
C ₇₉ H ₁₆₀	[66327-37-5]	2-methyloctaheptacontane					
	V	(622–940)	167.8	637			[1999DYK/SVO]
C ₇₉ H ₁₆ OS	[66327-38-6]	1-nonaheptacontanethiol					
	V	(628–952)	169.1	643	E		[1999DYK/SVO]
C ₈₀ H ₁₅₄	[66327-39-7]	Tetraheptacontylbenzene					
	V	(625–949)	168.4	640			[1999DYK/SVO]
C ₈₀ H ₁₆₀	[66327-40-0]	1-octacontene					
	V	(624–945)	169.4	639			[1999DYK/SVO]
C ₈₀ H ₁₆₀	[66327-41-1]	Tetraheptacontylcyclohexane					
	V	(625–950)	168	640			[1999DYK/SVO]
C ₈₀ H ₁₆₂	[7667-88-1]	Octacontane					
	V	(638–691)	379.6 ± 3.8	298	CGC		[2008CHI/LIP]
	V	(689–951)	183.6	704	A, E		[1987STE/MAL, 1966KUD/ZWO]
C ₈₀ H ₁₆₂	[66327-42-2]	2-methylnonaheptacontane					
	V	(624–943)	170.2	639			[1999DYK/SVO]
C ₈₀ H ₁₆₂ S	[66327-43-3]	1-octacontanethiol					
	V	(629–954)	169.6	644	E		[1999DYK/SVO]
C ₈₁ H ₁₅₆	[66327-44-4]	Pentaheptacontylbenzene					
	V	(636–952)	169.1	641			[1999DYK/SVO]
C ₈₁ H ₁₆₂	[66327-45-5]	1-henoctacontene					

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
	V	(625–946)	169.3	640			[1999DYK/SVO]
C ₈₁ H ₁₆₂	[66327-46-6]	Pentaheptacontylcyclohexane (627–52)	168.4	642			[1999DYK/SVO]
C ₈₁ H ₁₆₄	[7667-89-2]	Henoctacontane (691–953)	184.5	706	A, E		[1987STE/MAL, 1966KUD/ZWO]
C ₈₁ H ₁₆₄	[66327-47-7]	2-methyloctancontane (625–945)	17Q.9	640			[1999DYK/SVO]
C ₈₁ H ₁₆₄ S	[66327-48-8]	1-henoctacontanethiol (630–955)	169.4	645	E		[1999DYK/SVO]
C ₈₂ H ₁₅₈	[66327-49-9]	Hexaheptacontylbenzene (628–954)	169.4	643			[1999DYK/SVO]
C ₈₂ H ₁₆₄	[66327-50-2]	1-dooctacontene (626–949)	157.6	641			[1999DYK/SVO]
C ₈₂ H ₁₆₄	[66327-09-1]	Hexaheptacontylcyclohexane (627–954)	168.5	642			[1999DYK/SVO]
C ₈₂ H ₁₆₆	[7719-95-1]	Dooctacontane (638–691)	387.2 ± 3.8	298	CGC		[2008CHI/LIP]
	V	(693–955)	185.3	708	A, E		[1987STE/MAL, 1966KUD/ZWO]
C ₈₂ H ₁₆₆	[66327-10-4]	2-methylheptacontane (627–947)	171.3	642			[1999DYK/SVO]
C ₈₂ H ₁₆₆ S	[66327-11-5]	1-dooctacontanethiol (631–57)	170	646	E		[1999DYK/SVO]
C ₈₃ H ₁₆₀	[66327-12-6]	Heptaheptacontylbenzene (628–955)	169.6	643			[1999DYK/SVO]
C ₈₃ H ₁₆₆	[66327-13-7]	Heptaheptacontylcyclohexane (629–956)	168.9	644			[1999DYK/SVO]
C ₈₃ H ₁₆₆	[66327-14-8]	1-trioctacontene (628–951)	170.4	643			[1999DYK/SVO]
C ₈₃ H ₁₆₈	[7667-90-5]	Trioctacontane (694–957)	186.5	709	A, E		[1987STE/MAL, 1966KUD/ZWO]
C ₈₃ H ₁₆₈	[66327-15-9]	2-methyldooctacontane (628–949)	171.1	643			[1999DYK/SVO]
C ₈₃ H ₁₆₈ S	[66327-16-0]	1-trioctacontanethiol (633–959)	170.2	648	E		[1999DYK/SVO]
C ₈₄	[135113-16-5]	Fullerene-C84 SUB SUB SUB SUB	(1053–1153) (1053–1153) (658–980) (920–1190)	205.4 ± 1.4 220.4 ± 3.0 202 ± 4.0 210 ± 6	1115 298 853 950	TGA TGA ME TE	[2015MAR/CAM] [2015MAR/CAM] [1998BOL/MAR2] [1997PIA/PAL]
C ₈₄ H ₁₁₂ O ₅₆	[23739-88-0]	Heptakis(2,3,6-tri-O-acetyl)-β-cyclodextrin FUS		82.73	491.7	DSC	[2006BET/SOR]
C ₈₄ H ₁₆₂	[66327-17-1]	Octaheptacontylbenzene (630–957)	169.9	645			[1999DYK/SVO]
C ₈₄ H ₁₆₈	[66327-18-2]	Octaheptacontylcyclohexane (630–958)	169.5	645			[1999DYK/SVO]
C ₈₄ H ₁₆₈	[66327-19-3]	1-tetraoctacontene (629–953)	170.1	644			[1999DYK/SVO]
C ₈₄ H ₁₇₀	[7667-91-6]	Tetraoctacontane V V	(638–691) (696–960)	394.0 ± 3.9 187.3	298 711	CGC A, E	[2008CHI/LIP] [1987STE/MAL, 1966KUD/ZWO]

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	Δ _{trans} H _m (kJ/mol)	T _m (K)	Method	Reference
C ₈₄ H ₁₇₀	[66327-20-6] V	2-methyltrioctacontane (629–951)		171.8	644		[1999DYK/SVO]
C ₈₄ H ₁₇₀ S	[66327-21-7] V	1-tetraoctacontanethiol (634–962)		170.8	649	E	[1999DYK/SVO]
C ₈₅ H ₁₆₂ O ₁₀	[1426298-23-8] FUS	Xylitol pentaplamicite		228.6	291.9	DSC	[2012BIC/SAR]
C ₈₅ H ₁₆₄	[66327-22-8] V	Nonheptacontylbenzene (631–960)		170.6	646		[1999DYK/SVO]
C ₈₅ H ₁₇₀	[66327-23-9] V	Nonheptacontylcyclohexane (632–960)		169.8	647		[1999DYK/SVO]
C ₈₅ H ₁₇₀	[66327-24-0] V	1-pentaoctacontene (630–955)		170.9	645		[1999DYK/SVO]
C ₈₅ H ₁₇₂	[7719-96-2] V	Pentaoctacontane (698–962)		187.9	713	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₈₅ H ₁₇₂	[66327-25-1] V	2-methyltetraoctacontane (631–953)		172.1	646		[1999DYK/SVO]
C ₈₅ H ₁₇₂ S	[66327-26-2] V	1-pentaoctacontanethiol (634–963)		170.8	649	E	[1999DYK/SVO]
C ₈₆ H ₁₆₆	[66327-27-3] V	Octacontylbenzene (633–962)		170.9	648		[1999DYK/SVO]
C ₈₆ H ₁₇₂	[66327-28-4] V	1-hexaoctacontene (631–957)		171.5	646		[1999DYK/SVO]
C ₈₆ H ₁₇₂	[66327-29-5] V	Octacontylcyclohexane (632–962)		169.9	647		[1999DYK/SVO]
C ₈₆ H ₁₇₄	[7667-92-7] V V	Hexaoctacontane (638–691) (700–964)	402.1 ± 4.0 188.6	298 715	CGC A, E		[2008CHI/LIP] [1987STE/MAL, 1966KUD/ZWO]
C ₈₆ H ₁₇₄	[66326-88-3] V	2-methylpentaoctacontane (632–956)	172.8	647			[1999DYK/SVO]
C ₈₆ H ₁₇₄ S	[66326-89-4] V	1-hexaoctacontanethiol (636–965)	171.1	651	E		[1999DYK/SVO]
C ₈₇ H ₁₆₈	[66326-90-7] V	Heptacontylbenzene (633–963)	171	648			[1999DYK/SVO]
C ₈₇ H ₁₇₄	[66326-91-8] V	Heptacontylcyclohexane (633–964)	170.6	648			[1999DYK/SVO]
C ₈₇ H ₁₇₄	[66326-92-9] V	1-heptaoctacontene (633–959)	171.8	648			[1999DYK/SVO]
C ₈₇ H ₁₇₆	[7667-93-8] V	Heptaoctacontane (702–966)	189.3	717	A, E		[1987STE/MAL, 1966KUD/ZWO]
C ₈₇ H ₁₇₆	[66326-93-0] V	2-methylhexaoctacontane (633–957)	172.6	648			[1999DYK/SVO]
C ₈₇ H ₁₇₆ S	[66326-94-1] V	1-heptaoctacontanethiol (637–967)	171.7	652	E		[1999DYK/SVO]
C ₈₄ H ₁₄₄ O ₆	[501447-88-7] TRS FUS	2,3,6,7,10,11-hexakis[(2R,4R,6R)-2,4,6-trimethyloctyl]oxy]triphenylene	38 5.2	141.2 237.2	DSC		[2002SCH/LAS]
C ₈₈ H ₁₇₀	[66326-95-2] V	Dooctacontylbenzene (635–965)	171.3	650			[1999DYK/SVO]
C ₈₈ H ₁₇₆	[66326-96-3]	Dooctacontylcyclohexane					

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T _m (K)	Method
C ₈₈ H ₁₇₆	V	(635–966)	170.8	650		[1999DYK/SVO]
	[66326-97-4]	1-octaoctacontene (634–961)	172.5	649		[1999DYK/SVO]
C ₈₈ H ₁₇₈	[7667-94-9]	Octaoctacontane				
	V	(638–691)	409.2 ± 4.1	298	CGC	[2008CHI/LIP]
C ₈₈ H ₁₇₈	V	(703–967)	190.4	718	A, E	[1987STE/MAL, 1966KUD/ZWO]
	[66326-98-5]	2-methylheptaoctacontane				
C ₈₈ H ₁₇₈ S	V	(634–959)	173.3	649		[1999DYK/SVO]
	[66326-99-6]	1-octacontanethiol (639–969)	171.9	654	E	[1999DYK/SVO]
C ₈₉ H ₁₇₂	[66327-00-2]	Trioctacontylbenzene				
	V	(636–967)	172	651		[1999DYK/SVO]
C ₈₉ H ₁₇₈	[66327-01-3]	1-nonaoctacontene				
	V	(635–962)	172.3	650		[1999DYK/SVO]
C ₈₉ H ₁₇₈	[66327-02-4]	Trioctacontylcyclohexane				
	V	(636–968)	171.5	651		[1999DYK/SVO]
C ₈₉ H ₁₈₀	[7719-76-8]	Nonaoctacontane				
	V	(705–969)	190.9	720	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₈₉ H ₁₈₀	[66327-03-5]	2-methyloctacontane				
	V	(636–962)	173.6	651		[1999DYK/SVO]
C ₈₉ H ₁₈₀ S	[66327-04-6]	1-nonacontanethiol (639–970)	171.9	654	E	[1999DYK/SVO]
	V					
C ₉₀ H ₁₇₄	[66327-05-7]	Tetraoctacontylbenzene				
	V	(637–968)	171.7	652		[1999DYK/SVO]
C ₉₀ H ₁₈₂	[7667-51-8]	Nonaoctane				
	V	(638–691)	416.4 ± 4.3	298	CGC	[2008CHI/LIP]
	V	(707–971)	191.6	722	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₉₁ H ₁₈₄	[7719-97-3]	Hennonacontane				
	V	(708–973)	192.5	723	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₉₂ H ₁₈₆	[7667-95-0]	Dononacontane				
	V	(638–691)	424.5 ± 4.0	298	CGC	[2008CHI/LIP]
	V	(710–975)	193	725	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₉₂ H ₁₈₆ O ₄₆	FUS	1,ω-dimethoxypentatetracosa(oxyethylene)				
			374.8	324.2	DSC	[1996YAN/YU]
C ₉₃ H ₁₈₈	[7667-96-1]	Trinonacontane				
	V	(711–977)	194.1	726	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₉₄ H ₁₉₀	[1574-32-9]	Tetranonacontane				
	V	(713–978)	194.5	728	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₉₅ H ₁₈₂ O ₁₀	[60869-87-6]	Xylitol pentastearate				
	FUS		305.3	305.5	DSC	[2012BIC/SAR]
C ₉₅ H ₁₉₂	[7667-97-2]	Pentanonacontane				
	V	(714–980)	195.4	729	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₉₆ H ₁₉₂	[63217-79-8]	Cyclohexanonacontane				
	FUS		302	389	DSC	[1987DRO/MOL]
	FUS		300	389.1	DSC	[1987DRO/EME]
C ₉₆ H ₁₉₄	[7763-13-5]	Hexanonacontane				
	V	(716–982)	195.8	731	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₉₇ H ₁₉₆	[7670-25-9]	Heptanonacontane				
	V	(717–983)	196.6	732	A, E	[1987STE/MAL, 1966KUD/ZWO]

TABLE 16. Phase change enthalpies of C₅₀ to C₁₉₂ organic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₉₈ H ₁₉₈	[7670-26-0]	Octanonacontane					
	V	(719–985)		196.9	734	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₉₉ H ₂₀₀	[7670-27-1]	Nonanonacontane					
	V	(720–986)		197.8	735	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₁₀₀ H ₂₀₂	[6703-98-6]	Hectane					
			TRS	54.8	365.5		
			FUS	331.8	338.5	DSC	[1970HAY]
	V	(721–988)		198.5	736	A, E	[1987STE/MAL, 1966KUD/ZWO]
C ₁₀₂ H ₁₈₀ O ₆	[501447-89-8]	2,3,6,7,10,11-hexakis[[((2R,4R,6R,8R)-2,4,6,8-tetramethyldecyloxy)oxy]triphenylene					
			TRS	23.4	139.2		
			FUS	6.6	236.2	DSC	[2002SCH/LAS]
C ₁₀₂ H ₁₉₄ O ₁₂	[97334-70-8]	Galactitol hexopalmitate					
	FUS			325.2	305.0	DSC	[2011SAR/BIC]
C ₁₁₄ H ₂₁₈ O ₁₂		Galactitol hexastearate					
	FUS			447.1	321.0	DSC	[2011SAR/BIC]
C ₁₉₂ H ₃₈₆	[96123-38-5]	<i>n</i> -dononacontaheptane					
			FUS	661.1	399.1	DSC	[1989STA/MAN]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
Ag							
(C ₅ H ₁₀ O ₂ Ag) ₂	[7324-58-5] SUB	Silver 2,2-dimethylpropanoate (dimer)		146.9 ± 8.9			[2001MAL/PAR]
AgBr							
AgBr	[7785-23-1] FUS	Silver bromide		7.92	695	DSC	[2008RYC/SZY]
	FUS			8.5	700		[1970PAN]
	V	(1240–1497)		198.5	1369	BP	[1958BLO/BOC]
AgCl							
AgCl	[7783-90-6] FUS	Silver chloride		13.16	736	DSC	[2008RYC/SZY]
	FUS			12.3	730		[1970PAN]
	V	(1301–1533)		198.9	1417	BP	[1958BLO/BOC]
AgI							
AgI	[7783-96-2] TRS	Silver chloride		6.11	420.75	DSC	[1984KHA/TAR]
Al							
C ₃ H ₉ Al	[75-24-1] FUS	Trimethylaluminum		17.1		S-V	[2003FUL/RUZ]
[Note: The authors noted the large discrepancy between their calculated value based on the difference in the enthalpy of sublimation minus the enthalpy of vaporization and the published literature data.]							
C ₃ H ₉ Al	FUS			8.79	288.4		[1996DOM/HEA, 1963MCC/MES]
	SUB	(243–285)		60.1			[2003FUL/RUZ]
	V	(288–293)		43.0			[2003FUL/RUZ]
	V	(291–321)		41.3 ± 0.3		I	[1967HEN/EYM]
	V	(336–400)		39.8	351		[1963MCC/MES]
	V			63.2 ± 1.7			[1963MOR/SEL, 1982PIL/SKI]
The authors of [1963MOR/SEL] state that the value of 63.2 is for the process Al(CH ₃) ₃ (liq) → Al(CH ₃) ₃ (gas, monomer)							
C ₄ H ₁₀ AlCl	V			41.1		BG	[1946BAM/LEV]
	V	(278–318)		50.5	293		[1991BUC/POT]
	V	(273–473)		53.9	373		[1991BUC/POT]
C₄H₁₁Al							
C ₄ H ₁₁ Al	[871-27-2] V	Diethylaluminum hydride		57.7 ± 2.1			[1967PAW, 1982PIL/SKI, 1965SHA/SCH]
	V			46.9			[1965SHA/SCH]
C₅H₅AlBr₃N							
C ₅ H ₅ AlBr ₃ N	[15348-61-5] SUB	Aluminum tribromide-pyridine complex				T	[1989GRI/KON]
	SUB	(501–633)	71.2 ± 0.6			B, E	[1967WIL/WAR]
C₆H₁₅Al							
C ₆ H ₁₅ Al	[97-93-8] FUS	Triethylaluminum	(5–313)	10.6	225	AC	[1996DOM/HEA, 1989RAB/NIS2]
	V			73.2 ± 2.1			[1967PAW, 1982PIL/SKI, 1965SHA/SCH]
	V			60.2			[1965SHA/SCH]
	V			54.1		BG	[1946BAM/LEV]
C₆H₁₅AlO₃							
C ₆ H ₁₅ AlO ₃	[555-75-9] V	Aluminum ethoxide	(431–511)	84.5	471	I	[1957WIL]
	V						
C₆H₁₅AlO							
C ₆ H ₁₅ AlO	[1586-92-1] V	Diethylaluminum ethoxide	(403–463)	48.7 ± 0.8	433		[1974SHM/GOL]
	V						
C₇H₁₇AlO							
C ₇ H ₁₇ AlO	[6083-26-7] V	Diethylaluminum propoxide	(398–463)	51.0 ± 0.8	430		[1974SHM/GOL]
	V						
C₈H₁₉Al							
C ₈ H ₁₉ Al	[1191-15-7] V	Diisobutylaluminum hydride		42.3 ± 2.1			[1967PAW, 1982PIL/SKI, 1965SHA/SCH]
	V			35.6			[1965SHA/SCH]
C₉H₂₁Al							
C ₉ H ₂₁ Al	[102-67-0]	Tripropylaluminum					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_9\text{H}_{21}\text{AlO}_3$	[4073-85-2]	V		43 ± 2.0			[2002BAE/SHI]
		V		42.5 ± 1.2			[1967PAW, 1982PIL/SKI]
$\text{C}_9\text{H}_{21}\text{AlO}_3$	[555-31-7]	V	Aluminum propoxide (475–539)	U93.3	507	I	[1957WIL]
		V	(353–399)	48.1 ± 6.3	376		[1972BLE/FIE]
$\text{C}_{12}\text{H}_{27}\text{Al}$	[100-99-2]	V	(392–446)	U88.3	419	I	[1957WIL]
		V	(273–322)	38.3	298		[1964SHA/TUB]
$\text{C}_{12}\text{H}_{27}\text{AlO}_3$	[3085-30-1]	V	Tributoxyaluminum (503–533)	104.1	518	A,I	[1987STE/MAL, 1957WIL]
		V	(500–550)	139.4	515	A,I	[1987STE/MAL, 1957WIL]
$\text{C}_{12}\text{H}_{27}\text{AlO}_3$	[2269-22-9]	V	Tri-sec-butoxyaluminum (425–469)	81.5	440	A,I	[1987STE/MAL, 1957WIL]
		V	(343–398)	59.2	370	GC	[1978BUB/MAZ]
$\text{C}_{15}\text{H}_3\text{AlF}_{18}\text{O}_6$	[15306-18-0]	V	(347–373)	50.4	360		[1972FON/POM]
		SUB	(333–363)	52.0		TGA	[2000FAH/BAR]
$\text{C}_{15}\text{H}_{12}\text{AlF}_9\text{O}_6$	[14354-59-7]	SUB	(324–344)	77.6 ± 6.2	334	BG	[1987GRI/LAZ2, 1988LAZ/GRE]
		SUB		79.0 ± 6.5	298		[1987GRI/LAZ2]
$\text{C}_{15}\text{H}_{12}\text{AlF}_9\text{O}_6$	[14354-59-7]	SUB		74.1 ± 2.5			[1985IGU/GER, 1987GRI/LAZ2]
		SUB	(323–347)	109.6 ± 3.8	335		[1972FON/POM]
$\text{C}_{15}\text{H}_{12}\text{AlF}_9\text{O}_6$	[14354-59-7]	V	(343–398)	59.2	370	GC	[1978BUB/MAZ]
		V	(347–373)	50.4	360		[1972FON/POM]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB	(373–403)	74.0		TGA	[2000FAH/BAR]
		SUB	(363–423)	113.4 ± 1.3		GS	[1985MAT/KUW]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB	(369–392)	102.7 ± 3.2			[1978IGU/CHU2]
		SUB		108 ± 2.0			[1977NAG, 1988GOL/SIT]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB		43.1	443		[1977VOL/MAZ]
		SUB	(354–396)	93.7 ± 6.7	375		[1972FON/POM]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB		41.0			[1965FRA]
		SUB		40.0			[1960BER/TRU, 1965BER/TRU]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	V	(349–411)	58.7 ± 0.7	380	BG	[1988LAZ/GRE]
		V	(392–484)	69.6 ± 0.5	438		[1978IGU/CHU2]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	V	(403–473)	78.8	438	GC	[1978BUB/MAZ]
		V	(396–425)	66.3	410		[1972FON/POM]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	FUS		35.2	463	DSC	[2004SAB/MAR]
		FUS		33.7	466.7	DSC	[1988LAZ/GRE]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	FUS		32.7	458		[1971BEE/LIN2]
		SUB		107.1		DTA,TGA	[2009GAI/KUN]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB	(345–410)	101.8	378	ME	[2007SID/SID]
		SUB	(376–467)	121.8 ± 1.5	298		[2006SEM/IGU]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB	(413–443)	93		TGA	[2000FAH/BAR]
		SUB		120 ± 3.0	298	ME	[1988RIB/FER4]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB	(432–464)	102.0 ± 3.2	448	BG	[1988LAZ/GRE]
		SUB	(430–460)	116.9 ± 1.5	298	T	[1986GRI/LAZ]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB		47.1 ± 1.0			[1981TEG/FER]
		SUB		118.9 ± 7.9			[1980SAC/HIL]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB	(403–473)	100.7	438	GC	[1978BUB/MAZ]
		SUB		24.3	458		[1977VOL/MAZ]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB		121.7 ± 4.2	298		[1975IRV/RIB2]
		SUB	(383–413)	66.1 ± 3.3	398		[1972FON/POM]
$\text{C}_{15}\text{H}_{21}\text{AlO}_6$	[13963-57-0]	SUB		23.4			[1965FRA]
		SUB	(417–476)	20.5			[1960BER/TRU, 1965BER/TRU]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{16}\text{H}_{40}\text{Al}_2\text{N}_2$	V			80.2		DTA,TGA	[2009GAI/KUN]
	V		(460–530)	78.7 ± 0.9	298	T	[1986GRI/LAZ]
$\text{C}_{16}\text{H}_{40}\text{Al}_2\text{N}_2$	[115381-27-6]	tetramethylbis[μ -[<i>N</i> -(1-methylethyl)-2-propanaminto]]dialuminum(III)					
	SUB			99.2		ME	[1988BRA/FAK]
$\text{C}_{18}\text{H}_{15}\text{Al}$	[841-76-9]	Triphenylaluminum	(432–477)	172 ± 5	455	ME,TE	[1984GOV/KAN]
$\text{C}_{24}\text{H}_{12}\text{AlF}_9\text{O}_6\text{S}_3$	[14054-83-2]	tris(1-(2-thenoyl)-4,4,4-trifluoro-1,3-butanedione)aluminum(III)					[1960BER/TRU, 1965BER/TRU]
	SUB			U46.4			
$\text{C}_{27}\text{H}_{18}\text{AlN}_3\text{O}_3$	[2085-33-8]	tris(8-hydroxyquinolinato)aluminum(III)		137.7		TGA	[1995YAS/TAK]
$\text{C}_{30}\text{H}_{18}\text{AlF}_9\text{O}_6$	[14323-12-7]	tris(1-phenyl-4,4,4-trifluoro-1,3-butanedione)aluminum(III)		U55.2			[1960BER/TRU, 1965BER/TRU]
$\text{C}_{30}\text{H}_{27}\text{AlO}_6$	[14376-06-8]	tris(1-phenyl-1,3-butanedionato)aluminum(III)					
	SUB		(462–478)	186.8 ± 2.1	470	ME,TE	[1995RIB/MON2]
	SUB		(462–478)	195.2 ± 2.1	298	ME,TE	[1995RIB/MON2]
	SUB			193.7 ± 0.3	298	C	[1983RIB/REI]
$\text{C}_{30}\text{H}_{30}\text{F}_{21}\text{AlO}_6$	[18716-26-2]	tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyl-4,6-octanedionato)aluminum(III)					
SUB		(363–398)	71.1 ± 2.5	381		[1972FON/POM]	
$\text{C}_{32}\text{H}_{16}\text{AlClN}_8$	[14154-42-8]	Aluminum(III)-(phthalocyaninato)chloro complex	(588–703)	236.4 ± 1.7		ME	[2000SEM/BAS]
$\text{C}_{32}\text{H}_{16}\text{AlFN}_8$	[51961-93-4]	Aluminum(III)-(phthalocyaninato)fluoro complex	(658–768)	266.9 ± 2.5		ME	[2000SEM/BAS]
$\text{C}_{33}\text{H}_{57}\text{AlO}_6$	[14319-08-5]	tris(2,2,6,6-tetramethyl-3,5-heptanedionato)aluminum(III)					
	SUB			109.6		ME	[2011ZHU/KRA]
	SUB		(341–412)	119.1 ± 3.1	376	ME	[2010SID/SID]
	SUB		(413–443)	88		TGA	[2000FAH/BAR]
	SUB			119 ± 3.0			[1977NAG, 1983RIB/REI]
$\text{AlB}_3\text{H}_{12}$	[16962-07-5]	Aluminum borohydride	(231–290)	30.0	260		[1940SCH/SAN]
Am							
$(\text{C}_{15}\text{H}_3\text{AmF}_{18}\text{O}_6)_2(\text{C}_{12}\text{H}_{27}\text{O}_4\text{P})$	[58760-64-8]	tris(1,1,1,5,5-hexafluoro-2,4-pantanediionato)americium(III)-2(tributylphosphate) complex					
	SUB		(425–511)	133.9 ± 1.7	468	TRM	[1978DAV/TRA]
$(\text{C}_{15}\text{H}_{12}\text{AmF}_9\text{O}_6)_2(\text{C}_{12}\text{H}_{27}\text{O}_4\text{P})$	[75101-27-8]	tris(1,1,1-trifluoro-2,4-pantanediionato)americium(III)-2(tributylphosphate) complex					
	SUB		(509–545)	222.6 ± 29.2	527	TRM	[1978DAV/TRA]
$\text{C}_{24}\text{H}_{30}\text{AmF}_9\text{O}_6)_2(\text{C}_{12}\text{H}_{27}\text{O}_4\text{P})$	[75101-26-7]	tris(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pantanediionato)americium(III)-2(tributylphosphate) complex					
	SUB		(438–493)	129.7 ± 23.4	465	TRM	[1978DAV/TRA]
$\text{C}_{33}\text{H}_{57}\text{AmO}_6$	[71817-66-8]	tris(2,2,6,6-tetramethyl-3,5-heptanedionato)americium(III)	(373–423)	200.8		ME	[1979AMA/SAT]
As							
$\text{CAsCl}_2\text{F}_3\text{S}$	[762-86-7]	Dichloro(trifluoromethylthio)arsine	(293–373)	37.1	333		[1960EME/PUG]
CH_3AsBr_2	[676-70-0]	Methyl dibromoarsine	(293–333)	49.9	313		[1948RED/CHA2]
CH_3AsCl_2	[593-89-5]	Methyl dichloroarsine	(273–313)	41.0	293		[1948RED/CHA2]
	V		(256–308)	43.7	282		[1920BAX/BEZ]
CH_3AsF_2	[420-24-6]	Methyl difluorarsine					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(244–350)	35.5	297	MM	[1946LON/EME]
C ₂ AsClF ₆ S ₂	[819-39-6]	Chloro bis(trifluoromethylthio)arsine				
	V	(293–373)	39.6	333		[1960EME/PUG]
C ₂ H ₂ AsCl ₃	[34461-56-8]	(<i>cis</i> -2-chlorovinyl)dichloroarsine				
	V	(341–382)	46.9	361		[1948WHI]
C ₂ H ₂ AsCl ₃	[50361-05-2]	(<i>trans</i> -2-chlorovinyl)dichloroarsine				
	FUS	(13–330)	17.1	270.7	AC	[1996LEB/KUL]
	V	(323–423)	54.5	338		[1950MAT/SUM]
C ₂ H ₂ AsCl ₃	[541-25-3]	2-chlorovinyldichloroarsine				
	V	(293–333)	53.4	313		[1948RED/CHA2]
	V	(340–383)	52.7			[1947GOU/HOL]
C ₂ H ₂ AsF ₆ N	[1648-73-3]	(amino) bis(trifluoromethyl)arsine				
	V	(313–358)	31.8	335		[1959CUL/EME]
C ₂ H ₅ AsCl ₂	[598-14-1]	Ethyl dichloroarsine				
	V	(293–333)	44.6	313		[1948RED/CHA2]
C ₂ H ₅ AsF ₂	[430-40-0]	Ethyl difluorarsine				
	V	(248–367)	33.9	307	MM	[1946LON/EME]
C ₂ H ₇ AsO ₂	[75-60-5]	Hydroxydimethyl arsine oxide				
	FUS		24.46	470.8	DSC	[1990DON/DRE]
C ₃ AsF ₉	[432-02-0]	tris(trifluoromethyl)arsine				
	V		29.2			[1952BRA/EME2]
C ₃ AsF ₉ S	[75-60-5]	bis(trifluoromethyl) trifluoromethylthioarsine				
	V	(263–312)	34	287		[1962EME/PAC]
C ₃ AsF ₉ Se	[816-45-5]	bis(trifluoromethyl) trifluoromethylselenoarsine				
	V	(227–295)	34.8	261		[1962EME/PAC]
C ₃ H ₄ AsF ₆ N	[684-21-9]	(methylamino) bis(trifluoromethyl)arsine				
	V	(293–355)	34.9	324		[1959CUL/EME]
C ₃ H ₇ AsCl ₂	[926-53-4]	Propyl dichloroarsine				
	V	(293–333)	49.2	313		[1948RED/CHA2]
C ₃ H ₉ As	[593-88-4]	Trimethyl arsine				
	FUS	(13–310)	8.96	186.6	AC	[1988NIS/SHE]
	V	(240–280)	27.7 ± 0.2	260		[2001BAE]
	V	(258–268)	28.3	263		[1988KAY/HEI]
	V		28.9 ± 1.3			[1956LON/SAC, 1982PIL/SKI]
	V		29.9			[1955LON/SAC2]
	V		27.9			[1940ROS/SAN]
C ₃ H ₉ AsO ₃	[6596-95-8]	Trimethyl arsenite				
	V	(300–335)	42.3 ± 1.3	298		[1953CHA/MOR, 1970COX/PIL]
C ₄ As ₄ F ₁₂	[7547-15-1]	tetrakis(trifluoromethyl)tetraarsetane				
	SUB	(317–354)	76.6	335		[1966COW/BUR]
C ₄ HA ₂ S ₂ F ₁₂ N	[3892-55-5]	Iminobis[bis(trifluoromethyl)arsine]				
	V	(357–398)	38.9	377		[1959CUL/EME]
C ₄ H ₆ AsF ₆ N	[1537-49-1]	(ethylamino) bis(trifluoromethyl)arsine				
	V	(292–368)	32.8	330		[1959CUL/EME]
C ₄ H ₆ AsF ₆ N	[1537-48-0]	(dimethylamino) bis(trifluoromethyl)arsine				
	V	(296–358)	35.6	327		[1959CUL/EME]
C ₄ H ₁₁ As	[692-42-2]	Diethyl arsine				
	V	(281–366)	35.2	273	MM	[2001BAE2]
	V	(281–366)	34.2	298	MM	[2001BAE2]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₄ H ₁₁ AsO ₂	[4964-27-6]	Diethylarsinic acid	FUS		19.9	411	DTA	[1970SMI/IRG]
C ₄ H ₁₂ AsN	[30880-19-4]	(dimethylamino) dimethylarsine	V	(274–342)	36.7			[1959MOD]
C ₅ AsF ₁₃ Se	[679-01-6]	Heptafluoropropylseleno bis(trifluoromethyl)arsine	V	(277–348)	40.3	312		[1962EME/PAC]
C ₅ H ₇ AsCl ₂	[170135-56-5]	bis(2-chlorovinyl)methylarsine	V	(293–333)	55.6	313		[1948RED/CHA2]
C ₅ H ₁₁ AsBr ₂	[64047-02-5]	Pentyl dibromoarsine	V	(293–333)	60	313		[1948RED/CHA2]
C ₅ H ₁₅ AsN ₂	[41813-33-6]	bis(dimethylamino) methylarsine	V	(273–333)	39.2			[1959MOD]
C ₆ H ₅ AsCl ₂	[696-28-6]	Phenyl dichloroarsine	V	(313–333)	58.4	323		[1948RED/CHA2]
			V	(335–529)	48.7	350		[1947STU]
			V	(273–318)	60.6	296		[1920BAX/BEZ]
C ₆ H ₉ As	[13652-20-5]	Trivinylarsine	V	(295–339)	35.6	310		[1957MAI/SEY, 1984BOU/FRI]
C ₆ H ₁₂ AsN	[64049-16-7]	Cyano(ethyl)propylarsine	V	(293–313)	54.6	303		[1948RED/CHA2]
C ₆ H ₁₅ As	[617-75-4]	Triethylarsine	FUS	(60–300)	11.06	181.8		[1996DOM/HEA, 1972MAS/FAM]
			V	(273–339)	38.1 ± 1.5	306		[2001BAE]
			V	(290–379)	38.5 ± 0.7	334		[2001BAE]
			V	(261–294)	40.9	277		[1988KAY/HEI]
			V		43.1 ± 4.2			[1963LAU/TRO, 1982PIL/SKI]
C ₆ H ₁₅ AsO ₂	[2870-87-3]	Dipropylarsinic acid	FUS		22.1	408	DTA	[1970SMI/IRG]
C ₆ H ₁₅ AsO ₃	[3141-12-6]	Arsenic(III) triethoxide	V		47.9 ± 1.1		DSC	[1996DES/BRA]
			V	(305–340)	50.6 ± 4.2	298		[1953CHA/MOR, 1970COX/PIL]
C ₆ H ₁₈ AsN ₃	[6596-96-9]	tris(dimethylamino)arsine	FUS		13.31	222.6		[2002SHE/KAR]
			V	(288–359)	45.8			[1959MOD]
C ₈ H ₁₂ AsNO ₃		Dimethyl arsanilate	V	(288–433)	48.8	303		[1947STU]
C ₈ H ₁₈ AsO ₂	[2850-61-5]	Dibutylarsinic acid	FUS		29.5	412	DTA	[1970SMI/IRG]
C ₉ H ₂₁ As	[57538-64-4]	Triisopropylarsine	V	(346–405)	45.2 ± 0.5	376		[2001BAE]
C ₉ H ₂₁ As	[5852-57-3]	Tripropylarsine	FUS		14.6	180		[2002SHE/KAR2]
			V	(314–420)	44.0 ± 0.7	367		[1995BAE/MIK, 2001BAE]
			V	(357–386)	61.5	371		[1931DYK/DAV]
C ₉ H ₂₁ AsO ₃	[15606-91-4]	Arsenic(III) tripropoxide	V		51.2 ± 1.8		DSC	[1996DES/BRA]
C ₉ H ₂₁ AsO ₃	[39936-83-9]	Arsenic(III) triisopropoxide	V		80.1 ± 0.9		DSC	[1996DES/BRA]
C ₁₀ H ₁₆ AsNO ₃		Diethyl arsanilate	V	(311–454)	54.2	326	A	[1987STE/MAL, 1947STU]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₁₀ AsCl	[712-48-1] V	Diphenylchloroarsin	(298–348)	63.0	323		[1920BAX/BEZ]
C ₁₀ H ₂₃ AsO ₂	[4964-30-1] FUS	Dipentyl arsenic acid		36	405	DTA	[1970SMI/IRG]
C ₁₂ H ₂₇ AsO ₂	[6727-92-0] TRS FUS	Dihexyl arsenic acid		16.4 24.35	393 405	DTA	[1970SMI/IRG]
C ₁₂ H ₂₇ AsO ₃	[3141-10-4] V	Arsenic(III) tributoxide		64.0 ± 1.8		DSC	[1996DES/BRA]
C ₁₂ H ₂₇ AsO ₃	[51587-28-1] V	Arsenic(III) triisobutoxide		75.7 ± 1.2		DSC	[1996DES/BRA]
C ₁₃ H ₁₀ AsN	[23525-22-6] V	Diphenylarsine carbonitrile	(296–326)	84.6	311	A	[1987STE/MAL]
C ₁₄ H ₃₁ AsO ₂	[6757-53-5] TRS FUS	Dihethyl arsenic acid		30.1 20.3	299 389	DTA	[1970SMI/IRG]
C ₁₅ H ₃₀ AsN ₃ S ₆	[17767-20-3] SUB	tris(<i>N,N</i> -diethyldithiocarbamate)arsenic(III)		124 ± 3	298		[1987AIR/DES]
C ₁₅ H ₃₃ As	[5852-59-5] V	Tripentylarsine	(408–466)	62.3	432		[1932JON/DYK]
C ₁₈ AsF ₁₅	[1259-34-3] FUS	tris(pentafluorophenyl)arsine		26.5	380.1	DSC	[2008ZEL/CHU]
C ₁₈ H ₁₅ As	[603-32-7] SUB	Triphenylarsine		98.3 ± 8.4			[1982PIL/SKI, 1964MOR/SEL]
C ₁₈ H ₁₅ AsO	[1153-05-5] SUB	V	(493–563)	75.7	508	A	[1987STE/MAL, 1949FOR/BOW]
C ₁₈ H ₃₉ AsO ₂	[6727-94-2] TRS FUS	Triphenylarsine oxide		149.0 ± 5.4			[1994LIE/MAR]
C ₁₉ H ₃₇ AsO ₇	[155325-38-5] FUS	(<i>R</i>)-1,2-dicapryloxypropyl-3-arsonic acid		41.8	347.7	DSC	[1993SER/SOT]
C ₁₉ H ₃₇ AsO ₇	[155325-39-6] FUS	(<i>S</i>)-1,2-dicapryloxypropyl-3-arsonic acid		37.66	346.7	DSC	[1993SER/SOT]
C ₂ H ₄₃ AsO ₂	[6727-95-3] TRS FUS	Di- <i>n</i> -decylarsinic acid		24.5 42.3	380 400	DTA	[1970SMI/IRG]
C ₂₁ H ₄₂ AsN ₃ S ₆	[86431-46-1] SUB	tris(dipropylthiocarbamate)arsenic(III)		145.1 ± 5.3	298	DSC,E	[1999NEV/GOU]
C ₂₂ H ₄₇ AsO ₂	[6727-96-4] TRS FUS	Di- <i>n</i> -undecyl arsenic acid		30.1 45.1	384 396	DTA	[1970SMI/IRG]
C ₂₃ H ₄₅ AsO ₇	[155325-40-9] FUS	(<i>R</i>)-1,2-dicaproxypropyl-3-arsonic acid		68.2	358.3	DSC	[1993SER/SOT]
C ₂₃ H ₄₅ AsO ₇	[155325-41-0] FUS	(<i>S</i>)-1,2-dicaproxypropyl-3-arsonic acid		54.39	358.5	DSC	[1993SER/SOT]
C ₂₄ H ₅₁ AsO ₂	[6727-97-5] TRS FUS	Di- <i>n</i> -dodecyl arsenic acid		31.4 49.4	385 398	DTA	[1970SMI/IRG]
C ₂₆ H ₅₅ AsO ₂	[6727-98-6]	Di- <i>n</i> -tridecyl arsenic acid					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{27}\text{H}_{53}\text{AsO}_7$	[155325-42-1]	<i>(R)</i> -1,2-dilauryloxypropyl-3-arsonic acid	TRS		36.5	388	DTA	[1970SMI/IRG]
			FUS		52.7	396		
$\text{C}_{27}\text{H}_{53}\text{AsO}_7$	[155325-43-2]	<i>(S)</i> -1,2-dilauryloxypropyl-3-arsonic acid	FUS		76.99	364.9	DSC	[1993SER/SOT]
					65.69	363.3		
$\text{C}_{27}\text{H}_{54}\text{AsN}_3\text{S}_6$	[48233-55-2]	tris(<i>N,N</i> -dibutylthiocarbamate)arsenic(III)	SUB		128 ± 3	298		[1994LIE/MAR]
$\text{C}_{27}\text{H}_{54}\text{AsN}_3\text{S}_6$	[41582-74-5]	tris(<i>N,N</i> diisobutylthiocarbamate)arsenic(III)	SUB		128 ± 2	298	DSC,E	[1997DES/DES]
$\text{C}_{28}\text{H}_{59}\text{AsO}_2$	[6727-99-7]	Di- <i>n</i> -tetradecyl arsenic acid	TRS		39.3	390	DTA	[1970SMI/IRG]
			FUS		58.2	397		
$\text{C}_{30}\text{H}_{63}\text{AsO}_2$	[6757-54-6]	Di- <i>n</i> -pentadecyl arsenic acid	TRS		46.4	390	DTA	[1970SMI/IRG]
			FUS		63.6	396		
$\text{C}_{31}\text{H}_{61}\text{AsO}_7$	[146863-97-0]	<i>(R)</i> -1,2-dimyristoyloxypropyl-3-arsonic acid	FUS		289.5	373.7	DSC	[1992SER/TSI]
					267.8	374.7		
$\text{C}_{32}\text{H}_{67}\text{AsO}_2$	[6728-00-3]	Di- <i>n</i> -hexadecyl arsenic acid	TRS		47.4	389	DTA	[1970SMI/IRG]
			FUS		66.8	395		
$\text{C}_{34}\text{H}_{71}\text{AsO}_2$	[6728-01-4]	Di- <i>n</i> -heptadecyl arsenic acid	TRS		50.9	390	DTA	[1970SMI/IRG]
			FUS		68.6	393		
$\text{C}_{35}\text{H}_{69}\text{AsO}_7$	[146863-99-2]	<i>(R)</i> -1,2-dipalmitoyloxypropyl-3-arsonic acid	FUS		250.6	377.3	DSC	[1992SER/TSI]
					206.3	377.2		
$\text{C}_{35}\text{H}_{69}\text{AsO}_7$	[146864-00-8]	<i>(S)</i> -1,2-dipalmitoyloxypropyl-3-arsonic acid	FUS		206.3	377.2	DSC	[1992SER/TSI]
					128.9	394		
$\text{C}_{36}\text{H}_{75}\text{AsO}_2$	[6728-02-5]	Di- <i>n</i> -octadecyl arsenic acid	TRS		144	393	DTA	[1970SMI/IRG]
			FUS		144	393		
$\text{C}_{38}\text{H}_{79}\text{AsO}_2$	[6728-03-6]	Di- <i>n</i> -nonadecyl arsenic acid	TRS		274.9	382.8	DSC	[1992SER/TSI]
			FUS		180.3	382.4		
$\text{C}_{40}\text{H}_{83}\text{AsO}_2$	[6728-04-7]	Di- <i>n</i> -eicosanyl arsenic acid	TRS		40.0	383	DTA	[1970SMI/IRG]
			FUS		76.9	393		
AsCl_3	[7784-34-1]	Arsenic trichloride	FUS	(18–273)	11.26	254.5	AC	[1987GIB/GUS]
			V	(293–343)	42.5 ± 0.6			
			V	(273–323)	41.3	298		
AsF_3	[7784-35-2]	Arsenic trifluoride	V		35.8	293		[1941RUS/RUN]
AsH_3	[7784-42-1]	Arsine	TRS	(15–207)	0.55	105.6		[1955SHE/GIA]
			FUS	(15–207)	1.20	156.2		

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{AsH}_3\text{I}_2\text{Si}$	SUB	(135–156)	20.2	146		[1937JOH/PEC]
	V		16.7	210		[1955SHE/GIA]
	V	(161–210)	17.4	186		[1937JOH/PEC]
$\text{AsH}_3\text{I}_2\text{Si}$	[119277-34-8]	Diiodosilylarsine				
	V	(294–381)	38.5		SG	[1955AYL/EME]
As_2S_2	[1303-32-8]	Arsenic(II) sulfide				
	V	(663–838)	69.6	750		[1968KUA/UST]
Au						
$\text{C}_7\text{H}_6\text{AuNS}_2$	[93166-53-1]	Dimethylgold(III) diethyldithiocarbamate				
	V	(323–363)	88.3 ± 1.8	343	ME	[2011TUR/ZHA]
$\text{C}_7\text{H}_{10}\text{AuF}_3\text{O}_2$	[63470-53-1]	Dimethyl(1,1,1-trifluoro-2,4-pentanedionato)gold(III)				
	SUB	(265–300)	83.5			[2001OHT/CIC]
$\text{C}_8\text{H}_{18}\text{Au}_2\text{F}_6\text{O}_4$	[1095578-82-7]	Tetramethylbis[μ -2,2,2-trifluoroacetato]digold				
	SUB	(296–325)	103.6 ± 2.9		ME	[2008BES/MOR]
$\text{C}_8\text{H}_{18}\text{Au}_2\text{O}_4$	[1067677-78-4]	bis[(μ -acetato)dimethylgold]				
	SUB	(291–332)	100.9 ± 0.8	312	ME	[2007BES/BAI, 2008BES/MOR, 2007BES/MOR]
$\text{C}_{11}\text{H}_{12}\text{AuNO}$	[21158-63-4]	Dimethyl(8-quinolinolato)gold				
	SUB	(353–388)	121.2 ± 1.9		ME	[2008BES/MOR2]
$\text{C}_{11}\text{H}_{12}\text{AuNS}$	[1135482-91-5]	Dimethyl(8-mercaptopquito)gold				
	SUB	(359–418)	120.5 ± 1.7		ME	[2008MOR/ZHE]
$\text{C}_{14}\text{H}_{30}\text{Au}_2\text{O}_4$	[1067677-79-5]	bis[μ -(2,2-dimethylpropanoato)tetramethylgold]				
	SUB	(295–323)	109.1 ± 2.1		ME	[2008BES/MOR, 2007BES/MOR]
$\text{C}_{18}\text{H}_{22}\text{Au}_2\text{O}_4$	[1095578-84-9]	bis[μ -(benzoate)]tetramethylgold				
	SUB	(363–403)	154.5 ± 1.5		ME	[2008BES/MOR]
$\text{C}_{20}\text{H}_{34}\text{AuO}_9\text{PS}$	[34031-32-8]	5-triethylphosphine gold-2,3,4,6-tetra-O-acetyl-1-thio- β -(d)-glucopyranoside (auranofin)				
	FUS		37.82	385	DSC	[1985LIN/RAT]
B						
CH_3BO	[13205-44-2]	Borine carbonyl				
	V	(134–209)	19.7	194		[1947STU]
$(\text{CH}_3\text{N})\text{-}(\text{BH}_3)$	[1722-33-4]	Methylamine–borane complex				
	SUB	(273–318)	78.7 ± 4.2		ME	[1959ALT/BRO]
CH_5BO_2	[13061-96-6]	Dihydroxymethylborane				
	SUB	(293–362)	64.1	308	A	[1987STE/MAL]
	SUB	(298–338)	65.2	318		[1940BUR]
$(\text{CH}_5\text{N})\text{-}(\text{C}_3\text{H}_9\text{BO}_3)$	[89925-29-1]	Methylamine–trimethylborate complex				
	SUB		58.2			[1951GOU/LIN]
CH_{11}B_5	[19495-55-7]	1-methylpentaborane (9)				
	V	(241–349)	32.7	295		[1963RYS/HAR]
C_2BF_5	[32038-87-2]	Perfluorovinyldifluoroborine				
	V	(177–238)	26.6	207	T	[1960STA/STO]
$\text{C}_2\text{BCl}_2\text{F}_3$	[758-99-6]	Perfluorovinyldichloroborine				
	V	(238–301)	31.5	269	T	[1960STA/STO]
$\text{C}_2\text{H}_3\text{BF}_2$	[358-95-2]	Vinyldifluoroborane				
	V	(178–228)	22.6	203	T	[1960BRI/STO]
$\text{C}_2\text{H}_3\text{BCl}_2$	[3677-80-3]	Vinyldichloroborane				
	V	(237–282)	27.7	260	T	[1960BRI/STO]
$(\text{C}_2\text{H}_3\text{OF})\text{-}(\text{BF}_3)$	[353-44-6]	Methylfluorocarbonyl-trifluoroboron complex				

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB	(223–273)	26.3	248			[1957SUS/WUH]
C ₂ H ₅ BCl ₂ O	[16339-28-9]	Ethoxydichloroborane					
	V		35.1 ± 0.8	298			[1931WIB/SUT, 1970COX/PIL]
(C ₂ H ₅ B ₃)-(C ₃ H ₉ N)		1,5-dicarbopentaborane(5)–trimethylamine complex					
	SUB	(220–253)	49.7	236			[1972BUR/REI]
C ₂ H ₆ BCl ₂ N	[1113-31-1]	Dimethylaminodichloroborane					
	V		37.2 ± 1.3	298			[1951BUR/RAN, 1970COX/PIL]
C ₂ H ₆ BF ₂ N	[359-18-2]	Dimethylaminodifluoroborane					
	SUB	(308–353)	76.5	333			[1954BUR/BAN]
C ₂ H ₆ B ₄	[20693-67-8]	1,6-dicarbahexaborane					
	SUB	(190–209)	31.2	198	A		[1987STE/MAL]
	V	(241–287)	26.2	272			[1963SHA/KEI]
(C ₂ H ₆ O)-(BF ₃)	[353-42-4]	Dimethyl ether–boron trifluoride complex					
	V	(311–346)	53.1	328			[1960MCL/TAM]
C ₂ H ₆ ClBO ₂	[868-81-5]	Dimethoxychloroborane					
	V		34.3 ± 1.2	298			[1931WIB/SUT, 1970COX/PIL]
(C ₂ H ₆ S)-(BH ₃)	[13292-87-0]	Dimethyl sulfide – borane complex					
	V	(273–314)	44.9	293			[1999DYK/SVO]
C ₂ H ₇ B ₅	[20693-69-0]	2,4-dicarba-closo-heptaborane					
	V	(273–323)	31.6	288	I		[1976SHM/SHL]
(C ₂ H ₇ N)-(BH ₃)	[74-94-2]	Dimethylamine–borane complex					
	SUB	(273–308)	77.4 ± 2.9		ME		[1969KEI/KAN]
(C ₂ H ₇ N)-(C ₃ H ₉ BO ₃)	[122703-23-5]	Dimethylamine–trimethylborate complex					
	SUB		70.3				[1951GOU/LIN]
C ₂ H ₈ BSb	[60646-39-1]	Dimethylstibinoborine					
	V	(234–273)	32.1	254			[1959BUR/GRA]
C ₂ H ₁₀ BP	[4268-35-3]	Dimethylphosphine borine					
	V	(303–383)	45.1	318			[1953HER/MAR]
C ₂ H ₁₁ B ₂ N	[23273-02-1]	<i>N</i> -dimethylaminodiborane					
	FUS		1.41	218			[1955FUR/MCC]
	V	(220–267)	29.3	252			[1955FUR/MCC]
C ₂ H ₁₂ B ₁₀	[16872-09-6]	1,2-dicarbadodecaborane (<i>o</i> -carborane)					
	TRS	(5–310)	0.6	160			
	TRS	(5–310)	3.77	275	AC		[2003YAM/HAY]
	SUB	(283–333)	50.3	318	A		[1987STE/MAL]
	SUB	(333–423)	49.4	348	A		[1987STE/MAL]
	SUB		65.4 ± 1.0	298			[1982PIL/SKI, 1976MIR/PAV]
C ₂ H ₁₂ B ₁₀	[16986-24-6]	1,7-dicarbadodecaborane (<i>m</i> -carborane)					
	TRS	(5–310)	2.61	170			
	TRS	(5–310)	4.41	284	AC		[2003YAM/HAY]
	SUB	(283–333)	67.5	298	A		[1987STE/MAL]
	SUB	(333–423)	63.3	348	A		[1987STE/MAL]
	SUB		58.5 ± 1.0	298			[1982PIL/SKI, 1976MIR/PAV]
C ₂ H ₁₂ B ₁₀	[20644-12-6]	1,12-dicarbadodecaborane (<i>p</i> -carborane)					
	SUB		61.3 ± 1.0	298			[1982PIL/SKI, 1976MIR/PAV]
C ₂ H ₁₃ B ₅	[23753-61-9]	1-ethylpentaborane (9)					
	V	(273–383)	35.0	328			[1963RYS/HAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₃ BF ₉ S ₃	[36884-78-3]	tris(trifluoromethylthio)borane	(242–298)	33.9	270		[1999DYK/SVO]
	V						
C ₃ H ₅ BF ₂	[819-69-2]	(allyl)difluoroborane	(194–249)	28	221	T	[1960BRI/STO]
	V						
C ₃ H ₇ BF ₂	[691-36-1]	(propyl)difluoroborane	(195–248)	29.4	221	T	[1960BRI/STO]
	V						
(C ₃ H ₇ N)-(BH ₃)	[105795-87-7]	Azetidine–borane complex	(297–321)	67.9	309		[1956BUR/GOO]
	SUB						
C ₃ H ₉ BO ₃	[121-43-7]	Trimethylborate	(304–340)	34.2	319		[1967CHR/SHI]
	V						
C ₃ H ₉ B	[593-90-8]	Trimethylborane		3.25	113.2		[1996DOM/HEA, 1954FUR/PAR]
	FUS						
	V		20.2 ± 0.1				[1961JOH/KIL, 1961SCO/MES]
	V		23.9			BG	[1946BAM/LEV]
(C ₃ H ₉ B)- (C ₂ H ₉ NSi)		Trimethylboron–silyldimethylamine complex					
	SUB		(243–268)	51.4	255		[1954SUJ/WIT]
(C ₃ H ₉ B)- (C ₇ H ₁₃ N)	[36578-88-8]	Trimethylboron–azabicyclo[2.2.2]octane complex					
	SUB		(273–388)	79.6			[1948BRO/SUJ]
C ₃ H ₉ BS	[19163-05-4]	Dimethyl(methylthio)borane	(227–304)	31.6	265		[1999DYK/SVO]
	V						
C ₃ H ₉ BS ₂	[19163-08-7]	Methylbis(methylthio)borane	(300–373)	44.7	315		[1999DYK/SVO]
	V						
C ₃ H ₉ BS ₃	[997-49-9]	tris(methylthio)borane					
	V		(325–462)	44.9	394		[1999DYK/SVO]
	V		(303–493)	51.6	398		[1967FIN/GAR2]
	V		(303–493)	54.0 ± 0.8	298		[1967FIN/GAR2]
C ₃ H ₉ B ₃ Cl ₃ N ₃	[703-86-6]	2,4,6-trichloro-1,3,5-trimethylborazine	(363–404)	57.9	383.5		[1987STE/MAL, 1950BUR/KUL]
	SUB						
C ₃ H ₉ B ₃ O ₃	[823-96-1]	Methylboric acid anhydride					
	V		(273–327)	37.4	288		[1940BUR]
(C ₃ H ₉ N)-(BF ₃)	[420-20-2]	Trimethylamine–boron trifluoride complex	(373–413)	68.9	393	A	[1987STE/MAL, 1943BUR3]
	SUB						
(C ₃ H ₉ N)-(B ₂ F ₄)	[3801-72-7]	Trimethylamine–diboron tetrafluoride (tetramer)	(366–399)	65.1	382		[1958FIN/SCH]
	SUB						
(C ₃ H ₉ N)-(BH ₃)	[75-22-9]	Trimethylamine–borane complex	(273–363)	56.9 ± 0.8		ME	[1959ALT/BRO]
	SUB						[1987STE/MAL, 1937BUR/SCH]
	SUB		(296–367)	57.0	311	A	
(C ₃ H ₉ N)- (CH ₆ O ₃ B)		Trimethylamine–methylborate adduct					
	SUB			44.0			[1956HOR/GOU]
(C ₃ H ₉ N)- (C ₃ H ₆ BCl ₂ N)		Trimethylamine–dimethylaminoboron dichloride complex					
	SUB		(293–342)	66.1 ± 1.7	317		[1952BRO/OST]
C ₃ H ₁₀ BN	[4023-40-9]	N-methylaminodimethylborane					
	SUB			56.9 ± 0.8	298		[1988GOL/SIT, 1966GOO/MAN]
C ₃ H ₁₂ BN	[75-22-9]	Borine trimethylamine					
	V		(136–195)	19.9	180		[1937BUR/SCH]
C ₃ H ₁₂ B ₁₀ O ₂	[18178-04-6]	<i>o</i> -carboranecarboxylic acid					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB			97.0 ± 1.7	298		[1982PIL/SKI, 1970GAL/MAR]
C ₃ H ₁₂ B ₁₀ O ₂	[18581-81-2]	<i>m</i> -carboranecarboxylic acid		97.7 ± 0.7	298		[1982PIL/SKI, 1970GAL/MAR]
C ₃ H ₁₂ B ₁₀ O ₂	[23087-98-1]	<i>p</i> -carboranecarboxylic acid		96.3 ± 0.7	298		[1982PIL/SKI, 1970GAL/MAR]
C ₃ H ₁₄ B ₁₀	[16872-10-9]	Methyl- <i>o</i> -carborane		63.8 ± 0.6	298		[1982PIL/SKI, 1976MIR/PAV]
C ₃ H ₁₄ B ₁₀ O	[19610-34-5]	Hydroxymethyl- <i>o</i> -carborane		77.0 ± 1.3	298		[1982PIL/SKI, 1976MIR/PAV]
C ₃ H ₁₄ B ₁₀ O	[53257-04-8]	Hydroxymethyl- <i>m</i> -carborane		78.3 ± 1.3	298		[1982PIL/SKI, 1976MIR/PAV]
C ₃ H ₁₄ B ₁₀ O	[35795-98-3]	Hydroxymethyl- <i>p</i> -carborane		83.9 ± 1.3	298		[1982PIL/SKI, 1976MIR/PAV]
C ₃ H ₁₅ B ₅	[37838-05-4]	1-isopropylpentaborane (9) (273–398)		37.2	335		[1963RYS/HAR]
C ₄ BClF ₆	[669-89-6]	bis(perfluorovinyl)chloroborine (280–322)		35.6	301	T	[1960STA/STO]
C ₄ H ₆ BCl	[10147-89-4]	Divinylchloroborane (275–298)		33.0	286	T	[1960BRI/STO]
C ₄ H ₆ BF	[1537-50-4]	Divinylfluoroborane (193–273)		25.8	233	T	[1960BRI/STO]
(C ₄ H ₁₀ O)-(BF ₃)	[109-63-7]	Diethyl ether – boron trifluoride complex (283–353)		55.1	318		[1960MCL/TAM]
C ₄ H ₁₀ BClO ₂	[20905-32-2]	Diethoxychloroborane		38.9 ± 0.8	298		[1931WIB/SUT, 1970COX/PIL]
C ₄ H ₁₀ BCl ₂ N	[868-30-4]	1,1-dichloro- <i>N,N</i> diethylboranamine		39.7			[1952OST/BRO]
C ₄ H ₁₁ BO ₂	[4426-47-5]	Dihydroxy- <i>n</i> -butylborane (303–340)		69.9 ± 0.8	321	BG	[1956MAT/ERI]
(C ₄ H ₁₁ N)- (C ₃ H ₉ B)	V	<i>N,N</i> -dimethylethylamine – trimethylborane complex (303–339)		58.2	321		[1960KAE/STO]
C ₄ H ₁₂ BClN ₂	[6562-41-0]	bis(dimethylamino)chloroborane		41.8 ± 2.1	298		[1951BUR/RAN, 1970COX/PIL]
C ₄ H ₁₂ B ₂ Br ₄ N ₂	[25928-66-9]	Dibromo(dimethylamino)borane dimer		87.4 ± 22.2		BG	[1983SPI/KOL]
C ₄ H ₁₂ B ₂ O ₄	[7318-94-7]	Tetramethoxydiboron		44.7			[1972FIN/GAR]
	V	(273–348)		44.0	310		[1960BRO/MCC]
(C ₄ H ₁₂ GeO)- (BF ₃)	SUB	Trimethylmethoxygermane – boron trifluoride complex (289–306)		59.5	297	SG	[1961GRI/ONY]
C ₄ H ₁₃ BN ₂	[2386-98-3]	bis(dimethylamino)borane (288–336)		32.3	312		[1948WIB/BOL]
C ₄ H ₁₆ B ₁₀	[17032-21-2]	Dimethyl- <i>o</i> -carborane		65.3 ± 0.7	298		[1982PIL/SKI, 1976MIR/PAV]
C ₄ H ₁₇ B ₅	V	1- <i>sec</i> -butylpentaborane (9) (299–428)		41.4	364		[1963RYS/HAR]
C ₄ H ₁₈ B ₄ N ₂		1,4-piperazinediyl bis(diborane(6))					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB	(318–346)	63.9	332			[1968BUR/IAC]
$(C_5H_5N)\text{-}(BBr}_3$	[3022-54-6]	Boron tribromide–pyridine complex					
	SUB	(523–602)	65.8 ± 0.2			T	[1989GRI/KON]
	SUB		105.5 ± 1.1	393		C	[1989GRI/KON]
$(C_5H_{10}O)\text{-}(BF}_3$	[407-77-2]	Tetrahydropyran – boron trifluoride complex	(323–368)	60.9	345		[1960MCL/TAM2]
$(C_5H_{11}N)\text{-}(BCl}_3$	[592-39-2]	Piperidine–boron trichloride complex					
	SUB		76.1			GS	[1960GRE/WAD]
$(C_5H_{11}N)\text{-}(BH}_3$	[4856-94-4]	Piperidine–borane complex	(342–380)	87.8	361		[1956BUR/GOO]
	SUB						
$C_5H_{16}B_{10}$	V	Isopropenyl- <i>o</i> -carborane	(323–473)	36.7	398		[1963FEI/BOB]
$C_5H_{16}B_{10}O_2$	[19528-60-0]	1-acetoxymethyl- <i>o</i> -carborane		56.5	569		[1974DIT/SKO4]
$C_5H_{19}B_5$	[92400-68-5]	1-methyl-2- <i>sec</i> -butylpentaborane	(301–423)	41.0	362		[1963RYS/HAR]
$C_5H_{21}B_3N_2S$	[37956-18-6]	1,2,3,3,4,4,5,5,6,6-decahydro-1,3,3,5,5-pentamethyl-2 <i>H</i> -1,3,5,2,4,6-thiadiazatriborine		57.7			[1972BUR]
C_6BF_9	[815-70-3]	tris(perfluorovinyl)borine	(297–335)	41.1	316	T	[1960STA/STO]
$C_6H_5BBr_2$	[4151-77-3]	Phenylboron dibromide	(391–433)	43.9 ± 2.1	412	T	[1967FIN/GAR]
$C_6H_5BCl_2$	[873-51-8]	Phenylboron dichloride	(273–318)	33.7 ± 0.8	296	T	[1967FIN/GAR]
$C_6H_{10}B_2N_4$	[16998-91-7]	Pyrazabole		11.83	354.3	DSC	[1993DOM/SER]
$C_6H_{12}BCl_3O_3$	[22238-19-3]	tris(2-chloroethyl) orthoborate					
	V	(312–363)	52.8	337			[1951MAR/MAK]
	V	(390–448)	57.7	419			[1946JON/THO]
$C_6H_{12}BNO_3$	[283-56-7]	2,8,9-trioxa-5-aza-1-boratricyclo[3.3.3.0 ^{1,5}]undecane					
	TRS		3.67	466.7			
	FUS		7.10	499.4		DSC	[1984WEI/LEF]
	TRS	(320–525)	4.77	466.5			
	FUS	(320–525)	24.10	511.9		AC	[1964CLE/WON]
$C_6H_{13}BO_2$	SUB		111.9 ± 0.9	418		C	[1984VOR/MIR]
	[10173-39-4]	1-butaneboronic acid, cyclic ethylene ester					
	V		40.2	329			[1970FIN/GAR]
$C_6H_{15}B$	[97-94-9]	Triethylborane					
	FUS	(12–322)	11.52	180.2			[1996DOM/HEA, 1977KOS/SAM]
	FUS		11.85	180.3			[1996DOM/HEA, 1955FUR]
	V		33.6	293			[1983HOU2]
	V		36.8 ± 0.4				[1963POP/SKI, 1982PIL/SKI]
$C_6H_{15}BO_3$	[150-46-9]	Triethylborate					
	V	(302–382)	41.0	317			[1967CHR/SHI]
	V	(302–382)	38.2	391			[1967CHR/SHI]
$C_6H_{15}BS_3$	[998-26-5]	Triethylthioborane		61.5 ± 2.1			[1966FIN/GAR, 1970COX/PIL]
$C_6H_{15}B_3O_3$	[3043-60-5]	Triethylboroxin	(347–424)	46.0	362	EB	[1990SPR/GRE]
$C_6H_{16}BN$		(<i>N</i> -ethylamino)diethylborane					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V			60.7 ± 0.8			[1967SMI/GOO, 1982PIL/SKI]
C ₆ H ₁₇ B ₅ Br ₂ Si ₂	[66798-29-6]	2,4-bis(bromodimethylsilyl)-2,4-dicarbo-closo-heptaborane (7) (388–463)	53.1	403	I	[1979GOL/SHM]	
C ₆ H ₁₇ B ₅ Cl ₂ Si ₂	[28699-83-4]	2,4-bis(chlorodimethylsilyl)-2,4-dicarbo-closo-heptaborane (7) (359–439)	46.2	374	I	[1979GOL/SHM]	
C ₆ H ₁₈ BN	[1722-26-5]	Triethylaminoborane					
	V			69.7 ± 0.8			[1967SMI/GOO, 1970COX/PIL]
C ₆ H ₁₈ BN ₃	[4254-92-6]	tris(triethylamino)borane					[1951BUR/RAN, 1970COX/PIL]
C ₆ H ₁₉ B ₅ Si ₂	[59351-11-0]	2,4-bis(dimethylsilyl)-2,4-dicarba-closo-heptaborane (373–453)	41.3	388	I	[1976SHM/SHL]	
C ₆ H ₂₀ B ₂ N ₂	[14102-49-9]	Dimethylaminomethyl borane cyclic dimer (311–357)	57.8	314		[1966MIL/MUR]	
C ₆ H ₂₀ B ₁₀	[23835-38-3]	1-butyl- <i>o</i> -carbaborane (12)					
	V	(433–534)	77.3 ± 3.8	298	EB	[1980SHU/VAR]	
	V	(433–534)	50.6 ± 1.3	571	EB	[1980SHU/VAR]	
C ₆ H ₂₀ B ₁₀	[51952-46-6]	1-isobutyl- <i>o</i> -carbaborane (12)					
	V	(427–536)	72.8 ± 2.1	298	EB	[1980SHU/VAR]	
	V	(427–536)	49.1 ± 0.9	564	EB	[1980SHU/VAR]	
C ₆ H ₂₀ B ₁₀	[70312-25-3]	1-butyl- <i>m</i> -carbaborane (12)					
	V	(406–527)	67.7 ± 0.8	298	EB	[1980SHU/VAR]	
	V	(406–527)	46.7 ± 0.6	537	EB	[1980SHU/VAR]	
C ₆ H ₂₀ B ₁₀		1-isobutyl- <i>m</i> -carbaborane (12)					
	V	(400–488)	64.1 ± 2.8	298	EB	[1980SHU/VAR]	
	V	(400–488)	44.6 ± 1.3	532	EB	[1980SHU/VAR]	
C ₇ H ₇ BCl ₂	[4250-45-7]	<i>p</i> -tolyldichloroborane					
	FUS		4.39	301			[1973FIN/GAR]
(C ₇ H ₉ N)-(BH ₃)		2,6-dimethylpyridine–borane complex					
	SUB	(358–378)	83.8	368	T	[1956BRO/DOM]	
C ₇ H ₁₄ BNO ₃	[283-62-5]	2,9,10-trioxa-5-aza-1-boratricyclo[4.3.3.0 ^{1,6}]dodecane					
	SUB	105.2 ± 0.6	390	C	[1984VOR/MIR]		
C ₇ H ₁₅ BO ₂	[30169-71-2]	1-butaneboronic acid, cyclic trimethylene ester					
	V	43.1	348				[1970FIN/GAR]
C ₇ H ₁₅ B ₃ F ₃ N ₃	[20453-68-3]	1,2,3,4,5-pentamethyl-6-(trifluorovinyl)borazaine					
	V	(280–324)	18.4	302			[1999DYK/SVO]
C ₇ H ₂₂ B ₁₀	[75482-33-6]	1-pentyl- <i>o</i> -carbaborane (12)					
	V	(446–549)	84.3 ± 6.0	298	EB	[1980SHU/VAR]	
	V	(446–549)	52.0 ± 1.5	571	EB	[1980SHU/VAR]	
C ₇ H ₂₂ B ₁₀	[75482-35-8]	1-pentyl- <i>m</i> -carbaborane (12)					
	V	(421–544)	74.6 ± 2.4	298	EB	[1980SHU/VAR]	
	V	(421–544)	48.6 ± 0.8	555	EB	[1980SHU/VAR]	
C ₈ H ₁₂ B ₂ Cl ₆ O ₅		1,3-diethyl-1,3-bis(trichloroacetoxy)-1,3-diboroxane					
	FUS	24.22	327.2	DSC	[1995DAB/DOM]		
C ₈ H ₁₆ BNO ₃	[283-64-7]	2,10,11-trioxa-5-aza-1-boratricyclo[4.4.3.0 ^{1,6}]tridecane					
	SUB	102.2 ± 1.0	390	C	[1984VOR/MIR]		
C ₈ H ₁₆ B ₂ O ₅	[111849-46-8]	1,3-diacetoxyl-1,3-diethyl-1,3-diboroxane					
	FUS	21.6	377.2	DSC	[1995DAB/DOM]		
C ₈ H ₁₇ BO ₂	[31044-62-9]	1-butaneboronic acid, cyclic tetramethylene ester					
	V	76.6	364				[1970FIN/GAR]
C ₈ H ₁₈ BBr	[5674-70-4]	Dibutylboron bromide					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(293–363)	50.6	328			[1953SKI/TEE]
C ₈ H ₁₈ BCl	[1730-69-4]	Dibutylboron chloride					
	V	(293–363)	48.2	328			[1953SKI/TEE]
C ₈ H ₁₈ BNO ₃	[283-65-8]	2,10,11-trioxa-5-aza-1-boratricyclo[4.4.4.0 ^{1,6}]tetradecane					
	SUB		97.9 ± 1.0	418	C		[1984VOR/MIR]
C ₈ H ₁₈ B ₁₀ O ₃	[146959-04-8]	1,2-dicarbadodecaborane(12)-1-carboperoxoic acid 11-dimethyl-2-propynyl ester					
	FUS		16	374			[1999DIB/PIS2]
	SUB	(329–343)	120.7 ± 7.4		ME		[1999DIB/PIS]
C ₈ H ₁₈ B ₁₀ O ₃	[146959-05-9]	1,7-dicarbadodecaborane(12)-1-carboperoxoic acid 1,1-dimethyl-2-propynyl ester					
	FUS		29.4	360			[1999DIB/PIS2]
	SUB	(317–334)	80.1 ± 6.1		ME		[1999DIB/PIS]
C ₈ H ₁₉ BO ₂	[10394-51-1]	1-butaneboronic acid, diethyl ester					
	V		43.3	346			[1970FIN/GAR]
C ₈ H ₂₀ B ₂ O	[7318-84-5]	Tetraethyl diboroxane					
	V	(343–421)	42.9	358	EB		[1990SPR/GRE]
C ₈ H ₂₀ B ₂ O ₄	[1630-81-5]	Tetraethoxydiboron					
	V	(273–358)	52.9	315			[1960BRO/MCC]
C ₈ H ₂₄ B ₂ N ₄	[1630-79-1]	Tetra(dimethylamino)diboron					
	V	(296–408)	52.7	352			[1960BRO/MCC2]
C ₈ H ₂₄ B ₁₀	[20740-05-0]	1-hexyl- <i>o</i> -carbaborane (12)					
	V		86.2 ± 1.4	298			[1982PIL/SKI, 1978GAL/PAV]
	V	(458–530)	93.5 ± 6.0	298	EB		[1980SHU/VAR]
	V	(458–530)	54.1 ± 2.1	601	EB		[1980SHU/VAR]
C ₈ H ₂₄ B ₁₀	[75482-36-9]	1-hexyl- <i>m</i> -carbaborane (12)					
	V	(434–544)	79.8 ± 2.4	298	EB		[1980SHU/VAR]
	V	(434–544)	50.7 ± 1.0	572	EB		[1980SHU/VAR]
C ₈ H ₂₃ B ₅ Si ₂	[59351-10-9]	2,4-bis(trimethylsilyl)-2,4-dicarba-closo-heptaborane					
	V	(373–473)	45.0	388	I		[1976SHM/SHL]
C ₉ H ₁₁ BO ₂	[4406-77-3]	Benzeneboronic acid, cyclic trimethylene ester					
	V		47.3	426			[1970FIN/GAR]
C ₉ H ₁₅ BCl ₆ O ₃		tris(2,2'-dichloroisopropyl) orthoborate					
	V	(488–513)	77.0	465			[1946JON/THO]
C ₉ H ₂₁ B	[1116-61-6]	Tripropylborane					
	V		41.8 ± 1.3				[1963GAL/VAR, 1982PIL/SKI]
	V	(273–393)	40.0		BG		[1946BAM/LEV]
C ₉ H ₂₁ B	[1776-66-5]	Triisopropylborane					
	V		41.8 ± 1.3				[1963GAL/VAR, 1982PIL/SKI]
	V	(273–393)	40.0		BG		[1946BAM/LEV]
C ₉ H ₂₁ BO ₃	[688-71-1]	Tripropylborate					
	V	(340–453)	52.3	355			[1980THO/SMI]
	V	(358–452)	47.6	452			[1967CHR/SHI]
C ₉ H ₂₁ BO ₃	[5419-55-6]	Triisopropylborate					
	V	(338–412)	42.4	412			[1967CHR/SHI]
C ₉ H ₂₁ BS ₃	[998-38-9]	Tri(propylthio)borane					
	V	(423–483)	76.2	453			[1967FIN/GAR2]
	V	(423–483)	87.0 ± 2.1	298			[1967FIN/GAR2]
C ₉ H ₂₂ BNO		Butyl(dimethylamino)methoxyborane					
	V	(369–427)	48.1	384	EB		[1973GAL/BRY]
	V	(369–427)	58.2 ± 2.5	298	EB		[1973GAL/BRY]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₀ H ₁₃ BO ₂	[4406-76-2]	Benzeneboronic acid, cyclic tetramethylene ester	V		57.3	441		[1970FIN/GAR]
C ₁₀ H ₁₅ BO ₂	[31044-59-4]	Benzeneboronic acid, diethyl ester	V		67.4	332		[1970FIN/GAR]
C ₁₁ H ₂₄ B ₁₀ O ₃		3-methyl-3-(7-isopropyl- <i>m</i> -carboranoylperoxy)-1-butyne	V	(353–368)	140.6 ± 4.4	360	ME	[1999DIB/PIS2]
C ₁₁ H ₂₄ B ₁₀ O ₃	[146959-06-0]	1,2-dicarbadodecaborane(12)-1-carboperoxoic acid 2-(1-methylethyl)-1,1-dimethyl-2-propynyl ester	SUB	(345–362)	125.1 ± 7.0		ME	[1999DIB/PIS]
C ₁₁ H ₂₄ B ₁₀ O ₃		1,7-dicarbadodecaborane(12)-1-carboperoxoic acid, 7-(1-methylethyl)-1,1-dimethyl-2-propynyl ester	FUS		32.4	368		[1999DIB/PIS2]
C ₁₂ H ₁₀ BBr	[5123-17-1]	Diphenylboron bromide	V	(436–516)	60.2 ± 2.5	476	T	[1967FIN/GAR]
C ₁₂ H ₁₀ BCl	[3677-81-4]	Diphenylboron chloride	V	(363–485)	41.4 ± 2.1	424	T	[1967FIN/GAR]
C ₁₂ H ₂₁ B	[16664-33-8]	Dodecahydro-9-boraphenalene	V	(304–404)	53.1	319	A	[1987STE/MAL]
			V	(294–404)	50.3	349		[1960GRE/MOR]
C ₁₂ H ₂₇ B	[122-56-5]	Tributylboron	V	(293–363)	54.7	328		[1953SKI/TEE]
C ₁₂ H ₂₇ BO ₃	[688-74-4]	Tributylborate	V	(380–504)	58.1	395		[1980THO/SMI]
			V	(390–491)	55.9	405		[1967CHR/SII]
C ₁₂ H ₂₇ BO ₃	[13195-76-1]	Triisobutylborate	V	(372–472)	51.7	483		[1967CHR/SII]
C ₁₂ H ₂₇ BS ₃	[998-46-9]	Tri(butylthio)borane	V	(440–503)	83.9	471		[1967FIN/GAR2]
			V	(440–503)	95.8 ± 2.1	298		[1967FIN/GAR2]
C ₁₂ H ₃₀ B ₈	[223268-31-3]	1,10-dipentyl-1,10-dicarbadecaborane	FUS		14.7	269.7		[1999DOU/BOT]
C ₁₄ H ₂₆ B ₂ N ₄	[14695-69-3]	4,4,8,8-tetraethylpyrazabole	TRS		28.61	342.4		
			FUS		3.22	379.2	DSC	[1993DOM/SER]
C ₁₅ H ₃₂ B ₁₀ O ₅	[141695-58-1]	2,5-dimethyl-(2- <i>tert</i> -butylperoxy-5- <i>m</i> -carboranoylperoxy)-3-hexyne	V	(353–366)	86.8 ± 5.4	360	ME	[1999DIB/PIS2]
C ₁₅ H ₃₃ BO ₃	[621-78-3]	Tripentylborate	V	(410–505)	67.7	425		[1980THO/SMI]
C ₁₅ H ₃₃ BS ₃	[1116-74-1]	Tri(pentylthio)borane	V	(446–503)	92.3	474		[1967FIN/GAR2]
			V	(446–503)	104.6 ± 2.1	298		[1967FIN/GAR2]
C ₁₈ H ₁₂ BCl ₃ O ₃	[7359-58-2]	tris(4-chlorophenoxy)borane	V	(428–476)	30.6 ± 0.9	452	MM	[1973WIL/FEN]
C ₁₈ H ₁₂ BCl ₃ O ₃	[42080-72-8]	tris(3-chlorophenoxy)borane	V	(476–524)	49.6 ± 1.6	500	MM	[1973WIL/FEN]
C ₁₈ H ₁₅ B	[960-71-4]	Triphenylborane	SUB		103.8 ± 2.5	360	TE,ME	[1984GOV/KAN2]
			SUB		92.1 ± 2.5	298		[1978STE3]
			SUB		81.6 ± 2.1			[1982PIL/SKI, 1967FIN/GAR]
			V	(423–568)	64.3	438	A	[1987STE/MAL]
			V	(423–548)	64.4 ± 2.1	486		[1967FIN/GAR]
C ₁₈ H ₃₃ B	[1088-01-3]	Tricyclohexylboron						

