Phase Change Enthalpies and Entropies of Liquid Crystals

William E. Acree, Jr.[a)]
Department of Chemistry, University of North Texas, Denton, Texas 76203

James S. Chickos[b)]
Department of Chemistry and Biochemistry, University of Missouri-St. Louis, St. Louis, Missouri 63121

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The thermochemical behavior of more than 3000 organic compounds known to form liquid crystals is reported along with references to the original literature. A group additivity approach used to estimate total phase change entropies of organic molecules applied to 627 of these liquid crystals is found to significantly overestimate their total phase change entropies. Comparison of experimental and estimated values also show significant scatter relative to database compounds. The origins of these discrepancies are discussed in terms of a model used to explain liquid crystal formation. © *2006 American Institute of Physics.* [DOI: 10.1063/1.1901689]

Key words: fusion enthalpy; fusion entropy; liquid crystals; liquid crystal compendium; phase transitions; total phase change entropy.

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[a)]Electronic mail: acree@unt.edu
[b)]Electronic mail: jscumsl@jinx.umsl.edu; corresponding author.

1. Introduction

Since their first discovery back in 1888, interest in the properties and practical applications of liquid crystals has increased dramatically.[1,2] General acceptance of liquid crystals as a distinct phase of matter was slow, occurring some 30 years since they were first reported. Liquid crystalline behavior is found among numerous classes of compounds that include biphenyls, cholesterol esters, soaps, lipids, polymers, and elastomers. More than 76 000 compounds have been identified as exhibiting liquid crystalline behavior.[3(a)–(c)] This paper will review the total phase change enthalpies and entropies of the more than 3000 compounds whose condensed phase thermochemical properties have been studied.

Unlike most small molecules that behave isotropically upon liquefaction, many molecules that are highly nonspherical in shape, exhibit marked self-assembly in the liquid phase that persists even upon continued heating. Cylindrical rod, disk, and banana shaped molecular structures are among those most frequently encountered exhibiting this behavior. Loss of self-assembly can occur in stages and can be monitored by changes in a variety of physical properties. In some cases, liquid crystalline behavior is observed, only upon supercooling of the melt. In these instances, the melting of the solid first produces an isotropic liquid; self-association is observed upon supercooling below the melting temperature. Although self-association may be prompted by the supercooling of many nonspherically shaped molecular liquids, the scattering of visible light by liquid crystals requires a higher level of self-association not observed with most substances.

Though liquid crystals can be considered as a separate phase of matter,[2] they exhibit properties intermediate between anisotropic solids that are rigidly and uniquely arranged in a lattice with very little mobility, plastic crystals that flow under stress and usually characterized by rotational motion within a lattice, and isotropic liquids characterized by free rotational and translational motion. If the forces of interaction are sufficiently strong, a more limited form of self-association can also be detected in the gas phase, as exemplified by the dimerization observed with some carboxylic acids.

Of all the techniques used to study liquid crystals, thermal analysis, while perhaps not the most sensitive, provides a quantitative measure of the magnitude of the interactions responsible for self-assembly. A study of the thermal behavior exhibited by liquid crystals may also provide insight into the associative behavior of other molecules that behave nonisotropically but do not form liquid crystals. This study reports the thermal behavior of some 3000+ liquid crystals and compares the total molar phase change entropy ($\Delta_0^{T_{iso}}S_{tpce}$) of a representative number of them to the total molar phase change entropy of substances that are believed to melt to isotropic liquids. In view of the large number of compounds in the database, the calculated and experimental total molar phase change entropy of some 667 entries on approximately 600 different compounds were compared. Compounds were selected to include a variety of functional groups and structures. In order to simplify the calculations, members of homologous series were frequently chosen. If the compounds selected included multiple independent determinations of their thermal properties, all entries for the compound were included in the analysis.

Throughout this article, T_{fus}, T_{cld}, and T_{iso} are used to distinguish between slightly different events and conditions. The temperature, $T_{fus,}$ refers to the temperature at which a solid is converted to either an isotropic liquid or to a liquid crystal. T_{cld} is used to refer to the clearing temperature if the isotropic liquid is converted to the liquid crystal by supercooling the isotropic liquid below T_{fus}; T_{cld} may be observed experimentally at the temperature the supercooled liquid becomes cloudy. The term T_{iso} has been used to refer to temperatures at which the liquid becomes isotropic above T_{fus}. The relationship between these terms is defined as follows: $T_{cld} < T_{fus} \leqslant T_{iso}$.

1.1. Phase Change Enthalpies

An examination of the phase change enthalpies of liquid crystals reveals that these substances exhibit several thermal transitions that can be detected. For most substances, the largest enthalpic change occurs upon conversion of the solid to a nematic or smectic phase. In a few cases, some highly substituted anthraquinones (for example, see $C_{124}H_{216}O_{18}$, $C_{132}H_{232}O_{18}$ in Table 10), the largest enthalpy change observed is associated with changes occurring at the mesomorphic stage.

It has been previously shown that the total molar phase change enthalpy ($\Delta_0^{T_{iso}}H_{tpce}$) associated in going from the rigid solid to the isotropic liquid at the melting temperature

TABLE 1. Contributions to $\Delta_0^{T_{iso}}S_{tpce}$ by the hydrocarbon portion of acyclic and aromatic molecules

Acyclic and aromatic carbon groups	Group	Group value G_i, $(J\cdot K^{-1}\cdot mol^{-1})$	Group coefficient C_i
primary sp^3	$\mathbf{CH_3}-$	17.6	
secondary sp^3	$>\mathbf{CH_2}$	7.1	1.31[a]
tertiary sp^3	$-\mathbf{CH}<$	−16.4	0.60
quaternary sp^3	$>\mathbf{C}<$	−34.8	0.66
secondary sp^2	$=\mathbf{CH_2}$	17.3	
tertiary sp^2	$=\mathbf{CH}-$	5.3	0.75
quaternary sp^2	$=\mathbf{C}(R)-$	−10.7	
tertiary sp	$\mathbf{H}-\mathbf{C}\equiv$	14.9	
quaternary sp	$-\mathbf{C}\equiv$	−2.8	
aromatic tertiary sp^2	$=\mathbf{C_aH}-$	7.4	
quaternary aromatic sp^2 carbon adjacent to an sp^3 atom	$=\mathbf{C_a}(R)-$	−9.6	
peripheral quaternary aromatic sp^2 carbon adjacent to an sp^2 atom	$=\mathbf{C_a}(R)-$	−7.5	
internal quaternary aromatic sp^2 carbon adjacent to an sp^2 atom	$=\mathbf{C_a}(R)-$	−0.7	

[a]The group coefficient of 1.31 for C_{CH2} is applied only when the number of consecutive methylene groups equals or exceeds the sum of the remaining groups; see the discussion in text; R: any alkyl or aryl group unless specified otherwise.

of most organic compounds is not as good of a group property as the corresponding total molar phase change entropy ($\Delta_0^{T_{iso}}S_{tpce}$); this is particularly true for molecules that have multiple phase changes occurring at various temperatures intermediate between $T=0$ K and $T=T_{fus}$.[4] A comparison of $\Delta_0^{T_{iso}}S_{tpce}$ calculated for molecules believed to be isotropic in the liquid phase to the experimental total phase change entropy of molecules forming liquid crystals would be informative with regards to the quantitative nature of the phase changes occurring in liquid crystals.

2. Phase Change Entropies

2.1. Estimation of Total Phase Change Entropy

A method for estimation of the total phase change entropy of a wide variety of organic molecules has appeared recently.[5] The method is based on group additivity. Only a brief description of the details of the estimations are given here; additional details can be found in the literature.[5,6] In the discussion that follows, it is important to bear in mind that the terms primary, secondary, tertiary, and quaternary, are based solely on the number of hydrogens attached to carbon, 3, 2, 1, 0, respectively. A listing of the group values used in the estimations of the total phase change entropy of the test compounds is provided in Tables 1–5. Group values for several functional groups encountered in this study are not currently available.

Table 1 provides the group values used to estimate the acyclic hydrocarbon portion of the molecule. The contributions of the hydrocarbon portion of the molecule are obtained by simply adding up the contribution of each group present. The only exceptions to this rule occur whenever a functional group listed in Tables 2 and 3 is attached directly to either a tertiary or quaternary sp^3 carbon or to a tertiary sp^2 carbon; in this case the contribution of each carbon is attenuated as the product of the group coefficient and group value (C_iG_i). Additionally, if the number of consecutive methylene groups equals or exceeds the sum of the remaining groups, the contribution of each CH_2 is also evaluated as the product of C_iG_i; other methylene groups in the molecule are not included in this count and are treated normally.

The contribution of each functional group is treated in much the same way. Functional groups are defined in Tables 2, 3, and 5. The contribution of each function group defined in Table 2 depends on the total number of functional groups present in the molecule. Each of these functional groups contribute C_kG_k. The appropriate value of C_k is chosen from the table on the basis of the total number of functional groups

TABLE 2. Contributions of acyclic functional groups used in estimating $\Delta_0^{T_{iso}}S_{tpce}$ of liquid crystals; functional groups dependent on the substitution patterns

Functional groups[a]	Total number of functional groups; $k=$	Group value (G_k)[a] $(J\cdot K^{-1}\cdot mol^{-1})$	Group Coefficient (C_k)				
			2	3	4	5	6
chlorine	R–**Cl**	10.8	1.5	1.5	1.5	1.5	1.5
two fluorines on an sp^3 carbon	R–$\mathbf{CF_2}$–R	13.2[b]	1.06	1.06	1.06	1.06	1.06
hydroxyl group	R–**OH**	1.7	10.4	9.7	13.1	12.1	13.1
carboxylic acid	R–**C(=O)OH**	13.4	1.21	2.25	2.25	2.25	2.25

[a]R: any alkyl or aryl group unless specified otherwise.
[b]This group value has been modified from the value reported in an earlier version;[6] use this value for each fluorine; see Table 3 for the fluorine value to use in perfluorinated compounds and Ref. 3 for examples.

TABLE 3. Contributions of the remaining acyclic functional groups used in estimating $\Delta_0^{T_{iso}} S_{tpce}$ of liquid crystals

Functional groups[a]	Abbreviated structure	Group value (G_k)[a] ($J \cdot K^{-1} \cdot mol^{-1}$)
bromine	R–**Br**	17.5
fluorine on an sp^2 carbon[b]	$R_2C{=}CR\mathbf{F}$; $R_2C{=}C\mathbf{F}_2$	19.5
fluorine on an aromatic carbon	$=C\mathbf{F}-$	16.6
three fluorines on an sp^3 carbon[b]	$C\mathbf{F}_3-R$	13.2
one fluorine on an sp^3 carbon[b]	$R-C\mathbf{F}-(R)_2$	12.7
fluorine in perfluorinated compounds[c]	$\mathbf{C_nF_{2n+2}}$	15.2
one fluorine on a ring carbon[b]	$-CH\mathbf{F}-$;	[17.5]
two fluorines on a ring carbon[b]	$-C\mathbf{F_2}-$	[17.5]
iodine	R–**I**	19.4
phenol	$=C-(\mathbf{OH})-$	20.3
ether	R–**O**–R	4.71
aldehyde	R–**CH**(=**O**)	21.5
ketone	R–**C**(=**O**)–R	4.6
ester	R–**C**(=**O**)**O**–R	7.7
aromatic heterocyclic amine	=**N**–	[10.9]
acyclic sp^2 nitrogen	=**N**–	[−1.8]
tertiary amine	R–**N**(R_2)	−22.2
secondary amine	R–**NH**–R	−5.3
primary amine	R–**N**$\mathbf{H_2}$	21.4
nitro group	R–**N**$\mathbf{O_2}$	17.7
azoxy nitrogen	N=**N**(→**O**)–	[6.8]
nitrile	R–**C**≡**N**	17.7
isocyanide	R–**NC**	[17.5]
tertiary amides	R–**C**(=**O**)**N**R_2	−11.2
secondary amides	R–**C**(=**O**)**NH**–R	1.5
primary amide	R–**CONH**$_2$	27.9
N,N-dialkylformamide	**HC**(=**O**)**N**R_2	[6.9]
sulfides	R–**S**–R	2.1
disulfides	R–**SS**–R	9.6
thiols	R–**SH**	23.0

[a]R: any alkyl or aryl group unless specified otherwise; values in brackets are tentative assignments; all group coefficients can be assumed to be 1; the functional groups are in bold.
[b]The value in column 3 is the contribution of each fluorine.
[c]The contribution of each F in perfluorinated compounds is the same as previously reported (see Chickos and Acree[5]); it is now treated as a new group value.

present. For the functional groups in Table 2, the group coefficient C_6 should be used for all molecules containing more than six functional groups. The contribution of each functional group in Tables 3 and 5 is given by the corresponding group value.[7] The group coefficient, C_k, for all of the groups in these tables can be assumed to be one. Equation (1) summarizes estimations of acyclic and aromatic hydrocarbons and their derivatives (*aah*)

TABLE 4. Contributions of the cyclic hydrocarbon portions of the molecule

Contributions of cyclic carbons	Groups	Group value (G_c) ($J \cdot K^{-1} \cdot mol^{-1}$)	Group coefficient—C_c
cyclic tertiary sp^3 carbon	$>\mathbf{C_c}\mathbf{H}(R)$	−14.7	
cyclic quaternary sp^3 carbon	$>\mathbf{C_c}(R)_2$	−34.6	
cyclic tertiary sp^2 carbon	$=\mathbf{C_c}\mathbf{H}-$	−1.6	1.92
cyclic quaternary sp^2 carbon	$=\mathbf{C_c}(R)-$	−12.3	
cyclic quaternary sp carbon	$=\mathbf{C_c}=$; $R-\mathbf{C_c}\equiv$	−4.7	

All group values in this table are only to be used with the ring equations (3) or (4); R: any alkyl or aryl group unless specified otherwise.