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB				81.6 ± 4.2	298		[1982PIL/SKI, 1967FIN/GAR]
C ₁₈ H ₃₄ B ₂ N ₄	[77189-78-7]	4,4,8,8-tetrapropylpyrazabole	FUS		33.0	382.2	DSC	[1993DOM/SER]
C ₂₁ H ₁₂ BN ₃ O ₃	[42080-77-3]	tris(4-cyanophenoxy)borane	V	(448–506)	46.2 ± 2.0	477	MM	[1973WIL/FEN]
C ₂₁ H ₂₁ BO ₃	[14643-62-0]	tris(4-methylphenoxy)borane	V	(475–525)	76.1 ± 1.7	500	MM	[1973WIL/FEN]
C ₂₁ H ₂₁ BO ₃	[14750-98-2]	tris(3-methylphenoxy)borane	V	(477–523)	77.1 ± 2.2	500	MM	[1973WIL/FEN]
C ₂₁ H ₂₁ BO ₆	[42080-76-2]	tris(3-methoxyphenoxy)borane	V	(440–496)	57.8 ± 2.4	468	MM	[1973WIL/FEN]
C ₂₁ H ₂₁ BO ₆	[42080-75-1]	tris(4-methoxyphenoxy)borane	V	(448–500)	42.4 ± 2.7	474	MM	[1973WIL/FEN]
C ₂₃ H ₂₄ BNO ₂	[345342-83-8]	4-benzyl-5,6-dimethyl-2,5-diphenyl-1,3-dioxa-4-aza-2-boracyclohexane	FUS		13	408.2	DSC	[2001KLI/LUB]
C ₂₉ H ₂₆ BCl ₂ NO ₂	[345342-96-3]	4-benzhydryl-2,5-di(4'-chlorophenyl)-4,5-dimethyl-1,3-dioxa-4-aza-2-boracyclohexane	FUS		23.96	453.2	DSC	[2001KLI/LUB]
[Note: The sample may have experienced partial decomposition as the authors report a mass decrease at melting.]								
C ₂₉ H ₂₈ BNO ₂	[345342-93-0]	4-benzhydryl-5,6-dimethyl-2,5-diphenyl-1,3-dioxa-4-aza-2-boracyclohexane	FUS		28.43	431.2	DSC	[2001KLI/LUB]
C ₃₁ H ₃₂ BNO ₂	[345342-82-7]	4-benzhydryl-5,6-dimethyl-2,5-di(4'-methylphenyl)-1,3-dioxa-4-aza-2-boracyclohexane	FUS		32.48	453.2	DSC	[2001KLI/LUB]
C ₃₃ H ₃₀ BNO ₂	[345342-99-6]	4-benzhydryl-5,6-dimethyl-2-(1'-naphthyl)-5-phenyl-1,3-dioxa-4-aza-2-boracyclohexane	FUS		25.48	454.2	DSC	[2001KLI/LUB]
BBr ₃	[10294-33-4]	Boron tribromide	V	(273–363)	34.3	298		[1959BAR/BOY]
	V				32.9			[1951NIS/PET]
BH ₃ O ₃	[10043-35-3]	Boric acid	SUB	(326–363)	174.1 ± 4.7	345	GS	[2007PAN/ANT]
BH ₆ N	[13774-81-7]	Ammonia borane	SUB		76.3 ± 3.0	357	C	[2014BUT/KON, 2015KON/BUT]
	SUB				77.2 ± 3.1	298	C	[2015KON/BUT]
B ₂ ClH ₅	[17927-57-0]	Chlorodiborane	V	(175–251)	22.7	213		[1963MYE/PUT]
B ₂ D ₆	[20396-66-1]	Perdeuterodiborane	V	(118–179)	15.3	164		[1961DIT/PER]
B ₂ F ₄	[13965-73-6]	Diboron tetrafluoride	SUB	(178–209.5)	35.5	193		[1958FIN/SCH]
B ₂ H ₆	[19287-45-7]	Diborane	V	(118–179)	15.3	164		[1961DIT/PER]
	V				14.2	180	C	[1959PAR/MAC]
	V				12.6	210	C	[1959PAR/MAC]
	V				10.5	240	C	[1959PAR/MAC]
	V				7.3	270	C	[1959PAR/MAC]
B ₃ Br ₃ H ₃ N ₃	[13703-88-3]	2,4,6-tribromoborazine	SUB	(347–405)	71.9 ± 3.5	376		[2012KAZ/TIM]
	SUB			(342–395)	86.2 ± 0.4	368	I	[1966LAU/SCA]
	V			(411–450)	47.9 ± 4.0	431		[2012KAZ/TIM]
	V			(404–415)	47.0 ± 5.1	409	I	[1966LAU/SCA]
B ₃ Cl ₃ H ₃ N ₃	[933-18-6]	2,4,6-trichloroborazine						

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{B}_3\text{F}_3\text{H}_3\text{N}_3$	[13779-24-3]	SUB	(303–353)	70.5 ± 0.4		I	[1966LAU/SCA]
		SUB	(313–357)	71.1			[1955BRO/LAU]
$\text{B}_3\text{H}_6\text{N}_3$	[6569-51-3]	V	(363–409)	49.6 ± 0.2	386	I	[1966LAU/SCA]
		V	(360–386)	47.8	373		[1955BRO/LAU]
$\text{B}_3\text{H}_{12}\text{N}_3$	[13871-09-5]	2,4,6-trifluoroborazine					
		SUB	(273–454)	63.1 ± 0.1		I	[1966LAU/SCA]
$\text{C}_3\text{H}_6\text{N}_3$	[6569-51-3]	Borazaole					
		FUS	(13–310)	10.61	215.8	AC	[1992KUL/LEB, 1991LEB/KUL]
$\text{C}_3\text{H}_{12}\text{N}_3$	[13871-09-5]	Hexahydroborazine					
		SUB	(321–349)	104.6 ± 12.6		ME	[1969LEA/LON, 1971LEA]
$(\text{NH}_3)\text{-}(\text{B}_3\text{H}_7)$	[57808-44-3]	Ammonia-triborane complex					
		SUB	(306–328)	71.5 ± 0.4		ME	[1959ALT/BRO]
		SUB	(304–327)	71.5			[1959WES/LEV]
Ba							
$(\text{C}_{10}\text{H}_2\text{BaF}_{12}\text{O}_4)\text{-}(\text{C}_{12}\text{H}_{24}\text{O}_6)$	[143737-48-8]	bis(1,1,1,5,5-hexafluoro-2,4-pentanedionato)barium(II)-18-crown-6 complex					
		SUB	(412–468)	104.9 ± 1.3	440		[1995TOB/WAT]
		SUB	(428–473)	115 ± 2	450	T	[1993SYO/GOL]
$\text{C}_{12}\text{H}_2\text{BaF}_{16}\text{O}_4$	[145524-87-4]	bis(1,1,1,5,5,6,6,6-octafluoro-2,4-hexanedionato)barium					
	FUS			21.76	507.0	DSC	[1993SAT/SUG]
$\text{C}_{14}\text{H}_2\text{BaF}_{20}\text{O}_4$	[145524-88-5]	bis(1,1,1,5,5,6,6,7,7,7-decafluoro-2,4-heptanedionato)barium					
	FUS			39.75	502.3	TGA,DTA	[1993SAT/SUG]
$\text{C}_{22}\text{H}_{38}\text{BaO}_4$	[155138-07-1]	bis(2,2,6,6-tetramethylheptan-3,5-dionato)barium(II)					
	SUB			NA			[1994ALI/MAL]
	SUB			90.2			[1993TOB/LAN]
$\text{C}_{34}\text{H}_{42}\text{BaCuF}_{24}\text{O}_8$	[160364-35-2]	tetrakis(hexafluoroisopropoxy)bis(2,2,6,6-tetramethylheptan-3,5-dionato)barium(II)dicopper(II)					
	SUB		(383–448)	102.7	416		[1996LAB/HUB]
$\text{C}_{56}\text{H}_{80}\text{BaF}_{24}\text{O}_{12}\text{Y}_2$	[160669-81-8]	tetrakis(hexafluoroisopropoxy)tetrakis(2,2,6,6-tetramethylheptan-3,5-dionato)barium(II)dyttrium(III)					
	SUB		(360–403)	84.8	382		[1996LAB/HUB]
Be							
$\text{C}_2\text{H}_6\text{Be}$	[506-63-8]	Dimethyl beryllium					
	V		(373–453)	88.7	388		[1952COA/GLO]
$\text{C}_{10}\text{H}_2\text{BeF}_{12}\text{O}_4$	[19648-82-9]	bis(1,1,1,5,5-hexafluoro-2,4-pentanedionato)beryllium(II)					
	SUB		(289–349)	66.1	319	BG	[1987GRI/LAZ2]
$\text{C}_{10}\text{H}_8\text{BeF}_6\text{O}_4$	[13939-10-1]	bis(1,1,1-trifluoro-2,4-pentanedionato)beryllium(II)					
		SUB	(354–383)	85.3 ± 6.3	368	BG	[1987GRI/LAZ2, 1988LAZ/GRE]
		SUB		88.0 ± 6.5	298		[1987GRI/LAZ2]
		SUB		U30.5			[1960BER/TRU, 1965BER/TRU]
		V	(387–474)	59.8 ± 0.4	431	BG	[1988LAZ/GRE]
$\text{C}_{10}\text{H}_{14}\text{BeO}_4$	[10210-64-7]	bis(2,4-pentanedionato)beryllium(II)					
		FUS		15.7	381.2	DSC	[1983MUR/HIL]
		SUB		95.3 \pm 2.0			[1988RIB/PIL]
		SUB		94 \pm 1.0	298	ME	[1977NAG, 1988RIB/FER4]
		SUB		82.3		BG	[1988LAZ/GRE]
		SUB		91 \pm 1.4	298	C	[1985MUR/SAK]
		SUB		85.3 \pm 3.5		DSC	[1983MUR/HIL]
		SUB		U35.6			[1960BER/TRU, 1965BER/TRU]
		V	(382–511)	65.7 ± 1.1	447	BG	[1988LAZ/GRE]
$\text{C}_{12}\text{H}_{18}\text{Be}_4\text{O}_{13}$	[19049-40-2]	hexakis(aceto)-oxotetraberyllium					
	SUB		(390–451)	115.3	420.5	A	[1987STE/MAL]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{20}\text{H}_{12}\text{BeF}_6\text{O}_4$	SUB (monoclinic)			115.3			[1959SEM/GOR]
		SUB (I)	(394–422)	132.6	408		[1955MOM/SEK]
	SUB (II)		(426–446)	113.4	436		[1955MOM/SEK]
$\text{C}_{20}\text{H}_{12}\text{BeF}_6\text{O}_4$	[14052-07-4]	bis(1-phenyl-4,4,4-trifluoro-1,3-butanedionato)beryllium(II)			I		[1960BER/TRU, 1965BER/TRU]
$\text{C}_{20}\text{H}_{18}\text{BeO}_4$	SUB			U35.8			
	SUB		(416–438)	151.6 ± 1.8	427	TE,ME	[1995RIB/MON2]
	SUB			158.0 ± 1.8	298		[1995RIB/MON2]
$\text{C}_{22}\text{H}_{38}\text{BeO}_4$	SUB			142.3 ± 1.4	298	C	[1983RIB/REI]
	SUB	bis(2,2,6,6-tetramethylheptane-3,5-dionato)beryllium		84.2		BG	[1988LAZ/GRE]
	V		(383–525)	65.1	454	BG	[1988LAZ/GRE]
BeF_2	[7787-49-7]	beryllium fluoride					
	SUB		(713–795)	236.4 ± 2.9	750	TE	[1965BLA/GRE]
	SUB			231.8 ± 1.7	755	MS.	[1965BLA/GRE]
	V		(823–1223)	222.8	923	TE,ME,GS	[1963GRE/FOS]
	V		(802–1021)	209.6	911		[1958SEN/STO]
	V		(821–1002)	196.6	911		[1958NOV/SEM]
	V		(745–968)	212.9	856	GS	[1954SEN/SNY]
Bi							
CH_5Bi	[60458-17-5]	Methylbismuth					
	V	(190–258)	29.9	224			[1961AMB]
$\text{C}_2\text{H}_7\text{Bi}$	[14381-45-4]	Dimethylbismuth					
	V	(206–250)	32.7	228			[1961AMB]
$\text{C}_3\text{H}_9\text{Bi}$	[593-91-9]	Trimethylbismuth					
	V	(258–313)	36.1 ± 0.1	298			[2013MOR/FUL]
	V	(215–380)	35.8	298			[1961AMB]
	V		34.8				[1955LON/SAC2]
	V		36.0 ± 1.3				[1954LON/SAC, 1982PIL/SKI]
	V		34.8		BG		[1946BAM/LEV]
$\text{C}_6\text{H}_9\text{Bi}$	[65313-35-1]	Trivinylbismuth					
	V	(293–346)	48.5	308			[1957MAI/SEY, 1984BOU/FRI]
$\text{C}_6\text{H}_{15}\text{Bi}$	[617-77-6]	Triethylbismuth					
	FUS		8.7	145.8			[1989NIS/RAB]
	V		46.0 ± 4.2				[1963LAU/TRO, 1982PIL/SKI]
	V	(301–343)	43.9	322			[1957MAI/SEY]
$\text{C}_{15}\text{H}_{30}\text{BiN}_3\text{S}_6$	[20673-31-8]	tris(<i>N,N</i> diethyldithiocarbamate)bismuth(III)					
	SUB		213 ± 3	298			[1994LIE/MAR]
$\text{C}_{18}\text{BiF}_{15}$	[34422-57-6]	tris(pentafluorophenyl)bismuthine					
	FUS		28.9	370.2	DSC		[2008ZEL/CHU]
$\text{C}_{18}\text{H}_{15}\text{Bi}$	[603-33-8]	Triphenylbismuth					
	SUB		110.9 ± 8.4	298			[1982PIL/SKI, 1979STE]
$\text{C}_{21}\text{H}_{21}\text{Bi}$	[10050-08-5]	tris(2-methylphenyl)bismuthine					
	V	(below 483)	120.0				[1999TAS/ISH]
$\text{C}_{21}\text{H}_{42}\text{BiN}_3\text{S}_6$	[57407-97-3]	tris(dipropylthiocarbamate)bismuth(III)					
	SUB		285.2 ± 5.0		DSC,E		[1999NEV/GOU]
$\text{C}_{27}\text{H}_{54}\text{BiN}_3\text{S}_6$	[34410-99-6]	tris(<i>N,N</i> dibutylthiocarbamate)bismuth(III)					
	SUB		202 ± 3	298			[1994LIE/MAR]
$\text{C}_{27}\text{H}_{54}\text{BiN}_3\text{S}_6$	[90285-80-6]	tris(<i>N,N</i> diisobutylthiocarbamate)bismuth(III)					
	SUB		147 ± 3	298	DSC,E		[1997DES/DES]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
BiCl ₃	[7878-60-2]	bismuth(III) chloride	SUB	(371–468)	124.7	420	ME	[1966CUB, 1959DAR/YOS]
			SUB	(371–468)	118.8 ± 0.4		ME	[1959DAR/YOS]
Br								
BrFO ₃	[25251-03-0]	Perbromyl fluoride	V	(188–291)	25.3	250		[1972JOH/OHA]
BrF ₃	[7787-71-5]	Bromine trifluoride	V	(311–428)	45.9	326		[1952OLI/GRI]
			V		42.5			[1933RUF/BRA]
BrF ₅	[7789-30-2]	Bromine pentafluoride	V	(297–314)	30.6	304		[1956ROG/SPE]
			V	(213–297)	31.2			[1931RUF/MEN]
BrN ₃ O ₆	[66794-51-2]	Bromine(III) nitrate	V		81.1	271		[1961SCH/TAG]
Br ₂	[7726-95-6]	Bromine	FUS	(15–310)	10.57	265.9	AC	[1958HIL/KRA]
			V	(343–383)	29.8	358		[1973BLA/IHL]
			V		30.9	298		[1958HIL/KRA]
			V	(297–389)	31.3	312		[1955FIS/BIN]
			SUB	(177–195)	44.7 ± 0.4	185		[1960FRE/GRE]
Br ₃ OP	[7789-59-5]	Phosphoryl bromide	V		45.6			[1942VAN]
HBr	[7726-95-6]	Hydrogen bromide	V		17.6	206	C	[1928GIA/WIE]
Ca								
C ₂₂ H ₃₈ CaO ₄	[951379-43-4]	bis(2,2,6,6-tetramethylheptan-3,5-dionato)calcium(II)	SUB		72	GS		[1990YUH/KIK]
Cd								
C ₂ H ₆ Cd	[506-82-1]	Dimethyl cadmium	TRS	(14–291)	1.52	254.4		
			FUS	(14–291)	7.84	270.5		[1956LI]
			SUB	(259–269)	47.8 ± 0.1	263		[2013MOR/FUL]
			V		37.9 ± 1.2	298	C	[2014GER/PAV]
			V	(271–316)	38.1 ± 0.1	298		[2013MOR/FUL]
			V	(271–378)	37.1 ± 0.1	324		[1985SOK/BAE, 2001BAE]
			V	(270–295)	38.9	282		[1956LI]
			V		37.9 ± 0.1			[1949CAR/HAR2, 1982PIL/SKI]
			V		35.4	BG		[1946BAM/LEV]
C ₄ H ₁₀ Cd	[592-02-9]	Diethyl cadmium	V	(286–362)	46.0 ± 0.4	324		[1985SOK/BAE, 2001BAE]
			V		46.0 ± 2.1			[1949CAR/HAR, 1982PIL/SKI]
C ₄ H ₁₆ CdCl ₂ N ₈ S ₄	[28813-21-0]	<i>trans</i> -dichloro-tetrakis(thiourea)cadmium(II)	SUB	(377–405)	75 ± 20			[1970ASH]
C ₆ H ₁₄ Cd	[5905-48-6]	Dipropyl cadmium	V	(312–373)	54.2 ± 0.4	342		[1985SOK/BAE, 2001BAE]
C ₈ H ₁₈ Cd	[3431-67-2]	Dibutyl cadmium	V	(336–376)	67.7 ± 1.2	356		[1985SOK/BAE, 2001BAE]
C ₁₀ H ₁₄ CdCl ₂ N ₆ O ₂		[Cadmium(1-methylcytosine) ₂ Cl ₂]	SUB	(483–503)	135.3 ± 20	493	ME	[1984BUR/MOR]
			SUB	(483–503)	145 ± 20	298	ME	[1984BUR/MOR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{10}\text{H}_{14}\text{CdO}_4$	[14689-45-3]	bis(2,4-pentanedionato)cadmium(II)					
	SUB	(438–448)	144.9 ± 22	443	ME	[1984BUR/MOR]	
	SUB	(438–448)	154 ± 22	298	ME	[1984BUR/MOR]	
$\text{C}_{10}\text{H}_{20}\text{CdN}_2\text{S}_4$	[14239-68-0]	bis(diethylthiocarbamate)cadmium(II)					
	SUB	(433–469)	133.2	451	A	[1987STE/MAL]	
$\text{C}_{14}\text{H}_{28}\text{CdN}_2\text{S}_4$	[55519-99-8]	bis(dipropylthiocarbamate)cadmium(II)					
	SUB		199 ± 1	298	DSC,E	[1992DEC/AIR]	
$\text{C}_{18}\text{H}_{12}\text{CdN}_2\text{O}_2$	[14245-29-5]	bis(8-hydroxyquinolinato)cadmium(II)					
	SUB		201.7 ± 7.5	298	ME	[1994RIB/MAT]	
	SUB	(438–448)	144.9 ± 22	443	ME	[1984BUR/MOR]	
	SUB	(438–448)	154 ± 22	298	ME	[1984BUR/MOR]	
$\text{C}_{18}\text{H}_{36}\text{CdN}_2\text{S}_4$	[14566-86-0]	bis(dibutylthiocarbamate)cadmium(II)					
	SUB		123 ± 3	298	DSC,E	[1991DES/DES]	
$\text{C}_{18}\text{H}_{36}\text{CdN}_2\text{S}_4$	[69090-75-1]	bis(diisobutylthiocarbamate)cadmium(II)					
	SUB		281 ± 2	298	DSC,E	[1994SOU/PIN]	
$\text{C}_{20}\text{H}_{16}\text{CdN}_2\text{O}_2$	[15685-78-6]	bis(8-hydroxy-2-methylquinolinate)cadmium(II)					
	SUB	(537–554)	190.9 ± 7.3	546	ME	[1998RIB/MAT3]	
	SUB	(537–554)	203.3 ± 7.3	298	ME	[1998RIB/MAT3]	
$\text{C}_{44}\text{H}_{28}\text{CdN}_4$	[14977-07-2]	5,10,15,20-tetraphenylporphine cadmium(II)			GS	[2000PER/GOL]	
	SUB		222 ± 6				
CdBr_2	[7789-42-6]	Cadmium bromide					
	SUB	(560–670)	142.3 ± 3.4	615	ME,MS	[1987SKU/DUD]	
	V	(841–998)	115.1	920	BP	[1958BLO/BOC]	
CdCl_2	[10108-64-2]	Cadmium chloride					
	SUB	(560–700)	166.5 ± 1.8	630	ME,MS	[1987SKU/DUD]	
	V	(875–1026)	132.6	950		[1958BLO/WEL]	
CdF_2	[7790-79-6]	Cadmium fluoride					
	SUB	(962–1149)	266.5 ± 5.7	1056	TE	[2008BRU/LEL]	
CdI_2	[7790-80-9]	Cadmium iodide					
	SUB	(460–590)	139.4 ± 1.7	525	ME,MS	[1987SKU/DUD]	
	V	(740–770)	110.9	755	TGA	[2011KOL/MIS]	
	V		115.2		GS	[1997MIS/BHA, 2011KOL/MIS]	
	V	(773–928)	115.1	850	BP	[1958BLO/BOC]	
Ce							
$\text{C}_{15}\text{H}_{15}\text{Ce}$	[1298-53-9]	tris(cyclopentadienyl)cerium					
	SUB	(528–653)	104.6 ± 2.1				[1973BOR/KRA]
CeBr_3	[14457-87-5]	Cerium(III) bromide					
	SUB	(887–1003)	300 ± 10	298	TE	[2000VIL/BRU]	
CeCl_3	[7790-86-5]	Cerium(III) chloride					
	SUB	(955–1070)	331 ± 5	298	TE	[2000VIL/BRU]	
CeI_3	[7790-87-6]	Cerium(III) iodide					
	SUB	(910–1031)	295 ± 10	298	TE	[2000VIL/BRU]	
			274.4 ± 1.6	877		[1991STR/FEU]	
	SUB	(870–1015)	284.5 ± 4.3	943	ME	[1975HIR/ROM]	
	SUB	(870–1015)	317.1 ± 4.3	298	ME	[1975HIR/ROM]	
Cf							
$(\text{C}_{15}\text{H}_3\text{CfF}_{18}\text{O}_6)_2(\text{C}_6\text{H}_{14}\text{OS})$	[123611-97-2]	tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)californium-249-dipropyl sulfoxide (1:2) complex					
	SUB	(402–434)	93.6 ± 6.0		GS,TRM	[1989AIZ/FED]	

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
(C ₁₅ H ₃ CfF ₁₈ O ₆)-2(C ₁₂ H ₂₇ OP)	[123628-36-4]	tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)californium-249-tributylphosphine oxide (1:2) complex	SUB	(431–485)	130.6 ± 1.9		GS,TRM	[1989AIZ/FED]
(C ₁₅ H ₃ CfF ₁₈ O ₆)-2(C ₁₂ H ₂₇ O ₄ P)	[123712-43-6]	tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)californium-249-tributylphosphate (1:2) complex	SUB	(413–451)	133.0 ± 6.1		GS,TRM	[1989AIZ/FED]
Cl								
ClFO ₂	[13637-83-7]	Chlorine oxyfluoride	V	(195–267)	25.9			[1942SCH/SCH]
ClFO ₃	[7616-94-6]	Perchloryl fluoride	FUS	(15–225)	3.83	125.4		[1958KOE/GIA]
			V	(164–228)	19.2	226	MM	[1958KOE/GIA]
			V		19.3	226	C	[1958KOE/GIA]
			V	(152–242)	19.3	226		[1957JAR]
			V	(161–229)	20.8	195		[1956ENG/ATZ]
			V		19.2			[1951BOD/KLE]
ClF ₃	[7790-91-2]	Chlorine trifluoride	TRS	(14–278)	1.51	190.5		
			FUS	(14–278)	7.61	196.8		[1951GRI/BER]
			V	(299–317)	27.5	313		[1997SAK/HOR]
			V	(226–303)	28.4	288		[1951GRI/BER]
ClF ₅	[13637-63-3]	Chlorine pentafluoride	V	(173–342)	24.1	208	QM	[1966GAT/KRI]
ClF ₅ OS	[22675-70-3]	Chloroxysulfur pentafluoride	V	(209–273)	25.3			[1969SCH/WIL]
CII	[7790-99-0]	Iodine chloride	FUS		11.6	300.5	C	[1965CAL/GIA]
CINO	[2696-92-6]	Nitrosyl chloride	FUS		6.0	213.6	S-V	[1952BUR/DAI]
			SUB	(176–209)	31.8	193	BG	[1952BUR/DAI]
			V	(219–266)	25.8	242	BG	[1952BUR/DAI]
			V	(203–258)	25.3	230	SG	[1949PAR/WHY]
			V	(212–268)	25.5	240		[1924TRA/GER]
			V	(205–288)	23.3	268		[1913BRI/PYL]
ClNO ₃	[14545-72-3]	Chlorine nitrate	V	(193–299)	28.9	246		[1967SCH]
			V		30.5			[1961SCH/BRA]
Cl ₂	[7782-50-5]	Chlorine	FUS		6.41	172.1	C	[1939GIA/POW]
			V		20.4	239	C	[1939GIA/POW]
Cl ₂ O ₆	[12442-63-6]	Dichlorine hexaoxide	SUB	(233–276)	51.5	255	BG	[1937GOO/RIC]
			V	(273–318)	52.3	295		[1990LOP/SIC]
			V	(276–293)	39.6	284	BG	[1937GOO/RIC]
Co								
HCl	[7647-01-0]	Hydrogen chloride	SUB	(121–133)	19.7	127		[1990SER/LAR]
			SUB	(134–150)	19.6	142		[1990SER/LAR]
			V		16.2	188	C	[1928GIA/WIE2]

[Note: The authors of [1990LOP/SIC] noted the disagreement between their Trouton's constant and that reported by [1937GOO/RIC].

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₃ CoNO ₄	[14096-82-3]	Cobalt nitrosyl tricarbonyl V	(272–353)	36.3	287		[1947STU]
C ₄ HCoO ₄	[16842-03-8]	Hydridocobalt tetracarbonyl V	(273–295)	28.0		GS	[1980ROT/ORC]
C ₄ H ₃ CoO ₄ Si	[14652-62-1]	Silyl tetracarbonyl cobalt V	(263–357)	37.8	310	T	[1969AYL/CAM]
C ₄ H ₁₆ Cl ₂ CoN ₈ S ₄	[22738-43-8]	<i>trans</i> -dichloro-tetrakis(thiourea)cobalt(II) SUB	(356–382)	129 ± 20			[1970ASH]
C ₇ H ₅ CoO ₂		(cyclopentadienyl) cobalt dicarbonyl V	(313–369)	52.1 ± 0.7			[2000SJT/BAE]
C ₈ Co ₂ O ₈	[10210-68-1]	Octacarbonyldicobalt SUB	(264–278)	84.3 ± 0.5	271	TE	[1995GAR/CHA]
		SUB	(288–315)	103.8	301.5	A	[1987STE/MAL, 1968BAE]
		SUB		65.2 ± 3.3	298		[1982PIL/SKI, 1975GAR/CAR]
		SUB	(207–287)	75.3 ± 6.3		EM	[1973CAR/ROB]
C ₈ H ₂ Co ₂ O ₈ Si	[23591-62-0]	Silylene bis(tetracarbonylcobalt) V	(297–335)	38.7	316	T	[1969AYL/CAM]
C ₈ H ₁₀ C ₁₂ CoN ₆ O ₂	[74543-51-4]	[Cobalt(cytosine) ₂ Cl ₂] SUB	(483–523)	151.8 ± 14	503	ME	[1984BUR/MOR]
		SUB	(483–523)	162 ± 14	298	ME	[1984BUR/MOR]
C ₉ CoMnO ₉	[35646-82-3]	Nonacarbonylcobaltmanganese SUB		85 ± 2	308	C	[1998ADD/CON]
		SUB		72 ± 2	298	C	[1998ADD/CON]
C ₉ CoO ₉ Re	[15039-80-2]	Nonacarbonylcobaltrhenium SUB		94 ± 4	313	C	[1998ADD/CON]
		SUB		83 ± 4	298	C	[1998ADD/CON]
C ₁₀ BrCo ₃ O ₉	[19439-14-6]	(bromomethylidyne)tricobaltenneacarbonyl SUB		99.6 ± 1.7	298		[1982PIL/SKI, 1975GAR/CAR]
C ₁₀ ClCo ₃ O ₉	[13682-02-5]	(chloromethylidyne)tricobaltenneacarbonyl SUB		117.6 ± 2.5	298		[1982PIL/SKI, 1975GAR/CAR]
C ₁₀ H ₈ Cl ₄ CoN ₂	[14361-73-0]	[cobalt(2-chloropyridine) ₂ Cl ₂] SUB	(345–365)	101.2 ± 6.7	355	DSC	[1982MOR]
C ₁₀ H ₈ Cl ₄ CoN ₂	[14361-78-5]	[cobalt(3-chloropyridine) ₂ Cl ₂] SUB	(345–365)	77.0 ± 4.2	355	DSC	[1982MOR]
C ₁₀ H ₁₀ Co	[1277-43-6]	Dicyclopentadienyl cobalt (cobaltocene) SUB		17.8	450.5	DSC	[2011VIE/ROJ]
		SUB	(353–413)	70.6 ± 0.9	298	TGA	[2011VIE/ROJ]
		SUB	(297–324)	72.1 ± 0.1		ME	[1988TOR/BAR2, 2011VIE/ROJ]
		SUB	(297–324)	72.3 ± 0.1		ME	[1988TOR/BAR2, 2011VIE/ROJ]
		SUB		70.3 ± 4.2	298		[1982PIL/SKI, 1975TEL/KIR]
C ₁₀ H ₁₄ CoO ₄	[14024-48-7]	bis(2,4-pentanedionato)cobalt(II) SUB	(433–463)	149		TGA	[2000FAH/BAR]
		SUB	(322–371)	130.1 ± 6.3	298	ME	[1990MAL/ALI]
		SUB		118.7 ± 2.2	298		[1985MUR/SAK]
		SUB		81.2	370		[1970GOE/BLO]
		SUB		U62.8			[1960BER/TRU, 1965BER/TRU]
C ₁₂ Co ₄ O ₁₂	[17786-31-1]	Tetracobaltdodecacarbonyl SUB		96.2 ± 4.2	298		[1982PIL/SKI, 1974CON/SKI]
C ₁₂ H ₁₄ Cl ₂ CoN ₂	[13869-67-5]	[cobalt(2-methylpyridine) ₂ Cl ₂] SUB	(345–365)	86.6 ± 3.8	355	DSC	[1982MOR]
C ₁₄ H ₁₀ Br ₂ CoN ₂ S ₂	[21422-14-0]	[cobalt(benzothiazole) ₂ Br ₂] SUB	(381–399)	124.7 ± 4.1	390	DSC	[1973MOR/MCN]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
C ₁₅ H ₅ CoF ₁₈ O ₆	[16702-37-7]	tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)cobalt(III)				
	SUB	(333–363)	73.0			TGA
C ₅ H ₁₂ CoF ₉ O ₆	[16827-64-8]	tris(1,1,1-trifluoro-2,4-pentanedionato)cobalt(III)				
	SUB	(373–403)	119			TGA
	SUB		168 ± 2.0	407		C
	SUB		114 ± 4.0	298		[1988RIB/FER]
	SUB	(383–433)	108.8 ± 0.4			GS
C ₁₅ H ₂₁ CoO ₆	[21679-46-9]	tris(2,4-pentanedionato)cobalt(III)				
	FUS		93.9	478		DSC
The value is abnormally large compared with Cr(acac) ₃ —may undergo decomposition						
	SUB	(433–463)	138			TGA
	SUB		NA			[2000FAH/BAR]
	SUB	(318–382)	134.6 ± 4.0	298		ME
	SUB		142.6 ± 6.9	471		[1990MAL/ALI]
	SUB		86.3			[1987MUR/HIL]
	SUB		107.1	390		[1971ASH]
	SUB		74.9 ± 4.6			[1970GOE/BLO]
	SUB		U13.0			[1964WOO/JON]
						[1961BER/DOW]
C ₁₅ H ₃₀ CoN ₃ S ₆	[13963-60-5]	tris(diethyldithiocarbamato)cobalt(III)				
	SUB	(448–587)	95 ± 6	518		[1979CAV/HIL2]
C ₁₆ H ₁₄ Br ₂ CoN ₂ O ₂	[22974-96-5]	[cobalt(2-methylbenzoxazole) ₂ Br ₂]				
	SUB	(345–390)	111.1 ± 4.2	368		DSC
C ₁₆ H ₁₄ Cl ₂ CoN ₂ O ₂	[52657-96-2]	[cobalt(2-methylbenzoxazole) ₂ Cl ₂]				
	SUB	(345–390)	92.4 ± 2.5	368		DSC
C ₁₆ H ₁₄ Br ₂ CoN ₂ S ₂	[26225-02-5]	[cobalt(2-methylbenzothiazole) ₂ Br ₂]				
	SUB	(335–354)	115.1 ± 4.1	345		DSC
C ₁₆ H ₁₄ Cl ₂ CoN ₂ S ₂	[26225-01-4]	[cobalt(2-methylbenzothiazole) ₂ Cl ₂]				
	SUB	(332–356)	122.6 ± 1.2	345		SC
C ₁₈ H ₁₂ CoN ₂ O ₂	[13978-88-6]	bis(8-hydroxyquinolinato)cobalt(II)				
	SUB		205.3 ± 4.0	298		ME
	SUB	(533–569)	185.7 ± 9	551		[1994RIB/MAT]
	SUB		200 ± 10	298		[1984BUR/MOR]
C ₁₈ H ₁₄ CoN ₄	[41283-94-7]	Dibenzotetra-aza-annulene cobalt(II) complex				
	SUB		178.2 ± 16.7	360		[1982ZVE/VIN]
C ₁₈ H ₁₈ Br ₂ CoN ₂ O ₂	[52230-48-5]	[cobalt(2,5-dimethylbenzoxazole) ₂ Br ₂]				
	SUB	(345–390)	95.4 ± 4.6	368		DSC
C ₁₈ H ₁₈ Cl ₂ CoN ₂ O ₂	[52230-47-4]	[cobalt(2,5-dimethylbenzoxazole) ₂ Cl ₂]				
	SUB	(345–390)	104.6 ± 5.8	368		DSC
C ₂₀ H ₁₆ CoN ₂ O ₂	[17992-18-6]	bis(8-hydroxy-2-methylquinolinato)cobalt(II)				
	SUB	(457–473)	196.1 ± 5.9	465		ME
	SUB		204.4 ± 5.9	298		[1998RIB/MAT3]
C ₂₂ H ₃₈ CoO ₄	[13986-53-3]	bis(2,2,6,6-tetramethyl-3,5-heptanedionato)cobalt(II)				
	SUB	(433–463)	143			TGA
C ₂₄ H ₁₂ CoF ₉ O ₆ S ₃	[41875-84-7]	tris(1-(2-thenoyl)-4,4,4-trifluoro-1,3-butanedione)cobalt(III)				
	SUB		45.6			[1961BER/DOW]
C ₂₄ H ₁₂ CoF ₉ O ₉	[64137-83-3]	tris(2-furoyltrifluoroacetonato)cobalt(III)				
	SUB		35.6			[1961BER/DOW]
C ₃₀ H ₁₈ CoF ₉ O ₆	[31125-84-5]	tris(1-phenyl-4,4,4-trifluoro-1,3-butanedionato)cobalt(III)				
	SUB		51.0			[1961BER/DOW]
C ₃₀ H ₂₇ CoO ₆	[14524-55-1]	tris(1-phenyl-1,3-butanedionato)cobalt(III)				
	SUB		39.0			[1961BER/DOW]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₃₂ H ₁₆ CoN ₈	[3317-67-7]	Cobalt(II) phthalocyanine					
C ₃₂ H ₄₆ CoN ₂ O ₄	SUB			183.7 ± 13.8		ME	[1970BON/CAT]
	[183475-53-8]	bis(2,2,6,6-tetramethyl-3,5-heptanedionato)(2,2'-bipyridyl)cobalt(II)					
	SUB			126 ± 4.0		B	[1996CHA/EMM]
	SUB			130.3		UV/Vis	[1996CHA/EMM]
C ₃₃ H ₅₇ CoO ₆	SUB			124.4		MEM	[1996CHA/EMM]
	[14877-41-9]	tris(2,2,6,6-tetramethyl-3,5-heptanedionato)cobalt(III)					
	SUB	(374–414)	103.8 ± 1.0	394	TGA	[2007SID/ATA]	
	SUB	(433–463)	132		TGA	[2000FAH/BAR]	
C ₄₄ H ₂₈ CoN ₄	SUB		126 ± 3.0	298			[1988RIB/FER]
	[14172-90-8]	5,10,15,20-tetraphenylporphine cobalt(II)				DSC	[2010GAM/CAM]
CoBr ₂	[7789-43-7]	Cobalt(II) bromide					
	SUB	(764–911)	207 ± 4.0	802	TE	[1997BAR/BRU]	
	SUB		216 ± 1.0	298		[1997BAR/BRU]	
Cr							
C ₆ CrO ₆	[13007-92-6]	Chromium hexacarbonyl					
	FUS		25.2	428.05	DSC	[2013BER/CAN]	
C ₆ CrO ₆	FUS		23.43	423.2	DSC	[1976FAB/MAS]	
	SUB		72.6 ± 0.3	298	C	[2013BER/CAN]	
	SUB		65.8 ± 1.3		TE	[2005CHA/LAU]	
	SUB	(309–347)	63.3 ± 2.1	328	GS	[2002PAN/MAL]	
	SUB	(266–272)	65.7	269	TE	[1995GAR/CHA]	
	SUB	(266–272)	64.1 ± 3.6	298	TE	[1995GAR/CHA, 2013BER/CAN]	
	SUB	(323–391)	68.5 ± 1.1			[1993BAE]	
	SUB	(288–423)	68.5	355.5		[1987STE/MAL]	
	SUB		68.9 ± 2	298		[1984ALT/CON]	
	SUB		70.0 ± 2	298	C	[1983RIB/REI]	
	SUB	(240–280)	71.6 ± 1.7	260	ME	[1980BOX/ERN, 1979DAA/ERN]	
	SUB	(240–280)	69.3 ± 3.6	298	ME	[1980BOX/ERN, 2013BER/CAN]	
	SUB		69.5	298	C	[1975ADE/BRO]	
	SUB		72.0 ± 4.2	298		[1982PIL/SKI, 1975PIT/PIL]	
	SUB	(274–301)	71.5 ± 0.8	288	BG	[1966BON]	
	SUB	(274–301)	70.6 ± 2.1	298	BG	[1966BON, 2013BER/CAN]	
	SUB	(301–315)	76.1	308		[1959COR/SCH]	
	SUB	(319–411)	69.3			[1952REZ/SHV]	
	SUB		71.9			[1935HIE/ROM]	
	SUB	(308–408)	63.6	358	MM	[1934WIN/BLA]	
	V	(309–424)	62.5	324		[1947STU, 1995HAM/KOD]	
[Note: The authors of [2002PAN/MAL] question the value of 62.5 kJ/mol for the enthalpy of vaporization. They suggest that the value is the sum of the enthalpy of vaporization plus the enthalpy of decomposition. The value is not consistent with the experimental enthalpies of fusion and sublimation. Given that the temperature range for the measurements falls below the melting point temperature, we believe that the value likely corresponds to the enthalpy of sublimation.]							
C ₈ H ₃ CrNO ₅ S	[55293-31-7]	Thiazole(pentacarbonyl)chromium					
C ₈ H ₄ CrN ₂ O ₅	SUB	(270–301)	102.0 ± 2.7	286	ME	[1979DAA/ERN]	
	[71127-65-6]	Pyrazole(pentacarbonyl)chromium					
C ₈ H ₉ CrNO ₅	SUB	(270–303)	88.4 ± 1.8	287	ME	[1979DAA/ERN]	
	[15228-26-9]	Trimethylamine(pentacarbonyl)chromium					
C ₈ H ₉ CrO ₅ P	SUB	(248–293)	80.2 ± 0.7	271	ME	[1980BOX/ERN]	
	[26555-09-9]	Trimethylphosphine(pentacarbonyl)chromium					
C ₈ H ₁₂ CrMoO ₈	SUB		91.2 ± 1.6		ME	[1980BOX/ERN]	
	[71561-64-3]	Chromium molybdenum tetraacetate					
C ₈ H ₁₂ Cr ₂ O ₈	SUB		165.0 ± 8.4			[1982PIL/SKI]	
	[15020-15-2]	Tetra- μ -acetatodichromium(II)					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_9\text{H}_4\text{CrN}_2\text{O}_5$	SUB	(330–340)	299.6 ± 10	335	ME,TE	[1984CAR]
	SUB		313.8 ± 27.0	298		[1982PIL/SKI, 1979DAA/ERN]
	SUB		145		E	[1979CAV/GAR]
$\text{C}_9\text{H}_4\text{CrN}_2\text{O}_5$	[66179-02-0]	Pyrazine(pentacarbonyl)chromium	99.7		ME	[1979DAA/ERN]
$\text{C}_9\text{H}_5\text{ClCrO}_3$	[12082-03-0]	Chlorobenzenechromium tricarbonyl	102.5 ± 4.2	298		[1982PIL/SKI, 1975ADE/BRO]
$\text{C}_9\text{H}_6\text{CrO}_3$	[12082-08-5]	Benzene chromium tricarbonyl	91.2	298	C	[1975ADE/BRO]
	SUB		U58.6			[1961FIS/FRI, 1973CON/SKI]
	SUB	(364–370)	97.9		TE	[1959COR/SCH, 1973CON/SKI]
$\text{C}_{10}\text{H}_5\text{CrNO}_5$	[14740-77-3]	Pyridine(pentacarbonyl)chromium	103.2 ± 1.8	306	ME	[1979DAA/ERN]
$\text{C}_{10}\text{H}_8\text{CrO}_3$	[12125-72-3]	Cycloheptatriene chromium tricarbonyl	94.1	298	C	[1975ADE/BRO]
$\text{C}_{10}\text{H}_8\text{CrO}_3$	[12125-87-0]	η^6 -toluene(tricarbonyl)chromium	93.0 ± 2.0	298	C	[1984ALT/CON]
	SUB		94.6 ± 4.2	298		[1982PIL/SKI, 1975ADE/BRO]
	SUB					
$\text{C}_{10}\text{H}_8\text{CrO}_3$	[12116-44-8]	η^6 -anisole(tricarbonyl)chromium	104.2 ± 2.0	298	C	[1984ALT/CON]
$\text{C}_{10}\text{H}_{10}\text{Cr}$	[1271-24-5]	Chromocene	71.0	298		[1984BAE/BAR2]
	SUB		62.8 ± 4.2	298		[1982PIL/SKI, 1975TEL/KIR]
	SUB		69.9 ± 1.7			[1977TEL/RAB]
	V	(452–519)	49.5 ± 1.5	485		[1984BAE/BAR2]
$\text{C}_{10}\text{H}_{14}\text{CrO}_4$	[14024-50-1]	bis(2,4-pentanedionato)chromium(II)				
	SUB	(330–370)	129.8 ± 8.7	298	ME	[1990MAL/ALI]
	SUB		111	439	T	[1981MAS/BAR]
$\text{C}_{10}\text{H}_{11}\text{CrNO}_5$	[15710-39-1]	Piperidine(pentacarbonyl)chromium	93.5 ± 1.9	282	ME	[1979DAA/ERN]
$\text{C}_{10}\text{H}_{11}\text{CrNO}_5$	[31870-79-8]	Styrenetricarbonyl chromium	25.28	354.4		[2003SMI/LEB]
$\text{C}_{11}\text{H}_8\text{CrO}_4$	[12146-36-0]	Norbornadienechromium tetracarbonyl	89.0 ± 4.0	298		[1982PIL/SKI, 1977BRO/CON]
$\text{C}_{11}\text{H}_8\text{CrO}_4$	[12153-11-6]	η^6 -acetophenone(tricarbonyl)chromium	107.0 ± 0.6	298	C	[1984ALT/CON]
$\text{C}_{11}\text{H}_8\text{CrO}_5$	[12125-87-0]	η^6 -methyl benzoate(tricarbonyl)chromium	114.0 ± 5.0	298	C	[1984ALT/CON]
$\text{C}_{11}\text{H}_{11}\text{CrNO}_3$	[12109-10-3]	η^6 - <i>N,N</i> -dimethylaniline(tricarbonyl)chromium	118.4 ± 10	298	C	[1984ALT/CON]
$\text{C}_{12}\text{H}_{10}\text{CrO}_3$	[69074-28-8]	α -methylstyrenetricarbonyl chromium	27.4	360		[2003SMI/LEB]
$\text{C}_{12}\text{H}_{12}\text{Cr}$	[1271-54-1]	Dibenzenechromium				
	SUB	(323–363)	89.4	343	A	[1987STE/MAL]
	SUB		78.2 ± 6.3	298		[1982PIL/SKI, 1973CON/SKI]
	SUB		82.0 ± 2.1			[1973UMI/FED]
	SUB		90.6 ± 0.3			[1969AND/WES2]
	SUB	(359–371)	78.2	365		[1959COR/SCH]
$\text{C}_{12}\text{H}_{12}\text{CrO}_3$	SUB		78.2 ± 6.2	298		[1958FIS/SCH]
	SUB					
$\text{C}_{12}\text{H}_{12}\text{CrO}_3$	[12129-67-8]	Mesitylene chromium tricarbonyl	108.4	298	C	[1975ADE/BRO]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB			U64.4			[1961FIS/SCH, 1977TEL/RAB]
C ₁₂ H ₁₂ CrO ₃	[32913-41-0]	(1,2,4-trimethylbenzene) chromium tricarbonyl					
	SUB			U33.5			[1961FIS/SCH, 1977TEL/RAB]
C ₁₃ H ₈ CrO ₃	[12110-37-1]	(1,2,3,4,4a,8a- <i>h</i> -naphthalene)tricarbonyl chromium					
	SUB			107 ± 3	298	C	[1979CON/MAR]
C ₁₅ H ₃ F ₁₈ CrO ₆	[14592-80-4]	tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)chromium(III)					
	SUB	(333–363)	U46	343	TGA		[2000FAH/BAR]
	SUB		164 ± 4.0	426	C		[1987RIB/FER]
	SUB		112 ± 4.0	298			[1987RIB/FER]
	SUB	(333–360)	123.0 ± 1.3	335			[1972FON/POM]
	V	(343–398)	61.4	370	GC		[1978BUB/MAZ]
	V	(360–373)	69.1	367			[1972FON/POM]
C ₁₅ H ₁₂ CrF ₉ O ₆	[14592-89-3]	tris(1,1,1-trifluoro-2,4-pentanedionato)chromium(III)					
	SUB	(373–403)	71		TGA		[2000FAH/BAR]
	SUB		182 ± 4.0	426	C		[1987RIB/FER]
	SUB		117 ± 4.0	298			[1987RIB/FER]
	SUB	(373–438)	115.1 ± 0.8		GS		[1985MAT/KUW]
	SUB	(403–423)	112.5 ± 4.8				[1978CHU/IGU]
	SUB		53.6	447			[1977VOL/MAZ]
	SUB	(377–413)	108.8 ± 1.3	395			[1972FON/POM]
	V	(403–473)	74.9	438	GC		[1978BUB/MAZ]
	V	(424–486)	76.7 ± 0.6	455			[1978CHU/IGU]
C ₁₅ H ₁₈ CrO ₃	[12088-11-8]	Hexamethylbenzene chromium tricarbonyl					
	SUB		123.0 ± 4.0	298	C		[1975ADE/BRO, 1977BRO/CON]
C ₁₅ H ₂₁ CrO ₆	[21679-31-2]	tris(2,4-pentanedionato)chromium(III)					
	FUS		35.9	486	DSC		[2004SAB/MAR]
	FUS		34	489			[1988LAZ/GRE]
	FUS		28.7	487			[1984MUR/HIL]
	FUS		35.2	490			[1971BEE/LIN2]
	FUS		28.4	489			[1970MEL/MER2]
	SUB		120.8		TGA,DTA		[2009GAI/KUN]
	SUB	(345–410)	128.2	378	ME		[2007SID/SID]
	SUB	(320–388)	127.6	354	ME		[2005SEM/IGU]
	SUB	(374–418)	111.6 ± 3.0	396	GS		[2002PAN/MAL]
	SUB		133.8 ± 4.2				[2001FED/GEL]
	SUB	(413–443)	91.0		TGA		[2000FAH/BAR]
	SUB	(350–375)	126.8 ± 4.2	298	ME		[1990MAL/ALI]
	SUB	(457–486)	113.0 ± 4.8		BG		[1988LAZ/GRE, 1987GRI/LAZ]
	SUB		132.1 ± 1.9	298	C		[1985MUR/SAK]
	SUB	(438–498)	144.1	468	GC		[1978BUB/MAZ]
	SUB		28.9	463			[1977VOL/MAZ]
	SUB		112.1	390			[1970GOE/BLO]
	SUB	(363–393)	40.2 ± 1.7	378			[1972FON/POM]
	SUB		110.9 ± 0.8	298	HSA		[1970MEL/MER, 1970MEL/MER2]
	SUB		123 ± 3.0	298	ME		[1977NAG, 1988RIB/FER4, 1967HIL/IRV]
	V		89.9		DTA,TGA		[2009GAI/KUN]
	V		79.4 ± 4.2				[2001FED/GEL]
	V	(490–536)	82.2 ± 2.0	513	BG		[1988LAZ/GRE]
C ₁₆ H ₂₀ Cr		bis(ethylbenzene)chromium					
	V		75.3 ± 8.4				[1973TEL/RAB, 1982PIL/SKI]
C ₁₈ H ₂₄ Cr	[1274-07-3]	bis(η^6 -1,3,5-trimethylbenzene)chromium					
	SUB		104 ± 1	298	C		[1979CON/MAR]
C ₂₀ H ₁₆ Cr	[33085-81-3]	bis(naphthalene)chromium					
	SUB		105.0 ± 10				[1979CON/MAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₂₈ Cr	V	bis(1,2-diethylbenzene)chromium			75.3 ± 8.4			[1973TEL/RAB, 1982PIL/SKI]
C ₂₁ H ₃₀ Cr	V	(1,2-diisopropylbenzene)isopropylbenzenecromium			100.4 ± 8.4			[1973TEL/RAB, 1982PIL/SKI]
C ₂₃ H ₁₅ CrO ₅ P	[14917-12-5]	Triphenylphosphine(pentacarbonyl)chromium	SUB	(324–347)	170.2 ± 6.8	336	ME	[1980BOX/ERN]
C ₂₄ H ₂₄ Cr ₂ N ₄ O ₄	[67634-82-6]	tetrakis(6-methyl-2-hydroxypyridyl)dichromium(II)	SUB		150.0 ± 4.0	298		[1982PIL/SKI, 1981CAV/GAR]
C ₂₄ H ₃₆ Cr	V	bis(1,2-diisopropylbenzene)chromium			100.4 ± 8.4			[1973TEL/RAB, 1982PIL/SKI]
C ₂₄ H ₃₆ Cr	[12156-66-0]	bis(η^6 -hexamethylbenzene)chromium	SUB		119 ± 4	298	C	[1979CON/MAR]
C ₃₀ H ₂₇ CrO ₆	[16432-36-3]	tris(1-phenyl-1,3-butanedionato)chromium(III)	SUB		186 ± 2	298	C	[1987RIB/FER]
C ₃₀ H ₃₀ F ₂₁ C ₁ O ₆	[17966-86-8]	tris(1,1,2,2,3,3-heptafluoro-7,7-dimethyl-4,6-octanedionato)chromium(III)	SUB	(323–353)	37.7 ± 0.8	338		[1972FON/POM]
C ₃₃ H ₅₇ C ₁ O ₆	[14434-47-0]	tris(2,2,6,6-tetramethyl-3,5-heptanedionato)chromium(III)	SUB	(350–398)	127.5 ± 3.1	374	ME	[2010SID/SID]
			SUB	(413–443)	85		TGA	[2000FAH/BAR]
			SUB		133 ± 2	298	C	[1987RIB/FER]
C ₈₀ H ₂₈ Cr	TRS	bis(η^6 - <i>tert</i> -butylphenyl)chromium fulleride complex		(6–360)	15.36	190	AC	[2009RUC/MAR]
CrI ₂	[13478-28-9]	Chromium(II) iodide	SUB	(943–1054)	298.7	298		[1956ALL]
Cs								
C ₅ H ₉ CsO ₂	[20442-70-0]	Cesium pivalate	SUB		163.5 ± 7.2			[1998KHO/RYK]
CsI	[7789-17-5]	Cesium iodide	SUB		195.6	298	GS	[1998PAN/MAL]
			SUB		193.1	298	T	[1985VEN/PRA, 1998PAN/MAL]
			SUB		193.1	298	T	[1984COR, 1998PAN/MAL]
			SUB		191.1	298	MS	[1984VIS/HIL, 1998PAN/MAL]
Cu								
C ₆ H ₁₂ CuN ₂ S ₄	[137-29-1]	bis(dimethyldithiocarbamate)copper	SUB		156.0 ± 0.3	298	C	[1995RIB/REI]
			SUB	(443–473)	147.4 ± 0.8	458	A	[1987STE/MAL, 1978TAV/NEE]
			SUB		149.0 ± 2.5		GC	[1976TAV/NEE, 1979LAR]
			V	(443–473)	147.4	458		[1999DYK/SVO]
C ₈ H ₁₂ Cu ₂ O ₈	[24411-13-0]	tetrakis(acetato)dicopper(II)	SUB	(321–360)	106.1 ± 0.9	298	ME,TE	[1990RIB/RIB]
C ₈ H ₁₄ CuN ₄ O ₄	[14221-10-4]	bis(dimethylglyoxime)copper(II)	SUB		93.1 ± 0.8	298	TE,ME	[1990RIB/RIB]
C ₁₀ H ₂ CuF ₁₂ O ₄	[14781-45-4]	bis(1,1,1,5,5,5-hexafluoro-2,4-pantanenedionato)copper(II)	SUB		108 ± 6	298	C	[1988RIB/FER3]
			SUB		NA			[1978IGU/CHU]
			V	(353–398)	71.6	376	GC	[1978BUB/MAZ]
C ₁₀ H ₈ CuF ₆ O ₄	[14324-82-4]	bis(1,1,1-trifluoro-2,4-pantanenedionato)copper(II)	SUB	(373–403)	112		TGA	[2000FAH/BAR]
			SUB	(342–359)	113.3 ± 2.4	350	TE	[1995RIB/MON]
			SUB		115.9 ± 2.4	298		[1995RIB/MON]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{10}\text{H}_{14}\text{CuO}_4$	[13395-16-9]	SUB	(342–359)	114.4 ± 1.6	350	ME	[1995RIB/MON]
		SUB		117.0 ± 1.6	298		[1995RIB/MON]
		SUB		112 ± 3.0	298	C	[1988RIB/FER3]
		SUB	(383–463)	110. ± 0.8		GS	[1985MAT/KUW]
		SUB		NA			[1978IGU/CHU]
		SUB		U50.6			[1960BER/TRU, 1965BER/TRU]
		SUB	(383–473)	80.4	428	GC	[1978BUB/MAZ]
		SUB					
		SUB	(363–443)	121.6 ± 1.4	403	ME	[2009SID/SID]
		SUB	(413–443)	120		TGA	[2000FAH/BAR]
		SUB	(377–398)	122.5 ± 1.2	387	TE	[1995RIB/MON]
		SUB		127.0 ± 1.2	298		[1995RIB/MON]
		SUB	(377–398)	122.6 ± 0.7	387	ME	[1995RIB/MON]
		SUB		127.1 ± 1.2	298		[1995RIB/MON]
$\text{C}_{10}\text{H}_{16}\text{CuN}_2\text{O}_2$	[14404-35-4]	SUB		122.3 ± 1.1	393	ME	[1995RIB/MON]
		SUB		127.0 ± 1.1	298		[1995RIB/MON]
		SUB		116.6 ± 2.0	298	C	[1994RIB/FER]
		SUB	(315–386)	115.1 ± 2.1	298		[1991MAL/ALI]
		SUB		142.6 ± 6.9	471	DSC	[1987RIB/FER]
		SUB		107.1 ± 5.7	492		[1987MUR/HIL]
		SUB		127.5 ± 3.2	298		[1985MUR/SAK]
		SUB		154 ± 22	298		[1984BUR/MOR]
		SUB		109.9 ± 3.4	298	C	[1984RIB/RIB]
		SUB		57.1		TE	[1981TEG/FER]
		SUB	(423–473)	106.1	448	GC	[1978BUB/MAZ]
		SUB		NA			[1978IGU/CHU]
$\text{C}_{10}\text{H}_{20}\text{CuN}_2\text{S}_4$	[13681-87-3]	SUB		109.6			[1972BOL, 2000DUN]
		SUB		106.1		TG	[1971ASH]
		SUB		109 ± 6	400		[1970GOE/BLO]
		SUB		57.3		DSC	[1971BEE/LIN2]
		SUB		62.8			[1962JON/YOW]
$\text{C}_{10}\text{H}_{16}\text{CuN}_2\text{O}_2$	[14404-35-4]	bis(4-amino-3-penten-2-onato)copper					
		SUB	(393–463)	114.2 ± 1.3			[2003STA/BAI]
$\text{C}_{10}\text{H}_{20}\text{CuN}_2\text{S}_4$	[13681-87-3]	bis(diethylidithiocarbamate)copper(II)					
		SUB	(420–465)	149.1 ± 0.4	442.5	A	[1987STE/MAL, 1978TAV/NEE]
		SUB		103.8 ± 2.4			[1979CAV/HIL2]
		SUB		116.2 ± 1.3			[1979CAV/HIL]
		SUB		149.0 ± 2.5			[1976TAV/NEE]
$\text{C}_{12}\text{H}_{12}\text{CuF}_6\text{O}_4$	[13681-87-3]	bis(1,1,1-trifluorohexane-2,4-dione)copper(II)					
		SUB		119.1 ± 1.7	298	ME	[1998RIB/GON]
		SUB					
$\text{C}_{12}\text{H}_{18}\text{CuO}_4$	[14781-49-8]	bis(3-methyl-2,4-pentanedionato)copper(II)					
		SUB		130.7 ± 1	396.7	ME	[1992RIB/FER3]
		SUB		135.6 ± 1	298	ME	[1992RIB/FER3]
$\text{C}_{14}\text{H}_{16}\text{CuF}_6\text{O}_4$	[33896-35-4]	bis(1,1,1-trifluoro-5-methylhexane-2,4-dione)copper(II)					
		SUB		122.4 ± 0.9	298	ME	[1998RIB/GON]
$\text{C}_{14}\text{H}_{28}\text{CuN}_2\text{S}_4$	[14354-08-6]	bis(dipropylidithiocarbamate)copper					
		SUB		118.4 ± 3.3			[1978TAV/NEE]
$\text{C}_{14}\text{H}_{28}\text{CuN}_2\text{S}_4$	[14354-07-5]	V	(422–453)	118.4	437		[1999DYK/SVO]
		SUB					
$\text{C}_{16}\text{H}_{28}\text{CuN}_2\text{S}_4$	[14354-07-5]	bis(dipropylidithiocarbamate)copper					
		SUB	(440–465)	129.5 ± 2.9	452.5	A	[1987STE/MAL, 1978TAV/NEE]
$\text{C}_{16}\text{H}_8\text{CuF}_6\text{O}_4\text{S}_2$	[13928-09-1]	bis(thenoyltrifluoroacetone)copper(II)					
		SUB		167.9 ± 7.4	298	C	[2006RIB/SAN2]
$\text{C}_{16}\text{H}_8\text{CuF}_6\text{O}_6$	[13928-10-4]	bis(4,4,4-trifluoro-1-(2-furanyl)butane-1,3-dione)copper(II)					
		SUB		161.1 ± 2.1	298	ME	[1998RIB/GON]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₆ H ₂₀ CuF ₆ O ₄	V	bis(pivaloyltrifluoroacetonato)copper (381–443)			76.5 ± 2.0		GS	[1993SYO/GOL]
C ₁₆ H ₂₀ CuF ₆ O ₄	[150026-91-8]	bis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)copper(II)	SUB		120.2 ± 1.0	298	ME	[1998RIB/GON]
	SUB			(353–379)	102 ± 3	366	T	[1993SYO/GOL]
	V			(381–443)	76.5 ± 2	412	T	[1993SYO/GOL]
C ₁₆ H ₂₀ CuF ₆ O ₄	[220869-88-5]	bis(1,1,1-trifluoro-5-methylheptane-2,4-dione)copper(II)	SUB		122.5 ± 0.9	298	ME	[1998RIB/GON]
(C ₁₆ H ₂₀ CuF ₆ O ₄) _n (C ₁₀ H ₂₀ O ₅)	V	bis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)copper(II)-15-crown-5 complex		(368–443)	80.2 ± 2	405	T	[1993SYO/GOL]
C ₁₆ H ₂₀ CuF ₆ O ₄ (C ₁₀ H ₂₀ O ₅)	V	bis(pivaloyltrifluoroacetonato)copper-15-crown-5 complex		(368–443)	80.2 ± 2.0		GS	[1993SYO/GOL]
C ₁₆ H ₂₆ CuO ₄	[15716-72-0]	bis(5,5-dimethyl-2,4-hexanedionato)copper(II)	SUB		NA			[1978IGU/CHU]
C ₁₈ H ₁₂ CuN ₂ O ₂	[10380-28-6]	bis(8-hydroxyquinolinato)copper(II)	SUB		168.7 ± 7.3	298	ME	[1994RIB/MAT]
	SUB			(478–503)	160.3 ± 3	491	ME	[1984BUR/MOR]
	SUB				170 ± 3	298		[1984BUR/MOR]
C ₁₈ H ₁₄ CuN ₄	[41283-96-9]	Dibenzotetra-aza-annulene copper(II) complex	SUB	(493–553)	99.7 ± 8.7	523	T	[1983FER/QUA]
C ₁₈ H ₃₀ CuO ₄	[15321-96-7]	bis(2,2-dimethylheptan-3,5-dionato)copper(II)	SUB	(344–364)	125.0 ± 1.3	354	TE	[1995RIB/MON]
	SUB			(344–364)	127.8 ± 1.3	298	TE	[1995RIB/MON]
	SUB			(344–364)	125.1 ± 0.5	354	ME	[1995RIB/MON]
	SUB			(344–364)	127.9 ± 0.5	298	ME	[1995RIB/MON]
	SUB				122.8 ± 1.7	298	C	[1984RIB/RIB]
C ₁₈ H ₃₀ CuO ₄	[17653-77-9]	bis(2,6-dimethylheptan-3,5-dionato)copper(II)	SUB		118.0 ± 347	298	C	[1984RIB/RIB]
C ₁₈ H ₃₆ CuN ₂ S ₄	[13927-71-4]	bis(dibutylthiocarbamate)copper	V	(423–468)	121.8	445		[1999DYK/SVO]
C ₁₈ H ₃₆ CuN ₂ S ₄	[51205-55-1]	bis(diisobutylthiocarbamate)copper	V	(425–445)	101.8	435		[1999DYK/SVO]
C ₂₀ H ₁₂ CuF ₆ O ₄	[14126-89-7]	bis(4,4,4-trifluoro-1-phenylbutane-1,3-dione)copper(II)	SUB		172.1 ± 3.1	298	ME	[1998RIB/GON]
C ₂₀ H ₁₆ CuN ₂ O ₂	[14522-43-1]	bis(8-hydroxy-2-methylquinolinate)copper(II)	SUB	(402–419)	166.5 ± 3.4	410	ME	[1998RIB/MAT3]
	SUB			(402–419)	172.1 ± 3.4	298	ME	[1998RIB/MAT3]
C ₂₀ H ₁₈ CuO ₄	[14128-84-8]	bis(1-phenylbutane-1,3-dionato)copper(II)	SUB	(429–450)	152.2 ± 1.7	439	TE	[1995RIB/MON]
	SUB			(429–450)	159.3 ± 1.7	298	TE	[1995RIB/MON]
	SUB			(429–450)	152.2 ± 1.9	439	ME	[1995RIB/MON]
	SUB			(429–450)	159.3 ± 1.9	298	ME	[1995RIB/MON]
	SUB				160 ± 4	298	C	[1979RIB/REI]
C ₂₀ H ₂₀ CuF ₁₄ O ₄	[38926-19-1]	bis(1,1,1,2,2,3,3-hetafluoro-7,7-dimethyloctane-4,6-dionato)copper(II)	SUB		122.8 ± 0.7	298	ME	[1998RIB/GON]
	SUB				NA			[1978IGU/CHU]
C ₂₀ H ₃₄ CuO ₄	[41752-16-3]	bis(2,2,6-trimethylheptan-3,5-dionato)copper(II)	SUB	(346–362)	127.4 ± 0.7	354	ME	[1995RIB/MON]
	SUB				130.2 ± 0.7	298		[1995RIB/MON]
	SUB			(346–362)	127.8 ± 1.5	354	TE	[1995RIB/MON]
	SUB				130.6 ± 1.5	298		[1995RIB/MON]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{22}\text{H}_{24}\text{CuN}_2\text{O}_2$	[15214-38-7]	SUB		129.0 ± 1.3	351	ME	[1995RIB/MON]
		SUB		131.7 ± 1.3	298		[1995RIB/MON]
		SUB		126.4 ± 1.1	298	C	[1984RIB/RIB]
$\text{C}_{22}\text{H}_{24}\text{CuN}_2\text{O}_2$	[15214-38-7]	bis[(4-phenylimino)-2-pentanoato)copper(II)					
		SUB		128.1 ± 0.8	298	ME,TE	[1990RIB/RIB]
$\text{C}_{22}\text{H}_{36}\text{CuF}_2\text{O}_4$	[1148044-73-8]	bis(2,2,6,6-tetramethyl-4-fluoroheptane-2,4-dionato)copper(II)					
		SUB	(392–453)	115.6 ± 1.1	422	ME	[2008ZHE/MOR2]
$\text{C}_{22}\text{H}_{38}\text{CuO}_4$	[14040-05-2]	bis(2,2,6,6-tetramethyl-heptane-3,5-dionato)copper(II)					
		SUB	(365–408)	126.4 ± 3.1	386	ME	[2010SID/SID]
		SUB	(375–435)	96 ± 2		GS	[2009JOH/SEL]
		SUB		127.6 ± 0.4	361	TE	[2001COL/LAU]
		SUB		127.2 ± 1.7	351	TE	[2001COL/LAU]
		SUB	(433–463)	120		TGA	[2000FAH/BAR]
		SUB	(400–430)	74.8		TGA,DTA	[1996YUA/MEN]
		SUB	(392–415)	100	404	T	[1996RAP/DES]
		SUB		124.5 ± 0.8	372	ME	[1995RIB/MON]
		SUB		129.1 ± 0.8	298		[1995RIB/MON]
		SUB	(362–452)	124.6	407		[1993TOB/LAN]
		SUB	(418–473)	123.6	445		[1992WAF/MUS]
		SUB		105.9		GS	[1990YUH/KIK]
		SUB		111.6			[1988FED/VOI, 1993TOB/LAN]
		SUB		122.8 ± 6.5	298	C	[1984RIB/RIB]
		SUB	(434–468)	111.8 ± 1.7			[1979IGU/CHU]
		V	(468–519)	77.8 ± 0.8			[1979IGU/CHU]
$\text{C}_{24}\text{H}_{30}\text{CuN}_4\text{O}_4$	[14040-05-2]	bis(<i>N</i> -benzoyl- <i>N,N'</i> -diethylureato)copper(II)					
		SUB		180.9 ± 3.7	298	C	[2001RIB/RIB2]
$\text{C}_{28}\text{H}_{16}\text{CuF}_6\text{O}_4$	[30983-56-3]	bis(4,4,4-trifluoro-1-(2-naphthalenyl)butane-1,3-dione)copper(II)					
		SUB		$208.4.1 \pm 4.9$	298	ME	[1998RIB/GON]
$\text{C}_{30}\text{H}_{22}\text{CuO}_4$	[58179-06-9]	bis(dibenzoylmethanato)copper(II)					
		SUB		230.7 ± 8.2	298	C	[2006RIB/SAN2]
$\text{C}_{30}\text{H}_{54}\text{CuO}_6$	[952723-42-1]	bis(2,6-dimethyl-6-methoxydodecane-3,5-dionato)copper(II)					
		V	(340–395)	126.6 ± 1.9	367	ME	[2006LIS/SEM]
$\text{C}_{32}\text{F}_{16}\text{CuN}_8$	[14916-87-1]	Copper(II) hexadecafluorophthalocyanine					
		SUB	(631–763)	200.8 ± 7.1		ME	[2006SEM/BAS]
$\text{C}_{32}\text{H}_{16}\text{CuN}_8$	[147-14-8]	Copper(II) α -phthalocyanine					
		SUB		114		TGA	[1995YAS/TAK]
$\text{C}_{32}\text{H}_{16}\text{CuN}_8$	[147-14-8]	Copper(II) β -phthalocyanine					
		SUB	(653–733)	177.1 ± 1.0		TGA	[2013SHA/SHT]
		SUB	(618–713)	231.8 ± 2.1		ME	[2000SEM/BAS, 2006SEM/BAS]
		SUB		211.1		TGA	[1995YAS/TAK]
		SUB	(657–863)	266.1			[1969HAM]
$\text{C}_{39}\text{H}_{59}\text{F}_{12}\text{O}_8\text{CuY}$	[160364-36-3]	bis(hexafluoroisopropoxy)tris(2,2,6,6-tetramethylheptan-3,5-dionato)copper(II)yttrium(III)					
		SUB	(370–410)	81.2	390		[1996LAB/HUB]
$\text{C}_{44}\text{H}_{28}\text{CuN}_4$	[14172-91-9]	5,10,15,20-tetraphenylporphine copper(II)					
		FUS		51.6	741.4	DSC	[2010GAM/CAM]
		SUB		160 ± 5		GS	[2000PER/GOL]
$\text{C}_{48}\text{H}_{48}\text{CuN}_4$	[30753-88-9]	2,9,16,23-tetra- <i>tert</i> -butylphthalocyaninato copper(II)					
		SUB	(310–440)	185.8 ± 6.3		ME	[2010PLY/BAS]
CuBr	[7787-70-4]	Copper(I) bromide					
		TRS	(298–1300)	4.6	657		
		TRS	(298–1300)	2.1	741		

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound							
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References		
Dy	C ₁₅ H ₁₅ Dy	FUS	(298–1300)	5.1	759	DSC,C	[1984FER/BRO]		
		SUB	(529–658)	124.2 ± 3.1	594	ME,MS	[2014IIZ/SHI]		
Dy									
C ₁₅ H ₁₅ Dy	[12088-04-9]	tris(cyclopentadienyl)dysprosium(III)				[1973DEV/BOR]			
		SUB	105.0 ± 2.1						
C ₁₅ H ₂₁ DyO ₆	[14637-88-8]	tris(2,4-pentanedionato)dysprosium(III)				DSC	[1971PRZ/BOS]		
C ₃₀ H ₃₀ DyF ₂₁ O ₆	[18323-98-3]	tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)dysprosium(III)				ME	[1971SWA/KAR]		
		SUB	(370–385)	156.5 ± 2.9	376.2	DSC			
C ₃₃ H ₅₇ DyO ₆	[15522-69-7]	tris(2,2,6,6-tetramethylpentane-2,4-dionato)dysprosium(III)				ME	[1981AMA/SAT]		
		SUB	(373–388)	171.5		BG	[1981AMA/SAT]		
		SUB	(388–413)	152.7		ME	[1969SIC/DUB]		
		SUB	(410–456)	133.5		BG	[1969SIC/DUB]		
		V	(456–500)	86.2			[1969SIC/DUB]		
DyBr ₃	[14456-48-5]	dysprosium tribromide				TE	[1999BRU/VAS]		
DyCl ₃	[10025-74-8]	Dysprosium trichloride				TE	[1999BRU/VAS]		
		SUB	(924–1214)	283 ± 5.0	298	ME			
DyI ₃	[15474-63-2]	Dysprosium triiodide				[2004HIL/MIL]			
		SUB	(833–1053)	274.8 ± 8.2	298		[1999BRU/VAS]		
		SUB	(889–1157)	282 ± 4.0	298	TE	[1983KAP/LEL]		
		SUB	292 ± 12			ME	[1975HIR/ROM]		
		SUB	(843–1060)	269.7 ± 2.5	951		[1975HIR/ROM]		
		SUB	(843–1060)	286.2 ± 2.5	298	ME	[1975HIR/ROM]		
Er									
C ₁₅ H ₃ ErF ₁₈ O ₆	[70332-27-3]	tris(1,1,1,5,5-hexafluoro-2,4-pentanedionato)erbium(III)				ME,MS	[2007GIR/SKL]		
		SUB	133 ± 4		362				
C ₁₅ H ₁₂ ErF ₉ O ₆	[70332-27-3]	tris(1,1,1-trifluoro-2,4-pentanedionato)erbium(III)				DSC	[1996ZVE/CHE]		
C ₁₅ H ₁₅ Er	[39330-74-0]	tris(cyclopentadienyl)erbium(III)							
		SUB	(503–558)	97.2 ± 3.2	530	ME	[1996ZVE/CHE]		
		SUB	97.1 ± 3.3				[1973DEV/BOR]		
C ₁₅ H ₂₁ ErO ₆	[14553-08-3]	tris(2,4-pentanedionato)erbium(III)				TE	[1971PRZ/BOS]		
C ₂₄ H ₃₃ Er	[130521-76-5]	tris[(1,2,3,4,5-η)-1-(1-methylethyl)-2,4-cyclopentadien-1-yl]erbium(III)				ME	[1996ZVE/CHE]		
		SUB	(464–502)	78.6 ± 3.0	483				
C ₃₀ H ₃₀ ErF ₂₁ O ₆	[17978-75-5]	tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)erbium(III)				DSC	[1971SWA/KAR]		
C ₃₃ H ₅₇ ErO ₆	[14319-09-6]	tris(2,2,6,6-tetramethylheptane-3,5-dionato)erbium(III)							
		SUB	130.8 ± 2.2		298	DSC	[1999SAN/PET]		
		SUB	(471–505)	93.9 ± 4.6	488		[1996ZVE/CHE]		
		SUB	(363–418)	154	390	ME	[1981AMA/SAT]		
		SUB	(358–381)	149.3 ± 1.7	432	ME	[1971SWA/KAR]		
		SUB	(410–454)	133.2		BG	[1969SIC/DUB]		
		V	(454–490)	85.6	BG	[1969SIC/DUB]			
ErI ₃	[13813-42-8]	Erbium triiodide				ME	[1975HIR/ROM]		
		SUB	(898–1016)	289.4 ± 4.7	957				
		SUB	(898–1016)	306.3 ± 4.7	298	ME	[1975HIR/ROM]		
Eu									

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₅ H ₃ EuF ₁₈ O ₆	[14592-81-5]	tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)europium(III)						
	SUB	(340–380)	129.4 ± 9.5					[2007MAL/ALI]
[Note: The authors report that the vapor phase consists largely of dimers.]								
C ₃₃ H ₅₇ EuO ₆	[15522-71-1]	tris(2,2,6,6-tetramethylheptane-3,5-dionato)europium(III)						
	SUB	(363–433)	179.9	398			ME	[1981AMA/SAT]
	SUB	(373–423)	180				ME	[1979AMA/SAT]
	SUB	(430–466)	165.4	448			BG	[1969SIC/DUB]
	V	(466–490)	87.4				BG	[1969SIC/DUB]
EuBr ₂	[13780-48-8]	Europium dibromide						
	FUS	(300–1100)	22.2	941			DSC	[2010SER/MOT]
	SUB	(1049–1261)	354.4 ± 5.0	298			MS	[2010SER/MOT]
F								
F ₂ IPS	[21348-11-8]	Phosphorothioic difluoride iodide						
	V	(236–299)	31.9	267				[1968CHA/CAV]
F ₃ NO	[13847-65-9]	Trifluoroamine oxide						
	V	(116–191)	16.1					[1968FOX/MAC]
F ₅ I	[7783-66-6]	Iodine pentafluoride						
	V	(283–378)	39.3	330				[1971OSB/SCH]
F ₅ IO	[16056-61-4]	Iodine oxyfluoride						
	SUB	(195–273)	31.7					[1968SCH/PIL]
F ₇ I	[16921-96-3]	Iodine heptafluoride						
	SUB	(193–273)	25.1					[1968SCH/PIL]
	SUB	(210–273)	30.7	241				[1930RUF/KEI]
HF	[7664-39-3]	Hydrogen fluoride						
	V	(240–290)	25.2	265				[1934CAM/CAM]
	V	(190–320)	25.2	255				[1924SIM]
Fe								
C ₂ FeN ₂ O ₄	[13682-74-1]	Dicarbonyldinitrosyl iron						
	SUB	(272–291)	47.2	281.5				[1987STE/MAL]
C ₄ FeI ₂ O ₄	[14878-30-9]	Irontetracarbonyl diiodide						
	SUB		86.0 ± 4.0	298				[1982PIL/SKI, 1979CON/DEM]
C ₄ H ₆ FeO ₄ Si ₂	[26469-80-7]	Tetracarbonyl disilyl iron						
	V	(329–377)	43.8	353	T			[1969AYL/CAM3]
C ₄ H ₁₆ Cl ₂ FeN ₈ S ₄	[28813-18-5]	<i>trans</i> -dichloro-tetrakis(thiourea)iron(II)						
	SUB	(372–405)	110 ± 20					[1970ASH]
C ₅ FeO ₅	[13463-40-6]	Iron pentacarbonyl						
	V	(254–304)	40.1 ± 0.5	279				[1974GIL/SUL]
	V	(266–353)	39.0	309				[1970VAL/KIL]
	V		38.1 ± 0.4	298				[1959LEA/SPI]
	V		40.2 ± 0.8					[1959COT/FIS, 1982PIL/SKI]
	V	(266–378)	37.6	281				[1947STU]
C ₆ H ₅ FeIO ₃	[12189-10-5]	Allylirontricarbonyl iodide						
	SUB		84.5 ± 4.0	298				[1982PIL/SKI, 1979CON/DEM]
C ₇ H ₆ FeO ₃	[12078-32-9]	1,3-butadiene iron tricarbonyl						
	V		49.0 ± 4.2					[1976BRO/CON, 1982PIL/SKI]
C ₈ H ₆ Fe ₂ O ₆ S ₂	[14878-96-7]	Hexacarbonylbis(methanethiolato)diiron						
	SUB		102.8	333	C			[1995CON/GOB]
	SUB		109.8	298				[1995CON/GOB]
C ₉ Fe ₂ O ₉	[15321-51-4]	Diiron nonacarbonyl						
	SUB	(296–314)	135.3	305	A			[1987STE/MAL]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB				75.3 ± 21.0	298		[1982PIL/SKI, 1972CON/SKI]
$\text{C}_9\text{H}_9\text{FeN}$	[11077-12-6]	Azaferrocene						
		TRS (10–300)			0.65	278.5		
		TRS (10–300)			6.75	289.5	AC	[1984CHH/POM]
$\text{C}_9\text{H}_9\text{FeP}$	[63287-55-8]	Phosphaferrocene			7.33	266	DSC	[1984CHH/POM]
$\text{C}_9\text{H}_{12}\text{FeO}$		bis(1,3-butadiene)ironcarbonyl						
	SUB				76.1 ± 4.2	298		[1982PIL/SKI, 1976BRO/CON]
$\text{C}_{10}\text{H}_{10}\text{Fe}$	[102-54-5]	Ferrocene						
		FUS			18.1	446.9	DSC	[2013FUL/RUZ]
		FUS			17.2	447.9	DSC	[2011VIE/ROJ]
		FUS			17.8	448.0	DSC	[2011ROJ/VIE]
		FUS			17.8	448.5	DSC	[2008LOU/PIN]
		FUS			17.49	447	DSC	[2002ESP/BAR]
		FUS			17.49	447.6	DSC	[2001DAB/MIS]
		FUS			20.0	451.2	DSC	[1995FAN/HOR]
		FUS			18.1	448.9	DSC	[1995TOR/GUD2]
		FUS			17.0	448.4	DTA	[1997SAB/PER2]
		FUS			18.3	446.2	DSC	[1980MUR/CAV]
		FUS			17.5	449.6	DSC	[1983JAC/VAN]
		TRS			0.9	163.9		
		TRS			4.14	242		
		FUS			17.78	448.2		[1981OGA/SOR, 1969JOE/GJA]
		FUS			18.5		DSC	[1971BEE/LIN]
		SUB			72.4 ± 0.6		UV/Vis	[2015HIK/WEE]
		SUB	(323–353)		73.0 ± 0.1	338	UV/Vis	[2013HIK/WEE]
		SUB			72.2 ± 1.2	333	DSC	[2011ROJ/VIE]
		SUB			73.3 ± 1.2	333	C	[2011ROJ/VIE]
		SUB			71.0 ± 1.3	328	Langmuir	[2011ROJ/VIE]
		SUB			73.3 ± 1.9	298	ME	[2008LOU/PIN]
		SUB	(298–304)		73.2 ± 1.9	301	ME	[2008LOU/PIN]
		SUB			72.7 ± 0.2	298	C	[2008LOU/PIN]
		SUB	(295–325)		72.7 ± 1.0	310	TGA	[2007SID/ATA]
		SUB	(290–363)		72.7 ± 0.2	298	GS	[2007EME/VER]
		SUB	(288–356)		73.5 ± 0.1	322	Static	[2006MON/SAN, 2007EME/VER]
		SUB	(288–356)		74.1 ± 0.1	298	Static	[2006MON/SAN, 2007EME/VER]
		SUB			74.9 ± 1.7	298	C	[2004SAN/SCH]
		SUB			72.6 ± 0.1	313	C	[2001KIY/MIN, 2007EME/VER]
		SUB			73.3 ± 0.1	298	C	[2001KIY/MIN, 2007EME/VER]
		SUB			73.1 ± 1.4	333	DSC	[2001ROJ/ORO, 2007EME/VER]
		SUB			74.1 ± 1.4	298	DSC	[2001ROJ/ORO, 2007EME/VER]
		SUB			74.3 ± 0.4	298	ME	[1995TOR/GUD2]
		SUB			73.2 ± 0.7	298	C	[1995TOR/GUD2]
		SUB	(292–300)		72.5 ± 1.0	296	ME	[1990RIB/MON]
		SUB			72.4 ± 1.0	298		[1990RIB/MON]
		SUB	(294–302)		70.3 ± 1.0	298	ME	[1989MIN, 1990RIB/MON]
		SUB	(278–309)		72.1 ± 0.4	294	ME	[1988TOR/BAR2]
		SUB			71.9 ± 0.4	298		[1988TOR/BAR2]
		SUB	(348–446)		64.6	397	A	[1987STE/MAL]
		SUB			75.6 ± 0.4	298	TE,ME,DM	[1983JAC/VAN]
		SUB			74.0 ± 2	298	TE	[1981PEL/TOM]
		SUB	(328–398)		70.0 ± 2		DSC	[1980MUR/CAV]
		SUB	(328–398)		71.9 ± 2.0	298	DSC	[1980MUR/CAV, 2007EME/VER]
		SUB			72.6 ± 1.4	298	ME	[1980CAL/DIA]
		SUB	(348–451)		67.9	298	SUB	[1977BAR/GAI, 2007EME/VER]
		SUB			73.6 ± 0.4	298		[1982PIL/SKI, 1975TEL/KIR]
		SUB			74.1 ± 1.7	298	TCM	[1973DEK/OON]
		SUB	(385–455)		84.0 ± 2.0	298	DSC	[1971BEE/LIN]
		SUB	(385–455)		87.6 ± 2.0	298	DSC	[1971BEE/LIN, 2007EME/VER]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{10}\text{H}_{10}\text{Fe}_2\text{O}_6\text{S}_2$	[28829-01-8]	SUB		72.7 ± 2	298	ME	[1969AND/WES]
		SUB		76.6 ± 1	298	ME	[1962EDW/KIN]
		SUB	(295–303)	76.8 ± 0.9	298	ME	[1960EDW/KIN, 2007EME/VER]
		SUB	(323–367)	83.3	345	ME	[1959COR/SCH]
		SUB	(323–367)	84.7	298	ME	[1959COR/SCH, 2007EME/VER]
		SUB	(357–455)	70.5	406		[1952KAP/KES]
		SUB	(357–455)	73.7	298	BG	[1952KAP/KES, 2007EME/VER]
		V	(456–523)	47.3	471	A	[1987STE/MAL, 1999DYK/SVO]
		V	(451–523)	49.8	466	A	[1987STE/MAL, 1977BAR/GAI]
		V	(519–604)	44.7	561	EB	[1972NIS/SOK]
		V	(519–604)	64.7 ± 0.4	298	EB	[1972NIS/SOK, 2007EME/VER]
		V		47.3	456		[1952KAP/KES]
$\text{C}_{10}\text{H}_{14}\text{FeO}_4$	[14024-17-0]	Hexacarbonylbis(ethanethiolato)diiron					
		SUB		105.4	340	C	[1995CON/GOB]
		SUB		112	298	C	[1995CON/GOB]
$\text{C}_{11}\text{H}_8\text{FeO}_3$	[12093-05-9]	bis(2,4-pentanedionato)iron(II)					
		SUB	(330–368)	131.2 ± 8.7	298	ME	[1990MAL/ALI]
$\text{C}_{11}\text{H}_{10}\text{FeO}$	[12093-10-6]	Cyclooctatetraeneirontricarbonyl					[1982PIL/SKI, 1979CON/DEM]
		SUB		87.0 ± 4.0	298		
		TRS		11.6	317.4		
		FUS		2.5	397.2	DSC	[2008LOU/PIN]
		TRS		0.89	293.5		
		TRS		13.3	317		
		FUS	(13–405)	2.76	397.6	AC	[2007KAN/SOR]
		TRS		11.7	316.4		
		FUS		2.05	396.7		[1978DAN/LEA]
		SUB		89.7 ± 5.1	298	ME	[2008LOU/PIN]
$\text{C}_{11}\text{H}_{12}\text{FeO}$	[1273-86-5]	Ferrocenemethanol					
		FUS		22.91	347.8	AC	[2007KRO/DRU]
		FUS		23.7	352.2	DSC	[2007EME/VER]
		FUS		23.82	351.4	DSC	[2001DAB/MIS]
		SUB	(313–320)	102.8 ± 0.5	298	GS	[2007EME/VER]
$\text{C}_{12}\text{H}_{12}\text{FeO}$	[1271-55-2]	Acetylferrocene					
		SUB	(329–358)	115.6 ± 2.5	298		[1981PEL/TOM]
		V					
$\text{C}_{12}\text{H}_{14}\text{Fe}$	[1273-89-8]	Ethyl ferrocene					
		FUS		12.29	273.9		[2003KOZ/KAR, 2003KAR/KOZ]
$\text{C}_{12}\text{H}_{14}\text{Fe}$	[1291-47-0]	1,1'-dimethylferrocene					
		FUS		17.66	312.6	DSC	[2008LOU/PIN]
		SUB		84.5 ± 1.9	298	ME	[2008LOU/PIN]
$\text{C}_{12}\text{H}_{14}\text{FeO}$	[1277-49-2]	1-ferrocenyl ethanol					
		FUS		14.75	343.7	DSC	[2008LOU/PIN]
		FUS		26.65	366.5	DSC	[2001DAB/MIS]
		SUB		102.4 ± 0.9	298	C	[2008LOU/PIN]
$\text{C}_{12}\text{Fe}_3\text{O}_{12}$	[17685-52-8]	Triiron dodecacarbonyl					
		SUB		96.0 ± 21.0	298		[1982PIL/SKI, 1972CON/SKI]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$C_{13}H_{14}FeO$	[1271-79-0]	Propanoyl ferrocene	FUS		19.2	311.6	AC	[2009KRO/DRU]
			FUS		19.7	311.6	DSC	[2009KRO/DRU]
			SUB		99.0 ± 1.5	298	GS	[2009KRO/DRU]
			V	(316–318)	80.8 ± 0.8	298	GS	[2010EME/KRO]
			V		80.7 ± 0.8	298	GS	[2009KRO/DRU]
$C_{13}H_{16}Fe$	[1273-92-3]	Propyl ferrocene	TRS		1.23	186.7		
			FUS		12.7	276.8	AC	[2009KRO/DRU]
			FUS		14.6	278.2	DSC	[2009KRO/DRU]
			V	(298–358)	69.2 ± 0.7	298	GS	[2010EME/KRO]
			V		69.4 ± 0.8	298	GS	[2009KRO/DRU]
$C_{13}H_{16}FeO$	[34978-83-1]	bis(1,3-cyclohexadiene)ironcarbonyl	SUB		95.0 ± 4.2	298		[1982PIL/SKI, 1976BRO/CON]
$C_{13}H_{17}NFe$	[1271-86-9]	<i>N,N</i> dimethyl(aminomethyl) ferrocene	FUS		14.6	281.5	DSC	[2008LOU/PIN]
			TRS		0.32	134		
			FUS		15.01	280.9		[2003KAR/KOZ]
			FUS		15.01	279.9		[2002KAR/SHE]
			V		73.8 ± 0.4	298	C	[2008LOU/PIN]
$C_{14}H_{10}Fe_2O_4$	[12154-95-9]	bis(η^5 -cyclopentadienylirondicarbonyl)	FUS		30.8	472.9	AC,DSC	[2008KOZ/MAR]
$C_{14}H_{14}FeO_2$	[1273-94-5]	1,1'-diacetylferrocene	SUB	(360–400)	91.9 ± 2.5	298		[1981PEL/TOM]
$C_{14}H_6FeO$	[41406-84-2]	Isobutanoylferrocene	FUS		15.05	294.6	AC	[2010KRO/DRU]
$C_{14}H_{18}Fe$	[31904-29-7]	<i>n</i> -butylferrocene	FUS			21.43	281.5	[2002KOZ/KAR, 2003KAR/KOZ]
			V	(315–333)	75.0 ± 3.0	324	ME	[2003KAR/KOZ]
$C_{14}H_{18}Fe$	[97000-66-3]	Isobutylferrocene	FUS		15.9	280.3	DSC	[2010KRO/DRU]
			FUS	(7–372)	15.33	280.0	AC	[2010EME/KRO]
			V	(308–362)	70.7 ± 0.7	298.0	GS	[2010EME/KRO]
$C_{14}H_{18}Fe$	[1273-97-8]	1,1'-diethylferrocene	FUS	(5–300)	21.03	236.9	AC	[1999DOM/KAR]
$C_{15}H_3F_{18}FeO_6$	[17786-67-3]	tris(1,1,1,5,5-hexafluoro-2,4-pentanedionato)iron(III)	SUB	(333–363)	60.0		TGA	[2000FAH/BAR]
$C_{15}H_{12}F_9FeO_6$	[14526-22-8]	tris(1,1,1-trifluoro-2,4-pentanedionato)iron(III)	SUB	(373–403)	96.0		TGA	[2000FAH/BAR]
			SUB	(378–438)	104.6 ± 0.8		GS	[1985MAT/KUW]
			SUB		80.3	433		[1977VOL/MAZ]
			SUB		128.9	345		[1970GOE/BLO]
			SUB		87.0			[1960BER/TRU, 1965BER/TRU]
			V	(392–428)	87.0 ± 1.2	410		[1978CHU/IGU]
$C_{15}H_{18}FeOS_2$	[122380-51-2]	1,4,6-oxadithiacyclooctan-5-ylferrocene	FUS		24.4	383.3	DSC	[1992HUA/WAN]
$C_{15}H_{21}FeO_6$	[14024-18-1]	tris(2,4-pentanedionato)iron(III)	FUS		30.1	459	DSC	[2004SAB/MAR]
			FUS		25.3	460	DSC	[2004SAB/MAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	FUS			22.6	462		[1984MUR/HIL]
	FUS			25.9	454		[1970MEL/MER2]
	SUB	(413–443)		112		TGA	[2000FAH/BAR]
	SUB			118		TGA	[1997GIL/BOT]
	SUB	(369–388)		124.6 ± 0.9	378	TE,ME	[1996RIB/MON]
	SUB			128.6 ± 0.9	298		[1996RIB/MON]
	SUB	(338–355)		114.2 ± 1.5			[1992GER/GER]
	SUB	(309–360)		126.4 ± 3.1	298	ME	[1990MAL/ALI]
	SUB			138.4 ± 5.2	298	C	[1985MUR/SAK]
	SUB			100	395	T	[1981MAS/BAR]
	SUB			113.6 ± 3.8			[1980SAC/HIL]
	SUB			99 ± 0.8			[1979RIB/REI, 1981MAS/BAR, 1970MEL/MER2]
	SUB			114.2	385		[1970GOE/BLO]
	SUB			65.3 ± 3.3	298		[1968HIL/IRV2]
	SUB			97.9		I	[1982PIL/SKI, 1964FAR/JON]
	SUB			81.6			[1960BER/TRU, 1965BER/TRU]
C ₁₅ H ₃₀ OFeN ₃ S ₆	[34768-31-5]	tris(diethyldithiocarbamato)iron(II)					
	SUB			65.7 ± 1.7	246		[1970DAS/WEN]
C ₁₇ H ₁₄ FeO	[1272-44-2]	Benzoylferrocene					
	FUS	(6–372)		29.9	380.7	AC	[2008KRO/DRU]
	SUB	(342–379)		119.9 ± 0.7	298	GS	[2007EME/VER]
	SUB	(358–382)		116.3 ± 6	298	TE,ME	[1983PEL/GIG]
	V	(384–429)		98.2 ± 0.3	298	GS	[2007EME/VER]
C ₁₇ H ₁₆ Fe	[32994-54-0]	(phenylmethyl)ferrocene					
	FUS	(6–372)		26.8	349.9	AC	[2008KRO/DRU]
	SUB	(312–341)		109.3 ± 0.7	298	GS	[2007EME/VER]
	V	(351–377)		90.6 ± 0.6	298	GS	[2007EME/VER]
C ₁₇ H ₂₂ FeO ₂ S ₂	[122395-65-7]	1,9-dioxa-4,6-dithiacyclundecan-5-ylferrocene					
	FUS			29.4	371.7	DSC	[1992HUA/WAN]
C ₁₈ H ₂₇ FeO ₆	[13978-46-6]	tris(3-methylpentane-2,4-dionato)iron(III)					
	SUB			164.5	422		[1992RIB/FER]
C ₁₉ H ₂₆ FeO ₂ S ₃	[122395-70-4]	1,9-dioxa-4,6,12-trithiacyclotetracecan-5-ylferrocene					
	FUS			40.0	367.1	DSC	[1992HUA/WAN]
C ₁₉ H ₂₆ FeO ₃ S ₂	[122395-66-8]	1,9,12-trioxa-4,6-dithiacyclotetradecan-5-ylferrocene					
	FUS			32.1	349.7	DSC	[1992HUA/WAN]
C ₂₀ H ₃₀ Fe	[12126-50-0]	bis(η^5 -pentamethylcyclopentadienyl)iron					
	TRS			4.3	402.6		
	TRS			4.87	503.7	DSC	[2008LOU/PIN]
Decomposed upon melting							
	SUB			99.0 ± 2.4	298	ME	[2008LOU/PIN]
	SUB	(355–376)		95.7 ± 2.4	365	ME	[2008LOU/PIN]
	SUB			96.8 ± 0.6	298	C	[2001KIY/MIN]
C ₂₄ H ₁₂ F ₉ FeO ₆ S ₃	[14319-78-9]	tris(1-(2-thenoyl)-4,4,4-trifluoro-1,3-butanedione)iron(III)					
	SUB			U46.4			[1960BER/TRU, 1965BER/TRU]
C ₂₄ H ₁₈ FeO ₂	[12180-80-2]	1,1'-dibenzoylferrocene					
	SUB	(358–381)		109.3 ± 6	298	TE,ME	[1983PEL/GIG]
C ₃₀ H ₂₇ FeO ₆	[14323-17-2]	tris(benzoylacetonato)iron(III)				I	[1964FAR/JON]
C ₃₂ H ₁₆ FeN ₈	[132-16-1]	Iron(II) phthalocyanine					
	SUB	(733–813)		198.0 ± 0.5		TGA	[2013SHA/SHT]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{33}\text{H}_{57}\text{FeO}_6$	[14876-47-2]	tris(2,2,6,6-tetramethylheptan-3,5-dionato)iron(III)	SUB	(341–408)	131.9 ± 2.6	374	ME	[2010SID/SID]
			SUB	(413–443)	111		TGA	[2000FAH/BAR]
			SUB	(360–378)	128.5 ± 0.9	369	TE,ME	[1996RIB/MON]
			SUB		129.3 ± 1.2	298		[1996RIB/MON]
			SUB		106.7		ME	[1973BRU/CUR]
$\text{C}_{34}\text{H}_{28}\text{FeP}_2$	[12150-46-8]	1,1-bis(diphenylphosphino)ferrocene	FUS		44.3	459.2	DSC	[1995FAN/HOR]
$\text{C}_{34}\text{H}_{28}\text{FeP}_2\text{S}_2$	[170656-69-6]	1,1'-bis(diphenylthiophosphinyl)ferrocene	FUS		38.6	520.2	DSC	[1995FAN/HOR]
$\text{C}_{39}\text{H}_{44}\text{FeO}_4$	[1801519-79-8]	Chemical name not assigned yet	FUS		43.2	398.1	DSC	[2015ZHA/ZHU]
$\text{C}_{40}\text{H}_{48}\text{FeO}_4$	[1801519-85-6]	Chemical name not assigned yet	TRS		11.1	329.5		
			FUS		36.8	310.0	DSC	[2015ZHA/ZHU]
$\text{C}_{41}\text{H}_{48}\text{FeO}_4$	[1801519-80-1]	Chemical name not assigned yet	TRS		2.6	330.9		
			FUS		44.3	389.1	DSC	[2015ZHA/ZHU]
$\text{C}_{43}\text{H}_{52}\text{FeO}_4$	[1801519-81-2]	Chemical name not assigned yet	FUS		63.9	398.0	DSC	[2015ZHA/ZHU]
$\text{C}_{44}\text{H}_{50}\text{FeO}_4$	[1801519-87-8]	Chemical name not assigned yet	FUS		32.2	412.0	DSC	[2015ZHA/ZHU]
$\text{C}_{45}\text{H}_{33}\text{FeO}_6$	[14405-49-3]	tris(dibenzoylmethano)iron(III)	SUB		U31.8		I	[1964FAR/JON]
$\text{C}_{45}\text{H}_{56}\text{FeO}_4$	[1801519-82-3]	Chemical name not assigned yet	FUS		60.8	393.8	DSC	[2015ZHA/ZHU]
			[7789-46-0]	Iron(II) dibromide				
			SUB	(655–833)	197.6 ± 2.0	744	TE,ME	[1996BAR/BRU]
			SUB		208 ± 2.0	298		[1996BAR/BRU]
			SUB	(680–720)	196 ± 8	700	TE	[1996BAR/BRU, 1960SIM/GRE]
FeCl_2	[7758-94-3]	Iron(II) dichloride	SUB	(673–962)	197 ± 2	817	GS	[1996BAR/BRU, 1955MAC/GRE]
			SUB		210 ± 6	298		[1996BAR/BRU, 1955MAC/GRE]
			SUB	(623–718)	197 ± 4	670	ME	[1996BAR/BRU, 1955MAC/GRE]
FeF_2	[7789-28-8]	Iron(II) difluoride	SUB	(693–866)	198.9 ± 2.0	780	TE,ME	[1996BAR/BRU]
			SUB		204 ± 4.0	298		[1996BAR/BRU]
			SUB	(694–745)	189 ± 8	719	TE	[1960SIM/GRE, 1996BAR/BRU]
			SUB	(621–658)	186 ± 12	640	MS	[1958SCH/POR, 1996BAR/BRU]
			SUB		193 ± 12	298		[1958SCH/POR, 1996BAR/BRU]
Ga								
$\text{C}_3\text{H}_9\text{Ga}$	[1445-79-0]	Trimethyl gallium	FUS		11.8		S-V	[2003FUL/RUZ]
			FUS		10.6	257.8	AC	[1988LEB/SMI, 2006FUL/RUZ]
			FUS	(60–298)	11.05	257.9		[1996DOM/HEA, 1973MAS/NOV]
			SUB	(225–257)	47.4			[2003FUL/RUZ]
			SUB	(247–257)	45.2	252		[1987STE/MAL]
			V	(259–263)	35.6			[2003FUL/RUZ]
			V	(257–277)	34.9	267		[1988KAY/HEI]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_4\text{H}_{10}\text{ClGa}$	V	Diethylgallium chloride		(273–333)	33.1 ± 0.8 32.6	303		[1958LON/SAC, 1982PIL/SKI]
	V							[1933KRA/TOO, 1958FOW/MOR]
$\text{C}_6\text{H}_9\text{Ga}$	[30914-08-0]	Trivinyl gallium		(298–373)	59.9	335		[1991BUC/POT]
	V							[1962OLI/STE]
[Note: Decomposition noted above 333 K.]								
$\text{C}_6\text{H}_{15}\text{Ga}$	[1115-99-7]	Triethyl gallium	FUS	(60–300)	11.64 43.1 ± 1.6 48.4 38.5 ± 0.4 41.4	193.5		[1996DOM/HEA, 1972MAS/FAM]
	V							[2001BAE, 2001BAE/CHE]
	V							[1988KAY/HEI]
	V							[1973KOL/RAB, 1982PIL/SKI]
	V							[1962HAR/LUT]
$\text{C}_9\text{H}_{21}\text{Ga}$	[54514-59-9]	Triisopropyl gallium		(298–373)	49.0 46.6	335		[1962OLI/STE]
	V							[1962HAR/LUT]
$\text{C}_9\text{H}_{21}\text{Ga}$	[29868-77-7]	Tripropyl gallium		(316–385) (298–373)	46.6 ± 0.5 49.2 49.7	350 335		[2001BAE]
	V							[1962OLI/STE]
	V							[1962HAR/LUT]
$\text{C}_{11}\text{H}_{24}\text{GaNS}_2$	[253595-30-1]	Di- <i>tert</i> -butyl gallium dimethyldithiocarbamate		(374–427)	43 ± 1		TGA	[1999KEY/BOT]
$\text{C}_{11}\text{H}_{24}\text{GaNS}_2$	[253595-34-5]	Dibutyl gallium dimethyldithiocarbamate		(385–424)	53 ± 1		TGA	[1999KEY/BOT]
$\text{C}_{11}\text{H}_{24}\text{GaNS}_2$	[253595-35-6]	Di- <i>sec</i> -butyl gallium dimethyldithiocarbamate		(366–425)	44 ± 1		TGA	[1999KEY/BOT]
$\text{C}_{12}\text{H}_{27}\text{Ga}$	[15677-44-8]	Tributyl gallium		(330–378) (426–507)	51.6 ± 1.3 56.2 58.7	354 441	A	[2001BAE]
	V							[1987STE/MAL]
	V							[1962HAR/LUT]
$\text{C}_{12}\text{H}_{27}\text{Ga}$	[17150-84-4]	Triisobutyl gallium		(260–290)	32.9 52.2	275		[1988KAY/HEI]
	V							[1962HAR/LUT]
$\text{C}_{13}\text{H}_{28}\text{GaNS}_2$	[253595-32-3]	Di- <i>tert</i> -butyl gallium diethyldithiocarbamate		(372–419)	48 ± 6		TGA	[1999KEY/BOT]
$\text{C}_{15}\text{H}_5\text{F}_{18}\text{GaO}_6$	[19648-92-1]	tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)gallium(III)	SUB	(333–363)	53.0		TGA	[2000FAH/BAR]
$\text{C}_{15}\text{H}_{12}\text{F}_9\text{GaO}_6$	[15453-83-5]	tris(1,1,1-trifluoro-2,4-pentanedionato)gallium(III)		(373–403) (378–433) (386–401) V	75.0 118.8 ± 1.7 89.4 ± 6.7 75.6 ± 0.5	430	TGA GS	[2000FAH/BAR]
	SUB							[1985MAT/KUW]
	SUB							[1978IGU/CHU2]
	SUB							[1978IGU/CHU2]
	V							[1978IGU/CHU2]
$\text{C}_{15}\text{H}_{21}\text{GaO}_6$	[14405-43-7]	tris(pentane-2,4-dionato)gallium(III)	SUB	(413–433)	90.0		TGA	[2000FAH/BAR]
$\text{C}_{15}\text{H}_{32}\text{GaNS}_2$	[253595-33-4]	Di- <i>tert</i> -butyl gallium dipropyldithiocarbamate	V	(365–424)	46 ± 1		TGA	[1999KEY/BOT]
$\text{C}_{16}\text{H}_{36}\text{Ga}_4\text{S}_4$	[135283-83-9]	$[(\text{CH}_3)_3\text{C}\text{Ga}(\text{^3-S})_4]$	SUB	(367–380)	110	373	TGA	[1997GIL/BOT]
$\text{C}_{16}\text{H}_{36}\text{Ga}_4\text{Se}_4$	[135283-84-0]	$[(\text{CH}_3)_3\text{C}\text{Ga}(\text{^3-Se})_4]$	SUB	(375–388)	119	381	TGA	[1997GIL/BOT]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₆ H ₃₆ Ga ₄ Te ₄	[135258-40-1]	[(CH ₃) ₃ C]Ga(¹³ Te) ₄ SUB	(391–422)	131	406	TGA	[1997GIL/BOT]
C ₂₀ H ₄₄ Ga ₄ S ₄	[166331-96-0]	[(C ₂ H ₅ (CH ₃) ₂ C)Ga(¹³ S)] ₄ SUB	(369–382)	124	375	TGA	[1997GIL/BOT]
C ₂₀ H ₄₄ Ga ₄ Se ₄	[176100-40-6]	[(C ₂ H ₅ (CH ₃) ₂ C)Ga(¹³ Se)] ₄ SUB	(395–407)	137	375	TGA	[1997GIL/BOT]
C ₂₀ H ₄₄ Ga ₄ Te ₄	[176100-41-7]	[(C ₂ H ₅ (CH ₃) ₂ C)Ga(¹³ Te)] ₄ SUB	(416–432)	140	424	TGA	[1997GIL/BOT]
C ₂₄ H ₅₂ Ga ₄ S ₄	[166331-97-1]	[(C ₂ H ₅) ₂ (CH ₃)C]Ga(¹³ S)] ₄ SUB	(407–420)	137	413	TGA	[1997GIL/BOT]
C ₂₄ H ₅₂ Ga ₄ Se ₄	[187612-49-3]	[(C ₂ H ₅) ₂ (CH ₃)C]Ga(¹³ Se)] ₄ SUB	(388–420)	147	404	TGA	[1997GIL/BOT]
C ₂₄ H ₅₂ Ga ₄ Te ₄	[176100-42-8]	[(C ₂ H ₅) ₂ (CH ₃)C]Ga(¹³ Te)] ₄ SUB	(432–447)	151	439	TGA	[1997GIL/BOT]
C ₂₈ H ₆₀ Ga ₄ S ₄	[187612-47-1]	[(C ₂ H ₅) ₃ C]Ga(¹³ S)] ₄ SUB	(432–444)	149	438	TGA	[1997GIL/BOT]
C ₂₈ H ₆₀ Ga ₄ Se ₄	[187612-51-7]	[(C ₂ H ₅) ₃ C]Ga(¹³ Se)] ₄ SUB	(452–464)	156	458	TGA	[1997GIL/BOT]
C ₂₈ H ₆₀ Ga ₄ Te ₄	[187612-52-8]	[(C ₂ H ₅) ₃ C]Ga(¹³ Te)] ₄ SUB	(444–456)	156	450	TGA	[1997GIL/BOT]
C ₃₃ H ₅₇ O ₆ Ga	[34228-15-4]	tris(2,2,6,6-tetramethylheptan-3,5-dionato)gallium(III)					
	SUB		118.8		ME	[2011ZHU/KRA]	
	SUB	(413–443)	87.0		TGA	[2000FAH/BAR]	
	SUB		102.1		ME	[1973BRU/CUR]	
GaBr ₃	[13450-88-9]	Gallium tribromide SUB	(300–357)	92.5 ± 2.0	298	TE	[2009BRU/PIA]
(GaBr ₃)-(NH ₃)	[54955-92-9]	Gallium tribromide-ammonia complex SUB		67.4 ± 1.3			[1975TRU/SUV]
GaCl ₂	[128579-09-9]	Gallium dichloride SUB	(372–441)	111 ± 2	406	TE	[2010BRU]
GaCl ₃	[13450-90-3]	Gallium trichloride FUS		11.12	349.6	DSC	[2007CHU/ZEL]
	SUB	(289–308)	89 ± 2		TE	[2010BRU/PIA]	
	SUB	(313–349)	87.1 ± 1.2	298	T	[2007CHU/ZEL]	
	V	(351–421)	72.7 ± 0.2	349	T	[2007CHU/ZEL]	
(GaCl ₃)-(NH ₃)	[50599-24-1]	Gallium trichloride-ammonia complex SUB		75.6 ± 1.3			[1975TRU/SUV]
GaF ₃	[7783-51-9]	Gallium trifluoride SUB	(808–958)	252 ± 4	298	TE	[2010BRU/PIA]
GaI ₃	[13450-91-4]	Gallium triiodide SUB	(345–401)	100.5 ± 2.0	298	TE	[2010BRU/PIA]
Gd							
C ₁₀ H ₁₀ ClGd	[11087-14-2]	bis(cyclopentadienyl)gadolinium chloride SUB	(338–438)	138.5 ± 2.1		ME	[1971HAU]
C ₁₅ H ₁₅ Gd	[1272-21-5]	tris(cyclopentadienyl)gadolinium SUB	(513–623)	106.7 ± 2.9			[1973BOR/KRA]
C ₁₅ H ₂₁ GdO ₆	[14284-87-8]	tris(2,4-pentanedionato)gadolinium(III) FUS		39.3	373.2	DSC	[1971PRZ/BOS]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₃₀ H ₃₀ F ₂₁ GdO ₆	[17631-67-3]	tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)gadolinium(III)					
	SUB	(362–385)	154.8 ± 0.8			ME	[1971SWA/KAR]
C ₃₃ H ₅₇ GdO ₆	[14768-15-1]	tris(2,2,6,6-tetramethylpentane-2,4-dionato)gadolinium(III)					
	SUB		166.1 ± 3.5	298	DSC	[1999SAN/PET]	
	SUB		78.8 ± 1.5			[1996TSY/DYA2, 2000GIE]	
	SUB	(383–418)	181.2	400	ME	[1981AMA/SAT]	
	SUB		163.6		ME	[1973BRU/CUR]	
	SUB	(420–456)	161.3	438	BG	[1969SIC/DUB]	
	V	(456–500)	90.2		BG	[1969SIC/DUB]	
GdI ₃	[13572-98-0]	Gadolinium triiodide					
	SUB	(917–1025)	306.4 ± 5.2	971	ME	[1975HIR/ROM]	
	SUB	(917–1025)	321.3 ± 5.2	298	ME	[1975HIR/ROM]	
Ge							
CHCl ₅ Ge	[21572-22-5]	Trichloro(dichloromethyl)germane					
	V	(303–423)	47.9	318		[1975SOK/KAR]	
CH ₂ Cl ₄ Ge	[21572-18-9]	Trichloro(chloromethyl)germane					
	V	(303–423)	45.9	318		[1975SOK/KAR]	
CH ₃ Cl ₃ Ge	[993-10-2]	Methyltrichlorogermane					
	V	(293–385)	37.4	308		[1971GON/KAR]	
CH ₄ Cl ₂ Ge	[1111-82-6]	Methyldichlorogermane					
	V	(281–346)	34.5	313	SG	[1961GRI/ONY]	
	V	(273–290)	33.1	281		[1961AMB/BOE]	
CH ₅ BrGe	[30123-09-2]	Methylbromogermane					
	V	(273–333)	33.3	303	SG	[1961GRI/ONY]	
CH ₅ ClGe	[29914-10-1]	Methyl chlorogermane					
	V	(241–263)	25.8	252		[1961AMB/BOE]	
CH ₆ Ge	[1449-65-6]	Methylgermane					
	V	(159–230)	16.6	194	SG	[1961GRI/ONY]	
	V	(164–197)	21.4	181		[1961AMB/BOE]	
CH ₆ GeS	[16643-16-6]	(methylthio)germane					
	V	(223–291)	29.8	257		[1999DYK/SVO]	
CH ₁₂ Ge ₃ Si	[20576-06-1]	Trigermylmethylsilane					
	V	(301–378)	39.1	339		[1968DUT/ONY]	
C ₂ H ₅ Cl ₃ Ge	[993-42-0]	Trichloro(ethyl)germane					
	V	(293–415)	41.9	308		[1971GON/KAR]	
C ₂ H ₆ Ge	[34292-00-7]	Vinylgermane					
	V	(196–237)	24.2	216		[1959BRI/STO]	
C ₂ H ₇ Cl ₂ Ge	[21961-73-9]	Dimethylchlorogermane					
	V	(273–288)	29.4	280		[1961AMB/BOE]	
C ₂ H ₈ Ge	[1449-64-5]	Dimethylgermane					
	V	(196–228)	26.5	212		[1961AMB/BOE]	
C ₂ H ₁₀ Ge ₂	[23830-51-5]	1,1-dimethyldigermane					
	V	(259–295)	31.8	277		[1969GEO/MAC]	
C ₂ H ₁₀ Ge ₂	[23830-52-6]	1,2-dimethyldigermane					
	V	(258–295)	29.3	277		[1969GEO/MAC]	
C ₂ H ₁₂ Ge ₂ Si	[23830-52-6]	Digermyldimethylsilane					
	V	(297–381)	34.4	339		[1968DUT/ONY]	
C ₃ H ₉ Cl ₂ Ge	[1529-47-1]	Trimethylchlorogermane					
	V	(293–363)	36.3	308		[1972DIT/SKO2]	

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(273–341)	34.4	307	SG	[1961GRI/ONY]
$\text{C}_3\text{H}_9\text{FGe}$	[661-37-0]	Trimethylfluorogerманe				
	SUB	(250–284)	40.0	267	SG	[1987STE/MAL, 1961GRI/ONY]
	V	(285–345)	32.4	315	SG	[1961GRI/ONY]
$\text{C}_3\text{H}_{12}\text{GeSi}$	[18365-18-9]	(trimethylsilyl)gerманe				
	V	(288–314)	30.3	301		[1968DUT/ONY]
$\text{C}_3\text{H}_{12}\text{Ge}_2$	[20478-15-3]	1,1,1-trimethyldigermane				
	V	(273–327)	36.1	300		[1968DUT/ONY]
$\text{C}_3\text{H}_{12}\text{Ge}_2$	[23830-53-7]	1,1,2-trimethyldigermane				
	V	(268–294)	33.5	281		[1969GEO/MAC]
$\text{C}_4\text{H}_9\text{Cl}_3\text{Ge}$	[4872-26-8]	Butyltrichlorogerманium				
	V	(313–453)	49.2	328		[1975SOK/KAR2]
$\text{C}_4\text{H}_{12}\text{Ge}$	V	(337–377)	45.8	352		[1972GON/KAR]
	[865-52-1]	Tetramethylgerманe				
		FUS	(15–300)	7.45	184.4	[1970VAL/KIL]
		V	(301–320)	25.6	310	[1974MOG/HOC, 1983HOU3]
		V		28.1 ± 0.1	285	C [1970VAL/KIL]
		V		27.6 ± 2.1		[1969SHA/FED, 1982PIL/SKI]
	V	(278–318)	28.6	298		[1968LON/PUL]
$\text{C}_4\text{H}_{12}\text{GeO}$	V	(218–321)	30.8	250		[1968LON/PUL]
	V	(293–313)	29.7	303	MM	[1966ZAB]
$\text{C}_4\text{H}_{12}\text{GeO}_4$	[6163-67-3]	Trimethylmethoxy germane				
	V	(273–335)	32.4	304	SG	[1961GRI/ONY]
$\text{C}_4\text{H}_{12}\text{GeO}_4$	[992-91-6]	Tetramethoxygerманe				
		V	(264–303)	48.7	298	[2008PAN/FUL]
		V		40.2 ± 0.4		[1970SHA/FED, 1977PED/RYL]
$\text{C}_4\text{H}_{12}\text{GeS}_4$	V	(303–385)	44.0	344		[1958BRA/KAY]
	[21736-70-9]	Tetra(methylthia)gerманe				
		FUS		14.2	284.1	DSC [1998FUE/STR]
$\text{C}_5\text{H}_{11}\text{Cl}_3\text{Ge}$	[25425-26-7]	Pentyltrichlorogerманium				
	V	(323–473)	51.9	338		[1975SOK/KAR2]
$\text{C}_5\text{H}_{12}\text{Ge}$	V	(305–475)	49.7	320		[1972GON/KAR]
	[993-40-8]	Trimethyl(ethyl)germanium				
		V	(293–343)	34.7	368	MM [1966ZAB]
$\text{C}_6\text{H}_5\text{Cl}_3\text{Ge}$	[1074-29-9]	Phenyltrichlorogerманe				
	V	(343–473)	55.4	358		[1972SOK/KAR]
$\text{C}_6\text{H}_{13}\text{Cl}_3\text{Ge}$	[35460-93-6]	Hexyltrichlorogerманium				
	V	(315–491)	51.1	329		[1972GON/KAR]
$\text{C}_6\text{H}_{15}\text{BrGe}$	[1067-10-3]	Bromotriethylgerманe				
	V	(303–463)	48.3	318		[1971GON/KAR]
$\text{C}_6\text{H}_{16}\text{Ge}$	[3634-65-9]	Dimethyl(diethyl)germanium				
	V	(293–373)	38.5	333	MM	[1966ZAB]
$\text{C}_6\text{H}_{16}\text{Ge}$	[1118-01-0]	(trimethyl)propylgermanium				
	V	(293–363)	36.5	328	MM	[1966ZAB]
$\text{C}_6\text{H}_{18}\text{Ge}_2\text{O}$	[2237-93-6]	Hexamethyldigermoxane				
	V	(291–345)	44.1	318	SG	[1961GRI/ONY]
$\text{C}_8\text{H}_{24}\text{GeN}_4$	[7344-40-3]	tetrakis(dimethylamino)germanium				
	V	(278–308)	49.6	298		[2010MOR/FUL]
$\text{C}_7\text{H}_7\text{Cl}_3\text{Ge}$	[6181-21-1]	Benzyltrichlorogerманe				

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(373–473)	58.8	388			[1972SOK/KAR]
C ₇ H ₁₅ Cl ₃ Ge	[1190-86-9]	Heptyltrichlorogermanium					
	V	(323–506)	52.3	338			[1972GON/KAR]
C ₇ H ₁₈ Ge	[994-27-4]	Methyl(trethyl)germanium					
	V	(293–403)	41.3	348	MM		[1966ZAB]
C ₇ H ₁₈ Ge	[1000-46-0]	(trimethyl)butylgermanium					
	V	(293–383)	39.2	338	MM		[1966ZAB]
C ₈ H ₂₀ Ge	[57596-76-6]	Pentyl(trimethyl)germane					
	V	(303–423)	44.3	318			[1975SOK/KAR2]
C ₈ H ₂₀ Ge	[597-63-7]	Tetraethylgermane					
	FUS	(8–300)	12.31	180.0	AC		[1996DOM/HEA, 1985RAB/SHE]
	FUS	(60–300)	12.61	180.3			[1996DOM/HEA, 1972MAS/RAB]
	FUS	(100–220)	12.41	180.5			[1954STA/WAR]
	V	(253–293)	43.4	273	GS		[1992GAZ/SCH]
	V		45.7 ± 0.4	298	C		[1977PEA/FUC]
	V	(337–436)	46.1	352			[1974MOG/HOC]
	V	(293–433)	44.6	363	MM		[1966ZAB]
	V		44.8 ± 1.3				[1964BIL/COT, 1982PIL/SKI]
	V	(313–373)	42.2		T		[1963RAB/TEL]
C ₈ H ₂₀ Ge	[995-86-8]	(dimethyl)dipropylgermanium					
	V	(293–403)	43.2	348	MM		[1966ZAB]
C ₈ H ₂₀ GeO ₄	[14165-55-0]	Tetraethoxygermane					
	V	(259–303)	56.7	298			[2008PAN/FUL]
	V		53.9	389			[1988GRI/CHE, 2008PAN/FUL]
	V		53.6	406			[1977BAL/RUD, 2008PAN/FUL]
	V		43.1 ± 0.4				[1970SHA/FED, 1977PED/RYL]
	V	(328–414)	47.9	371			[1958BRA/KAY]
	V		46.6	403			[1953JOH/FRI, 2008PAN/FUL]
C ₈ H ₂₄ Ge ₄ O ₄	[7749-82-8]	Octamethyltetragermoxane					
	SUB		68.2 ± 4.2	298			[1982PIL/SKI, 1972VOL/SMO]
	V	(333–473)	51.4	403			[1972VOL/SMO]
C ₁₀ H ₂₄ Ge	[995-22-2]	Methyl(tripropyl)germanium					
	V	(313–453)	48.8	383	MM		[1966ZAB]
C ₁₀ H ₂₄ GeO ₂	[26452-74-4]	<i>tert</i> -butylperoxytriethylgermane					
	V		43.5 ± 4.2				[1971RAB/KIP, 1982PIL/SKI]
C ₁₀ H ₂₅ GeN	[756-66-1]	Triethyl(diethylamino)germane					
	V	(303–463)	50.9	318			[1970GON/KAR]
	V		46.0 ± 4.8				[1971KOL/RAB, 1982PIL/SKI]
C ₁₂ H ₁₂ Ge	[1675-58-7]	Diphenylgermane					
	FUS		11.91	240.2			[1980LEB/KIP]
C ₁₂ H ₂₈ Ge	[994-65-0]	Tetrapropylgermane					
	V	(353–493)	54.7	368	A		[1987STE/MAL]
	V	(390–498)	54.3	415			[1974MOG/HOC, 1983HOU3]
	V	(353–493)	54.2	423	MM		[1966ZAB]
	V		61.5 ± 4.2				[1964POP/SKI, 1982PIL/SKI]
C ₁₂ H ₂₈ GeO ₄	[128426-02-8]	Tetrapropoxygermane					
	V	(343–453)	63.3	358	A		[1987STE/MAL]
	V	(369–465)	55.0	417			[1958BRA/KAY]
	V		55.6				[1953JOH/FRI]
C ₁₂ H ₂₈ GeO ₄	V	Tetraisopropoxygermane					
	V	(313–453)	60.4	328	A		[1987STE/MAL]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(355–444)	54.9	400			[1958BRA/KAY]
C ₁₂ H ₃₀ ClGeN ₃	[28402-28-0]	tris(diethylamino)chlorogerманe (363–493)	64.4	378			[1970GON/KAR]
C ₁₂ H ₃₀ Ge ₂ Hg	[4149-28-4]	bis(triethylgermyl)mercury V V	(383–403) 62.8 ± 4.2	64.8	393		[1972BRA/KAR] [1972KOL/RAB, 1982PIL/SKI]
C ₁₂ H ₃₀ Ge ₂	[993-62-4]	Hexaethylgermane		62.8			[1963RAB/TEL, 1982PIL/SKI]
C ₁₂ H ₃₀ Ge ₂ O	[2538-70-7]	Hexaethylgermoxane V		58.6 ± 4.2			[1971RAB/KIP, 1982PIL/SKI]
C ₁₂ H ₃₃ GeNSi ₂	[1357556-77-4]	1,1,1-triethyl- <i>N,N</i> -bis(trimethylsilyl)germanamine V	(371–471)	50.5 ± 0.5	421	Static	[2013SYS/NIK]
C ₁₆ H ₁₂ Ge	[1675-59-8]	(diethynyl)diphenylgermane FUS	(8–326)	20.1	320		[1975LEB/MIL]
	SUB			133.9		B,E	[1975LEB/MIL]
	V	(305–337)		110.8	320	A	[1987STE/MAL]
C ₁₆ H ₁₈ Ge	[4514-06-1]	1,1-diphenylgermanocyclopentane FUS		14.45		DSC	[1988CAR/DYS]
	SUB			104.6 ± 2.8	298		[1988CAR/DYS]
	V	(294–322)		87.6 ± 2.8		ME	[1988CAR/DYS]
C ₁₆ H ₃₆ Ge	[1067-42-1]	Tetrabutylgermane FUS		19.1	198.6		[1971SHA/YAK]
	V	(436–556)		65.1	460		[1974MOG/HOC, 1983HOU3]
	V	(393–513)		64.6	463	MM	[1966ZAB]
C ₁₆ H ₃₆ GeO ₄	[25063-27-8]	Tetrabutoxygermane V V	(394–519)	62.4 59.6	456		[1958BRA/KAY] [1953JOH/FRI]
C ₁₆ H ₃₆ GeO ₄	[1085941-13-4]	Tetraisobutoxygermane V	(369–482)	59.9	426		[1958BRA/KAY]
C ₁₆ H ₃₆ GeO ₄	V	Tetra- <i>sec</i> -butoxygermane (365–475)		59.9	420		[1958BRA/KAY]
C ₁₆ H ₃₆ GeO ₄	[1085941-54-3]	Tetra- <i>tert</i> -butoxygermane V	(364–460)	53.8	412		[1958BRA/KAY]
C ₁₈ HF ₁₅ Ge	[42371-50-6]	tris(pentafluorophenyl)germane FUS	(7–500)	34.9	405	AC	[1997SMI/LEB2]
C ₁₈ H ₄₂ Ge ₂ Hg	[24004-54-4]	bis(triisopropylgermyl)mercury V V	(373–483)	68.7 54.4 ± 4.2	388		[1972BRA/KAR] [1972KOL/RAB, 1982PIL/SKI]
C ₂₀ H ₁₈ Ge	[4049-97-2]	Triphenyl vinylgermanium SUB		98.7 ± 1.6	298	ME,TE	[1988CAR/JAM2]
C ₂₀ H ₄₄ Ge	[3634-47-7]	Tetrapentylgermane V	(471–599)	72.2	500		[1974MOG/HOC, 1983HOU3]
C ₂₄ H ₂₀ Ge	[1048-05-1]	Tetraphenylgermane SUB SUB	(402–480) (402–480)	148.6 156.9 ± 4.2	441 298	A	[1987STE/MAL] [1982PIL/SKI, 1969ADA/CAR, 1974KAN]
C ₂₄ H ₂₀ GeO ₄	[1085941-60-1]	Tetraphenoxygermane V		37.4 ± 0.4			[1970SHA/FED, 1977PED/RYL]
C ₂₆ H ₂₀ Ge	[4131-49-1]	Triphenyl phenylethyngermane					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB				107.5 ± 1.5	298	ME,TE	[1988CAR/JAM2]
C ₂₈ H ₂₈ Ge	[1048-05-1]	Tetrabenzylgermane			168.6 ± 8.4	298		[1982PIL/SKI, 1970CAR/CAR]
C ₃₂ H ₁₆ Cl ₂ GeN ₈	[19566-97-3]	Dichlorophthalocyaninatogermande			147.4			[1972MAR/LOP]
C ₃₆ H ₅ Ge ₂ O	[2181-40-0]	bis(triphenyl germanium) oxide			98.0 ± 1.5	298	ME,TE	[1988CAR/JAM2]
C ₃₆ H ₃₀ Ge ₂	[2816-39-9]	Hexaphenyldigermane			(483–558)	209.2 ± 4.2	298	[1982PIL/SKI, 1970CAR/CAR, 1974KAN]
Br ₂ Ge	[24415-00-7]	Germanium dibromide	FUS		11.6	409.2	DSC	[2006ZEL/CHU2]
Br ₄ Ge	[13450-92-5]	Germanium tetrabromide	FUS	(5–315)	12.85	299.3	AC	[1999BER/ZEL]
	SUB			(273–299)	58.6 ± 1.2	298		[2004ZEL/CHU]
	V			(299–373)	46.6 ± 0.3	298		[2004ZEL/CHU]
ClF ₃ Ge	[14188-40-0]	Chlorotrifluorogermande	V	(209–253)	39.5	231		[1936BOO/MOR]
Cl ₂ F ₂ Ge	[24422-21-7]	Dichlorodifluorogermande	V	(226–271)	27.6	248		[1936BOO/MOR]
Cl ₃ FGe	[24422-20-6]	Trichlorofluorogermande	V		34.9	280		[1936BOO/MOR]
Cl ₄ Ge	[10038-98-9]	Germanium tetrachloride	FUS		8.52	221.7		[1986DEV/GUS]
	SUB			(187–221)	44.6 ± 0.2		MG	[1964BAL/DON]
Cl ₆ Ge ₂	[15432-44-7]	Hexachlorodigermande	V	(298–333)	53.6	315		[1962KOP]
[Note: The author of [1962KOP] refers to the value as an enthalpy of vaporization.]								
F ₂ Ge	[13940-63-1]	Germanium difluoride	FUS		9.25	(corrected to 298 K)		[1971ADA/MAR]
	SUB				82.8 ± 4.2	298	MS	[1971ADA/MAR]
	SUB				93.3 ± 10.5	298		[1971ADA/MAR]
F ₄ Ge	[7783-58-6]	Germanium tetrafluoride	V	(260–300)	22.9	280		[2015TRO/BUL]
Ge ₄ H ₁₀	[14691-47-5]	Tetragermane	V		32.8			[1959AMB]
Ge ₅ H ₁₂	[15587-39-0]	Pentagermane	V		34.6			[1959AMB]
GeH ₆ Si	[13768-63-3]	Germylsilane	V	(190–250)	25.0	220		[1963SPA/MAC]
GeI ₂	[13573-08-5]	Germanium diiodide	FUS		33.3	701.2		[2003ZEL/TIT]
GeI ₄	[13573-08-5]	Germanium tetraiodide	FUS		19.1	419		[1998ZEL/MIN]
	SUB				87.1 ± 3	298		[1999TIT/ZEL]
	SUB				86.7 ± 3	298		[1999TIT/ZEL]
	SUB			(323–420)	76.5 ± 5.7	298	TE	[1987FER/STR]
Ha	V			(419–613)	64.2 ± 0.2	419		[1999TIT/ZEL2]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
Cl ₅ HaO	[143928-41-0]	Hahnium(V) oxychloride					
	SUB	(298–607)	152 ± 18		298		[1996TUR/EIC]
Cl ₅ Ha	[146837-09-4]	Hahnium(V) pentachloride		<120	298		[1996TUR/EIC]
Hf							
C ₁₀ H ₁₀ Cl ₂ Hf	[12116-66-4]	bis(cyclopentadienyl)hafnium dichloride					
	SUB		110.2 ± 2.9	298		ME	[2001DIO/PIE]
	SUB	(394–447)	100.3	420.5			[1987STE/MAL]
	SUB		106.7 ± 2.1	298			[1982PIL/SKI, 1976KIR/TEL]
	SUB		100.4 ± 1.3				[1977BAL/BAR]
	SUB		107.3 ± 2.4	298			[1968KIS/DIL, 2001DIO/PIE]
C ₁₂ H ₁₆ Hf	[37260-88-1]	bis(cyclopentadienyl)dimethyl hafnium					
	SUB	(295–316)	81.1 ± 1.9	303		ME	[2008MOR/ZHE]
C ₁₆ H ₃₆ HfO ₄	[2172-02-3]	tetrakis(<i>tert</i> -butoxy)hafnium					
	FUS		32.3	271.8		DSC	[2011FUL/RUZ2]
	V	(280–308)	64.8 ± 0.4	298			[2011FUL/RUZ2]
C ₁₈ H ₃₀ HfN ₂	[159338-62-2]	bis(cyclopentadienyl)hafnium bis(diethylamide)					
	SUB	(328–365)	130.5 ± 1.0	346		ME	[2008MOR/ZHE]
C ₂₀ H ₁₆ F ₁₂ HfO ₈	[17475-68-2]	tetrakis(1,1,1-trifluoro-2,4-pentanedionato)hafnium(IV)					
	FUS		40.1	398		DSC	[2008ZHE/MOR]
	SUB	(358–393)	133.0 ± 1.8	376		GS	[2008MOR/ZHE]
	SUB	(358–398)	126.5 ± 1.8				[2008ZHE/MOR]
	SUB	(383–438)	129.7 ± 3.8			GS	[1985MAT/KUW]
	SUB	(383–438)	124.7 ± 3.8			GS	[1985MAT/KUW]
	V	(403–423)	84.7 ± 3.1	413		GS	[2008MOR/ZHE]
	V	(403–423)	83.2 ± 2.0	413			[2008ZHE/MOR]
C ₂₀ H ₂₈ HfO ₈	[17475-67-1]	tetrakis(pentane-2,4-dionato)hafnium(IV)					
	SUB	(408–433)	138.7 ± 7.4	420		GS	[2008MOR/ZHE]
	SUB	(408–443)	130.4 ± 6.1	425			[2008ZHE/MOR]
	SUB		150.6 ± 4.2				[1991TEL/LAR]
C ₃₂ H ₄₀ F ₁₂ HfO ₈	[916441-69-5]	tetrakis(1,1,1-trifluoro-5,5-dimethyl-2,4-hexanedionato)hafnium N,N'					
	SUB	(383–423)	135.3 ± 1.7	403		GS	[2008MOR/ZHE]
Note: The enthalpy of sublimation that was reported in the paper, 97.5 ± 1.7 kJ/mol, was not consistent with the reported Antoine constants. We have recalculated the the enthalpy of sublimation assuming that the reported Antoine constants are correct.							
	SUB	(386–423)	121.5 ± 0.8	404			[2008ZHE/MOR]
	V	(426–493)	92.1 ± 1.3	460		GS	[2008MOR/ZHE]
	V	(424–472)	91.2 ± 0.3	448			[2008ZHE/MOR]
C ₄₄ H ₇₆ HfO ₈	[63370-90-1]	tetrakis(2,2,6,6-tetramethyl-3,5-heptanedionato)hafnium(IV)					
	TRS		15.8	446			
[Note: The enthalpy includes a solid/solid transition that occurs at 433 K.]							
	FUS		5.4	630		DSC	[2008ZHE/MOR]
	SUB	(453–553)	103.5 ± 0.6	503		GS	[2008MOR/ZHE]
	SUB	(368–428)	136.6 ± 4.2	398		ME	[2008MOR/ZHE]
HfCl ₄	[13499-05-3]	Hafnium tetrachloride					
	SUB	(398–500)	97.9 ± 1.2	499		T	[1994TAN/BOS]
	SUB	(353–433)	107.9 ± 0.8				[1973IZM/KHO]
Hg							
CH ₃ BrHg	[506-83-2]	Methylmercuric bromide					
	SUB	(258–297)	67.6 ± 1.6	277.5		V	[1987STE/MAL, 1951CHA/SKI]
CH ₃ ClHg	[115-09-3]	Methylmercuric chloride					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
CH_3HgI	[143-36-2]	FUS		12.1	446.6	DSC	[1972PLA]
		SUB	(278–307)	64.9 ± 1.6	298	V	[1987STE/MAL, 1982PIL/SKI, 1950HAR/PRI, 1951CHA/SKI]
$\text{C}_2\text{H}_5\text{BrHg}$	[107-26-6]	Methylmercuric iodide					
		SUB	(263–290)	65.3 ± 1.6	276	V	[1951CHA/SKI]
$\text{C}_2\text{H}_5\text{ClHg}$	[107-27-7]	Ethylmercuric bromide					
		SUB	(285–303)	76.5 ± 2.9	294	V	[1987STE/MAL, 1982PIL/SKI, 1951HAR/PRI, 1951CHA/SKI]
$\text{C}_2\text{H}_5\text{HgI}$	[2440-42-8]	Ethylmercuric chloride					
		SUB	(283–303)	76.2 ± 2.9	293	V	[1987STE/MAL, 1982PIL/SKI, 1951HAR/PRI, 1951CHA/SKI]
$\text{C}_2\text{H}_6\text{Hg}$	[593-74-8]	Ethylmercuric iodide					
		SUB	(286–303)	79.7 ± 2.9	294.5	V	[1987STE/MAL, 1982PIL/SKI, 1951HAR/PRI, 1951CHA/SKI]
$\text{C}_2\text{H}_6\text{Hg}$	V	Dimethyl mercury					
		V	(275–367)	36.7 ± 0.1	321		[2001BAE]
$\text{C}_2\text{F}_6\text{HgS}_2$	[1085746-33-3]	bis(trifluoromethylthio)mercury					
		V	(353–423)	49.9	368		[1999DYK/SVO]
$\text{C}_4\text{H}_{10}\text{Hg}$	[627-44-1]	Diethyl mercury					
		FUS	(5–300)	10.50	181.45	AC	[1978BUR/KAM]
	V			44.8 ± 1.7			[1951HAR/PRI, 1982PIL/SKI]
		V		44.9			[1935JON/EVA]
$\text{C}_4\text{H}_{16}\text{Cl}_2\text{HgN}_8\text{S}_4$	[28813-22-1]	<i>trans</i> -dichloro-tetrakis(thiourea)mercury(II)					
	SUB			11 ± 20			[1970ASH]
$\text{C}_6\text{H}_{14}\text{Hg}$	[628-85-3]	Dipropyl mercury					
	V			55.2 ± 1.3			[1952MOR/PRI, 1982PIL/SKI]
$\text{C}_6\text{H}_{14}\text{Hg}$	[1071-39-2]	Diisopropyl mercury					
	V			53.6 ± 1.7			[1952MOR/PRI, 1982PIL/SKI]
$\text{C}_{10}\text{H}_{14}\text{Cl}_2\text{HgN}_6\text{O}_2$	SUB	[Mercury(1-methylcytosine) ₂ Cl ₂]					
		(428–443)	150.8 ± 19	435	ME		[1984BUR/MOR]
$\text{C}_{10}\text{H}_{20}\text{HgN}_2\text{S}_4$	SUB	bis(diethyldithiocarbamate) mercury complex					
		(378–403)	47.6	390.5	A		[1987STE/MAL]
$\text{C}_{12}\text{F}_{10}\text{Hg}$	[973-17-1]	bis(pentafluorophenyl)mercury					
	FUS			27.8	402.6	DSC	[2008ZEL/CHU]
$\text{C}_{12}\text{H}_{12}\text{Hg}$	[587-85-9]	Diphenylmercury					
	SUB	(314–303)	1128 ± 0.8	298	ME		[1958CAR/STR]
$\text{C}_{12}\text{H}_{30}\text{Ge}_2\text{Hg}$	[4149-28-4]	bis(triethylgermyl)mercury					
	V	(383–403)	64.8	393			[1972BRA/KAR]
$\text{C}_{12}\text{H}_{30}\text{HgSi}_2$	[4149-29-5]	bis(triethylsilyl)mercury					
	V	(383–433)	64.0	398			[1972BRA/KAR]
$\text{C}_{14}\text{H}_{14}\text{Hg}$	[780-24-5]	bis(benzyl)mercury					
	SUB	(350–390)	88.7 ± 2.1		ME,TE		[1984CAR/SPE]
$\text{C}_{14}\text{H}_{28}\text{HgN}_2\text{S}_4$	[21439-56-5]	bis(dipropyldithiocarbamate)mercury(II)					
	SUB		200 ± 2	298	DSC,E		[1992DEC/AIR]
$\text{C}_{16}\text{H}_{10}\text{Hg}$	[6077-10-7]	bis(phenylethylyn)mercury					
	SUB	(350–390)	99.2 ± 1.4		ME,TE		[1984CAR/SPE]
$\text{C}_{18}\text{H}_{36}\text{HgN}_2\text{S}_4$	[21439-58-7]	bis(dibutylidithiocarbamate)mercury(II)					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		SUB			193 ± 3	298	DSC,E	[1991DES/DES]
C ₁₈ H ₃₆ HgN ₂ S ₄	[79001-48-2]	bis(diisobutyldithiocarbamate)mercury(II)			247 ± 1	298	DSC,E	[1994SOU/PIN]
C ₁₈ H ₄₂ Ge ₂ Hg	[24004-54-4]	bis(triisopropylgermyl)mercury	V	(373–483)	68.7	388		[1972BRA/KAR]
Hg	[7439-97-6]	Mercury	FUS	(5–300)	2.26	234.3	AC	[1979AMI/LEB]
			FUS	(19–318)	2.30	234.3		[1953BUS/GIA]
HgBr ₂	[7789-47-1]	Mercuric bromide	FUS		17.90	511.3	C	[1959JAN/GOO]
HgF ₂	[7783-39-3]	Mercuric fluoride	SUB	(496–629)	136 ± 4	298		[2008BRU/PIA]
HgI ₂	[7774-29-0]	Mercuric iodide	FUS		20.3	537	S-V	[2002SU/ZHU]
			SUB		84.4		UV	[2002SU/ZHU]
			V	(537–610)	64.0	574	UV	[2002SU/ZHU]
Ho								
C ₁₅ H ₁₅ Ho	[1272-22-6]	tris(cyclopentadienyl)holmium(III)	SUB		1021 ± 2.1			[1973DEV/BOR]
			SUB	(338–348)	119.7 ± 2.1		ME	[1971HAU, 1971HAU2]
C ₁₅ H ₂₁ HoO ₆	[14589-33-4]	tris(2,4-pentanedionato)holmium(III)	FUS		48.1	377.2	DSC	[1971PRZ/BOS]
C ₃₃ H ₅₇ HoO ₆	[15522-73-3]	tris(2,2,6,6-tetramethylheptane-3,5-dionato)holmium(III)	SUB		131.0 ± 2.9		DSC	[1993AIR/SAN]
			SUB	(363–418)	152.7	390	ME	[1981AMA/SAT]
			SUB	(420–458)	131.4	439	BG	[1969SIC/DUB]
			V	(458–500)	84.6		BG	[1969SIC/DUB]
HoI ₃	[13813-41-7]	Holmium triiodide	SUB	(924–1029)	298.3 ± 5.8	976	ME	[1975HIR/ROM]
			SUB	(924–1029)	315.5 ± 5.8	298	ME	[1975HIR/ROM]
I								
HI	[10034-85-2]	Hydrogen iodide	TRS		0.26	70.2		
			TRS		0.95	125.6		
			FUS		2.86	222.5		[1978INA/CHI]
			FUS		2.87			[1929GIA/WIE, 1978INA/CHI]
			FUS		3.04			[1924EUC/KAR, 1978INA/CHI]
			V		19.8	238	C	[1929GIA/WIE]
			V	(217–238)	19.6	227		[1925MIR/MOL]
CII	[7790-99-0]	Iodine chloride	FUS		11.6	300.5	C	[1965CAL/GIA]
In								
C ₃ H ₉ In	[3385-78-2]	Trimethyl indium	FUS		14.3	358.7		[1991URY/RON]
			SUB	(274–313)	62.7	294		[2004FUL/RUZ]
			SUB	(260–290)	54.2	275		[1988KAY/HEI]
			SUB		48.5 ± 2.5	298		[1982PIL/SKI, 1968CLA/PRI]
			SUB	(328–362)	57.7	344	A	[1987STE/MAL, 1941LAU/GIL]
C ₆ H ₁₅ In	[923-34-2]	Triethyl indium						