TABLE 5. Contributions of the cyclic functional groups used in estimating $\Delta_0^{T_{iso}}S_{tpce}$ of liquid crystals

Heteroatoms and functional groups comprising a portion of a ring[a,b]	Abbreviated structure	Group value (G_c)[a] ($J\cdot K^{-1}\cdot mol^{-1}$)
cyclic ketone	$R-\mathbf{C}(=\mathbf{O})-R$	−1.4
cyclic sp^2 nitrogen	$R=\mathbf{N}-R$	0.5
cyclic tertiary amine	$R_2>\mathbf{N}-R$	−19.3
cyclic secondary amine	$R-\mathbf{NH}-R$	2.2
cyclic sulfide	$R-\mathbf{S}-R$	2.9

[a]R: any alkyl or aryl group unless specified otherwise; values in brackets are tentative assignments; all group coefficients can be assumed to be 1; all group values in this table are only to be used with the ring equations (3) or (4).
[b]The R groups that are a part of the ring structure are designated by italics.

$$\Delta_0^{T_{iso}}S_{tpce}(aah)=\sum_i n_iC_iG_i+n_iC_iG_i+n_iC_iG_{CH_2}+\sum_k n_kC_kG_k. \quad (1)$$

Values of $\Delta_0^{T_{iso}}S_{tpce}$ for nonbenzenoid cyclic hydrocarbons are calculated using Eq. (2)

$$\Delta_0^{T_{iso}}S_{tpce}(c)=\Delta S_{ring}+\sum_c n_iC_cG_c+\sum_c n_iC_iG_i+n_iC_iG_{CH_2}+\sum_k n_kC_kG_k. \quad (2)$$

The contribution of the ring, ΔS_{ring}, is based on size and is given by Eqs. (3) and (4):

ring equation for nonaromatic cyclic compounds

$$\Delta S_{ring}=[33.4]+[3.7][n-3];$$
$$n=\text{number of ring atoms} \quad (3)$$

ring equation for nonaromatic polycyclic compounds

$$\Delta S_{ring}=[33.4]N+[3.7][RA-3N];$$
$$RA=\text{total number of ring atoms};$$
$$N=\text{number of rings} \quad (4)$$

for cyclic and polycyclic compounds, respectively. The contributions of any ring carbons atoms differing in substitution or hybridization from secondary sp^3 are adjusted by adding the contributions listed in Table 4 for typical substitution and hybridization patterns. If any of the functional groups listed in Tables 2, 3, or 5 are also attached to a cyclic tertiary sp^2 carbon, then the contribution of the cyclic tertiary sp^2 carbon is modified as C_cG_c. Functional groups that make up part of a ring are treated in a similar fashion. The group coefficient for all cyclic groups can also be assumed to be one. If additional acyclic components are attached to the ring, their estimation is included as described above.

2.2. Some Estimations of $\Delta_0^{T_{iso}}S_{tpce}$ of Liquid Crystals

Some examples of the estimation of $\Delta_0^{T_{iso}}S_{tpce}$ as applied to liquid crystals are illustrated in Table 6. The total phase change entropy of a liquid crystal $\Delta_0^{T_{iso}}S_{tpce}$ is defined as the sum of all the entropy changes associated with phase transitions occurring from $T=0$ K to the clearing temperature, $T=T_{iso}$. Details about the phase transitions observed for these compounds can be found in Table 10 according to their molecular formula.

2.2.1. 1,2,13,14-Tetrahydroxytetradecane

This molecule is composed of a total of three different groups, four hydroxy groups, two types of methylene groups, and two tertiary sp^3 carbons. The two terminal methylene groups are isolated and contribute at total of $2(7.1)\ J\cdot K^{-1}\cdot mol^{-1}$. The methine carbons contribute $2(-16.4)$ and the ten consecutive methylene groups contribute $10(7.1)(1.31)$ since only a total of six other groups are present in the molecule. The contribution of the hydroxyl groups depends on the total number of functional groups present in the molecule. In this case there are four; the hydroxyls contribute $4(1.7)(13.1)\ J\cdot K^{-1}\cdot mol^{-1}$.

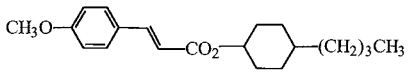
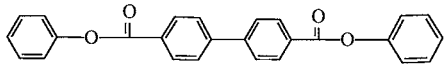
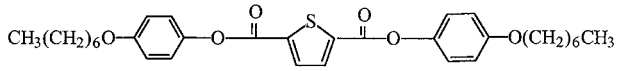
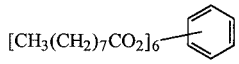
2.2.2. 4-Butylcyclohexyl 4-methoxycinnamate

Estimation of the alcohol portion of the ester requires the use of the ring equation. The ring is a six membered ring and therefore contributes $(33.4+3(3.7))$; the two cyclic tertiary ring carbons contribute $2(-14.7)$ and the methyl and methylene groups contribute 17.6 and $3(7.1)\ J\cdot K^{-1}\cdot mol^{-1}$, respectively. The phenyl group of the carboxylic acid portion contains two types of carbons, four tertiary aromatic carbons, and two quaternary aromatic carbons. Since both substituents attached at the quaternary aromatic carbons can be conjugated with the ring, they each contribute $-7.5\ J\cdot K^{-1}\cdot mol^{-1}$. If the methyl group had been attached directly to the benzene ring, the quaternary aromatic carbon would have contributed $(-9.6)\ J\cdot K^{-1}\cdot mol^{-1}$. In general, a value of -7.5 is used whenever the group attached to the quaternary aromatic carbon can conjugate with the ring through available empty orbitals or lone pairs of electrons. The contributions of the two tertiary sp^2 carbons and the methyl group round out the contributions of the hydrocarbon backbone. Addition of the contributions of the two functional groups, an ether, and ester complete the estimation.

2.2.3. Diphenyl 4,4′-biphenyldicarboxylate

The estimation of this molecule is very similar to the one above. The molecule contains three different groups, tertiary aromatic carbons $(18(7.4))$, quaternary aromatic carbons $(6(-7.5))$ and an ester functional group $(2(7.7))$. The value for a quaternary aromatic carbon adjacent to an sp^2 atom is selected because each of them extends the conjugation.

TABLE 6. Application of group additivity toward the estimation of $\Delta_0^{T_{iso}}S_{tpce}$ of liquid crystals[a]

$CH_2OHCHOH(CH_2)_{10}CHOHCH_2OH$	$C_{14}H_{30}O_4$
$\Delta_0^{T_{iso}}S_{tpce}(exp)=131.3\ J\cdot K^{-1}\cdot mol^{-1}$	$\Delta_0^{T_{iso}}S_{tpce}(calc)=176.6\ J\cdot K^{-1}\cdot mol^{-1}$
$\Delta_0^{T_{iso}}S_{tpce}(calc)=2(7.1)+2(-16.4)(0.6)+4(1.7)(13.1)+10(1.31)(7.1)$	
	$C_{20}H_{28}O_3$
$\Delta_0^{T_{iso}}S_{tpce}(exp)=82.7\ J\cdot K^{-1}\cdot mol^{-1}$	$\Delta_0^{T_{iso}}S_{tpce}(calc)=107.9\ J\cdot K^{-1}\cdot mol^{-1}$
$\Delta_0^{T_{iso}}S_{tpce}(calc)=2*17.6+3*7.1+33.4+3*3.7+2*(-14.7)+5.3*0.75+5.3+4*7.4+2(-7.5)+7.7+4.7$	
	$C_{26}H_{18}O_4$
$\Delta_0^{T_{iso}}S_{tpce}(exp)=90.7\ J\cdot K^{-1}\cdot mol^{-1}$	$\Delta_0^{T_{iso}}S_{tpce}(calc)=103.6\ J\cdot K^{-1}\cdot mol^{-1}$
$\Delta_0^{T_{iso}}S_{tpce}(calc)=18*7.4+6(-7.5)+2*7.7$	
	$C_{32}H_{40}O_6S$
$\Delta_0^{T_{iso}}S_{tpce}(exp)=190.3\ J\cdot K^{-1}\cdot mol^{-1}$	$\Delta_0^{T_{iso}}S_{tpce}(calc)=190.3\ J\cdot K^{-1}\cdot mol^{-1}$
$\Delta_0^{T_{iso}}S_{tpce}(calc)=2*17.6+12*7.1+33.4+2*3.7+2*(-12.3)+2*(-1.6)+8*7.4+4(-7.5)+2*7.7+2*4.7+2.9$	
	$C_{60}H_{102}O_{12}$
$\Delta_0^{T_{iso}}S_{tpce}(exp)=291.7\ J\cdot K^{-1}\cdot mol^{-1}$	$\Delta_0^{T_{iso}}S_{tpce}(calc)=405\ J\cdot K^{-1}\cdot mol^{-1}$
$\Delta_0^{T_{iso}}S_{tpce}(calc)=6*[17.6+7*7.1+7.7]+6*(-7.5)$	

[a]See Tables 10 and 11 for references.

2.2.4. *bis*(4-Heptyloxyphenyl) 2,5-thiophenedicarboxylate

Estimation of the thiophene ring begins by using the ring equation, $33.4+2(3.7)$. In addition, the cyclic sulfide contributes 2.9 $J\cdot K^{-1}\cdot mol^{-1}$ with the cyclic tertiary and quaternary sp^2 carbons contributing $2(-1.6)$ and $2(-12.3)$ $J\cdot K^{-1}\cdot mol^{-1}$, respectively. The contributions of the ester functional groups (2(7.7)) complete the estimation of the acid portion of the molecule. The two alcohols contribute methyl groups (2(17.6)). methylene groups (2(7(7.1))), tertiary aromatic carbons (2(4(7.4))), and conjugated quaternary aromatic carbons $(2(2(-7.5)))$.

2.2.5. Benzene hexa-nonanoate

This molecule is an example of a disk shape molecule in contrast to the estimations of the previous molecules that would be considered more rod shaped. The molecule contains four different types of groups, methyls (6(17.6)), secondary sp^3 carbons (6(7(7.1))), conjugated quaternary aromatic carbons $(6(-7.5))$, and esters (6(7.7)).

2.3. Statistics of the Correlations of Total Phase Change Entropy

2.3.1. Database Compounds

It is immediately apparent from the sample calculations in Table 6 that the experimental values for $\Delta_0^{T_{iso}}S_{tpce}$ are considerably smaller than the values estimated by the protocol just described. The group values used in the estimations were derived from a large collection of experimental fusion enthalpies of compounds that do not form liquid crystals upon melting. Some idea of how well Eqs. (1)–(4) are capable of estimating $\Delta_0^{T_{iso}}S_{tpce}$ is illustrated in Fig. 1. This figure com-

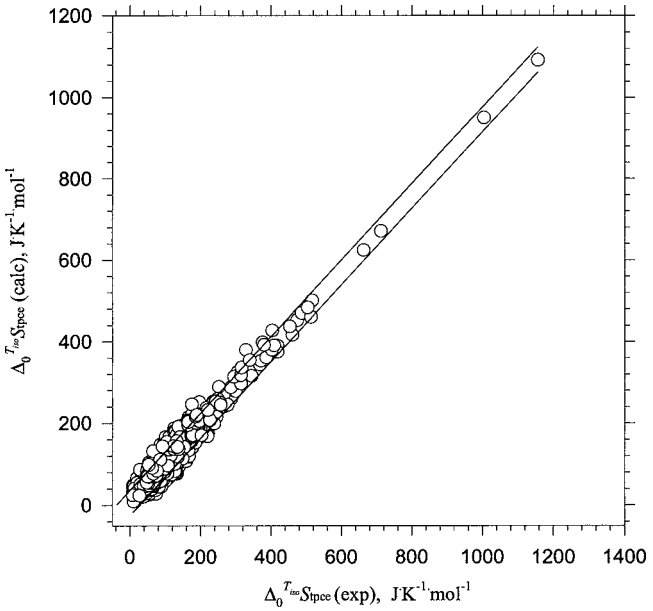


FIG. 1. A comparison of the experimental and calculated total phase change entropies of 2637 compounds.

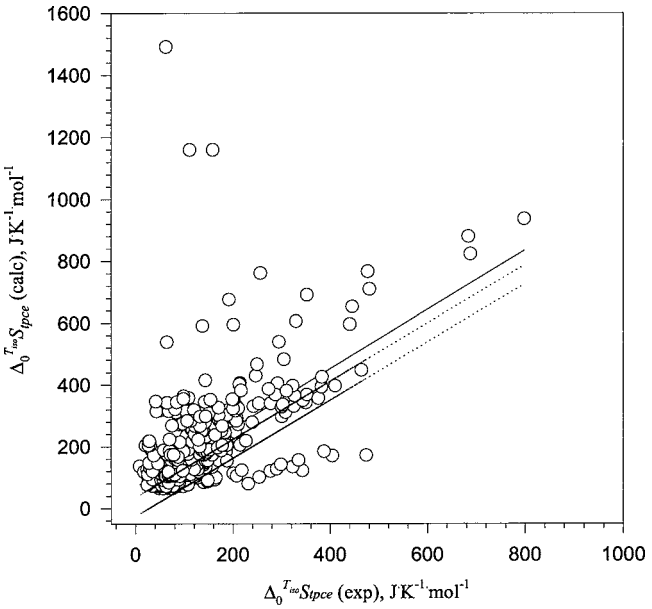


FIG. 2. A comparison of calculated and experimental $\Delta_0^{T_{iso}}S_{tpce}$ for 627 liquid crystals.

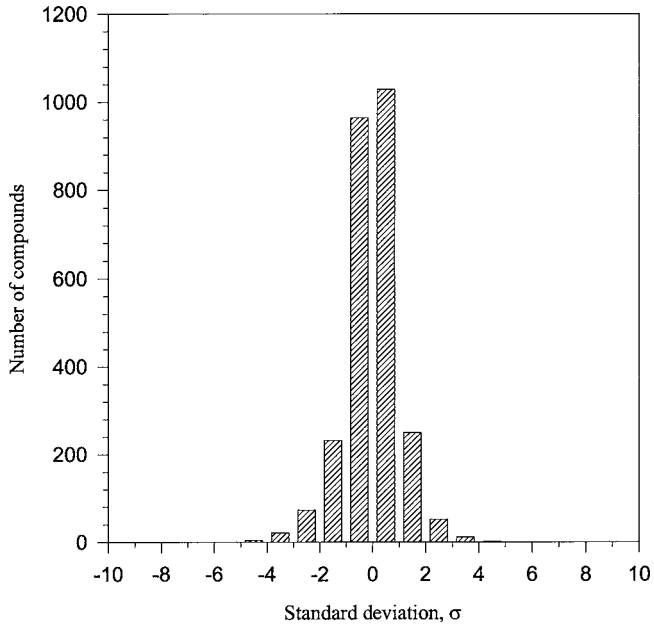


FIG. 3. A histogram of the distribution of errors in $\Delta_0^{T_{iso}}S_{tpce}(exp) - \Delta_0^{T_{iso}}S_{tpce}(calc)$ for 2637 compounds used in deriving and validating group parameters for estimating total phase change entropies.

pares calculated and experimental total phase change entropies of some 2637 different database compounds. The correlation equation is given by

$$\Delta_0^{T_{iso}}S_{tpce}(calcd)/J\cdot K^{-1}\cdot mol^{-1} = (0.9408\pm 0.0048)\Delta_0^{T_{iso}}S_{tpce}(exp) + (4.71\pm 14.9); \quad r^2 = 0.9370. \tag{5}$$

The standard deviation was $\pm 15.3\ J\cdot K^{-1}\cdot mol^{-1}$ and the fractional error was 0.169; the errors of 69 compounds were greater than 3 standard deviations ($\pm 3\sigma$) and were not included in these statistics. The area between the two lines in Fig. 1 represents $\pm 2\sigma$.