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_9\text{H}_{21}\text{In}$	[3015-98-3]	FUS	(60–298)	13.01	237.6		[1996DOM/HEA, 1973MAS/NOV]
		V	(326–376)	45.0 ± 0.7	351		[2001BAE, 2001BAE/CHE]
		V	(265–290)	53.9	277		[1988KAY/HEI]
		V		53.4			[1962HAR/LUT]
$\text{C}_9\text{H}_{21}\text{In}$	[17144-80-8]	Tripropyl indium					
		V	(400–483)	52.0	441		[1999DYK/SVO]
		V		58.4			[1962HAR/LUT]
$\text{C}_9\text{H}_{21}\text{In}$	[15676-66-1]	Triisopropyl indium					
		V	(318–366)	52.3 ± 0.7	342		[2001BAE]
		V	(394–478)	51.0	436		[1999DYK/SVO]
$\text{C}_{12}\text{H}_{27}\text{In}$	[6731-23-3]	Tributyl indium					
		V	(444–539)	58.5	459	A	[1987STE/MAL]
		V		59.8			[1962HAR/LUT]
$\text{C}_{12}\text{H}_{27}\text{In}$	[15453-87-9]	Triisobutyl indium					
		SUB	(378–428)	112.1 ± 1.3		GS	[1985MAT/KUW]
		V	(398–478)	77.4 ± 0.6	438		[1978IGU/CHU2]
$\text{C}_{15}\text{H}_{30}\text{InN}_3\text{S}_6$	[87052-01-5]	tris(diethyldithiocarbamate)indium(III)					
		SUB		176.7 ± 3.3	298	DSC,E	[2000SOU/OLI]
		SUB					
$\text{C}_{20}\text{H}_{48}\text{In}_2\text{P}_4$	[85883-33-6]	bis[μ -[bis(1,1-dimethylethyl)phosphino]]tetramethyldiindium(III)				ME	[1988BRA/FAK]
		SUB		130.0			
		SUB					
$\text{C}_{21}\text{H}_{42}\text{InN}_3\text{S}_6$	[85883-33-6]	tris(dipropyldithiocarbamate)indium(III)					
		SUB		372.8 ± 3.4	298	DSC,E	[2000SOU/OLI]
		SUB					
$\text{C}_{21}\text{H}_{42}\text{InN}_3\text{S}_6$	[85883-33-6]	tris(diisopropyldithiocarbamate)indium(III)					
		SUB		279.5 ± 3.5	298	DSC,E	[2000SOU/OLI]
		SUB					
$\text{C}_{27}\text{H}_{54}\text{InN}_3\text{S}_6$	[85883-33-6]	tris(dibutyldithiocarbamate)indium(III)					
		SUB		358.3 ± 3.2	298	DSC,E	[2000SOU/OLI]
		SUB					
$\text{C}_{27}\text{H}_{54}\text{InN}_3\text{S}_6$	[85129-27-7]	tris(diisobutyldithiocarbamate)indium(III)					
		SUB		182.0 ± 3.3	298	DSC,E	[2000SOU/OLI]
		SUB					
$\text{C}_{33}\text{H}_{57}\text{InO}_6$	[34269-03-9]	tris(2,2,6,6-tetramethylheptan-3,5-dionato)indium(III)					
		SUB		135.1		ME	[2011ZHU/KRA]
		SUB		129.3		ME	[1973BRU/CUR]
InBr_3	[13465-09-3]	Indium(III) bromide					
		SUB		147 ± 4	298	TE	[1997BRU/PAL]
InCl_3	[10025-82-8]	Indium(III) chloride					
		SUB	(495–648)	152 ± 4	570	TE	[1998BRU/PIA]
		SUB		158 ± 4	298		[1998BRU/PIA]
		SUB		150.4	710		[1994OPP/KRA]
		SUB		161.1	298		[1994OPP/KRA, 1998BRU/PIA]
		SUB	(453–572)	151.1 ± 1.2	489	MS	[1988DEF/CHA]
		SUB		155.6 ± 1.2	298		[1988DEF/CHA, 1998BRU/PIA]
		SUB	(478–563)	161.1 ± 1.6	524		[1988DEF/CHA]
		SUB		168.5 ± 1.6	298		[1988DEF/CHA, 1998BRU/PIA]
		SUB	(623–773)	156.3	698		[1974KUN/HOS]
		SUB		166.6	298		[1974KUN/HOS, 1998BRU/PIA]
InI_3	[13510-35-5]	Indium(III) iodide					
		SUB	(399–479)	136 ± 5.0	298	TE,ME	[1997BRU/GIU]
Ir							
$\text{C}_7\text{H}_7\text{IrO}_4$	[14023-80-4]	Dicarbonyl-2,4-pentanedionato iridium complex		(306–333)	94.1 ± 2.7	ME	[2009MOR/SEM]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	SUB	(286–325)	92.0 ± 1.3	306	ME	[1978JES/ERN, 1987STE/MAL]
C ₇ H ₁₃ Cl ₂ IrO ₂	SUB	bis(chloroethylene)-2,4-pentanedionato iridium complex (281–298)	89.5 ± 4.2	290	ME	[1978JES/ERN, 1987STE/MAL]
C ₉ H ₁₅ IrO ₂	[52654-27-0]	bis(ethylene)-2,4-pentanedionato iridium complex (283–311)	82.8 ± 4.2	297	ME	[1978JES/ERN, 1987STE/MAL]
C ₁₁ H ₁₉ IrO ₂	[66467-05-8]	bis(propylene)-2,4-pentanedionato iridium complex (269–304)	90 ± 1.3	287	ME	[1978JES/ERN]
C ₁₂ O ₁₂ Ir ₄	[11065-24-0]	Tetrairidiumdodecacarbonyl	104.6 ± 20	298		[1982PIL/SKI, 1974CON/SKI]
C ₁₂ H ₁₅ IrO ₂	[32660-96-1]	(pentamethylcyclopentadienyl)(dicarbonyl)iridium(I) (297–332)	105.0 ± 3.4		ME	[2009MOR/SEM]
C ₁₃ H ₁₉ IrO ₂	[12154-84-6]	(acetylacetonato)(1,5-cyclooctadiene)iridium(I) (335–370)	111.7 ± 1.7		ME	[2009MOR/SEM]
C ₁₃ H ₁₉ IrO ₆	[66467-07-0]	bis(vinyl acetate)-2,4-pentanedionato iridium complex (325–344)	120.5 ± 2.9	333	ME	[1978JES/ERN]
C ₁₃ H ₁₉ IrO ₆	[66467-08-1]	bis(methyl acrylate)-2,4-pentanedionato iridium complex (311–335)	117.2 ± 5	323	ME	[1978JES/ERN]
C ₁₄ H ₁₉ Ir	[132644-88-3]	(methylcyclopentadienyl)(1,5-cyclooctadiene)iridium(I) (304–310)	124.6 ± 5.0		ME	[2009MOR/SEM]
	V	(310–330)	88.1 ± 1.3		ME	[2009MOR/SEM]
C ₁₅ H ₂₁ IrO ₆	[15635-87-7]	tris(2,4-pentanedionato)iridium(III)				
	SUB	(423–473)	129.3 ± 1.0			[2010SYS/CHE]
	SUB		128			[2001MOR/ZHA]
	SUB	(423–473)	129.3 ± 0.8		GS	[2000MOR/SEM]
	SUB	(383–433)	130.5 ± 3.4		ME	[2000MOR/SEM]
	SUB	(387–513)	1016 ± 1.8		MCV	[2000MOR/SEM]
	SUB	(468–518)	86.6 ± 1.7		SMZG	[2000MOR/SEM]
	SUB		NA			[1994GER/GER]
La						
C ₁₅ H ₁₅ La	[1272-23-7]	tris(cyclopentadienyl)lanthanum				
	SUB		114.6 ± 4.0	298		[1982PIL/SKI, 1974DEV/RAB]
	SUB	(548–663)	102.1 ± 2.9			[1973BOR/KRA]
C ₃₀ H ₃₀ F ₂₁ LaO ₆	[19106-89-9]	tris(1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)lanthanum(III)				
	SUB	(387–403)	145.2 ± 2.9		ME	[1971SWA/KAR]
C ₃₃ H ₅₇ LaO ₆	[14319-13-2]	tris(2,2,6,6-tetramethylheptan-3,5-dionato)lanthanum(III)				
	SUB		156.0 ± 4.6		DSC	[1997SAN/ROC, 2000GIE]
	SUB		116.1 ± 8.4			[1996TSY/DYA]
	SUB		107.9 ± 4.6			[1996TSY/DYA2, 2000GIE]
	SUB	(388–423)	179.5	405	ME	[1981AMA/SAT]
	SUB		164.4		ME	[1973BRU/CUR]
	SUB	(450–520)	143.6	485	BG	[1969SIC/DUB]
LaBr ₃	[13536-79-3]	Lanthanum trichloride				
	SUB	(955–1045)	295 ± 3	1000	TE	[2000BRU/VIL]
	SUB	(955–1045)	308 ± 5	298	TE	[2000BRU/VIL]
LaCl ₃	[10099-58-8]	Lanthanum trichloride				
	SUB	(1006–1122)	326 ± 2	1064	TE	[2000BRU/VIL]
	SUB	(1137–1188)	268 ± 5	1162	TE	[2000BRU/VIL]
	SUB	(1006–1188)	334 ± 5	298	TE	[2000BRU/VIL]
LaI ₃	[13813-22-4]	Lanthanum triiodide				
	SUB	(827–978)	289 ± 6	905	ME,MS	[2015DUN/KUD]
	SUB	(827–978)	304 ± 6	298	ME,MS	[2015DUN/KUD]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
Li	SUB	(932–1038)	270 ± 4	985	TE	[2000BRU/VIL, 2015DUN/KUD]
	SUB	(932–1038)	288 ± 4	298	TE	[2000BRU/VIL, 2015DUN/KUD]
	SUB	(1055–1123)	216 ± 6	1098	TE	[2000BRU/VIL, 2015DUN/KUD]
	SUB	(1055–1123)	287 ± 6	298	TE	[2000BRU/VIL, 2015DUN/KUD]
Li						
C ₂ H ₅ Li	[811-49-4]	Ethyl lithium				
	SUB	(298–333)	116.6	315.5	A	[1987STE/MAL, 1962CHA]
C ₄ H ₉ Li	[109-72-8]	Butyl lithium				
	SUB	(333–368)	109.7	350.5	A	[1987STE/MAL, 1962LEB/MIR]
	V		107.1 ± 2.9			[1961FOW/MOR, 1982PIL/SKI]
[Note: The authors of [1961FOW/MOR] noted that the experimental data were not very reproducible, and subject to considerable error.]						
C ₅ HF ₆ LiO ₂	[22466-51-9]	(1,1,1,5,5-hexafluoro-2,4-pentanedionato)lithium				
	SUB	(453–523)	149.5 ± 3.5			[2006FIL/SYS]
The above value was calculated assuming the vapor phase is a dimer.						
C ₅ H ₄ F ₃ LiO ₂	[127892-64-2]	(1,1,1-trifluoro-2,4-pentanedionato)lithium				
	SUB	(453–523)	145.6 ± 3.0			[2006FIL/SYS]
The above value was calculated assuming the vapor phase is a dimer.						
C ₈ H ₁₀ F ₃ LiO ₂	[22441-09-4]	(2-2-dimethyl-6,6,6-trifluoro-3,5-hexanedionato)lithium				
	SUB	(453–523)	182.0 ± 2.3			[2006FIL/SYS]
The above value was calculated assuming the vapor phase is a dimer.						
C ₁₁ H ₁₉ LiO ₂	[22441-13-0]	(2,2,6,6-tetramethylheptane-3,5-dionato)lithium				
	SUB	(400–450)	191.2 ± 7.1		ME,MS	[2006FIL/STA]
	SUB	(444–543)	181.1 ± 2.8			[2006FIL/SYS]
	SUB	(537–545)	198.0 ± 15.1			[2006FIL/SYS]
	SUB	(444–549)	178.3 ± 2.0			[2006FIL/SYS]
	SUB		174.5		ME	[1973BRU/CUR]
The above four values were calculated assuming the vapor phase is a tetramer.						
	V	(550–581)	95.6 ± 1.3			[2006FIL/SYS]
The above value was calculated assuming the vapor phase is a tetramer.						
LiBH ₄	[16949-15-8]	lithium tetrahydroborate				
	TRS		5.07	386.6	DSC	[2011KHA/NUT]
LiF	[7789-24-4]	Lithium fluoride				
	SUB	(1073–1121)	268.2 ± 4.2			[1959SCH/MAR, 1958EIS/ROT]
	SUB	(957–1113)	267.8 ± 4.2			[1958POR/SCH]
Lu						
C ₁₅ H ₁₅ Lu	[1272-24-8]	tris(cyclopentadienyl)lutetium(III)				
	SUB		123.0 ± 2.9			[1973DEV/BOR]
C ₁₅ H ₂₁ LuO ₆	[17966-84-6]	tris(2,4-pentanedionato)lutetium(III)				
	SUB	(403–433)	79 ± 13	418		[1983TRE/BER]
C ₃₃ H ₅₇ LuO ₆	[15492-45-2]	tris(2,2,6,6-tetramethylpentane-2,4-dionato)lutetium(III)				
	SUB		135.8 ± 2.9	298	DSC	[1999SAN/PET]
	SUB	(363–413)	154.8	390	ME	[1981AMA/SAT]
	SUB	(420–448)	134.2	434	BG	[1969SIC/DUB]
	V	(448–490)	83.6		BG	[1969SIC/DUB]
Mg						
C ₁₀ H ₁₀ Mg	[1284-72-6]	bis(cyclopentadienyl) magnesium				
	SUB		68.2 ± 1.3			[1982PIL/SKI, 1967HUL/REI, 1967TUR]
C ₁₀ H ₂₂ Mg	[19978-31-5]	bis(2,2-dimethylpropyl)magnesium				
	SUB	(318–348)	160.0 ± 2.0	333	ME	[1983AKK/SCH]
C ₁₈ H ₁₂ MgN ₂ O ₂	[14639-28-2]	bis(8-hydroxyquinolinato)magnesium(II)				
	SUB		230.2 ± 4.0	298	ME	[1994RIB/MAT]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{20}\text{H}_{16}\text{MgN}_2\text{O}_2$	[14406-92-9]	bis(8-hydroxy-2-methylquinolinolate)magnesium(II)	SUB	(533–549)	212.2 ± 6.5	541	ME	[1998RIB/MAT3]
			SUB	(533–549)	224.3 ± 6.5	298	ME	[1998RIB/MAT3]
			FUS		58.3 ± 5.2		DTA	[2008MAR/SEL]
$\text{C}_{28}\text{H}_{54}\text{MgN}_2\text{O}_4$	[302351-10-6]	$(N,N,N',N'\text{-tetramethylethylenediamine})\text{bis}((2,2,6,6\text{-tetramethyl-3,5-heptanedionato})\text{magnesium}$	SUB		83.2 ± 2.3		TGA	[2008MAR/SEL]
			FUS		19.0	352.7	DTA	[2009MAR/SEL]
			SUB		77.0		F+V	[2009MAR/SEL]
$\text{C}_{31}\text{H}_{61}\text{MgN}_3$	FUS	$(N,N,N',N',N''\text{-pentamethyldiethylenetriamine})\text{bis}(2,2,6,6\text{-tetramethyl-3,5-heptanedianato})\text{magnesium}$	V	(373–441)	59 ± 1		TGA	[2009MAR/SEL]
			SUB					
			V					
$\text{C}_{44}\text{H}_{76}\text{Mg}_2\text{O}_8$	[236095-55-9]	tetrakis(2,2,6,6-tetramethyl-3,5-heptanedianato)dimagnesium	V	(395–476)	67 ± 2		TGA	[2009MAR/SEL]
MgF_2	[7783-40-6]	Magnesium fluoride	SUB	(1220–1450)	359.8	1330	MS	[1962BER/MAR]
			SUB	(1273–1513)	327.3 ± 4.3	1400	TE	[1964GRE/KO]
			SUB		348.2 ± 4.3	298		[1964GRE/KO]
Mn								
$\text{C}_4\text{H}_{16}\text{Cl}_2\text{MnN}_8\text{S}_4$	[28813-17-4]	<i>trans</i> -dichloro-tetrakis(thiourea)manganese(II)	SUB	(382–409)	133 ± 20			[1970ASH]
C_5BrMnO_5	[14516-54-2]	Bromo(pentacarbonyl)manganese	SUB		58.6 ± 8.4	298		[1982PIL/SKI, 1972CON/SKI]
			SUB		880 ± 2.0	298	C	[1982CON/ZAF]
$\text{C}_5\text{ClIMnO}_5$	[14100-30-2]	Chloro(pentacarbonyl)manganese	SUB		58.6 ± 8.4	298		[1982PIL/SKI, 1972CON/SKI]
			SUB		91 ± 9			[1982CON/ZAF]
C_5IMnO_5	[14879-42-6]	Iodo(pentacarbonyl)manganese	SUB		77.4 ± 1.4	298	C	[1982CON/ZAF]
$\text{C}_5\text{H}_3\text{MnO}_5\text{Si}$	[15770-61-3]	Silyl pentacarbonyl manganese	V	(294–391)	39.6	343	T	[1969AYL/CAM2, 1967AYL/CAM]
$\text{C}_6\text{F}_3\text{MnO}_5$	[13601-14-4]	Pentacarbonyl(trifluoromethyl)manganese	SUB		77.8 ± 1.0	298	C	[1982CON/ZAF]
$\text{C}_6\text{H}_3\text{MnO}_5$	[13601-24-6]	Methyl(pentacarbonyl)manganese	SUB		60.3 ± 1.0			[1982PIL/SKI, 1974BRO/CON]
			SUB	(293–403)	60.2			[1958HIE/WAG]
$\text{C}_7\text{F}_3\text{MnO}_6$	[14099-62-8]	Pentacarbonyl(trifluoroacetyl)manganese	SUB		79 ± 5	298	C	[1982CON/ZAF]
$\text{C}_7\text{H}_3\text{MnO}_6$	[13963-91-2]	Acetyl(pentacarbonyl)manganese	SUB		80 ± 7	298	C	[1982CON/ZAF]
$\text{C}_8\text{H}_5\text{MnO}_3$	[12079-65-1]	Cyclopentadienyl(tricarbonyl)manganese	FUS		18.9	350.1	DSC	[2008PIO/CAN]
			SUB		72.2 ± 3.9	294	ME	[2008PIO/CAN]
			SUB		72.0 ± 3.9	298	ME	[2008PIO/CAN]
			SUB		75.8 ± 0.4	305	C	[2008PIO/CAN]
			SUB		76.0 ± 0.4	298	C	[2008PIO/CAN]
			SUB	(323–353)	52.7 ± 3.1	338		[1982PIL/SKI, 1965EVS/SHM, 1970BAE/DEM]
			SUB	(335–343)	64.2 ± 11.6	339	ME	[1959COR/SCH, 2008PIO/CAN]
			V	(353–489)	50.8	421		[1970BAE/DEM]
$\text{C}_8\text{H}_{10}\text{Cl}_2\text{MnN}_6\text{O}_2$	[74543-44-5]	[manganese-(cytosine) ₂ Cl ₂]	SUB	(433–453)	U 146 ± 21	443	ME	[1984BUR/MOR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₈ H ₅ MnO ₃	[12079-65-1]	Cyclopentadienylmanganese tricarbonyl					
C ₁₀ MnO ₁₀ Re	SUB	(335–343)	43.1	339			[1959COR/SCH]
	SUB		109 ± 4	363	C		[1998ADD/CON]
	SUB		86 ± 4	298			[1998ADD/CON]
	SUB	(363–440)	68.6	401	MM		[1971BAE/DEM]
C ₁₀ Mn ₂ O ₁₀	V	(440–463)	56.5	451			[1971BAE/DEM]
	SUB		80.3 ± 4.2	298			[1982PIL/SKI, 1958GOO/FAI]
	SUB		92.3 ± 2.1	298	C		[1982CON/ZAF]
	SUB	(351–428)	80.3 ± 2.1	390	MM		[1971BAE/DEM]
	SUB		62.8 ± 4.2				[1960COT/MON]
[Note: The latter value is likely an enthalpy of vaporization.]							
C ₁₀ H ₆ Mn ₂ O ₈ S ₂	V	(428–463)	60.7 ± 1.3	446			[1971BAE/DEM]
	SUB		114.2 ± 0.8	340	C		[1995CON/GOB2]
C ₁₀ H ₁₀ Mn	SUB	bis(cyclopentadienyl)manganese					
	SUB	(298–445)	72.4	371.5	A		[1987STE/MAL]
	SUB		75.7 ± 1.7	298			[1982PIL/SKI, 1971TEL/RAB]
	SUB		72.4				[1956WIL/COT]
C ₁₀ H ₁₄ MnO ₄	V	(378–435)	58.0	393	A		[1987STE/MAL]
	SUB	bis(2,4-pentanedionato) manganese(II)					
	SUB	(390–440)	139.3 ± 2.5	298	ME		[1990MAL/ALI]
	SUB		87.0	343			[1981MAS/BAR]
	SUB		88.7				[1972BOL, 2000DUN]
C ₁₁ H ₅ MnO ₅	SUB	88.7		400			[1970GOE/BLO]
	SUB	Phenyl(pentacarbonyl)manganese					
C ₁₂ H ₅ MnO ₆	SUB	84.9 ± 4.4	298	C			[1982CON/ZAF]
	SUB	Benzoyl(pentacarbonyl)manganese					
C ₁₂ H ₇ MnO ₅	SUB	123 ± 3	298	C			[1982CON/ZAF]
	SUB	Benzyl(pentacarbonyl)manganese					
C ₁₅ H ₁₂ F ₉ MnO ₆	SUB	84.5 ± 0.7	298	C			
	SUB	tris(1,1,1-trifluoro-2,4-pentanedionato) manganese(III)					
	SUB	(378–413)	120.5 ± 9.2		GS		[1985MAT/KUW]
	SUB		117.3				[1971ASH]
C ₁₅ H ₂₁ MnO ₆	SUB		77.8				[1964WOO/JON]
	FUS	tris(2,4-pentanedionato) manganese(III)					
		27.7	421.9	DSC			[2004SAB/MAR]
	SUB		130.5 ± 4.0		MS		[2010KAM/YAR]
	SUB	(320–380)	124.7 ± 3.8	298	ME		[1990MAL/ALI]
	SUB		120 ± 10	298	E		[1988RIB/FER2]
	SUB		99.0	392			[1981MAS/BAR]
	SUB		113	370			[1970GOE/BLO]
C ₁₈ H ₁₂ MnN ₂ O ₂	SUB	77.8 ± 0.8	298				[1982PIL/SKI, 1968HIL/IRV]
	SUB	bis(8-hydroxyquinolinato) manganese(II)					
	SUB		194.6 ± 10.4	298	ME		[1994RIB/MAT]
	SUB	(615–650)	208.4 ± 14	633	ME		[1984BUR/MOR]
C ₂₀ H ₁₆ MnN ₂ O ₂	SUB	(615–650)	226 ± 14	298	ME		[1984BUR/MOR]
	SUB	bis(8-hydroxy-2-methylquinolinate)manganese(II)					
	SUB	(521–541)	199.6 ± 7.2	531	ME		[1998RIB/MAT3]
C ₃₀ H ₂₇ MnO ₆	SUB	(521–541)	211.2 ± 7.2	298	ME		[1998RIB/MAT3]
	SUB	tris(1-phenylbutane-1,3-dionato)manganese(III)					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB			195 ± 10	298	E	[1988RIB/FER2]
$\text{C}_{33}\text{H}_{57}\text{MnO}_6$	[14324-99-3]	tris(2,2,6,6-tetramethylheptane-3,5-dionato)manganese(III)					
		SUB		89.0 ± 7.0	298	MS	[2011KAM/DEM]
		SUB	(350–408)	139.0 ± 1.6	379	ME	[2010SID/SID]
		SUB		140 ± 10	298	E	[1988RIB/FER2]
$\text{C}_{44}\text{H}_{28}\text{MnN}_4$	[31004-82-7]	5,10,15,20-tetraphenylporphine manganese(II)				UV	[1993SHE/KAR]
MnF_2	[7782-64-1]	5,10,15,20-tetraphenylporphine manganese(II)	175 ± 1				
		SUB					
		SUB	(1054–1128)	305.4 ± 6.7	1103	MS	[1964KEN/EHL]
		SUB	(1054–1128)	318.4 ± 8.4	298	MS	[1964KEN/EHL]
		SUB	(887–924)	319.7 ± 2.1	298		[1963BAU/MAR]
		V	(1130–1270)	291.8 ± 6.3	1165	ME	[1969HIT/KAN]
		V	(1132–1193)	300.8 ± 6.7	1159	MS	[1964KEN/EHL]
Mo							
$\text{C}_4\text{H}_4\text{Mo}_2\text{O}_8$	[51329-49-8]	Dimolybdenum(II) tetraformate					
	SUB			135.0 ± 1.4	483		[2011SLY/KOZ]
C_6MoO_6	[13939-06-5]	Molybdenum hexacarbonyl					
		FUS		25.1	423.29	DSC	[2013BER/CAN]
		FUS		26.78	419.2	DSC	[1976FAB/MAS]
		SUB		73.4 ± 0.3	298	C	[2013BER/CAN]
		SUB	(265–300)	77.7			[2001OHT/CIC]
		SUB	(316–423)	69.1	331	A	[1987STE/MAL]
		SUB	(240–285)	76.9 ± 0.9	263	ME	[1979DAA/ERN, 1980BOX/ERN]
		SUB		73.8 ± 1.0			[1975PIL/WAR, 1974BAR/PIL]
		SUB	(343–383)	69.7	363		[1960MON/COT, 1947LAN/GER]
		SUB	(323–403)	72.5			[1952REZ/SHV]
		SUB	(292–308)	72.8			[1947LAN/GER]
		SUB		68.2			[1935HIE/ROM]
$\text{C}_7\text{H}_3\text{MoNO}_5$	[17594-16-0]	Acetonitrile molybdenum pentacarbonyl					
	SUB		(260–279)	105.8 ± 5.6	298		[1980CAV/ERN]
$\text{C}_8\text{F}_{12}\text{Mo}_2\text{O}_8$	[36608-07-8]	Dimolybdenum tetrakis(trifluoroacetate)					
		SUB		115.3 ± 1.2	420		[2011SLY/KOZ]
		SUB	(330–370)	113.6 ± 1.7	350	ME,TE	[1984CAR]
$\text{C}_8\text{H}_{12}\text{CrMoO}_8$	[71561-64-3]	Chromium molybdenum tetraacetate					
	SUB			165.0 ± 8.4			[1982PIL/SKI]
$\text{C}_8\text{H}_{12}\text{Mo}_2\text{O}_8$		Dimolybdenum tetraacetate					
	SUB		(400–420)	170.5 ± 7	410	ME,TE	[1984CAR]
$\text{C}_8\text{H}_{12}\text{Mo}_2\text{O}_8$	[14221-06-8]	Tetra- μ -acetatodimolybdenum(II)					
		SUB		129 ± 1	491	C	[2008SLY/KON]
		SUB		165.0 ± 8.4	298		[1982PIL/SKI, 1979CAV/GAR]
$\text{C}_8\text{H}_{24}\text{MoN}_4$	[100207-68-9]	tetrakis(dimethylamino)molybdenum					
		SUB		88.4 ± 3	376	C	[1979ADE/CAV]
		SUB		72.4 ± 6	298	C	[1979ADE/CAV, 1982PIL/SKI]
$\text{C}_9\text{H}_9\text{MoN}_3\text{O}_3$	[15038-48-9]	tris(acetonitrile)molybdenum tricarbonyl					
		SUB		111.3 ± 3.0	298		[1980CAV/ERN]
		SUB	(283–308)	96.0 ± 10.0	298		[1982PIL/SKI, 1978ADE/CON]
$\text{C}_{10}\text{H}_5\text{MoNO}_5$	[14324-76-6]	Pyridine(pentacarbonyl)molybdenum					
	SUB		(283–299)	102.0 ± 2.0	291	ME	[1979DAA/ERN]
$\text{C}_{10}\text{H}_8\text{MoO}_3$	[12125-77-8]	Cycloheptatriene(tricarbonyl)molybdenum					
	SUB			88.0 ± 4.0	298		[1982PIL/SKI, 1977BRO/CON]
$\text{C}_{10}\text{H}_{10}\text{Cl}_2\text{Mo}$	[12184-22-4]	Dichlorobis(η^5 -2,4-cyclopentadien-1-yl)molybdenum					
	SUB			100.4 ± 4.2	298	E	[1976TEL/RAB]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₀ H ₁₀ I ₂ Mo	[12184-29-1]	bis(η^5 -2,4-cyclopentadien-1-yl)diiodomolybdenum				E	[1976TEL/RAB]
	SUB		100.4 ± 4.2		298		
C ₁₀ H ₁₁ MoNO ₅	[19456-57-6]	Piperidine(pentacarbonyl)molybdenum	(275–289)	121.9 ± 5.1	282	ME	[1979DAA/ERN]
	SUB						
C ₁₀ H ₁₂ Mo	[1291-40-3]	bis(η^5 -2,4-cyclopentadien-1-yl)dihydromolybdenum				ME	[1990DIA/DIO]
	SUB		81.4 ± 1.0				[1976TEL/RAB]
	SUB		92.5 ± 2.1				
C ₁₁ H ₈ MoO ₄	[12146-37-1]	Norbornadienemolybdenumtetracarbonyl					[1982PIL/SKI, 1977BRO/CON]
	SUB		92.0 ± 4.0		298		
C ₁₂ H ₁₂ Mo	[12129-68-9]	Dibenzene molybdenum					[1970COX/PIL, 1961FIS/FRI]
	SUB		94.6 ± 8				
C ₁₂ M ₁₆ Mo	[39333-52-3]	Dimethyldicyclopentadienylmolybdenum					[1982PIL/SKI, 1980DEP]
	SUB		70.4 ± 4.2		298		
C ₁₂ H ₂₀ Mo ₂ O ₈	[41880-55-1]	tetrakis[μ -(propanoato-O:O')]dimolybdenum					[2008SLY/KON]
	SUB		129.0 ± 1.1		491	C	
C ₁₂ H ₃₆ Mo ₂ N ₆	[51956-20-8]	hexakis(dimethylamine)dimolybdenum(II)					[1979ADE/CAV, 1981CAV/CON]
	SUB		111 ± 8		298	C	
C ₁₄ H ₂₀ Mo ₂ O ₈		Di- μ -acetatobis(pentane-2,4-dionato)dimolybdenum(II)					[1982PIL/SKI, 1979CAV/GAR]
	SUB		163.0 ± 5.0		298		
C ₁₆ H ₁₄ Mo ₂ N ₂ O ₄		Di(6-methyl-2-hydroxypyridyl)diacetatodimolybdenum(II)					[1982PIL/SKI, 1981CAV/GAR]
	SUB		161.0 ± 4.0		298		
C ₁₈ H ₁₅ MoN ₃ O ₃	[15279-79-5]	tris(pyridine)tricarbonylmolybdenum					[1982PIL/SKI, 1978ADE/CON]
	SUB		142.0 ± 10.0		298		
C ₁₈ H ₄₂ Mo ₂ O ₆	[62521-20-4]	hexakis(isopropoxy)dimolybdenum					[1981CAV/CON]
	SUB		113 ± 10		298	C	
C ₂₄ H ₂₄ Mo ₂ N ₄ O ₄	[67634-80-4]	Tetra(6-methyl-2-hydroxypyridyl)dimolybdenum(II)					[1982PIL/SKI, 1981CAV/GAR]
	SUB		157.0 ± 3.0		298		
C ₂₄ H ₅₆ Mo ₂ O ₈	[79376-50-4]	octakis(isopropoxy)dimolybdenum(II)					[1981CAV/CON]
	SUB		137.0 ± 15		298	C	
MoFe ₆	[7783-77-9]	Molybdenum hexafluoride					
	TRS	(4–347)	8.17		263.6		
	FUS	(4–347)	4.33		290.7	AC	[1966OSB/SCH]
	SUB		34.9				[1931RUF/ASC]
	V	(318–363)	27.4		340		[1968NIS/NIK]
	V	(291–320)	27.7 ± 0.1		298		[1966OSB/SCH]
	V		26.7				[1931RUF/ASC]
N							
BrClFN	[145543-68-6]	Bromochlorofluoroammonia					
	V	(240–310)	30.2		275		[1996SLA/NOV]
BrF ₂ N	[15605-95-5]	Bromodifluoroammonia					
	V	(180–250)	23.2		215		[1996SLA/NOV]
Br ₂ FN	[145543-67-5]	Dibromofluoroammonia					
	V	(280–350)	33.6		315		[1996SLA/NOV]
Br ₃ N	[15162-90-0]	Nitrogen tribromide					
	V	(380–450)	44.1		415		[1996SLA/NOV]
CIF ₂ N	[13637-87-1]	Chlorodifluoroamine					
	V		18.2				[1960PET]
Cl ₂ FN	[17417-38-8]	Dichlorofluoroammonia					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
Cl_3N	[10025-85-1]	Nitrogen trichloride	V	(200–280)	25.7	240		[1996SLA/NOV]
			V	(280–440)	32.9	360		[1996SLA/NOV]
ND_3	[13550-49-7]	Deuteroammonia	V	(202–239)	25.1			[1934JUN/TAY]
			V	(145–205)	20.0	175		[1935RUF/KWA]
NF_3	[7783-54-2]	Nitrogen trifluoride	TRS	(12–144)	1.5	56.62		[1955PIE/PAC]
			FUS	(12–144)	0.40	66.37		
			V	(273–356)	38.6	312		
HNO_3	[7697-37-2]	Nitric acid	V					[1966HOL]
			V	(293–392)	22.7	308		[1979ZAN/THO]
NH_3	[7664-41-7]	Ammonia	V	(199–241)	23.5	239	C	[1937OVE/GIA]
			V		23.4	239		[1937OVE/GIA]
			V		19.6	285		[1912LAN/BOR, 1918OSB/DUS]
			V		24.3	240		[1907FRA/KRA, 1918OSB/DUS]
			V		22.9	240		[1906BRI, 1907FRA/KRA]
			V		24.1	240		[1903DEF, 1907FRA/KRA]
			V		20.8	289		[1900VON, 1907FRA/KRA]
			V		20.7	285		[1891JAC/HOB, 1918OSB/DUS]
			V		21.1	285		[1871REG2, 1918OSB/DUS]
			SUB	(177–195)	31.2		S-V	[1937OVE/GIA]
NH_3O	[7803-49-8]	Hydroxylamine	V	(261–280)	64.2			[1965BAC/BET]
			SUB	(273–298)	U46.5	285		[1941BOD]
NH_4Br	[12124-97-9]	Ammonium bromide	TRS		3.01	427.4	DSC	[1990GEN/LUB]
			SUB		183.7	550		[1971CAL/SMI]
			SUB		187.9	298		[1955LUF]
NH_4Cl	[12125-02-9]	Ammonium chloride	TRS	(8–300)	1.17	242.5	AC	[1972CHI/NAK]
			SUB		168.6	550		[1971CAL/SMI]
			SUB	(308–363)	176.6 ± 0.4		TE	[2001TAN/XUE]
			SUB		177	298		[1955LUF]
NH_4I	[12027-06-4]	Ammonium iodide	SUB		182	298		[1955LUF]
NH_4CN	[12211-52-8]	Ammonium cyanide	SUB		84.5	298		[1955LUF]
NH_4SCN	[1762-95-4]	Ammonium thiocyanate	TRS		3.2	360.7		[1988PET/TSY, 1996DOM/HEA]
			SUB		133.9	298		[1955LUF]
NO	[10102-43-9]	Nitric oxide	FUS		2.3	109.5		[1924EUC/KAR]
			V		13.8	212		[1929JOH/GIA]
			V		7.87	211.9		[1972DUB/DEV]
N_2	[7727-37-9]	Nitrogen						

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound							
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
N_2F_4	[10036-47-2]	Tetrafluorohydrazene	FUS		0.72	77.34		[1974ANC]	
			SUB		6.8	77		[1974ANC]	
	V		V		6.1	77		[1974ANC]	
			V	(63–126)	6.1	78		[1967EDE/THO]	
			V		5.6	77		[1933GIA/CLA]	
N_2H_4	[302-01-2]	Hydrazine	V		26.4	200		[1958COL/KEN]	
			FUS		12.65	274.6		[1949SCO/OLI]	
N_2H_4	[302-01-2]	Hydrazine	SUB		U 46.0			[1941GIG/RUN, 2001GIO]	
			V	(276–325)	44.2	298		[1968CHA/GOK]	
			V	(288–353)	44.5	303		[1949SCO/OLI]	
			V	(361–387)	40.5	374		[1934HIE/WOE]	
			SUB	(347–358)	101.5 ± 1.0			[1997DEZ/POI, 1959TAK/SHI]	
$\text{N}_2\text{H}_4\text{O}_3$	[6484-52-2]	Ammonium nitrate	TRS		1.4	361			
			TRS		4.4	400	DSC	[1970MUR/BRE]	
			TRS		1.35	357			
			TRS		4.44	399	Cond. Calor.	[1967NAG/SEI]	
			SUB	(321–360)	107.1	298	TE	[2010HIL/LAU2]	
			SUB	(321–360)	87.4 ± 8.4	298	TE	[2010HIL/LAU]	
			SUB	(349–438)	178.7			[1962BRA/JUN]	
N_2O	[10024-97-2]	Nitrous oxide	SUB		174.9	298		[1955LUF]	
			FUS		6.5	182.4		[1974ATA/CHI]	
			SUB	(125–135)	24.4	130		[1983TER]	
			SUB	(135–147)	24.2	141		[1983TER]	
			SUB	(68–80)	25.1 ± 0.4	74	LE	[1974BRY/CAZ]	
			SUB	(148–182)	24.6	161		[1935BLU/GIA]	
			SUB	(103–123)	23.6	113	MG	[1930BLA/VAN]	
			V		16.5	184.7		[1974ATA/CHI]	
			V	(182–236)	16.1	221		[1945HOG]	
			FUS		12.5	262		[1890RAM]	
N_4H_4	[12164-94-2]	Ammonium azide	SUB		73.4		DSC	[1985NG/FIE]	
Na									
$\text{C}_4\text{H}_9\text{ONa}$	[865-48-5]	Sodium <i>tert</i> -butoxide	SUB		NA			[1990VOR/ZVE]	
$\text{C}_6\text{H}_4\text{NNaO}_5\text{S}$	[5134-88-3]	Sodium 4-nitrobenzenesulfonate	FUS		8.32	384.4	DSC	[2016ZHO/ZHA]	
$\text{C}_6\text{H}_{13}\text{ONa}$	[67638-48-6]	Sodium methyldiethylmethoxide	SUB		NA			[1990VOR/ZVE]	
$\text{C}_7\text{H}_{15}\text{ONa}$	[53535-82-3]	Sodium triethylmethoxide							

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB			NA			[1990VOR/ZVE]
C ₁₃ H ₁₈ O ₂ Na	[15687-27-1]	Sodium ibuprofen		16.5	473.3	DSC	[2013CEN/MAR]
C ₁₆ H ₁₃ O ₃ Na	[57495-14-4]	Sodium ketoprofen		20.8	457	DSC	[1997HIL/MUL]
C ₁₉ H ₁₇ NNaO ₆ S ₂	[42540-40-9]	5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[[(2R)-2-(formyloxy)-2-phenylacetyl]amino]-3-[[-(1-methyl-1 <i>H</i> -tetrazol-5-yl)thio]methyl]-8-oxo-, sodium salt					
	FUS (IV)			18.88	442.5		
	FUS(V)			13.93	437.0	DSC	[2016HE/WAN]
C ₃₂ H ₄₀ F ₁₂ NaO ₈ Pr	[93557-93-8]	Sodium tetrakis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)praseodymate					
	SUB	(423–483)	155 ± 2	453	T		[1993SYO/GOL]
C ₃₂ H ₄₀ F ₁₂ NaO ₈ Tb	[12576-88-4]	Sodium tetrakis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)terbate					
	SUB	(418–473)	163 ± 3	445	T		[1993SYO/GOL]
C ₃₂ H ₄₀ F ₁₂ NaO ₈ Y	[12576-89-5]	Sodium tetrakis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)yttrate					
	SUB	(418–503)	130 ± 3	460	T		[1993SYO/GOL]
	SUB	(463–503)	142 ± 12	483			[1993SYO/GOL]
NaCl	[7647-14-5]	Sodium chloride					
	V	(1143–1403)	185.5	1273	BP		[1958BLO/BOC]
Nb							
C ₅ H ₁₅ NbO ₅	[1066-25-7]	Niobium pentamethoxide					
	SUB		80.3 ± 10.5		ME,E		[1972TEL/RAB, 1977TEL/RAB]
C ₁₀ H ₁₀ Cl ₂ Nb	[12793-14-5]	bis(cyclopentadienyl)niobium dichloride					
	SUB		127.4 ± 4.4	298	ME		[2001DIO/PIE]
C ₁₀ H ₂₅ NbO ₅	[3236-82-6]	Pentaethylniobate					
	V	(413–523)	75.1	468	TG		[2011CAI/YAN]
	V	(376–414)	107.6	391	A,ME		[1987STE/MAL, 1976KLI/SAL]
C ₁₅ H ₃₅ NbO ₅	[38874-17-8]	Niobium pentapropoxide					
	V		95.7		ME		[1976KLI/SAL]
NbBr ₅	[13478-45-0]	Niobium(V) pentabromide					
	SUB	(298–479)	115 ± 18	298			[1996TUR/EIC]
	SUB		112.5	298			[1996TUR/EIC, 1991KNA/KUB]
NbCl ₅	[10026-12-7]	Niobium(V) pentachloride					
	SUB	(298–479)	94	298			[1996TUR/EIC, 1991KNA/KUB]
	SUB		95 ± 16	298			[1996TUR/EIC]
NbCl ₃ O	[13597-20-1]	Niobium(V) oxychloride					
	SUB	(298–607)	128.5	298			[1996TUR/EIC, 1991KNA/KUB]
	SUB		124 ± 16	298			[1996TUR/EIC]
Nd							
C ₁₅ H ₁₅ Nd	[1273-98-9]	tris(cylopentadienyl)neodymium(III)					
	SUB	(533–633)	108.8 ± 3.8		ME		[1973BOR/KRA]
	SUB	(338–438)	134.7 ± 2.1				[1971HAU, 1971HAU2]
	SUB	(443–473)	98 ± 15				[1964DUN/THO]
C ₃₀ H ₃₀ F ₂₁ NdO ₆	[17978-76-6]	tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)neodymium(III)					
	SUB	(387–402)	155.2 ± 2.9		ME		[1971SWA/KAR]
C ₃₃ H ₅₇ NdO ₆	[15492-47-4]	tris(2,2,6,6-tetramethylheptane-3,5-dionato)neodymium(III)					
	SUB		159.1 ± 3.4	298	DSC		[1999SAN/PET]
	SUB		92.9 ± 2.5				[1996TSY/DYA2, 2000GIE]
	SUB	(378–423)	177	400	ME		[1981AMA/SAT]
	SUB	(430–491)	158.4	460	BG		[1969SIC/DUB]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(491–510)	99.1			BG	[1969SIC/DUB]
NdI ₃	[13813-24-6]	Neodymium triiodide					
		SUB	(857–1037)	287.9 ± 2.4	943	ME	[1975HIR/ROM]
		SUB	(857–1037)	320.5 ± 2.4	298	ME	[1975HIR/ROM]
Ni (C ₃ MO ₃) _x (C ₃ F ₉ P) _y		tris(trifluoromethyl)phosphine – nickel tricarbonyl complex					
C ₄ NiO ₄	[13463-39-3]	V	(273–323)	31.2	298		[1958EME/SMI]
		SUB		41.6 ± 0.5			[1953WAL]
		V	(277–412)	29.8	344		[1970BAE]
		V		27.6 ± 1.3			[1957FIS/COT, 1982PIL/SKI]
		V		28.0			[1955SPI/STA]
		V		27.2	298		[1955SPI/STA]
		V		30.2 ± 0.1			[1953WAL]
		V	(250–315)	29.5	265		[1947STU]
		V	(273–298)	30.1	286		[1942SUG/SAT, 1955SPI/STA]
		V	(253–316)	29.0	285		[1930AND]
		V	(263–316)	27.2			[1903DEW/JON, 1955SPI/STA]
C ₄ H ₁₆ Cl ₂ N ₈ NiS ₈	[28813-19-6]	<i>trans</i> -dichloro-tetrakis(thiourea)nickel(II)					
	SUB	(409–447)	74 ± 20				[1970ASH]
C ₆ H ₁₂ N ₂ NiS ₄	[15521-65-0]	bis(dimethyldithiocarbamate)nickel					
	V	(448–478)	139.9 ± 2.1	463			[1987STE/MAL, 1978TAV/NEE, 1999DYK/SVO]
C ₈ F ₁₈ NiO ₂ P ₂	[15188-79-1]	Dicarbonylbis[tris(trifluoromethyl)phosphine]nickel					
	SUB	(293–302)	47.2	298			[1966BUR/STR]
C ₈ F ₂₈ NiP ₄	[14917-18-1]	tetrakis[tris(trifluoromethyl)porphinous fluoride]nickel					
	SUB	(305–331)	66.6	318			[1966BUR/STR]
C ₁₀ H ₈ F ₆ NiO ₄	[14324-83-5]	bis(1,1,1-trifluoro-2,4-pentanedionato)nickel(II)					
	SUB	(416–473)	157.7 ± 3.3			GS	[1985MAT/KUW]
C ₁₀ H ₁₀ Ni	[1271-28-9]	bis(cyclopentadienyl) nickel (nickelocene)					
		FUS		18.0	450.1	DSC	[2011VIE/ROJ]
		FUS		19.0	450.8	DSC	[2011ROJ/VIE]
		SUB	(348–413)	72.6 ± 0.7	298	TGA	[2011VIE/ROJ]
		SUB		71.4 ± 1.3	333	DSC	[2011ROJ/VIE]
		SUB		72.0 ± 2.2	333	C	[2011ROJ/VIE]
		SUB		70.4 ± 1.1	328	Langmuir	[2011ROJ/VIE]
		SUB	(284–306)	71.5 ± 0.6		ME	[1988TOR/BAR2, 2011VIE/ROJ]
		SUB	(284–306)	71.4 ± 0.6	298	ME	[1988TOR/BAR2, 2011VIE/ROJ]
		SUB		70.2 ± 1.5	298		[1984BAE/BAR2]
		SUB	(353–419)	72.4 ± 1.3	298	MM	[1982PIL/SKI, 1975TEL/KIR, 1967TUR]
C ₁₀ H ₁₄ NiO ₄	[3264-82-2]	bis(2,4-pentanedionato)nickel(II)					
		SUB	(357–420)	126.4 ± 4.4	298	ME	[1990MAL/ALI]
		SUB		108.2 ± 5	207	DSC	[1987MUR/HIL]
		SUB		108.2 ± 4.9	480	DSC	[1987TRIB/FER]
		SUB		155 ± 80	298	C	[1985MUR/SAK]
		SUB	(378–403)	127.7 ± 10	381	ME	[1984BUR/MOR]
		SUB		132 ± 10	298	ME	[1984BUR/MOR]
		SUB		69.0		I	[1971ASH]
		SUB		95.4	400		[1970GOE/BLO]
		SUB		69.0			[1960BER/TRU, 1965BER/TRU]
C ₁₀ H ₂₀ N ₂ NiS ₄	[14267-17-5]	bis(diethyldithiocarbamato)nickel(II)					
		SUB	(448–478)	157.3 ± 6.0		C	[1989RIB/REI]
		SUB	(440–478)	152 ± 0.8	459		[1987STE/MAL, 1978TAV/NEE]
		SUB	(507–650)	98.8 ± 6	579	DSC	[1979CAV/HIL2]
		SUB	(443–543)	91.9 ± 6	493	DSC	[1979CAV/HIL2]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_8\text{N}_2\text{NiO}_4$	[17653-01-9]	bis(picolinato)nickel(II)	SUB		151.9 ± 2.1		I	[1976TAV/NEE]
			SUB		61.1 ± 1.7			[1969DAS/WEN]
$\text{C}_{13}\text{H}_6\text{F}_{24}\text{N}_2\text{Ni}_2\text{O}_3\text{P}_4$	[14402-98-3]	μ -carbonyldicarbonylbis[μ -[(methylimino)bis[bis(trifluoromethyl)phosphine]]]dinickel (370–390)	SUB		76.6		I	[1963WOO/JON]
			SUB		92.3	380		[1968SIN/BUR]
$\text{C}_{14}\text{H}_{10}\text{NiO}_4$	[14263-01-5]	bis(salicyladehydato)nickel(II)	SUB		85.4		I	[1963WOO/JON]
			SUB					
$\text{C}_{14}\text{H}_{12}\text{N}_2\text{NiO}_2$	[14283-99-9]	bis(salicyliminato)nickel(II)	SUB		158.2		I	[1963WOO/JON]
			SUB					
$\text{C}_{14}\text{H}_{12}\text{N}_2\text{NiO}_4$	[14363-30-5]	bis(salicylaldoximato)nickel(II)	SUB	(403–423)	106.6 ± 29	413	I	[1984BUR/MOR]
			SUB		112 ± 29	298		[1984BUR/MOR]
$\text{C}_{14}\text{H}_{28}\text{N}_2\text{NiS}_4$	[14516-30-4]	bis(dipropylthiocarbamate)nickel	SUB		147.2 ± 5.0		C	[1989RIB/REI]
			SUB		126.1 ± 0.8			[1978TAV/NEE]
$\text{C}_{14}\text{H}_{28}\text{N}_2\text{NiS}_4$	[15694-55-0]	bis(diisopropylthiocarbamate) nickel complex	V	(433–462)	126.1	448		[1999DYK/SVO]
			SUB		148.0 ± 5.0			
$\text{C}_{16}\text{H}_8\text{F}_6\text{NiO}_2\text{S}_4$	[14239-90-8]	bis(monothiothenoyltrifluoroacetone)nickel(II)	SUB	(442–477)	143.4 ± 2.1	459.5	C	[1989RIB/REI]
			SUB		161.0 \pm 5.1	298		[1987STE/MAL, 1978TAV/NEE]
$\text{C}_{16}\text{H}_{14}\text{N}_2\text{MO}_2$	[14167-20-5]	N,N -bis(salicylidene)ethylenediaminonickel(II)	SUB	(459–545)	149.8 ± 7.0		ME	[2007RIB/SAN2]
			SUB					
$\text{C}_{16}\text{H}_{16}\text{N}_2\text{NiO}_2$	[57377-56-7]	bis(2-hydroxyacetophenamine)nickel(II)	SUB	(486–582)	130.2 ± 7.2		GS	[2009ARO/MAL]
			SUB					
$\text{C}_{16}\text{H}_{34}\text{NiP}_2\text{S}_4$	[83053-11-6]	bis[<i>P,P</i> -bis(2-methylpropyl)phosphinadithiato]nickel(II)	SUB	(433–513)	104.2 ± 2.0	473	GS	[2010KOK/SEM]
			SUB					
$\text{C}_{18}\text{H}_{12}\text{N}_2\text{NiO}_2$	[14100-15-3]	bis(8-hydroxyquinolinato)nickel(II)	SUB		175.4 ± 6.7	298	ME	[1994RIB/MAT]
			SUB	(468–503)	129.9 ± 6	486		[1984BUR/MOR]
			SUB		139 ± 6	298		[1984BUR/MOR]
$\text{C}_{18}\text{H}_{14}\text{N}_4\text{Ni}$	[39251-81-5]	Dibenzotetra-aza-annulene nickel(II) complex	SUB	(463–553)	116.6 ± 5.5	508	T	[1983FER/QUA]
			SUB					
$\text{C}_{18}\text{H}_{20}\text{N}_2\text{NiO}_2$	[1161880-17-6]	bis(2-hydroxypropiophenamine)nickel(II)	SUB	(443–552)	113.0 ± 7.5		GS	[2009ARO/MAL]
			SUB					
$\text{C}_{18}\text{H}_{36}\text{N}_2\text{NiS}_4$	[13927-77-0]	bis(dibutylthiocarbamate)nickel	SUB		132.6 ± 5.0		C	[1989RIB/REI]
			V	(438–562)	136.6	500		[1999DYK/SVO]
$\text{C}_{18}\text{H}_{36}\text{N}_2\text{NiO}_4$	[28371-07-5]	bis(diisobutylthiocarbamate)nickel	SUB		133.6 ± 5.0		C	[1989RIB/REI]
			SUB	(423–443)	152.1 ± 1.3	433		[1987STE/MAL, 1978TAV/NEE]
			V	(453–473)	124	463		[1999DYK/SVO]
$\text{C}_{20}\text{H}_{16}\text{N}_2\text{NiO}_2$	[15200-70-1]	bis(8-hydroxy-2-methylquinolinate)nickel(II)	SUB	(489–505)	170.9 ± 3.7	496	ME	[1998RIB/MAT3]
			SUB		180.9 ± 3.7	298		[1998RIB/MAT3]
$\text{C}_{22}\text{H}_{38}\text{NiO}_4$	[14481-08-4]	bis(2,2,6,6-tetramethylheptane-3,5-dionato)nickel(II)	SUB	(360–408)	137.8 ± 2.3	384	ME	[2010SID/SID]
			SUB	(453–493)	111			[1999EMM/PIC]
			SUB		145.2 ± 10			[1978IRV/SCH]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₂ H ₄₂ N ₂ NiO ₂ S ₄	[1005000-26-9]	<i>N,N</i> dibutyl- <i>N'</i> -thenoylthiourea	SUB		204.7 ± 3.4	298	C	[2008RIB/SCH]
C ₂₂ H ₄₂ N ₂ NiO ₂ S ₄	[1005000-14-5]	<i>N,N</i> diisobutyl- <i>N'</i> -thenoylthiourea	SUB		203.2 ± 2.4	298	C	[2008RIB/SCH]
C ₂₂ H ₄₄ N ₂ NiS ₄	[55935-69-8]	bis[bis(3-methylbutyl)dithiocarbamate]nickel	SUB	(429–468)	164.5	448		[1999DYK/SVO]
C ₃₂ H ₁₆ N ₈ Ni	[14055-02-8]	Nickel(II) phthalocyanine	SUB		144.6		TGA	[1995YAS/TAK]
C ₄₄ H ₂₈ N ₄ Ni	[14172-92-0]	5,10,15,20-tetraphenylporphine nickel(II)	FUS		58.4	760.1	DSC	[2010GAM/CAM]
			SUB		152 ± 4		GS	[2000PER/GOL]
NiBr ₂	[13462-88-9]	Nickel(II) bromide	SUB	(714–969)	207 ± 4.0	841	TE	[1997BAR/BRU]
			SUB		226 ± 1.0	298		[1997BAR/BRU]
NiFr ₂	[10028-18-9]	Nickel(II) fluoride	SUB	(1054–1106)	332.2 ± 4.1		ME	[1964EHL/KEN]
Np								
(C ₁₀ H ₂ F ₁₂ NpO ₆)-(C ₃ H ₉ OP)	[106617-32-7]	bis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)neptunium(IV) dioxide-trimethylphosphine oxide adduct	SUB	(370–418)	90 ± 3			[1988GRE/SID]
C ₂₀ H ₄ F ₂₄ NpO ₈	[110900-26-0]	tetrakis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)neptunium(IV)	SUB	(314–375)	81 ± 3			[1988GRE/SID, 1987GRE/SID]
(C ₂₀ H ₄ F ₂₄ NpO ₈)-(C ₃ H ₉ OP)	[110934-11-7]	tetrakis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)neptunium(IV)-trimethylphosphine oxide adduct	SUB	(353–404)	100 ± 4			[1988GRE/SID]
C ₃₂ H ₄₀ F ₁₂ NpO ₈	[99791-99-8]	tetrakis(1,1,1-trimethyl-5,5,5-hexafluoro-2,4-pentanedionato)neptunium(IV)	SUB	(374–424)	106 ± 3			[1988GRE/SID, 1987GRE/SID]
C ₄₀ H ₄₀ F ₂₈ NpO ₈	[27988-02-9]	tetrakis(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)neptunium(IV)	SUB	(350–368)	147.7 ± 2.9	359	ME	[1970SWA/KAR]
NpF ₆	[14521-05-2]	Neptunium hexafluoride	FUS	(7–350)	17.52	327.9	AC	[1970OSB]
O								
H ₂ O ₂	[7722-84-1]	Hydrogen peroxide	FUS		12.2	272.7		[1951FOL/GIG]
	V		(273–333)		47.3	303		[1951EGE/EMT]
	V		(277–363)		48.5	320		[1924MAA/HIE]
Os								
C ₁₀ H ₁₀ Os	[1273-81-0]	bis(cyclopentadienyl)osmium (osmocene)	SUB	(393–506)	72.9 ± 1.4			[1984BAE/BAR]
	SUB				80.5 ± 1.7	298		[1984BAE/BAR]
	SUB				75.3			[1959FIS/GRU]
	V		(506–563)		56.3 ± 1.3	535		[1984BAE/BAR]
C ₁₂ O ₁₂ O ₈ S ₃	[15696-40-9]	Triosmium dodecacarbonyl	SUB		136.0 ± 0.4		TE	[2005CHA/LAU]
	SUB		(349–396)		134.4 ± 0.4		TE	[1999CHA/GAR]
	SUB				104.6 ± 20	298		[1982PIL/SKI, 1974CON/SKI]
	SUB		(423–543)		108.4	483		[1974GAI/BAE]
	V		(497–543)		101.7	520		[1974GAI/BAE2]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
P	(See main table for organophosphorous compounds)						
BrF ₂ P	[15597-40-7]	Bromodifluorophosphine					
	V	(222–258)	23.3	240			[1939BOO/FRA]
BrF ₂ OP	[14014-18-7]	Bromodifluorophosphine oxide					
	V	(220–306)	29.7	263			[1939BOO/SEE]
BrF ₂ PS	[13706-09-7]	Bromodifluorophosphine sulfide					
	V		28.3				[1943BOO/SEA]
Br ₂ FP	[15597-39-4]	Dibromofluorophosphine					
	V	(297–351)	31.5	324			[1939BOO/FRA]
Br ₂ FOP	[14014-19-8]	Dibromofluorophosphine oxide					
	V	(300–385)	31.5	343			[1939BOO/SEE]
Br ₂ FPS	[13706-10-0]	Dibromofluorophosphine sulfide					
	V		34.9				[1943BOO/SEA]
Br ₃ P	[7789-60-8]	Tribromophosphine					
	V		48.5				[1996OVC/MAK, 1963HAR/HOL]
	V	(333–459)	39.7	396			[1941VAN/GER]
Br ₃ PS	[3931-89-3]	Thiophosphoryl bromide				GSM	
	SUB		NA				[1941NIT/SEK]
Br ₅ P	[7789-69-7]	Pentabromophosphorane					
	SUB		56.9				[1941VAN/GER2]
ClF ₂ P	[14335-40-1]	Chlorodifluorophosphine					
	V	(191–231)	18.0	210			[1939BOO/BOZ]
ClF ₂ P		Phosphorothioic chloride difluoride					
	V	(206–281)	24.8	243			[1940BOO/CAS]
Cl ₂ FP	[15597-63-4]	Dichlorofluorophosphine					
	V	(212–291)	25.0	252			[1939BOO/BOZ]
Cl ₂ FPS	[2523-93-5]	Phosphorothioic dichloride difluoride					
	V	(244–338)	30.9	281			[1940BOO/CAS]
Cl ₃ P	[7719-12-2]	Trichlorophosphine					
	V		32.6				[1996OVC/MAK, 1963HAR/HOL]
Cl ₃ OP	[10025-87-3]	Phosphoryl chloride					
	V		35.4	303			[1937LUC/LIK]
	V		36.4	298			
Cl ₅ P	[10026-13-8]	Pentachlorophosphorous					
	SUB		67.4 ± 2.3	390			[1973POL/POL]
	SUB		71.1 ± 5.0	298			[1973POL/POL]
	SUB		64.9				[1941VAN/GER]
F ₂ HOP	[14939-34-5]	Hydrophosphoryl difluoride					
	V	(220–271)	36.1	245	T		[1967CHA/CAV]
F ₂ HPS	[13780-63-7]	Hydrothiophosphoryl difluoride					
	V	(188–258)	29.1	223	T		[1967CHA/CAV]
F ₂ N ₃ OP	[38005-28-6]	Difluorophosphoryl azide					
	V		36.4	296			[1972ONE/SHR]
F ₃ OP	[13478-20-1]	Phosphorus oxyfluoride					
	SUB		38.0				[1941TAR/EGA]
	V		23.1				[1941TAR/EGA]
F ₃ P	[7783-55-3]	Trifluorophosphine					
	TRS	(13–168)	0.25	83.8			
	TRS	(13–168)	2.31	110.6			

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
F_3PS	[2404-52-6]	FUS	(13–168)	0.94	121.8		[1962PAC/PET]
		V		14.6	171	C	[1962PAC/PET]
	V			16.5			[1941TAR/EGA]
		V	(157–176)	14.6	166		[1939BOO/BOZ]
$\text{F}_4\text{OP}_2\text{S}_2$	[7647-19-0]	Phosphorothioic trifluoride (161–222)	19.9	191			[1940BOO/CAS]
$\text{F}_4\text{P}_2\text{S}_3$	V	μ -thio-bis(thiophosphoryl difluoride) (235–297)	30.0				[1970CHA/CAV]
F_5P	V	Phosphorous pentafluoride (179–189)	17.2	184	QM		[1937LIN/ROH]
F_6NP_3	[56564-56-8]	tris(difluorophosphino)amine	31.2				[1975ARN/RAN]
$\text{F}_6\text{N}_3\text{P}_3$	[15599-91-4]	Trimeric phosphonitrilic fluoride (273–300)	53.6	T		[1958HAB/UEN]	
			NA				[1958SEE/LAN]
			32.1				[1958HAB/UEN]
$\text{F}_8\text{N}_4\text{P}_4$	[14700-00-6]	Tetrameric phosphonitrilic fluoride (273–303)	58.2	T		[1958HAB/UEN]	
			NA				[1958SEE/LAN]
			37.3				[1958HAB/UEN]
$\text{P}_3\text{Cl}_6\text{N}_3$	[940-71-6]	Phosphonitrilic chloride (trimer)	76.1			[1943AUD/STE]	
$\text{P}_3\text{Cl}_6\text{N}_3$	FUS	Hexachlorocyclotriphosphazene	23.5	388.6	AC,DC	[1999LEB/KUL2]	
$\text{P}_4\text{Cl}_8\text{N}_4$	[2950-45-0]	Octachlorocyclotetraphosphazene	32.2	400.6	AC,DC	[1999LEB/KUL2]	
P_2O_5	[1314-56-3]	Phosphorous pentoxide	95.4			[1937SOU/NEL]	
	SUB (high temp form)		151.5				[1937SOU/NEL]
	SUB (low temp form)						
PH_3	[7803-51-2]	Phosphine	82.4		MM	[1937SOU/NEL]	
	TRS	(15–185)	0.08				
	TRS	(15–185)	0.77				
	TRS	(15–185)	0.48				
	FUS	(15–185)	1.13				[1937STE/GIA]
	TRS	(11–185)	0.08				
	TRS	(11–185)	0.48				
P_4S_3	[1314-85-8]	3,5,7-trithia-1,2,4,6-tetraphosphatricyclo[2.2.1.0 ^{2,6}]heptane(tetrephosphorus trisulfide)	1.12	136.66	DSC	[1979BLA/HOP]	
	TRS		9.75	311			
	FUS		3.08	445.5			
	TRS		10.3	313.9			[1965CLE/WES]
			SUB	(387–425)	104.9 ± 0.6	GS	[1991STU/PIA]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
P_4S_7	[12037-82-0]	SUB	(350–400)	102.4 ± 0.2	298	TE	[1991STU/PIA]
		SUB	(335–391)	1021 ± 0.6	298	ME	[1991STU/PIA]
		TRS		1.84	517		
P_4S_{10}		FUS		34.13	576	DSC	[1979BLA/HOP]
		FUS		35.93	554	DSC	[1979BLA/HOP]
P_4Se_3	[1314-86-9]		Tetraphosphorus heptasulfide				
		TRS		10.98	356		
		TRS		1.3	479		
		FUS		2.79	522	DSC	[1979BLA/HOP]
P_4Se_4	[56863-52-6]		3,5,7-triselena-1,2,4,6-tetraphosphatricyclo[2.2.1.0 ^{2,6}]heptane (tetraphosphorus triselenide)				
		TRS		2.18	576		
		FUS		24.64	594	DSC	[1979BLA/HOP]
Pb							
$\text{C}_2\text{H}_8\text{Pb}$	[30691-92-0]	Dimethylplumbane V	(173–223)	25.5	198		[1960AMB]
$\text{C}_3\text{H}_{10}\text{Pb}$	[7442-13-9]	Trimethylplumbane V	(193–243)	31.1	218		[1960AMB]
$\text{C}_3\text{H}_{12}\text{Pb}$	[75-74-1]	Tetramethyllead FUS	(100–260)	10.8	242.9		[1996DOM/HEA, 1954STA/WAR]
		V		38.1 ± 0.4	298		[1959GOO/SCO, 1982PIL/SKI]
		V	(298–308)	35.7	303		[1929TAN/NAG]
		(pentafluoroethyl)trimethyllead V	(295–329)	39.1	312	T	[1960KAE/PHI]
$\text{C}_8\text{H}_{20}\text{Pb}$	[78-00-2]	Tetraethyllead FUS (I)	(5–315)	9.09	139.4		
		FUS (II)	(5–315)	9.11	141.4	AC	[1996DOM/HEA, 1989RAB/NIS]
		FUS	(90–150)	8.79	142.9		[1954STA/WAR]
		V		56.6 ± 1.0	298	C	[1980ABR/IRV]
		V	(311–456)	57.3	326		[1947STU]
		V		56.9 ± 2.5			[1956GOO/SCO, 1982PIL/SKI]
		V	(273–343)	56.3	308	BG	[1936BUC/NOR]
		V	(351–423)	56.7	387		[1935JON/EVA]
		bis(1,1,1,5,5-hexafluoro-2,4-pentanedionato)lead(II) SUB	(368–413)	111.7 ± 1.3	390	GS	[1997KRI/SYS]
$\text{C}_{10}\text{H}_{14}\text{O}_4\text{Pb}$	[15282-88-9]	bis(2,4-pentanedionato)lead(II) SUB	(393–444)	102.4 ± 5.0	418	GS	[1997KRI/SYS]
		SUB		66.9		LE	[1994GER/GER2, 1997KRI/SYS]
$\text{C}_{10}\text{H}_{20}\text{N}_2\text{PbS}_4$	[17549-30-3]	bis(diethyldithiocarbamate)lead complex SUB	(444–482)	129.9 ± 2.5	463	A	[1987STE/MAL, 1978TAV/NEE]
$\text{C}_{10}\text{H}_{20}\text{O}_4\text{Pb}$	[56767-12-5]	Lead(II) pentanoate FUS		12.6	355.6	DSC	[2008MAR/RAM]
$\text{C}_{12}\text{H}_{10}\text{Br}_2\text{Pb}$	[3124-29-6]	Diphenyl lead dibromide SUB	(298–398)	141.8 ± 0.8	298	ME	[1988GOL/SIT, 1976BUT/CAR]
$\text{C}_{16}\text{H}_{20}\text{F}_6\text{O}_4\text{Pb}$	[21751-12-2]	bis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)lead(II) SUB	(393–463)	117.5 ± 2.8	428	GS	[1997KRI/SYS]
$\text{C}_{18}\text{H}_{12}\text{N}_2\text{PbO}_2$	[14976-96-6]	bis(8-hydroxyquinolinato)lead(II) SUB		187.1 ± 6.2	298	ME	[1994RIB/MAT]
$\text{C}_{18}\text{H}_{15}\text{BrPb}$	[894-06-4]	Triphenyl lead bromide					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{18}\text{H}_{15}\text{IPb}$	[894-07-5]	SUB	(298–398)	134.7 ± 3.3	298	ME	[1988GOL/SIT, 1976BUT/CAR]
		SUB	(298–398)	130.1 ± 0.4	298	ME	[1988GOL/SIT, 1976BUT/CAR]
$\text{C}_{20}\text{H}_{20}\text{F}_{14}\text{O}_4\text{Pb}$	[21600-78-2]	bis(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato)lead(II)				[1992NYM/DES]	
		SUB		75.0			
$\text{C}_{22}\text{H}_{38}\text{O}_4\text{Pb}$	[21319-43-7]	bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead(II)				[1997KRI/SYS]	
		SUB	(373–398)	117.5 ± 2.8	386	GS	[1997KRI/SYS]
		SUB		87.0		LE	[1994GER/GER2, 1997KRI/SYS]
		SUB		86.0			[1992NYM/DES]
$\text{C}_{24}\text{H}_{20}\text{Pb}$	[595-89-1]	Tetraphenyl lead				[1973BRU/CUR]	
		SUB	(412–480)	151	446	A	[1987STE/MAL]
		SUB	(412–474)	159 ± 1	298	ME,TE	[1977KAN/MOR]
		SUB		194.6 ± 6.3	298	E	[1982PIL/SKI, 1972CAR/LAY]
		SUB	(298–316)	U 80.2	298	ME	[1962CAR/COO]
		SUB		82.8	298		[1972NEW]
$\text{C}_{32}\text{H}_{16}\text{N}_8\text{Pb}$	[15187-16-3]	Lead(II) phthalocyanine				[1995YAS/TAK]	
		SUB		156.3		TGA	[1984MRW/STA]
PbBr_2	[10031-22-8]	Lead(II) bromide				[2015IIZ/SHI]	
		SUB	(532–634)	138.5 ± 3.6	583	ME	
PbF_2	[7783-46-2]	Lead(II) fluoride				[2010PIA/BRU]	
		SUB	(793–951)	209.5 ± 3.8	872	TE	[2010PIA/BRU]
		SUB	(793–951)	225 ± 5	298	TE	[1969ZMB/HAS, 1971ADA/MAR]
		SUB		267.8			[1959NES/IOF, 2010PIA/BRU]
		V	(792–988)	174.1	890	ME	
PbI_2	[10101-63-0]	Lead(II) iodide				[1922VON/BOS, 2010PIA/BRU]	
		SUB	(598–640)	173.1 ± 1.6	298	ME	[1996KON/COR]
		SUB	(474–582)	167.7 ± 1.3	298	MS	[1996KON/COR, 1985HIL/BEN]
		SUB	(900–1150)	182.5 ± 1.0	298		[1996KON/COR, 1979ABA/MAL]
		SUB	(563–613)	165.2 ± 1.8	298	ME	[1996KON/COR, 1964DUN/THO]
		SUB	(579–650)	166.4 ± 1.0	298	ME	[1996KON/COR, 1939NIW/SAT]
		SUB	(923–1073)	165.5 ± 3.0	298	GS	[1996KON/COR, 1929JEL/RUD]
PbSe	[12069-00-0]	Lead selenide				[1958BLO/BOC]	
		SUB	(835–1047)	226 ± 1		TE	[1993BRU/PIA]
Pd							
$\text{C}_8\text{H}_{10}\text{Pd}$	[1271-03-0]	(cyclopentadienyl)allyl palladium				[1987STE/MAL, 1976ZOR/RAC]	
		SUB	(291–333)	49.9	312	A	
$\text{C}_{10}\text{H}_{2}\text{F}_{12}\text{O}_4\text{Pd}$	[64916-48-9]	bis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)palladium(II)				[2005ZHA/STA]	
		SUB	(318–368)	93.5 ± 0.6			[2000ZHA/STA]
		SUB	(293–313)	84.6 ± 1.6		ME	
		V	(371–398)	67.8 ± 1.4		GS	[2005ZHA/STA]
$\text{C}_{10}\text{H}_8\text{F}_6\text{O}_4\text{Pd}$	[63742-52-9]	bis(111-trifluoro-2,4-pentanedionato)palladium(II)				[2000ZHA/STA]	
		SUB	(332–378)	115.2 ± 1.4		ME	[1985MAT/KUW]
		SUB	(423–448)	105.0 ± 0.8		GS	
$\text{C}_{10}\text{H}_{10}\text{F}_6\text{N}_2\text{O}_2\text{P}$	[203874-01-5]	bis(1,1,1-trifluoro-4-imino-2-pentanone)palladium(II)				[2000ZHA/STA]	
		SUB	(332–386)	110.9 ± 0.7		ME	
$\text{C}_{10}\text{H}_{14}\text{O}_4\text{Pd}$	[14024-61-4]	bis(2,4-pentanedionato)palladium(II)				[2005ZHA/STA]	
		SUB	(402–452)	121.5 ± 1.5			[2001MOR/ZHA]
		SUB		111.6		GS	

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	SUB	(347–416)		130.1 ± 2.8			ME	[2000ZHA/STA]
	SUB	(330–394)		122.7 ± 8.6	298		ME	[1991MAL/ALI]
	SUB	(363–393)		127.6 ± 17	378		ME	[1984BUR/MOR]
	SUB	(363–393)		132 ± 17	298		ME	[1984BUR/MOR]
C ₁₀ H ₂₀ N ₂ PdS ₄	[15170-78-2]	bis(diethyldithiocarbamate)palladium(II)						
	SUB	(493–517)		153.1 ± 1.9			GS	[2005ZHA/STA]
	SUB			153.1 ± 1.9				[1999ZEM/STA]
	V	(520–558)		107.6 ± 1.2			GS	[2005ZHA/STA]
C ₁₂ H ₂₈ O ₄ P ₂ PdS ₄	[52442-37-2]	Palladium(II) diisopropylthiophosphate						
	SUB	(384–413)		137.2 ± 5.6			GS	[2005ZHA/STA]
C ₁₃ H ₁₈ O ₂ Pd	[12130-90-4]	Acetylacetone(2,4-cyclooctadienyl)palladium(II)						
	SUB	(344–362)		130.1 ± 6.3			GS	[2005ZHA/STA]
C ₁₆ H ₂₀ F ₆ O ₄ Pd	[77964-87-5]	bis(111-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)palladium(II)						
	SUB	(315–357)		131.4 ± 1.9			ME	[2000ZHA/STA]
C ₁₆ H ₂₀ F ₆ O ₆ Pd	[301198-67-4]	bis(1,1-dimethyl-1-methoxy-5,5,5-trifluoro-2,4-pentanedionato)palladium(II)						
	SUB	(315–369)		113.8 ± 1.2			ME	[2000ZHA/STA]
C ₁₈ H ₁₂ N ₂ O ₂ Pd	[14638-30-3]	bis(8-hydroxyquinolinato)palladium(II)						
	SUB	(483–503)		158.5 ± 4	493		ME	[1984BUR/MOR]
	SUB	(483–503)		168 ± 4	298		ME	[1984BUR/MOR]
C ₂₀ H ₁₂ F ₆ O ₄ Pd	[85159-01-9]	bis(4,4,4-trifluoro-1-phenyl-1,3-butanedionato)palladium(II)						
	SUB	(386–452)		148.6 ± 1.4			ME	[2000ZHA/STA]
C ₂₀ H ₁₈ O ₄ Pd	[15186-07-9]	bis(1-phenyl-1,3-butanedionato)palladium(II)						
	SUB	(410–471)		152.9 ± 1.4			ME	[2000ZHA/STA]
C ₂₂ H ₃₈ O ₄ Pd	[15214-66-1]	bis(2,2,6,6-tetramethyl-2,4-heptanedionato)palladium(II)						
	SUB	(343–401)		125.4 ± 1.4			ME	[2000ZHA/STA]
C ₄₄ H ₂₈ N ₄ Pd	[76775-77-4]	5,10,15,20-tetr phenylporphine palladium(II)						
	SUB			207 ± 5			GS	[2000PER/GOL]
Pm								
C ₃₃ H ₅₇ O ₆ P m	[67840-53-3]	tris(2,2,6,6-tetramethylheptan-3,5-dionato)promethium(III)						
	SUB	(433–463)		131.8				[1979LEB/BER]
Pr								
C ₁₅ H ₁₅ Pr	[11077-59-1]	tris(cyclopentadienyl)praseodymium						
	SUB			125.5 ± 3.0	298			[1982PIL/SKI, 1974DEV/RAB]
	SUB	(533–653)		113.0 ± 1.7				[1973BOR/KRA]
	SUB	(338–438)		131.0 ± 2.1			ME	[1971HAU, 1971HAU2]
C ₃₂ H ₄₀ F ₁₂ O ₈ NaPr	[93557-93-8]	Sodium tetrakis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)praseodymate						
	SUB	(423–483)		155 ± 2	453	T		[1993SYO/GOL]
C ₃₃ H ₅₇ O ₆ Pr	[15492-48-5]	tris(2,2,6,6-tetramethylpentane-2,4-dionato)praseodymium(III)						
	SUB			104.3 ± 2.6				[1996TSY/DYA2, 2000GIE]
	SUB			163.0 ± 3.6		DSC		[1993AIR/SAN, 2000GIE]
	SUB	(383–423)		178.7	403	ME		[1981AMA/SAT]
	SUB	(450–495)		165.4	473	BG		[1969SIC/DUB]
	V	(495–530)		109.2		BG		[1969SIC/DUB]
PrBr ₃	[13536-53-3]	Praseodymium(III) bromide						
	SUB			288 ± 4	900	TE		[2000VIL/BRU2]
	SUB			306 ± 4	298			[2000VIL/BRU2]
	SUB			292	298			[2000VIL/BRU2]
PrCl ₃	[10361-79-2]	Praseodymium(III) chloride						
	SUB			317 ± 4	1000	TE		[2000VIL/BRU2]
	SUB			340 ± 4	298			[2000VIL/BRU2]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
PrI_3	[13813-23-5]	SUB			324	298		[2000VIL/BRU2]
		SUB		(856–1048)	291 ± 4	298	ME,MS	[2009MOT/VOR]
		SUB			263 ± 4	900	TE	[2000VIL/BRU2]
		SUB			280 ± 4	298		[2000VIL/BRU2]
		SUB			275	298		[2000VIL/BRU2]
		SUB		(841–1032)	292.6 ± 5.8	937	ME	[1975HIR/ROM]
		SUB		(841–1032)	325.1 ± 5.8	298	ME	[1975HIR/ROM]
Pt								
$\text{C}_8\text{H}_{14}\text{Pt}$	[1271-07-4]	Cyclopentadienyltrimethylplatinum						
	SUB				77.8 ± 2.0	298		[1982PIL/SKI, 1977TEL/RAB]
$\text{C}_{10}\text{H}_8\text{F}_6\text{O}_4\text{Pt}$	[67596-99-0]	<i>cis</i> -bis(trifluoroacetylacetoneato) platinum						
	SUB			(412–461)	106.2 ± 2.1			[2006ZHA/BAI]
$\text{C}_{10}\text{H}_8\text{F}_6\text{O}_4\text{Pt}$	[76740-70-0]	<i>trans</i> -bis(trifluoroacetylacetoneato)platinum						
	SUB			(437–496)	109.9 ± 2.9			[2006ZHA/BAI]
$\text{C}_{10}\text{H}_{14}\text{O}_4\text{Pt}$	[15170-57-7]	bis(2,4-pentanedionato)platinum(II)						
	FUS				41.4	512.2	DSC	[2005FLA/HAL]
	SUB				105.9			[2001MOR/ZHA]
	SUB			(363–383)	129.4 ± 9	373	ME	[1984BUR/MOR]
	SUB			(363–383)	133 ± 9	298	ME	[1984BUR/MOR]
$\text{C}_{10}\text{H}_{20}\text{N}_2\text{PtS}_4$	[15730-38-8]	bis(diethyldithiocarbamate)platinum(II)						
	SUB				157.1 ± 2.0			[1999ZEM/STA]
$\text{C}_{12}\text{H}_{16}\text{Pt}$	[42613-14-9]	Dicyclopentadienyldimethylplatinum						
	SUB				83.7 ± 3.5	298		[1982PIL/SKI, 1977TEL/RAB]
Pu								
$\text{C}_{40}\text{H}_{40}\text{F}_{28}\text{O}_8\text{Pu}$	[28041-99-8]	tetrakis(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)plutonium(IV)						
	SUB			(349–363)	153.5 ± 7.9	356	ME	[1970SWA/KAR]
Rb								
$\text{C}_5\text{H}_9\text{O}_2\text{Rb}$	[70205-79-7]	Rubidium pivalate						
	SUB				167.1 ± 5.6			[1998KHO/RYK]
Re								
$\text{C}_4\text{H}_6\text{Br}_4\text{O}_4\text{Re}_2$	[75027-96-2; 75081-56-0]	bis(μ -acetato)tetrabromodirhenium stereoisomer						
	SUB (<i>cis</i>)			(410–510)	66.6	A		[1984STE/ALI]
	SUB (<i>trans</i>)			(410–510)	59.9	A		[1984STE/ALI]
$\text{C}_4\text{H}_6\text{Cl}_4\text{O}_4\text{Re}_2$	[62320-69-8; 100495-10-1]	bis(μ -acetato)tetrachlorodirhenium stereoisomer						
	SUB (<i>cis</i>)			(450–560)	72.8	A		[1984STE/ALI]
	SUB (<i>trans</i>)			(450–560)	64.7	A		[1984STE/ALI]
$\text{C}_5\text{BrO}_5\text{Re}$	[14220-21-4]	Bromopentacarbonylreinium						
	SUB				92.1 ± 2		C	[1983ALT/CON]
$\text{C}_5\text{ClO}_5\text{Re}$	[14099-01-5]	Chloropentacarbonylreinium						
	SUB				110.9 ± 2		C	[1983ALT/CON]
$\text{C}_5\text{HO}_5\text{Re}$	[16457-30-0]	Rhenium hydride pentacarbonyl complex						
	SUB			(279–369)	45.1	324		[1987STE/MAL]
$\text{C}_6\text{H}_3\text{O}_5\text{Re}$	[14524-92-6]	Rhenium methylpentacarbonyl complex						
	SUB			(315–380)	65.2	347.5	A	[1987STE/MAL, 1960HIE/BRA]
	SUB				70.0 ± 2	298	C	[1983ALT/CON]
	SUB				65.3 ± 1.0	298		[1982PIL/SKI, 1974BRO/CON]
	SUB			(313–383)	64.9			[1958HIE/WAG]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₀ O ₁₀ MnRe	[14693-30-2]	Manganese rhenium decacarbonyl					
C ₁₀ O ₁₀ Re ₂	V	(440–463)	56.5	451			[1971BAE/DEM]
	SUB	(305–339)	95.5 ± 2.3	322	ME		[2011GEL/MOR]
	SUB	(323–353)	93.6 ± 1.7	338	GS		[2011GEL/MOR]
	SUB		100.9 ± 2	298			[1983ALT/CON]
	SUB		93.3 ± 4.2	298			[1982PIL/SKI, 1974BRO/CON]
	SUB	(363–450)	77.6	406	MM		[1971BAE/DEM]
	V	(454–483)	79.5				[1961GIN, 1971BAE/DEM]
Rh							[1971BAE/DEM]
C ₇ H ₇ O ₄ Rh	[14874-82-9]	Dicarbonyl-2,4-pentanedionatorhodium complex					
	SUB	(276–301)	87 ± 2.9	289	ME		[1978JES/ERN, 1987STE/MAL]
C ₉ H ₁₃ Cl ₂ O ₂ Rh	[12282-04-1]	bis(chloroethylene)-2,4-pentanedionatorhodium complex					
	SUB	(275–288)	117.2 ± 7.1	281	ME		[1978JES/ERN, 1987STE/MAL]
C ₉ H ₁₅ O ₂ Rh	[12082-47-2]	bis(ethylene)-2,4-pentanedionatorhodium complex					
	SUB	(282–301)	97.9 ± 7.1	292	ME		[1978JES/ERN, 1987STE/MAL]
C ₁₀ H ₁₄ O ₄ Rh	[69047-66-1]	bis(2,4-pentanedionato)rhodium(II)					
	SUB	(383–447)	173.2 ± 7.0	298			[1991MAL/ALI]
C ₁₁ H ₁₉ O ₂ Rh	[12282-38-1]	bis(propylene)-2,4-pentanedionatorhodium complex					
	SUB	(270–296)	86.2 ± 1.7	283	ME		[1978JES/ERN, 1987STE/MAL]
C ₁₃ H ₁₉ O ₆ Rh	[31724-87-5]	bis(vinylacetate)-2,4-pentanedionatorhodium complex					
	SUB	(309–328)	121.3 ± 3	319	ME		[1978JES/ERN]
C ₁₃ H ₁₉ O ₆ Rh	[31724-88-6]	bis(methyl acrylate)-2,4-pentanedionatorhodium complex					
	SUB	(311–327)	111.7 ± 4.6	319	ME		[1978JES/ERN]
C ₁₅ H ₂₁ O ₆ Rh	[14284-92-5]	tris(2,4-pentanedionato)rhodium(II)					
	SUB	(423–473)	127.0 ± 1.0				[2010SYS/CHE]
	SUB		118.8				[2001MOR/ZHA]
	SUB				NA		[1994GER/GER]
C ₁₆ O ₁₆ Rh ₆	[28407-51-4]	Hexarhodiumhexadecacarbonyl					
	SUB		117.2 ± 20.0	298			[1982PIL/SKI, 1975BRO/CON]
Ru							
C ₅ O ₅ Ru	[16406-48-7]	Ruthenium pentacarbonyl					
	V	(243–323)	41.0 ± 1.2	298			[1991KOE/BOR, 2013BER/CAN]
	V	(243–323)	42.2	283			[1991KOE/BOR]
C ₁₀ H ₁₀ Ru	[1287-13-4]	bis(cyclopentadienyl)ruthenium (ruthenocene)					
	SUB	(331–346)	100.52		ME		[2010SID/SID2]
	SUB	(383–479)	76.2 ± 1.4				[1984BAE/BAR]
	SUB		82.7 ± 1.7	298			[1984BAE/BAR]
	SUB		77.6 ± 1.6				[1967TUR]
	SUB	(356–370)	98.7	363			[1959COR/SCH]
	V	(479–544)	53.6 ± 1.4	511			[1984BAE/BAR]
C ₁₂ H ₁₈ O ₂ Ru	[857678-47-8]	bis[(2,3,4,5- η -methyl-2,4-pentadien-2-oxato)ruthenium					
	SUB	(360–384)	114.39		ME		[2010SID/SID2]
C ₁₃ H ₁₇ NRu	[33293-45-7]	N,N dimethylaminomethylruthenocene					
	SUB	(327–351)	86.27		ME		[2010SID/SID2]
C ₁₄ H ₁₄ O ₂ Ru	[54628-71-6]	1,1'-diacetyl>ruthenocene					
	SUB	(369–410)	139.97		ME		[2010SID/SID2]
C ₁₄ H ₂₂ Ru	[85908-78-7]	bis(η^5 -2,4-dimethyl-2,4-pentadienyl)ruthenium					
	SUB	(331–360)	98.28		ME		[2010SID/SID2]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{15}\text{H}_3\text{F}_{18}\text{O}_6\text{Ru}$	[16827-63-7] FUS	tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato)ruthenium(III)					
			(341–374)	30.7	374.1	DSC	[2012ZHE/ZEL]
	SUB		(299–313)	97.0 ± 1.0	358	Static	[2012ZHE/ZEL]
	SUB		(299–313)	114.1 ± 1.0	306	ME	[2001RIB/MON]
	SUB		(299–313)	114.5 ± 1.0	298	ME	[2001RIB/MON]
$\text{C}_{15}\text{H}_{12}\text{F}_9\text{O}_6\text{Ru}$	V		(377–418)	67.7 ± 0.7	398	Static	[2012ZHE/ZEL]
	[16702-38-8] <i>(cis + trans)</i>	tris(1,1,1-trifluoro-2,4-pentanedionato)ruthenium(III)					[2010SYS/CHE]
			(363–393)	117.0 ± 2.0			
	SUB		(346–467)	131.4 ± 4.6		ME	[2009MOR/ZHE]
	SUB		(350–369)	126.8 ± 1.0	360	ME	[2001RIB/MON]
	SUB			129.9 ± 1.0	298	ME	[2001RIB/MON]
	SUB		(383–423)	90.0 ± 3.0			[1996BYK/MOR]
	V (<i>cis + trans</i>)		(443–448)	78.1 ± 0.5			[2010SYS/CHE]
	V (<i>cis + trans</i>)		(448–478)	80.3 ± 2.0			[2010SYS/CHE]
$\text{C}_{15}\text{H}_{16}\text{O}_3\text{Ru}$	[1251459-25-2]	Name not assigned					
	SUB		(374–394)	132.85		ME	[2010SID/SID2]
$\text{C}_{15}\text{H}_{21}\text{O}_6\text{Ru}$	[14284-93-6] FUS	tris(2,4-pentanedionato)ruthenium(III)					
				25.0	503.9	DSC	[2012ZHE/ZEL]
	SUB		(423–493)	127 ± 1.0			[2010SYS/CHE]
	SUB		(374–434)	129.1 ± 2.0		ME	[2009MOR/ZHE]
	SUB		(394–441)	148.8 ± 1.7	418	ME	[2009SID/SID]
	SUB		(377–435)	128.9 ± 1.9		ME	[2007IGU/SEM]
	SUB			126.6			[2001MOR/ZHA]
	SUB		(423–493)	127.0 ± 0.9			[1996BYK/MOR]
	SUB		(398–413)	139.7 ± 2.5	406	ME	[1993RIB/GIE]
	SUB			145.1 ± 2.5	298	ME	[1993RIB/GIE]
$\text{C}_{16}\text{H}_{18}\text{O}_3\text{Ru}$	[1251459-24-1]	Name not assigned					
	SUB		(379–403)	114.39		ME	[2010SID/SID2]
$\text{C}_{16}\text{H}_{26}\text{RuSi}_2$	[144810-60-6]	1,1-bis(trimethylsilyl)ruthenocene					
	SUB		(331–346)	151.51		ME	[2010SID/SID2]
$\text{C}_{24}\text{H}_{36}\text{F}_3\text{O}_6\text{Ru}$	[87933-58-2]	tris(1,1,1-trifluoro-5,5-dimethyl-2,4-hexandianato)ruthenium(HI)					
	V		(322–347)	75.7 ± 3.3		ME	[2009MOR/ZHE]
$\text{C}_{30}\text{H}_{51}\text{O}_9\text{Ru}$	[1415684-54-6]	Name not assigned					
	FUS			47.5	332.4	DSC	[2012ZHE/ZEL]
$\text{C}_{33}\text{H}_{54}\text{F}_3\text{O}_6\text{Ru}$	[1226984-07-1]	tris(2,2,6,6-tetramethyl-4-fluoro-3,5-heptanedionato)ruthenium(III)					
	SUB		(353–393)	130.0 ± 2.7		ME	[2009MOR/ZHE]
$\text{C}_{33}\text{H}_{57}\text{O}_6\text{Ru}$	[38625-54-6]	tris(2,2,6,6-tetramethyl-3,5-heptanedionato)ruthenium(III)					
	SUB		(353–393)	149.2 ± 2.2		ME	[2009MOR/ZHE]
S							
Br_2OS	[507-16-4] V V	Thionyl bromide					
			(313–439)	43.6	330		[1999DYK/SVO]
			(318–411)	42.3	364		[1926MAY/PAR, 1968FIN/GAR]
Br_2S_2	[13172-31-1] V	Disulfur dibromide	(365–503)	53.9	380		[1999DYK/SVO]
$\text{Br}_2\text{FO}_2\text{S}$	[13536-61-3] V	Sulfuryl bromide fluoride	(236–333)	32.0	251		[1999DYK/SVO]
$\text{ClF}_2\text{NO}_2\text{S}$	[30913-20-3] V	Difluoroamidosulfuryl chloride	(232–290)	31.2	261		[1971ZAB/SHR]
ClFOS	[14177-25-4] V	Thionyl chloride fluoride	(212–304)	27.7	227		[1999DYK/SVO]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
ClFO_2S	[13637-84-8]	Sulfuryl chloride fluoride	V	(211–300)	29.0 24.8 26.5	226 237	[1999DYK/SVO] [1940BOO/MER] [1936BOO/HER]
ClFO_5S_2	[13637-85-9]	Pyrosulfuryl chloride fluoride	V	(284–396)	40.8	299	[1999DYK/SVO]
ClHO_3S	[7790-94-5]	Chlorosulfonic acid	V	(324–454)	45.8	339	[1999DYK/SVO]
Cl_2OS	[7719-09-7]	Thionyl chloride	V	(257–372)	32.4 32.0 32.1 31.1 31.6	272	[1999DYK/SVO] [1974AUB/GUI] [1940BOO/MER] [1942CHE] [1929ARI]
$\text{Cl}_2\text{O}_2\text{S}$	[7791-25-5]	Sulfuryl chloride	V	(257–365)	34.5 31.8 33.0	272 272 303	[1999DYK/SVO] [1974AUB/GUI] [1937LUC/LIK]
$\text{Cl}_2\text{O}_5\text{S}_2$	[7791-27-7]	Pyrosulfuryl dichloride	V	(325–450)	44.7	340	[1999DYK/SVO]
Cl_2S	[10545-99-0]	sulfur chloride	V	(265–348)	43.8	280	[1999DYK/SVO]
Cl_2S_2	[10025-67-9]	Disulfur dichloride	V	(306–439)	41.1 36.0	321 342	[1999DYK/SVO] [1926HAR/SCH]
D_2S	[13536-94-2]	Deuterium sulfide	TRS TRS FUS	1.68 0.52 2.37	107.8 132.8 187.1	[1937KRU/CLU]	
FHO_3S	[7789-21-1]	Fluorosulfonic acid	V	(343–459)	55.7	358	[1999DYK/SVO]
FNS	[18820-63-8]	Thiazyl fluoride	V	(270–299)	21.7	285	[1999DYK/SVO]
F_2HPS	[13780-63-7]	Hydrothiophosphoryl difluoride	V	(188–258)	29.1	223	T [1967CHA/CAV]
$\text{F}_2\text{N}_2\text{S}$	[500010-01-5]	Dinitrogen sulfur difluoride	V	(192–281)	23.9	207	
F_2OS	[7783-42-8]	Thionyl fluoride	V V	(173–244)	23.7 21.8	188	[1999DYK/SVO] [1940BOO/MER]
$\text{F}_2\text{O}_2\text{S}$	[2699-79-8]	Sulfuryl fluoride	V	(160–233)	20.0	175	[1999DYK/SVO]
$\text{F}_2\text{O}_4\text{S}$	[13997-94-9]	Peroxysulfuryl difluoride	V	(198–248)	25.7	223	[1975GAM/SIC]
$\text{F}_2\text{O}_5\text{S}_2$	[13036-75-4]	Pyrosulfuryl difluoride	V	(240–346)	31.4	255	[1999DYK/SVO]
$\text{F}_2\text{O}_8\text{S}_3$	[13709-33-6]	trisulfur octoxide difluoride	V	(296–419)	40.7	311	[1999DYK/SVO]
F_2S_2	[16860-99-4]	Disulfur difluoride	V	(153–196)	14.9	168	[1999DYK/SVO]
$\text{F}_3\text{NO}_3\text{S}$	[6816-12-2]	<i>N,N</i> -difluorohydroxylamine- <i>O</i> -fluorosulfonate					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(206–272)	24.6	239			[1963LUS/CAD]
F ₃ NS	[501679-94-3]	<i>N</i> -fluorosulfur difluoride amide					
	V	(213–246)	24.1	230			[1969GLE/MEW]
F ₃ NS	[15930-75-3]	Nitrogen fluoride sulfide					
	V	(184–268)	23.1	199			[1999DYK/SVO]
F ₄ OS	[13709-54-1]	Sulfur oxide tetrafluoride					
	V	(166–240)	21.4	181			[1999DYK/SVO]
F ₄ O ₅ S ₂	[44982-62-9]	Disulfur pentoxide tetrafluoride					
	V	(246–353)	18.0	261			[1999DYK/SVO]
F ₄ S	[7783-60-0]	Sulfur tetrafluoride					
	V	(170–250)	21.1	185			[1999DYK/SVO]
	V	(160–224)	24.6	192			[1955BRO/ROB]
F ₆ O ₃ S ₂	[81439-35-2]	Pentafluorosulfur fluorosulfane					
	V	(228–273)	32.2	250			[1962COH/MAC]
F ₆ O ₃ S ₃	[13693-04-4]	Sulfur fluoride fluorosulfate					
	V	(306–391)	38.9				[1961SHR/CAD]
F ₆ S	[2551-62-4]	Sulfur hexafluoride					
	SUB		23.2 ± 0.01	186			[1994OHT/YAM]
	SUB	(175–207)	23.3	191			[1932KLE/HEN]
F ₁₀ O ₂ S ₂	[12395-41-4]	Thiosulfuryl decafluoride					
	V	(239–344)	31.8	242			[1999DYK/SVO]
F ₁₀ S ₂	[5714-22-7]	Disulfur decafluoride					
	V	(226–322)	30.1	241			[1999DYK/SVO]
	V	(222–273)	29.6	237			[1962COH/MAC]
F ₁₄ O ₂ S ₃	[108021-40-5]	SF ₅ OSF ₄ OSF ₅ (simply called sulfur fluoride oxide)					
	V		33.4				[1963PAS/ROB]
F ₁₈ O ₄ S ₄		SF ₅ OSF ₄ OOSF ₄ OSF ₅ (simply called sulfur fluoride oxide peroxide)					
	V		47.5				[1963PAS/ROB]
H ₂ S	[7783-06-4]	Hydrogen sulfide					
	TRS		1.51	103.6			
	TRS		0.45	126.2			
	FUS		2.38	187.6			[1937KRU/CLU]
	SUB	(128–142)	22.5	135	MG		[1951CLA/COC]
	SUB	(164–187)	25.4	175			[1936GIA/BLU]
	V	(185–228)	19.5	200			[1999DYK/SVO]
	V	(228–363)	18.6	243			[1999DYK/SVO]
	V	(187–213)	21.9	200			[1936GIA/BLU]
H ₂ S ₂	[13465-07-1]	Dihydrogen disulfide					
	V	(256–367)	34.0	271			[1999DYK/SVO]
	V		33.8 ± 0.1	293	C		[1958FEH/HIT]
H ₂ S ₂ O ₇	[7783-05-3]	Pyrosulfuric acid					
	FUS		23.81	308.4			[1961DAC/WYA]
H ₂ S ₃	[13845-23-3]	Dihydrogen trisulfide					
	V	(328–474)	43.1	343			[1999DYK/SVO]
	V		45.5 ± 0.2	293	C		[1958FEH/HIT]
H ₂ S ₄	[13845-25-5]	Dihydrogen tetrasulfide					
	V	(384–547)	52.2	399			[1999DYK/SVO]
	V		56.8 ± 0.3	293	C		[1958FEH/HIT]
H ₂ S ₅	[13845-24-4]	Dihydrogen pentasulfide					
	V	(426–592)	61.5	441			[1999DYK/SVO]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V				68.4 ± 0.6	293	C	[1958FEH/HIT]
NHS ₇	[293-42-5]	Heptasulfur imide	FUS		18.83	386.7		[1975HAM/KUD]
SO ₂	[7446-09-5]	Sulfur dioxide	V	(200–263)	24.9	263		[1938GIA/STE]
	V		V		24.9	263	C	[1938GIA/STE]
	V		V		26.8	259	C	[1932GRI/AWB]
	V		V		25.9	272	C	[1932GRI/AWB]
	V		V		24.3	282	C	[1932GRI/AWB]
	V		V		24.3	285	C	[1932GRI/AWB]
	V		V		23.4	298	C	[1932GRI/AWB]
SO ₃	[7446-11-9]	Sulfur trioxide	V	(290–318)	46.7	290		[1985KON/STR]
	V		V	(290–318)	45.5 ± 0.8	298		[1985KON/STR]
	V		V	(353–473)	32.4	368		[1963ABE/TIL]
SO ₃	[7446-11-9]	γ -sulfur trioxide	FUS	(16–332)	9.35	290.2	AC	[1989KON/STR]
Sb								
CH ₅ Sb	[23362-09-6]	Methylstibine	V	(223–273)	27.4	248		[1959BUR/GRA]
C ₂ H ₇ Sb	[23362-10-9]	Dimethylstibine	V	(241–273)	30.8	257		[1959BUR/GRA]
C ₂ H ₈ BSb	[60646-39-1]	Dimethylstibinoborine	V	(234–273)	32.1	254		[1959BUR/GRA]
C ₃ Cl ₂ F ₉ Sb	[420-74-6]	tris(trifluoromethyl)antimony dichloride	V	(243–323)	38.8	283		[1957DAL/EME]
C ₃ F ₉ Sb	[432-05-3]	tris(trifluoromethyl)stibine	V	(215–343)	34.7	279		[1957DAL/EME]
C ₃ H ₉ Sb	[594-10-5]	Trimethylstibine	V	(249–296)	32.5 ± 0.01	298		[2010FUL/MOR]
	V		V		32.7			[1955LON/SAC2]
	V		V		32.6 ± 1.3			[1955LON/SAC, 1982PIL/SKI]
	V		V		31.2		BG	[1946BAM/LEV]
	V		V		32.5			[1940ROS/SAN]
C ₄ H ₁₂ Sb ₂	[41422-43-9]	Tetramethylbistibine	V	(325–358)	46.9	341		[1959BUR/GRA]
C ₆ H ₉ Sb	[5613-68-3]	Trivinylstibine	V	(293–363)	38.7	308		[1957MAI/SEY, 1984BOU/FRI]
C ₆ H ₁₅ Sb	[617-85-6]	Triethylstibine	FUS	(60–298)	9.45	153.9		[1996DOM/HEA, 1973MAS/NOV]
	V		V	(238–309)	47.6	260		[2006FUL/RUZ]
	V		V	(238–309)	45.6	298		[2006FUL/RUZ]
	V		V	(238–400)	44.2	320		[2006FUL/RUZ]
	V		V	(238–400)	41.4	360		[2006FUL/RUZ, 1946BAM/LEV]
	V		V	(238–400)	38.3	400		[2006FUL/RUZ, 1946BAM/LEV]
	V		V	(193–333)	39.9 ± 1.3	306		[2001BAE]
	V		V		43.5 ± 4.2			[1963LAU/TRO, 1982PIL/SKI]
	V		V	(273–393)	41.8		BG	[1946BAM/LEV]
C ₆ H ₁₅ Sb	[138260-00-1]	<i>tert</i> -butyldimethylantimony	SUB	(248–283)	43.5 ± 0.01	266		[2010FUL/MOR]
	V		V	(288–308)	41.1 ± 0.01	298		[2010FUL/MOR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₆ H ₁₈ NSb	[7289-92-1]	tris(dimethylamino)antimony V	(263–323)	51.8 ± 0.1	298		[2013MOR/FUL]
C ₁₅ H ₃₀ N ₃ S ₆ Sb	[22914-48-3]	tris(<i>N,N</i> -diethyldithiocarbamate)antimony(III) SUB		160 ± 2	298		[1994LIE/MAR]
C ₁₈ F ₁₅ Sb	[3910-39-2]	tris(pentafluorophenyl)antimony FUS		22.4	355.0	DSC	[2008ZEL/CHU]
C ₁₈ H ₁₅ Sb	[603-36-1]	Triphenylantimony SUB		106.3 ± 8.4	298		[1982PIL/SKI, 1960BIR]
	V		(503–553)	83.3	518	A	[1987STE/MAL, 1949FOR/BOW]
C ₂₁ H ₄₂ N ₃ S ₆ Sb	[226980-30-9]	tris(dipropylidithiocarbamate)antimony(III) SUB		169.5 ± 6.1		DSC,E	[1999NEV/GOU]
C ₂₆ H ₂₅ O ₄ Sb	[1305343-65-0]	Triphenylantimony dimethacrylate TRS	(6–335)	0.22	158.0	AC	[2011MAR/LET2]
C ₂₇ H ₅₄ N ₃ S ₆ Sb	[14907-93-8]	tris(<i>N,N</i> -dibutylidithiocarbamate)antimony(III) SUB		179 ± 3	298		[1994LIE/MAR]
C ₂₇ H ₅₄ N ₃ S ₆ Sb	[41594-79-0]	tris(<i>N,N</i> -diisobutylidithiocarbamate)antimony(III) SUB		157 ± 3	298	DSC,E	[1997DES/DES]
C ₃₄ H ₃₁ N ₂ O ₂ Sb	[474647-34-2]	Triphenylantimony bis(acetophenoneoximate) FUS		42.0	434.5	DSC	[2011MAR/LET]
C ₄₀ H ₄₅ O ₄ Sb	[1168154-05-9]	Triphenylantimony bis(1-adamantanecarboxylate) FUS	(320–520)	47.4	497.9	DSC	[2013LET/MAR]
SbBr ₃	[7789-61-9]	Tribromostibine					
	V	(399–588)	53.2	560	BG	[1973MAE]	
	V	(399–588)	69.7	298	BG	[1973MAE]	
SbCl ₃			(435–561)	54.8 ± 0.8	498		[1963SIM]
	[10025-91-9]	Trichlorostibine					
	V	(351–492)	49.0 ± 1.3	422		[1974UST/PET]	
	V	(381–491)	47.2	495	BG	[1973MAE]	
SbCl ₅			(381–491)	60.4	298	BG	[1973MAE]
	V	(363–463)	46.7	496		[1967OPP]	
	[7647-18-9]	Pentachloroantimony					
	V	(329–360)	46.4 ± 0.8	344		[1974UST/PET]	
SbI ₃			(323–393)	43.4	449		[1967OPP]
	[7790-44-5]	Triiodostibine					
Sc	V	(510–629)	66.0 ± 1.7	570		[1963SIM]	
C ₁₅ H ₃ F ₁₈ O ₆ Sc	[18990-42-6]	tris(1,1,1,5,5-hexafluoro-2,4-pentadionato)scandium(III) SUB		113.3	ME,MS	[2012BEL/GIR]	
	SUB		(333–363)	55.0	TGA	[2000FAH/BAR]	
	SUB		(313–348)	60.2 ± 1.2	I	[1978KOM/GUR]	
C ₁₅ H ₁₂ F ₉ O ₆ Sc	[14634-68-5]	tris(1,1,1-trifluoro-2,4-pentanedionato)scandium(III) SUB	(373–403)	78.0	TGA	[2000FAH/BAR]	
	SUB		(363–433)	117.6 ± 1.7		[1985MAT/KUW]	
	SUB		(366–413)	53.2 ± 1.0	I	[1978KOM/GUR]	
	V	(397–457)	82.2 ± 0.8	427		[1978CHU/IGU]	
C ₁₅ H ₁₅ Sc	[1298-54-0]	tris(cyclopentadienyl)scandium SUB		97.1 ± 3.5	298		[1982PIL/SKI, 1974DEV/RAB]
C ₁₅ H ₂₁ O ₆ Sc	[14284-94-7]	tris(2,4-pentanedionato)scandium(III) FUS		28.8	460		[1970MEL/MER2]
	SUB			119	ME,MS	[2012BEL/GIR]	