2.3.2. Calculations of $\Delta_0^{T_{iso}}S_{tpce}$ for Liquid Crystals

When the protocol, used to estimate the total phase change entropy of the database compounds, was applied to the estimation of 627 liquid crystals selected from Table 11, the resulting correlation obtained is shown in Fig. 2. Calculated $\Delta_0^{T_{iso}}S_{tpce}$ values (ordinate) are compared to experimental values (abscissa). The area between the two dotted lines represents $\pm 2\sigma$; the 95% confidence level associated with estimation of the database compounds that do not form liquid crystals. The solid line represents the equation of the line derived from a linear regression analysis of calculated versus experimental values. The statistics of the correlation are given by

$$\Delta_0^{T_{iso}}S_{tpce}(calcd)/J\cdot K^{-1}\cdot mol^{-1} = (0.956\pm 0.052)\Delta_0^{T_{iso}}S_{tpce}(exp) + (70.1\pm 112); \quad r^2 = 0.35. \tag{6}$$

Two trends are immediately evident in this figure; the scatter associated with compounds forming liquid crystals is considerably greater than with those compounds that do not. A standard deviation of $\pm 112\ J\cdot K^{-1}\cdot mol^{-1}$ is obtained when comparing calculated and experimental total phase change entropies. In addition, the total phase change entropy of compounds forming liquid crystals is greatly overestimated by this protocol. These two trends are also evident by comparing Figs. 3 and 4. Figure 3 is a histogram of the errors associated with the database compounds. Each bar represents one standard deviation $15.3\ J\cdot K^{-1}\cdot mol^{-1}$. The errors associated with similar estimations for liquid crystals are represented graphically in Fig. 4. How the magnitude of this error is influenced by the size of the molecule is illustrated in Fig. 5. Figure 5 compares the difference between calculated and experimental values. It appears from this figure that the error is somewhat dependent on size.

Estimations for approximately one third of the liquid crystals fall within $\pm 2\sigma$ ($30.6\ J\cdot K^{-1}\cdot mol^{-1}$). Two-thirds of the estimations fall outside the anticipated error. Only 3% of the total estimations are less than experimental values. The bulk, approximately 63% of the estimations, is considerably larger. When this histogram is compared to Fig. 3,[2] the errors appear skewed in one direction; experimental values are clearly overestimated by the protocol described. Yet despite the fact that the total phase change entropies of liquid crystals are overestimated, the slope of the line obtained by linear regression is remarkably near one. This suggests that the protocol used to estimate $\Delta_0^{T_{iso}}S_{tpce}$ remains valid despite the large uncertainty in the prediction.

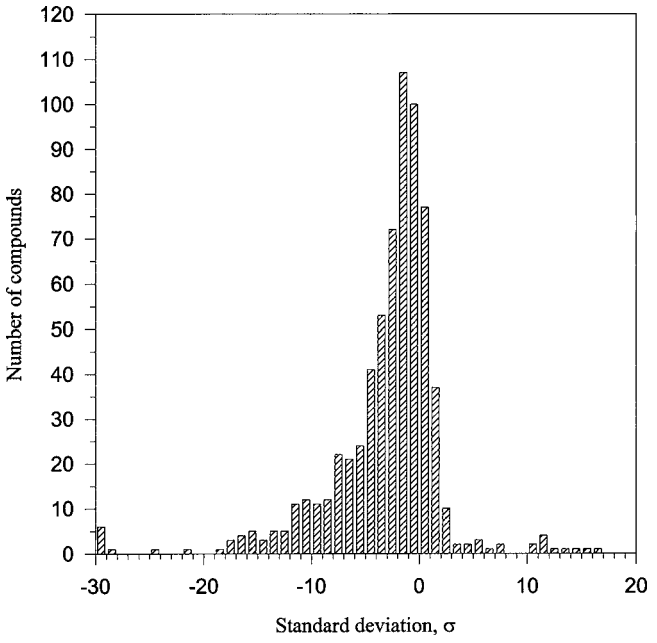


FIG. 4. A histogram of the distribution of errors in $\Delta_0^{T_{iso}}S_{tpce}(exp) - \Delta_0^{T_{iso}}S_{tpce}(calc)$ for liquid crystals.

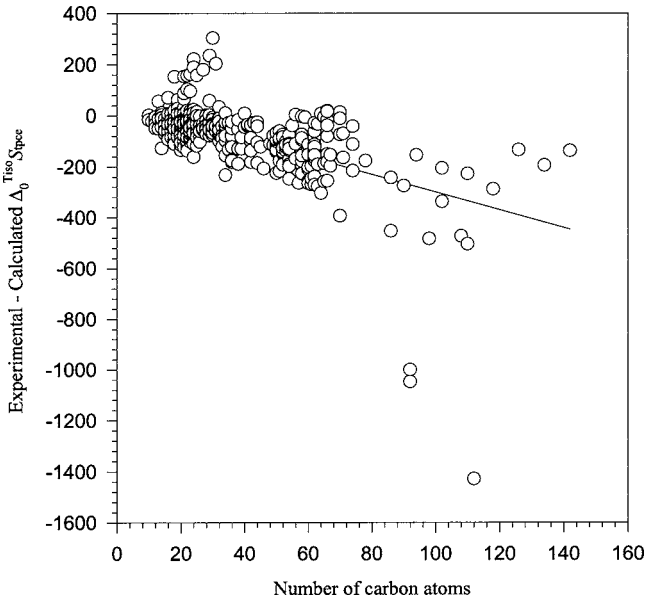


FIG. 5. A plot of the difference between experimental and calculated $\Delta_0^{T_{iso}}S_{tpce}$ as a function of the number of carbon atoms.

3. A Discussion of $\Delta_0^{T_{iso}}S_{tpce}$ for Liquid Crystals

There are several possible reasons responsible for both the scatter and overestimations observed in Fig. 3. The possibility that some residual molecular association exists at the clearing temperature T_{iso}, is certainly one conceivable explanation. A second possibility is that the attenuation in total phase change entropy is compensated for by increases in the heat capacity of the crystal over some temperature range. Over a significant temperature range small changes in heat capacity may make a significant contribution to the total entropy. Polymorphism may also play a role. Calorimetric measurements on nonliquid crystalline compounds have shown that there can be substantial differences in the fusion enthalpies of different polymorphic forms.[5,6] The value estimated by the group additivity approach described above gives the total phase change entropy associated with the most stable solid modification at the melting point. The purity of the material is also known to have a large effect on both the enthalpies and temperatures of transition.[8,9] For some compounds the solid phase may not possess total crystallinity. Studies of polymeric materials have shown that the measured enthalpies of fusion depend on the degree of crystallinity. Finally the occurrence of undetected solid–solid phase transitions at low temperatures is certainly another possibility. Many calorimetric measurements on liquid crystalline compounds have generally been performed at ambient temperatures and above. Solid–solid phase transitions below room temperature would not have been detected in most of the calorimetric studies used to create this liquid crystal database. Solid–solid phase transitions are also known to occur with regular frequency in the database compounds of Fig. 1. Although low temperature studies of some of the compounds of Fig. 1 have been reported, most of these are also studies conducted above room temperature. Is there any reason to expect solid–solid phase transitions to occur at any higher frequency in liquid crystals?

Sorai and co-workers have measured heat capacities (C_p) and phase transitions of a series of benzene-hexa-alkanoates varying the alkanoate side chain sequentially from pentanoate to decanoate from about $T = 15$ K to temperatures above the clearing point.[10–14] Table 7 summarizes the phase transitions enthalpies and entropies and total entropy measured for these compounds. The pentanoate, hexanoate, and decanoate do not form liquid crystals. The nonanoate does so only on supercooling the isotropic liquid below the melting temperature. Both the hexa-heptanoate and hexa-octanoate derivatives form liquid crystals. Agreement between estimated and experimental total phase change entropies is within the noise level expected for these estimations for the pentanoate, hexanoate, octanoate, and decanoate. Values for the heptanoate and nonanoate are clearly overestimated. Even for the octanoate, although the two values are within experimental uncertainty, the calculated value is somewhat larger.

If the total entropies at $T = 385$ K obtained experimentally by combining phase change entropies with heat capacity contributions are now compared, the total entropies increase in a linear fashion with the total number of carbon atoms C. The dependence of total entropy for the isotropic liquid at $T = 385$ K is illustrated in Fig. 6. The equation of the line obtained by a linear regression analysis is

TABLE 7. A series of compounds including liquid crystals whose heat capacity and phase transitions of the crystalline phase have been studied over most of the experimentally accessible region[a]

Molecular formula	Transition	Compound T (K)	ΔH_{pce}	ΔS_{pce}	$\Delta_0^{T_{iso}} S_{tpce}$ (exp)	$\Delta_0^{T_{iso}} S_{tpce}$ (estimated)	$S°$ (385 K)
$C_{36}H_{54}O_{12}$		benzene hexa-n-pentanoate					
	Sol/Sol	173.1	8.8	50.83			
	Sol/Sol	313.2	15.3	48.85			
	Sol/Liq	379.5	30.3	79.84	183.5	234.6	1629.9
$C_{42}H_{66}O_{12}$		benzene hexa-n-hexanoate					
	Sol/Sol	251.6	25.67	102.0			
	Sol/Sol	291.5	12.27	42.1			
	Sol/Sol	348.3	16.26	46.7			
	Sol/Liq	368.7	33.50	90.9	281.7	277	1877.1
$C_{48}H_{78}O_{12}$		benzene hexa-*n*-heptanoate					
	Sol/Sol	129	1.1	8.5			
	Sol/Meso	353.8	32.2	91.1			
	Meso/Liq	359.3	21.5	59.9	159.5	319.8	2114.4
$C_{54}H_{90}O_{12}$		benzene hexa-*n*-octanoate					
	Sol/Sol	301.9	49.0	164.0			
	Sol/Meso	355.1	46.1	129.8			
	Meso/Liq	357.1	19.2	53.8	347.6	362.4	2361.3
$C_{60}H_{102}O_{12}$		benzene hexa-*n*-nonanoate					
	Sol/Sol	248.3	19.4	78.13			
	Sol/Sol	278.3	4.9	17.60			
	Sol/Liq	353.1	69.2	195.98	291.7	405	2597.8
	Liq/Meso	350	NA				
$C_{66}H_{114}O_{12}$		benzene hexa-*n*-decanoate					
	Sol/Sol	330.8	75.7	228.9			
	Sol/Liq	360.9	91.8	254.3	483.2	448	2861.5

[a]C_p measurements of the solid from approximately 15 K to the isotropic liquid at 385 K;[10–14] units for entropy: $J \cdot K \cdot mol^{-1}$; enthalpy: $kJ \cdot mol^{-1}$.

$$S°(385\ \text{K})/J \cdot K^{-1} \cdot mol^{-1} = (40.8 \pm 0.29)C + (159.8 \pm 7.27); \quad r^2 = 0.9998. \tag{7}$$

The linearity observed in this correlation suggests that the attenuated total phase change entropies observed for the heptanoate and nonanoate have been compensated for by higher heat capacity contributions to the entropy over a portion of the temperature range investigated. Since the hexa-heptanoate and hexa-nonanoate derivatives only differ in the number of methylene groups, these results can be interpreted in terms of packing of the methylene groups of the alkyl chains in a shallower potential energy minimum such that the density of states available for molecular motion of these groups in the crystal exceeds the number found in the other homologues. A cause of the discrepancy observed between calculated and experimental total phase change entropy both in those members of the series that melt to isotropic liquids and those that form liquid crystals can be explained.

Extrapolating the results of Sorai *et al.*,[10–14] that the total entropies of members of homologous series that do and do not form liquid crystals correlate as a function of the number of repeat units in the series at a temperature where all members exist as isotropic liquids ($S°(T_{iso})$), then the statistics of Fig. 4 suggest that the alkyl chains in the solid state of those members of the series destined to form liquid crystals are more likely to lie in shallower potential energy minima than members that melt directly to isotropic liquids. In addition, alkyl chains held in place by shallow minima in the crystal may be more prone to experience solid–solid phase transitions.

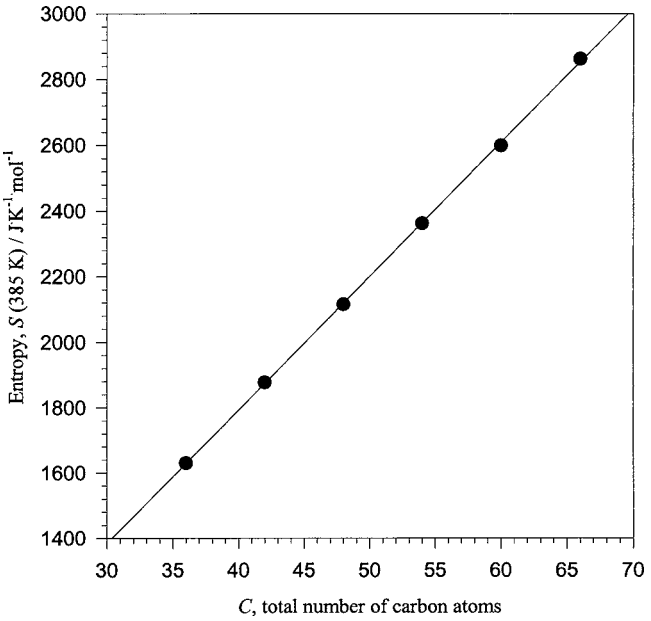


FIG. 6. A plot of the entropy of the benzene hexa-*n*-alkanoates as a function of the number of carbon atoms.

4. A Discussion of T_{fus}, T_{cld} and T_{iso} for Liquid Crystals

It has been found that the melting temperature (T_{fus}) of many homologous series that do not form liquid crystals correlate with each other as a function of the number of repeat units and asymptotically approach the melting temperature of the polymer formed upon convergence.[15] Even branched series such as the symmetrical triglycerides can be correlated in this fashion. Most liquid crystals studied thus far contain cyclic group(s) with pendant alkyl chains of varying length. In the limit, continuous elongation of these chains ultimately results in a molecule that closely resembles polyethylene. The melting temperature of polyethylene is $T_{fus}=411$ K and according to the model proposed,[15] homologues of molecules that form liquid crystals would be expected to approach this limiting temperature. Furthermore, since polyethylene does not exhibit liquid crystalline properties, liquid crystal behavior would be expected to cease at some stage of homologation.

Some empirical evidence that T_{fus} in liquid crystals may actually be depressed relative to homologues that melt directly to isotropic liquids, has recently been reported for a series of *trans* 4-*n*-alkoxy-3-chlorocinnamic acids. This conclusion is based on the correlation observed between T_{fus} for members of the series that melt directly to isotropic liquids, and T_{iso} for others that first melt to form liquid crystals.[15]

In liquid crystals, it is frequently observed that the melting temperature of a homologous series initially decreases relative to the parent compound as the chain length increases. According to the model proposed,[15] if the melting temperature drops below $T=411$ K, this decrease would be attenuated with increasing chain length and as the chain length continues to increase and becomes more like polyethylene, the melting temperature is predicted to begin to increase and approach $T_{fus}=411$ K. In the cases studied previously, the increase or decrease in melting temperature with increasing chain length could be modeled effectively by the following hyperbolic functions:

$$T_{fus}/\mathrm{K}=411\cdot[1-1/(mN+b)] \quad \text{for increasing } T_{fus}(N), \tag{8}$$

$$T_{fus/iso}/\mathrm{K}=T^{min}_{fus/iso}/[1-1/(mN+b)] \quad \text{for decreasing } T_{fus/iso}(N). \tag{9}$$

In Eq. (8), 411 K represents the melting temperature of polyethylene. In Eq. (9), $T_{fus/iso}$ represents either the melting temperature to an isotropic liquid, or T_{iso} as previously defined for each member of the series. The term $T^{min}_{fus/iso}$ represents the minimum melting or clearing temperature experienced by the series prior to its convergence to $T_{fus}(\infty)$, 411 K for convergence to polyethylene. In both equations N represents the number of repeat units in the series, and m and b are two adjustable parameters. $T^{min}_{fus/iso}$ was evaluated by a nonlinear least squares fit of the experimental data for each series examined. Since the melting properties of the even and odd series differ, $T_{fus/iso}$ were segregated into two groups based on the number of repeat units present and were modeled by Eqs. (8) and/or (9) separately.[15]

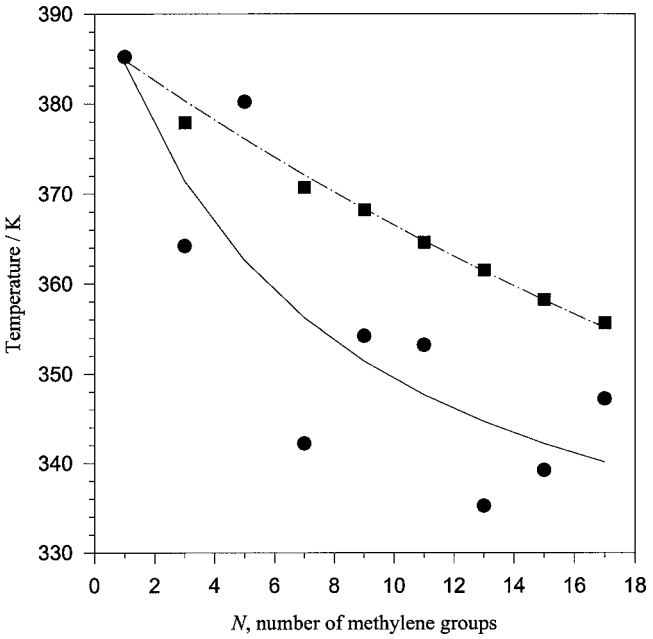


FIG. 7. A comparison of the melting and clearing temperatures of the odd thiocholesteryl *n*-alkanoates.

Most of the experimental phase transition data available on liquid crystals show an overall decrease in temperature in $T_{fus/iso}$ associated with increases in chain length of the pendant alkyl groups; only Eq. (9) is applicable in these cases. As examples, Figs. 7, 8, and 9 illustrate melting temperature

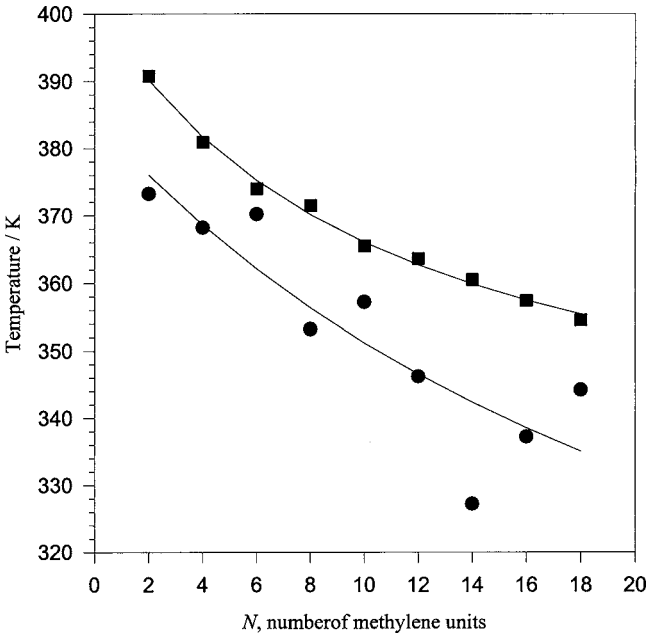


FIG. 8. A comparison of the melting and clearing temperatures of the even thiocholesteryl *n*-alkanoates.

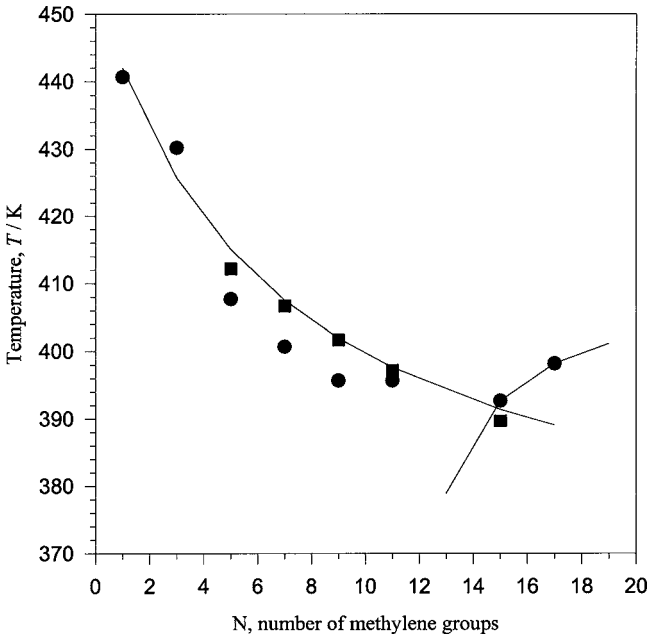


FIG. 9. A comparison of the melting and clearing temperatures of the alkyl 4′-methoxybiphenyl-4-carboxylates.

(circles) and clearing temperature (squares) behavior of the series of odd and even thiocholesteryl *n*-alkanoates[16] and of the odd series of the alkyl 4′-methoxybiphenyl-4-carboxylates,[17] respectively. In Fig. 7, the phase change behavior of members of the odd series, cholesteryl thiopropanoate, thiopentanoate, ... are plotted against the number of methylene groups. The solid circles represent T_{fus} and the solid squares represent T_{iso}. Two of the compounds, the first two members of the odd series melt directly to the isotropic liquid; the other members form liquid crystals upon melting. Examination of this figure and Fig. 8 clearly illustrates the more erratic nature of melting temperature (T_{fus}) as a function of the number of repeat units. In comparison, the clearing temperatures (T_{iso}) correlate better regardless of whether or not liquid crystal behavior is observed. The solid lines were calculated from a nonlinear least squares fit to Eq. (9) using the melting and clearing temperatures in separate calculations; the lines are described by Eqs. (10)–(13). The best value of $T_{\mathrm{iso}}^{\mathrm{min}}$ was obtained from the experimental data by a least squares fit by treating $T_{\mathrm{iso}}^{\mathrm{min}}$ as a variable
odd series:

$$T_{\mathrm{fus}}(N)/\mathrm{K} = 317/[1 - 1/(0.564N + 5.133)];$$

$$r^2 = 0.6586, \tag{10}$$

$$T_{\mathrm{fus}}(N)/\mathrm{K} = 233/[1 - 1/(0.0238N + 2.528)];$$

$$r^2 = 0.9661, \tag{11}$$

even series:

$$T_{\mathrm{fus}}(N)/\mathrm{K} = 259/[1 - 1/(0.0745N + 3.065)];$$

$$r^2 = 0.7508, \tag{12}$$

$$T_{\mathrm{fus}}(N)/\mathrm{K} = 328/[1 - 1/(0.4185N + 5.436)];$$

$$r^2 = 0.9931. \tag{13}$$

The more erratic behavior in melting temperature can be explained by packing of the methylene groups in shallow but variable potential energy minima, resulting in variability in the density of states as described above. The clearing temperatures, T_{iso}, on the other hand are more continuous and appear to correlate better to the melting temperature of homologues melting directly to isotropic liquids. This suggests that the melting temperatures of liquid crystals, T_{fus}, have been lowered relative to those homologues that do not form liquid crystals and that T_{iso}, is the thermodynamic function that correlates best within a homologous series.

Although not much experimental data is available, Fig. 9 also illustrates a portion of the melting behavior expected of a homologous series after the minimum is reached. The members of the series exhibiting liquid crystalline behavior occur on the descending portion of the curve. Liquid crystalline behavior appears to cease before the minimum. Once the minimum is reached, the melting temperatures are predicted to increase gradually to $T = 411$ K. The descending portion of the curve was fit using Eq. (14). The ascending portion of the curve was fit using Eq. (15) using the protocol described above
odd series:

$$T_{\mathrm{iso}}(N)/\mathrm{K} = 364/[1 - 1/(0.6166N + 5.0517)];$$

$$r^2 = 0.9827, \tag{14}$$

$$T_{\mathrm{fus}}(N)/\mathrm{K} = 411/[1 - 1/(4.93N - 49.5)]. \tag{15}$$

Both the ascending and descending hyperbolic behavior of melting temperature as a function of the number of methylene groups of homologous series approaching the melting temperature of polyethylene ($T_{\mathrm{fus}} = 411$ K), can be understood by means of modeling this behavior. Both total phase change enthalpy and total phase change entropy of many homologous series not forming liquid crystals can be modeled as linear properties of the total number of methylene units, $N_{\mathrm{CH_2}}$. Their ratio, given by Eq. (16), is a hyperbola that asymptotically

$$\begin{aligned} T_{\mathrm{fus}} &= \Delta H_{\mathrm{fus}}/\Delta S_{\mathrm{fus}} \\ &\approx \Delta_0^{T_{\mathrm{iso}}} H_{\mathrm{tpce}}/\Delta_0^{T_{\mathrm{iso}}} S_{\mathrm{tpce}} \\ &= [A_{\mathrm{H}} N_{\mathrm{CH_2}} + B_{\mathrm{H}})]/[A_{\mathrm{S}} N_{\mathrm{CH_2}} + B_{\mathrm{S}})] \end{aligned} \tag{16}$$

approaches a limiting value as the number of methylene groups increase. It may be an ascending or descending function depending on the magnitude of the group values A_{H}, A_{S}.[15] In liquid crystals, $\Delta_0^{T_{\mathrm{iso}}} H_{\mathrm{tpce}}$ and $\Delta_0^{T_{\mathrm{iso}}} S_{\mathrm{tpce}}$ are not always well modeled by group methods as shown in Fig. 2. However for the series examined thus far, a hyperbolic function appears quite good at modeling their ratio, $T_{\mathrm{fus/iso}}$.