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{24}\text{H}_{30}\text{F}_9\text{O}_6\text{Sc}$	[20146-67-2]	SUB	(379–449)	79 ± 1		TGA, GS	[2009SEL/RAG2]
		SUB	(413–443)	95		TGA	[2000FAH/BAR]
		SUB	(393–453)	58.2 ± 0.8		I	[1978KOM/GUR]
		SUB		99.6 ± 0.8	298	HSA	[1970MEL/MER, 1970MEL/MER2]
$\text{C}_{33}\text{H}_{57}\text{O}_6\text{Sc}$	[15492-49-6]	tris(1,1,1-trifluoro-5,5-dimethyl-2,4-hexanedionato)scandium(III)					
		SUB		106		ME, MS	[2012BEL/GIR]
	[1495-26-7]	tris(2,2,6,6-tetramethylheptan-3,5-dionato)scandium(III)					
		SUB	(375–424)	97 ± 1		TG-TS	[2009SEL/RAG]
		SUB	(413–443)	90		TGA	[2000FAH/BAR]
		SUB		79.6 ± 2.4			[1997SAN/ROC]
		V	(434–465)	77 ± 2		TG-TS	[2009SEL/RAG]
Se							
CBrF_3Se	[753-95-7]	Trifluoromethylselenyl bromide					
	V	(224–329)	30.9		276		[1980GOM/WEI]
CClF_3Se	[1495-26-7]	Trifluoromethylselenyl chloride					
	V	(215–309)	27.6		262		[1980GOM/WEI]
COSe	[1603-84-5]	Carbon oxyselenide					
	V	(221–252)	22.1		236		[1999DYK/SVO]
	V		22.0				[1948GLE/RIS]
	V	(156–251)	21.7		236		[1947STU]
	V		22.1		211		[1937PUR/ZAH]
CSSe	[5951-19-9]	Carbon selenide sulfide					
	V	(226–359)	35.5		241		[1999DYK/SVO]
	V	(273–357)	33.6		288		[1914STO/WIL, 1984BOU/FRI]
CSe_2	[506-80-9]	Carbon diselenide					
	SUB	(218–229)	46.3		224		[1987STE/MAL, 1966GAT/DRA]
	V	(230–290)	39.1		245		[1999DYK/SVO]
	V	(290–337)	35.9		305		[1999DYK/SVO]
	V		37.2 ± 0.8				[1966GAT/DRA, 1982PIL/SKI]
	V	(273–323)	39.0		288		[1947IVE/PIT, 1984BOU/FRI]
CHF_3Se	[55446-31-6]	Trifluoromethaneselenol					
	V	(216–259)	22.5		237		[1980GOM/WEI]
$\text{CH}_3\text{FO}_3\text{Se}$	[17697-13-1]	Fluoroselenic acid, methyl ester					
	V		46.9				[1967PAE/KUR]
$\text{CH}_3\text{F}_3\text{SeSi}$	[753-96-8]	Silyl trifluoromethyl selenide					
	V	(213–277)	28.0		245		[1962EBS/EME]
$\text{C}_2\text{BrF}_5\text{Se}$	[6123-59-7]	(pentafluoroethane)selenyl bromide					
	V	(242–293)	34.5		267		[1999DYK/SVO]
$\text{C}_2\text{ClF}_5\text{Se}$	[6123-50-8]	(pentafluoroethane) selenyl chloride					
	V	(215–289)	30.3		252		[1999DYK/SVO]
$\text{C}_2\text{F}_3\text{NOSe}$	[20334-48-9]	Trifluoromethyl selenium isocyanate					
	V	(233–284)	29.5		259		[1968WEL/WUL]
$\text{C}_2\text{F}_3\text{NSSe}$	[21438-06-2]	Trifluoromethyl selenium thiocyanate					
	V	(233–383)	25.9		258		[1968WEL/WUL]
$\text{C}_2\text{F}_3\text{NSSe}$	[691-07-6]	Trifluoromethane sulphenyl selenocyanate					
	V	(263–313)	33.3		288		[1963EME/HAA]
$\text{C}_2\text{F}_3\text{NSe}$	[1717-49-3]	Trifluoromethyl selenocyanate					
	V	(273–355)	37.9		314		[1980GOM/WEI]
	V	(233–273)	37.6		253		[1968WEL/WUL]
$\text{C}_2\text{F}_3\text{NSe}_2$	[20563-91-1]	Trifluoromethyl selenium selenocyanate					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(223–268)	26.6	245			[1968WEL/WUL]
C ₂ F ₆ Se	[371-79-9]	bis(trifluoromethyl)selenide					
	V	(212–270)	24.4	241			[1980GOM/WEI]
C ₂ F ₆ Se ₂	[372-65-6]	bis(difluoromethyl) diselenide					
	V	(254–345)	33.1	300			[1980GOM/WEI]
C ₂ HF ₃ OSe	[1252610-13-1]	Trifluoroselenoacetic acid					
	V	(220–268)	31.5	248			[2010GOM/ROM]
C ₂ H ₃ F ₃ Se	[1544-45-2]	Methyl(trifluoromethyl)selenide					
	V	(209–294)	27.7	251			[1999DYK/SVO, 1963EME/WEL]
C ₂ H ₆ Se	[593-79-3]	Dimethyl selenide					
	FUS		8.5	185.1			[1991RAB/SHE]
	V	(273–331)	30.7 ± 0.2				[2012GER/PAV]
	V		30.7 ± 0.4	298	C		[2012GER/PAV]
	V	(280–318)	30.3 ± 0.1	295			[1999DYK/SVO, 1997BAE]
	V	(278–313)	31.9	295	I		[1994KAR/FRA]
	V	(280–313)	30.8	296			[1956GRA/STO]
C ₂ H ₆ Se ₂	[7101-31-7]	Dimethyl diselenide					
	FUS		8.55	190.8			[1991RAB/SHE]
	V	(288–313)	74.9	300	I		[1994KAR/FRA]
	V		42.0 ± 1.0	298	C		[1989VOR/KLY]
C ₃ AsF ₉ Se	[816-45-5]	bis(trifluoromethyl) trifluoromethylselenoarsine					
	V	(227–295)	34.8	261			[1962EME/PAC]
C ₃ BrF ₇ Se	[662-44-2]	(Heptafluoro-1-propane) selenyl bromide					
	V	(251–298)	35	274			[1999DYK/SVO, 1963EME/WEL]
C ₃ ClF ₇ Se	[662-46-4]	(Heptafluoro-1-propane) selenyl chloride					
	V	(223–289)	35.4	256			[1999DYK/SVO, 1963EME/WEL]
C ₃ F ₅ NSe	[20334-51-4]	Pentafluoroethyl selenocyanate					
	V	(254–293)	32.0	273			[1968WEL/WUL]
C ₃ H ₂ F ₆ Se ₂	[691-25-8]	bis[(trifluoromethyl)seleno]methane					
	V	(273–359)	35.4	315			[1999DYK/SVO, 1963EME/WEL]
C ₃ H ₃ F ₅ Se	[6123-56-4]	Methyl pentafluoroethyl selenide					
	V	(234–286)	31.9	260			[1999DYK/SVO]
C ₃ H ₃ F ₇ SeSi	[1647-59-2]	(heptafluoropropyl)selenyl silane					
	V	(233–393)	33.1	263			[1999DYK/SVO, 1962EBS/EME]
C ₃ H ₄ F ₅ NSe	[6123-53-1]	(pentafluoroethyl)seleno methylamine					
	V	(243–318)	33.8	280			[1999DYK/SVO]
C ₃ H ₅ FOSe	[367-52-2]	Fluoroselenoacetic acid, Se-methyl ester					
	V	(273–333)	46.3	303			[1999DYK/SVO]
C ₃ H ₅ F ₃ Se	[690-25-5]	Ethyl(trifluoromethyl)selenide					
	V	(223–254)	31.6	238			[1999DYK/SVO, 1963EME/WEL]
C ₃ H ₆ F ₃ NSe	[690-32-4]	<i>N,N</i> dimethyl(trifluoromethyl)selenenamide					
	V	(231–321)	28.1	276			[1963EME/WEL]
C ₄ F ₁₀ Se	[6123-61-1]	bis(pentafluoroethyl)selenide					
	V	(232–295)	31.6	263			[1999DYK/SVO]
C ₄ F ₁₀ Se ₂	[6123-49-5]	bis(pentafluoroethyl) diselenide					
	V	(272–318)	40.0	295			[1999DYK/SVO]
C ₄ HF ₁₀ NSe ₂	[6123-55-3]	bis[(pentafluoroethyl)seleno]amine					
	V	(270–322)	38.3	296			[1999DYK/SVO]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₄ H ₃ F ₇ Se	[662-45-3]	Methyl(heptafluoropropyl) selenide	V	(232–324)	30.8	278		[1999DYK/SVO, 1963EME/WEL]
C ₄ H ₄ N ₂ O ₂ Se	[92754-59-1]	Selenobarbituric acid	SUB	(449–486)	141 ± 4.0	466	TE	[1999BRU/PIA]
C ₄ H ₄ Se	[288-05-1]	Selenophene	SUB	(208–243)	47.1	225		[1951MIL/PAO]
	V		V	(234–300)	40.8	272		[1999DYK/SVO]
	V		V	(234–387)	38.1 ± 0.7	298	C	[1989VOR/KLY]
	V		V	(234–387)	34.0	249		[1947STU]
C ₄ H ₅ F ₅ Se	[6123-57-5]	Ethyl(pentafluoroethyl) selenide	V	(241–311)	34.8	276		[1999DYK/SVO]
C ₄ H ₆ F ₅ NSe	[6123-52-0]	1,1,2,2,2-pentafluoro-N,N-dimethylethane selenamide	V	(256–320)	34.8	288		[1999DYK/SVO]
C ₄ H ₆ Se	[57796-75-5]	Divinyl selenide	V		42.0 ± 1.0	298	C	[1989VOR/KLY]
C ₄ H ₈ OSe	[5368-46-7]	1,4-oxaselenane	V	(352–429)	46.6	367		[1999DYK/SVO, 1931JOH]
C ₄ H ₁₀ Se	[627-53-2]	Diethyl selenide	V	(273–368)	37.1 ± 1.4	321	T	[2014GER/PAV]
	V		V	(243–381)	38.7 ± 0.6	298	C	[1999DYK/SVO]
	V		V	(243–381)	39.7	258		[1989VOR/KLY]
	V		V	(298–308)	38.9 ± 1.0	298	C	[1936MER/SCH, 1982PIL/SKI]
	V		V	(298–308)	38.9 ± 4.2	303		[1929TAN/NAG]
	V		V	(298–308)	36.8	303		
C ₄ H ₁₀ Se ₂	[628-39-7]	Diethyl diselenide	V	47.1 ± 0.9		298	C	[1989VOR/KLY]
C ₅ AsF ₁₃ Se	[679-01-6]	Heptafluoropropylseleno bis(trifluoromethyl)arsine	V	(277–348)	40.3	312		[1962EME/PAC]
C ₅ H ₃ F ₁₀ NSe ₂	[6123-54-2]	N,N-bis[(pentafluoroethyl)seleno]methylamine	V	(282–324)	38.3	303		[1999DYK/SVO]
C ₅ H ₅ F ₇ Se	[755-44-2]	Ethyl(heptafluoropropyl) selenide	V	(243–333)	36.0	288		[1999DYK/SVO, 1963EME/WEL]
C ₅ H ₆ F ₇ NSe	[755-79-3]	N,N dimethyl(heptafluoropropyl)selenenamide	V	(228–321)	30.8	274		[1963EME/WEL]
C ₆ F ₁₄ Se	[755-81-7]	bis(heptafluoropropyl) selenide	V	(228–343)	34.5	286		[1999DYK/SVO, 1963EME/WEL]
C ₆ F ₁₄ Se ₂	[755-51-1]	bis(heptafluoropropyl) diselenide	V	(260–348)	37.7	304		[1999DYK/SVO, 1963EME/WEL]
C ₆ H ₆ Se	[645-96-5]	Benzene selenol	V	(331–458)	45.4	395		[1999DYK/SVO]
C ₆ H ₁₄ Se	[37773-02-7]	Diisopropyl selenide	V		43.1 ± 1.0	298	C	[1989VOR/KLY]
C ₇ H ₈ Se	[4346-64-9]	Methyl phenyl selenide	V	(273–291)	52.5	282		[1999DYK/SVO]
C ₈ H ₆ N ₂ Se	[25660-64-4]	4-phenyl-1,2,3-selenadiazole	SUB	(275–343)	91.2 ± 1.7	309	ME	[1974ARS]
	SUB		SUB	(327–345)	94.1 ± 0.8	298	GS	[1973ARS/SHA]
	SUB		SUB	(327–345)	90.7	336		[1987STE/MAL]
C ₈ H ₁₈ Se	[14835-66-6]	Dibutyl selenide	V		47.3 ± 1.0	298	C	[1989VOR/KLY]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₀ H ₂₂ Se	[14835-67-7]	Dipentyl selenide	V		51.9 ± 1.0	298	C	[1989VOR/KLY]
C ₁₂ H ₁₀ Se	[1132-39-4]	Diphenyl selenide	SUB	(302–324)	116.7 ± 2.5	313	ME	[1980MOR/WAT]
	V		(379–575)		63.4	394		[1999DYK/SVO]
	V		(378–575)		61.9	393	A	[1987STE/MAL]
	V				63.6 ± 2.5			[1973BAR/MOR, 1982PIL/SKI]
C ₁₄ H ₁₀ Cl ₂ N ₄ O ₂ Se	[1000863-66-0]	N,N'-bis[(2-chloro-3-pyridinyl)carbonyl]carbamimidodiselenoic acid, methyl ester	FUS		17.64	460	DSC	[2009PLA/LIZ]
C ₁₄ H ₁₂ N ₄ O ₂ Se			FUS		12.85	431.5	DSC	[2009PLA/LIZ]
C ₁₄ H ₁₄ Se ₂	[1482-82-2]	Dibenzyl diselenide	SUB	(291–330)	130.5		ME	[1974ARS, 1973ARS/SHA]
C ₁₆ H ₁₂ Cl ₂ N ₂ O ₂ Se	[1000863-72-8]	N,N'-bis(4-chlorobenzoyl)carbamimidodiselenoic acid, methyl ester	FUS		16.23	467.6	DSC	[2009PLA/LIZ]
C ₁₆ H ₁₄ N ₂ O ₂ Se	[1000863-67-1]	N, N'-dibenzoylcarbamimidodiselenoic acid, methyl ester	FUS		10.56	412.7	DSC	[2009PLA/LIZ]
C ₁₇ H ₁₆ N ₂ O ₂ Se	[1000863-68-2]	N, N'-dibenzoylcarbamimidodiselenoic acid, ethyl ester	FUS		10.38	379.1	DSC	[2009PLA/LIZ]
C ₁₈ H ₁₂ F ₆ N ₄ O ₂ Se	[1000863-75-1]	N, N'-bis[4-(trifluoromethyl)benzoyl]carbamimidodiselenoic acid, methyl ester	FUS		14.77	446.1	DSC	[2009PLA/LIZ]
C ₁₈ H ₁₂ N ₄ O ₂ Se	[1000863-76-2]	N, N'-bis(4-cyanobenzoyl)carbamimidodiselenoic acid, methyl ester	FUS		17.55	492.1	DSC	[2009PLA/LIZ]
C ₁₈ H ₁₆ Cl ₂ N ₂ O ₂ Se	[1000863-73-9]	N, N'-bis(4-chlorobenzoyl)carbamimidodiselenoic acid, 1-methylethyl ester	FUS		13.97	437.8	DSC	[2009PLA/LIZ]
C ₁₈ H ₁₈ N ₂ O ₂ Se	[1000863-69-3]	N, N'-dibenzoylcarbamimidodiselenoic acid, 1-methylethyl ester	FUS		8.04	380.2	DSC	[2009PLA/LIZ]
C ₁₈ H ₁₈ N ₂ O ₂ Se	[1000863-78-4]	N, N'-bis(4-methylbenzoyl)carbamimidodiselenoic acid, methyl ester	FUS		12.21	421.7	DSC	[2009PLA/LIZ]
C ₂₀ H ₂₂ N ₂ O ₆ Se	[1000863-70-6]	N, N'-bis(3,5-dimethoxybenzoyl)carbamimidodiselenoic acid, methyl ester	FUS		18.43	436.8	DSC	[2009PLA/LIZ]
C ₂₂ H ₁₆ Br ₂ N ₂ Se ₂	[1448890-32-1]	1,4-bis[[4-bromophenyl)methyl]seleno]phthalazine	FUS		16.9	379.0	DSC	[2013JIM/PLA]
C ₂₂ H ₁₆ N ₄ O ₄ Se ₂	[1448890-33-2]	1,4-bis[[4-nitrophenyl)methyl]seleno]phthalazine	FUS		U3.07	420.0	DSC	[2013JIM/PLA]
C ₂₂ H ₁₈ N ₂ S ₂ Se ₂	[1448890-51-4]	4,4'-[1,4-phthalazinediylbis(thiomethylene)]bis(benzeneselenol)	FUS		U7.56	395.6	DSC	[2013JIM/PLA]
C ₂₂ H ₂₀ N ₄ Se ₂	[1448890-43-4]	4,4'-[1,4-phthalazinediylbis(iminomethylene)]bis(benzeneselenol)	FUS		U4.83	392.3	DSC	[2013JIM/PLA]
C ₂₂ H ₂₆ N ₂ O ₆ Se	[1000863-71-7]	N, N'-bis(3,5-dimethoxybenzoyl)carbamimidodiselenoic acid, 1-methyl ethyl ester	FUS		19.34	426.9	DSC	[2009PLA/LIZ]
C ₂₄ H ₁₆ F ₆ N ₂ Se ₂	[1448890-30-9]	1,4-bis[[4-(trifluoromethyl)phenyl)methyl]seleno]phthalazine	FUS		28.52	391.9	DSC	[2013JIM/PLA]
C ₂₄ H ₁₆ N ₄ S ₂ Se ₂	[1448890-53-6]	Selenocyanic acid, CC'-[1,4-phthalazinediylbis(thiomethylene-4,1-phenylene)] ester	FUS		13.11	408.1	DSC	[2013JIM/PLA]
C ₂₄ H ₁₆ N ₄ Se ₂	[1448890-34-3]	4,4'-[1,4-phthalazinediylbis(selenomethylene)]bis(benzonitrile)	FUS		18.97	461.1	DSC	[2013JIM/PLA]
C ₂₄ H ₁₈ N ₆ Se ₂	[1448890-42-3]	Selenocyanic acid, C,C'-[1,4-phthalazinediylbis(iminomethylene-4,1-phenylene')] ester						

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
		FUS		10.31	427.8	DSC	[2013JIM/PLA]
C ₂₄ H ₂₂ N ₂ O ₂ Se ₂	[1448890-28-5]	FUS	1,4-bis[[[4-methoxyphenyl)methyl]seleno]phthalazine	26.58	387.0	DSC	[2013JIM/PLA]
C ₂₄ H ₂₂ N ₂ S ₂ Se ₂	[1448890-52-5]	FUS	1,4-bis[[[4-(methylseleno)phenyl]methyl]thio]phthalazine	10.03	382.2	DSC	[2013JIM/PLA]
C ₂₄ H ₂₂ N ₂ Se ₂	[1448890-31-0]	FUS	1,4-bis[[[4-methylphenyl)methyl]seleno]phthalazine	28.14	397.7	DSC	[2013JIM/PLA]
C ₂₄ H ₃₀ N ₂ O ₂ Se	[1000863-79-5]	FUS	<i>N,N'</i> -bis[4-(1,1-dimethylethyl)benzoyl]carbamimidoselenoic acid, methyl ester	13.04	437.5	DSC	[2009PLA/LIZ]
C ₂₈ H ₃₈ N ₂ O ₂ Se	[1396294-64-6]	FUS	2-[4-(butylseleno)phenyl]-5-[4-(decyloxy)phenyl]-1,3,4-oxadiazole	37.6	356.9	DSC	[2012FRI/RAM]
C ₃₀ H ₂₂ N ₄ S ₄ Se ₂	[1448890-35-4]	FUS	4,4'-[dithiobis(4,1-phthalazinediyliothiomethylene)]bis(benzeneselenol)	40.51	471.0	DSC	[2013JIM/PLA]
C ₃₂ H ₂₆ N ₄ S ₄ Se ₂	[1448890-36-5]	FUS	1,1'-dithiobis[4-[[4-(methylseleno)phenyl]methyl]thio]phthalazine	25.07	399.2	DSC	[2013JIM/PLA]
C ₃₅ H ₅₂ O ₂ Se	[1714083-30-3]	FUS	cholest-5-en-3-ol (3 β),3-[2-(phenylseleno)acetate]	26.4	371.2	DSC	[2015FRI/RAF]
C ₃₆ H ₅₄ N ₂ O ₂ Se	[1396294-61-3]	FUS	3-[4-(decyloxy)phenyl]-5-[4-(dodecylseleno)phenyl]-1,2,4-oxadiazole	30.6	346.6	DSC	[2012FRI/RAM]
C ₃₆ H ₅₄ O ₂ Se	[1714083-31-4]	FUS	Cholest-5-en-3-ol (3 β), 3-[3-(phenylseleno)propanoate]	16.5	320.3	DSC	[2015FRI/RAF]
C ₅₈ H ₉₄ O ₄ Se ₂	[1714083-33-6]	FUS	Cholest-5-en-3-ol (3 β), 3,3'-(2,2' diselenodiacetate)	18.0	433.9	DSC	[2015FRI/RAF]
Cl ₂ OSe	[7791-23-3]	V	Selenium oxychloride	59.1	367		[1999DYK/SVO]
		V	(352–476)	46.9	403		[1971NIS/TRE]
D ₂ Se	[13536-95-3]	TRS	Hydrogen selenide – d ₂	1.94	90.5		
		TRS		1.18	176.0		
		FUS		2.49	206.6		[1937KRU/CLU]
		V	(202–256)	22.2	217		[1999DYK/SVO]
F ₂ OSe	[7783-43-9]	FUS	Seleninyl difluoride	8.08	288		[1979CAR/CLA, 1977BOU/CAR]
		V	(316–420)	52.1	331		[1999DYK/SVO]
		V		46.9 ± 0.8	298	C	[1979CAR/CLA]
		V		46.7			[1977BOU/CAR]
F ₄ Se	[13465-66-2]	V	Selenium tetrafluoride	46.4	312		[1999DYK/SVO]
F ₆ Se	[7783-79-1]	SUB		24.96 ± 0.04	205	C	[1996OHT/OSA]
		SUB	(194–226)	23.5	210		[1932KLE/HEN]
F ₆ O ₂ Se	[27069-91-6]	V	<i>trans</i> bis(fluoroxy) tetrafluoroselenium	26.5	263		[1970SMI/CAD]
H ₂ Se	[7783-07-5]	TRS	Hydrogen selenide	1.57	82.3		
		TRS		1.12	172.5		
		FUS		2.52	207.4		[1937KRU/CLU]
		V	(231–304)	19.8			[1902DEF/FON]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
CH ₂ Cl ₄ OSi	[18157-08-9]	V	Chloromethoxytrichlorosilane (273–323)	9.3	288		[1958FRO/ROC]
CH ₃ Cl ₂ FSi	[420-58-6]	V	Methyldichlorofluorosilane	28.2			[1946BOO/MAR]
CH ₃ Cl ₃ Si	[75-79-6]	FUS	Methyltrichlorosilane	8.95	197.4		[1996DOM/HEA, 1971SAM/KOS]
			V	(328–358)	30.7		[1967GOL/LAP]
			V	(287–337)	31.2	1	[1954JEN/CHA]
			V		31.0 ± 2.1		[1969AGA/HAJ, 1982PIL/SKI]
			V		30.3		[1946BOO/MAR]
(CH ₃ Cl ₃ Si)- 2(C ₆ H ₁₅ N ₃)	SUB		bis-1,3,5-trimethyl-1,3,5-triazacyclohexane–methyltrichlorosilane (298–354)	74.0 ± 2.8			[1984GOL/LEV]
CH ₃ F ₃ Si	[373-74-0]	V	Methyltrifluorosilane	23.7			[1946BOO/MAR]
CH ₃ NSi	[18081-38-4]	SUB	Isocyanosilane (253–304)	48.8	279		[1987STE/MAL, 1956MAC]
CH ₃ NOSi	[13730-13-7]	V	Silyl isocyanate	27.3			[1962EBS/MAY]
CH ₄ Cl ₂ Si	[42430-97-7]	V	(dichloromethyl)silane (283–319)	32.5	301		[1957KAE/STO]
CH ₄ Cl ₂ Si	[75-54-7]	V	Methyldichlorosilane (275–314)	28.3	290	1	[1954JEN/CHA]
CH ₅ BrSi	[1631-88-5]	V	Methylbromosilane (283–295)	28.5	289		[1958EBS/EME]
CH ₅ ClSi	[10112-09-1]	V	(chloromethyl)silane (246–297)	27.5	271		[1957KAE/STO]
CH ₆ OSi	[2171-96-2]	V	Methoxysilane (184–216)	25.8	201		[1961STE/MAC]
CH ₆ Si	[992-94-9]	V	Methylsilane (159–215)	18.4	215		[1953TAN/KAY]
CH ₈ Si ₂	[13498-43-6]	V	Methyldisilane (190–273)	26.8	231	T	[1966ABE/MAC]
CH ₉ NSi ₂	[4459-06-7]	V	<i>N</i> -methylsilane (200–291)	28.3			[1939EME/MIL]
C ₂ H ₃ Cl ₃ O ₂ Si	[18038-52-3]	V	Trichlorosilanol acetate (273–359)	32.8			[1953GOU/MUN]
C ₂ H ₃ Cl ₃ Si	[75-94-5]	V	Trichlorovinylsilane (291–356)	34.2	306	1	[1954JEN/CHA]
C ₂ H ₃ Cl ₅ Si	[684-00-4]	V	1,2-dichloroethyltrichlorosilane (375–453)	45.7	390	1	[1954JEN/CHA]
C ₂ H ₄ Cl ₆ Si ₂	[2504-64-5]	V	bis(trichlorosilyl)ethane (364–432)	48.6	379	1	[1954JEN/CHA]
C ₂ H ₄ Si	[1066-27-9]	V	Silylacetylene (215–251)	22.0	233		[1963EBS/FRA]
C ₂ H ₅ ClF ₂ Si	[421-23-8]	V	Chloroethyl difluorosilane (235–298)	28.2	266		[1946BOO/CAR]
C ₂ H ₅ Cl ₂ FSi	[421-22-7]	V	Dichloroethylfluorosilane (248–333)	30.8	290		[1946BOO/CAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_2\text{H}_5\text{Cl}_3\text{Si}$	[115-21-9]	Ethytrichlorosilane					
		FUS	(13–300)	6.96	165.3		[1996DOM/HEA, 1969NAG/DZH]
		V	(303–363)	35.1	318		[1970SOK/KAR]
		V	(301–368)	35.9	316	I	[1954JEN/CHA]
		V	(263–373)	32.2	318		[1946BOO/CAR]
$\text{C}_2\text{H}_5\text{F}_3\text{Si}$	[353-89-9]	Ethytrifluorosilane					
		V	(193–268)	25.6	230		[1946BOO/CAR]
		V	(201–268)	25.9			[1944EME/WIL]
$\text{C}_2\text{H}_5\text{F}_3\text{OSi}$	[460-55-9]	Ethoxy trifluorosilane	(206–248)	26.8	227		[1949EME/HEA]
$\text{C}_2\text{H}_3\text{F}_3\text{O}_2\text{Si}$	[6876-44-4]	Silyl trifluoroacetate	(273–293)	30.7	283		[1987STE/MAL, 1967EBS/THO]
$\text{C}_2\text{H}_6\text{ClFSi}$	[420-57-5]	Chlorofluorodimethylsilane					
	V			28.4			[1946BOO/SUT]
$\text{C}_2\text{H}_6\text{Cl}_2\text{Si}$	[75-78-5]	Dichlorodimethylsilane					
		FUS		8.83	199		[1996DOM/HEA, 1971SAM/KOS]
		V	(301–345)	31.5	316	I	[1954JEN/CHA]
		V		31.5			[1946BOO/SUT]
$\text{C}_2\text{H}_6\text{Cl}_2\text{Si}$	[1789-58-8]	Dichloroethylsilane					
		V	(279–346)	31.5	294		[1954JEN/CHA]
		V	(301–345)	31.6	316		[1954JEN/CHA, 1987STE/MAL]
$\text{C}_2\text{H}_6\text{Cl}_4\text{Si}_2$	[4518-98-3]	1,1,2,2-tetrachloro-1,2-dimethyldisilane	(300–375)	42.4	337		[1967REE/URR]
$\text{C}_2\text{H}_6\text{F}_2\text{Si}$	[353-66-2]	Difluorodimethylsilane					
	V			25.8			[1946BOO/SUT]
$\text{C}_2\text{H}_6\text{F}_3\text{NSi}$	[812-14-6]	1,1,1-trifluoro- <i>N,N</i> -dimethylaminosilane	(225–288)	28.5	273		[1961GRO/KLE]
$\text{C}_2\text{H}_6\text{Si}$	[7291-09-0]	Vinylsilane	(186–250)	21.4	250		[1953TAN/KAY]
$\text{C}_2\text{H}_7\text{ISi}$	[2441-21-6]	Dimethyliodosilane	(273–323)	28.3	298		[1958EME/SMY]
$\text{C}_2\text{H}_8\text{Si}$	[1111-74-6]	Dimethylsilane	(187–251)	21.3	253		[1953TAN/KAY]
$\text{C}_2\text{H}_8\text{Si}$	[2814-79-1]	Ethylsilane	(198–257)	22.3	260		[1953TAN/KAY]
$\text{C}_2\text{H}_9\text{NSi}$	[2875-98-1]	Dimethylaminosilane	(228–264)	58.8	246	A	[1987STE/MAL, 1954SUJ/WIT]
$\text{C}_2\text{H}_{10}\text{Si}_2$	[870-26-8]	1,2-dimethyldisilane	(227–273)	25.4	258		[1962CRA/MAC]
$\text{C}_2\text{H}_{11}\text{NSi}_2$	[14396-26-0]	<i>N,N</i> dimethyldisilanylamine	(207–273)	35.4	240	T	[1963ABE/MAC]
$\text{C}_3\text{H}_4\text{Cl}_3\text{NSi}$	[2621-01-4]	Trichloro- β -cyanoethylsilane	(343–443)	53.5	358		[1978SHM/SHL]
$\text{C}_3\text{H}_4\text{Cl}_3\text{NSi}$	[1071-22-3]	β -trichlorosilylpropionitrile					
	FUS			21.24	307.9		[1975KOS/SAM]
$\text{C}_3\text{H}_5\text{Cl}_3\text{Si}$	[107-37-9]	Allyltrichlorosilane	(319–388)	40.1	333	I	[1954JEN/CHA]
$\text{C}_3\text{H}_6\text{Cl}_4\text{Si}$	[2550-06-3]	γ -chloropropyltrichlorsilane	(313–443)	49.7	328		[1972SOK/BRA]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(360–452)	46.4	375	I	[1954JEN/CHA]
C ₃ H ₆ Cl ₄ Si	V	β-chloropropyltrichlorosilane (313–443)	46.9	328		[1972SOK/BRA]
C ₃ H ₇ Cl ₃ Si	[141-57-1]	Propyltrichlorosilane (293–395)	36.4			[1946BOO/HAL]
C ₃ H ₇ F ₃ Si	[460-48-0]	Propyltrifluorosilane (248–298)	27.0			[1946BOO/HAL]
C ₃ H ₈ Cl ₂ OSi	[1825-75-8]	Dichloroethoxymethylsilane (313–373)	45.4	328	EB	[2010DON/WU]
	V	(239–373)	38.0	254		[1947STU]
C ₃ H ₉ BrSi	[2857-97-8]	Bromotrimethylsilane	32.6 ± 2.1			[1967BAL/LAP, 1982PIL/SKI]
C ₃ H ₉ ClSi	[75-77-4]	Chlorotrimethylsilane				
	TRS		0.7	185.1		[1996DOM/HEA, 1971SAM/KOS2]
	FUS		9.68	218		
	V	(274–325)	30.8	289		[1964CAP/FRI]
	V	(276–329)	30.2	291		[1954JEN/CHA]
	V		30.1 ± 1.7			[1967BAL/LAP, 1982PIL/SKI]
	V		30.2			[1946BOO/SUT]
C ₃ H ₉ FSi	[420-56-4]	Fluorotrimethylsilane				
	V		26.9			[1946BOO/SUT]
C ₃ H ₉ N ₃ Si	[4648-54-8]	Trimethylsilyl azide (243–302)	36.7	273		[1962CON/URR]
C ₃ H ₁₀ OSi	[1066-40-6]	Trimethylsilanol				
	V	(291–357)	46.8	306	A	[1987STE/MAL]
	V		45.6 ± 1.7			[1969AGA/HAJ, 1982PIL/SKI]
	V	(291–358)	44.2	324	I	[1953GRU/OST]
C ₃ H ₁₀ Si	[993-07-7]	Trimethylsilane				
	V	(205–273)	24.4	280		[1953TAN/KAY]
C ₃ H ₁₁ NSi	[74897-01-1]	<i>N,N</i> dimethyl(methylsilyl)amine (273–317)	28.2	296		[1958EBS/EME]
C ₃ H ₁₃ NSi ₂	[18145-61-4]	<i>N</i> -methyl <i>d</i> i(methylsilyl)amine (303–351)	32.2	327		[1958EBS/EME]
C ₃ H ₁₅ NSi ₃	[18145-64-7]	Tri(methylsilyl)amine (323–378)	33.7	350		[1958EBS/EME]
C ₄ N ₄ O ₄ Si	[3410-77-3]	Tetraisocyanatosilane				
	V		54.0			[1948FOR/AND]
C ₄ H ₂ Cl ₆ SSi ₂	[18145-50-1]	2,5-bis(trichlorosilyl)thiophene (374–519)	55.6	388		[1981DIT/SKO]
C ₄ H ₈ Cl ₂ Si	[10138-21-3]	Dichloroethylvinylsilane (318–395)	38.1	333	I	[1954JEN/CHA]
C ₄ H ₉ ClF ₂ Si	[10132-56-6]	Butylchlorodifluorosilane (273–361)	33.6	317		[1946BOO/SCH]
C ₄ H ₉ Cl ₂ FSi	[10132-55-5]	Butyldichlorofluorosilane (315–390)	35.9	352		[1946BOO/SCH]
C ₄ H ₉ Cl ₃ Si	[5936-98-1]	(trichloromethyl)trimethylsilane				
	TRS		11.16	285.3		
	FUS		7.36	405.3	DTA,DSC	[1994BRA/DOU]
C ₄ H ₉ Cl ₃ Si	[7521-80-4]	Butytrichlorosilane (343–423)	39.7	383		[1946BOO/SCH]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_4\text{H}_9\text{Cl}_3\text{Si}$	[18171-74-9]	<i>tert</i> -butyltrichlorosilane	TRS		6.01	206.4	DTA,DSC	[1994BRA/DOU]
			FUS		6.69	373.4		
			V	(243–328)	31.1	285		[1946BOO/SCH]
$\text{C}_4\text{H}_9\text{F}_3\text{Si}$	[371-93-7]	Butytrifluorosilane						
	V	(193–233)		25.8		213		[1973BEC/RUC]
$\text{C}_4\text{H}_9\text{F}_6\text{NSi}_2$	[28245-41-2]	1,1,1-trifluoro- <i>N</i> -(1-methylpropyl)- <i>N</i> -(trifluorosilyl)silanamine	V				I	[1954JEN/CHA]
			V	(321–401)	39.2	336		
$\text{C}_4\text{H}_{10}\text{Cl}_2\text{Si}$	[1719-53-5]	Dichlorodieethylsilane	V				[1944EME/WIL]	[1944EME/WIL]
			V	(244–334)	31.9			
$\text{C}_4\text{H}_{10}\text{F}_3\text{NSi}$	[28245-37-6]	<i>(N,N</i> -diethylamino)trifluorosilane	V				[1974DIT/SKO3]	[1974DIT/SKO3]
			V	(208–274)	27.4	241		
$\text{C}_4\text{H}_{10}\text{F}_3\text{NSi}$	[28245-40-1]	<i>(N-tert</i> -butylamino)trifluorosilane	V				[1973AYL/ELL]	[1973AYL/ELL]
			V	(208–250)	33.6	229		
$\text{C}_4\text{H}_{10}\text{Si}$	[765-33-3]	1-methylsilyclobutane	V				C	[1991VOR/KLY3]
			V		25.1	298		
$\text{C}_4\text{H}_{12}\text{Cl}_2\text{OSi}_2$	[2401-73-2]	1,3-dichlorotetramethylidisiloxane	V				[1971SOK/KAR]	[1971SOK/KAR]
			V	(303–403)	40.3	318		
$\text{C}_4\text{H}_{12}\text{O}_3\text{Si}$	[1185-55-3]	Methyltrimethoxysilane	V		34.3 ± 0.6	298	C	[1988VOR/BAR]
			V		34.3 ± 0.3	298		
$\text{C}_4\text{H}_{12}\text{O}_4\text{Si}$	[681-84-5]	Tetramethoxysilane	V		38.0	379	EB	[1989KAT/TAN]
			V		41.4 ± 0.7	298		
			V		41.4 ± 0.2	298		
			V	(309–394)	41.0	324		[1985KLY/DAN]
$\text{C}_4\text{H}_{12}\text{Si}$	[75-76-3]	Tetramethylsilane	FUS (I)		6.87	174.1	DTA	[1977HAR/ATA]
			FUS (II)		5.88	171.0		
			FUS (III)		0.70	165.9		
			FUS (I)		6.74	174.0		
			FUS (II)		5.84	171.0		[1996DOM/HEA, 1973SHI/ENO]
			FUS (I)		6.9	174.1		
			FUS (II)		5.97	171.0		[1996DOM/HEA, 1941AST/KEN]
			V		26.0 ± 0.6	298		
$\text{C}_4\text{H}_{12}\text{Si}$	[542-91-6]	Diethylsilane	V		26.2 ± 0.4	298	C	[1988VOR/BAR]
			V	(241–295)	26.2	299		
$\text{C}_4\text{H}_{12}\text{Si}$	[1600-29-9]	Butylsilane	V		24.2 ± 0.1	299	C	[1972PED/ISE, 1982PIL/SKI]
			V	(240–284)	30.8	329		
$\text{C}_4\text{H}_{12}\text{Si}$	[18165-87-2]	Isobutylsilane	V		30.0 ± 0.4	[1953TAN/KAY]	[1953TAN/KAY]	
			V	(233–393)	29.5	322		
$\text{C}_4\text{H}_{12}\text{S}_4\text{Si}$	[3931-76-8]	Tetra(methylthia)silane	TRS		11.63	288.6	DSC	[1998FUE/STR]
			FUS		2.18	304.5		
$\text{C}_4\text{H}_{13}\text{NSi}$	[16513-17-0]	<i>N</i> , <i>1,1,1-tetramethylsilylamin</i> e	V		37.4 ± 0.8	298	C	[1991VOR/KLY]
			V		36.0 ± 2.1			
							[1967BAL/LAP, 1982PIL/SKI]	

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₄ H ₁₄ N ₂ Si	[4693-04-3]	bis(dimethylamino)silane	(288–344)	32.4	316	T	[1964AYL/PET]
C ₄ H ₁₄ N ₂ Si	V	bis(aminomethyl)dimethylsilane	(293–413)	39.3			[1962GOU/FRO]
C ₄ H ₁₄ OSi	[3277-26-7]	1,1,3,3-tetramethyldisiloxane	(273–323)	30.3	298		[1958EME/SMY]
C ₄ H ₁₄ SSi ₂	[16642-70-9]	1,1,3,3-tetramethyldisilthiane	(273–323)	28.7	298		[1958EME/SMY]
C ₄ H ₁₆ N ₂ Si ₂	[18148-05-5]	<i>N,N,N',N'</i> -tetramethyldisilanyldiamine	(311–354)	39.3	332	T	[1963ABE/MAC]
C ₄ H ₁₆ O ₄ Si ₄	[2370-88-9]	2,4,6,8-tetramethylcyclotetrasiloxane		41.2		EB	[2012YUE/DON]
C ₅ H ₅ N ₃ O ₄ Si	[18243-45-3]	Ethoxytriisocyanatosilane		48.1			[1948FOR/AND]
C ₅ H ₆ Cl ₂ SSi	[18243-72-6]	2-(methyldichlorosilyl)thiophene	(341–467)	46.4	356		[1981DIT/SKO]
C ₅ H ₉ F ₆ NOSSi	[34556-30-4]	<i>S,S</i> -bis(trifluoromethyl)- <i>N</i> -(trimethylsilyl)sulfoximine		33.5	378	I	[1972SAU/SHR]
C ₅ H ₉ F ₆ PSSI	[38680-96-5]	bis(trifluoromethyl)(trimethylsilylthio)phosphine	(273–328)	46.6	301		[1973GOS/MIL]
C ₅ H ₁₀ F ₃ NSi	[33552-49-7]	1-(trifluorosilyl)piperidine	(250–282)	33.9	266		[1973AYL/ELL]
C ₅ H ₁₂ Si	V	1,2-dimethylsilacyclobutane		33.1	298	C	[1991VOR/KLY3]
The authors list the compound as 1,2-dimethylsilacyclobutane in Table 1 and as 1,1-dimethylsilacyclobutane in Table 2 of their paper.							
C ₅ H ₁₂ Si	[2295-12-7]	1,1-dimethylsilacyclobutane					
	FUS			6.76	155.5		[1975GUS/KAR]
	V			32.1	356		[1975GUS/KAR]
	V			33.0 ± 0.8	298	I	[1974BES/MAR]
	V			34.7 ± 2.1			[1972PED/ISE, 1982PIL/SKI]
C ₅ H ₁₂ Si	[754-05-2]	Vinyltrimethylsilane		7.66	141.7		[1996DOM/HEA, 1975RAB/LEB]
	FUS						
	V			33.1 ± 0.6	298	C	[1988VOR/BAR]
C ₅ H ₁₃ NSi	[2116-90-7]	Trimethylsilylethylenimine		10.5	192.5		[1999KUL/LEB]
C ₅ H ₁₄ OSi	[1825-62-3]	Ethoxytrimethylsilane					
	V			38.4 ± 0.6	298	C	[1988VOR/BAR]
	V			38.4 ± 0.3	298	EB	[1985KLY/DAN]
	V		(223–349)	35.1	238		[1947STU]
C ₅ H ₁₄ O ₃ SSI	[57557-66-1]	Trimethoxy[(methylthio)methyl]silane					
	V			40.2 ± 0.6	298	C	[1989VOR/SOR]
C ₅ H ₁₄ O ₃ Si	[5314-55-6]	Ethyl(trimethoxy)silane					
	V		(306–397)	43.6	316	EB	[2010WU/LIU]
	V		(306–397)	43.0	339	EB	[2010WU/LIU]
	V		(306–397)	40.9	360	EB	[2010WU/LIU]
	V		(306–397)	39.3	371	EB	[2010WU/LIU]
	V		(306–397)	37.4	380	EB	[2010WU/LIU]
	V		(306–397)	35.5	390	EB	[2010WU/LIU]
C ₅ H ₁₄ Si	[760-32-7]	Methyldiethylsilane		34.6 ± 0.7	298	C	[1988VOR/BAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_5\text{H}_{15}\text{NSi}$	[2083-91-2]	Pentamethylsilanamine					
		V		33.6 ± 0.8	298	C	[1991VOR/KLY]
		V		31.8 ± 1.7			[1967BAL/LAP, 1982PIL/SKI]
		V	(313–357)	31.7	335		[1958EBS/EME]
$\text{C}_5\text{H}_{20}\text{O}_5\text{Si}_5$	[6166-86-5]	1,3,5,7,9-pentamethylcyclopentasiloxane					
	V			47.0 ± 0.9	298	C	[1991VOR/KLY2]
$\text{C}_6\text{H}_4\text{Cl}_4\text{Si}$	[2003-90-9]	(2-chlorophenyl)trichlorosilane					
	V	(406–472)		52.1	439	EB	[1974BES/MAR]
$\text{C}_6\text{H}_4\text{Cl}_4\text{Si}$	[2003-89-6]	(3-chlorophenyl)trichlorosilane					
	V	(398–463)		50.7	430	EB	[1974BES/MAR]
$\text{C}_6\text{H}_5\text{Cl}_3\text{Si}$	[98-13-5]	Phenyl trichlorosilane					
		FUS	(14–289)	11.66	233.4	AC	[1996DOM/HEA, 1965GUM/KOS]
		V	(333–453)	51.1	348		[1970SOK/KAR]
		V	(375–470)	47.9	390	I	[1954JEN/CHA]
$\text{C}_6\text{H}_5\text{F}_3\text{Si}$	[368-47-8]	Trifluorophenylsilane					
	V	(242–371)		40.1	257		[1947STU]
$\text{C}_6\text{H}_8\text{Cl}_4\text{SSi}_2$	[4480-01-7]	2,5-bis(methyldichlorosilyl)thiophene					
	V	(405–522)		55.7	420		[1981DIT/SKO]
$\text{C}_6\text{H}_8\text{Si}$	[694-53-1]	Phenylsilane					
		FUS		8.4	201		[2006ZEL/CHU]
		V	(238–390)	36.6 ± 0.3	314		[2006ZEL/CHU]
$\text{C}_6\text{H}_9\text{F}_6\text{NSi}$	[17599-55-2]	1,1,1-trimethyl- <i>N</i> -[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]silanamine					
	V			30.5	358	I	[1972SWI/BAB]
$\text{C}_6\text{H}_{10}\text{Cl}_2\text{Si}$	[3651-23-8]	Diallyldichlorosilane					
	V	(254–390)		47.9	269		[1947STU]
$\text{C}_6\text{H}_{10}\text{N}_2\text{O}_4\text{Si}$	[18544-43-9]	Diethoxydiisocyanatosilane					
	V			46.0			[1948FOR/AND]
$\text{C}_6\text{H}_{11}\text{NSi}_2$	[4459-07-8]	<i>N</i> -phenyldisilazane					
	V	(298–356)		34.9	327	T	[1969AYL/HAK]
$\text{C}_6\text{H}_{12}\text{Si}$	[6224-91-5]	1-trimethylsilyl-1-propyne					
	FUS			10.96	204.5		[1993KUL/LEB, 1997LEB/KUL]
$\text{C}_6\text{H}_{12}\text{Si}$	[16054-12-9]	1,1-dimethyl-1-silacyclopent-3-ene					
	FUS			7.77	166.8		[2000BYK/LEB]
$\text{C}_6\text{H}_{12}\text{Si}$	[3514-67-8]	1-methyl-1-vinylsilacyclobutane					
	V			33.1	298	C	[1991VOR/KLY3]
$\text{C}_6\text{H}_{12}\text{Si}_2$	[1627-98-1]	1,1,3,3-tetramethyl-1,3-disilacyclobutane					
	V			39.5	391		[1975GUS/KAR]
$\text{C}_6\text{H}_{14}\text{Si}$	[30681-90-4]	1,1,2-trimethylsilacyclobutane					
	V			36.0	298	C	[1991VOR/KLY3]
$\text{C}_6\text{H}_{14}\text{Si}$	[1072-54-4]	1,1-dimethylsilacyclopentane					
	V			37.7 ± 2.1			[1972PED/ISE, 1982PIL/SKI]
$\text{C}_6\text{H}_{14}\text{Si}$	[2295-13-8]	1,1,3-trimethylsilacyclobutane					
	V			35.5	298	C	[1991VOR/KLY3]
$\text{C}_6\text{H}_{15}\text{ClSi}$	[994-30-9]	Chlorotriethylsilane					
	V	(268–419)		42.9	419		[1947STU]
$\text{C}_6\text{H}_{15}\text{ClSi}$	[18162-48-6]	<i>tert</i> -butyldimethylchlorosilane					
	TRS			7.75	203.6	DTA,DSC	[1994BRA/DOU]
	FUS			5.6	358.1		

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₆ H ₁₅ FO ₃ Si	[358-60-1]	Triethoxyfluorosilane	(291–373)	40.3	332	I	[1949EME/HEA]
	V						
C ₆ H ₁₅ NOSi ₂	[1560-30-1]	Pentamethyldisilanyl isocyanate	(320–377)	44.2	348		[1963URE/MAC]
	V						
C ₆ H ₁₅ NSi	[10519-97-8]	Trimethyl(allylarnino)silane	(296–363)	35.1 ± 0.2	330		[2010RAK/TSI]
	V						
C ₆ H ₁₅ NSi ₂	[1560-29-8]	Pentamethyldisilanyl cyanide	(335–402)	46.9	350		[1962CRA/URE]
	V						
C ₆ H ₁₆ OSi	[1825-63-4]	Propoxytrimethylsilane					
	V			34.3 ± 0.6	298	C	[1988VOR/BAR]
	V			34.3 ± 0.3	298	C	[1985KLY/DAN]
C ₆ H ₁₆ OSi	[1825-64-5]	Isopropoxytrimethylsilane					
	V			31.8 ± 0.6	298	C	[1988VOR/BAR]
	V			31.8 ± 0.4	298	EB	[1985KLY/DAN]
C ₆ H ₁₆ OSi	[597-52-4]	Triethylsilanol	(298–413)	50.6	355	I	[1953GRU/OST]
	V						
C ₆ H ₁₆ O ₂ Si	[78-62-6]	Diethoxydimethylsilane					
	V			43.1 ± 0.7	298	C	[1988VOR/BAR]
	V			43.1 ± 0.3	298	EB	[1985KLY/DAN]
	V		(254–386)	43.3	269		[1947STU]
C ₆ H ₁₆ O ₃ SSi	[66785-19-1]	Trimethoxy[2-(methylthio)ethyl]silane					
	V			45.2 ± 0.7	298	C	[1989VOR/SOR]
C ₆ H ₁₆ O ₃ SSi	[53696-79-0]	[(Ethylthio)methyl]trimethoxysilane					
	V			41.4 ± 0.6	298	C	[1989VOR/SOR]
C ₆ H ₁₆ Si	[756-81-0]	Dimethyldiethylsilane					
	V			38.9 ± 0.6	298	C	[1988VOR/BAR]
C ₆ H ₁₆ Si	[617-86-7]	Triethylsilane					
	V			37.4 ± 0.6	298	C	[1988VOR/BAR]
	V		(303–373)	33.5		EB,I	[1975BRA/KAR]
	V			36.4 ± 1.3			[1972PED/ISE, 1982PIL/SKI]
C ₆ H ₁₆ Si ₂	[1627-98-1]	1,1,3,3-tetramethyl-1,3-disilacyclobutane					
	FUS			10.26	266		[1996DOM/HEA, 1975GUS/KAR]
	V			36.7 ± 1.1	298	I	[1974SHM/SHL]
	V			41.0 ± 2.1			[1972PED/ISE, 1982PIL/SKI]
C ₆ H ₁₇ B ₅ Br ₂ Si ₂	[66798-29-6]	2,4-bis(bromodimethylsilyl)-2,4-dicarbo-closo-heptaborane (7)	(388–463)	53.1	403	I	[1979GOL/SHM]
	V						
C ₆ H ₁₇ B ₅ Cl ₂ Si ₂	[28699-83-4]	2,4-bis(chlorodimethylsilyl)-2,4-dicarbo-closo-heptaborane (7)	(359–439)	46.2	374	I	[1979GOL/SHM]
	V						
C ₆ H ₁₈ Cl ₂ O ₂ Si ₃	[3582-71-6]	1,5-dichlorohexamethyltrisiloxane	(299–457)	49.8	314		[1947STU]
	V						
C ₆ H ₁₈ OSi ₂	[107-46-0]	Hexamethyldisiloxane					
	FUS			11.99	206.11	DSC	[2011ABB/SCH]
	FUS			11.92	204.9		[1996DOM/HEA, 1961SCO/MES]
	V		(300–383)	36.9	315	EB	[1986FLA]
	V		(293–361)	33.1	327		[1971DIT/SKO]
	V			37.2 ± 1.7			[1964GOO/LAC, 1982PIL/SKI]
	V		(309–411)	36	324	EB	[1961SCO/MES]
	V			34.6 ± 0.1	332	C	[1961SCO/MES]
	V			33.1 ± 0.1	351	C	[1961SCO/MES]
	V			31.3 ± 0.1	373	C	[1961SCO/MES]
	V			37.2 ± 1.7			[1947STU]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_6\text{H}_{18}\text{O}_3\text{Si}_3$	[541-05-9]	Hexamethylcyclotrisiloxane					
		FUS		19.4	344	DSC	[1995OUT/KLO]
		FUS		16.61	335.2		[1996DOM/HEA, 1982KUL/DZH]
		FUS		11.8	335.2		[1971ALV/DAL]
		FUS		15.5	341.2	S-V	[1953OST/GRU]
	[298-40-1]	SUB	(297–335)	55.2 ± 0.4	316		[1953OST/GRU]
		V	(342–419)	40.8	357	EB	[1986FLA]
		V	(353–403)	39.7	368		[1974BRA/KAR]
		V	(339–407)	39.0	373		[1971DIT/SKO]
		V	(343–388)	39.7	365		[1953OST/GRU]
$\text{C}_6\text{H}_{18}\text{Si}_2$	[1450-14-2]	Hexamethyldisilane					
		TRS		9.75	221.8		
	[298-40-1]	FUS		3.02	287.7		[1996DOM/HEA, 1959SUG/SEK]
		V	(305–387)	36.3	320	EB	[1986TAK/ISH]
		V		37.4 ± 0.4			[1972PED/ISE, 1982PIL/SKI]
		V	(288–310)	37.2			[1959SUG/SEK, 1986TAK/ISH]
		V	(294–334)	36.8			[1941BRO/DAV, 1986TAK/ISH]
$\text{C}_6\text{H}_{19}\text{B}_5\text{Si}_2$	[59351-11-0]	2,4-bis(dimethylsilyl)-2,4-dicarba-closo-heptaborane					
		V	(373–453)	41.3	388	I	[1976SHM/SHL]
$\text{C}_6\text{H}_{19}\text{NSi}_2$	[999-97-3]	Hexamethyldisilazane					
		V	(293–382)	37.4 ± 0.4	338	Static	[2015ERM/SYS]
		V		42.2 ± 0.9	298	C	[1991VOR/KLY]
		V	(294–395)	36.0	344		[1972DIT/SKO2]
		V		41.4 ± 2.1			[1966BEE/MOR, 1982PIL/SKI]
$\text{C}_6\text{H}_{19}\text{N}_3\text{Si}$	[15112-89-7]	tris(dimethylamino)silane					
		V	(309–387)	41.1	348	T	[1964AYL/PET]
$\text{C}_6\text{H}_{21}\text{N}_3\text{Si}_3$	[1009-93-4]	Hexamethylcyclotrisilazane					
		FUS		15.17	254.4		[1996DOM/HEA, 1981MEK/KAR]
		V	(342–456)	45.6	399		[1972DIT/SKO2]
$\text{C}_7\text{H}_8\text{Cl}_2\text{Si}$	[18173-99-4]	Benzyl dichlorosilane					
		V	(318–467)	58.5	333		[1947STU, 1999DYK/SVO]
$\text{C}_7\text{H}_8\text{Cl}_2\text{Si}$	[149-74-6]	Phenyldichloromethylsilane					
		V	(309–479)	51.2	323		[1947STU, 1999DYK/SVO]
$\text{C}_7\text{H}_8\text{Cl}_2\text{Si}$	[13272-80-5]	Dichloro-4-tolylsilane					
		V	(319–469)	58	334		[1947STU, 1999DYK/SVO]
$\text{C}_7\text{H}_8\text{F}_2\text{Si}$	[13272-80-5]	Difluoromethylphenylsilane					
		V	(303–413)	44.6	318		[1999DYK/SVO]
$\text{C}_7\text{H}_9\text{F}_8\text{NOSSi}$	[77589-40-3]	2,2,3,3,4,4,5,5-octafluoro-1,1,2,3,4,5-hexahydro-1-[(trifluoromethyl)silyl]imino]thiophene-1-oxide					
		V		31.4	383		[1981ABE/SHR2]
$\text{C}_7\text{H}_9\text{F}_2\text{N}_2\text{OSSi}$	[62609-67-0]	1,1,1-trifluoro- <i>N</i> -[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]- <i>N'</i> -(trimethylsilyl)methanesulfonimidamide					
		V		39.3	429	I	[1977KIT/SHR, 1999DYK/SVO]
$\text{C}_7\text{H}_{15}\text{NO}_3\text{Si}$	[2288-13-3]	1-methyl-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane					
		SUB		82 \pm 0.8			[1989VOR/BAR]
$\text{C}_7\text{H}_{15}\text{NO}_4\text{Si}$	[18340-01-7]	Triethoxyisocyanatosilane					
		V		45.6			[1948FOR/AND]
$\text{C}_7\text{H}_{16}\text{O}_3\text{SSi}$	[57877-58-4]	Trimethoxy[(2-propenylthio)methyl]silane					
		V		38.6 ± 0.5	298	C	[1989VOR/SOR]
$\text{C}_7\text{H}_{17}\text{ClSi}$	[18817-17-9]	(1-chloroethyl)diethylmethylsilane					
		V	(353–445)	41.8	400		[1999DYK/SVO]
$\text{C}_7\text{H}_{17}\text{NSi}$	[18387-12-7]	<i>N</i> -(β -trimethylsilyl)ethylenimine					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	FUS			10.62	176.5		[1996DOM/HEA, 1974LEB/ARO, 1974LEB/TSV]
C ₇ H ₁₈ OSi	[1825-65-6] V	Butyl trimethylsilyl ether	(344–397)	38.5	359	EB	[1969SHE/LAN, 1984BOU/FRI]
C ₇ H ₁₈ O ₂ Si	[3965-63-7] V	<i>tert</i> -butyldioxytrimethylsilane		34.1 ± 0.5	298	C	[2010DIB/PAV]
C ₇ H ₁₈ O ₃ SSi	[94358-36-8] V	Trimethoxy[3-(methylthio)propyl]silane		43.5 ± 0.6	298	C	[1989VOR/SOR]
C ₇ H ₁₈ O ₃ SSi	[40532-52-3] V	[2-(ethylthio)ethyl]trimethoxysilane		41.4 ± 0.7	298	C	[1989VOR/SOR]
C ₇ H ₁₈ O ₃ Si	[2031-67-6] V	Triethoxymethylsilane		45.1 ± 0.7	298	C	[1988VOR/BAR]
	V			45.1 ± 0.4	298	EB	[1985KLY/DAN]
	V	(272–416)		45.2	287		[1947STU]
C ₇ H ₁₈ SSi	[3553-78-4] V	(<i>n</i> -butylthio)trimethylsilane		40.6 ± 2.1			[1967BAL/LAP, 1982PIL/SKI]
C ₇ H ₁₈ Si	[757-21-1] V	Methyltriethylsilane		40.5 ± 0.6	298	C	[1988VOR/BAR]
C ₇ H ₁₈ Si	[999-03-1] V	Methyldipropylsilane		35.9 ± 0.7	298	C	[1988VOR/BAR]
C ₇ H ₁₈ Si	[18442-00-7] V	Methyldiisopropylsilane		32.4 ± 0.8	298	C	[1988VOR/BAR]
C ₇ H ₁₉ NSi	[996-50-9] V	<i>N,N</i> diethyl-1,1,1-trimethylsilanamine					[2010RAK/TSI]
	V	(296–372)		37.1 ± 0.2	334		[1991VOR/KLY]
	V			37.9 ± 0.8	298	C	
C ₇ H ₂₀ Si ₂	[2117-28-4] V	Methylene-bis(trimethylsilane)	(323–407)	40.3 ± 0.3	365	QM	[1975GUS/KUL, 1975GUS/KAR]
C ₇ H ₂₀ Si ₂	[2117-28-4] FUS	Hexamethyldisilylmethane		11.11	140.7		[1996DOM/HEA, 1975GUS/KAR]
C ₇ H ₂₁ NSi ₂	[920-68-3] V	<i>N</i> ,1,1,1-tetramethyl- <i>N</i> -(trimethylsilyl)silanamine		38.1 ± 0.8	298	C	[1991VOR/KLY]
	V			38.9 ± 2.1			[1967BAL/LAP, 1982PIL/SKI]
C ₈ H ₁₀ Cl ₂ OSi	[18236-80-1] V	Dichloroethoxyphenylsilane	(325–496)	56.3	340		[1999DYK/SVO]
C ₈ H ₁₀ Cl ₂ Si	[1125-27-5] V	Dichloroethylphenylsilane	(316–503)	51.3	331		[1999DYK/SVO]
C ₈ H ₁₁ ClSi	[768-33-2] V	Chlorodimethylphenylsilane	(302–467)	52.2	317	[1999DYK/SVO]	
	V	(303–466)		49.7	318		[1947STU]
C ₈ H ₁₁ FSi	[454-57-9] V	Fluorodimethylphenylsilane	(303–423)	49.6	318		[1999DYK/SVO]
C ₈ H ₁₂ Si	[1112-55-6] V	Tetravinylsilane		42.7 ± 0.7	298	C	[1988VOR/BAR]
C ₈ H ₁₂ Si	[766-77-8] V	Dimethylphenylsilane	(298–432)	45.3	293		[1947STU]
C ₈ H ₁₅ NO ₃ Si	[2097-18-9] SUB	1-ethenyl-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane		85 ± 0.8			[1989VOR/BAR]
C ₈ H ₁₆ Cl ₄ O ₄ Si	[18290-84-1] V	tetrakis(2-chloroethoxy)silane	(447–500)	81.1	473		[1999DYK/SVO, 1946JON/THO]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₈ H ₁₇ NO ₃ Si	[2097-16-7]	1-ethyl-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane	SUB		81 ± 0.9			[1989VOR/BAR]
C ₈ H ₁₇ NO ₃ Si	[18225-19-9]	1,7-dimethyl-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane	SUB		92 ± 0.8			[1989VOR/BAR]
C ₈ H ₁₇ NO ₄ Si	[3463-21-6]	1-ethoxy-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane	SUB		81 ± 0.8			[1989VOR/BAR]
C ₈ H ₁₈ F ₃ NOSi ₂	[25561-30-2]	Trifluoro- <i>N</i> , <i>O</i> -bis(trimethylsilyl)acetamide	V	(316–350)	41.8	333		[1970VON/GLE]
C ₈ H ₁₈ O ₃ Si	[78-08-0]	Vinyltriethoxysilane	V	(331–420)	48.3	298	EB	[2015WAN/DON]
			V		50.2 ± 0.8	298	C	[1988VOR/BAR]
			V		50.2 ± 0.4	298	EB	[1985KLY/DAN]
			V	(334–421)	46.2	349	I	[1954JEN/CHA]
C ₈ H ₁₉ NSi	[42525-64-4]	<i>N</i> -(β -trimethylsilylethyl)trimethylenimine	FUS	(7–305)	12.9	199.4	AC	[1996DOM/HEA, 1977LEB/RAB2]
C ₈ H ₁₉ NSi		Triethylsilylethyleneimine	FUS		14.25	183.6		[2001SMI/LEB]
C ₈ H ₂₀ Cl ₂ OSi ₂	[18825-03-1]	1,3-dichloro-1,1,3,3-tetraethyldisiloxane	V	(343–463)	53.6	358		[1971SOK/KAR, 1999DYK/SVO]
C ₈ H ₂₀ O ₃ SSi	[57557-74-1]	[3-(ethylthio)propyl]trimethoxysilane	V		41.8 ± 0.6	298	C	[1989VOR/SOR]
C ₈ H ₂₀ O ₃ SSi	[57557-68-3]	[(butylthio)methyl]trimethoxysilane	V		41.6 ± 0.6	298	C	[1989VOR/SOR]
C ₈ H ₂₀ O ₃ SSi	[57557-69-4]	Trimethoxy[[(2-methylpropyl)thio]methyl]silane	V		38.7 ± 0.6	298	C	[1989VOR/SOR]
C ₈ H ₂₀ O ₃ SSi	[57557-70-7]	[[[(1,1-dimethylethyl)thio]methyl]trimethoxysilane	V		50.6 ± 0.7	298	C	[1989VOR/SOR]
C ₈ H ₂₀ O ₃ Si	[78-07-9]	Ethyltriethoxysilane	V	(335–432)	49.6	350	EB	[2010DON/LIU]
			V	(335–432)	44.4	432	EB	[2010DON/LIU]
			V	(338–426)	47.0	353	I	[1954JEN/CHA]
C ₈ H ₂₀ O ₄ Si	[78-10-4]	Tetraethoxysilane	TRS		13.2	187.7		
			FUS		11.14	191		[1992VAN/COR]
			V	(323–442)	53.9	298	SG	[1995VAN/COR]
			V	(323–442)	52.3	298	SG	[1995VAN/COR]
			V	(404–437)	40.9	419	EB	[1989KAT/TAN]
			V		48.5 ± 0.3	298	EB	[1985KLY/DAN]
			V	(313–440)	50.0	328		[1980THO/SMI]
			V	(273–344)	U33.9			[1973DYA/VIG]
			V	(289–441)	49.5	304		[1947STU]
			V	(285–446)	43.0	366		[1932SOL/MOL]
C ₈ H ₂₀ Si	[995-89-1]	Dimethyldipropylsilane	V		40.2 ± 0.6	298	C	[1988VOR/BAR]
C ₈ H ₂₀ Si	[631-36-7]	tetraethylsilane	FUS	(100–220)	13.01	189.4		[1990DOM/HEA, 1954STA/WAR]
			V		39.0 ± 0.7	298	C	[1988VOR/BAR]
			V		39.7 ± 2.1			[1972PED/ISE, 1982PIL/SKI]
			V	(272–426)	43.3	287		[1947STU]
C ₈ H ₂₀ Si	[998-14-1]	Ethyldipropylsilane	V		37.9 ± 0.6	298	C	[1988VOR/BAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₈ H ₂₀ Si	[17591-40-1]	Ethyldiisopropylsilane		38.1 ± 0.7	298	C	[1988VOR/BAR]
	V						
C ₈ H ₂₀ Si	[30736-07-3]	di- <i>tert</i> -butylsilane	(242–288)	41.4	257		[2005FUL/RUZ]
	V						
C ₈ H ₂₃ B ₅ Si ₂	[59351-10-9]	2,4-bis(trimethylsilyl)-2,4-dicarba- <i>clos</i> -heptaborane	(373–473)	45.0	388	I	[1976SHM/SHL]
	V						
C ₈ H ₂₄ Cl ₂ O ₃ Si ₄	[2474-02-4]	1,7-dichloro-1,1,3,3,5,5,7,7-octamethyltetrasiloxane	(326–495)	53.8	341		[1999DYK/SVO]
	V						
C ₈ H ₂₄ N ₄ Si	[1624-01-7]	tetrakis(dimethylamino)silane	(361–415)	40.0	388	T	[1964AYL/PET]
	V						
C ₈ H ₂₄ O ₂ Si ₃	[107-51-7]	Octamethyltrisiloxane		13.6	186.7	DSC	[2011ABB/SCH]
	FUS						
	V		(346–446)	43.2	361	EB	[1986FLA]
	V			39.7 ± 2.1			[1972PED/ISE, 1982PIL/SKI]
	V		(345–417)	40.2	381		[1971SKO/DIT]
C ₈ H ₂₄ O ₄ Si ₄	[556-67-2]	Octamethylcyclotetrasiloxane					
	FUS			19.06	291.12	DSC	[2011ABB/SCH]
	TRS			4.87	258		
	FUS			23.77	290.5	C	[1996DOM/HEA, 1971ALV/DAL]
	FUS			18.4	290.7		[1953OST/GRU]
	SUB			64 ± 2		B	[1953OST/GRU, 1960JON]
	V		(308–368)	48		GCRT	[2010LEI/WAN]
	V			57.0 ± 0.8	298	C	[1991VOR/KLY2]
	V		(361–469)	47.6	376	EB	[1986FLA]
	V		(334–423)	44.1	378		[1971DIT/SKO]
C ₈ H ₂₄ O ₁₂ Si ₈	[57348-79-5]	Octamethyldodecaoxooctasilicon	(463–563)	110.5	513	A	[1987STE/MAL, 1975TIT/CHU]
	SUB						
C ₈ H ₂₄ Si ₃	[3704-44-7]	Octamethyltrisilane		46.0 ± 0.8			[1972PED/ISE, 1982PIL/SKI]
	V						
C ₈ H ₂₈ N ₄ Si ₄	[1020-84-4]	Octamethylcyclotetrasilazane		25.05	367.7		[1996DOM/HEA, 1981MEK/KAR]
	FUS						
	V		(388–513)	52.3	450		[1972DIT/SKO2]
C ₉ H ₅ N ₃ O ₃ Si	[17883-47-5]	Triisocyanatophenylsilane		58.2			[1948FOR/AND]
	V						
C ₉ H ₉ F ₅ Si	[1206-46-8]	Pentafluorophenyl(trimethyl)silane		8.4	223	DSC	[2006ZEL/CHU, 2008ZEL/CHU]
	FUS						
	V		(273–440)	40.6 ± 0.3	357		[2006ZEL/CHU]
C ₉ H ₁₄ OSi	[1529-17-5]	Phenoxytrimethylsilane		56.9 ± 0.8	298	C	[1988VOR/BAR]
	V						
C ₉ H ₁₄ Si	[768-32-1]	Trimethylphenylsilane	(296–404)	43.8 ± 0.7	350	ST	[2015ERM/SYS]
	V						
C ₉ H ₁₅ NSi	[3768-55-6]	Trimethyl(phenylamino)silane	(311–455)	45.7 ± 0.7	383	Static	[2015ERM/SYS]
	V		(312–452)	46 ± 1	383		[2010RAK/TSI]
C ₉ H ₁₉ NO ₃ Si	[26053-77-0]	1-propyl-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane					
	SUB			84 ± 0.8			[1989VOR/BAR]
C ₉ H ₁₉ NO ₃ Si	[2097-17-8]	1-(1-methylethyl)-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane					