TABLE 8. Some examples of compounds forming liquid crystals upon supercooling the melt

Molecular formula	Transition	Compound			$\Delta_0^{T_{iso}}S_{tpce}$ (exp)	$\Delta_0^{T_{iso}}S_{tpce}$ (estimated)
		T (K)	ΔH_{pce}	ΔS_{pce}		
$C_{22}H_{28}O_2$		4-methoxy-4′-heptoxy-*trans*-stilbene				
	Sol/Liq	423	42.76	101.1	101.1	127.0
	Nem/Liq[a]	421	421	1.6		
$C_{27}H_{46}O$		cholesterol[b]				
	Sol/Sol	304.8	2.5	8.2		
	Sol/Liq[b]	420.2	27.41	65.22	73.42	73.7
$C_{33}H_{58}O_2$		5α-cholestan-3β-ol hexanoate				
	Sol/Liq	360.15	29.6	82.1	82.1	124.9
	Chol/Liq[a]	340.15	0.63	1.8		
$C_{37}H_{56}O_2$		cholesteryl ω-phenylbutyrate				
	Sol/Liq	364.1	28.20	77.45	77.45	128.4
	Liq/Chol[a]	299.3	0.84	0.3		
$C_{37}H_{66}O_2$		5α-cholestan-3β-ol decanoate				
	Sol/Liq	354.65	51.5	145.2	145.2	153.3
	Smec/Chol	326.15	0.36	1.1		
	Chol/Liq[a]	344.15	1.42	4.1		
$C_{38}H_{66}O_2$		cholesteryl undecanoate				
	Sol/Liq	364.65	26.4	72.4	72.4	161.2
	Chol/Smec	351.85	1.55	4.4		
	Smec/Liq[a]	361.05	1.34	3.7		
$C_{39}H_{60}O_2$		cholesteryl ω-phenylhexanoate				
	Sol/Liq	354.5	27.74	78.25	78.25	142.6
	Liq/Chol[a]	318.4	0.29	0.9		
$C_{39}H_{68}O_2$		cholesteryl dodecanoate				
	Sol/Liq	364.45	31.8	87.4	87.4	168.3
	Chol/Smec	353.35	0.95	2.7		
	Smec/Liq[a]	360.35	0.74	2.0		
$C_{39}H_{70}O_2$		5α-cholestan-3β-ol dodecanoate				
	Sol/Liq	360.65	57.3	159.0	159.0	167.5
	Smec/Chol	331.15	3.50	1.1		
	Chol/Liq[a]	340.15	1.71	5.0		
$C_{43}H_{76}O_2$		cholesterol palmitate				
	Sol/Chol	350.5	58.58	167.13		
	Chol/Liq[a]	354.8	1.18	3.33	170.46	196.7
$C_{46}H_{82}O_2$		cholesteryl nonadecanoate				
	Sol/Liq	353.55	73.3	207.3	207.3	218
	Chol/Smec	344.95	1.9	5.5		
	Chol/Liq[a]	348.75	1.7	4.8		
$C_{45}H_{80}O_2$		cholesteryl octadecanoate				
	Chol/Smec	354.95	70.38	198.3	198.3	210.9
	Chol/Smec	342.75	1.64	4.8		
	Chol/Liq[a]	347.55	1.64	4.7		
$C_{58}H_{69}ClO_{10}$		*bis*-4-[[4-(dodecyloxy)benzoyl]oxy]benzoic acid, 4-chloro-1,3-phenylene ester				
	Sol/Liq	371.2	38.7	104.26	131.8	305.9
	Meso/Liq	353.2	9.1	25.76		
	Nem/Liq[c]	368.2	0.65	1.77		

[a]Transition to a liquid crystal observed on cooling.
[b]Melts directly to an isotropic liquid; see Chickos *et al.*[6] for details on the estimation and Tables 10 and 11 for references and units.

5. Why Do Liquid Crystals Form?

Sorai *et al.*[10–14] have demonstrated that although the phase change entropy of compounds may be attenuated in a homologous series, the total entropy remains a group property (Fig. 6). Similarly, the total phase change entropy of most liquid crystals is smaller than for compounds melting directly to isotropic liquids. The clearing temperature of liquid crystals, T_{iso}, appears to correlate best with the melting temperatures of homologues that melt directly to isotropic liquids, suggesting that if compounds forming liquid crystals were to melt directly to isotropic liquids, they would do so at T_{iso}.

Table 8 includes a list of compounds that melt directly to isotropic liquids containing the two structural units common to most liquid crystals, a somewhat rigid ring and pendant alkyl groups of various lengths. Note that $\Delta_0^{T_{iso}}S_{tpce}$ is overestimated for many of these compounds as well. Cholesterol, which does not form an ordered liquid crystal, is included in this table simply to illustrate that the protocol used in the

TABLE 9. Group values for estimating heat capacities of solids at $T=298$ K

Hydrocarbon groups	Group values[a] $\Gamma(c)$	Hydrocarbon groups	Group values[a] $\Gamma(c)$
primary sp^3 C	36.6	tertiary aromatic sp^2 C	17.5
secondary sp^3 C	26.9	quaternary aromatic C	8.5
tertiary sp^3 C	9.0	internal quaternary aromatic sp^2 C	[9.1]
quaternary sp^3 C	−4.98	cyclic secondary sp^3 C	24.6
secondary sp^2 C	[46.0]	cyclic tertiary sp^3 C	11.7
tertiary sp^2 C	21.4	cyclic quaternary sp^3 C	6.1
quaternary sp^2 C	[6.86]	cyclic tertiary sp^2 C	15.9
tertiary sp C	[23.9]	cyclic quaternary sp^2 C	[4.73]
quaternary sp C	[15.2]		
Functional groups			
alcohols, phenols	23.5	cyclic ether	9.71
fluorine	[24.8]	isocyanate	[52.7]
chlorine	28.7	nitro group	56.1
bromine	32.4	thiols	[51.9]
nitrile	[42.3]	primary sp^3 N	21.6
carboxylic acid	53.1	secondary sp^3 N	[−0.29]
aldehyde	[84.5]	tertiary sp^3 N	31.5
ketone	[28.0]	tertiary sp^2 N	10.7
cyclic ketone	34.3	cyclic secondary sp^3 N	23.9
ester	40.3	cyclic tertiary sp^3 N	1.21
lactone	[45.2]	cyclic tertiary sp^2 N	13.9
ether	49.8	sulfides	[116]
		cyclic sulfides	18.2

[a]Values in brackets are considered as tentative assignments only; there are no other corrections to be applied; this is only a partial listing of group values available; units: $J\cdot K^{-1}\cdot mol^{-1}$.

estimations is not biased toward the steroid nucleus. The compounds chosen for this table do form liquid crystals upon supercooling the isotropic liquid below the melting temperature. The results from Fig. 6 suggest that the heat capacity of the solid phase of these compounds at some temperature regions would be underestimated by group values evaluated at these temperatures from compounds melting directly to isotropic liquids. Furthermore, a large discrepancy between estimated and experimental $\Delta_0^{T_{iso}}S_{tpce}$ appears to be a good indicator of a substance's propensity to form liquid crystals upon supercooling.

Table 9 lists a series of group values used to estimate heat capacities of organic solids that melt directly to isotropic liquids at $T=298.15$ K.[17] These group values were derived from compounds melting directly to isotropic liquids. It is interesting to compare the group values for a methylene and ether group, two structural units found in all or most liquid crystals, to the values derived for other common structural units. With the exception of a few terminal groups, these two group values on an atom basis (ignoring hydrogens) make the largest contribution to $C_p(c)$ at $T=298.15$ K. Even in compounds that melt to isotropic liquids, the CH_2 and O groups make significant contributions to the heat capacity.

Dialkyl ethers and *n*-alkanes themselves do not form liquid crystals. In addition, their heat capacities at $T=298.15$ K are generally well modeled by the group values listed in Table 9. Why is it that they do not form liquid crystals and why are the $C_p(c)$ values for these molecules at various temperatures less than the values found for compounds forming liquid crystals?

It can be argued that in both simple ethers and alkanes, the density of vibrational states available in the crystal are uniformly distributed throughout the crystal. As thermal energy is supplied, a point is reached when thermal motion is sufficient to overcome the intracrystalline forces and the crystal melts to an isotropic liquid.[18]

With regards to why $C_p(c)$ values of liquid crystals are larger, the answer probably lies in problems associated with packing a substance that contains two very different structural components, a somewhat rigid cyclic component, and one or more flexible alkyl chain. In our previous study of melting points, we found that the melting temperature of the first few members of many homologous series deviated from the hyperbolic behavior observed for the remaining members of the series. This could be interpreted as due to a change in crystal packing from one dominated by the functional group that characterizes the series, to one dominated by the pendent group(s).[15] This region appears exaggerated in homologous series that form liquid crystals. In the interim, packing of either group(s) is likely to be less than ideal and it is in this region that the heat capacity as a function of temperature is likely to be anomalously large. According to this model, this is a region at which various physical properties are in transition. Liquid crystal formation appears to lie early in this region of transition during the period at which T_{iso} is decreasing. At this point the crystal lattice should still be domi-

TABLE 10. Abbreviations and notations used in Table 11

Blue:	Blue phase; original blue phase was nematic with long range, three-dimensional crystalline order. Blue phases with smectic and cholesteric layering in addition to long range three-dimensional crystalline cubic and hexagonal ordering have also been observed.
Chol:	Cholesteric phase; a spiraling or helical arrangement of the local orientational order perpendicular to the long axis of the molecules; characteristic of chiral molecules.
Col:	Columnar phase; one of the specific liquid crystalline phases formed by disk-shaped molecules. Columnar phases are the discotic equivalent of the smectic phase. In the simplest case the short axes of the molecules are parallel to the axis of the vertical columns, which are randomly distributed in space.
Cube:	Cubic liquid crystalline phase; generally occurs in between liquid crystalline phases, and is believed to possess a labyrinth structure characterized by either a *Ia3d* or *Im3m* space group.
ΔH_{fus}:	Enthalpy of fusion
ΔH_{pce}:	The enthalpy associated with a phase change.
$\Delta_0^{T_{iso}} H_{tpce}$:	$\Delta_0^{T_{iso}} H_{tpce}$: The total molar phase change enthalpy associated in going from a rigid solid at $T=0$ K to the isotropic liquid at temperature $T=T_{iso}$.
ΔS_{fus}:	Entropy of fusion
ΔS_{pce}:	The entropy associated with a phase change.
$\Delta_0^{T_{iso}} S_{tpce}$:	The total molar phase change entropy associated in going from a rigid solid at $T=0$ K to the isotropic liquid at temperature $T=T_{iso}$.
$\Delta_0^{T_{fus}} S_{tpce}$:	The total molar phase change entropy associated in going from a rigid solid at $T=0$ K to the isotropic liquid at temperature $T=T_{fus}$.
Disc:	Discotic phase, broad classification of liquid crystalline phases formed by disk-shaped molecules. The classification is further subdivided into discotic nematic, discotic chiral, and columnar.
Gel:	A highly viscous liquid of undefined mesostructure.
Liq:	Liquid phase; generally associated with isotopic behavior on a molecular level.
Meso:	Mesophase: a thermodynamically stable intermediate phase between crystal and isotropic liquid; first observed by Austrian botanist Frederich Reinitzer in 1888.
NA:	Values for one of the groups present is not currently available.
Nem:	Nematic phase; a state in which the centers of mass of the molecules are disordered but where there is order in molecular orientation.
$S°(T)$:	Standard entropy at temperature T.
Smec:	Smectic phase; a phase in which there is order in molecular orientation and also some order in translation associated with planarity or layered structures; as many as 12 smectic phases have been identified.
Sol:	Solid phase; generally associated with regularity in molecular packing.
Sol/Sol:	Solid to solid transition; generally associated with either the onset of molecular motion as found in many plastic crystals or in a phase change associated with a change in lattice parameters; frequently associated with a reorganization in molecular packing.
T_{cld}:	The temperature in K of those materials forming liquid crystals upon supercooling the melt; $T_{cld} < T_{fus}$.
T_{fus}:	Melting to either an isotropic or liquid crystal; temperature in K.
T_{iso}:	Defined as $T_{iso} \geqslant T_{fus}$; the temperature at which the liquid becomes isotropic.

nated by the rigid cyclic component with the pendent alkyl groups more loosely packed. This view is consistent with solid state nuclear magnetic resonance studies.[19] As the crystalline form of the compound destined to exhibit liquid crystalline behavior is heated, thermal energy (motion) may not be distributed evenly in the crystal but may tend to accumulate in those regions of the crystal with the highest density of low energy states, most likely the pendant $-CH_2-$ and $-O-$ groups. Some point is reached at a temperature below the expected melting temperature (T_{iso}) at which sufficient thermal motion is present to cause flow but not sufficient to overcome all the attractive forces still present.[20] Whether a compound forms a liquid crystal or not is likely to be a delicate balance between how evenly or unevenly thermal motion is distributed within the crystal lattice. According to the results illustrated in Figs. 7–9, the effect of loose packing on those substances destined to form liquid crystals is somewhat similar to the effects of an impurity dissolved in nonstoichiometric amounts within a crystal lattice; a depression of the melting temperature results. In liquid crystals, the pendant alkyl chains are present stoichiometrically.

6. A Compendium of the Thermochemical Behavior of Liquid Crystals

As noted above, the thermochemical behavior of more than 3000 organic compounds known to form strong associations in the liquid phase have been reported. Table 10 provides a summary of the terms used in Table 11 and their definitions. Table 11 contains the thermochemical data that have been reported, estimations of total phase change entropies of a representative number of compounds, and references to the original literature. In addition abbreviated comments are provided for some entries. Table 12 contains references to Table 11.

The authors have made an effort to present the data accurately and without error. Table 11 has been compiled over a period of 10 years and has gone through several revisions. Some errors have been noted and corrected; however, in a compilation of this magnitude it is unlikely that all the errors have been detected and corrected. The reader is encouraged to consult the original literature when using this compendium.

TABLE 11. The solid-liquid phase change properties of liquid crystals

Molecular formula	transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{10}H_{12}O_3$		4-propoxybenzoic acid					
	Sol/Nem	423.8	14.38	33.93			
	Nem/Liq	432.0	1.80	4.17	38.10	67.3	[64]
	Independent values from another reference						
	Sol/Sol	394.2	7.95	20.17			
	Sol/Nem	419.7	16.74	39.89			
	Nem/Liq	426.7	2.51	5.88	65.94	67.3	[156]
$C_{10}H_{22}O_2S$		3-(heptylthio)-1,2-propanediol					
	Sol/Smec	289.5	27.30	94.30			
	Smec/Liq	292.5	1.70	5.81	100.1	112.9	[161]
$C_{11}H_{14}O_2$		4-butylbenzoic acid					
	Sol/Sol	279.0	0.70	2.51			
	Sol/Sol	313.0	7.80	24.92			
	Sol/Meso	377.0	13.30	35.28			
	Meso/Liq	387.0	1.30	3.36	66.07	64.8	[163]
	Independent values from another reference						
	Sol/Meso	309.6	4.70	15.18			
	Sol/Meso	374.6	11.58	30.91			
	Meso/Liq	388.0	0.76	1.96	48.05	64.8	[410]
$C_{11}H_{14}O_3$		4-butoxybenzoic acid					
	Sol/Nem	423.1	18.01	42.57			
	Nem/Liq	433.7	2.45	5.65	48.22	74.4	[64]
	Independent values from another reference						
	Sol/Nem	420.9	19.10	45.38			
	Nem/Liq	432.2	2.93	6.78	52.16	74.4	[160]
$C_{12}H_{16}O_2$		4-pentylbenzoic acid					
	Sol/Sol	252.0	2.60	10.32			
	Sol/Nem	362.0	9.90	27.35			
	Nem/Liq	395.0	1.50	3.80	41.47	71.9	[163]
	Independent values from another reference						
	Sol/Meso	362.5	11.38	31.39			
	Meso/Liq	399.3	1.10	2.75	34.14	71.9	[410]
$C_{12}H_{16}O_3$		4-pentyloxybenzoic acid					
	Sol/Nem	396.8	19.24	48.49			
	Nem/Liq	426.8	2.19	5.13	53.62	81.5	[64]
$C_{12}H_{26}O_2S$		3-(nonylthio)-1,2-propanediol					
	Sol/Smec	303.2	23.00	75.86			
	Smec/Liq	304.1	2.00	6.58	82.44	131.5	[161]
$C_{13}H_{13}N_5O$		3-(4-butoxyphenyl)-6-cyano-1,2,4,5-tetrazine					
	Sol/Smec	379.5	14.99	39.50			
	Smec/Liq	420.6	6.61	15.72	55.22	104.5	[97]
$C_{13}H_{16}O_2$		4-hexylbenzoic acid					
	Sol/Nem	371.0	17.40	46.90			
	Nem/Liq	380.0	2.4	6.32	53.22	79.0	[163]
	Independent values from another reference						
	Sol/Meso	370.6	12.88	34.75			
	Meso/Liq	385.9	0.95	2.46	37.21	79.0	[410]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{13}H_{16}O_3$		4-n-butyloxycinnamic acid					
	Sol/Nem	427.2	51.5	120.55			
	Nem/Liq	458.2	8.8	19.20	139.75	83.7	[22]
$C_{13}H_{18}O_3$		4-hexyloxybenzoic acid					
	Sol/Nem	382.5	12.47	32.60			
	Nem/Liq	428.3	2.45	5.72	38.32	88.6	[64]
	Independent values from another reference						
	Sol/Nem	377.7	12.11	32.06			
	Nem/Liq	421.8	2.16	5.12	37.18	88.6	[71, 326]
$C_{13}H_{28}O_4$		1,2,12,13-tetrahydroxytridecane					
	Sol/Meso	383.2	42.4	110.65			
	Meso/Liq	388.2	17.2	44.31	154.96	167.3	[145]
$C_{13}H_{28}O_6$		6-O-heptyl-D-galacitol					
	Sol/Smec	421.2	41.30	98.05			
	Smec/Liq	466.2	Not reported in paper			151	[183]
$C_{14}H_8N_2O_2$		4,4'-diisocyanatobiphenyl					
	Sol/Nem	380.2	28.1	73.91			
	Nem/Liq	404.2	0.52	1.29	75.20	64.2	[108]
$C_{14}H_{10}O_4$		4-benzoyloxybenzoic acid					
	Sol/Nem	502.7	26.35	52.41			
	Nem/Liq	Not observed by dsc			52.41	75.5	[140]
$C_{14}H_{11}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-methoxyphenylamino)-2-propen-1-one					
	Sol/Nem	394.8	21.35	54.08			
	Nem/Liq	410.6	0.22	0.54	54.62	76.3	[75]
$C_{14}H_{14}ClNO$		6-butyl-2-chloro-3-quinolinecarboxaldehyde					
	Sol/Smec	314.5	0.92	2.92			
	Smec/Liq	350.7	16.18	46.14	49.06		[402]
$C_{14}H_{14}N_2O_2$		p-azoxyanisole					
	Sol/Nem	390.8	31.13	79.66			
	Nem/Liq	409.6	0.74	1.81	81.47	78.8	[164]
	Independent values from another reference						
	Sol/Nem	391.4	29.57	75.55			
	Nem/Liq	408.5	0.57	1.40	76.95	78.8	[179]
	Independent values from another reference						
	Sol/Nem	391.0	29.2	74.68			
	Nem/Liq	409.0	0.73	1.78	76.46	78.8	[440]
$C_{14}H_{20}O_2$		4-heptylbenzoic acid					
	Sol/Sol	238.0	0.50	2.10			
	Sol/Sol	273.0	0.40	1.47			
	Sol/Sol	321.0	6.30	19.63			
	Sol/Nem	376.0	13.60	36.17			
	Nem/Liq	391.0	1.30	3.32	62.69	91.0	[163]
	Independent values from another reference						
	Sol/Sol	320.2	7.40	23.11			
	Sol/Meso	374.5	14.33	38.26			
	Meso/Liq	393.1	1.00	2.54	63.91	91.0	[410]
$C_{14}H_{20}O_3$		4-heptyloxybenzoic acid					
	Sol/Smec	368.0	24.67	67.04			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Nem	372.4	1.23	3.30			
	Nem/Liq	421.9	1.58	3.74	74.08	95.7	[64]
	Independent values from another reference						
	Sol/Smec	367.2	19.25	52.42			
	Smec/Nem	373.2	10.88	29.15			
	Nem/Liq	420.2	2.51	5.97	87.54	95.7	[156]
$C_{14}H_{26}O_7$		6-O-octanoyl-α-D-galactopyranose					
	Sol/Smec	358.2	2.48	6.92			
	Note: Above value is far out of line with others in series.						
	Smec/Liq	406.2	0.61	1.50	8.42	136.3	[39]
$C_{14}H_{28}O_6$		6-O-octyl-α-D-galactopyranose					
	Sol/Smec	358.2	34.24	95.59			
	Smec/Liq	442.2	2.27	5.13	100.72	143.4	[39]
$C_{14}H_{28}O_6$		octyl-β-D-glucopyranoside					
	Sol/Smec	Not reported in paper					
	Smec/Liq	382.0	1.26	3.30			[421]
$C_{14}H_{30}O_4$		1,2,13,14-tetrahydroxytetradecane					
	Sol/Meso	358.2	30.0	83.75			
	Meso/Liq	397.2	18.9	47.58	131.33	176.6	[145]
$C_{14}H_{30}O_6$		6-O-octyl-D-galacitol					
	Sol/Smec	420.2	60.56	144.12			
	Smec/Liq	427.2	1.99	4.66	148.78	158.2	[183]
$C_{15}H_8F_{13}NO_3S$		2-(perfluorohexyl)ethyl 4-nitrothiobenzoate					
	Sol/Smec	360.8	32.92	91.24			
	Smec/Liq	363.1	Not reported in paper		91.24	NA	[426]
	Note: Smec/Liq transition enthalpy is included in Sol/Smec value.						
$C_{15}H_{11}NO_4$		4-methoxybiphenyl 4-isocyanatobenzoate					
	Sol/Nem	363.2	22.9	63.05			
	Nem/Liq	369.2	0.13	0.35	63.40	96.9	[108]
$C_{15}H_{14}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-ethoxyphenylamino)-2-propen-1-one					
	Sol/Smec	402.6	16.65	41.36			
	Smec/Liq	438.3	4.87	11.11	52.47	83.4	[75]
$C_{15}H_{14}F_2$		3,5-difluoro-4′-propyl-[1,1′-biphenyl]					
	Sol/Nem	298.1	15.26	51.19			
	Nem/Liq	Not reported in paper					[437]
$C_{15}H_{13}NS$		4-ethyl-4′-thiocyanatobiphenyl					
	Sol/Meso	329.5	7.10	21.55			
	Meso/Liq	357.3	11.72	32.80	54.35	NA	[84]
$C_{15}H_{21}NO_5$		4-octyloxy-3-nitrobenzoic acid					
	Sol/Liq	393.2	29.6	75.28	75.28	104.3	[1]
$C_{15}H_{22}O_2$		4-octylbenzoic acid					
	Sol/Sol	305.5	5.40	1.77			
	Sol/Sol	366.6	0.47	1.28			
	Sol/Meso	373.3	14.32	38.36			
	Meso/Liq	385.5	1.20	3.11	44.52		[410]
$C_{15}H_{22}O_3$		4-octyloxybenzoic acid					
	Sol/Smec	377.7	10.26	27.16			
	Smec/Nem	373.5	1.00				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Note: Smec/Nem phase transition temperature was below the Sol/Smec transition temperature.						
	Nem/Liq	423.6	2.10	4.96	32.12	102.8	[64]
	Independent values from another reference						
	Sol/Smec	347.1	1.43	4.12			
	Note: Cooling curve indicated a significantly larger transition enthalpy of 12.09.						
	Smec/Nem	371.4	11.46	30.86			
	Nem/Liq	413.2	1.80	4.35	39.33	102.8	[71]
	Independent values from another reference						
	Sol/Sol	348.2	17.99	51.67			
	Sol/Smec	374.2	10.88	29.08			
	Smec/Nem	381.2	1.26	3.31			
	Nem/Liq	419.2	2.51	5.99	90.05	102.8	[156]
$C_{15}H_{28}O_5$		pentaerythritol mono-[*trans*-4-propylcyclohexane]-1- carboxylate					
	Sol/Smec	355.5	27.2	76.51			
	Smec/Liq	391.3	1.4	3.58	80.09	116.3	[21]
$C_{15}H_{28}O_7$		6-O-nonanoyl-α-D-galactopyranose					
	Sol/Smec	363.2	32.65	89.90			
	Smec/Liq	388.2	0.61	1.57	91.47	150.5	[39]
$C_{15}H_{30}O_6$		nonyl-β-D-glucopyranoside					
	Sol/Smec	Not reported in paper					
	Smec/Liq	400.0	1.68	4.20			[421]
$C_{15}H_{32}O_6$		6-O-nonyl-D-galacitol					
	Sol/Smec	417.2	52.09	124.86			
	Smec/Liq	468.2	Not reported in paper			165.3	[183]
$C_{16}H_{14}N_2O_2S_2$		2,5-*bis*(4-methoxyphenyl)thiazolo[5,4- d]dithiazole					
	Sol/Nem	547.1	41.77	76.35			
	Nem/Liq	622.5	0.36	0.58	76.93		[269]
$C_{16}H_{15}BrO$		4-bromo-4′-(3-butenyloxy)biphenyl					
	Sol/Meso	324.2	13.3	41.02			
	Meso/Liq	396.8	15.8	39.82	80.84	88.2	[118]
$C_{16}H_{15}NO_3$		4-[(E)-[(4-methoxyphenyl)methylene]amino]phenol, acetate (ester)					
	Sol/Nem	358.1	23.6	65.90			
	Nem/Liq	382.7	0.65	1.70	67.60		[365]
$C_{16}H_{15}NS$		4-propyl-4′-thiocyanatobiphenyl					
	Sol/Meso	304.9	9.16	30.04			
	Meso/Liq	361.4	14.77	40.87	70.91	NA	[84]
$C_{16}H_{16}N_2O_2$		anisaldazine					
	Sol/Nem	442.1	29.7	67.2			
	Nem/Liq	453.7	0.66	1.5	68.7	78.2	[309]
$C_{16}H_{17}NO_3$		4-(4-methoxybenzylidene)-ethoxyaniline-N-oxide					
	Sol/Liq	419.2	37.66	89.84			
	Liq/Nem	411.2	0.72	1.75	91.59	NA	[162]
$C_{16}H_{18}N_2O$		4-propyl-4′-methoxyazobenzene					
	Sol/Nem	334.3	52.93	158.33			
	Nem/Liq	341.1	1.56	4.57	162.90	92.6	[153]
$C_{16}H_{18}N_2O_2$		4,4′-diethoxyazobenzene					
	Sol/Nem	406.5	27.00	66.42			
	Nem/Liq	438.5	1.70	3.88	70.30	84.4	[157]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{16}H_{18}N_2O_3$		4,4′-diethoxyazoxybenzene					
	Sol/Nem	411.4	25.8	62.71			
	Nem/Liq	441.4	1.75	3.96	66.67	93.0	[9]
	Independent values from another reference						
	Sol/Nem	409.8	26.87	65.57			
	Nem/Liq	440.7	1.37	3.11	68.68	93.0	[179]
	Independent values from another reference						
	Sol/Sol	360.0	2.09	5.81			
	Sol/Nem	410.0	26.8	65.37			
	Nem/Liq	441.0	1.66	3.76	74.94	93.0	[440]
$C_{16}H_{19}N_5$		3-cyano-6-(4-heptylphenyl)-1,2,4,5-tetrazine					
	Sol/Smec	327.7	20.04	61.15			
	Smec/Liq	372.4	5.42	14.55	75.70	119	[97]
$C_{16}H_{20}O_5$		4-(6-acryloyloxyhexyloxy)benzoic acid					
	Sol/Smec	365.2	29.91	81.89			
	Smec/Nem	375.2	0.88	2.35			
	Nem/Liq	382.2	1.70	4.45	88.69	121.0	[222]
$C_{16}H_{21}N$		4-(*trans*-4-propylcyclohexyl)benzonitrile					
	Sol/Nem	316.3	20.4	64.50			
	Nem/Liq	319.1	1.1	3.45	67.95	84.2	[148]
$C_{16}H_{21}NS$		4-(*trans*-4′-propylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	312.2	13.1	41.96			
	Nem/Liq	315.2	0.90	2.86	44.82	NA	[151]
$C_{16}H_{23}NO_5$		4-nonyloxy-3-nitrobenzoic acid					
	Sol/Smec	369.2	24.6	66.63			
	Smec/Liq	Unable to be calculated				126.7	[1]
$C_{16}H_{24}O_3$		4-nonyloxybenzoic acid					
	Sol/Smec	368.3	39.28	106.66			
	Smec/Nem	386.4	1.64	4.24			
	Nem/Liq	414.5	2.51	6.06	116.96	109.9	[64]
	Independent values from another reference						
	Sol/Smec	365.2	33.47	91.65			
	Smec/Nem	391.2	1.68	4.29			
	Nem/Liq	418.2	2.51	6.00	101.94	109.9	[156]
$C_{16}H_{27}N$		trans,*trans*-4′-propyl-[1,1′]-bicyclohexyl-4-carbonitrile					
	Sol/Nem	330.7	27.0	81.64			
	Nem/Liq	353.8	1.8	5.09	86.73	79.7	[15]
$C_{16}H_{30}O_7$		6-O-decanoyl-α-D-galactopyranose					
	Sol/Smec	360.2	28.59	79.37			
	Smec/Liq	448.2	0.77	1.72	81.09	150.5	[39]
$C_{16}H_{32}O_5S$		6-S-decyl-6-thio-α-D-galactopyranose					
	Sol/Smec	377.2	30.45	80.73			
	Smec/Liq	464.2	3.84	8.27	89.00	152.1	[39]
$C_{16}H_{32}O_6$		6-O-decyl-α-D-galactopyranose					
	Sol/Smec	390.2	23.29	59.69			
	Smec/Liq	445.2	0.60	1.35	61.04	154.6	[39]
$C_{16}H_{32}O_6$		decyl-β-D-glucopyranoside					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	Not reported in paper					
	Smec/Liq	416.0	2.15	5.17			[421]
$C_{16}H_{34}O_6$		6-O-decyl-D-galacitol					
	Sol/Smec	418.2	56.14	134.24			
	Smec/Liq	443.2	1.54	3.47	137.71	172.4	[183]
$C_{17}H_{16}N_2$		4-[[(4-propylphenyl)methylene]amino]benzonitrile					
	Sol/Nem	336.2	19.5	58.00			
	Nem/Liq	344.6	0.57	1.65	59.65		[365]
$C_{17}H_{17}NO_3$		4-[[(4-propoxyphenyl)methylene]amino]benzoic acid					
	Sol/Sol	429.2	4.35	10.14			
	Sol/Nem	469.2	14.64	31.20			
	Nem/Liq	548.2	6.36	11.60	52.94		[370]
$C_{17}H_{18}BrNOS$		1-[2-(5-butylthienyl)]-3-(4-bromophenylamino)-2-propen-1-one					
	Sol/Smec	392.2	17.29	44.08			
	Smec/Liq	432.4	6.30	14.57	58.65	94.2	[75]
$C_{17}H_{18}ClNOS$		1-[2-(5-butylthienyl)]-3-(4-chlorophenylamino)-2-propen-1-one					
	Sol/Smec	375.8	15.82	42.10			
	Smec/Liq	426.3	5.94	13.93	56.03	92.9	[75]
$C_{17}H_{18}FNOS$		1-[2-(5-butylthienyl)]-3-(4-fluorophenylamino)-2-propen-1-one					
	Sol/Smec	354.0	24.72	69.83			
	Smec/Liq	359.8	2.85	7.92	77.75	93.3	[75]
$C_{17}H_{18}INOS$		1-[2-(5-butylthienyl)]-3-(4-iodophenylamino)-2-propen-1-one					
	Sol/Smec	409.5	18.86	46.06			
	Smec/Liq	427.3	6.08	14.23	60.29	96.1	[75]
$C_{17}H_{19}NO_3$		4-(4-ethoxybenzylidene)-ethoxyaniline-N-oxide					
	Sol/Liq	451.2	43.68	96.8			
	Liq/Nem	431.2	1.45	3.36	100.16	NA	[162]
$C_{17}H_{20}ClNO$		6-heptyl-2-chloro-3-quinolinecarboxaldehyde					
	Sol/Smec	305.2	6.52	21.36			
	Smec/Liq	336.2	22.60	67.22	88.58		[402]
$C_{17}H_{20}ClN_2O_2$		4-chloro-2′-hydroxy-4′-pentyloxyazobenzene					
	Sol/Smec	342.1	26.0	76.00			
	Smec/Nem	355.9	1.7	4.78			
	Nem/Liq	365.0	0.4	1.10	81.88	97.9	[229]
$C_{17}H_{20}N_2O$		4-butyl-4′-methoxyazobenzene					
	Sol/Nem	305.7	16.85	55.12			
	Nem/Liq	321.8	0.33	1.03	56.15	99.7	[141]
$C_{17}H_{20}N_2O$		4-propyl-4′-ethoxyazobenzene					
	Sol/Nem	361.6	52.15	144.22			
	Nem/Liq	371.5	2.74	7.38	151.60	99.7	[153]
$C_{17}H_{20}N_2O_2$		4-methyl-2′-hydroxy-4′-butoxyazobenzene					
	Sol/Nem	357.6	29.6	82.77			
	Nem/Liq	359.9	0.77	2.14	84.91	105.1	[73]
	Independent values from another reference						
	Sol/Nem	359.2	4.41	12.28			
	Nem/Liq	363.2	0.27	0.74	13.02	105.1	[282]
	Note: Experimental transition enthalpy data seems much too small.						