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References	
	SUB			92 ± 0.9			[1989VOR/BAR]	
C ₉ H ₁₉ NO ₃ Si	[56492-01-4]	1,3,7-trimethyl-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane	SUB	101 ± 0.8			[1989VOR/BAR]	
C ₉ H ₂₀ OSi	[13871-89-1]	Cyclohexyl trimethylsilyl ether	V	(364–441)	45.1	379	EB	[1969SHE/LAN]
C ₉ H ₂₂ O ₃ SSi	[53696-83-6]	Triethoxy[(ethylthio)methyl]silane	V		42.3 ± 0.6	298	C	[1989VOR/SOR]
C ₉ H ₂₂ Si	[994-44-5]	Propyltriethylsilane	V		40.0 ± 0.7	298	C	[1988VOR/BAR]
C ₉ H ₂₂ Si	[998-29-8]	Tripropylsilane	V		39.1 ± 0.7	298	C	[1988VOR/BAR]
C ₉ H ₂₂ Si	[999-35-9]	Methyldibutylsilane	V		36.2 ± 0.7	298	C	[1988VOR/BAR]
C ₉ H ₂₃ NO ₃ Si	[919-30-2]	γ-aminopropyltriethoxysilane	V	(363–492)	55.8	388		[1976DIT/SKO]
C ₉ H ₂₃ NSi	[5277-20-3]	1,1,1-triethyl- <i>N</i> -(1-methylethyl)silanamine	V		38.6 ± 0.8	298	C	[1991VOR/KLY]
C ₉ H ₂₃ NSi	[17887-11-5]	1,1,1-triethyl- <i>N</i> -propylsilanamine	V		41.5 ± 0.8	298	C	[1991VOR/KLY]
C ₉ H ₂₄ Si ₂	[2295-05-8]	1,3-propanediyl-bis(trimethylsilane)	V	(338–443)	43.1 ± 0.5	390	QM	[1975GUS/KUL, 1975GUS/KAR]
C ₉ H ₂₄ Si ₂	[2295-05-8]	1,3-hexamethyldisilylpropane	FUS		16.05	223.7		[1996DOM/HEA, 1975GUS/KAR]
C ₉ H ₂₄ Si ₃	[1627-99-2]	1,1,3,3,5,5-hexamethyl-1,3,5-trisilacyclocyclohexane	FUS		16.5	269.3		[1996DOM/HEA, 1975GUS/KAR]
C ₉ H ₂₇ NSi ₃	[1586-73-8]	tris(trimethylsilyl)amine	TRS		7.9	244.2		[1971MUR/BRE]
			FUS		1.77	337.2	DSC	
	V			54.4 ± 8.4				[1967BAL/LAP, 1982PIL/SKI]
C ₁₀ H ₉ F ₇ Si	[122571-42-0]	Trimethyl(4-trifluoromethylphenyl)silane	V	(296–460)	47.4 ± 0.2	378		[2006ZEL/CHU]
C ₁₀ H ₁₄ Si	[3944-08-9]	1-phenyl-1-methyl-1-silacyclobutane	FUS		12.28	210		[1996DOM/HEA, 1978LEB/RAB]
C ₁₀ H ₁₄ Si	[1125-26-4]	Vinyldimethylphenylsilane	FUS		12.26	190.7		[1996DOM/HEA, 1974LEB/ARO, 1977LEB/RAB3]
C ₁₀ H ₁₆ OSi	[704-43-8]	(2-methoxyphenyl)trimethylsilane	V		59.4 ± 0.8	298	C	[1988VOR/BAR]
C ₁₀ H ₁₆ OSi	[17876-90-3]	(3-methoxyphenyl)trimethylsilane	V		56.1 ± 0.8	298	C	[1988VOR/BAR]
C ₁₀ H ₁₆ OSi	[877-68-9]	(4-methoxyphenyl)trimethylsilane	V		56.9 ± 0.8	298	C	[1988VOR/BAR]
C ₁₀ H ₁₆ OSi	[17902-31-7]	<i>m</i> -tolyl trimethylsilyl ether	V	(371–398)	49.7	384	EB	[1969SHE/LAN]
C ₁₀ H ₁₆ OSi	[17902-32-8]	<i>p</i> -tolyl trimethylsilyl ether	V	(374–402)	49.8	388	EB	[1969SHE/LAN]
C ₁₀ H ₁₆ OSi	[1825-58-7]	Ethoxy(dimethyl)phenylsilane	V	(348–468)	55.2	363	EB	[2012ZHA/WU]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₀ H ₁₆ O ₂ Si	[112123-25-8]	Ethyl(phenyl)dimethoxysilane	(374–467)	62.5 ± 0.3	298	EB	[2015WU/DON]
	V						
C ₁₀ H ₁₆ O ₃ SSi	[57557-71-8]	Trimethoxy[(phenylthio)methyl]silane		56.4 ± 0.7	298	C	[1989VOR/SOR]
	V						
C ₁₀ H ₁₈ Si	[17985-13-6]	5-(trimethylsilyl)-2-norbornene	(10–330)	6.84	201.6	AC	[1994LEB/SMI2]
	FUS						
C ₁₀ H ₁₈ Si ₂	[4526-07-2]	1,1'-(1,3-butadiyne-1,4-diyl)bis[1,1,1-trimethylsilane]	(309–364)	43.3 ± 0.6		TG-GS	[2012SEL/SAT]
	SUB						
C ₁₀ H ₂₀ O ₂ Si	[13081-67-9]	Diallyl(diethoxy)silane	(342–459)	48.3	357	A	[1987STE/MAL]
	V						
C ₁₀ H ₂₀ NO ₃ Si	[71229-51-1]	1,3,7,10-tetramethyl-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane		115 ± 0.9			[1989VOR/BAR]
	SUB						
C ₁₀ H ₂₄ O ₂ Si	[2031-63-2]	Dipropyldiethoxysilane					
	V			46.5 ± 0.7	298	C	[1988VOR/BAR]
	V			46.4 ± 0.3	298	EB	[1985KLY/DAN]
C ₁₀ H ₂₄ O ₃ SSi	[57557-72-9]	Triethoxy[2-(ethylthio)ethyl]silane		46.9 ± 0.7	298	C	[1989VOR/SOR]
	V						
C ₁₀ H ₂₄ O ₄ Si	[10196-44-8]	bis(tert-butylperoxy)dimethylsilane		54.6 ± 0.4	298	C	[2010DIB/PAV]
	V						
C ₁₀ H ₂₄ Si	[994-59-2]	Diethyldipropylsilane		41.5 ± 0.7	298	C	[1988VOR/BAR]
	V						
C ₁₀ H ₂₄ Si	[995-24-4]	Methyltripropylsilane		42.6 ± 0.6	298	C	[1988VOR/BAR]
	V						
C ₁₀ H ₂₄ Si	[998-61-8]	Ethyldibutylsilane		39.9 ± 0.7	298	C	[1988VOR/BAR]
	V						
C ₁₀ H ₂₄ Si	[17591-42-3]	Ethyldiisobutylsilane		39.8 ± 0.7	298	C	[1988VOR/BAR]
	V						
C ₁₀ H ₂₅ NO ₂ Si ₃	[27602-22-8]	1,1,1,3,5,5-heptamethyl-3-(2-cyanoethyl)trisiloxane	(367–511)	59.5	382	A	[1987STE/MAL]
	V						
C ₁₀ H ₂₅ NSi	[6022-10-2]	Pentaethylsilanamine		42.2 ± 1.0	298	C	[1991VOR/KLY]
	V						
C ₁₀ H ₂₅ NSi	[17940-20-4]	N-(1,1-dimethylethyl)-1,1,1-triethylsilanamine		40.3 ± 0.9	298	C	[1991VOR/KLY]
	V						
C ₁₀ H ₂₆ O ₃ Si ₃	[110505-51-6]	1,1,3,3-tetraethyl-5,5-dimethylcyclotrisiloxane					
	TRS		(5–300)	0.13	195		
	FUS		(5–300)	9.52	260		[1996DOM/HEA, 1987DZH/KUL]
C ₁₀ H ₂₈ O ₄ Si ₃	[17928-13-1]	1,5-diethoxy-1,1,3,3,5,5-hexamethyltrisiloxane	(314–470)	56.2	329	A	[1987STE/MAL]
	V						
C ₁₀ H ₃₀ OSi ₄	[1360-31-2]	bis[(pentamethyl)disilanyl] ether	(376–456)	49.3	376		[1962CRA/URE]
	V						
C ₁₀ H ₃₀ O ₃ Si ₄	[17928-28-8]	Methyl tris(trimethylsiloxy)silane	(362–476)	49.5	377	EB	[1986FLA]
	V						
C ₁₀ H ₃₀ O ₃ Si ₄	[141-62-8]	Decamethyl tetrasiloxane		17.13	197.0	DSC	[2011ABB/SCH]
	FUS						
	V		(366–479)	50.3	381	EB	[1986FLA]
	V		(343–454)	48.2	358	A	[1987STE/MAL, 1971SKO/DIT]
C ₁₀ H ₃₀ O ₅ Si ₅	[541-02-6]	Decamethyl cyclopentasiloxane					
	FUS			19.51	229.7	DSC	[2011ABB/SCH]
	FUS			20.37	226.2		[1971ALV/DAL]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{10}\text{H}_{30}\text{Si}_4$	V	(308–368)	60			GCRT	[2010LEI/WAN]
	V		59.0 ± 1.0	298		C	[1991VOR/KLY2]
	V	(383–496)	52.1	398		EB	[1986FLA]
	V	(364–472)	49.0	379		A	[1987STE/MAL, 1971DIT/SKO]
	V		48.1 ± 2.1				[1972PED/ISE, 1982PIL/SKI]
$\text{C}_{10}\text{H}_{30}\text{Si}_4$	[865-76-9]	Decamethyltetrasilane					
	V		52.3 ± 1.7				[1972PED/ISE, 1982PIL/SKI]
$\text{C}_{10}\text{H}_{31}\text{NSi}_4$	[1787-38-8]	1,1,3,3-tetramethyl-1,3-bis(trimethylsilyl)disilazane					
	V	(378–435)	58.0	393		A	[1987STE/MAL, 1963URE/MAC]
[Note: Molecular formula given in paper is not consistent with chemical name.]							
$\text{C}_{11}\text{H}_{16}\text{Si}$	FUS	Vinyldimethylbenzylsilane		11.6	204.1		[1996DOM/HEA, 1981LEB/LEB]
$\text{C}_{11}\text{H}_{18}\text{O}_2\text{Si}$	[775-56-4]	(Dimethoxymethylsilyl)benzene					
	V	(378–423)	50.7				[2008WU/DON]
$\text{C}_{11}\text{H}_{18}\text{O}_3\text{Si}$	[53696-80-3]	Trimethoxy[[phenylmethyl]thio]methylsilane					
	V		56.1 ± 0.7	298		C	[1989VOR/SOR]
$\text{C}_{11}\text{H}_{20}\text{OSi}$	[17962-20-8]	Triallylethoxy silane					
	V	(349–473)	48.4	364		A	[1987STE/MAL]
$\text{C}_{11}\text{H}_{20}\text{OSi}_2$	[14920-92-4]	Pentamethylphenyl disiloxane					
	V	(347–474)	53.3	362		A	[1987STE/MAL]
	V	(347–474)	44.4	410			[1974ENG/WOO]
$\text{C}_{11}\text{H}_{20}\text{O}_3\text{Si}_3$	[17962-31-1]	1,1,3,3,5-pentamethyl-5-phenylcyclotrisiloxane					
	V	(396–503)	48.0	450			[1974DIT/SKO]
$\text{C}_{11}\text{H}_{24}\text{O}_3\text{Si}$	[13080-95-0]	Vinyltripropoxysilane					
	V		52.3 ± 0.9	298		C	[1988VOR/BAR]
	V		52.3 ± 0.4	298		EB	[1985KLY/DAN]
$\text{C}_{11}\text{H}_{26}\text{Si}$	[994-63-8]	Ethyltripropylsilane					
	V		41.0 ± 0.7	298		C	[1988VOR/BAR]
$\text{C}_{11}\text{H}_{26}\text{Si}$	[1001-48-5]	Methyldipentylsilane					
	V		40.3 ± 0.7	298		C	[1988VOR/BAR]
$\text{C}_{11}\text{H}_{26}\text{Si}$	V	methylidi(2,2-dimethylpropyl)silane					
	V		38.1 ± 0.1	298		C	[1988VOR/BAR]
$\text{C}_{11}\text{H}_{27}\text{NSi}$	[133943-80-3]	1,1,1-triethyl- <i>N</i> -(1-methylbutyl)silanamine					
	V		46.9 ± 1.0	298		C	[1991VOR/KLY]
$\text{C}_{11}\text{H}_{28}\text{O}_4\text{Si}_4$	[35331-58-9]	8,8,10,10,12,12-hexamethyl-7,9,11,13-tetrasiloxa-6,8,10,12-tetrasilaspiro[5.7]tridecane					
	V	(393–504)	47.6	408		A	[1987STE/MAL]
	V	(393–504)	48.8	449			[1974DIT/SKO]
$\text{C}_{11}\text{H}_{28}\text{O}_4\text{Si}_4$	[35331-58-9]	Hexamethyl(silacyclohexyl)cyclotetrasiloxane					
	V	(403–504)	48.89	453			[1974DIT/SKO2]
$\text{C}_{12}\text{H}_9\text{Cl}_3\text{Si}$	[18030-62-1]	2-(trichlorosilyl)biphenyl					
	TRS		0.06	289.5			
	FUS		20.72	339.2			[1974GEI/DZH, 1996DOM/HEA]
	V	(461–552)	67.1	476		A	[1987STE/MAL, 1975GEI/DZH2]
$\text{C}_{12}\text{H}_9\text{Cl}_3\text{Si}$	[18030-61-0]	4-(trichlorosilyl)biphenyl					
	FUS		18.57	372.9			[1996DOM/HEA, 1974GEI/DZH]
	V	(479–573)	75.7	494		A	[1987STE/MAL, 1975GEI/DZH2]
$\text{C}_{12}\text{H}_{10}\text{Cl}_2\text{Si}$	[80-10-4]	Dichlorodiphenylsilane					
	V	(465–555)	62.5	480		A,I	[1987STE/MAL, 1954JEN/CHA]
	V		69.5 ± 4.2				[1966RIN/ONE, 1982PIL/SKI]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{10}\text{F}_2\text{Si}$	[312-40-3]	Difluorodiphenylsilane					
		V	(392–516)	50.7	407	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{13}\text{NSi}$	[22519-44-4]	(<i>N,N</i> -diphenylamino)silane					
		V	(425–495)	50.4	460	T	[1969AYL/HAK2]
$\text{C}_{12}\text{H}_{20}\text{Cl}_8\text{O}_4\text{Si}$	[1421623-16-6]	tris(2,2'-dichloroisopropyl) orthosilicate					
		V	(517–532)	U172.7	524		[1946JON/THO]
$\text{C}_{12}\text{H}_{20}\text{O}_2\text{Si}$	[1421601-73-1]	Diethoxy(methyl)(<i>o</i> -tolyl)silane					
		V		61.0	393	EB	[2012CAO/WU]
		V		58.5	413	EB	[2012CAO/WU]
		V		55.2	439	EB	[2012CAO/WU]
		V		52.2	463	EB	[2012CAO/WU]
		V		50.9	473	EB	[2012CAO/WU]
$\text{C}_{12}\text{H}_{20}\text{O}_2\text{Si}$	[1421601-73-1]	Diethoxy(methyl)(<i>m</i> -tolyl)silane					
		V		60.9	392	EB	[2012CAO/WU]
		V		58.2	416	EB	[2012CAO/WU]
		V		56.4	432	EB	[2012CAO/WU]
		V		55.1	445	EB	[2012CAO/WU]
		V		53.6	458	EB	[2012CAO/WU]
		V		52.2	471	EB	[2012CAO/WU]
		V		50.9	483	EB	[2012CAO/WU]
$\text{C}_{12}\text{H}_{20}\text{O}_2\text{Si}$	[204845-96-5]	Diethoxy(methyl)(<i>p</i> -tolyl)silane					
		V		61.4	395	EB	[2012CAO/WU]
		V		58.5	419	EB	[2012CAO/WU]
		V		55.8	442	EB	[2012CAO/WU]
		V		53.5	462	EB	[2012CAO/WU]
		V		51.9	475	EB	[2012CAO/WU]
		V		50.7	485	EB	[2012CAO/WU]
$\text{C}_{12}\text{H}_{20}\text{O}_2\text{Si}$	[16522-50-2]	Ethyl(phenyl)diethoxysilane					
		V	(401–493)	65.2 ± 1.6	298	EB	[2015WU/DON]
$\text{C}_{12}\text{H}_{20}\text{O}_3\text{Si}$	[780-69-8]	Triethoxyphenylsilane					
		V		58.3 \pm 0.9	298	C	[1988VOR/BAR]
		V	(344–506)	61.8	359		[1947STU]
$\text{C}_{12}\text{H}_{20}\text{Si}$	[1112-66-9]	Tetraallylsilane					
	FUS			25.5	244		[2004SMI/LEB]
$\text{C}_{12}\text{H}_{22}\text{Si}_2$	[13183-70-5]	1,4-bis(trimethylsilyl)benzene					
	SUB	(313–367)		68.2 \pm 0.2	298	TG-GS	[2011SEL/SAT]
$\text{C}_{12}\text{H}_{23}\text{NSi}_2$	[4147-89-1]	bis(trimethylsilyl)phenylamine					
	V	(321–451)		49.6 \pm 0.6	386	Static	[2015ERM/SYS]
$\text{C}_{12}\text{H}_{28}\text{O}_4\text{Si}$	[682-01-9]	Tetrapropoxysilane					
		V		49.8 \pm 0.8	298	C	[1988VOR/BAR]
		V	(307–563)	66.9	322	A	[1987STE/MAL]
		V		49.8 \pm 0.4	298	EB	[1985KLY/DAN]
$\text{C}_{12}\text{H}_{28}\text{O}_4\text{Si}$	[1992-48-9]	Tetraisopropoxysilane					
	V	(327–438)		52.7	342		[1980THO/SMI]
$\text{C}_{12}\text{H}_{28}\text{Si}$	[994-66-1]	Tetrapropylsilane					
	V			42.2 \pm 0.7	298	C	[1988VOR/BAR]
$\text{C}_{12}\text{H}_{28}\text{Si}$	[998-41-4]	Tributylsilane					
	V			42.9 \pm 0.7	298	C	[1988VOR/BAR]
$\text{C}_{12}\text{H}_{28}\text{Si}$	[6485-81-0]	Triisobutylsilane					
	V			40.0 \pm 0.7	298	C	[1988VOR/BAR]
$\text{C}_{12}\text{H}_{28}\text{Si}$	[17591-43-4]	Ethyldipentylsilane					
	V			41.2 \pm 0.7	298	C	[1988VOR/BAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₁₂ H ₂₈ Si	[18159-61-0]	Ethyldiisopentylsilane	V		42.6 ± 0.7	298	C	[1988VOR/BAR]
C ₁₂ H ₃₀ HgSi ₂	[4149-29-5]	bis(triethylsilyl)mercury	V	(383–433)	64.0	398		[1972BRA/KAR]
2(C ₆ H ₁₅ N ₃)-Cl ₄ Si	SUB	bis-1,3,5-trimethyl-1,3,5-triazacyclohexane–tetrachlorosilane complex	(298–354)		76.1 ± 4.6			[1984GOL/LEV]
C ₁₂ H ₃₀ O ₃ Si ₃	[2031-79-0]	Hexaethyl cyclotrisiloxane	FUS		12.3	283	DSC	[1995OUT/KLO]
			TRS	(14–350)	0.47	160		
			TRS	(14–350)	11.73	242.4		
			FUS	(14–350)	11.94	283.4	AC	[1996DOM/HEA, 1988LEB/KUL]
			TRS		0.46	160		
			TRS		11.82	242.3		
			FUS		11.42	280.2		[1990DOM/HEA, 1985DZH/KUL]
			V	(385–524)	57.9	400	A	[1987STE/MAL]
			V	(434–516)	58.7	449	A	[1987STE/MAL, 1954JEN/CHA]
C ₁₂ H ₃₁ N ₃ Si	[15730-66-2]	<i>N,N,N',N',N'',N''</i> -hexamethylsilanetriamine	V		58.4 ± 1.0	298	C	[1991VOR/KLY]
C ₁₂ H ₃₃ GeNSi ₂	[1357556-77-4]	1,1,1-triethyl- <i>N,N</i> -bis(trimethylsilyl)germanamine	V	(371–471)	50.5 ± 0.5	421	Static	[2013SYS/NIK]
C ₁₂ H ₃₃ NSi ₂ Sn	[268208-86-2]	1,1,1-triethyl- <i>N</i> -(trimethylstannyl)- <i>N</i> -(trimethylsilyl)silanamine	V	(333–473)	52 ± 2	403	Static	[2013SYS/NIK]
C ₁₂ H ₃₆ Si ₅	[4098-98-0]	tetrakis(trimethylsilyl)silane	SUB	(316–416)		56.5	335	[2011SEL/SAT2]
C ₁₂ H ₃₆ O ₄ Si ₅	[141-63-9]	Dodecamethyl pentasiloxane	V	(338–408)	58		GCRT	[2010LEI/WAN]
			V	(395–515)	55.4	410	EB	[1986FLA]
			V	(389–498)	50.3	404	A	[1987STE/MAL, 1971SKO/DIT]
			V		53.1 ± 2.1			[1972PED/ISE, 1982PIL/SKI]
C ₁₂ H ₃₆ O ₄ Si ₅	[3555-47-3]	tetrakis(trimethylsiloxy)silane	V	(398–494)	52.3	413	EB	[1986FLA]
C ₁₂ H ₃₆ O ₆ Si ₆	[540-97-6]	Dodecamethyl cyclohexasiloxane	FUS		28.58	269		[1971ALV/DAL]
			V	(338–418)	65		GCRT	[2010LEI/WAN]
			V	(411–531)	56.1	426	EB	[1986FLA]
			V	(340–509)	62.6	355	A	[1987STE/MAL, 1971DIT/SKO]
C ₁₂ H ₃₆ Si ₅	[4098-98-0]	tetrakis(trimethylsilyl)silane	TRS	(203–298)	42	243.7	DSC	[2001SON/HUA]
			TRS		11.57	241.2	DSC	[1971MUR/BRE]
[Note: Compound sublimed, fusion values not reported.]								
C ₁₂ H ₃₆ Si ₆	[4098-30-0]	SUB			83.7 ± 20.9	298		[1982PIL/SKI, 1972PED/ISE]
			TRS		16.7	352.4		
			FUS		4.2	528.8		[1986CAO/WES]
C ₁₃ H ₁₄ Si	[776-76-1]	Methyldiphenylsilane	V		64.6 ± 0.8	298	C	[1988VOR/BAR]
C ₁₃ H ₁₉ NO ₄ Si	[63071-93-2]	1-(2-phenoxyethyl)-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane	SUB		108 ± 0.8			[1989VOR/BAR]
C ₁₃ H ₂₆ O ₂ Si ₃	[546-44-1]	1,1,1,3,5,5-heptamethyl-3-phenyl trisiloxane	FUS		18.29	226.8		[1996DOM/HEA, 1984DZH/KUL]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(357–492)	61.5	372	A	[1987STE/MAL]	
C ₁₃ H ₂₆ O ₄ Si ₄	[10448-09-6]	2,4,4,6,6,8,8-heptamethyl-2-phenylcyclotetrasiloxane	(397–514)	65.6	412	A	[1987STE/MAL]
C ₁₃ H ₃₀ O ₃ SSi	[57557-75-2]	[3-(butylthio)propyl]triethoxysilane		47.1 ± 0.6	298	C	[1989VOR/SOR]
C ₁₃ H ₃₀ O ₆ Si	[10196-45-9]	tris(<i>tert</i> -butylperoxy)methylsilane		70.4 ± 0.7	298	C	[2010DIB/PAV]
C ₁₃ H ₃₀ Si	[18414-75-0]	Decyltrimethylsilane	(340–513)	57.8	355		[1947STU]
C ₁₃ H ₃₀ Si	[1001-46-3]	Methyldihexylsilane		42.6 ± 0.7	298	C	[1988VOR/BAR]
C ₁₄ H ₆ F ₁₀ Si	[10536-62-6]	Di(pentafluorophenyl)dimethylsilane	(366–463)	55.3 ± 0.6	414		[2006ZEL/CHU]
C ₁₄ H ₁₀ N ₂ O ₂ Si	[4756-54-1]	Diisocyanatodiphenylsilane		65.7			[1948FOR/AND]
C ₁₄ H ₁₆ O ₂ Si	[6843-66-9]	Diphenoxymethylsilane		64.4 ± 0.9	298	C	[1988VOR/BAR]
C ₁₄ H ₁₆ Si	[7535-07-1]	Ethyldiphenylsilane		66.1 ± 0.8	298	C	[1988VOR/BAR]
C ₁₄ H ₁₆ Si	[15458-91-0]	Dibenzylsilane	(357–577)	56.0	467		[1959GIL/TOM]
C ₁₄ H ₁₉ NO ₅ Si	[79791-55-2]	2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane-1-methanol benzoate ester	SUB	109 ± 0.9			[1989VOR/BAR]
C ₁₄ H ₂₁ NO ₃ Si	[63330-92-7]	1-(2-phenylethyl)-2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undecane	SUB	108 ± 0.9			[1989VOR/BAR]
C ₁₄ H ₃₀ O ₆ Si	[15188-09-7]	Vinyltris(<i>tert</i> -butylperoxy)silane	V	68.8 ± 0.5	298	C	[2010DIB/PAV]
C ₁₄ H ₃₂ Si	[10175-53-8]	Triethyloctylsilane	V	56.1	361		[1947STU]
C ₁₄ H ₃₂ Si	[17591-45-6]	Ethyldihexylsilane	V	44.8 ± 0.7	298	C	[1988VOR/BAR]
C ₁₄ H ₃₂ Si	[994-76-3]	Dipropyldibutylsilane	V	44.0 ± 0.8	298	C	[1988VOR/BAR]
C ₁₄ H ₃₃ NSi	[17995-32-3]	<i>N,N</i> dibutyl-1,1,1-triethylsilanamine	V	56.3 ± 1.0	298	C	[1991VOR/KLY]
C ₁₄ H ₃₃ NSi	[133943-79-0]	1,1,1-triethyl- <i>N,N</i> -bis(1-methylpropyl)silanamine	V	51.4 ± 0.9	298	C	[1991VOR/KLY]
C ₁₄ H ₃₃ NSi	[133943-81-4]	1,1,1-triethyl- <i>N</i> -octylsilanamine	V	59.1 ± 1.0	298	C	[1991VOR/KLY]
C ₁₄ H ₄₂ O ₂ Si ₆	[1787-37-7]	bis[(pentamethyl)disilanoxy]disilane	V	62.2	457		[1962CRA/URE]
C ₁₄ H ₄₂ O ₅ Si ₆	[107-52-8]	Tetradecamethyl hexasiloxane				GCRT	[2010LEI/WAN]
	V	(338–438)	68			EB	[1986FLA]
	V	(449–545)	56.9	464		A	[1987STE/MAL, 1971SKO/DIT]
C ₁₄ H ₄₂ O ₇ Si ₇	[107-50-6]	Tetradecamethyl cycloheptasiloxane	FUS	20.88	237.7		[1971ALV/DAL]
	V	(338–418)	74			GCRT	[2010LEI/WAN]
	V	(359–537)	58.6	374		A	[1987STE/MAL, 1974BRA/KAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(431–548)	60.6	446	EB	[1986FLA]
C ₁₅ H ₁₈ OSi	[1825-59-8]	Methyldiphenylethoxysilane				
	V	(373–512)	72.9			[2008WU/JIA]
C ₁₅ H ₂₁ NO ₅ Si	[100446-65-9]	4-methylbenzoic acid 2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undec-1-ylmethyl ester				
	SUB		123 ± 0.9			[1989VOR/BAR]
C ₁₅ H ₂₁ NO ₆ Si	[94697-86-6]	4-methoxybenzoic acid 2,8,9-trioxa-5-aza-1-silabicyclo[3.3.3]undec-1-ylmethyl ester				
	SUB		143 ± 0.9			[1989VOR/BAR]
C ₁₅ H ₃₄ Si	[994-78-5]	Propyltributylsilane				
	V		45.0 ± 0.8	298	C	[1988VOR/BAR]
C ₁₅ H ₃₄ Si	[6485-78-5]	Tripentylsilane				
	V		48.1 ± 0.8	298	C	[1988VOR/BAR]
C ₁₅ H ₃₄ Si	[17922-08-6]	Triisopentylsilane				
	V		43.8 ± 0.7	298	C	[1988VOR/BAR]
C ₁₅ H ₃₄ Si	[17908-09-7]	Dodecyltrimethylsilane				
	V	(364–546)	62.0	379		[1947STU]
C ₁₆ H ₂₁ Si	[1675-57-6]	Diphenyldiethynylsilane				
	FUS		19.67	316.2		[1996DOM/HEA, 1974MIL/LEB]
C ₁₆ H ₂₀ O ₂ Si	[17964-48-6]	bis(2-methylphenoxy)dimethylsilane				
	V		63.6 ± 0.8	298	C	[1988VOR/BAR]
C ₁₆ H ₂₀ O ₂ Si	[17964-47-5]	bis(3-methylphenoxy)dimethylsilane				
	V		61.5 ± 0.8	298	C	[1988VOR/BAR]
C ₁₆ H ₂₀ O ₂ Si	[17964-49-7]	bis(4-methylphenoxy)dimethylsilane				
	V		65.3 ± 0.9	298	C	[1988VOR/BAR]
C ₁₆ H ₂₀ O ₂ Si	[2553-19-7]	Diethoxydiphenylsilane				
	V	(385–569)	71.5	399		[1947STU]
C ₁₆ H ₂₂ O ₃ Si ₃	[1693-51-2]	1,1,3,3-tetramethyl-5,5-diphenylcyclotrisiloxane				
	FUS		22.19	338		[1996DOM/HEA, 1982KUL/DZH]
	V	(439–523)	66.9	481		[1974DIT/SKO]
C ₁₆ H ₂₂ O ₃ Si ₃	[31751-60-7]	cis 1,1,3,5-tetramethyl-3,5-diphenylcyclotrisiloxane				
	V	(423–541)	66	532		[1972DIT/SKO2]
C ₁₆ H ₂₂ O ₃ Si ₃	[31751-59-4]	trans 1,1,3,5-tetramethyl-3,5-diphenylcyclotrisiloxane				
	V	(397–535)	66.4	466		[1972DIT/SKO2]
C ₁₆ H ₂₂ Si ₂	[17938-13-5]	1,4-bis[(trimethylsilyl)ethynyl]benzene				
	SUB	(325–384)	72.4 ± 0.6		TG-GS	[2012SEL/SAT]
	V	(394–415)	44.3 ± 0.6		TG-GS	[2012SEL/SAT]
C ₁₆ H ₃₂ O ₄ Si ₄	[177-49-1]	6,12,18,24-tetraoxa-5,7,13,19-tetrasilatetrasiophore[4,1,4,1,4,1]tetracosane				
	V	(452–583)	67.6	467	A	[1987STE/MAL]
	V	(452–583)	69.5	518		[1974DIT/SKO2]
C ₁₆ H ₃₂ O ₄ Si ₄		Tetra(silacyclopentyl)cyclotetrasiloxane				
	V	(452–583)	69.5	517		[1974DIT/SKO2]
C ₁₆ H ₃₆ O ₃ Si ₂	[349140-64-3]	11-(1,1,3,3-tetramethylidisloxanyl)undecanoic acid, methyl ester				
	FUS		23.5	233.3		[2004RYA/LEB]
C ₁₆ H ₃₆ O ₄ Si	[4766-57-8]	Tetrabutoxysilane				
	V		52.0 ± 1.0	298	C	[1988VOR/BAR]
	V	(333–479)	79.6	348	A	[1987STE/MAL]
C ₁₆ H ₄₀ O ₄ Si ₄	[1451-99-6]	Octaethyl cyclotetrasiloxane				
	TRS		12.22	208.2		
	FUS		13.71	213.4		[1990DOM/HEA, 1987DZH/KUL2]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(420–574)	69.2	435	A	[1987STE/MAL]	
C ₁₆ H ₄₆ O ₇ Si ₆	[18143-15-2]	1,11-diethoxy-1,1,3,3,5,7,7,9,9,11,11-dodecamethylhexasiloxane	(376–547)	66.9	391	A	[1987STE/MAL]
C ₁₆ H ₄₈ O ₆ Si ₇	[541-01-5]	Hexadecamethylheptasiloxane	V (338–438)	89	459	GCRT	[2010LEI/WAN]
	V (443–468)	63.8	458	EB	[1986FLA]		
	V (443–551)	60.8	458	A	[1987STE/MAL, 1971SKO/DIT]		
C ₁₆ H ₄₈ O ₈ Si ₈	[556-68-3]	Hexadecamethyl cyclooctasiloxane	V (338–418)	83	469	GCRT	[2010LEI/WAN]
	V (378–563)	66.6	391	A	[1987STE/MAL, 1974BRA/KAR]		
	V (454–576)	64.5	469	EB	[1986FLA]		
C ₁₇ H ₂₆ O ₄ Si ₄	[13093-12-4]	Hexamethyl(silaacenaphthenyl)cyclotetrasiloxane	V (466–548)	68.6	507		[1974DIT/SKO2]
C ₁₇ H ₃₂ O ₂ Si	[261766-69-2]	3-methyl-3-[2-cyclohexylpropylperoxy]-1-trimethylsilyl-1-butyne	V (307–318)	74.2 ± 2.0	ME		[1999DIB/LUS]
C ₁₇ H ₃₈ Si	[18558-18-4]	Tetradecyltrimethylsilane	V (393–573)	70.9	408		[1947STU]
C ₁₈ H ₁₅ ClSi	[76-86-8]	Triphenylchlorosilane	FUS	26.88	370.6		[1996DOM/HEA, 1968KOS/MOS]
C ₁₈ H ₁₆ Si	[789-25-3]	Triphenylsilane	V (395–457)	33.9 ± 0.2	TG-GS		[2012SEL/SAT]
C ₁₈ H ₂₈ O ₂ Si ₃	[797-77-3]	1,1,1,5,5-hexamethyl-3,3-diphenyltrisiloxane	FUS	22.75	270.5		[1996DOM/HEA, 1981SHA/DZH]
C ₁₈ H ₂₈ O ₄ Si ₄	[18604-02-9]	2,2,4,4,6,8-hexamethyl-6,8-diphenylcyclotetrasiloxane	V (459–576)	70.5	474	A	[1987STE/MAL]
C ₁₈ H ₂₈ O ₄ Si ₄	[1693-44-3]	1,1,3,3,5,5-hexamethyl-7,7-diphenylcyclotetrasiloxane	FUS	42.73	305		[1996DOM/HEA, 1975MEK/KAR, 1981MEK/KAR]
C ₁₈ H ₄₀ Si	[2929-52-4]	Trihexylsilane	V	51.0 ± 0.7	298	C	[1988VOR/BAR]
C ₁₈ H ₄₀ Si	[51502-64-8]	Ethyldioctylsilane	V	47.3 ± 0.7	298	C	[1988VOR/BAR]
C ₁₈ H ₄₂ O ₃ Si ₃	[92411-29-5]	2,2,4,4,6,6-hexapropylcyclotrisiloxane	FUS	30.6	297	DSC	[1995OUT/KLO]
C ₁₈ H ₄₈ Si ₆	[76750-22-6]	1,2,3,4,5,6-hexamethyl-1,2,3,4,5,6-hexaethylcyclohexasilane	TRS	3.8	226.3		
	FUS			1.8	439.2		[1986CAO/WES]
C ₁₈ H ₅₄ O ₇ Si ₈	[556-69-4]	Octadecamethyl octasiloxane	V (338–438)	98	393	GCRT	[2010LEI/WAN]
	V (378–563)	67.7	479	A	[1987STE/MAL, 1974BRA/KAR2]		
	V (464–586)	68.4	479	EB	[1986FLA]		
C ₁₈ H ₅₄ O ₉ Si ₉	[556-71-8]	Octadecamethyl cyclononasiloxane	FUS	25.64	246.2		[1971ALV/DAL]
	V (338–418)	91	478	GCRT	[2010LEI/WAN]		
	V (463–584)	67.9	488	A	[1987STE/MAL]		
	V (473–578)	68	488	EB	[1986FLA]		
C ₁₉ H ₁₅ NOSi	[18678-65-4]	Isocyanatotriphenylsilane	V	67.4			[1948FOR/AND]
C ₁₉ H ₁₈ O ₃ Si	[3439-97-2]	Methyltriphenoxysilane	V	71.5 ± 0.9	298	C	[1988VOR/BAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₀ H ₁₈ Si	[18666-68-7]	Triphenylvinylsilane					TG-GS	[2012SEL/SAT]
	V	(400–464)	64.5 ± 0.5					
C ₂₀ H ₂₀ OSi	[1516-80-9]	Ethoxytriphenylsilane						[1988VOR/BAR]
	SUB			142.7 ± 1.0				
	V	(440–617)	89.7		455			[1947STU]
C ₂₀ H ₂₁ ClOSi ₂	[53634-34-7]	1,3-dimethyl-1,1,3-triphenyl-3-chlorodisiloxane						[1974DIT/SKO]
	V	(468–626)	69.0		547			
C ₂₀ H ₃₀ O ₃ Si ₃	[108543-32-4]	1,1,3,3-tetraethyl-5,5-diphenylcyclotrisiloxane						[1996DOM/HEA, 1987DZH/KUL3]
	FUS			18.37	279.1			
C ₂₀ H ₄₄ O ₄ Si		tetrakis(1-ethylpropoxy)silane						
	V	(371–427)	89.2		386	A		[1987STE/MAL]
C ₂₀ H ₅₀ Si ₅	[75217-22-0]	decaethylcyclopentasilane						
	TRS			16.3	254.8			
	FUS			1.4	440.1			[1986CAO/WES]
C ₂₀ H ₅₈ O ₉ Si ₈	[18724-14-6]	1,15-diethoxy-1,1,3,3,5,5,7,7,9,9,1,1,13,13,15,15-hexadecamethyloctasiloxane						
	V	(406–585)	79.7		421	A		[1987STE/MAL]
C ₂₀ H ₆₀ O ₈ Si ₉	[2652-13-3]	Eicosamethylnonasiloxane						
	V	(348–438)	107			GCRT		[2010LEI/WAN]
	V	(417–581)	85.9		432	A		[1987STE/MAL]
C ₂₀ H ₆₀ O ₁₀ Si ₁₀	[18772-36-6]	Eicosamethylcyclodecasiloxane						
	FUS			39.76	265.8			[1971ALV/DAL]
	V	(358–418)	98			GCRT		[2010LEI/WAN]
	V	(480–603)	71.3		495	A		[1987STE/MAL, 1974BRA/KAR]
C ₂₁ H ₂₂ Si	[1747-92-8]	Tribenzylsilane						
	V	(460–637)	81.9		475	A		[1987STE/MAL, 1959GIL/TOM]
C ₂₁ H ₂₄ OSi ₂	[14920-93-5]	1,1,3-trimethyl-1,3,3-triphenyl disiloxane						
	V	(494–624)	80		509	A		[1987STE/MAL]
	V	(495–624)	64.4		560			[1974DIT/SKO]
C ₂₁ H ₂₄ O ₃ Si ₃	[6138-53-0]	<i>trans</i> 1,3,5-trimethyl-1,3,5-triphenylcyclotrisiloxane						
	FUS			43.66	320.9			[1996DOM/HEA, 1975MEK/KAR2]
	V	(483–586)	76.1		534			[1972DIT/SKO]
C ₂₁ H ₂₄ O ₃ Si ₃	[3424-57-5]	<i>cis</i> 1,3,5-trimethyl-1,3,5-triphenylcyclotrisiloxane						
	FUS			43.07	374.3			[1996DOM/HEA, 1975MEK/KAR2]
	V	(473–551)	80.6		512			[1972DIT/SKO]
C ₂₁ H ₄₆ Si	[18753-02-1]	Triheptylsilane						
	V			57.4 ± 0.8	298	C		[1988VOR/BAR]
C ₂₁ H ₄₆ Si	[51502-65-9]	Methyldidecylsilane						
	V			57.4 ± 0.8	298	C		[1988VOR/BAR]
C ₂₂ H ₂₄ O ₃ Si	[55893-94-2]	Methyltris(2-methylphenoxy)silane						
	V			68.2 ± 0.9	298	C		[1988VOR/BAR]
C ₂₂ H ₂₄ O ₃ Si	[55893-95-3]	Methyltris(3-methylphenoxy)silane						
	V			66.9 ± 0.8	298	C		[1988VOR/BAR]
C ₂₂ H ₂₄ O ₃ Si	[55893-96-4]	Methyltris(4-methylphenoxy)silane						
	V			70.3 ± 0.9	298	C		[1988VOR/BAR]
C ₂₂ H ₄₀ O ₄ Si	[261766-68-1]	Dimethyldi-[3-methyl-3- <i>tert</i> -amylperoxy-1-butynyl]silane						
	V	(318–338)	92.0 ± 1.6			ME		[1999DIB/LUS]
C ₂₂ H ₄₈ Si	[51502-66-0]	Ethyldidecylsilane						
	V			58.7 ± 0.8	298	C		[1988VOR/BAR]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₂ H ₆₆ O ₉ Si ₁₀	[556-20-7]	Dodecamethyldecasiloxane V	(368–438)	116		GCRT	[2010LEI/WAN]
C ₂₂ H ₆₆ O ₁₁ Si ₁₁	[18766-38-6]	Docosamethyl cycloundecasiloxane		17.73	216.2		[1971ALV/DAL]
	FUS		(496–620)	74.5	511	A	[1987STE/MAL, 1974BRA/KAR]
C ₂₃ H ₃₀ O ₃ Si ₃	[67102-99-2]	1,1,1,3,5-pentamethyl-3,5,5-triphenyltrisiloxane V	(521–678)	69.8	536	A	[1987STE/MAL]
C ₂₄ F ₂₀ Si	[1524-78-3]	Tetra(pentafluorophenyl)silane		46.9	518		[2006ZEL/CHU, 2008ZEL/CHU]
	FUS		(433–517)	128 ± 1.2	475		[2006ZEL/CHU]
	SUB		(463–565)	80.6 ± 0.4	514		[2006ZEL/CHU]
C ₂₄ H ₂₀ O ₄ Si	[1174-72-7]	Tetraphenoxy silane		124.7 ± 1.2			[1988VOR/BAR]
C ₂₄ H ₂₀ Si	[1048-08-4]	Tetraphenylsilane					
	SUB	(428–484)	51.2	456	A	[1987STE/MAL]	
	SUB		156.9 ± 1.7	298		[1978STE4]	
	SUB		149.4 ± 1.7	298	ME,TE	[1974CAL/KAN]	
	SUB	(428–489)	51.0		MG	[1973MCC/SMI]	
	SUB		51.0			[1972NEW, 1986MAR/LOE]	
C ₂₄ H ₂₂ N ₂ Si	[22519-45-5]	<i>N,N,N',N'</i> -tetraphenylsilanediamine V	(410–473)	59.1	425	A	[1987STE/MAL]
	V	(410–473)	57.3	441	T	[1969AYL/HAK2]	
C ₂₄ H ₂₂ Si ₂	[16343-18-3]	1,1,2,2-tetraphenyl disilane V	(439–495)	75.8 ± 0.6		TG-GS	[2012SEL/SAT]
C ₂₄ H ₅₂ O ₄ Si	[7425-86-7]	Tetrahexyloxysilane V	(454–573)	87.0	469	A	[1987STE/MAL]
C ₂₄ H ₅₂ Si	[18765-09-8]	Trioctylsilane V		59.8 ± 0.8	298	C	[1988VOR/BAR]
C ₂₂ H ₅₄ O ₃ Si ₃	[4452-50-0]	2,2,4,4,6,6-hexabutylcyclotrisiloxane FUS		23.8	251	DSC	[1995OUT/KLO]
C ₂₄ H ₇₂ O ₁₀ Si ₁₁	[107-53-9]	Dodecamethyldecasiloxane V	(378–438)	124		GCRT	[2010LEI/WAN]
C ₂₄ H ₇₂ O ₁₂ Si ₁₂	[18919-94-3]	Tetracosamethyl cyclododecasiloxane		15.45	234.2	C	[1971ALV/DAL]
	FUS		(508–636)	76.6	523	A	[1987STE/MAL, 1974BRA/KAR]
	V						
C ₂₅ H ₄₀ O ₂ Si ₂	[71203-43-5]	Norethindrone pentamethyldisiloxy ether FUS		22.9	355		[1996DOM/HEA, 1979LEW/ENE]
C ₂₆ H ₂₆ OSi ₂	[807-28-3]	1,3-dimethyl-1,1,3,3-tetraphenyl disiloxane FUS		26.58	322		[1996DOM/HEA, 1986DZH/KUL]
	V	(518–616)	93.3	533	A	[1987STE/MAL]	
	V	(518–685)	64.4	602		[1974DIT/SKO]	
C ₂₆ H ₂₆ Si ₂	[1172-76-5]	1,2-dimethyl-1,1,2,2-tetraphenyl disilane V	(426–506)	94.3 ± 0.4		TG-GS	[2012SEL/SAT]
C ₂₆ H ₂₆ O ₃ Si ₃	[1438-86-4]	1,1-dimethyl-3,3,5,5-tetraphenylcyclotrisiloxane FUS		28.2	361.1		[1996DOM/HEA, 1982KUL/DZH]
C ₂₆ H ₇₈ O ₁₁ Si ₁₂	[2471-08-1]	Hexacosamethyl dodecasiloxane V	(388–438)	132	GCRT		[2010LEI/WAN]
C ₂₇ H ₃₀ O ₂ Si	[148960-10-5]	3-methyl-3- <i>tert</i> -butylperoxy-1-triphenylsilyl-1-butyne V	(378–398)	115.9 ± 3.2	ME		[1999DIB/LUS]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₇ H ₅₈ Si	[51502-67-1]	Trinonylsilane	V		61.8 ± 0.8	298	C	[1988VOR/BAR]
C ₂₈ H ₂₈ O ₄ Si	[16714-40-2]	tetrakis(2-methylphenoxy)silane	V		76.2 ± 1.0	298	C	[1988VOR/BAR]
C ₂₈ H ₂₈ O ₄ Si	[16714-54-8]	tetrakis(3-methylphenoxy)silane	V		73.6 ± 0.9	298	C	[1988VOR/BAR]
C ₂₈ H ₂₈ O ₄ Si	[16714-41-3]	tetrakis(4-methylphenoxy)silane	V		97.1 ± 1.0	298	C	[1988VOR/BAR]
C ₂₈ H ₃₂ O ₂ Si	[261766-66-9]	3-methyl-3- <i>tert</i> -amylperoxy-1-triphenylsilyl-1-butyne	V	(378–393)	120.3 ± 5.8		ME	[1999DIB/LUS]
C ₂₈ H ₃₂ O ₂ Si ₃	[67103-00-8]	1,1,1,3-tetramethyl-3,5,5,5-tetraphenyltrisiloxane	V	(549–678)	82.6	564	A	[1987STE/MAL]
C ₂₈ H ₃₂ O ₂ Si ₃	[67142-05-6]	1,1,3,5-tetramethyl-1,3,5,5-tetraphenyltrisiloxane	V	(566–666)	90.9	581	A	[1987STE/MAL]
C ₂₈ H ₃₂ O ₂ Si ₃	[3982-82-9]	1,3,3,5-tetramethyl-1,1,5,5-tetraphenyltrisiloxane	V	(544–686)	88.3	559	A	[1987STE/MAL]
C ₂₈ H ₃₂ O ₃ Si	[167283-26-3]	[[4-[(1,1-dimethylethyl)dioxy]-4-methyl-2-pentynyl]oxy]triphenylsilane	V	(354–386)	87.6 ± 3.7	370		[2006DIB/MEL]
C ₂₈ H ₃₂ O ₄ Si ₄	[1693-47-6]	1,1,3,3-tetramethyl-5,5,7,7-tetraphenylcyclotetrasiloxane	TRS		0.24	186.5		
			TRS		1.05	271.5		
			FUS		27.05	346.2	AC	[1996DOM/HEA, 1976KUL/DZH]
C ₂₈ H ₃₂ O ₄ Si ₄	[77-63-4]	1,1,5',7'-tetramethyl-1',3',5,7-tetraphenylcyclotetrasiloxane	FUS		24.62	373.4	AC	[1996DOM/HEA, 1975MEK/KAR3]
C ₂₈ H ₈₄ O ₁₂ Si ₁₃	[2471-09-2]	octacosamethyltridecasiloxane	V	(398–438)	121		GCRT	[2010LEI/WAN]
C ₂₉ H ₃₄ O ₂ Si	[261766-67-0]	3-methyl-3- <i>tert</i> -hexylperoxy-1-triphenylsilyl-1-butyne	V	(383–398)	126.3 ± 3.0		ME	[1999DIB/LUS]
C ₂₉ H ₄₄ O ₆ Si ₂	[179108-75-9]	4-[[1-oxo-11-(1,1,3,3-tetramethyldisioxanyl)undecyl]oxy]benzoic acid, 4-methoxyphenyl ester	TRS		20.1	322		
			FUS		5.4	331		[2004RYA/LEB]
C ₂₉ H ₄₄ O ₆ Si ₂	[349149-95-7]	4-methoxybenzoic acid, 4-[[1-oxo-11-(1,1,3,3-tetramethyldisioxanyl)undecyl]oxy]phenyl ester	TRS		24.3	324		
			FUS		4.7	334		[2004RYA/LEB]
C ₃₀ H ₄₀ F ₃₀ O ₃ Si ₄	V	1,1,1,3,5,5,5-hepta(γ -trifluoropropyl)-3-tris(γ -trifluoropropyl)siloxytrisiloxane		(502–652)	64.3	671		[1974DIT/SKO3]
C ₃₀ H ₆₄ Si	[18765-73-6]	tris(decyl)silane	V		65.3 ± 0.8	298	C	[1988VOR/BAR]
C ₃₀ H ₆₆ O ₃ Si ₃	[152656-68-3]	2,2,4,4,6,6-hexapentylcyclotrisiloxane	FUS		38.6	266	DSC	[1995OUT/KLO]
C ₃₂ H ₁₆ Cl ₂ N ₈ Si	[19333-10-9]	silicon phthalocyanine dichloride	SUB		151.3			[1972MAR/LOP]
C ₃₂ H ₇₀ Si ₁₀	[206868-23-7]	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-eicosamethyl-1,10-diphenyldecasilane	FUS		56.1	391.2		[2001YAT/MIN]
C ₃₃ H ₃₄ O ₂ Si ₃	[67103-01-9]	1,1,3-trimethyl-1,3,5,5,5-pentaphenyltrisiloxane	V	(603–711)	91.3	618	A	[1987STE/MAL]
C ₃₃ H ₃₄ O ₂ Si ₃	[3390-61-2]	1,3,5-trimethyl-1,1,3,5,5-pentaphenyltrisiloxane	V	(575–625)	87.3	590	A	[1987STE/MAL]
C ₃₃ H ₃₄ O ₄ Si ₄	[32395-60-1]	1,3,5-trimethyl-1,3,5,7,7-pentaphenylcyclotetrasiloxane						

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
	V	(523–676)		86.9	600		[1974DIT/SKO]
C ₃₄ H ₇₆ Si ₁₁	[386719-88-6]	1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11-docosamethyl-1,11-diphenylundecasilane		57.8	398.2		[2001YAT/MIN]
C ₃₆ H ₃₀ Si ₂	[1450-23-3]	Hexaphenyldisilane		209.2 ± 2.1	298	ME,TE	[1974CAL/KAN]
C ₃₆ H ₃₀ Si ₃ O ₃	[512-63-0]	Hexaphenylcyclotrisiloxane		1.13	455		
	TRS			39.3	466	DSC	[2000LEB/SMI]
	FUS						
C ₃₆ H ₇₈ O ₃ Si ₃	[105216-71-5]	2,2,4,4,6,6-hexahexylcyclotrisiloxane		34.6	285	DSC	[1995OUT/KLO]
C ₄₂ H ₉₀ O ₃ Si ₃	[137410-95-8]	2,2,4,4,6,6-hexaheptylcyclotrisiloxane		64.3	299	DSC	[1995OUT/KLO]
C ₄₈ H ₄₀ Si ₄ O ₄	[546-56-5]	Octaphenylcyclotetrasiloxane					
	TRS			44.8	459.2		
	FUS			1.26	473.2	DSC	[2001MAT/SHC]
	TRS			2.22	348		
	TRS			46.4	463		
	FUS			1.13	475	DSC	[2000LEB/SMI]
	TRS			2.9	349.8		
	TRS			43.8	462.8		
	FUS			1.95	478.1	DSC	[1979SMI]
C ₄₈ H ₁₀₂ O ₃ Si ₃	[137410-92-5]	2,2,4,4,6,6-hexaoctylcyclotrisiloxane		66.1	313	DSC	[1995OUT/KLO]
C ₅₄ H ₁₁₄ O ₃ Si ₃	[27397-83-7]	2,2,4,4,6,6-hexanonylcyclotrisiloxane		75.0	317	DSC	[1995OUT/KLO]
C ₆₀ H ₁₂₆ O ₃ Si ₃	[27397-84-8]	2,2,4,4,6,6-hexadecylcyclotrisiloxane		69.1	324	DSC	[1995OUT/KLO]
AsH ₉ Si ₃	[15110-34-6]	trisilylarsine					
	V	(258–287)		41	272		[1962AMB/BOE]
BrF ₃ Si	[14049-39-9]	Bromotrifluorosilane					
	V	(205–233)		18.5	219		[1936SCH/AND]
Br ₂ F ₂ Si	[14188-35-3]	Dibromodifluorosilane					
	V	(255–294)		24.9	275		[1936SCH/AND]
Br ₃ FSi	[18356-67-7]	Tribromofluorosilane					
	V	(305–357)		32.7	331		[1936SCH/AND]
Br ₃ HSi	[7789-57-3]	Tribromosilane					
	V	(273–393)		34.8	333		[1934SCH/BIC]
Br ₄ Si	[7789-66-4]	Silicon tetrabromide					
	V			39.4			[1951NIS/PET]
ClF ₃ Si	[14049-36-6]	Chlorotrifluorosilane					
	V	(215–235)		17.8	225		[1935BOO/SWI]
Cl ₂ FHSi	[19382-74-2]	Dichlorofluorosilane					
	V			20.2	255		[1934BOO/STI]
Cl ₂ F ₂ Si	[18356-71-3]	Dichlorodifluorosilane					
	V	(220–246)		21.0	233		[1935BOO/SWI]
Cl ₂ H ₂ Si	[4109-96-0]	Dichlorosilane					
	V	(290–350)		22.2 ± 0.7			[1986VOR/BAL]
Cl ₃ FSi	[14965-52-7]	Chlorotrifluorosilane					
	V	(243–288)		24.5	265		[1935BOO/SWI]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
Cl_3HSi	[10025-78-2]	Trichlorosilane	V	(303–325)	24.9	314	I	[1967LAP/NIS]
			V	(275–305)	27.2	290		[1954JEN/CHA]
Cl_4Si	[10026-04-7]	Silicon tetrachloride	FUS		7.72	204.7		[1985DEV/GUE]
			SUB	(175–204)	43.3 ± 0.1		MG	[1964BAL/DON]
	V	Disilanyl fluoride	(298–313)	29.9	305			[1973JAI/YAD]
	V	(273–326)	30.4	288				[1964CAP/FRI]
	V	(275–330)	30.2	290			I	[1954JEN/CHA]
	V	(273–333)	30.1	303				[1936KEA]
FH_3Si	[13537-33-2]	fluorosilane	V	(145–167)	18.5	156		[1944EME/MAD]
FH_5Si_2	[14537-73-6]	Disilanyl fluoride	V	(178–227)	26.3	202	T	[1963ABE/MAC]
$\text{F}_2\text{H}_2\text{Si}$	[13824-36-7]	Difluorosilane	V	(151–167)	19.9	159		[1944EME/MAD]
$\text{F}_2\text{H}_4\text{NPSi}$	[36875-96-4]	Silylaminodifluorophosphine	V	(200–273)	34.3	236		[1972ARN/EBS]
F_3ISi	[16865-60-4]	Trifluoroiodosilane	V	(139–227)	21.3	183		[1973AYL/ELL2]
F_3HSi	[13465-71-9]	Trifluorosilane	V	(156–168)	20.1	162		[1944EME/MAD]
$\text{F}_3\text{H}_3\text{Si}_2$	V	(160–182)	16.1	176				[1934BOO/STI]
	[15195-26-3]	1,1,1-trifluorodisilane	SUB	(195–209)	39.2	202		[1972SOL/BUR]
F_4Si	[7783-61-1]	Silicon tetrafluoride	FUS		9.38	186.35		[1963PAC/MOS]
			SUB		25.9			[1931RUF/ASC]
	SUB	(148–183)	25.8					[1930PAT/PAP]
	V		14.9	188			C	[1963PAC/MOS]
	V		18.7					[1931RUF/ASC]
F_6OSi_2	[14515-39-0]	Hexafluorodisiloxane	V	(235–251)	21.5	243		[1945BOO/OST]
HD_3Si	[13537-02-5]	silane-d ₃	FUS		1.24	86.8		[1969KLE/MOR]
			V	(109–129)	13.5	119	BG	[1969KLE/MOR]
$\text{H}_3\text{I}_2\text{PSi}$	[128166-50-7]	(Diiodophosphino)silane	V	(273–382)	38.9		SG	[1955AYL/EME]
H_4Si	[7803-62-5]	silane	FUS		1.33	88.5		[1933CLU]
H_5ClSi_2	[14565-98-1]	Disilanyl chloride	V	(227–273)	29.3			[1962CRA/URE]
H_5ISi_2	[14380-76-8]	Disilanyl iodide	V	(274–363)	33.9	318		[1960WAR/MAC]
H_7NSi_2	[5702-11-4]	Disilazane	V	(177–250)	23.4	213	SG	[1969AYL/HAK3]
H_9PSi_3	[15110-33-5]	trisilylphosphine	V	(243–284)	36.4	263		[1962AMB/BOE2]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
H ₉ SbSi ₃	[14798-31-3]	trisilylstibine	V		32.0			[1963AMB/BOE]
H ₁₀ Si ₄	[7783-29-1]	Tetrasilane (273–369)	V		35.6		T	[1946EME/MAD]
H ₁₀ OSi ₄	[14809-36-0]	bis(disilanyl) ether (273–363)	V		36.4	318		[1960WAR/MAC]
I ₄ Si	[13465-84-4]	Silicon tetraiodide	FUS		19.7	393.2	AC	[1965KUR/HAS]
Sm								
C ₁₅ H ₁₅ Sm	[1298-55-1]	tris(cyclopentadienyl)samarium(III)	SUB	(513–633)	109.6 ± 1.7			[1973BOR/KRA]
C ₁₅ H ₂₁ O ₆ Sm	[14589-42-5]	tris(2,4-pentanedionato)samarium(III)	SUB	(293–413)	U 20 ± 2			[1985SER/ZAG]
C ₃₀ H ₃₀ F ₂₁ O ₆ Sm	[17631-69-5]	tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)samarium(III)	SUB	(379–394)	158.6 ± 1.7	ME		[1971SWA/KAR]
C ₃₃ H ₅₇ O ₆ Sm	[15492-50-9]	tris(2,2,6,6-tetramethylheptan-3,5-dionato)samarium(III)	SUB		149.7 ± 3.3	298	DSC	[1999SAN/PET]
			SUB	(378–418)	180.7	398	ME	[1981AMA/SAT]
			SUB	(430–468)	150.6	447	BG	[1969SIC/DUB]
			V	(468–500)	93.0		BG	[1969SIC/DUB]
SmI ₂	[32248-43-4]	Samarium diiodide	V	(1008–1155)	255.9 ± 5.3	1082		[1974HIR/CAS]
Sn								
C ₂ H ₅ Cl ₃ Sn	[1066-57-5]	Ethylin trichloride	V		48.8			[1958DIL/MCN]
C ₃ H ₉ BrSn	[1066-44-0]	Trimethyltin bromide	V		47.3 ± 4.2			[1957PED/SKI, 1982PIL/SKI]
C ₃ H ₉ ISn	[811-73-4]	Trimethyltin iodide	V		48.1 ± 4.2			[1957PED/SKI, 1982PIL/SKI]
C ₄ H ₉ F ₃ Sn	[754-25-6]	(trifluoromethyl)trimethyltin	V	(276–323)	37.5	300	T	[1960KAE/PHI]
C ₄ H ₁₀ Cl ₂ Sn	[866-55-7]	Diethyltin dichloride	V		52.6			[1958DIL/MCN]
C ₄ H ₁₂ S ₄ Sn	[210298-57-0]	Tetra(methylthia)tin	FUS		24.1	307.5	DSC	[1998FUE/STR]
C ₄ H ₁₂ Sn	[594-27-4]	Tetramethyltin	FUS		9.23	218.2	DSC	[1989SHE/RAB, 1974UTS/BAC]
			FUS	(100–230)	9.44	218.2		[1954STA/WAR]
			V	(273–350)	32.6 ± 0.2	311		[2001BAE]
			V	(313–393)	31.3		GC	[1992HAW]
			V		31.1 ± 0.1	298	C	[1980ABR/IRV]
			V		32.8 ± 0.1	298		[1970VAL]
			V		33.1 ± 1.3			[1963DAV/POP, 1982PIL/SKI]
			V		30.5	298		[1936THO/LIN]
			V	(273–308)	33.4	290	I	[1930BUL/HAU]
			V	(308–355)	31.6	331	I	[1930BUL/HAU]
			V		33.1	298	I	[1930BUL/HAU]
			V	(298–308)	31.6	303		[1929TAN/NAG]
C ₅ H ₉ F ₅ Sn	[812-35-1]	(Pentafluoroethyl)trimethyltin	V	(295–329)	35.6	312	T	[1960KAE/PHI]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₅ H ₁₂ Sn	[754-06-3]	Trimethylvinyltin	V		37.2 ± 2.1			[1959PED/SKI, 1982PIL/SKI]
C ₅ H ₁₄ Sn	[3531-44-0]	Ethyl trimethyltin	V		37.7 ± 1.7			[1963DAV/POP, 1982PIL/SKI]
			V	(243–381)	38.4	258		[1947STU]
			V	(273–336)	37.0	304	I	[1930BUL/HAU]
			V	(336–384)	34.9	360	I	[1930BUL/HAU]
C ₆ H ₁₅ ClSn	[994-31-0]	Triethyltin chloride	V		50.7			[1958DIL/MCN]
C ₆ H ₁₆ Sn	[3531-45-1]	Trimethylpropyltin	V	(261–405)	43.8	276		[1947STU]
			V	(286–328)	41.4	307	I	[1930BUL/HAU]
			V	(328–405)	38.0	366	I	[1930BUL/HAU]
C ₆ H ₁₆ Sn	[3531-46-2]	Trimethylisopropyltin	V		40.6 ± 2.1			[1966COL/SKI, 1982PIL/SKI]
C ₆ H ₁₈ Sn ₂	[661-69-8]	Hexamethyldistannane	V		50.2 ± 4.2			[1957PED/SKI, 1982PIL/SKI]
C ₇ H ₁₈ OSn	[1067-21-6]	Triethylmethoxystannane	V	(312–435)	49.9	273	MM	[2001BAE2]
			V	(312–435)	48.7	298	MM	[2001BAE2]
C ₇ H ₁₈ Sn	[3531-47-3]	<i>tert</i> -butyltrimethyltin	V		54.0 ± 4.2			[1966COL/SKI, 1982PIL/SKI]
C ₈ H ₁₂ Sn	[1112-55-6]	Tetravinyltin	V	(313–393)	40.5		GC	[1992HAW]
C ₈ H ₁₅ F ₅ Sn	[2925-46-4]	(pentafluoroethyl)triethyltin	V	(303–343)	39.2	323	T	[1960KAE/PHI]
C ₈ H ₁₈ Cl ₂ Sn	[683-18-1]	Di- <i>n</i> -butyltindichloride	FUS		22.75	316.2		[1974UTS/BAC2]
C ₈ H ₂₀ Sn	[597-64-8]	Tetraethyltin	FUS	(110–210)	9.15	142.1		[1996DOM/HEA, 1954STA/WAR]
			V	(293–455)	46.6 ± 0.6	374		[2001BAE]
			V	(313–393)	42.4		GC	[1992HAW]
			V		50.6 ± 0.2	298	C	[1980ABR/IRV]
			V		51.0 ± 2.1			[1963DAV/POP, 1982PIL/SKI]
C ₉ H ₁₄ Sn	[934-56-5]	Phenyltrimethyltin	V		52.3 ± 4.2			[1959PED/SKI, 1982PIL/SKI]
C ₁₀ H ₁₆ Sn	[4314-94-7]	Benzyltrimethyltin	V		56.5 ± 4.2			[1959PED/SKI, 1982PIL/SKI]
C ₁₀ H ₂₄ O ₂ Sn	[14570-10-6]	Triethyltin <i>tert</i> -butylperoxide	V		48.8 ± 2.1			[1971RAB/KIP, 1982PIL/SKI]
C ₁₀ H ₂₅ NSn		(<i>N,N</i> -diethylamino)triethyltin	V		50.2 ± 4.2			[1971KOL/RAB, 1982PIL/SKI]
C ₁₂ H ₂₀ Sn	[7393-43-3]	Tetraallyltin	V	(333–393)	52.0		GC	[1992HAW]
C ₁₂ H ₂₇ BrSn	[1461-23-0]	Tributyltin bromide	V		83.7 ± 12.6			[1959PED/SKI, 1982PIL/SKI]
C ₁₂ H ₂₇ ClSn	[1461-22-9]	Tri- <i>n</i> -butyltin chloride	FUS		11.43	260.2		[1974UTS/BAC2]
C ₁₂ H ₂₈ Sn	[2176-98-9]	Tetrapropyl tin	V	(343–457)	55.0 ± 0.7	400		[2001BAE]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{28}\text{Sn}$	V	(333–393)	60.8			GC	[1992HAW]
	V	(361–470)	52.5	376		A	[1987STE/MAL]
	V		65.4 ± 2.5	298		C	[1980ABR/IRV]
	V		66.9 ± 2.1				[1963DAV/POP, 1982PIL/SKI]
	V		60.7				[1935JON/EVA]
$\text{C}_{12}\text{H}_{28}\text{Sn}$	[2949-42-0]	Tetraisopropyl tin					
	V	(342–441)	48.0 ± 0.7	392		GC	[2001BAE]
	V	(333–393)	56.4				[1992HAW]
	V		64.9 ± 4.2				[1966COL/SKI, 1982PIL/SKI]
$\text{C}_{12}\text{H}_{30}\text{OSn}_2$	[1112-63-6]	bis(triethyltin)oxide					[1971RAB/KIP, 1982PIL/SKI]
$\text{C}_{12}\text{H}_{30}\text{Sn}_2$	[993-63-5]	Hexaethylstannane					[1966TEL/RAB, 1982PIL/SKI]
$\text{C}_{12}\text{H}_{33}\text{NSi}_2\text{Sn}$	[268208-86-2]	1,1,1-triethyl- <i>N</i> -(trimethylstannyly)- <i>N</i> -(trimethylsilyl)silanamine					[2013SYS/NIK]
$\text{C}_{15}\text{H}_{26}\text{O}_2\text{Sn}$	V	(333–473)	52 ± 2	403	Static		
$\text{C}_{15}\text{H}_{26}\text{O}_2\text{Sn}$	V	Triethyltin dimethylphenylperoxide					[1971RAB/KIP, 1982PIL/SKI]
$\text{C}_{16}\text{H}_{18}\text{Sn}$	[53561-93-6]	1,1-diphenylstannolane					
$\text{C}_{16}\text{H}_{18}\text{Sn}$	SUB		106.8 ± 5.5	298	B		[1988CAR/JAM]
$\text{C}_{16}\text{H}_{36}\text{Sn}$	[1461-25-2]	Tetrabutyl tin					
	V	(389–462)	67.8 ± 0.5	425			[2001BAE]
$\text{C}_{16}\text{H}_{36}\text{Sn}$	V		82.8 ± 2.1				[1963DAV/POP, 1982PIL/SKI]
$\text{C}_{16}\text{H}_{36}\text{Sn}$	[3531-43-9]	Tetraisobutyl tin					[2001BAE]
$\text{C}_{17}\text{H}_{20}\text{Sn}$	[19814-46-1]	Hexahydro-1,1-diphenylstannin					[1988CAR/JAM]
$\text{C}_{20}\text{H}_{18}\text{Sn}$	[2117-48-8]	Triphenyl vinyl tin					
$\text{C}_{20}\text{H}_{18}\text{Sn}$	SUB		114.1				[1985CAR/LAY]
$\text{C}_{20}\text{H}_{18}\text{O}_2\text{Sn}$	[900-95-8]	(acetoxy)triphenylstannane					
$\text{C}_{24}\text{H}_{20}\text{Sn}$	FUS		41.92	397.6	DSC		[1990DON/DRE]
$\text{C}_{24}\text{H}_{20}\text{Sn}$	[595-90-4]	Tetraphenyl tin					
	FUS		37.2	502.2	DSC		[1969VIC/WAL]
	SUB	(393–461)	151.7	427	A		[1987STE/MAL]
	SUB		161.1 ± 4.2	298			[1982PIL/SKI, 1969ADA/CAR2]
	SUB	(428–454)	152.5 ± 0.6		TE		[1969KEI/KAN]
	SUB	(393–461)	151.8 ± 1.1		ME		[1969KEI/KAN]
$\text{C}_{27}\text{H}_{20}\text{Sn}$	SUB		59.5	298			[1972NEW, 1986MAR/LOE]
	SUB	(298–316)	U 66.0 ± 21.2	298	ME		[1962CAR/COO, 1970CAR/LAY]
$\text{C}_{32}\text{H}_{16}\text{C}_{12}\text{N}_8\text{Sn}$	[18253-54-8]	Tin(IV) phthalocyanine dichloride					
$\text{C}_{32}\text{H}_{16}\text{N}_8\text{Sn}$	SUB		218.4 ± 17.6		ME		[1970BON/CAT]
$\text{C}_{36}\text{H}_{30}\text{Sn}_2$	[1064-10-4]	Hexaphenyl ditin					
$\text{C}_{44}\text{H}_{26}\text{N}_8\text{Sn}$	[29130-47-0]	Diphenyl tin(IV) phthalocyanine					
$\text{C}_{60}\text{H}_{78}\text{OSn}_2$	[13356-08-6]	hexakis(2-methyl-2-phenylpropyl)distanoxane					
$\text{C}_{60}\text{H}_{78}\text{OSn}_2$	FUS		71.81	417.7	DSC		[1990DON/DRE]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
SnBr_2	[10031-24-0]	Stannous bromide	FUS		14.2	507		[1991GAR/PRE]
								[1992BRU/WAL]
			SUB	(576–923)	104.4 ± 2.0	750		[1992BRU/WAL]
			SUB	(576–923)	122 ± 3	298		[1992BRU/WAL]
			SUB	(723–893)	101.2	808		[1969KAR, 1992BRU/WAL]
SnBr_4	[7789-67-5]	Stannic bromide	SUB	(280–301)	63.3	290		[1960KEA/SMI]
								[1941SEK]
			SUB	(257–299)	62.4	278		[1960KEA/SMI]
			V	(293–314)	53.0	303		[1978TIT/ZHA]
SnI_4	[7790-47-8]	Stannic iodide	FUS		19.3	417.7		[1936NEG]
								[1977ZHA/TIT]
			SUB	(360–416)	88.0	388		[1941SEK]
			SUB	(298–417)	85.5	358		[1936NEG]
			SUB	(366–414)	75.6	390		[1978ABA/MAL]
Sr			V	(418–523)	57.2	423		[1978ABA/MAL]
SnCl_2	[10476-85-4]	Strontium chloride	SUB		328.9 ± 4.8	298	LE	[1965LOE/KEN]
Ta								
$\text{C}_5\text{H}_{15}\text{O}_5\text{Ta}$	[865-35-0]	Tantalum pentamethoxide	SUB		88.3 ± 13.4		ME,E	[1972TEL/RAB]
$\text{C}_{10}\text{H}_{25}\text{O}_5\text{Ta}$	[6074-84-6]	Pentaethyltantalate	V				A	[1987STE/MAL]
TaBr_5	[13451-11-1]	Tantalum(V) pentabromide	SUB		127 ± 18	298		[1996TUR/EIC]
			SUB					[1996TUR/EIC, 1991KNA/KUB]
TaI_5	[14693-81-3]	Tantalum(V) pentaiodide	SUB	(573–655)	120.9			[1978ABA/MAL]
Tb								
$\text{C}_{15}\text{H}_{15}\text{Ta}$	[1272-25-9]	tris(cyclopentadienyl)terbium(III)	SUB		103.8 ± 1.7			[1973DEV/BOR]
$\text{C}_{15}\text{H}_{21}\text{TbO}_6$	[14284-95-8]	tris(2,4-pentanedionato)terbium(III)	FUS				DSC	[1971PRZ/BOS]
$\text{C}_{32}\text{H}_{40}\text{F}_{12}\text{NaO}_8\text{Tb}$	[12576-88-4]	Sodium tetrakis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)terbate	SUB	(418–473)	40.2	374.7	T	[1993SYO/GOL]
$\text{C}_{33}\text{H}_{57}\text{O}_6\text{Tb}$	[15492-51-0]	tris(2,2,6,6-tetramethylheptane-3,5-dionato)terbium(III)	SUB		163 ± 3	445		[1993SYO/GOL]
			SUB			DSC	[1999SAN/PET]	
			SUB			ME	[1981AMA/SAT]	
			SUB			ME	[1981AMA/SAT]	
			SUB		138.4 ± 2.6	298	BG	[1969SIC/DUB]
			V				BG	[1969SIC/DUB]
TbI_3	[13813-40-6]	Terbium triiodide	SUB	(373–420)	173.6	396	ME	[1975HIR/ROM]
			SUB	(420–433)	151	426		[1975HIR/ROM]
			SUB	(420–454)	141.5	437		[1975HIR/ROM]
Te								
$\text{C}_2\text{H}_6\text{Te}$	[593-80-6]	Dimethyl telluride	TRS		0.7	164.1		[1998SHE/NIS]
			FUS					
					7.77	201.9		