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{17}H_{23}NO_2S$		5-hexyl-2-(4-isothiocyanatophenyl)-1,3-dioxane					
	Sol/Smec	310.6	25.6	82.42			
	Smec/Liq	354.0	3.80	10.73	93.15	NA	[407]
$C_{17}H_{23}NS$		4-(*trans*-4′-butylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	307.2	25.2	82.03			
	Nem/Liq	308.2	0.45	1.46	83.49	NA	[151]
$C_{17}H_{24}O_3$		4-n-octyloxycinnamic acid					
	Sol/Nem	414.2	43.1	104.06			
	Nem/Liq	445.2	8.3	18.64	122.70	112.1	[22]
$C_{17}H_{25}NO_5$		4-decyloxy-3-nitrobenzoic acid					
	Sol/Smec	371.2	20.8	56.03			
	Smec/Liq	372.2	1.2	3.22	59.25	133.8	[1]
$C_{17}H_{26}O_3$		4-decyloxybenzoic acid					
	Sol/Smec	358.3	16.40	45.77			
	Smec/Smec	369.2	8.44	22.86			
	Smec/Nem	396.9	1.25	3.15			
	Nem/Liq	415.6	2.14	5.15	76.93	136.8	[53]
	Independent values from another reference						
	Sol/Smec	368.9	7.04	19.08			
	Note: Above value is quite low compared to values from three other references. Also above value might be for Smec/Smec transition, rather than the Sol/Smec transition as indicated in the paper.						
	Smec/Nem	384.6	0.92	2.39			
	Nem/Liq	408.3	2.61	6.39	27.86	117.0	[64]
	Independent values from another reference						
	Sol/Smec	359.1	21.13	58.84			
	Smec/Smec	369.2	11.61	31.45			
	Smec/Nem	395.0	1.59	4.03			
	Nem/Liq	414.0	2.45	5.92	100.24	117.0	[71]
	Independent values from another reference						
	Sol/Smec	359.2	21.76	60.58			
	Smec/Smec	370.2	10.46	28.25			
	Smec/Nem	398.2	1.67	4.19			
	Nem/Liq	416.2	2.93	7.04	100.06	117.0	[156]
$C_{17}H_{32}O_7$		6-O-undecanoyl-α-D-galactopyranose					
	Sol/Smec	388.2	25.78	66.41			
	Smec/Liq	454.2	3.00	6.61	73.02	157.6	[39]
$C_{17}H_{34}O_4$		pentaerythritol mono-[*trans*-4-pentylcyclohexylmethyl] ether					
	Sol/Smec	348.8	41.1	117.83			
	Smec/Liq	355.6	2.2	6.19	124.02	115.7	[21]
$C_{17}H_{34}O_6$		undecyl-β-D-glucopyranoside					
	Sol/Smec	Not reported in paper					
	Smec/Liq	412.0	1.55	3.76			[421]
$C_{17}H_{34}O_6S$		6-O-(propylene-[3′-S-octyl])-α-D-galactopyranose					
	Sol/Smec	368.2	47.10	127.92			
	Smec/Liq	429.2	1.43	3.33	131.25	163.8	[39]
$C_{17}H_{36}O_6$		6-O-undecyl-D-galacitol					
	Sol/Smec	419.2	66.72	159.16			
	Smec/Liq	466.2	1.68	3.60	162.76	179.5	[183]
$C_{18}H_{13}F_{13}O_2S$		2-(perfluorohexyl)ethyl 4-allyloxythiobenzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	302.5	21.34	70.54			
	Smec/Liq	371.0	7.56	20.38	90.92	NA	[134]
$C_{18}H_{15}NO$		4-(4-cyanophenyl)-1-(4-methoxyphenyl)-buta-1E,3E-diene					
	Sol/Nem	448.5	21.1	47.04			
	Nem/Liq	486.2	Not reported in paper			90.4	[210]
$C_{18}H_{16}O_3$		6-(4-pentenyloxy)-2-naphthoic acid					
	Sol/Nem	424.7	85.77	201.95			
	Nem/Liq	470.9	13.81	29.33	231.28	79.2	[68]
$C_{18}H_{18}N_2O$		N-(4-butoxybenzylidene)-4-aminobenzonitrile					
	Sol/Nem	337.7	25.7	76.10			
	Nem/Liq	379.4	0.58	1.53	77.63		[365]
$C_{18}H_{18}N_2O_2S_2$		2,5-*bis*(4-ethoxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Nem	511.6	30.86	60.32			
	Nem/Liq	601.4	0.76	1.26	61.58		[269]
$C_{18}H_{18}N_2O_3$		4-[(4-ethoxyphenyl)azo]phenyl 2-butenoate					
	Sol/Nem	382.9	23.6	61.63			
	Nem/Liq	469.9	1.92	4.09	65.72		[365]
$C_{18}H_{18}N_2O_5$		ethyl azoxybenzenedicarboxylate					
	Sol/Meso	386.9	20.50	52.99			
	Meso/Liq	395.7	5.44	13.75	66.74	99.0	[157]
$C_{18}H_{19}BrO$		4-bromo-4′-(5-hexenyloxy)biphenyl					
	Sol/Meso	308.2	13.8	44.78			
	Meso/Liq	393.9	16.0	40.62	85.40	102.4	[118]
$C_{18}H_{19}ClO_2S$		4-chlorophenyl 4-pentyloxythiobenzoate					
	Sol/Nem	352.4	32.80	93.08			
	Nem/Liq	358.9	0.71	1.98	95.06	NA	[383]
$C_{18}H_{19}N$		4′-pentyl-4-cyanobiphenyl					
	Sol/Nem	295.7	17.15	58.00			
	Nem/Liq	308.2	Value was not reported			90.8	[158]
	Independent values from another reference						
	Sol/Nem	287.9	15.95	55.40			
	Nem/Liq	306.9	0.54	1.76	57.16	90.8	[233]
	Independent values from another reference						
	Sol/Nem	297.0	13.39	45.08			
	Nem/Liq	309.0	0.33	1.07	46.15	90.8	[237]
$C_{18}H_{19}NO$		4′-pentyloxy-4-cyanobiphenyl					
	Sol/Nem	321.2	28.90	89.98			
	Nem/Liq	340.7	Value was not reported			97.6	[158]
	Independent values from another reference						
	Sol/Nem	320.5	29.58	92.29			
	Nem/Liq	340.8	0.42	1.23	93.52	97.6	[233]
	Independent values from another reference						
	Sol/Nem	325.5	35.80	109.98			
	Nem/Liq	341.2	0.40	1.17	111.15	97.6	[326]
$C_{18}H_{19}NO_3$		4-[[(4-methoxyphenyl)methylene]amino]phenyl butanoate					
	Sol/Nem	323.7	23.3	71.98			
	Nem/Liq	385.0	0.60	1.56	73.54		[365]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{18}H_{19}NS$		4-pentyl-4'-thiocyanatobiphenyl					
	Sol/Meso	326.3	11.60	35.55			
	Meso/Liq	346.8	10.84	31.26	66.81	NA	[84]
$C_{18}H_{20}BrNOS$		1-[2-(5-pentylthienyl)]-3-(4-bromophenylamino)-2-propen-1-one					
	Sol/Smec	378.8	17.08	45.09			
	Smec/Liq	436.0	6.88	15.78	60.87	101.3	[75]
$C_{18}H_{20}ClNOS$		1-[2-(5-pentylthienyl)]-3-(4-chlorophenylamino)-2-propen-1-one					
	Sol/Smec	360.9	14.21	39.39			
	Smec/Liq	429.5	6.24	14.53	53.92	100.0	[75]
$C_{18}H_{20}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-pentyloxyphenylamino)-2-propen-1-one					
	Sol/Meso	347.5	10.94	31.48			
	Meso/Smec	369.2	0.12	0.33			
	Smec/Smec	376.0	0.97	2.58			
	Smec/Liq	455.7	6.64	14.57	48.96	104.7	[75]
$C_{18}H_{20}FNOS$		1-[2-(5-pentylthienyl)]-3-(4-fluorophenylamino)-2-propen-1-one					
	Sol/Smec	338.2	17.85	52.78			
	Smec/Liq	365.4	3.23	8.84	61.62	100.4	[75]
$C_{18}H_{20}N_2O$		4-(ω-aminopentyloxy)-4′-cyanobiphenyl					
	Sol/Nem	335.4	18.14	54.08			
	Nem/Liq	368.8	0.55	1.49	55.57	108.5	[17]
$C_{18}H_{20}OS$		4′-(5-hexenyloxy)biphenyl-4-thiol					
	Sol/Meso	358.4	11.6	32.37			
	Meso/Liq	384.6	13.6	35.36	67.73	107.9	[118]
$C_{18}H_{21}NO$		N-(4-methoxybenzylidene)-4-n-butylaniline					
	Sol/Nem	295.7	18.03	60.97			
	Nem/Liq	317.0	0.62	1.96	62.93	90.5	[157]
	Independent values from another reference						
	Sol/Nem	294.1	13.80	46.92			
	Nem/Liq	326.1	0.31	0.95	47.87	90.5	[376, 381]
	Note: Temperature was calculated from published enthalpy and entropy values in paper.						
	Independent values from another reference						
	Sol/Nem	295.7	12.93	43.72			
	Nem/Liq	320.1	0.28	0.87	44.59	90.5	[406]
$C_{18}H_{21}NO_2$		N-(2-hydroxy-4-methoxybenzylidene)-4-butylaniline					
	Sol/Nem	314.5	24.41	77.62			
	Nem/Liq	335.7	0.89	2.65	80.27	95.9	[157, 341]
$C_{18}H_{22}N_2O$		4-pentyl-4′-methoxyazobenzene					
	Sol/Nem	313.2	18.67	59.61			
	Nem/Liq	340.3	0.77	2.26	61.87	95.4	[141]
$C_{18}H_{22}N_2O$		4-butyl-4′-ethoxyazobenzene					
	Sol/Nem	316.5	14.79	46.73			
	Nem/Liq	351.3	0.80	2.28	49.01	95.4	[141]
$C_{18}H_{22}N_2O_2$		4-methyl-2′-hydroxy-4′-pentyloxyazobenzene					
	Sol/Nem	339.9	27.7	81.49			
	Nem/Liq	353.2	1.0	2.83	84.32	97.2	[73]
$C_{18}H_{22}N_2O_3$		4,4′-dipropoxyazoxybenzene					
	Sol/Sol	372.5	20.60	55.30			
	Sol/Nem	390.7	27.40	70.13			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	397.8	0.92	2.31	127.74	107.2	[9]
	Independent values from another reference						
	Sol/Nem	388.7	26.90	69.21			
	Nem/Liq	396.8	0.67	1.69	70.90	107.2	[179]
	Note: Sol/Sol phase transition likely occurs and was not included in the authors' measured values.						
	Independent values from another reference						
	Sol/Sol	376.0	20.7	55.05			
	Sol/Nem	389.0	27.5	70.69			
	Nem/Liq	398.0	1.03	2.59	128.33	107.2	[440]
$C_{18}H_{24}O_4$		4,4′-di(2-methoxyethoxy)biphenyl					
	Sol/Smec	409.5	17.53	42.80			
	Smec/Liq	412.4	22.67	54.97	97.77	111.6	[102]
$C_{18}H_{26}O_4$		4-decyloxycarbonylbenzoic acid					
	Sol/Smec	342.2	9.71	28.38			
	Smec/Liq	386.5	29.72	76.90	105.28	140.8	[53]
$C_{18}H_{27}NO_5$		4-undecyloxy-3-nitrobenzoic acid					
	Sol/Smec	364.2	22.6	62.05			
	Smec/Liq	365.2	2.2	6.02	68.07	162.9	[1]
$C_{18}H_{28}O_3$		4-undecyloxybenzoic acid					
	Sol/Smec	369.2	40.17	108.80			
	Smec/Nem	402.2	2.09	5.20			
	Nem/Liq	413.2	2.51	6.07	120.07	146.1	[156]
	Independent values from another reference						
	Sol/Smec	378.4	34.23	90.46			
	Smec/Nem	404.7	1.99	4.92			
	Nem/Liq	415.6	2.37	5.70	101.08		[418]
$C_{18}H_{34}O_7$		6-O-dodecanoyl-α-D-galactopyranose					
	Sol/Smec	367.2	23.16	63.07			
	Smec/Liq	455.2	4.02	8.83	71.90	164.7	[39]
$C_{18}H_{36}O_5S$		6-S-dodecyl-6-thio-α-D-galactopyranose					
	Sol/Smec	382.2	44.07	115.31			
	Smec/Liq	458.2	2.84	6.20	121.51	192.6	[39]
$C_{18}H_{36}O_6$		6-O-dodecyl-α-D-galactopyranose					
	Sol/Smec	392.2	44.53	113.54			
	Smec/Liq	444.2	1.29	2.90	116.44	195.2	[39]
$C_{18}H_{36}O_6$		dodecyl-β-D-glucopyranoside					
	Sol/Smec	Not reported in paper					
	Smec/Liq	427.0	1.55	3.63			[421]
$C_{18}H_{38}O_4$		1,2,17,18-tetrahydroxyoctadecane					
	Sol/Meso	352.2	21.5	61.04			
	Meso/Meso	407.2	11.0	27.01			
	Meso/Liq	410.2	14.6	35.59	123.64	234.8	[145]
$C_{18}H_{38}O_6$		6-O-dodecyl-D-galacitol					
	Sol/Smec	415.2	66.42	159.97			
	Smec/Liq	444.2	1.49	3.35	163.32	215.2	[183]
$C_{19}H_{13}F_9SO$		2-(perfluorobutyl)ethyl 4-phenylthiobenzoate					
	Sol/Smec	319.7	24.9	77.89			
	Smec/Liq	406.2	15.7	38.65	116.54	NA	[38]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{19}H_{15}F$		4-propyl-4′-fluorodiphenyldiacetylene					
	Sol/Nem	367.6	20.27	55.14			
	Nem/Liq	375.4	0.59	1.57	56.71	64.3	[270]
$C_{19}H_{16}N_2O$		4′-methoxy-N-[(2-pyridinyl)methylene]-1,1-biphenyl-4-amine					
	Sol/Nem	390.0	20.46	52.46			
	Nem/Liq	392.0	0.20	0.51	52.96	86.7	[314, 155]
$C_{19}H_{16}N_2O$		4′-methoxy-N-[(3-pyridinyl)methylene]-1,1-biphenyl-4-amine					
	Sol/Nem	448.9	15.48	34.49			
	Nem/Liq	468.4	0.40	0.85	35.33	86.7	[314, 155]
$C_{19}H_{16}N_2O$		4′-methoxy-N-[(4-pyridinyl)methylene]-1,1-biphenyl-4-amine					
	Sol/Nem	467.0	36.19	77.50			
	Nem/Liq	454.5	0.35	0.77	78.27	86.7	[314, 155]
$C_{19}H_{17}FNOS$		4′-butoxy-3′-fluoro-4-isothiocyanatotolane					
	Sol/Nem	337.4	23.93	70.92			
	Nem/Liq	344.8	0.54	1.57	72.49	NA	[135]
$C_{19}H_{17}N$		N,N-dimethyl-4-[4-(4-methylphenyl)-1,3-butadinyl]benzenamine					
	Sol/Nem	401.3	27.9	69.52			
	Nem/Liq	406.5	1.24	3.05	72.57		[216]
$C_{19}H_{17}NOS$		4′-butoxy-4-isothiocyanatotolane					
	Sol/Smec	385.3	22.43	58.21			
	Smec/Nem	385.7	13.22	34.28			
	Nem/Liq	389.2	0.80	2.06	94.55	NA	[135, 238]
$C_{19}H_{17}NOS$		4′-methoxy-N-[(5-methyl-2-thienyl)methylene]-1,1-biphenyl-4-amine					
	Sol/Nem	433.3	31.42	72.52			
	Nem/Liq	484.2	0.64	1.32	73.84		[314, 155]
$C_{19}H_{18}O_3$		6-(5-hexenyloxy)-2-naphthoic acid					
	Sol/Sol	303.2	2.93	9.66			
	Sol/Nem	421.2	50.62	120.21			
	Nem/Liq	464.3	8.37	18.03	147.90	86.3	[68]
$C_{19}H_{20}N_2O$		N-(4-pentyloxybenzylidene)-4-aminobenzonitrile					
	Sol/Nem	335.9	24.4	72.64			
	Nem/Liq	361.4	0.45	1.25	73.89		[365]
$C_{19}H_{20}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-pentyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	404.2	8.40	20.78			
	Smec/Liq	455.2	4.49	9.86	30.64	106.2	[75]
$C_{19}H_{20}N_2O_3$		4-pentanoyl-4′-ethanoyloxyazobenzene					
	Sol/Sol	367.5	6.84	18.61			
	Sol/Nem	387.4	26.97	69.62			
	Nem/Liq	400.1	0.67	1.67	89.90	94.4	[157]
$C_{19}H_{21}ClO_2S$		4-chlorophenyl 4-hexyloxythiobenzoate					
	Sol/Smec	340.8	21.84	64.08			
	Smec/Nem	359.9	2.47	6.86			
	Nem/Liq	364.2	0.75	2.06	73.00	NA	[383]
$C_{19}H_{21}N$		4-cyano-4′-hexylbiphenyl					
	Sol/Nem	286.7	24.27	84.65			
	Nem/Liq	300.2	Value was not reported			97.9	[158]