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_4\text{H}_6\text{Te}$	V			36.1 ± 0.6	298	C	[2014GER/PAV]
	V		(298–367)	34.4	313		[1999DYK/SVO]
	V		(273–372)	35.6 ± 0.1	323		[1997BAE, 1996BAE/POD]
	V		(267–369)	36.9	282	BG	[1996VAN/COR]
	V		(267–369)	36.1 ± 1.0	298	BG	[1996VAN/COR]
	V			37.4 ± 0.7	298	C	[1989VOR/KLY]
	V			36.0 ± 2.1			[1988TEL/LAR]
$\text{C}_4\text{H}_6\text{Te}$	[63000-06-6]	Divinyl telluride	FUS	9.59	182.6		[1999NIS/SHE]
	V			44.8 ± 0.8	298	C	[1989VOR/KLY]
	V			38.1 ± 2.1			[1988TEL/LAR]
	[627-54-3]						[1996SHE/KAM]
$\text{C}_4\text{H}_{10}\text{Te}$	FUS			7.62	161.5		
	V		(295–411)	41.8	310		[1999DYK/SVO]
	V		(273–415)	41.6 ± 0.2	344		[1996BAE/POD]
$\text{C}_4\text{H}_{14}\text{Te}$				41.6 ± 0.8	298	C	[1989VOR/KLY]
	[64501-17-3]	Dipropyl telluride					
	V		(298–434)	45.5 ± 0.3	366		[1996BAE/POD]
$\text{C}_6\text{H}_{14}\text{Te}$	V			46.5 ± 0.7	298	C	[1989VOR/KLY]
	[51112-72-2]	Diisopropyl telluride					
	V		(298–399)	40.4 ± 0.1	349		[1996BAE/POD]
$\text{C}_6\text{H}_{14}\text{Te}_2$	[79971-42-9]		Dipropyl ditelluride				
	V			52.7 ± 1.0	298	C	[1989VOR/KLY]
$\text{C}_8\text{H}_{18}\text{Te}$	[38788-38-4]	Dibutyl telluride					
	V		(303–423)	53.4 ± 0.1	358		[1996BAE/POD]
	V			51.0 ± 1.0	298	C	[1989VOR/KLY]
$\text{C}_8\text{H}_{18}\text{Te}$	[83817-01-0]	Diisobutyl telluride					
	V		(303–410)	47.6 ± 0.1	356		[1996BAE/POD]
$\text{C}_8\text{H}_{18}\text{Te}$	[83817-20-3]	Di- <i>sec</i> -butyl telluride					
	V		(303–372)	49.6 ± 0.9	338		[1996BAE/POD]
$\text{C}_8\text{H}_{18}\text{Te}_2$	[77129-69-2]	Dibutyl ditelluride					
	V			57.3 ± 1.0	298	C	[1989VOR/KLY]
$\text{C}_{10}\text{H}_{22}\text{Te}$	[71475-88-2]	Dipentyl telluride					
	FUS			23.1	215.4		[1994TEL/SHE]
	V		(343–403)	59.5 ± 0.8	373		[1996BAE/POD]
$\text{C}_{10}\text{H}_{22}\text{Te}$	[110346-75-3]	Diisopentyl telluride					
	V		(343–403)	51.9 ± 0.7	373		[1996BAE/POD]
$\text{C}_{12}\text{F}_{10}\text{Te}$	[18064-76-1]	bis(pentafluorophenyl) telluride					
	FUS			16.3	322.3	DSC	[2008ZEL/CHU]
$\text{C}_{12}\text{H}_{10}\text{Te}$	[1202-36-4]	Diphenyl telluride					
	FUS			15.35	268.4		[1996TEL/SHE]
TeBr_4	[10031-27-3]	Tellurium tetrabromide					
	SUB			129.7 ± 2.1	298		[1974OPP/STO]
TeCl_4	[10026-07-0]	Tellurium tetrachloride					
	SUB			105 ± 2	298	TE	[1994DAL/FER]
	V			87.9 ± 2.1	298		[1974OPP/STO]
TeF_6	V		(506–660)	77	583	GS	[1930SIM]
	SUB			25.6	214		[1932KLE/HEN]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
TeI ₄	[7790-48-9]	Tellurium tetraiodide SUB	(420–480)	95.1		[2007KUT/POL]
Th						
C ₂₀ H ₁₆ F ₁₂ O ₈ Th	[17500-72-0]	tetrakis(1,1,1-trifluoropentan-2,4-dionato)thorium(IV) SUB		154.6	298	GS,HSA [1986GAR/JAN]
C ₄₀ H ₄₀ F ₂₈ O ₈ Th	[23841-30-7]	tetrakis(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dionato)thorium(IV)		151.2	298	GS,HA [1986GAR/JAN]
	SUB (α)			130.6	298	GS,HA [1986GAR/JAN]
	SUB (β)		(344–367)	138.5 ± 3.3	355	ME [1970SWA/KAR]
C ₄₄ H ₇₆ O ₈ Th	[18865-73-1]	tetrakis(2,2,6,6-tetramethylheptan-3,5-dionato)thorium(IV) SUB	(391–409)	152.3 ± 3.3	400	ME [1970SWA/KAR]
Ti						
(C ₂ H ₃ N)-Cl ₄ Ti	[13682-81-0]	Titanium trichloride–acetonitrile (1:1 complex) SUB		123		T [1970HES/PER]
2(C ₂ H ₃ N)-Cl ₄ Ti	[15227-64-2]	Titanium trichloride–acetonitrile (1:2 complex) SUB		171.5		T [1970HES/PER]
(C ₄ H ₈ O)-(Cl ₄ Ti)	[15005-09-1]	Titanium trichloride–tetrahydrofuran (1:1 complex) SUB		140.2		T [1970HES/PER]
2(C ₄ H ₈ O)-(Cl ₄ Ti)	[31011-57-1]	Titanium trichloride–tetrahydrofuran (1:2 complex) SUB		205.4		T [1970HES/PER]
(C ₄ H ₈ S)-(Cl ₄ Ti)	[14281-72-2]	Titanium trichloride–tetrahydrothiophene (1:1 complex) SUB		124.3		T [1970HES/PER]
2(C ₄ H ₈ S)-(Cl ₄ Ti)	[16893-00-8]	Titanium trichloride–tetrahydrothiophene (1:2 complex) SUB		181.2		T [1970HES/PER]
C ₅ H ₅ Cl ₃ Ti	[1270-98-0]	Cyclopentadienyltitanium trichloride SUB	(354–404)	89.8	379	A [1987STE/MAL, 1982PIL/SKI]
		SUB		104.6 ± 8.4	298	[1977TEL/RAB]
		SUB		89.1 ± 0.8		[1977BAL/BAR]
(C ₅ H ₁₀ O)-(Cl ₄ Ti)	[22538-12-1]	Titanium trichloride–tetrahydropyran (1:1 complex) SUB		139.3		T [1970HES/PER]
2(C ₅ H ₁₀ O)-(Cl ₄ Ti)	[31011-56-0]	Titanium trichloride–tetrahydropyran (1:2 complex) SUB		305.4		T [1970HES/PER]
(C ₈ H ₈ O)-(Cl ₄ Ti)	[31011-60-6]	Titanium trichloride–acetophenone (1:1 complex) SUB		163.6		T [1970HES/PER]
2(C ₈ H ₈ O)-(Cl ₄ Ti)	[31011-61-7]	Titanium trichloride–acetophenone (1:2 complex) SUB		277.8		T [1970HES/PER]
C ₈ H ₂₄ N ₄ Ti	[3275-24-9]	Titanium tetradimethylamide V	(353–418)	53.8 ± 3.0	383	[1984BAE/MIK, 2001BAE/MIK]
C ₈ H ₂₄ O ₄ Ti	[3087-36-3]	Titanium(IV) ethoxide V		84.3	448	[2009FIL/NIZ]
C ₁₀ H ₁₀ Ti	[1271-29-0]	bis(cyclopentadienyl)titanium SUB		58.5 ± 8.0	298	[1982PIL/SKI, 1971TEL/RAB]
C ₁₀ H ₁₀ Cl ₂ Ti	[1271-19-8]	bis(cyclopentadienyl)titanium dichloride SUB		124.4 ± 2.9	298	ME [2001DIO/PIE]
		SUB	(418–533)	124.4	475.5	A [1987STE/MAL]
		SUB		118.8 ± 2.1	298	[1982PIL/SKI, 1977TEL/RAB]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{10}\text{O}_2\text{Ti}$	[12129-51-0]	SUB		111.7 ± 1.7			[1977BAL/BAR]
		SUB		96.2			[1969DIL/KIS, 1968KIS/DIL]
		SUB		102 ± 13	298		[2001DIO/PIE]
$\text{C}_{12}\text{H}_{16}\text{Ti}$	[1271-66-5]	SUB	bis(cyclopentadienyl)dicarbonyl titanium				
		SUB		84.2 ± 3.5	298	ME	[1987DIA/DIA]
$\text{C}_{12}\text{H}_{28}\text{O}_4\text{Ti}$	[546-68-9]	SUB	bis(cyclopentadienyl)dimethyltitanium				
		V		79.5 ± 8.4	298		[1982PIL/SKI, 1977TEL/RAB]
$\text{C}_{12}\text{H}_{28}\text{O}_4\text{Ti}$	[3087-37-4]	V	Tetraisopropyl titanate				
		V	(359–393)	55	376	A	[2009FIL/NIZ]
$\text{C}_{12}\text{H}_{28}\text{O}_4\text{Ti}$	[3087-37-4]	V	(336–459)	62.3	351	A	[1987STE/MAL, 1969THO/DAV]
		V	(411–479)	111.9	426	A	[1987STE/MAL, 1969THO/DAV]
$(\text{C}_{13}\text{H}_{10}\text{O})\text{-}(\text{Cl}_4\text{Ti})$	[23368-15-2]	SUB	Titanium trichloride–benzophenone (1:1 complex)				
		SUB		249.4		T	[1970HES/PER]
$2(\text{C}_{13}\text{H}_{10}\text{O})\text{-}(\text{Cl}_4\text{Ti})$	[31011-63-9]	SUB	Titanium trichloride–benzophenone (1:2 complex)				
		SUB		287.9		T	[1970HES/PER]
$\text{C}_{14}\text{H}_{10}\text{F}_6\text{O}_4\text{Ti}$	[1282-45-7]	SUB	bis(cyclopentadienyl)titanium bis(trifluoroacetate)				
		SUB		108.0 ± 8.0	298		[1982PIL/SKI, 1981CAL/DIA]
$\text{C}_{16}\text{H}_{36}\text{O}_4\text{Ti}$	[5593-70-4]	V	Tetrabutoxy titanium				
		V	(462–564)	89.7	477	A	[1987STE/MAL]
$\text{C}_{16}\text{H}_{36}\text{O}_4\text{Ti}$	[7425-80-1]	V	(443–493)	85.0 ± 3.1	458	A	[1987STE/MAL, 1978GRA/KON]
		V	(436–529)	77.4	451	A	[1987STE/MAL]
$\text{C}_{16}\text{H}_{36}\text{O}_4\text{Ti}$	[873376-17-1]	V	Tetra- <i>sec</i> -butoxy titanium				
		V	(378–414)	76.8	393	A	[1987STE/MAL]
$\text{C}_{16}\text{H}_{36}\text{O}_4\text{Ti}$	[119279-48-0]	V	(370–476)	67.1	385	A	[1987STE/MAL, 1969THO/DAV]
		V	Tetra- <i>tert</i> -butoxy titanium				
$\text{C}_{16}\text{H}_{36}\text{O}_4\text{Ti}$	[5593-70-4]	V	(386–486)	55.9	401	A	[1987STE/MAL]
		V	(322–388)	62.6	337	SG	[1958BRA/SWA, 1984BOU/FRI]
		V		66.1 ± 3.3	298	SG	[1958BRA/SWA, 1966BRA/HIL]
$\text{C}_{16}\text{H}_{36}\text{O}_4\text{Ti}$	[5593-70-4]	V	Titanium(IV) tetrabutylate				
		V	(323–418)	47.6 ± 0.7	370	370	[2002BAE/SHI2]
$\text{C}_{16}\text{H}_{40}\text{N}_4\text{Ti}$	V	V	Titanium(IV) tetrakis(diethylamide)				
		V	(423–463)	94.6 ± 4.0	443	443	[2001BAE/MIK]
$\text{C}_{20}\text{H}_{44}\text{O}_4\text{Ti}$	V	V	tetrakis(1,1-dimethylpropoxy)titanium				
		V	(397–430)	67.8	412	A	[1987STE/MAL]
		V	(361–423)	71.0	376	SG	[1958BRA/SWA, 1984BOU/FRI]
$\text{C}_{20}\text{H}_{44}\text{O}_4\text{Ti}$	V	V		77.4 ± 3.8	298	SG	[1958BRA/SWA, 1966BRA/HIL]
		V	tetrakis(1-ethylpropoxy)titanium				
$\text{C}_{20}\text{H}_{44}\text{O}_4\text{Ti}$	V	V	(385–445)	103.6	400	A	[1987STE/MAL]
		V	tetrakis(3-methylbutoxy)titanium				
$\text{C}_{20}\text{H}_{44}\text{O}_4\text{Ti}$	V	V	(407–493)	119.7	422	A	[1987STE/MAL]
		V	(484–558)	103.4	499	A	[1987STE/MAL]
$\text{C}_{20}\text{H}_{44}\text{O}_4\text{Ti}$	V	V	Tetrapentoxytitanium				
		V	(361–423)	71.1	376	A	[1987STE/MAL]
$\text{C}_{22}\text{H}_{20}\text{Ti}$	[1273-09-2]	SUB	bis(cyclopentadienyl)diphenylltitanium				
		SUB		88 ± 8			[1982DIA/SAL]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
C ₂₂ H ₄ O ₈ Ti	[852536-12-0]	bis[1,1-diethyl-3-oxobutanoato]bis(2-propanolato)titanium					
	SUB			85.4			[2008KUN/SHI]
C ₂₄ H ₂₀ O ₄ Ti	[12156-48-8]	bis(benzoato)bis(η^5 -2,4-cyclopentadien-1-yl)titanium					[1981CAL/DIA]
	SUB			112 ± 8			
C ₂₄ H ₂₄ Ti	[See Note]	bis(cyclopentadienyl)dibenzyltitanium					
	SUB			83.7 ± 8.4	298		[1982PIL/SKI, 1977TEL/RAB]
[Note: There is no reference to [1977TEL/RAB] in Chemical Abstracts under the given chemical name. Rather, <i>Chemical Abstracts</i> lists the paper under bis(cyclopentadienyl)diphenyltitanium.]							
C ₂₄ H ₅₂ O ₄ Ti	V	tetrakis(11-dimethylbutoxy)titanium	(414–454)	94.6	429	A	[1987STE/MAL]
C ₂₄ H ₅₂ O ₄ Ti	V	tetrakis(1-methyl-ethylpropoxy)titanium	(412–460)	86.2	427	A	[1987STE/MAL]
C ₂₄ H ₅₂ O ₄ Ti	V	tetrahexyloxy titanium	(520–581)	94.8	535	A	[1987STE/MAL]
C ₂₆ H ₃ N ₂ O ₄ Ti	SUB	bis(1-phenyl-3- <i>N</i> -(2-hydroxy-2-methylethylimino)-1-butanoato)titanium(IV)	(476–540)	164.2 ± 5.2	508	GS	[2010ARO/MAN]
C ₂₈ H ₅₂ O ₆ Ti	[80570-88-3]	diisopropoxybis(2,2,6,6-tetramethyl-3,5-heptanedionato) titanium					
	SUB		(353–413)	98.6 ± 2.7	383		[2001TUR/KRI]
	SUB		(273–403)	104.1	338		[1997KOJ/KAD, 2001TUR/KRI]
C ₃₀ H ₂₈ Fe ₂ Ti	[65274-19-3]	bis(cyclopentadienyl)diferrocenyl titanium					
	SUB			150 ± 15			[1982DIA/SAL]
Br ₄ Ti	[7789-68-6]	Titanium(IV) tetrabromide					
	SUB		(288–309)	67.7	299		[1960KEA/SMI]
	SUB		(283–306)	62.4	294		[1941SEK]
Cl ₄ Ti	[7550-45-0]	Titanium(IV) tetrachloride					
	V		(250–423)	37.5	265		[1966LUC]
	V		(363–415)	37.9	378		[1959PIK/FOS]
	V		(313–357)	39.8	335	I	[1953SCH/ZEP]
F ₃ Ti	[13470-08-1]	Titanium(III) trifluoride					
	SUB		(759–865)	237.2 ± 1.7	810	MS	[1967ZMB/MAR]
I ₄ Ti	[7720-83-4]	Titanium(IV) tetraiodide					
	V		(433–643)	58.5	538		[1947BLO/CAM]
Tl							
C ₃ H ₉ Tl	[3003-15-4]	Trimethylthallium					
	FUS			16.74	311.2		[1965PRI/JAC]
	SUB		(258–304)	57.3	285	CATH	[1965PRI/JAC, 1987STE/MAL]
	V		(311–360)	40.6	335	I,MM	[1965PRI/JAC]
	V		(328–349)	37.9	338	I	[1946GIL/JON]
C ₆ H ₁₅ Tl	[687-82-1]	Triethylthallium					
	V		(282–465)	41.9	297		[1947STU]
TlF	[7789-27-7]	thallium(I) fluoride					
	SUB			142.7	298		[1967KEN/CUB]
Tm							
C ₁₅ H ₁₅ Tm	[1272-26-0]	tris(cyclopentadienyl)thulium					
	SUB			111.3 ± 3.5	298		[1982PIL/SKI, 1974DEV/RAB]
	SUB			98.7 ± 1.7			[1973DEV/BOR]
	SUB		(338–438)	109.2 ± 2.1		ME	[1971HAU, 1971HAU2]
C ₃₃ H ₅₇ O ₆ Tm	[15631-58-0]	tris(2,2,6,6-tetramethylheptane-3,5-dionato)thulium(III)					
	SUB			131.3 ± 2.9	298	DSC	[1999SAN/PET]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
TmI_3	[13813-43-9]	SUB	(363–418)	156.1	390	ME	[1981AMA/SAT]
		SUB	(410–446)	131.4	428	BG	[1969SIC/DUB]
		V	(446–490)	84.1		BG	[1969SIC/DUB]
U	C ₆ H ₁₈ O ₆ U	[69644-82-2]	Thulium triiodide				
		SUB	(867–990)	286.1 ± 3.7	929	ME	[1975HIR/ROM]
		SUB	(867–990)	302.1 ± 3.7	298	ME	[1975HIR/ROM]
$\text{C}_{10}\text{H}_{22}\text{O}_6 \text{U}$	[67316-66-9]	Uranium hexamethoxide					
		SUB	(102.9 ± 8.4)				[1991TEL/LAR]
		SUB	(370–425)	147	397.5		[1987STE/MAL]
$\text{C}_{15}\text{H}_{15}\text{CIU}$	[11087-14-2]	bis(1,1,1,5,5-hexafluoro-2,4-pentanedionato)uranium dioxide complex					
		SUB	(423–470)	147 ± 4			[1978EKS/RAN]
		SUB	(338–348)	115.9 ± 2.1		ME	[1971HAU, 1971HAU2]
$\text{C}_{16}\text{H}_{16}\text{U}$	[11079-26-8]	tris(cyclopentadienyl)uranium chloride					
		SUB	(403–512)	108.1 ± 3.3		ME,MS	[1979TEL/RAB, 1977BED]
		SUB		114.2 ± 4.8	298		[1979TEL/RAB, 1977BED]
$\text{C}_{20}\text{H}_{20}\text{F}_{30}\text{O}_{10}\text{U}_2$	[137220-74-7]	bis[pentakis(trifluoroethoxy)]diuranium					
		SUB	NA				[1991SEV/ALI]
		SUB	(316–387)	79.1	352	T	[1991GIL/SAG]
$\text{C}_{22}\text{H}_{28}\text{O}_8\text{U}$	[65137-03-3]	tetrakis(pentane-2,4-dionato)uranium(IV)					
		SUB		148.1 ± 4.6			[1991TEL/LAR]
		SUB	(370–412)	151.6 ± 1.9	404	ME	[1993RIB/MON]
$\text{C}_{22}\text{H}_{38}\text{O}_6\text{U}$	[50797-86-9]	bis(2,2,6,6-tetramethylheptane-3,5-dionato)dioxouranium					
		SUB	(370–412)	156.9 ± 1.9	298	ME	[1993RIB/MON]
		SUB		126 ± 9			[1978EKS/RAN]
$\text{C}_{40}\text{H}_{40}\text{F}_{28}\text{O}_8\text{U}$	[23797-50-4]	tetrakis(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dione)uranium(IV)					
		SUB		68.2		BG	[1977DES]
		SUB		64.3 ± 3.2		C	[1977DES]
$\text{C}_{40}\text{H}_{68}\text{O}_{12}\text{U}$	[133952-93-9]	tetrakis(2,6-dimethyl-2-methoxy-3,5-heptanedionato)uranium(IV)					
		SUB	(344–377)	121.7 ± 18	350		[1991SEV/KRA]
		SUB					
$\text{C}_{44}\text{H}_{76}\text{O}_8\text{U}$		tetrakis(2,2,6,6-tetramethyl-3,5-heptanedionato)uranium(IV)					
		SUB	(372–478)	152.2 ± 3.3	425	ME	[1977BED/HUS]
		SUB	(392–409)	149.0 ± 1.3	400	ME	[1970SWA/KAR]
$\text{C}_{44}\text{H}_{76}\text{O}_{12}\text{U}$	[133952-92-8]	tetrakis(2,6,6-trimethyl-2-methoxy-3,5-heptanedionato)uranium(IV)					
		SUB	(387–428)	160.7 ± 6.3	408		[1991SEV/KRA]
		SUB					
UF_6	[7783-81-5]	uranium hexafluoride					
V	V		(337–389)		29.5	352	[1953OLI/MIL]
$\text{C}_{10}\text{H}_{8}\text{F}_6\text{O}_5\text{V}$	[52081-94-4]	bis(1,1,1-trifluoro-2,4-pentanedionato)oxovanadium(IV)					
		SUB	(423–473)	119.7 ± 0.8			[1985MAT/KUW]
		SUB					
$\text{C}_{10}\text{H}_{10}\text{Cl}_2\text{V}$	[12083-48-6]	bis(cyclopentadienyl)vanadium dichloride					
		SUB		140.1 ± 7.4	298	ME	[2001DIO/PIE]
		SUB					
$\text{C}_{10}\text{H}_{10}\text{V}$	[1277-47-0]	bis(cyclopentadienyl)vanadium					
		SUB	(323–338)	57.4	330.5	A	[1987STE/MAL]
		SUB		58.6 ± 4.2	298		[1982PIL/SKI, 1971TEL/RAB]
$\text{C}_{10}\text{H}_{14}\text{O}_5\text{V}$	[3153-26-2]	bis(2,4-pentanedionato)oxovanadium(IV)					
		SUB		140.7 ± 4.0	493	DSC	[1987MUR/HIL2]
		SUB	(418–443)	91.5	430.5	A	[1987STE/MAL]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{10}\text{H}_{17}\text{NO}_5\text{V}$	[122343-53-7]	SUB		192.4	461	C	[1986JAM/PIL]
		SUB		140.4 ± 1.1	298	C	[1986JAM/PIL]
$\text{C}_{12}\text{H}_{12}\text{V}$	[12129-72-5]	SUB	bis(benzene)vanadium	29.0	370	DSC	[1989SHI/SHI]
$\text{C}_{12}\text{H}_{27}\text{O}_4\text{V}$	[1801-76-9]	V	Vanadic acid, tributyl ester (395–435)	90.2	410	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{27}\text{O}_4\text{V}$	[19120-62-8]	V	Vanadic acid, triisobutyl ester (383–418)	82.2	398	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{27}\text{O}_4\text{V}$	[17838-66-3]	V	Vanadic acid, tri- <i>sec</i> -butyl ester (378–413)	82.4	393	A	[1987STE/MAL]
$\text{C}_{12}\text{H}_{27}\text{O}_4\text{V}$	[1686-24-4]	V	Vanadic acid, tri- <i>tert</i> -butyl ester (348–385)	71.4	363	A	[1987STE/MAL]
$\text{C}_{14}\text{H}_{16}\text{V}$	[36955-47-2]	SUB	Benzene(ethylbenzene)vanadium (453–483)	69.5	468		[1972UMI/VAN]
$\text{C}_{15}\text{H}_{12}\text{F}_9\text{O}_6\text{V}$	[15695-88-2]	SUB	tris(1,1,1-trifluoro-2,4-pentanedionato)vanadium(III) (383–433)	118.4 ± 2.1			[1985MAT/KUW]
$\text{C}_{15}\text{H}_{18}\text{V}$	[36955-49-4]	SUB	Benzene(isopropylbenzene)vanadium (453–483)	83.7	468		[1972UMI/VAN]
$\text{C}_{15}\text{H}_{18}\text{BrNO}_5\text{V}$	[24263-16-9]	SUB	3-bromopyridinebis(acetylacetonato)oxovanadium	59.4	402	DSC	[1989SHI/SHI]
$\text{C}_{15}\text{H}_{19}\text{NO}_5\text{V}$	[24263-31-8]	SUB	Pyridinebis(acetylacetonato)oxovanadium	47.8	404	DSC	[1989SHI/SHI]
$\text{C}_{15}\text{H}_{21}\text{O}_6\text{V}$	[13476-99-8]	FUS	tris(2,4-pentanedionato)vanadium(III)	30.0	460	HSA	[1971BEE/LIN2]
$\text{C}_{15}\text{H}_{18}\text{NO}_5\text{V}$	[24263-13-6]	SUB	3-cyanopyridinebis(acetylacetonato)oxovanadium	102.9 ± 0.8	298	DSC	[1970MEL/MER, 1970MEL/MER2]
$\text{C}_{16}\text{H}_{18}\text{N}_2\text{O}_5\text{V}$	[24263-14-7]	SUB	4-cyanopyridinebis(acetylacetonato)oxovanadium	79.0	391	DSC	[1989SHI/SHI]
$\text{C}_{16}\text{H}_{20}\text{V}$	[36955-48-3]	SUB	bis(ethylbenzene)vanadium (453–483)	72.0	468		[1972UMI/VAN]
$\text{C}_{16}\text{H}_{21}\text{NO}_5\text{V}$	[24263-33-0]	SUB	4-methylpyridinebis(acetylacetonato)oxovanadium	56.9	421	DSC	[1989SHI/SHI]
$\text{C}_{18}\text{H}_{24}\text{V}$	[36472-53-4]	SUB	bis(isopropylbenzene)vanadium (453–483)	86.2	468		[1972UMI/VAN]
$\text{C}_{32}\text{F}_{16}\text{N}_8\text{OV}$	[128675-60-5]	SUB	(hexadecafluorophthalocyaninato)oxovanadium	220.5 ± 4.2	630	ME	[2008SEM/BAS, 2006SEM/BAS]
$\text{C}_{32}\text{H}_{16}\text{N}_8\text{OV}$	[13930-88-6]	SUB	Oxovanadium phthalocyanine (593–678)	223.0 ± 3.3	636	ME,MS	[2013TVE/GIR]
		SUB	(578–672)	194.6 ± 2.9	625	ME	[2008SEM/BAS, 2006SEM/BAS]
$\text{C}_{48}\text{H}_{48}\text{N}_4\text{OV}$	[84214-50-6]	SUB	Oxo[2,9,16,23-tetra- <i>tert</i> -butylphthalocyaninato] vanadium (315–440)	187.4 ± 12.6		ME	[2010PLY/BAS]
VF_5	[7783-72-4]	SUB	Vanadium(V) pentafluoride (252–293)	49.9	272	SPG	[1957CLA/EME]
		V	(293–318)	46.6	305	SPG	[1957CLA/EME]

W

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_6\text{O}_6\text{W}$	[14040-11-0]	Tungsten hexacarbonyl						
			FUS		26.39	444.63	DSC	[2013BER/CAN]
			FUS		27.2	439.2	DSC	[1976FAB/MAS]
			SUB		77.8 ± 0.3	298	C	[2013BER/CAN]
			SUB		77.7 ± 0.6		TE	[2005CHA/LAU]
			SUB	(265–288)	77.7	276	TE	[1995GAR/CHA]
			SUB	(265–288)	76.9 ± 1.6	298	TE	[1995GAR/CHA, 2013BER/CAN]
			SUB	(338–423)	74.9 ± 1.3			[1993BAE]
			SUB	(333–433)	74.4	348	A	[1987STE/MAL]
			SUB	(250–292)	78.9 ± 1.1	271	ME	[1980BOX/ERN, 1979DAA/ERN]
			SUB	(250–292)	78.3 ± 2.0	298	ME	[1980BOX/ERN, 2013BER/CAN]
			SUB		73.2	298	C	[1975ADE/BRO]
			SUB		76.5 ± 1.3			[1975PIL/WAR]
			SUB	(339–410)	69.7			[1952REZ/SHV]
			SUB		74.1			[1935HIE/ROM]
$\text{C}_7\text{H}_3\text{NO}_5\text{W}$	[15096-68-1]	Acetonitrile tungsten pentacarbonyl						
	SUB	(271–303)		98.1 ± 2.0		298		[1980CAV/ERN]
$\text{C}_8\text{H}_4\text{N}_2\text{O}_5\text{W}$	[39017-11-3]	Pyrazole(pentacarbonyl)tungsten						
	SUB	(287–327)		112.5 ± 2.4		307	ME	[1979DAA/ERN]
$\text{C}_8\text{H}_6\text{N}_2\text{O}_4\text{W}$	[16800-45-6]	bis(acetonitrile)tetracarbonyltungsten						
	SUB	(294–313)		131.0 ± 6.0		298		[1980CAV/ERN]
$\text{C}_8\text{H}_9\text{NO}_5\text{W}$	[15228-32-7]	Trimethylamine(pentacarbonyl)tungsten						
	SUB			89.1 ± 2.1				[1979DAA/ERN, 1980BOX, 1980BOX/ERN]
$\text{C}_8\text{H}_9\text{O}_5\text{PW}$	[26555-11-3]	Trimethylphosphine(pentacarbonyl)tungsten						
	SUB	(283–327)		93.8 ± 1.5		305	ME	[1980BOX/ERN]
$\text{C}_9\text{H}_4\text{N}_2\text{O}_5\text{W}$	[65761-19-5]	Pyrazine(pentacarbonyl)tungsten						
	SUB	(287–321)		108.4 ± 1.3		304	ME	[1979DAA/ERN]
$\text{C}_9\text{H}_4\text{N}_2\text{O}_5\text{W}$	[65761-20-8]	Pyridazine(pentacarbonyl)tungsten						
	SUB			106.4 ± 2.5				[1979DAA/ERN, 1980BOX, 1980BOX/ERN]
$\text{C}_9\text{H}_9\text{N}_3\text{O}_3\text{W}$	[16800-47-8]	tris(acetonitrile) tungsten tricarbonyl						
	SUB	(308–333)		103.4 ± 6.0		298		[1980CAV/ERN]
$\text{C}_{10}\text{H}_5\text{NO}_5\text{W}$	[14586-49-3]	Pyridine(pentacarbonyl)tungsten						
	SUB	(285–313)		109.7 ± 2.7		299	ME	[1979DAA/ERN]
$\text{C}_{11}\text{H}_8\text{O}_3\text{W}$	[12128-81-3]	Cycloheptatrienetungstetricarbonyl						
	SUB			92		298	C	[1977BRO/CON, 1982PIL/SKI]
$\text{C}_{11}\text{H}_{10}\text{Cl}_2\text{W}$	[12184-31-5]	Dichlorobis(η^5 -2,4-cyclopentadien-1-yl)tungsten						
	SUB			120.7 ± 8.6		298	ME	[2001DIO/PIE]
	SUB			104.6 ± 4.2				[1976TEL/RAB]
$\text{C}_{10}\text{H}_{10}\text{I}_2\text{W}$	[12184-31-5]	bis(η^5 -2,4-cyclopentadien-1-yl)diiodotungsten						
	SUB			104.6 ± 4.2				[1976TEL/RAB]
$\text{C}_{10}\text{H}_{11}\text{NO}_5\text{W}$	[31082-68-5]	Piperidine(pentacarbonyl)tungsten						
	SUB	(289–327)		106.4 ± 1.0		308	ME	[1979DAA/ERN]
$\text{C}_{10}\text{H}_{12}\text{W}$	[1271-33-6]	Dicyclopentadienyltungsten dihydride						
	SUB	(313–323)		84.6 ± 1.6			ME	[1990DIA/DIO]
	SUB			96.2 ± 2.1		298		[1982PIL/SKI, 1979CAL/DIA, 1976TEL/RAB]
$\text{C}_{12}\text{H}_{12}\text{W}$	[12089-23-5]	Dibenzene tungsten						
	SUB			106		298	ME	[1974ZOR/UMI]
$\text{C}_{12}\text{H}_{16}\text{W}$	[39333-53-4]	bis(η^5 -2,4-cyclopentadien-1-yl)dimethyltungsten						
	SUB			74.6 ± 4.2				[1980DEP]
$\text{C}_{12}\text{H}_{36}\text{N}_6\text{W}$	[68941-84-4]	Hexakis(dimethylamino)tungsten						
	SUB			164.0 ± 5		461	C	[1979ADE/CAV]
	SUB			89.1 ± 7		298	C	[1979ADE/CAV]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{12}\text{H}_{36}\text{N}_6\text{W}_2$	[54935-70-5]	Hexakis(dimethylamino)ditungsten	SUB		186.5 ± 5	451	C	[1979ADE/CAV]
			SUB		113.3 ± 6	298	C	[1979ADE/CAV]
				(340–364)	162.2 ± 8.3	352	ME	[1980BOX/ERN]
$\text{C}_{23}\text{H}_{15}\text{O}_5\text{PW}$	[26555-11-3]	Triphenylphosphine(pentacarbonyl)tungsten	SUB	(308–348)	1202 ± 6.6	328	ME	[1980BOX/ERN]
$\text{C}_{23}\text{H}_{15}\text{O}_8\text{PW}$	[23306-41-4]	Triphenylphosphite(pentacarbonyl)tungsten	SUB	(396–447)	63.7 ± 1.7	421	DSM	[1983CAS/PON]
WCl_4O	[13520-78-0]	Tungsten(IV) oxychloride	SUB	(290–343)	36.4			[1931RUF/ASC]
WF_6	[7783-82-6]	Tungsten hexafluoride	SUB		25.8	316		[1968NIS/NIK]
			V	(290–343)	26.1			[1931RUF/ASC]
			SUB	(1373–1473)	175.7	1423		[1956GLE/VOL]
Xe								
XeF_2	[13709-36-9]	Xenon difluoride	V	(553–663)	53.5	568		[1983HOU]
XeF_4	[13709-61-0]	Xenon tetrafluoride	V	(553–663)	60.0	568		[1983HOU]
Y								
$\text{C}_{15}\text{H}_3\text{F}_{18}\text{O}_6\text{Y}$	[18911-76-7]	tris(1,1,1,5,5-hexafluoro-2,4-pentanedionato)yttrium(III)	SUB	(310–365)	91.6 ± 8.5		ME	[1999ALI/MAL]
$\text{C}_{15}\text{H}_{15}\text{Y}$	[1294-07-1]	tris(cyclopentadienyl)yttrium	SUB		111.7 ± 3.5	298		[1982PIL/SKI, 1974DEV/RAB]
			SUB		99.2 ± 3.3			[1973DEV/BOR]
$\text{C}_{15}\text{H}_{21}\text{O}_6\text{Y}$	[15554-47-9]	tris(2,4-pentanedionato)yttrium(III)	FUS		48.1	375.2	DSC	[1971PRZ/BOS]
			SUB		98 ± 16			[1984TRE/BER]
$\text{C}_{33}\text{H}_{57}\text{O}_6\text{Y}$	[15632-39-0]	tris(2,2,6,6-tetramethylheptan-3,5-dionato)yttrium(III)	FUS		51.8	440		[2004FUL/RUZ2]
			SUB	(395–434)	141.6			[2004FUL/RUZ2]
			SUB	(358–387)	151.0 ± 0.8	372	TE	[2001COL/LAU]
			SUB	(357–377)	153.1 ± 0.4	366	TE	[2001COL/LAU]
			SUB	(403–433)	135.9		TG, DTA	[1997YUA/YAN]
			SUB		117.0			[1997SAN/ROC]
			SUB	(382–412)	126.0	397	T	[1996RAP/DES]
			SUB		117.0			[1993TOB/LAN]
			SUB		115.7			[1993TOB/LAN]
			SUB		136.1		GS	[1990YUH/KIK]
			SUB		167.3			[1990YUH/KIK, 1988ABE/OGA]
			SUB	(363–418)	156.9	388	ME	[1981AMA/SAT]
			SUB		130.8		ME	[1973BRU/CUR]
$\text{C}_{32}\text{H}_{40}\text{F}_{12}\text{O}_8\text{NaY}$	[12576-89-5]	Sodium tetrakis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)yttrate	V	(450–455)	89.5			[2004FUL/RUZ2]
			V		66.7		GS	[1990YUH/KIK]
			V		68.3			[1990YUH/KIK, 1988ABE/OGA]
			SUB	(418–503)	130 ± 3	460	T	[1993SYO/GOL]
Yb		tris(cyclopentadienyl)ytterbium	SUB	(463–503)	142 ± 12	483		[1993SYO/GOL]
$\text{C}_{15}\text{H}_{15}\text{Yb}$	[1295-20-1]							

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{15}\text{H}_{21}\text{O}_6\text{Yb}$	[14284-98-1]	tris(2,4-pentanedionato)ytterbium(III)	SUB		108.8 ± 3.5	298		[1982PIL/SKI, 1974DEV/RAB]
			SUB	(364–404)	96.2 ± 2.9			[1973DEV/BOR]
$\text{C}_{30}\text{H}_{30}\text{O}_6\text{Yb}$	[18323-96-1]	tris(1,1,2,2,3,3-heptafluoro-7,7-dimethyloctane-4,6-dionato)ytterbium(III)	SUB	(339–356)	93.3 ± 3.3	384		[1981SMI/MAR]
			SUB		154.8 ± 3.3		ME	[1971SWA/KAR]
$\text{C}_{33}\text{H}_{57}\text{O}_6\text{Yb}$	[15492-52-1]	tris(2,2,6,6-tetramethylpentane-2,4-dionato)ytterbium(III)	SUB		131.1 ± 2.7	298	DSC	[1999SAN/PET]
			SUB	(363–413)	156.9	388	ME	[1981AMA/SAT]
			SUB	(410–444)	133.3	427	BG	[1969SIC/DUB]
			V	(444–494)	82.8		BG	[1969SIC/DUB]
Zn								
$\text{C}_2\text{H}_6\text{Zn}$	[544-97-8]	Dimethyl zinc	TRS		1.06	210.3		
			FUS		6.83	230.1		[1996DOM/HEA, 1984SHE/NIS]
			V	(273–316)	29.5 ± 0.2			[2012GER/PAV]
			V		29.4 ± 0.4	298	C	[2012GER/PAV]
			V	(273–313)	30.4 ± 0.1			[1997BAE]
			V		29.5 ± 0.4			[1949CAR/HAR, 1982PIL/SKI]
			V	(248–318)	29.9	283	BG	[1946BAM/LEV]
$\text{C}_4\text{H}_{10}\text{Zn}$	[557-20-0]	Diethyl zinc	FUS	(18–273)	18.05	239.8		[1987GIB/GRI]
			V	(273–363)	38.0 ± 2.3	318	T	[2014GER/PAV]
			V		41.7 ± 0.5	298	C	[2014GER/PAV]
			V		37.9	298		[1983HOU2]
			V		40.2 ± 2.1			[1949CAR/HAR, 1982PIL/SKI]
			V	(250–391)	39.9	265		[1947STU]
			V		40.2		BG	[1946BAM/LEV]
$\text{C}_4\text{H}_{16}\text{Cl}_2\text{N}_8\text{S}_4\text{Zn}$	[28813-20-9]	<i>trans</i> -dichloro-tetrakis(thiourea)zinc(II)	SUB	(351–382)	90 ± 20			[1970ASH]
$\text{C}_6\text{H}_{14}\text{Zn}$	[628-91-1]	Dipropyl zinc	V	(313–370)	42.1 ± 0.4	341		[1984SOK/BAE2]
			V		45.6 ± 2.5			[1949CAR/HAR, 1982PIL/SKI]
			V		39.5			[1949HAT/SUT]
			V		40.3		BG	[1946BAM/LEV]
$\text{C}_6\text{H}_{14}\text{Zn}$	[625-81-0]	Diisopropyl zinc	V	(303–345)	41.8 ± 0.5	324		[1984SOK/BAE2]
			V	(310–338)	47.4	324		[1946THO]
$\text{C}_8\text{H}_{18}\text{Zn}$	[1119-90-0]	Dibutyl zinc	V	(305–379)	50.7 ± 0.3	342		[1984SOK/BAE3]
			V		54.4 ± 3.3			[1949CAR/HAR, 1982PIL/SKI]
			V		45.3			[1949HAT/SUT]
			V		42.9		BG	[1946BAM/LEV]
$\text{C}_8\text{H}_{18}\text{Zn}$	[7446-94-8]	Di- <i>sec</i> -butyl zinc	V	(287–372)	40.9 ± 0.2	330		[1984SOK/BAE3]
$\text{C}_8\text{H}_{18}\text{Zn}$	[1854-19-9]	Diisobutyl zinc	V	(288–372)	44.6 ± 0.2	330		[1984SOK/BAE3]
$\text{C}_8\text{H}_{18}\text{Zn}$	[16636-96-7]	Di- <i>tert</i> -butyl zinc	FUS		45.3	300		[1984SOK/BAE]
			V	(300–322)	49.3 ± 0.8	311		[1984SOK/BAE3]
$\text{C}_{10}\text{H}_{14}\text{O}_4\text{Zn}$	[14024-63-6]	bis(2,4-pentanedionato)zinc(II)						

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
$\text{C}_{10}\text{H}_{20}\text{N}_2\text{S}_4\text{Zn}$	[14324-55-1]	bis(diethyldithiocarbamate)zinc(II)	SUB		132.6 ± 8	298	C	[1985MUR/SAK, 1988RIB/PIL]
			SUB		117 ± 3			[1980SAC/HIL]
			SUB	(401–444)	115 ± 15	298	DSC,E	[2000DEA/SOU]
			SUB		143.1	422.5	A	[1987STE/MAL]
$\text{C}_{10}\text{H}_{22}\text{Zn}$	[14402-93-8]	Dipentyl zinc	V		142.7 ± 2.5		GC	[1976TAV/NEE]
			V		48.6			[1949HAT/SUT]
$\text{C}_{12}\text{H}_{26}\text{Zn}$	[13822-55-4]	Dihexyl zinc	V		56.2			[1949HAT/SUT]
$\text{C}_{14}\text{H}_{28}\text{N}_2\text{S}_4\text{Zn}$	[15694-56-1]	bis(dipropylidithiocarbamate)zinc(II)	SUB		147 ± 2	298	DSC,E	[1992DEC/AIR]
$\text{C}_{14}\text{H}_{30}\text{Zn}$	[14402-95-0]	Diheptyl zinc	V		62.3			[1949HAT/SUT]
$\text{C}_{18}\text{H}_{12}\text{N}_2\text{O}_2\text{Zn}$	[13978-85-3]	bis(8-hydroxyquinolinato)zinc(II)	SUB		183.2 ± 6.3	298	ME	[1994RIB/MAT]
			SUB	(473–513)	167.9 ± 6	493	ME	[1984BUR/MOR]
			SUB		178 ± 6	298		[1984BUR/MOR]
			SUB		107 ± 3	298	DSC,E	[1991DES/DES]
$\text{C}_{18}\text{H}_{36}\text{N}_2\text{S}_4\text{Zn}$	[36190-62-2]	bis(dibutylidithiocarbamate)zinc(II)	SUB		283 ± 2	298	DSC,E	[1994SOU/PIN]
$\text{C}_{20}\text{H}_{16}\text{N}_2\text{O}_2\text{Zn}$	[14128-73-5]	bis(8-hydroxy-2-methylquinolinato)zinc(II)	SUB	(437–556)	172.0 ± 5.0	541	ME	[1998RIB/MAT3]
			SUB	(437–556)	179.4 ± 5.0	298	ME	[1998RIB/MAT3]
			SUB		136		ME	[1973BRU/CUR]
$\text{C}_{22}\text{H}_{44}\text{N}_2\text{S}_4\text{Zn}$	[15337-18-5]	bis(dipentylidithiocarbamate)zinc(II)	SUB		127 ± 3	298	DSC,E	[2000DEA/SOU]
$\text{C}_{32}\text{F}_{16}\text{N}_8\text{Zn}$	[14320-04-8]	1,2,3,4,8,9,10,11,15,16,17,18,22,23,24,25-hexadecafluorophthalocyanine zinc(II)	SUB	(658–711)	236.4 ± 1.7	685	ME	[2008SEM/BAS, 2006SEM/BAS]
$\text{C}_{32}\text{H}_{16}\text{N}_8\text{Zn}$	[14320-04-8]	Zinc(II)phthalocyanine	SUB		207.5 ± 0.5		TGA	[2013SHA/SHT]
			V	(664–709)	202.3 ± 7.5	686	ME	[2008SEM/BAS, 2006SEM/BAS]
			V					
$\text{C}_{44}\text{H}_{28}\text{N}_4\text{Zn}$	[14074-80-7]	5,10,15,20-tetraphenylporphrine zinc(II)	FUS		54.9	770.4	DSC	[2010GAM/CAM]
			SUB	(555–567)	183 ± 3	559	ME	[2002PAT/CAM]
			SUB	(555–567)	196 ± 3	298	ME	[2002PAT/CAM]
			SUB		208 ± 4		GS	[2000PER/GOL]
			SUB	(563–663)	213 ± 3			[1994PER/NAN, 2002PAT/CAM]
			SUB		109	666	UV/Vis	[1971EDW/DOL, 2002PAT/CAM]
$\text{C}_{48}\text{H}_{36}\text{N}_4\text{O}_4\text{Zn}$	[57715-42-1]	(5,10,15,20-tetrakis(4-methoxyphenyl)porphyrinato)zinc	TRS		2.36	313		[2007PAT/CAM]
			SUB	(583–593)	223.7 ± 4.4	588	ME	[2007PAT/CAM]
			SUB	(583–593)	238.2 ± 4.4	298	ME	[2007PAT/CAM]
			FUS					
Br_2Zn	[7699-45-8]	Zinc bromide	SUB	(453–574)	15.5	675	C	[1964CUB/ELD]
			SUB		115.3 ± 2.1	514	ME,MS	[2014IIZ/SHI]

[Note: The authors of [2013SHA/SHT] refer to the value as the enthalpy of sublimation; while the authors of [2006SEM/BAS] refer to the value as the vaporization enthalpy.]

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	References
Cl_2Zn	V	(701–923)	118.6	812	BP	[1958BLO/BOC]	
	[7646-85-7] FUS	Zinc chloride		10.3	591	AC	[1964CUB/ELD]
	V	(695–826)	134.5	760			[1958BLO/WEL]
	V	(743–963)	126.6	851	BP	[1958BLO/BOC]	
F_2Zn	[7783-49-5] SUB	Zinc fluoride					
	(846–1047)	239.5 ± 7.7	946	TE	[2008BRU/LEL]		
	SUB (901–1125)	252.4	1015	ME	[1973BIE/EIC]		
Zr							
$\text{C}_{10}\text{H}_{10}\text{Cl}_2\text{Zr}$	[1291-32-3] SUB	bis(cyclopentadienyl)zirconium dichloride					
	(393–457)	108.5 ± 4.6	298	ME	[2001DIO/PIE]		
	SUB	100.3	425	A	[1987STE/MAL]		
	SUB	105.0 ± 2.1	298		[1982PIL/SKI, 1976KIR/TEL]		
	SUB	100.4 ± 1.7			[1977BAL/BAR]		
	SUB	96.7			[1969DIL/KIS]		
	SUB	103 ± 13	298		[1968KIS/DIL, 2001DIO/PIE]		
$\text{C}_{12}\text{H}_{16}\text{Zr}$	V (408–449)	87 ± 5				[2008ARU/MAT]	
	SUB	81.2 ± 2.1	298			[1982PIL/SKI, 1976KIR/TEL]	
$\text{C}_{12}\text{H}_{36}\text{N}_4\text{Zr}$	[175923-04-3] SUB	tetrakis(methylethylamino)zirconium(IV)			ME	[2009MON/NUT]	
[Note: The authors state in the paper that the compound is a liquid at room temperature. Figure 3 in the paper shows that the plot of $\ln P$ versus $1/T$ is linear over the entire temperature range. The authors refer to the enthalpy as the enthalpy of sublimation. We have taken the value to be the enthalpy of vaporization given the authors' statement that the compound is a liquid. The compound's melting point temperature is unknown.]							
$\text{C}_{16}\text{H}_{36}\text{O}_4\text{Zr}$	V	Tetra- <i>tert</i> -butoxy zirconium					
	(374–587)	56.6	389	A	[1987STE/MAL]		
$\text{C}_{20}\text{H}_4\text{F}_{24}\text{O}_8\text{Zr}$	[19530-02-0] SUB	tetrakis(1,1,1,5,5-hexafluoro-2,4-pentanedionato)zirconium(IV)					
	(333–363)	59.0		TGA	[2000FAH/BAR]		
	V (366–456)	48.6 ± 0.6	411	T	[1996MOR/SYS]		
$\text{C}_{20}\text{H}_{16}\text{F}_{12}\text{O}_8\text{Zr}$	[17499-68-2] SUB	tetrakis(1,1,1-trifluoro-2,4-pentanedionato)zirconium(IV)					
	(373–403)	94		TGA	[2000FAH/BAR]		
	SUB (368–398)	133.6 ± 2.0	383	SMZG	[1996MOR/SYS]		
	SUB (383–438)	118.7 ± 3.1	298	C	[1992RIB/FER2]		
	SUB (383–438)	126.4 ± 1.7		GS	[1985MAT/KUW]		
	SUB (383–438)	119.2 ± 1.7		GS	[1985MAT/KUW]		
$\text{C}_{20}\text{H}_{28}\text{O}_8\text{Zr}$	[17501-44-9] SUB	tetrakis(2,4-pentanedionato)zirconium(IV)					
	(413–443)	126		TGA	[2000FAH/BAR]		
	SUB (403–433)	138.8 ± 2	418	SMZG	[1996MOR/SYS]		
	SUB	125.8 ± 2.9	298	C	[1992RIB/FER2]		
	SUB	132.0 ± 6.8	463		[1987MUR/HIL2]		
	SUB	116 ± 34			[1984TRE/BER]		
$\text{C}_{20}\text{H}_{40}\text{O}_8\text{Zr}$	[228997-54-4] SUB	Zirconium(IV) pivalate					
	(403–482)	168.1 ± 8.2	443			[2006KUZ/ALT]	
$\text{C}_{20}\text{H}_{44}\text{O}_4\text{Zr}$	V	tetrakis(1,1-dimethylpropoxy)zirconium					
	(392–426)	68	407	A	[1987STE/MAL]		
$\text{C}_{20}\text{H}_{44}\text{O}_4\text{Zr}$	V	Tetra- <i>tert</i> -pentoxyzirconium					
	(361–435)	74.1	361	A	[1987STE/MAL]		
$\text{C}_{22}\text{H}_{20}\text{Zr}$	[51177-89-0] SUB	bis(cyclopentadienyl)diphenylzirconium					
		92.0 ± 4.2				[1976KIR/TEL]	
$\text{C}_{24}\text{H}_{52}\text{O}_4\text{Zr}$	V	tetrakis(1,1-dimethylbutoxy)zirconium					
	(406–449)	93.3	421	A	[1987STE/MAL]		

TABLE 17. Phase change enthalpies of organometallic and inorganic compounds—Continued

Molecular formula	CAS Registry Number	Compound				
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)
C ₂₄ H ₅₂ O ₄ Zr	V	tetrakis(1-methyl-1-ethylpropoxy)zirconium (423–460)	91.4	438	A	[1987STE/MAL]
C ₃₂ H ₄₀ F ₁₂ O ₈ Zr	[56044-44-1]	tetrakis(1,1,1-trimethyl-5,5,5-trifluoro-2,4-pentanedionato)zirconium(IV) (388–423)	134.9 ± 1.6	406	SMZG	[1996MOR/SYS]
	V	(394–425)	71 ± 1			[2008ARU/MAT]
C ₄₄ H ₇₆ O ₈ Zr	[18865-74-2]	tetrakis(2,2,6,6-tetramethylheptan-3,5-dionato)zirconium(IV) TRS	11.6	446		
Note: The value also includes the enthalpy of the solid/solid transition at 438 K.						
ZrCl ₄	FUS		5.7	616	DSC	[2008ZHE/MOR]
	TRS		4.86	387.1		
	TRS		16.38	430.3		[2004FUL/RUZZ]
	SUB	(411–463)	85.4	437	GS	[2008JEE/ARO]
	SUB	(413–443)	120		TGA	[2000FAH/BAR]
	SUB	(405–518)	98.9 ± 0.5	512	T	[1994TAN/BOS]
ZrF ₄	[7783-64-4]	Zirconium tetrafluoride				
	SUB	(685–828)	228	756	TE	[2011BRU/PIA]
	SUB	(685–828)	239 ± 2	298	TE	[2011BRU/PIA]
	SUB	(696–856)	240.0 ± 0.1	298	TE	[1994KON/HIL]
	SUB	796	243	298	MS	[1965SID/AKI, 1994KON/HIL]
	SUB	(983–1177)	241.1 ± 0.1	298		[1964FIS/PET, 1994KON/HIL]
	SUB	(681–913)	242.6 ± 1.7	298	MS	[1963AKA/BEL, 1994KON/HIL]
	SUB	(713–873)	232.3 ± 1.2	298		[1963GAL/TUM, 1994KON/HIL]
	SUB	(983–1081)	239.9 ± 0.2	298		[1958CAN/NEW, 1994KON/HIL]
	SUB	(890–1150)	241.8 ± 0.6	298	GS	[1954SEN/SNY2, 1994KON/HIL]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids

Molecular formula	CAS Registry Number	Compound							
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference	
CH_6BrN	[6876-37-5]	Methylammonium bromide	TRS		1.60	394.3	DSC	[1990GEN/LUB]	
			TRS		3.51	485.0			
			FUS		8.34	522.7			
CH_6BrN	[6876-37-5]	Methylammonium bromide	TRS		1.60	397.7	DSC	[1996DOM/HEA, 1990GEN/LUB] [1967TSA/GIL]	
			TRS		3.51	488.4			
			FUS		8.34	531.9			
			TRS		1.28	389.0			
$\text{CH}_6\text{C1N}$	[593-51-1]	Methylammonium chloride	TRS		1.78	220.4	[1996DOM/HEA, 1946AST/ZIE]		
			TRS		2.82	264.5			
$\text{C}_2\text{H}_8\text{BF}_4\text{N}$	[16970-97-1]	Dimethylammonium tetrafluoroborate	TRS		7.50	283.5	[1996DOM/HEA, 1992ISH/IWA]		
			FUS		3.50	375			
$\text{C}_2\text{H}_8\text{BrN}$	[593-55-5]	Ethylammonium bromide	TRS		12.07	369.9	DSC	[1996DOM/HEA, 1990GEN/LUB] [1967TSA/GIL]	
			FUS		8.52	439.5			
			TRS		11.30	363			
			FUS		8.37	434			
$\text{C}_2\text{H}_8\text{C1N}$	[506-59-2]	Dimethylammonium chloride	V	(429–533)	95.6	444	A,I	[1987STE/MAL, 1967KIS]	
			V	(533–569)	143.9	548	A,I	[1987STE/MAL, 1967KIS]	
$\text{C}_2\text{H}_8\text{C1N}$	[557-66-4]	Ethylammonium chloride	V	(382–480)	34.3	397	A,I	[1987STE/MAL, 1967KIS]	
$\text{C}_3\text{H}_8\text{N}_2$	[51283-80-8]	Dimethyl ammonium cyanide	V	(251–295)	49.0	280	A	[1987STE/MAL, 1973DIE/MAR]	
$\text{C}_3\text{H}_{10}\text{BrN}$	[4905-83-3]	Propylammonium bromide	FUS		13.3	464.6	DSC	[1996DOM/HEA, 1990GEN/LUB] [1967TSA/GIL]	
			FUS		12.51	456			
$\text{C}_4\text{H}_5\text{N}_3\text{O}_3$	[156204-43-2]	1-methylimidazolium nitrate	FUS		19.2	342.6	DSC	[2009EME/VER3]	
$\text{C}_4\text{H}_{10}\text{N}_2$	[28871-28-5]	Trimethylammonium cyanide	SUB	(219–236)	45.0	227.5	[1987STE/MAL]		
$\text{C}_4\text{H}_{11}\text{NO}_3$	[54300-24-2]	2-(hydroxyethyl)ammonium acetate	FUS		15.7	336	DSC	[2014PEN/UUS]	
$\text{C}_4\text{H}_{12}\text{BF}_4\text{N}$	[661-36-9]	Tetramethylammonium tetrafluoroborate	TRS		0.5	154	DSC	[1987ZAB/FER]	
			TRS		1.7	601			
$\text{C}_4\text{H}_{12}\text{BrN}$	[6274-12-0]	Diethylammonium bromide	TRS		2.2	283	DSC	[1997SHI/TAN]	
			TRS		1.6	329			
			TRS		2.3	342			
			FUS		10.4	481			
$\text{C}_4\text{H}_{12}\text{ClN}$	[3858-78-4]	Butylammonium chloride	V	(489–508)	62.1	498	A,I	[1987STE/MAL, 1967KIS]	
$\text{C}_4\text{H}_{12}\text{ClN}$	[75-57-0]	Tetramethylammonium chloride	TRS		9.91	536	DSC	[1996DOM/HEA, 1970MUR/BRE] [1996DOM/HEA, 1962CHA/WES]	
			TRS	(5–350)	0.18	75.76			
			TRS	(5–350)	0.28	184.45	AC		
$\text{C}_4\text{H}_{12}\text{ClN}$	[660-68-4]	Diethylamine hydrochloride	V	(513–558)	177.6	528	A, I	[1987STE/MAL, 1967KIS]	

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
$\text{C}_4\text{H}_{12}\text{ClNO}_4$	[18720-49-5]	<i>tert</i> -butylammonium perchlorate	TRS		2.3	327	DSC	[1996DOM/HEA, 1991ISH/IWA]
			TRS		4.73	394		
			FUS		7.04	414		
$\text{C}_4\text{H}_{12}\text{N}_2\text{O}_3$	[1941-24-8]	Tetramethylammonium nitrate	TRS		17.2	299.6	DSC	[2012VER/EME2] [1988MYL/SRI]
			TRS		1.7	292		
			TRS		17.2	300		
$\text{C}_5\text{H}_{14}\text{ClN}$	[142-65-4]	Pentylammonium chloride (20–280)	TRS		1.18	221.5	AC	[1996DOM/HEA, 1933SOU/MIL]
			TRS		0.13	246.5		
$\text{C}_6\text{H}_4\text{F}_9\text{N}_3\text{O}_3\text{S}$	[1851329-64-0]	1,2,4-triazolium pefuorobutanesulfonate	TRS		9.10	350.0	DSC	[2015LUO/JEN]
			TRS		1.93	360.4		
			TRS		20.9	454.1		
$\text{C}_6\text{H}_9\text{BrN}_2\text{O}_2$	[671793-14-9]	1-carboxyl-3-methylimidazolium bromide	TRS		23.0	450	DSC	[2014ZHA/SAL]
			FUS					
$\text{C}_6\text{H}_9\text{ClN}_2\text{O}_2$	[700370-07-6]	1-methyl-3-carboxymethylimidazolium chloride (403–463)	SUB		55.1 ± 1.7	433	TG-GS	[2011LIA/YAN]
$\text{C}_6\text{H}_{10}\text{N}_2\text{O}_2$	[205490-65-9]	1-methylimidazolium acetate	V		117.3 ± 0.5	298	C	[2012VIT/BER]
$\text{C}_6\text{H}_{11}\text{BF}_4\text{N}_2$	[143314-16-3]	1-ethyl-3-methylimidazolium tetrafluoroborate	V		128	515	MS	[2009DEY/LOV] [2009DEY/LOV]
			V		149	298		
$\text{C}_6\text{H}_{11}\text{BrN}_2$	[65039-08-9]	1-ethyl-3-methylimidazolium bromide	FUS		19.3	340.2	DSC	[2015EFI/PFU] [2007PAU/KAB]
			FUS	(5–370)	18.26	349.9		
$\text{C}_6\text{H}_{11}\text{BrN}_2\text{O}$	[97513-90-1]	1-hydroxy-3-methylimidazolium bromide	FUS		16.2	345	DSC	[2014ZHA/SAL]
$\text{C}_6\text{H}_{11}\text{ClN}_2$	[65039-09-0]	1-ethyl-3-methylimidazolium chloride	FUS		14.2	359.2	DSC	[2015EFI/PFU] [2013KIC/KEI] [2011KEI/KON] [2010SOL/KEI]
			FUS		15.35	360.7		
			FUS		15.1	360.1		
			FUS		15.2	360.8		
$\text{C}_6\text{H}_{11}\text{F}_6\text{N}_2\text{P}$	[155371-19-0]	1-ethyl-3-methylimidazolium hexafluorophosphate	FUS		17.86	332.8	DSC	[2003DOM/MAR]
$\text{C}_6\text{H}_{11}\text{IN}_2$	[35935-34-3]	1-ethyl-3-methylimidazoliumiodide	FUS		16.9	347.2	DSC	[2015EFI/PFU]
$\text{C}_6\text{H}_{10}\text{BrN}$	[7334-96-5]	Dipropylammonium bromide	TRS		5.9	293	DSC	[1997SHI/TAN]
			FUS		11.4	538		
$\text{C}_6\text{H}_{16}\text{N}_2\text{O}_2$	[3129-93-9]	Diisopropyl ammonium nitrite (288–299)	SUB		39.0	293.5	A	[1987STE/MAL, 1965MAR]
$\text{C}_7\text{H}_9\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	[174899-81-1]	1,3-dimethylimidazolium bis(trifluoromethylsulfonyl)imide	FUS		24.8	299.2	DSC	[2005TOK/HAY] [2013VER/ZAI] [2013VER/ZAI] [2013VER/ZAI] [2013VER/ZAI]
			V	(345–400)	119.9 ± 1.0	381		
			V	(345–400)	128.2 ± 1.0	298		
			V	(543–623)	104.3 ± 1.6	590		
			V	(543–623)	133.5 ± 1.6	298		
$\text{C}_7\text{H}_{10}\text{BrN}$	[1906-79-2]	1-ethylpyridinium bromide	FUS	(78–410)	12.77	391.3	AC	[2010TON/LIU2]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₇ H ₁₀ CIN	[3287-99-8]	Phenylmethylammonium chloride		4.24	416	DSC	[1996DOM/HEA, 1989VAN/WHI]
	TRS						
C ₇ H ₁₀ F ₆ NP	[103173-73-5]	<i>N</i> -ethylpyridinium hexafluorophosphate		22.44	374.28	AC	[2014LIU/TAN]
	FUS						
C ₇ H ₁₀ N ₂ O ₃	[49580-44-1]	Phenylmethylammonium nitrate		0.9	227	DSC	[1996DOM/HEA, 1989VAN/WHI]
	TRS						
C ₇ H ₁₁ BrN ₂ O ₂	[637743-77-2]	1,2-dimethyl-3-carboxylimidazolium bromide		13.6	421	DSC	[2014ZHA/SAL]
	FUS						
C ₇ H ₁₁ C1N ₂	[65039-10-3]	1-allyl-3-methylimidazolium chloride		11.25	292.7		
	TRS						
	FUS			0.52	307.5	DSC	[2012MEL/ROD]
C ₇ H ₁₁ N ₃ S	[331717-63-6]	1-ethyl-3-methylimidazolium thiocyanate					
	V			133	490	MS	[2009DEY/LOV]
	V			151	298	MS	[2009DEY/LOV]
C ₇ H ₁₃ BrN ₂	[85100-76-1]	1-propyl-3-methylimidazolium bromide					
	FUS	(5–370)		19.11	309.5	AC	[2014PAU/BLO]
	FUS (I)			13.5	314.7		
	FUS (II)			21.4	310.4	AC	[2007PAU/KAB]
C ₇ H ₁₄ F ₆ N ₂ O ₄ S ₂	[173274-74-3]	trimethyl(ethyl)ammonium bis(trifluoromethylsulfonyl)imide		11.3	383	DSC	[2016FAG/DES]
	FUS						
C ₈ H ₁₃ F ₆ N ₂ P	[216300-12-8]	1-propyl-3-methylimidazolium hexafluorophosphate		14.26	311.8	DSC	[2014MAX/SAN]
	FUS						
C ₈ H ₁₁ F ₆ N ₃ O ₄ S ₂	[174899-82-2]	1-ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide					
	FUS	(50–300)		21.3	271.4	AC	[2009SHI/OHT]
	FUS			24.8	255.2	DSC	[2005TOK/HAY]
	V			117 ± 2	458	ME-MS	[2016DUN/MOT]
	V	(423–498)		121.7 ± 0.7	459	ME-MS	[2015CHI/MED]
	V	(423–498)		130 ± 3	298	ME-MS	[2015CHI/MED]
	V	(500–750)		108.2 ± 1.9	625	DFSC	[2014AHR/BRI]
	V	(500–750)		126	298	DFSC	[2014AHR/BRI]
	V	(500–750)		110.0 ± 1.2	625	DFSC	[2014AHR/BRI]
	V	(500–750)		128.3	298	DFSC	[2014AHR/BRI]
	V	(362–395)		118.6 ± 1.0	378	QCM	[2013VER/ZAI]
	V	(362–395)		129.6 ± 1.0	298	QCM	[2013VER/ZAI]
	V	(480–570)		110.5 ± 1.5	520	TGA	[2012VER/RAL]
	V	(480–570)		119.4 ± 1.5	298	TGA	[2012VER/RAL]
	V	(445–483)		114.6 ± 0.4	464	QCM-ME	[2011ROC/LIM, 2012VER/RAL]
	V	(445–483)		121.2 ± 0.4	298	QCM-ME	[2011ROC/LIM, 2012VER/RAL]
	V	(362–395)		118.6 ± 1.0	378	QCM-LE	[2011VER/ZAI2, 2012VER/RAL]
	V	(362–395)		126.6 ± 1.0	298	QCM-LE	[2011VER/ZAI2, 2012VER/RAL]
	V	(359–436)		122.0 ± 3.0	398	TPD-MS	[2010LOV/DEY, 2011VER/ZAI2, 2012VER/RAL]
	V	(359–436)		123.8 ± 3.0	298	TPD-MS	[2010LOV/DEY, 2011VER/ZAI2, 2012VER/RAL]
	V	(545–600)		109.3 ± 1.7	573	TPD-UV	[2010WAN/LUO, 2011VER/ZAI2, 2012VER/RAL]
	V	(545–600)		122.7 ± 1.7	298	TPD-UV	[2010WAN/LUO, 2011VER/ZAI2, 2012VER/RAL]
	V	(473–523)		120.6 ± 2.1	496	TGA	[2008LUO/BAK, 2011VER/ZAI2, 2012VER/RAL]
	V	(473–523)		128.5 ± 2.1	298	TGA	[2008LUO/BAK, 2011VER/ZAI2, 2012VER/RAL]
	V	(499–538)		114.7 ± 6.8	517	GS	[2007EME/VER2, 2011VER/ZAI2, 2012VER/RAL]
	V	(499–538)		123.4 ± 6.8	298	GS	[2007EME/VER2, 2011VER/ZAI2, 2012VER/RAL]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
$\text{C}_8\text{H}_{11}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	V	(300–550)	119.0 ± 2.0	430	TPD-MS	[2007ARM/HUR, 2011VER/ZAI2, 2012VER/RAL]
	V	(300–550)	125.1 ± 2.0	298	TPD-MS	[2007ARM/HUR, 2011VER/ZAI2, 2012VER/RAL]
	V		110.4 ± 2.4	578	C	[2007SAN/CAN, 2011VER/ZAI2, 2012VER/RAL]
	V		121.6 ± 2.4	298	C	[2007SAN/CAN, 2011VER/ZAI2, 2012VER/RAL]
	V	(442–484)	118.8 ± 2.7	463	ME	[2006ZAI/KAB, 2011VER/ZAI2, 2012VER/RAL]
	V	(442–484)	125.4 ± 2.7	298	ME	[2006ZAI/KAB, 2011VER/ZAI2, 2012VER/RAL]
$\text{C}_8\text{H}_{11}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	[1025765-95-0]	1,2,3-trimethylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(380–409)	128.0 ± 1.0	298	QCM	[2013ZAI/YER]
$\text{C}_8\text{H}_{11}\text{N}_5$	[370865-89-7]	1-ethyl-3-methylimidazolium dicyanamide				
	V	(453–472)	156.4 ± 3.3	298	GS	[2010VER/EME]
$\text{C}_8\text{H}_{12}\text{BrN}$	[873-71-2]	1-propylpyridinium bromide				
	FUS	(78–410)	10.97	342.8	AC	[2010TON/LIU2]
$\text{C}_8\text{H}_{12}\text{BrN}$	[53916-94-2]	2-phenylethylammonium bromide				
	TRS		6.68	341	DSC	[1996DOM/HEA, 1989VAN/WHI]
$\text{C}_8\text{H}_{12}\text{C1N}$	[156-28-5]	2-phenylethylammonium chloride				
	TRS		7.59	389		
	TRS		3.23	432	DSC	[1996DOM/HEA, 1989VAN/WHI]
$\text{C}_8\text{H}_{12}\text{C1N}_2\text{O}_3$	[120375-47-5]	2-phenylethylammonium nitrate				
	TRS		7.28	320		
	TRS		1.05	370	DSC	[1996DOM/HEA, 1989VAN/WHI]
$\text{C}_8\text{H}_{12}\text{F}_6\text{NP}$	[1242154-97-7]	<i>N</i> -propylpyridiniumhexafluorophosphate				
	FUS		6.83	370.65	AC	[2014LIU/TAN]
$\text{C}_8\text{H}_{13}\text{F}_6\text{N}_2\text{O}_5\text{S}$	[854102-71-9]	Ethyl(2-hydroxyethyl)dimethylammonium bis(trifluoromethylsulfonyl)imide				
	TRS		0.82	262.48		
	TRS		9.98	233.02		
	FUS		2.79	279.16	DSC	[2013MEL/BOG]
	TRS		0.84	262.5		
	TRS		10.02	232.8		
	FUS		2.83	279.16	DSC	[2008DOM/MAR]
$\text{C}_8\text{H}_{14}\text{N}_4$	[370865-77-3]	<i>N</i> -methyl- <i>N</i> -methylprrolidinium dicyanamide				
	TRS		8.86	270.5		
	TRS		0.70	364.2		
	FUS		4.34	390.2	DSC	[2015CHI/GUN]
$\text{C}_8\text{H}_{15}\text{BF}_4\text{N}_2$	[174501-65-6]	1-methyl-3-butylimidazolium tetrafluoroborate				
	V		133 ± 2	500	Mass Spec	[2012DEY/HES]
	V		152 ± 2	298	Mass Spec	[2012DEY/HES]
$\text{C}_8\text{H}_{15}\text{BrN}_2$	[85100-77-2]	1-butyl-3-methylimidazolium bromide				
	FUS	(5–370)	22.88	351.4	AC	[2007PAU/KAB]
	FUS		23.7	350.8	DSC	[2007NIS/WAN]
$\text{C}_8\text{H}_{15}\text{C1N}_2$	[79917-90-1]	1-butyl-3-methylimidazolium chloride				
	FUS		25.4	341.9	DSC	[2015NEM/KOF]
	FUS		25.5	342.6	DSC	[2013KIC/KEI]
	FUS		22.9	344.6	DSC	[2013DIO/PIN]
	FUS		21.5	339	DSC	[2007NIS/WAN]
	FUS		14.06	341.9	DSC	[2004DOM/BOG]
$\text{C}_8\text{H}_{15}\text{F}_6\text{NO}_4\text{S}_3$	[321746-49-0]	Triethylsulfonium bis(trifluoromethylsulfonyl)imide				
	TRS		9.41	241.1		
	FUS		6.98	262.8	DSC	[2009DOM/KRO]
$\text{C}_8\text{H}_{15}\text{F}_6\text{N}_2\text{P}$	[174501-64-5]	1-methyl-3-butylimidazolium hexafluorophosphate				

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
$\text{C}_8\text{H}_{15}\text{IN}_2$	FUS	l-butyl-3-methylimidazolium iodide		20.9	282.3	DSC	[2015NEM/KOF]
	FUS (I)			13.1	285.8		
	FUS (II)			22.6	285.3	DSC	[2013END/NIS]
	FUS		(80–390)	20.67	281.8	AC	[2010ZHA/CUI]
	FUS			13.3	284.3	C	[2010END/KAT]
	FUS			12	282	DSC	[2008JIN/OHA]
	FUS			19.9	280.0	DSC	[2006TRO/CER]
	FUS		(5–310)	19.6	283.5	AC	[2004KAB/BLO]
	TRS			10.67	258.0		
	FUS			9.21	276.4	DSC	[2003DOM/MAR]
	FUS			13.2	281	DSC	[2003FOX/AWA]
$\text{C}_8\text{H}_{15}\text{N}_2$	[65039-05-6]	l-butyl-3-methylimidazolium iodide					
	FUS		(5–370)	18.99	291.9	AC	[2014PAU/BLO]
	FUS			19.0	291.9	AC	[2010KAB/PAU]
$\text{C}_8\text{H}_{15}\text{N}_3\text{O}_3$	[179075-88-8]	l-butyl-3-methylimidazolium nitrate					
	TRS		(5–370)	2.08	278.8		
	TRS		(5–370)	0.36	288.1		
	TRS		(5–370)	0.15	292.2		
$\text{C}_8\text{H}_{17}\text{BrN}_2$	[202256-55-1]	l-ethyl-4-aza-l-azoniabicyclo[2.2.2]octane bromide					
	TRS			1.1	348.6		
	FUS			13.4	467.3	DSC	[2012LAU/RUT]
$\text{C}_8\text{H}_{17}\text{F}_3\text{N}_2\text{O}_4\text{S}$	[805247-89-6]	<i>O</i> -ethyl- <i>N,N,N',N'</i> -tetramethylsouuronium trifluoromethanesulfonate					
	V			110 ± 1	425	Mass Spec	[2012DEY/HES]
	V			122 ± 1	298	Mass Spec	[2012DEY/HES]
$\text{C}_8\text{H}_{18}\text{BrN}$	[608140-09-6]	l-propyl-1-methylpyrrolidinium bromide					
	TRS			2.92	465.1		
	FUS			10.85	476.7	DSC	[2014ZAW/KRO]
$\text{C}_8\text{H}_{18}\text{F}_6\text{NP}$	[327022-58-2]	l-propyl-1-methylpyrrolidinium hexafluorophosphate					
	TRS			2.81	346.6		
	TRS			2.31	359.5		
$\text{C}_8\text{H}_{20}\text{BF}_4\text{N}$	[429-06-1]	Tetraethylammonium tetrafluoroborate					
	FUS			29.2	364.2	DSC	[2013BHA/GOH]
	TRS			11.7	336	DSC	[1987ZAB/FER]
$\text{C}_8\text{H}_{20}\text{BrN}$	[71-91-0]	Tetraethylammonium bromide					
	TRS			20.0	448.3		
	TRS			1.48	462.6	DSC	[1992XEN/CHE]
[Note: Authors of [1992XEN/CHE] state that the transition at 448.3 K is a transition to a plastic crystal.]							
$\text{C}_8\text{H}_{20}\text{BrN}$	FUS	Dibutylammonium bromide		20.3	447	DSC	[1996DOM/HEA, 1974BUR/VER]
	TRS			3.1	228		
	TRS			2.1	254		
	FUS			11.3	563	DSC	[1997SHI/TAN]
$\text{C}_8\text{H}_{20}\text{BrNO}_3$	[82150-35-4]	Tetraethylammonium bromate					
	FUS			30.5	319.2	DSC	[2013BHA/GOH]
$\text{C}_8\text{H}_{20}\text{ClN}$	[6287-40-7]	Dibutylammonium chloride					
	V		(553–563)	116.7	558	A	[1987STE/MAL, 1999DYK/SVO, 1967KIS]
$\text{C}_8\text{H}_{20}\text{F}_6\text{NP}$	FUS	Tetraethylammonium hexafluorophosphate					
				36.3	355.2	DSC	[2013BHA/GOH]
$\text{C}_8\text{H}_{20}\text{IN}$	[68-05-3]	Tetraethylammonium iodide					
	TRS			20.87	471.3	DSC	[1992XEN/CHE]
[Note: Authors of [1992XEN/CHE] state that the transition at 471.3 K is a transition to a plastic crystal.]							

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
$\text{C}_8\text{H}_{20}\text{INO}_3$		FUS		21.3	465		[1971LEV/KOH]
		FUS	Tetraethylammonium iodate	44.9	326.2	DSC	[2013BHA/GOH]
$\text{C}_8\text{H}_{20}\text{N}_2\text{O}_2$		FUS	Tetraethylammonium nitrite	27.7	331.2	DSC	[2013BHA/GOH]
		[1941-26-0]	Tetraethylammonium nitrate	26.4	388.2	DSC	[2013BHA/GOH]
$\text{C}_8\text{H}_{20}\text{N}_2\text{O}_3$		FUS		10.8	371.5	DSC	[2012VER/EME2]
		V	(493–504)	120.1 ± 0.6	498	QCM, ME	[2013ROC/SAN]
		V		125.3 ± 1.0	400	QCM	[2012ZAI/YER]
$\text{C}_9\text{H}_{10}\text{F}_6\text{N}_2\text{O}_4\text{S}_2$	[712354-97-7]	V		131.4	298	QCM	[2012ZAI/YER]
		V	(362–395)	121.4 ± 1.0	380	QCM	[2013VER/ZAI]
		V	(362–395)	129.6 ± 1.0	298	QCM	[2013VER/ZAI]
$\text{C}_9\text{H}_{13}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	[216299-72-8]	V	(480–570)	108.8 ± 2.6	546	TGA	[2013VER/ZAI]
		V	(480–570)	133.6 ± 2.6	298	TGA	[2013VER/ZAI]
		V	(343–390)	123.3 ± 1.0	363	QCM	[2016ZAI/VAR]
$\text{C}_9\text{H}_{13}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	[174899-88-8]	V	(343–390)	128.0 ± 1.4	298	QCM	[2016ZAI/VAR]
		FUS		20.4	262.6	DSC	[2008DOM/REK]
		V	(455–480)	109.2 ± 0.5	468	ME	[2012ROC/COU]
$\text{C}_9\text{H}_{13}\text{F}_6\text{N}_3\text{O}_5\text{S}_2$	[178631-01-1]	V	(455–480)	110.1 ± 0.5	460	ME	[2012ROC/COU]
		V	(455–480)	129.0 ± 1.0	298	ME	[2012ROC/COU]
		V	(331–392)	118.4 ± 1.0	365	QCM	[2013ZAI/YER2]
$\text{C}_9\text{H}_{14}\text{BF}_4\text{N}$	[203389-28-0]	V	(510–575)	109.9 ± 1.4	542	TGA	[2013ZAI/YER2]
		V		121.6 ± 1.0	298		[2013ZAI/YER2]
		V	(343–390)	146	510	MS	[2009DEY/LOV]
$\text{C}_9\text{H}_{14}\text{BrN}$	[120375-53-3]	V		167	298	MS	[2009DEY/LOV]
		TRS		10.8	357		
		TRS		0.11	402	DSC	[1996DOM/HEA, 1989VAN/WHI]
$\text{C}_9\text{H}_{14}\text{ClN}$	[30684-05-0]	TRS		6.22	343		
		TRS		4.24	368	DSC	[1996DOM/HEA, 1989VAN/WHI]
		FUS		20.7	393.3	DSC	[2012VER/ZAI]
$\text{C}_9\text{H}_{15}\text{BrN}_2\text{O}_2$	[1456904-69-0]	1,2-dimethyl-3-ethylacetateimidazolium bromide		24.5	423	DSC	[2014ZHA/SAL]
		FUS					
$\text{C}_9\text{H}_{15}\text{BrN}_2\text{O}_2$	[1309877-52-8]	1-carboxyl-3-butylimidazolium bromide		12.2	430	DSC	[2014ZHA/SAL]
		FUS					
$\text{C}_9\text{H}_{15}\text{ClN}_2\text{O}_2$	[1584745-11-8]	1,2-dimethyl-3-ethylacetateimidazolium chloride		23.0	434	DSC	[2014ZHA/SAL]
		FUS					
$\text{C}_9\text{H}_{15}\text{F}_3\text{N}_2\text{O}_3\text{S}$	[174899-66-2]	3-butyl-1-methylimidazolium,1,1,1-trifluoromethanesulfonate					
		TRS	(5–370)	0.02	120		
		FUS	(5–370)	19.43	291.0	AC	[2010PAU/KOH]
$\text{C}_9\text{H}_{16}\text{N}_2\text{O}_2$	[865627-64-1]	1-methyl-3-ethylimidazolium propanoate		111.1	438	TGA	[2014HON/LIU]
		V					

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
$C_9H_{16}N_2O_2$	[1005328-08-4]	1-propyl-3-methylimidazolium acetate	V	(418–438)	104.4	438	ITGA	[2014ZHA/WEI2]
			V	(418–438)	106.1	418	ITGA	[2014ZHA/WEI2]
			V	(418–438)	116.8	298	ITGA	[2014ZHA/WEI2]
$C_9H_{20}F_6NP$	[327022-58-2]	1-propyl-1-methylpiperidinium hexafluorophosphate	TRS		8.08	311.7		
			TRS		2.74	352.4		
			FUS		5.11	368.5	DSC	[2014MAX/SAN]
			FUS		13.12	487.7	DSC	[2014ZAW/KRO]
$C_9H_{20}BrN$	[93457-69-3]	1-butyl-1-methylpyrrolidinium bromide	FUS					
					24.0	335.2	DSC	[2013BHA/GOH]
$C_9H_{20}N_2S$	[4587-19-3]	Tetraethylammonium thiocyanate	FUS					
					27.2	347.2	DSC	[2013BHA/GOH]
$C_{10}H_{21}NO_3$	[17351-61-0]	Tetraethylammonium carbonate	FUS					
			TRS		1.62	237		
			FUS		6.48	257.2	DSC	[2013DOM/KRO]
			V	(440–448)	123.0 ± 1.0	423	QCM-LE	[2011EME/ZAI]
$C_{10}H_{11}N_5$	[666823-18-3]	1-ethyl-3-methylimidazolium tricyanomethanide	V	(440–448)	138.8 ± 5.0	298	QCM-LE	[2011EME/ZAI]
			TRS					
			FUS					
$C_{10}H_{11}F_{10}N_2O_2P$	[852616-00-3]	1-ethyl-3-methylimidazolium bis(pentafluoroethyl)phosphate	V		120 ± 2	400	Mass Spec	[2012DEY/HES]
			V		130 ± 2	298	Mass Spec	[2012DEY/HES]
$C_{10}H_{12}F_6N_2O_4S_2$	[1104525-90-7]	1-propylpyridinium bis(trifluoromethylsulfonyl)imide	V	(498–511)	124.1 ± 0.5	504	QCM, ME	[2013ROC/SAN]
			V		128.0 ± 1.0	398	QCM	[2012ZAI/YER]
			V		134.5	298	QCM	[2012ZAI/YER]
$C_{10}H_{12}F_6N_2O_4S_2$	[841251-37-4]	<i>N</i> -ethyl-3-methylpyridinium bis(trifluoromethylsulfonyl)imide	V	(400–430)	162 ± 35	419	UV/Vis	[2013OGU/AKA]
			V					
$C_{10}H_{13}F_6N_3O_4S_2$		1-cyclopropylmethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide	V	(350–398)	126.5 ± 1.0	374	QCM	[2016ZAI/VAR]
			V	(350–398)	131.9 ± 1.6	298	QCM	[2016ZAI/VAR]
$C_{10}H_{15}F_3N_2O_2$	[174899-94-6]	1-butyl-3-methylimidazolium trifluoroacetate	TRS		0.29	274		
			FUS		19.14	296.4	AC	[2008STR/PAU]
$C_{10}H_{15}F_6N_3O_4S_2$	[174899-83-3]	1-butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide	FUS		25.0	269.6	DSC	[2016XUE/GUR]
			FUS	(15–300)	23.8	270.4	AC	[2012SHI/OHT, 2007SHI/OHT]
			FUS	(5–370)	23.8	270.2	AC	[2008BLO/PAU]
			FUS		21.0	271	DSC	[2008JIN/OHA]
			FUS		22.43	367.7	DSC	[2006TRO/CER]
			FUS		20.9	270	DSC	[2005TOK/HAY]
			V	(502–567)	111.3 ± 1.6	534	ME,MS	[2014BRU/CIC]
			V	(453–507)	114.9 ± 1.2	489	ME,MS	[2014BRU/CIC]
			V	(398–458)	118.4 ± 1.5	427	ME,MS	[2014BRU/CIC]
			V	(400–430)	137 ± 11	418	UV/Vis	[2013OGU/AKA]
			V	(362–395)	124.4 ± 1.0	378	QCM	[2013VER/ZAI]
			V	(362–395)	132.4 ± 1.0	298	QCM	[2013VER/ZAI]
			V	(513–572)	113.5 ± 1.5	542	TGA	[2013VER/ZAI]
			V	(513–572)	137.8 ± 1.5	298	TGA	[2013VER/ZAI]
			V	(362–395)	124.4 ± 2.5	378	QCM	[2011ZAI/VER]
			V	(262–395)	132.4	298	QCM	[2011ZAI/VER]
			V	(458–517)	120 ± 5	487	ME	[2005PAU/ZAI]
$C_{10}H_{15}F_6N_3O_4S_2$	V	1-isobutyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide		(345–393)	126.0 ± 1.0	369	QCM	[2016ZAI/VAR]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(345–393)	131.4 ± 1.6	298	QCM	[2016ZAI/VAR]
$\text{C}_{11}\text{H}_{15}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$		1-sec-butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(346–393)	123.0 ± 1.0	369	QCM	[2016ZAI/VAR]
	V	(346–393)	128.4 ± 1.6	298	QCM	[2016ZAI/VAR]
$\text{C}_{10}\text{H}_{15}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	[169051-76-7]	1-propyl-2,3-dimethylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(423–513)	123.6 ± 1.8	468	ME-MS	[2015CHI/MED]
	V	(423–513)	135 ± 4	298	ME-MS	[2015CHI/MED]
$\text{C}_{10}\text{H}_{15}\text{F}_6\text{N}_3\text{O}_5\text{S}_2$	[1103335-97-2]	3-(2-methoxyethyl)-1,2-dimethylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(358–406)	122.5 ± 1.0	381	QCM	[2013ZAI/YER2]
	V	(512–575)	102.5 ± 1.2	543	TGA	[2013ZAI/YER2]
			132.4 ± 1.0	298		[2013ZAI/YER2]
$\text{C}_{10}\text{H}_{15}\text{N}_5$	[448245-52-1]	1-butyl-3-methylimidazolium dicyanamide				
	V		157.2 ± 1.1	298	GS	[2007EME/VER2]
$\text{C}_{10}\text{H}_{16}\text{F}_6\text{NP}$	[955127-11-4]	<i>N</i> -pentylpyridinium hexafluorophosphate				
	FUS		5.9	328.35	AC	[2014LIU/TAN]
$\text{C}_{10}\text{H}_{16}\text{BrN}$	[120375-52-2]	4-phenylbutylammonium bromide				
	TRS		9.60	353		
	TRS		1.40	393	DSC	[1996DOM/HEA, 1989VAN/WHI]
$\text{C}_{10}\text{H}_{16}\text{ClN}$	[30684-06-1]	4-phenylbutylammonium chloride				
	TRS		4.03	243		
	TRS		0.65	274		
	TRS		0.27	295	DSC	[1996DOM/HEA, 1989VAN/WHI]
$\text{C}_{10}\text{H}_{16}\text{ClN}$	[125652-55-3]	1-butyl-3-methylpyridinium chloride				
	FUS		28	384.5	DSC	[2011PER/ROD]
$\text{C}_{10}\text{H}_{16}\text{N}_2\text{O}_3$	[120375-45-3]	4-phenylbutylammonium nitrate				
	TRS		19.1	336	DSC	[1996DOM/HEA, 1989VAN/WHI]
$\text{C}_{10}\text{H}_{17}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	[905437-18-5]	1-ethyl-4-aza-1-azoniabicyclo[2.2.2]octane bis(trifluoromethylsulfonyl)imide				
	TRS		16.78	308.7		
	FUS		8.21	349.5	DSC	[2012LAU/RUT]
$\text{C}_{10}\text{H}_{17}\text{NO}_4\text{S}$	[885456-20-2]	<i>N</i> -butylpyridinium methanesulfate				
	V		144 ± 2	510	Mass Spec	[2012DEY/HES]
	V		164 ± 2	298	Mass Spec	[2012DEY/HES]
$\text{C}_{10}\text{H}_{18}\text{N}_2\text{O}_2$	[1374313-75-3]	1-methyl-3-propylimidazolium propanoate				
	V		115.8	443	TGA	[2014HON/LIU]
$\text{C}_{10}\text{H}_{18}\text{N}_2\text{O}_2$	[284049-75-8]	1-butyl-3-methylimidazolium acetate				
	V	(408–448)	127.8 ± 4.2	428	ITGA	[2015WEI/BU]
	V	(408–448)	134.8	298	ITGA	[2015WEI/BU]
$\text{C}_{10}\text{H}_{20}\text{N}_2\text{S}$	[507477-22-7]	1-butyl-1-methylpyrroldinium thiocyanate				
	TRS		8.68	245.3		
	FUS		2.06	295.4	DSC	[2011DOM/KRO]
$\text{C}_{10}\text{H}_{22}\text{BrN}$	[833446-30-3]	1-pentyl-1-methylpyrrolidinium bromide				
	TRS		1.95	326.9		
	FUS		8.97	431.6	DSC	[2014ZAW/KRO]
$\text{C}_{10}\text{H}_{24}\text{ClN}$	[23307-02-0]	Dipentylammonium chloride				
	TRS	(25–350)	13.1	243.8	AC	[1996DOM/HEA, 1988VAN/WHI]
$\text{C}_{10}\text{H}_{24}\text{ClN}$	[143-09-9]	Decylammonium chloride				
	TRS	(80–380)	6.39	307.5		
	TRS	(80–380)	5.85	325.0		
	TRS	(80–380)	2.04	327.3	AC	[2011DAN/DI]
$\text{C}_{10}\text{H}_{24}\text{F}_6\text{NP}$	[1020810-59-6]	Dibutyl(dimethyl)ammonium hexafluorophosphate				
	FUS		12.9	436.7	DSC	[2008BUS/LAH]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₁₁ H ₁₃ BF ₄ N ₂	[500996-04-3]	1-benzyl-3-methylimidazolium tetrafluoroborate					
	FUS			19.1	346.2	DSC	[2016SER/RIB]
C ₁₁ H ₁₃ F ₆ N ₂ P	[433337-11-2]	1-benzyl-3-methylimidazolium hexafluorophosphate					
	FUS			24.9	399.7	DSC	[2016SER/RIB]
C ₁₁ H ₁₄ F ₆ NPS	[1391349-92-0]	<i>N</i> -butylbenzothiazolium hexafluorophosphate					
	FUS			18.6	394.9	DSC	2015JIA/CAO
C ₁₁ H ₁₄ F ₆ N ₂ O ₄ S ₂	[187863-42-9]	1-butylpyridinium bis(trifluoromethylsulfonyl)imide					
	V			121.9 ± 0.8	507	QCM, ME	[2013ROC/SAN]
	V			131.1 ± 1.0	400	QCM	[2012ZAI/YER]
	V			138.1	298	QCM	[2012ZAI/YER]
C ₁₁ H ₁₅ F ₆ N ₃ O ₄ S ₂		1-methyl-3-cyclopentylimidazolium bis(trifluoromethylsulfonyl)imide					
	V	(351–398)		127.4 ± 1.0	374	QCM	[2016ZAI/VAR]
	V	(351–398)		133.3 ± 1.8	298	QCM	[2016ZAI/VAR]
C ₁₁ H ₁₇ F ₆ N ₃ O ₄ S ₂	[280779-53-5]	1-methyl-3-pentylimidazolium bis(trifluoromethylsulfonyl)imide					
	V	(352–404)		127.8 ± 1.0	382	QCM	[2013VER/ZAI]
	V	(352–404)		136.2 ± 1.0	298	QCM	[2013VER/ZAI]
	V	(523–603)		110.5 ± 1.9	561	TGA	[2013VER/ZAI]
	V	(523–603)		136.8 ± 1.9	298	TGA	[2013VER/ZAI]
C ₁₁ H ₁₇ F ₆ N ₃ O ₄ S ₂	[1138216-84-8]	1,3-dipropylimidazolium bis(trifluoromethylsulfonyl)imide					
	V	(453–490)		114.0 ± 0.3	472	ME	[2012ROC/COU]
	V	(453–490)		115.5 ± 0.3	460	ME	[2012ROC/COU]
	V	(453–490)		136.0 ± 0.9	298	ME	[2012ROC/COU]
C ₁₁ H ₁₇ F ₆ N ₃ O ₆ S ₂	[945996-17-8]	3-[2-(2-methoxyethoxy)ethyl]-1-methylimidazolium bis(trifluoromethylsulfonyl)imide					
	V	(353–408)		126.6 ± 1.2	378	QCM	[2013ZAI/YER2]
	V	(512–575)		113.6 ± 1.6	544	TGA	[2013ZAI/YER2]
	V			132.9 ± 1.2	298		[2013ZAI/YER2]
C ₁₁ H ₁₈ BrN	[120375-51-1]	5-phenylpentylammonium bromide					
	TRS			17.6	345	DSC	[1996DOM/HEA, 1989VAN/WHI]
C ₁₁ H ₁₈ ClN	[53429-15-5]	5-phenylpentylammonium chloride					
	TRS			19.5	359	DSC	[1996DOM/HEA, 1989VAN/WHI]
C ₁₁ H ₁₈ F ₁₂ N ₄ P ₂	[320749-62-0]	1,1'-(1,3-propanediyl) bis[3-methylimidazolium bis[hexafluorophosphate]]					
	FUS			38.26	416.8	DSC	[2011YAN/WAN]
C ₁₁ H ₁₉ BrN ₂ O ₂	[1584745-12-9]	1-ethylacetate-3-butylimidazolium bromide					
	FUS			13.3	366	DSC	[2014ZHA/SAL]
C ₁₁ H ₂₀ F ₆ N ₂ O ₄ S ₂	[223437-11-4]	1-butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide					
	V			136	470	MS	[2009DEY/LOV]
	V			152	298	MS	[2009DEY/LOV]
C ₁₁ H ₂₀ N ₂ O ₂	[914497-10-2]	1-butyl-3-methylimidazolium propanoate					
	V	(423–463)		118.3 ± 2.5	445	TGA	[2014TON/YAN]
	V	(423–463)		126.8	298	TGA	[2014TON/YAN]
C ₁₁ H ₂₀ N ₄	[370865-80-8]	1-butyl-1-methylpyrrolidinium dicyanamide					
	V			142	500	MS	[2009DEY/LOV]
	V			161	298	MS	[2009DEY/LOV]
C ₁₁ H ₂₂ F ₆ NOP		<i>N</i> -propyltropine hexafluorophosphate					
	FUS			9.66	425.3	DSC	[2015LU/SON]
C ₁₁ H ₂₂ N ₂ S	[1261240-27-0]	1-butyl-1-methylpiperidinium thiocyanate					
	TRS			15.27	274.2		
	FUS			3.02	304.3	DSC	[2011DOM/KRO3]
C ₁₂ H ₈ F ₃ N ₇	[1698918-20-5]	1-(cyanomethyl)-3-methylimidazolium 4,5-dicyano-2-(trifluoromethyl)imidazolidine					
	FUS			30.1	365.8	DSC	[2014OKU/RAM]
C ₁₂ H ₁₁ N ₅	[878027-73-7]	1-butyl-3-methylimidazolium tricyanomethanide					

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
	V	(405–453)		129.8 ± 1.4	428	QCM-LE	[2011EME/ZAI]
	V	(405–453)		143.2 ± 5.0	298	QCM-LE	[2011EME/ZAI]
C ₁₂ H ₁₃ F ₆ N ₃ O ₄ S ₂	[1448165-27-2]	1,2,3-trimethylbenzimidazolium bis(trifluoromethylsulfonyl)imide					
	V	(373–422)		139.7 ± 1.0	298	QCM	[2013ZAI/YER]
	V	(537–627)		139.7 ± 0.8	298	TGA	[2013ZAI/YER]
C ₁₂ H ₁₆ F ₆ NPS	[138824-71-2]	<i>N</i> -pentylbenzothiazolium hexafluorophosphate					
	FUS		30.2	412.3	DSC		[2015JIA/CAO]
C ₁₂ H ₁₆ F ₆ N ₂ O ₄ S ₂	[890532-45-3]	1-pentylpyridinium bis(trifluoromethylsulfonyl)imide					
	V		134.2 ± 1.0	401	QCM		[2012ZAI/YER]
	V		141.7	298	QCM		[2012ZAI/YER]
C ₁₂ H ₁₆ F ₆ N ₂ O ₄ S ₂	[475681-62-0]	1-butyl-4-methylpyridinium bis(trifluoromethylsulfonyl)imide					
	FUS		21.94	291.4	DSC		[2010DOM/KRO]
C ₁₂ H ₁₉ F ₆ N ₃ O ₄ S ₂	[382150-50-7]	1-methyl-3-hexylimidazolium bis(trifluoromethylsulfonyl)imide					
	FUS		61.9	271.5	DSC		[2011HUG/SYE]
	FUS		63.34	271.1	AC		[2006SHI/OHT]
	FUS (I)		62.78	272.0			
	FUS (II)		62.95	272.0			
	FUS (III)		63.20	272.0	AC		[2006BLO/PAU, 2006ARC, 2011HUG/SYE]
	FUS		62.20	272.1	DSC		
	V	(362–405)	131.6 ± 1.0	383	QCM		[2013VER/ZAI]
	V	(362–405)	140.1 ± 1.0	298	QCM		[2013VER/ZAI]
	V	(513–571)	118.0 ± 1.8	542	TGA		[2013VER/ZAI]
	V	(513–571)	142.3 ± 1.8	298	TGA		[2013VER/ZAI]
	V	(362–405)	131.6 ± 2.5	383	QCM		[2011ZAI/VER]
	V	(362–405)	140.1	298	QCM		[2011ZAI/VER]
C ₁₂ H ₁₉ F ₆ N ₃ O ₆ S ₂	[1485443-96-6]	3-[2-(2-methoxyethoxy)ethyl]-1,2-dimethylimidazolium bis(trifluoromethylsulfonyl)imide					
	V	(368–418)	128.7 ± 1.0	391	QCM		[2013ZAI/YER2]
	V	(513–575)	109.5 ± 2.0	544	TGA		[2013ZAI/YER2]
	V		140.4 ± 1.0	298			[2013ZAI/YER2]
C ₁₂ H ₂₀ BrN	[120375-49-7]	6-phenylhexylammonium bromide					
	TRS		14.4	334	DSC		[1996DOM/HEA, 1989VAN/WHI]
C ₁₂ H ₂₀ C1N	[120375-57-7]	6-phenylhexylammonium chloride					
	TRS		0.04	319			
	TRS		1.17	338			
	TRS		0.55	345	DSC		[1996DOM/HEA, 1989VAN/WHI]
C ₁₂ H ₂₀ ClN	[916730-40-0]	1-hexyl-3-methylpyridinium chloride					
	FUS		20	355.1	DSC		[2011PER/ROD]
C ₁₂ H ₂₀ F ₆ N ₂ O ₄ S ₂	[223437-11-4]	1-butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide					
	TRS	(15–300)	0.20	140			
	FUS	(15–300)	21.9	265.7	AC		[2012SHI/OHT]
	FUS		11	255	DSC		[2008JIN/OHA]
C ₁₂ H ₂₀ F ₁₂ N ₄ P ₂	[881682-25-3]	1,1'-(1,4-butanediyl) bis[3-methylimidazolium bis[hexafluorophosphate]]					
	FUS		28.24	384.7	DSC		[2011YAN/WAN2]
C ₁₂ H ₂₀ N ₂ O ₃	[120375-43-1]	6-phenylhexylammonium nitrate					
	TRS		21.7	325	DSC		[1996DOM/HEA, 1989VAN/WHI]
C ₁₂ H ₂₂ F ₆ NOP		<i>N</i> -butyltropine hexafluorophosphate					
	FUS		19.8	400.5	DSC		[2015LU/SON]
C ₁₂ H ₂₂ N ₂ O ₂	[1374313-76-4]	1-pentyl-3-methylimidazolium propanoate					
	V	(423–463)	121.5 ± 3.7	445	TGA		[2014TON/YAN]
	V	(423–463)	130.3	298	TGA		[2014TON/YAN]
C ₁₂ H ₂₂ N ₂ O ₂	[888320-05-6]	1-hexyl-3-methylimidazolium acetate					
	V	(408–448)	133.1 ± 4.2	428	ITGA		[2015WEI/BU]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
	V	(408–448)	140.7	298	ITGA	[2015WEI/BU]	
$C_{12}H_{23}ClN$	[64697-40-1]	1-octyl-3-methylimidazolium chloride					
		V		151 ± 10	455	TPD,MS	[2014LOV/ARM]
		V		166 ± 10	298	TPD,MS	[2014LOV/ARM]
$C_{12}H_{23}F_6N_2P$	[304680-36-2]	1-octyl-3-methylimidazolium hexafluorophosphate					
		FUS		12.9	272.3	DSC	[2015NEM/KOF]
$C_{12}H_{23}I_N$	[188589-28-8]	1-octyl-3-methylimidazolium iodide					
		V		149 ± 8	480	TPD,MS	[2014LOV/ARM]
		V		167 ± 8	298	TPD,MS	[2014LOV/ARM]
$C_{12}H_{28}BF_4N$	[338-38-5]	Tetrapropylammonium tetrafluoroborate					
		TRS		1.5	289		
		TRS		16.3	392		
		FUS		19.2	511	DSC	[1987ZAB/FER]
		TRS		14.6	397		
		FUS		14.2	512	DSC	[1970COK/AMB]
$C_{12}H_{28}BrN$	[1941-30-6]	Tetrapropylammonium bromide					
		TRS		17.0	382.2		
		TRS		0.35	395.8	DSC	[1992XEN/CHE]
$C_{12}H_{28}BrN$	[26204-55-7]	Dodecylammonium bromide					
		TRS	(78–400)	8.58	329.3		
		TRS	(78–400)	7.60	337.8		
		TRS	(78–400)	9.65	347.4	AC	[2010LIU/DI]
$C_{12}H_{28}ClN$	[929-73-7]	Dodecylammonium chloride					
		TRS	(79–396)	25.72	330.8		
		TRS	(79–396)	5.05	345.1	AC	
		FUS		7.83	456.7	DSC	[2009KON/DI]
$C_{12}H_{28}ClN$	[2296-13-1]	Dihexylammonium chloride					
		TRS	(25–350)	0.91	115.3		
		TRS	(25–350)	15.95	279.4	AC	[1996DOM/HEA, 1988VAN/WHI]
$C_{12}H_{28}ClNO_4$	[15780-02-6]	Tetrapropylammonium perchlorate					
		TRS		11.2	444.2		
		TRS		4.47	446.7		
		FUS		14.2	514.2	DSC	[1989NAK/KUW]
$C_{12}H_{28}I_N$	[631-40-3]	Tetrapropylammonium iodide					
		TRS		1.44	225.4		
		TRS		15.0	418.9	DSC	[1992XEN/CHE]
[Note: The authors of Ref. [1992XEN/CHE] state that the transition at 418.9 K is a transition to a plastic crystal.]							
		TRS		1.35	218		[1996DOM/HEA, 1973JOH/MAR]
		TRS		2.93	225		
		FUS		13.81	418		[1971LEV/KOH]
		TRS		32.6	419	DSC	[1970COK/AMB]
$C_{12}H_{28}N_2O_3$	[1941-28-2]	Tetrapropylammonium nitrate					
		TRS		8.97	330.8		
		FUS		Not given		DSC	[1989NAK/KUW]
$C_{13}H_{14}F_4N_2O_3S$		1-benzyl-3-methylimidazolium 1,1,2,2-tetrafluoroethanesulfonate					
		FUS		23.6	315.4	DSC	[2016SER/RIB]
$C_{13}H_{18}N_2O_3S$	[328090-25-1]	3-ethyl-1-methylimidazolium tosylate					
		FUS		20.49	322.3	DSC	[2010DOM/KRO2]
$C_{13}H_{18}F_6NPS$	[1330158-81-0]	<i>N</i> -hexylbenzothiazolium hexafluorophosphate					
		FUS		23.5	358.8	DSC	[2015JIA/CAO]
$C_{13}H_{18}F_6N_2O_4S_2$	[460983-97-5]	1-hexylpyridinium bis(trifluoromethylsulfonyl)imide					
		V		137.3 ± 1.0	406	QCM	[2012ZAI/YER]
		V		145.9	298	QCM	[2012ZAI/YER]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V			139	440	MS
	V			152	298	MS
C ₁₃ H ₁₉ F ₆ N ₃ O ₄ S ₂		1-methyl-3-cyclohexylmethylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(360–408)	134.1 ± 1.0	384	QCM	[2016ZAI/VAR]
	V	(360–408)	142.0 ± 2.4	298	QCM	[2016ZAI/VAR]
C ₁₃ H ₂₁ F ₆ N ₃ O ₄ S ₂	[749921-07-1]	1,3-dibutylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(455–488)	116.8 ± 0.4	472	ME	[2012ROC/COU]
	V	(455–488)	118.4 ± 0.4	460	ME	[2012ROC/COU]
	V	(455–488)	140.8 ± 0.9	298	ME	[2012ROC/COU]
C ₁₃ H ₂₁ F ₆ N ₃ O ₄ S ₂	[425382-14-5]	1-methyl-3-heptylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(364–406)	133.5 ± 1.0	385	QCM	[2013VER/ZAI]
	V	(364–406)	142.2 ± 1.0	298	QCM	[2013VER/ZAI]
	V	(503–603)	114.3 ± 1.9	553	TGA	[2013VER/ZAI]
	V	(503–603)	139.9 ± 1.9	298	TGA	[2013VER/ZAI]
C ₁₃ H ₂₁ F ₆ N ₃ O ₇ S ₂	[947407-82-1]	3-[2-[2-(2-methoxyethoxy)ethoxy]ethyl]-1-methylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(363–418)	133.6 ± 1.0	388	QCM	[2013ZAI/YER2]
	V	(519–582)	117.8 ± 1.8	551	TGA	[2013ZAI/YER2]
	V		142.4 ± 1.0	298		[2013ZAI/YER2]
C ₁₃ H ₂₂ BrN	[120375-50-0]	7-phenylheptylammonium bromide				
	TRS		9.3	332	DSC	[1996DOM/HEA, 1989VAN/WHI]
C ₁₃ H ₂₂ ClN	[120375-56-6]	7-phenylheptylammonium chloride				
	TRS		10.1	310	DSC	[1996DOM/HEA, 1989VAN/WHI]
C ₁₃ H ₂₄ F ₆ N ₂ O ₄ S ₂	[380497-19-8]	1-hexyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide				
	V		141	460	MS	[2009DEY/LOV]
	V		156	298	MS	[2009DEY/LOV]
C ₁₃ H ₂₄ N ₂ O ₂	[914497-11-3]	1-hexyl-3-methylimidazolium propanoate				
	V	(423–463)	127.2 ± 6.8	445	TGA	[2014TON/YAN]
	V	(423–463)	136.5	298	TGA	
C ₁₃ H ₂₆ F ₆ NOP		<i>N</i> -pentyltropine hexafluorophosphate				
	FUS		11.3	403.0	DSC	[2015LU/SON]
C ₁₃ H ₃₀ BrN	[2082-84-0]	Decyl(trimethyl)ammonium bromide				
	TRS		32.4	369.5	DSC	[1981IWA/OHN]
C ₁₄ H ₁₇ F ₆ N ₃ O ₄ S ₂	[956592-35-1]	1-hexyl-4-cyanopyridinium bis(trifluoromethylsulfonyl)imide				
	FUS		18.83	280.2	DSC	[2013DOM/SKI]
C ₁₄ H ₁₇ NO ₃ S	[78105-28-9]	1,4-dimethylpyridinium tosylate				
	FUS		30.89	424.8	DSC	[2009DOM/KRO]
C ₁₄ H ₂₀ F ₆ NPS	[1667725-22-5]	<i>N</i> -heptylbenzothiazolium hexafluorophosphate				
	FUS		20.1	359.3	DSC	[2015JIA/CAO]
C ₁₄ H ₂₃ F ₆ N ₃ O ₄ S ₂	[178631-04-4]	1-methyl-3-octylimidazolium bis(trifluoromethylsulfonyl)imide				
	FUS		57.7	249.8	DSC	[2011HUG/SYE]
	FUS		59.9	251.4	AC	[2007PAU/BLO]
	V	(372–402)	136.8 ± 1.0	387	QCM	[2013VER/ZAI]
	V	(372–402)	145.7 ± 1.0	298	QCM	[2013VER/ZAI]
	V	(513–571)	122.6 ± 1.0	542	TGA	[2013VER/ZAI]
	V	(513–571)	147.0 ± 1.0	298	TGA	[2013VER/ZAI]
	V	(372–402)	136.8 ± 2.5	387	QCM	[2011ZAI/VER]
	V	(372–402)	145.7	298	QCM	[2011ZAI/VER]
C ₁₄ H ₂₃ F ₆ N ₃ O ₇ S ₂	[1485443-99-9]	3-[2-[2-(2-methoxyethoxy)ethoxy]ethyl]-1,2-dimethylimidazolium bis(trifluoromethylsulfonyl)imide				
	V	(378–428)	134.4 ± 1.0	401	QCM	[2013ZAI/YER2]
	V		147.8 ± 1.0	298		[2013ZAI/YER2]
C ₁₄ H ₂₃ N ₅	[905972-84-1]	1-octyl-3-methylimidazolium dicyanamide				
	V		141	520	MS	[2009DEY/LOV]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
	V				162	298	MS	[2009DEY/LOV]
$C_{14}H_{24}BrN$	[120396-93-2]	8-phenyloctylammonium bromide	TRS		0.69	356		
			TRS		12.1	379	DSC	[1996DOM/HEA, 1989VAN/WHI]
$C_{14}H_{24}ClN$	[17734-26-8]	8-phenyloctylammonium chloride	TRS		7.02	332		
			TRS		2.85	347	DSC	[1996DOM/HEA, 1989VAN/WHI]
$C_{14}H_{24}ClN$	[864461-36-9]	1-octyl-3-methylpyridinium chloride	FUS		15	353.2	DSC	[2011PER/ROD]
$C_{14}H_{24}N_2O_3$	[120375-41-9]	8-phenyloctylammonium nitrate	TRS		23.0	334	DSC	[1996DOM/HEA, 1989VAN/WHI]
$C_{14}H_{26}F_6NOP$		<i>N</i> -hexyltropine hexafluorophosphate	FUS		15.2	362.3	DSC	[2015LU/SON]
$C_{15}H_{16}F_6N_2O_4S_2$	[1289382-58-6]	1-butylquinolinium bis(trifluoromethylsulfonyl)imide	FUS		44.14	329.1	DSC	[2010DOM/ZAW]
$C_{15}H_{16}F_6N_2O_4S_2$	[957763-47-2]	2-butylisoquinolinium bis(trifluoromethylsulfonyl)imide	FUS		46.1	321.0	DSC	[2011DOM/ZAW3]
$C_{15}H_{18}F_{12}N_6O_8S_4$	[844468-61-7]	3,3'-(1,3-propanediyl)bis[1-methylimidazolium] bis[(trifluoromethylsulfonyl)imide]	V		158	545	MS	[2009DEY/LOV]
			V		190	298	MS	[2009DEY/LOV]
$C_{15}H_{19}NO_3S$	[59229-09-3]	2,4,6-trimethylpyridinium tosylate	FUS		22.88	403.7	DSC	[2009DOM/KRO]
$C_{15}H_{20}F_{18}NP$	[851856-47-8]	1-butyl-1-methylpyrrolidinium tris(pentafluoroethyl)trifluorophosphate	V		138	450	MS	[2009DEY/LOV]
			V		152	298	MS	[2009DEY/LOV]
$C_{15}H_{21}F_6N_2O_3P$		<i>N</i> -(4-nitrobenzyl)tropine hexafluorophosphate	FUS		25.8	518.3	DSC	[2015LU/SON]
$C_{15}H_{22}F_6NOP$		<i>N</i> -benzyltropine hexafluorophosphate	FUS		22.5	427.0	DSC	[2015LU/SON]
$C_{15}H_{22}F_6NPS$	[1667725-23-6]	<i>N</i> -octylbenzothiazolium hexafluorophosphate	FUS		15.0	334.2	DSC	[2015JIA/CAO]
$C_{15}H_{22}N_2O_3S$	[410522-18-8]	1-butyl-3-methylimidazolium tosylate	FUS		16.35	330.2	DSC	[2010DOM/KRO3]
			TRS	(5–370)	0.19	152		
			FUS	(5–370)	19.9	342.5		
			FUS	(5–370)	21.6	343.9	AC	[2007STR/PAU]
			FUS	(315–470)	22.8		DSC	[2007STR/PAU]
$C_{15}H_{25}F_6N_2O_4S_2$	[1138216-85-9]	1,3-dipentylimidazolium bis(trifluoromethylsulfonyl)imide	V	(463–496)	123.6 ± 0.2	480	ME	[2012ROC/COU]
			V	(463–496)	126.5 ± 0.2	460	ME	[2012ROC/COU]
			V	(463–496)	150.6 ± 0.9	298	ME	[2012ROC/COU]
$C_{15}H_{26}BrN$	[120375-48-6]	9-phenylnonylammonium bromide	TRS		8.93	309	DSC	[1996DOM/HEA, 1989VAN/WHI]
$C_{15}H_{26}ClN$	[120375-55-5]	9-phenylnonylammonium chloride	TRS		10.0	320		
			TRS		7.59	331	DSC	[1996DOM/HEA, 1989VAN/WHI]
$C_{15}H_{28}F_6N_2O_4S_2$	[927021-43-0]	1-octyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide	V		145	470	MS	[2009DEY/LOV]
			V		161	298	MS	[2009DEY/LOV]
$C_{15}H_{32}F_{12}N_2P_2$	[1669342-29-3]	1,1'-(1,3-propanediyl)-bis(1-methylpiperdinium)dihexafluorophosphate	FUS		8.58	410.2	DSC	[2014HAD/VIL]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₁₅ H ₃₄ BrN	[1119-94-4]	Dodecyl(trimethyl)ammonium bromide	TRS		42.3	370.4	DSC	[1981IWA/OHN]
C ₁₅ H ₃₄ C1N	[112-00-5]	Dodecyl(trimethyl)ammonium chloride	TRS		29.6	357.2	DSC	[1981IWA/OHN]
C ₁₆ H ₁₉ F ₁₈ N ₂ P	[713512-19-7]	1-methyl-3-hexylimidazolium tris(pentafluoroethyl)trifluorophosphate	V		131 ± 2	430	Mass Spec	[2012DEY/HES]
			V		143 ± 2	298	Mass Spec	[2012DEY/HES]
C ₁₆ H ₂₀ F ₆ NP	[12260-70-7]	Dibenzyl(dimethyl)ammonium hexafluorophosphate	FUS		37.6	491.0	DSC	[2008BUS/LAH]
C ₁₆ H ₂₁ F ₆ N ₃ O ₄ S ₂	[1447958-52-2]	1-octyl-3-cyanopyridinium bis(trifluoromethylsulfonyl)imide	FUS		17.71	287.9	DSC	[2013DOM/SKI]
C ₁₆ H ₂₄ F ₆ NO ₂ P		<i>N</i> -(3-methoxybenzyl)tropine hexafluorophosphate	FUS		29.8	439.3	DSC	[2015LU/SON]
C ₁₆ H ₂₇ F ₆ N ₃ O ₄ S ₂	[433337-23-6]	1-methyl-3-decylimidazolium bis(trifluoromethylsulfonyl)imide	TRS	(5–370)	2.51	249		
			FUS	(5–370)	28.67	277.3	AC	[2016PAU/BLO]
			V	(380–410)	142.5 ± 1.0	395	QCM	[2013VER/ZAI]
			V	(380–410)	152.1 ± 1.0	298	QCM	[2013VER/ZAI]
			V	(493–552)	125.2 ± 1.0	522	TGA	[2013VER/ZAI]
			V	(493–552)	147.5 ± 1.0	298	TGA	[2013VER/ZAI]
			V	(380–410)	142.5 ± 2.5	394	QCM	[2011ZAI/VER]
			V	(380–410)	152.1	298	QCM	[2011ZAI/VER]
C ₁₆ H ₂₈ BrN	[120396-92-1]	10-phenyldecylammonium bromide	TRS		14.2	323		
			TRS		16.0	369	DSC	[1996DOM/HEA, 1989VAN/WHI]
C ₁₆ H ₂₈ ClN	[120375-54-4]	10-phenyldecylammonium chloride	TRS		17.7	357		
			TRS		7.2	368	DSC	[1996DOM/HEA, 1989VAN/WHI]
C ₁₆ H ₂₈ ClN	[29529-26-8]	1-decyl-3-methylpyridinium chloride	FUS		14	352.3	DSC	[2011PER/ROD]
C ₁₆ H ₃₀ Br ₂ N ₂	[51523-43-4]	1,2-bis(methyldiallylammonium)ethane dibromide	TRS		3.01	371	DSC	[1996DOM/HEA, 1974BUR/VER]
C ₁₆ H ₃₁ F ₆ N ₂ P	[219947-93-0]	1-dodecyl-3-methylimidazolium hexafluorophosphate	FUS		27.2	326.2	DSC	[2015NEM/KOF]
			FUS		25.88	326.3	DSC	[2014MAX/SAN]
C ₁₆ H ₃₂ N ₂ O ₄ S	[445473-58-5]	1-methyl-3-methylimidazolium octylsulfate	V		161 ± 2	510	Mass Spec	[2012DEY/HES]
			V		181 ± 2	298	Mass Spec	[2012DEY/HES]
C ₁₆ H ₃₄ F ₁₂ N ₂ P ₂	[741188-72-7]	1,1'-(1,4-butanediyl)-bis(1-methylpiperidinium)dihexafluorophosphate	FUS		6.10	376.5	DSC	[2014HAD/VIL]
C ₁₆ H ₃₆ BF ₄ N	[429-42-5]	Tetrabutylammonium tetrafluoroborate	TRS		7.9	335		
			FUS		12.1	429	DSC	[1987ZAB/FER]
			TRS		6.7	341		
			FUS		10.5	439	DSC	[1970COK/AMB]
C ₁₆ H ₃₆ BrN	[24447-58-3]	Diocylammonium bromide	TRS		25	303	DSC	[2005STE/VOI]
C ₁₆ H ₃₆ BrN	[1643-19-2]	Tetrabutylammonium bromide	TRS		15.1	367.0		
			TRS		0.38	379.2		
			FUS		14.8	393.9	DSC	[1992XEN/CHE]
			TRS		0.07	293		

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
$\text{C}_{16}\text{H}_{36}\text{C1N}$	[1112-67-0]	TRS		1.63	367	DSC	[1996DOM/HEA, 1974BUR/VER]
		TRS		0.34	383		
	FUS			16.15	395		
	TRS			14.2	372		
	FUS			15.5	395		
$\text{C}_{16}\text{H}_{36}\text{C1N}$	[2296-14-2]	Tetrabutylammonium chloride		20.5	314	DSC	[1970COK/AMB]
	TRS						
$\text{C}_{16}\text{H}_{36}\text{C1NO}_4$	[10081-31-9]	Diocetylammonium chloride		37	294	DSC	[2005STE/VOI]
		TRS	(25–350)	33.61	297.7		
$\text{C}_{16}\text{H}_{36}\text{C1NO}_4$	[1923-70-2]	Diocetylammonium perchlorate		37	296	DSC	[2005STE/VOI]
		TRS		37	296		
$\text{C}_{16}\text{H}_{36}\text{F}_6\text{NP}$	[3109-63-5]	Tetrabutylammonium hexafluorophosphate		1.78 5.80 13.02 10.5 17.2	300.4 356.1 520.9 366 517	DSC	[2014MAX/SAN] [1970COK/AMB]
		TRS					
		TRS					
		FUS					
		TRS					
$\text{C}_{16}\text{H}_{36}\text{F}_6\text{P}_2$	[111928-21-3]	Tetrabutylphosphonium hexafluorophosphate		1.84	265.0	DSC	[2014MAX/SAN]
		TRS		13.18	497.5		
$\text{C}_{16}\text{H}_{36}\text{IN}$	[24447-59-4]	Diocetylammonium iodide		21	271	DSC	[2005STE/VOI]
		TRS					
$\text{C}_{16}\text{H}_{36}\text{IN}$	[311-28-4]	Tetrabutylammonium iodide		29.4 8.96 27.1 9.18 28.0 9.2 28.0 9.6	394.0 420.6 300.3 419.2 392 418 392 419	DSC	[1992XEN/CHE] [1989NAK/KUW] [1971LEV/KOH] [1970COK/AMB]
		TRS					
		FUS					
		TRS					
		FUS					
		TRS					
		FUS					
		TRS					
$\text{C}_{16}\text{H}_{36}\text{N}_2\text{O}_3$	[1941-27-1]	Tetrabutylammonium nitrate		0.2 14.3 0.21 15.6 0.2 14.6	361.4 391.1 362.3 389.3 366 392	DSC	[2012VER/EME2] [1989NAK/KUW] [1970COK/AMB]
		TRS					
		FUS					
		TRS					
		FUS					
		TRS					
$\text{C}_{16}\text{H}_{36}\text{N}_2\text{O}_3$	[10081-30-8]	Diocetylammonium nitrate		53.5	318	DSC	[2005STE/VOI]
		TRS					
$\text{C}_{16}\text{H}_{38}\text{Br}_2\text{N}_2$	[1067-62-5]	1,4-bis(triethylammonium)butane dibromide		50.2	518	DSC	[1996DOM/HEA, 1974BUR/VER]
		TRS					
$\text{C}_{17}\text{H}_{20}\text{F}_6\text{N}_2\text{O}_4\text{S}_2$	[1263302-30-2]	1-hexylquinolinium bis(trifluoromethylsulfonyl)imide		63.54	317.2	DSC	[2011DOM/ZAW2]
		FUS					
$\text{C}_{17}\text{H}_{20}\text{F}_6\text{N}_2\text{O}_4\text{S}_2$	[957763-49-4]	2-hexylisoquinolinium bis(trifluoromethylsulfonyl)imide		2.45 58.64	193.8 327.2	DSC	[2011DOM/ZAW]
		TRS					
$\text{C}_{17}\text{H}_{23}\text{NO}_3\text{S}$	[1256080-48-4]	1-butyl-3-methylpyridinium tosylate		11.34	315.8	DSC	[2010LET/RAM]
		FUS					

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
$\text{C}_{17}\text{H}_{29}\text{F}_6\text{N}_2\text{O}_4\text{S}_2$	[1394227-32-7]	1,3-dihexylimidazolium bis(trifluoromethylsulfonyl)imide	V	(463–496)	138.4 ± 0.3	480	ME	[2012ROC/COU]
			V	(463–496)	131.5 ± 0.3	460	ME	[2012ROC/COU]
			V	(463–496)	157.4 ± 0.9	298	ME	[2012ROC/COU]
$\text{C}_{17}\text{H}_{30}\text{F}_{12}\text{N}_2\text{P}_2$	FUS	1-(1-pyridinium-yl-hexyl)-6-methylpiperidinium dihexafluorophosphate		28.19	386.7	DSC	[2015YAN/WAN]	
$\text{C}_{17}\text{H}_{36}\text{N}_2\text{S}$	[3674-54-2]	Tetrabutylammonium thiocyanate	TRS		10.5	322.4		
			FUS		8.4	398.0	DSC	[2015YER/ZAI]
	V		(417–437)		151.4 ± 0.4	425	QCM	[2015YER/ZAI]
	V		(417–437)		164.1 ± 1.3	298	QCM	[2015YER/ZAI]
$\text{C}_{17}\text{H}_{38}\text{BrN}$	[1119-97-7]	Tetradecyl(trimethyl)ammonium bromide	TRS		46.9	372.3	DSC	[1981IWA/OHN]
$\text{C}_{17}\text{H}_{38}\text{ClN}$	[4574-04-3]	Tetradecyl(trimethyl)ammonium chloride	TRS		37.4	364.5	DSC	[1981IWA/OHN]
$\text{C}_{17}\text{H}_{40}\text{Br}_2\text{N}_2$	[7128-82-7]	1,5-bis(triethylammonium)pentane dibromide	TRS		24.48	465	DSC	[1996DOM/HEA, 1974BUR/VER]
$\text{C}_{18}\text{H}_{24}\text{BF}_4\text{N}$	[1020810-53-0]	Dimethyldi(3-methylbenzyl)ammonium tetrafluoroborate	FUS		26.6	442.2	DSC	[2008BUS/LAH]
$\text{C}_{18}\text{H}_{24}\text{BF}_4\text{N}$	[1020810-56-3]	Dimethyldi(4-methylbenzyl)ammonium tetrafluoroborate	FUS		32.0	478.7	DSC	[2008BUS/LAH]
$\text{C}_{18}\text{H}_{24}\text{F}_6\text{NP}$	[1020810-70-1]	Dimethyldi(4-methylbenzyl)ammonium hexafluorophosphate	FUS		42.5	491.0	DSC	[2008BUS/LAH]
$\text{C}_{18}\text{H}_{31}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	[404001-48-5]	1-methyl-3-dodecylimidazolium bis(trifluoromethylsulfonyl)imide	V	(392–425)	147.0 ± 1.0	408	QCM	[2013VER/ZAI]
			V	(392–425)	158.0 ± 1.0	298	QCM	[2013VER/ZAI]
			V	(503–562)	126.0 ± 1.1	533	TGA	[2013VER/ZAI]
			V	(503–562)	149.5 ± 1.1	298	TGA	[2013VER/ZAI]
			V	(392–425)	147.0 ± 2.5	408	QCM	[2011ZAI/VER]
			V	(392–425)	158.0	298	QCM	[2011ZAI/VER]
$\text{C}_{18}\text{H}_{32}\text{ClN}$	[33735-41-0]	1-dodecyl-3-methylpyridinium chloride	FUS		37	360.8	DSC	[2011PER/ROD]
$\text{C}_{18}\text{H}_{36}\text{F}_6\text{N}_2\text{O}_4\text{S}_2$	[210230-40-3]	Tetrabutylammonium bis(trifluorosulfonyl)imide	FUS		22.6	365	DSC	[2016FAG/DES]
$\text{C}_{18}\text{H}_{38}\text{F}_{12}\text{N}_2\text{P}_2$	[956157-19-0]	1,1'-(1,4-butanediyl)-bis(1-ethylpiperidinium)dihexafluorophosphate	FUS		6.10	396.3	DSC	[2014HAD/VIL]
$\text{C}_{18}\text{H}_{42}\text{Br}_2\text{N}_2$	[7072-43-7]	1,6-bis(triethylammonium)hexane dibromide	TRS		18.83	495	DSC	[1996DOM/HEA, 1974BUR/VER]
$\text{C}_{19}\text{H}_{24}\text{F}_6\text{N}_2\text{O}_4\text{S}_2$	[868671-34-5]	<i>N</i> -octylquinolinium bis(trifluoromethylsulfonyl)imide	FUS		62.91	321.5	DSC	[2012ZAW/DOM]
$\text{C}_{19}\text{H}_{27}\text{NO}_3\text{S}$	[1256080-49-5]	1-hexyl-3-methylpyridinium tosylate	FUS		10.09	329.3	DSC	[2011DOM/KRO2, 2009DOM/KRO]
$\text{C}_{19}\text{H}_{33}\text{F}_6\text{N}_3\text{O}_4\text{S}_2$	[1453194-49-4]	1,3-diheptylimidazolium bis(trifluoromethylsulfonyl)imide	V	(483–503)	130.8 ± 0.5	493	QCM	[2014ROC/COU]
			V	(483–503)	164.2 ± 1.1	298	QCM	[2014ROC/COU]
$\text{C}_{19}\text{H}_{42}\text{ClN}$	[112-02-7]	Hexadecyl(trimethyl)ammonium chloride	TRS		41.8	368.4	DSC	[1981IWA/OHN]
$\text{C}_{19}\text{H}_{42}\text{BrN}$	[7322-37-4]	<i>N</i> -butyl- <i>N,N,N</i> -isopentylammonium bromide	TRS		4.0	342		
			FUS		15.9	395	DSC	[1970COK/AMB]
$\text{C}_{19}\text{H}_{42}\text{BrN}$	[57-09-0]	Hexadecyl(trimethyl)ammonium bromide						

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
	TRS			51.5	376.1	DSC	[1981IWA/OHN]
$C_{20}H_{35}F_6N_3O_4S_2$	[404001-49-6]	1-methyl-3-tetradecylimidazolium bis(trifluoromethylsulfonyl)imide					
		TRS	(5–370)	4.25	295.5		
		FUS	(5–370)	45.8	308.8	AC	[2016PAU/BLO]
		V	(498–528)	140.6	513	ME	[2016PAU/BLO]
		V	(400–432)	152.5 ± 1.0	416	QCM	[2013VER/ZAI]
		V	(400–432)	164.3 ± 1.0	298	QCM	[2013VER/ZAI]
		V	(513–571)	132.7 ± 1.0	542	TGA	[2013VER/ZAI]
		V	(513–571)	157.1 ± 1.0	298	TGA	[2013VER/ZAI]
$C_{20}H_{36}ClN$	[102-43-2]	1-tetradecyl-3-methylpyridinium chloride				DSC	[2011PER/ROD]
		FUS					
$C_{20}H_{44}BrN$	[24447-61-8]	Didecylammonium bromide				DSC	[2005STE/VOI]
		TRS		38	330		
$C_{20}H_{44}BrN$	[866-97-7]	Tetrapentylammonium bromide				DSC	[1992XEN/CHE]
		FUS		36.6	374.0		[1970COK/AMB]
		FUS		41.4	376		
$C_{20}H_{44}ClN$	[4965-17-7]	Tetrapentylammonium chloride				DSC	[1970COK/AMB]
		TRS		2.8	281		
		FUS		1.3	295		
$C_{20}H_{44}ClN$	[2486-84-2]	Didecylammonium chloride				DSC	[2005STE/VOI]
		TRS		40	321		[1996DOM/HEA, 1988VAN/WHI]
		TRS	(25–350)	50.59	321.5	AC	
[Note: Numerical value contains the enthalpy for the transition that occurred at 320 K.]							
$C_{20}H_{44}ClNO_3$	[619671-14-6]	Didecylammonium chlorate				DSC	[2005STE/VOI]
		TRS		59	328.7		
$C_{20}H_{44}ClNO_4$	[4328-09-0]	Tetrapentylammonium perchlorate				DSC	[1989NAK/KUW]
		TRS		16.3	362.1		
		FUS		36.1	389.2		
		TRS		36.8	364.2		
		FUS		18.0	391.2		[1978GOR/RAO]
$C_{20}H_{44}ClNO_4$	[68963-42-8]	<i>N</i> -butyl- <i>N,N</i> -dipentyl- <i>N</i> -hexylammonium perchlorate				DSC	[1978GOR/RAO]
		FUS		26.4	355.7		
$C_{20}H_{44}ClNO_4$	[68963-44-0]	<i>N,N</i> -dibutyl- <i>N,N</i> -dihexylammonium perchlorate				DSC	[1978GOR/RAO]
		FUS		34.3	355.2		
$C_{20}H_{44}ClNO_4$	[68963-45-1]	<i>N,N,N</i> -trihexyl- <i>N</i> -ethylammonium perchlorate				DSC	[1978GOR/RAO]
		FUS		18.8	320.2		
$C_{20}H_{44}ClNO_4$	[68963-47-3]	<i>N,N,N</i> -tripropyl- <i>N</i> -undecylammonium perchlorate				DSC	[1978GOR/RAO]
		FUS		25.1	335.2		
$C_{20}H_{44}ClNO_4$	[68963-48-4]	<i>N,N</i> -diethyl- <i>N,N</i> -dioctylammonium perchlorate				DSC	[1978GOR/RAO]
		FUS		50.2	333.2		
$C_{20}H_{44}ClNO_4$	[68963-49-5]	<i>N,N,N</i> -triethyl <i>N</i> -tetradecylammonium perchlorate				DSC	[1978GOR/RAO]
		TRS		12.6	338		
		FUS		50.2	425.2		
$C_{20}H_{44}ClNO_4$	[68963-50-8]	<i>N,N</i> -dimethyl- <i>N</i> -ethyl- <i>N</i> -hexadecylammonium perchlorate				DSC	[1978GOR/RAO]
		TRS		5.4	352.7		
		TRS		18.4	359.2		
		FUS		19.2	429.2		
$C_{20}H_{44}ClNO_4$	[2452-81-5]	Tetraisopentylammonium perchlorate				DSC	[1989NAK/KUW]
		TRS		6.60	371.2		
		FUS		22.4	386.2		

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
C ₂₀ H ₄₄ ClNO ₄	[59785-31-8]	TributylOctylammonium perchlorate	FUS		28.9	338.2	DSC	[1978GOR/RAO]
C ₂₀ H ₄₄ IN	[2498-20-6]	Tetrapentylammonium iodide	TRS		16.7	404.6		
			FUS		38.7	412.1	DSC	[1992XEN/CHE]
			TRS		15.2	394.2		
			FUS		38.2	407.2	DSC	[1989NAK/KUW]
			TRS		13.8	403		
			FUS		37.7	410		[1971LEV/KOH]
			TRS		17.2	405		
			FUS		39.3	412	DSC	[1970COK/AMB]
C ₂₀ H ₄₄ IN	[5424-26-0]	Tetraisopentylammonium iodide	TRS		23.9	391.2		
			FUS		16.0	420.7	DSC	[1989NAK/KUW]
			TRS		28.9	345		
			TRS		5.9	352		
			FUS		15.9	422	DSC	[1970COK/AMB]
C ₂₀ H ₄₄ IN	[68963-51-9]	N-methyl-N,N-dipropyl-N-tridecylammonium iodide	FUS		37.7	345.2	DSC	[1978GOR/RAO]
C ₂₀ H ₄₄ N ₂ O ₃	[682-02-0]	Tetrapentylammonium nitrate	TRS		11.5	355.7		
			FUS		29.4	383.7	DSC	[1989NAK/KUW]
			TRS		12.6	366		
			FUS		26.5	387	DSC	[1970COK/AMB]
C ₂₀ H ₄₄ N ₂ O ₃	[22377-07-7]	Didecylammonium nitrate	TRS		64	333	DSC	[2005STE/VOI]
C ₂₀ H ₄₆ Br ₂ N ₂	[51523-40-1]	1,8-bis(triethylammonium)octane dibromide	TRS		12.13	438	DSC	[1996DOM/HEA, 1974BUR/VER]
C ₂₁ H ₃₇ F ₆ N ₃ O ₄ S ₂	[220749-78-0]	1,3-dioctylimidazolium bis(trifluorosulfonyl)imide	V	(483–505)	126.1 ± 0.6	494	QCM	[2014ROC/COU]
			V	(483–505)	161.6 ± 1.2	298	QCM	[2014ROC/COU]
C ₂₁ H ₄₄ N ₂ S	[3475-60-3]	Tetrapentylammonium thiocyanate	TRS		22.6	315		
			FUS		19.7	322.7	DSC	[1970COK/AMB]
			V	(422–454)	159.0	437	QCM	[2015YER/ZAI]
C ₂₁ H ₄₂ F ₆ N ₃ O ₄ S ₂	[1031250-01-7]	Hexadecyl(trimethyl)ammonium bis(trifluorosulfonyl)imide	TRS		29.4	319		
			FUS		25.6	335	DSC	[2016FAG/DES]
C ₂₂ H ₄₆ BrN	[1120-02-1]	Octadecyl(trimethyl)ammonium bromide	TRS		64.9	378.3	DSC	[1981IWA/OHN]
C ₂₂ H ₄₆ ClN	[112-03-8]	Octadecyl(trimethyl)ammonium chloride	TRS		42.7	374.7	DSC	[1981IWA/OHN]
C ₂₂ H ₄₆ IN	[4292-25-5]	Octadecyl(trimethyl)ammonium iodide	TRS		46.9	393.9	DSC	[1981IWA/OHN]
C ₂₂ H ₃₉ F ₆ N ₃ O ₄ S ₂	[404001-50-9]	1-methyl-3-hexadecylimidazolium bis(trifluoromethylsulfonyl)imide	TRS	(5–370)	5.34	305.5		
			FUS	(5–370)	51.28	319.25	AC	[2016PAU/BLO]
			V	(508–533)	147.1	520	ME	[2016PAU/BLO]
			V	(405–445)	156.3 ± 1.0	425	QCM	[2013VER/ZAI]
			V	(405–445)	169.0 ± 1.0	298	QCM	[2013VER/ZAI]
			V	(513–571)	136.4 ± 1.4	542	TGA	[2013VER/ZAI]
			V	(513–571)	160.8 ± 1.4	298	TGA	[2013VER/ZAI]
			V	(405–445)	156.3 ± 2.5	425	QCM	[2011ZAI/VER]

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound				
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method
	V	(405–445)	169.0	298	QCM	[2011ZAI/VER]
$C_{22}H_{40}C_1N$	[14586-40-4]	1-hexadecyl-3-methylpyridinium chloride	40	383.0	DSC	[2011PER/ROD]
	FUS					
$C_{22}H_{48}N_2O_3$	[937368-81-5]	Didecyl(dimethyl)ammonium nitrate	9.76	304.8	DSC	[2013MEL/BOG]
	FUS			304.8	DSC	[2007DOM/LUG]
	FUS		9.88			
$C_{22}H_{50}Br_2N_2$	[51523-41-2]	1,10-bis(triethylammonium)decanedibromide	0.84	444	DSC	[1996DOM/HEA, 1974BUR/VER]
$C_{23}H_{32}F_6FeNO_4S_2$	[1440426-03-8]	1-propyl-2,3,4,5,6,7,8,9-octamethylferrocenium bis(trifluoromethylsulfonyl)imide	36.5	NA	QCM	[2015BER/MOC]
	FUS					
$C_{23}H_{41}F_6N_3O_4S_2$	[1453194-50-7]	1,3-dinonylimidazolium bis(trifluoromethylsulfonyl)imide	128.7 ± 1.2	508	QCM	[2014ROC/COU]
	V	(493–523)				
	V	(493–523)	169.0 ± 1.6	298	QCM	[2014ROC/COU]
$C_{24}H_{34}F_6FeNO_4S_2$	[1209012-06-5]	1-butyl-2,3,4,5,6,7,8,9-octamethylferrocenium bis(trifluoromethylsulfonyl)imide	26.5	NA		[2015BER/MOC]
$C_{24}H_{43}F_6N_3O_4S_2$	[404001-51-0]	1-methyl-3-octadecylimidazolium bis(trifluoromethylsulfonyl)imide	71.5	327.1	AC	[2009SHI/OHT]
	FUS	(14–350)				
[Note: The authors of [2009SHI/OHT] report that value contains contribution from a solid-to-solid transition.]						
$C_{24}H_{44}ClN$	V	(410–452)	162.4 ± 1.0	430	QCM	[2013VER/ZAI]
	V	(410–452)	175.6 ± 1.0	298	QCM	[2013VER/ZAI]
	V	(546–621)	138.5 ± 1.4	582	TGA	[2013VER/ZAI]
	V	(546–621)	166.8 ± 1.4	298	TGA	[2013VER/ZAI]
	V	(410–452)	162.4 ± 2.5	430	QCM	[2011ZAI/VER]
	V	(410–452)	175.6	298	QCM	[2011ZAI/VER]
$C_{24}H_{44}ClN$	[119250-87-2]	1-octadecyl-3-methylpyridinium chloride	28	385.4	DSC	[2011PER/ROD]
$C_{24}H_{52}BF_4N$	FUS					
	TRS		19.7	334		
$C_{24}H_{52}BrN$	FUS		19.2	367	DSC	[1970COK/AMB]
	TRS					
$C_{24}H_{52}BrN$	[24447-63-0]	Didodecylammonium bromide	49	346	DSC	[2005STE/VOI]
$C_{24}H_{52}BrN$	TRS					
	TRS		1.2	148		
	TRS		0.2	167		
	TRS		3.43	196		
	TRS		6.71	305		
	TRS		11.97	315		
	FUS		15.97	374.9	DSC	[1992XEN/CHE]
	TRS		6.7	305		
$C_{24}H_{52}ClN$	TRS		12.1	315		
	FUS		15.9	377	DSC	[1970COK/AMB]
$C_{24}H_{52}ClN$	[2486-85-3]	Didodecylammonium chloride	48	338	DSC	[2005STE/VOI]
$C_{24}H_{52}ClNO_3$	TRS					
	TRS		70	334.7	DSC	[2005STE/VOI]
$C_{24}H_{52}ClNO_4$	[869093-50-5]	Didodecylammonium perchlorate	72	335	DSC	[2005STE/VOI]
$C_{24}H_{52}ClNO_4$	TRS					
	TRS		23.3	331.7		
	TRS		5.88	354.7		
	TRS		2.02	366.2		
	FUS		16.8	377.2	DSC	[1989NAK/KUW]
$C_{24}H_{52}ClNO_4$	TRS	(300–387)	22.99	333.6		

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound		Method	Reference
		Enthalpy	Temperature range		
$C_{24}H_{52}IN$	[2138-24-1]	TRS	(300–387)	5.84	355.9
		TRS	(300–387)	2.66	367.5
		FUS	(300–387)	16.35	379.2
		TRS		23.0	335
		TRS		5.85	358
		TRS		2.51	369
		FUS		18.4	383
				DSC	[1970COK/AMB]
					[1996DOM/HEA, 1973AND/GOR]
					[1992XEN/CHE]
$C_{24}H_{52}IN$	[16912-19-9]	TRSS		28.7	345.1
		TRSS		5.71	352.3
		FUS		16.62	378.7
		TRSS		28.8	340.7
		TRSS		5.76	349.2
		FUS		17.7	375.7
		TRSS		24.3	344
		TRSS		5.86	352
		FUS		17.15	378
					[1971LEV/KOH]
$C_{24}H_{52}N_2O_3$	[682-03-1]	Didodecylammonium iodide			
		TRS		38.5	338
				DSC	[2005STE/VOI]
		TRSS		24.8	317.2
		FUS		17.0	335.2
		TRSS		22.2	323
		FUS		17.6	345
				DSC	[1970COK/AMB]
					[1989NAK/KUW]
					[1992XEN/CHE]
$C_{24}H_{52}N_2O_3$	[22377-08-8]	Didodecylammonium nitrate			
		TRSS		77	339
				DSC	[2005STE/VOI]
		V	(491–513)	125.4 ± 0.4	502
		V	(491–513)	166.8 ± 1.1	298
				QCM	[2014ROC/COU]
				QCM	[2014ROC/COU]
					[1970COK/AMB]
					[1989NAK/KUW]
					[1992XEN/CHE]
$C_{25}H_{54}BrN$	[21396-56-5]	Docosyl(trimethyl)ammonium bromide			
		TRSS		78.7	382.6
				DSC	[1981IWA/OHN]
		TRSS		29.2	335
		TRSS		7.5	356
		FUS		7.5	381
				DSC	[1970COK/AMB]
					[1989NAK/KUW]
					[1992XEN/CHE]
					[1996DOM/HEA, 1973AND/GOR]
$C_{25}H_{54}ClNO_4$	[5536-16-3]	<i>N</i> -heptyl- <i>N,N,N</i> -trihexylammonium perchlorate			
		TRSS		16.3	362
		FUS		24.3	376
				DSC	[1970COK/AMB]
					[1989NAK/KUW]
					[1992XEN/CHE]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
$C_{26}H_{56}N_2O_3$	[5187-77-9]	<i>N</i> -heptyl- <i>N,N,N</i> -trihexylammonium nitrate			
		FUS		33.5	345
				DSC	[1970COK/AMB]
					[1989NAK/KUW]
					[1992XEN/CHE]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
$C_{26}H_{56}IN$	[4312-63-4]	<i>N,N</i> -dihexyl- <i>N,N</i> -diheptylammonium perchlorate			
		TRSS		14.2	365
		FUS		25.9	378
				DSC	[1970COK/AMB]
					[1989NAK/KUW]
					[1992XEN/CHE]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
$C_{27}H_{58}BrN$	[24298-17-7]	<i>N</i> -propyl- <i>N,N,N</i> -triocetylammonium bromide			
		FUS		44.4	351
				DSC	[1970COK/AMB]
					[1989NAK/KUW]
					[1992XEN/CHE]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
					[1996DOM/HEA, 1973AND/GOR]
$C_{28}H_{60}BrN$	[4368-51-8]	Tetraheptylammonium bromide			
		TRS		4.1	336.4

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	
$\text{C}_{28}\text{H}_{60}\text{ClNO}_4$	[4312-65-6]	FUS		34.5	360.1	DSC	[2000ABD/WEI]
		TRS		5.4	343		
		FUS		36.0	369	DSC	[1970COK/AMB]
		TRS		4.6	356		
		TRS		4.6	365		
$\text{C}_{28}\text{H}_{60}\text{IN}$	[3535-83-9]	TRS		4.2	388		
		FUS		31.8	399	DSC	[1970COK/AMB]
		TRS		9.20	358		
		TRS		2.51	392		
		FUS		36.40	396		[1971LEV/KOH]
		TRS		9.60	356		
$\text{C}_{32}\text{H}_{68}\text{BF}_4\text{P}$	[374683-55-3]	TRS		3.10	391		
		FUS		37.20	396	DSC	[1970COK/AMB]
		V		180 \pm 3	490	Mass Spec	[2012DEY/HES]
		V		198 \pm 3	298	Mass Spec	[2012DEY/HES]
		FUS		22.6	291.7	DSC	[1989NAK/KUW]
$\text{C}_{32}\text{H}_{68}\text{C1NO}_4$	[25423-85-2]	TRS		4.68	343.2		
		FUS		46.5	407.2	DSC	[1989NAK/KUW]
		TRS		3.54	354.7		
$\text{C}_{32}\text{H}_{68}\text{IN}$	[16829-91-7]	FUS		48.7	401.2	DSC	[1989NAK/KUW]
		TRS					
		TRS		2.33	374.2		
$\text{C}_{32}\text{H}_{68}\text{N}_2\text{O}_3$	[33734-52-0]	FUS		41.0	383.7	DSC	[1989NAK/KUW]
		TRS					
		TRS		53.8	365		
$\text{C}_{32}\text{H}_{70}\text{Br}_2\text{N}_2$	[443150-07-0]	TRS		3.9	431		
		FUS		5.7	444	DSC	[2003SIK/SMI]
		TRS					
$\text{C}_{36}\text{H}_{48}\text{BN}$	[15556-39-5]	TRAP		22.6	468		
		FUS		12.1	480	DSC	[1970COK/AMB]
		TRAP					
$\text{C}_{36}\text{H}_{76}\text{BrN}$	[103229-03-4]	TRAP		81	371	DSC	[2005STE/VOI]
		TRAP					
$\text{C}_{36}\text{H}_{76}\text{CIN}$	[6944-28-1]	TRAP		97	364.4	DSC	[2005STE/VOI]
		TRAP					
$\text{C}_{36}\text{H}_{76}\text{CINO}_4$	[869093-57-2]	TRAP		115	361.3	DSC	[2005STE/VOI]
		TRAP					
$\text{C}_{36}\text{H}_{76}\text{IN}$	[869093-54-9]	TRAP		73	366	DSC	[2005STE/VOI]
		TRAP					
$\text{C}_{36}\text{H}_{76}\text{N}_2\text{O}_3$	[869093-52-7]	TRAP		109	366.7	DSC	[2005STE/VOI]
		TRAP					
$\text{C}_{36}\text{H}_{78}\text{Br}_2\text{N}_2$	[636562-64-6]	TRAP		31.3	362		
		TRAP		20.2	381		
		TRAP		10.1	440		
		FUS		95	507	DSC	[2003SIK/SMI]
		TRAP					
$\text{C}_{40}\text{H}_{56}\text{BN}$	[15522-59-5]	Tetrabutylammonium tetraphenylborate					

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound						
			Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	Reference
$C_{40}H_{84}BrN$	[14937-42-9]	Tetradecylammonium bromide	TRS		6.7	458	DSC	[1970COK/AMB]
			FUS		38.5	502		
			TRS		1.4	327.4		
			TRS		56.0	344.5		
$C_{40}H_{84}BrP$	[49745-72-4]	Tetradecylphosphonium bromide	FUS		29.1	352.9	DSC	[2000ABD/WEI]
					76.1	324.2		
$C_{40}H_{86}Br_2N_2$	[636562-65-7]	<i>N</i> -dodecyl- <i>N,N,N',N'</i> -tetramethyl- <i>N'</i> -tetradecyl-1,10-decanediaminium dibromide	TRS		65.4	360	DSC	[2003SIK/SMI]
			FUS		15.5	423		
$C_{44}H_{64}BN$	[59652-94-7]	Tetrapentylammonium tetraphenylborate	FUS		16.2	476.7	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-08-7]	<i>N,N</i> -dimethyl- <i>N,N</i> -dinonylammonium tetraphenylborate	FUS		41.0	356.2	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-09-8]	<i>N</i> -hexyl- <i>N,N</i> -dimethyl- <i>N</i> -dodecylammonium tetraphenylborate	FUS		27.6	352.2	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-21-4]	<i>N</i> -hexyl- <i>N,N</i> -dipropyl- <i>N</i> -octylammonium tetraphenylborate	FUS		34.3	385.2	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-23-6]	<i>N</i> -methyl- <i>N,N</i> -diheptyl- <i>N</i> -pentylammonium tetraphenylborate	FUS		26.4	378.7	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-25-8]	<i>N</i> -methyl- <i>N</i> -octyl- <i>N</i> -hexyl- <i>N</i> -pentylammonium tetraphenylborate	FUS		38.9	365.2	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-27-0]	<i>N</i> -methyl- <i>N,N</i> -dipentyl- <i>N</i> -nonylammonium tetraphenylborate	FUS		31.0	355.2	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-29-2]	<i>N</i> -methyl- <i>N</i> -butyl- <i>N</i> -hexyl- <i>N</i> -nonylammonium tetraphenylborate	FUS		20.9	337.2	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-31-6]	<i>N</i> -ethyl- <i>N</i> -butyl- <i>N</i> -propyl- <i>N</i> -undecylammonium tetraphenylborate	FUS		38.9	374.2	DSC	[1978GOR/RAO]
$C_{44}H_{64}BN$	[68796-33-8]	<i>N</i> -methyl- <i>N</i> -ethyl- <i>N</i> -octyl- <i>N</i> -nonylammonium tetraphenylborate	FUS		36.4	366.2	DSC	[1978GOR/RAO]
$C_{48}H_{100}BrN$	[14866-34-3]	Tetradodecylammonium bromide	TRS		32.0	343.5	DSC	[2000ABD/WEI]
			FUS		66.7	359.9		
$C_{48}H_{100}ClN$	[82944-72-7]	Tetradodecylammonium chloride	FUS		105.0	345.1	DSC	[2000ABD/WEI]
$C_{48}H_{100}IN$	[40797-39-5]	Tetradodecylammonium iodide	TRS		1.9	336.8	DSC	[2000ABD/WEI]
			TRS		26.4	346.9		
			TRS		2.6	357.3		
			FUS		42.6	384.3		
$C_{56}H_{116}BrN$	[139653-49-9]	Tetratetradecylammonium bromide	TRS		41.0	355.3	DSC	[2000ABD/WEI]
			FUS		89.1	364.8		
$C_{56}H_{132}BrN$	[139653-55-7]	Tetrahexadecylammonium bromide	TRS		72.6	365.6	DSC	[2000ABD/WEI]
			FUS		100.6	372.9		
$C_{72}H_{148}BrN$	[63462-99-7]	Tetraoctadecylammonium bromide	TRS		16.0	324.8	DSC	[2000ABD/WEI]
			FUS		164.4	371.9		

TABLE 18. Phase change enthalpies of organic salts and ionic liquids—Continued

Molecular formula	CAS Registry Number	Compound					
		Enthalpy	Temperature range	$\Delta_{\text{trans}}H_m$ (kJ/mol)	T_m (K)	Method	
C ₇₂ H ₁₄₈ BrP	[58237-06-2]	Tetraoctadecylphosphonium bromide	FUS	201.6	368.0	DSC	[2000ABD/WEI]
C ₇₂ H ₁₄₈ ClNO ₄	[139653-59-1]	Tetraoctadecylammonium perchlorate	TRS	0.4	340.6		
			TRS	1.7	349.7		
			TRS	84.8	378.4		
			FUS	8.2	379.2	DSC	[2000ABD/WEI]
C ₇₂ H ₁₄₈ ClO ₄ P	[258888-10-7]	Tetraoctadecylphosphonium perchlorate	TRS	1.3	330.3		
			TRS	1.6	337.7		
			FUS	119.6	364.6	DSC	[2000ABD/WEI]
C ₇₂ H ₁₄₈ IN	[183552-31-0]	Tetraoctadecylammonium iodide	TRS	11.7	355.3		
			FUS	115.6	387.0	DSC	[2000ABD/WEI]
C ₇₂ H ₁₄₈ IP	[245071-84-5]	Tetraoctadecylphosphonium iodide	FUS	143.2	97.8	DSC	[2000ABD/WEI]

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2002BOR/CES	B. Borde and A. Cesaro, <i>J. Therm. Anal. Calorim.</i> 69 , 267 (2002).		
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		2013WEI/ZHA	D. Wei, X. Zhang, and H. Li, <i>J. Chem. Thermodyn.</i> 60 , 94 (2013).
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