Independent values from another reference

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	286.5	16.53	57.70			
	Nem/Liq	301.2	0.50	1.66	59.36	97.9	[233]
	Independent values from another reference						
	Sol/Nem	288.0	20.92	72.64			
	Nem/Liq	303.0	0.29	0.96	73.60	97.9	[237]
$C_{19}H_{21}NO$		4-cyano-4′-hexyloxybiphenyl					
	Sol/Nem	331.2	29.70	89.67			
	Nem/Liq	349.2	Value was not reported			104.7	[158]
	Independent values from another reference						
	Sol/Nem	332.2	27.69	83.35			
	Nem/Liq	350.2	0.50	1.43	84.78	104.7	[222]
	Independent values from another reference						
	Sol/Nem	330.1	34.18	103.54			
	Nem/Liq	349.2	0.63	1.80	105.34	104.7	[233]
$C_{19}H_{21}NS$		4-hexyl-4′-thiocyanatobiphenyl					
	Sol/Meso	307.1	11.21	36.50			
	Meso/Liq	347.0	11.21	32.31	68.81	NA	[84]
$C_{19}H_{22}BrNOS$		1-[2-(5-hexylthienyl)]-3-(4-bromophenylamino)-2-propen-1-one					
	Sol/Smec	362.2	24.07	66.45			
	Smec/Smec	367.5	0.90	2.45			
	Smec/Liq	438.9	7.10	16.18	85.08	108.4	[75]
$C_{19}H_{22}ClN$		4-chlorobenzylidene 4′-hexylaniline					
	Sol/Smec	311.2	14.41	46.30			
	Smec/Liq	329.2	7.78	23.63	69.93	100.7	[70]
$C_{19}H_{22}ClNO$		4′-hexyloxybenzylideneamino-4-chlorobenzene					
	Sol/Smec	327.7	10.88	33.20			
	Smec/Smec	333.9	12.35	36.99			
	Smec/Nem	363.0	3.39	9.34			
	Nem/Liq	370.4	5.79	15.63	95.16	105.4	[157,336]
$C_{19}H_{22}ClNOS$		1-[2-(5-hexylthienyl)]-3-(4-chlorophenylamino)-2-propen-1-one					
	Sol/Smec	346.6	11.43	32.98			
	Smec/Smec	350.2	0.55	1.57			
	Smec/Liq	432.6	6.57	15.19	49.74	107.5	[75]
$C_{19}H_{22}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-hexyloxyphenylamino)-2-propen-1-one					
	Sol/Meso	341.8	4.94	14.45			
	Meso/Smec	369.3	0.05	0.14			
	Smec/Smec	377.5	0.86	2.28			
	Smec/Liq	458.4	5.4	11.78	28.65	111.8	[75]
$C_{19}H_{22}FNO$		4′-hexyloxybenzylideneamino-4-fluorobenzene					
	Sol/Smec	328.1	23.22	70.77			
	Smec/Smec	330.3	3.05	9.23			
	Smec/Nem	334.9	3.41	10.18			
	Nem/Liq	336.3	1.17	3.48	93.66	105.8	[157,335]
$C_{19}H_{22}FNOS$		1-[2-(5-hexylthienyl)]-3-(4-fluorophenylamino)-2-propen-1-one					
	Sol/Smec	353.3	32.90	93.12			
	Smec/Liq	371.3	3.64	9.80	102.92	107.5	[75]
$C_{19}H_{22}FNO_2$		4-cyano-2-fluorophenyl 4-propylbicyclo[2.2.2]octane-1-carboxylate					
	Sol/Nem	385.2	29.08	75.49			
	Nem/Liq	402.2	Not reported in paper			78.5	[197]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{19}H_{22}N_2O$		4-(ω-aminohexyloxy)-4′-cyanobiphenyl					
	Sol/Nem	340.9	10.28	30.16			
	Nem/Liq	365.3	0.19	0.52	30.68	115.6	[17]
$C_{19}H_{22}O_2$		4-butoxy-4′-methoxy-*trans*-stilbene					
	Liq/Nem	435	0.76	1.7			
	Sol/Liq	422	39.67	89.7	89.7	105.7	[157]
$C_{19}H_{22}O_4$		4,4′-*bis*(ω-hydroxyethoxy)-α-methylstilbene					
	Sol/Sol	376.2	10.35	27.5			
	Sol/Smec	422.5	22.35	52.9			
	Smec/Nem	433.6	4.68	10.8			
	Nem/Liq	438.2	Not reported in paper			123.8	[56]
$C_{19}H_{23}NO$		N-(4-methoxybenzylidene)-4-pentylaniline					
	Sol/Nem	312.9	22.7	72.55			
	Nem/Liq	333.3	0.67	2.01	74.56	97.6	[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{19}H_{23}NO$		N-(4-ethoxybenzylidene)-4-butylaniline					
	Sol/Nem	305.6	27.09	88.65			
	Nem/Liq	349.1	1.55	4.44	93.09	97.6	[157, 340]
	Independent values from another reference						
	Sol/Nem	308.5	17.2	55.75			
	Nem/Liq	357.1	0.52	1.46	57.21	97.6	[376,381]
$C_{19}H_{23}NO_3$		N-(4-methoxyphenyl)-α-(4-pentyloxyphenyl)nitrone					
	Sol/Nem	385.2	31.25	81.13			
	Nem/Liq	393.2	0.70	1.78	82.91	NA	[162]
$C_{19}H_{24}ClN_2O_2$		4-chloro-2′-hydroxy-4′-heptyloxyazobenzene					
	Sol/Smec	340.2	34.6	101.70			
	Smec/Nem	367.5	2.0	5.44			
	Nem/Liq	369.7	0.7	1.89	109.03	127	[229]
$C_{19}H_{24}FNO_2$		4-cyano-2-fluorophenyl *trans*-4-pentylcyclohexane-1-carboxylate					
	Sol/Nem	348.7	30.10	86.32			
	Nem/Liq	366.7	Not reported in paper			102.8	[197]
$C_{19}H_{24}N_2O$		4-pentyl-4′-ethoxyazobenzene					
	Sol/Nem	344.7	13.78	39.98			
	Nem/Liq	364.9	0.86	2.36	42.34	98.9	[141]
$C_{19}H_{24}N_2O$		4-propyl-4′-butoxyazobenzene					
	Sol/Nem	344.4	41.11	119.37			
	Nem/Liq	358.0	2.64	7.37	126.74	98.9	[153]
$C_{19}H_{26}O_3$		4-propylcyclohexyl 4-methoxycinnamate					
	Sol/Nem	340.2	19.5	57.32			
	Nem/Liq	364.2	0.9	2.47	59.79	100.8	[5]
$C_{19}H_{27}NO_2S$		5-octyl-2-(4-isothiocyanatophenyl)-1,3-dioxane					
	Sol/Smec	322.8	28.4	87.98			
	Smec/Liq	356.1	3.82	10.73	98.71	NA	[407]
$C_{19}H_{27}NS$		4-(*trans*-4′-hexylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	285.7	26.80	93.80			
	Nem/Liq	315.8	1.60	5.07	98.87	NA	[151]
$C_{19}H_{28}O_3$		4-n-decyloxycinnamic acid					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	404.2	39.6	97.97			
	Smec/Nem	423.2	4.9	11.58			
	Nem/Liq	442.2	10.4	23.52	133.07	126.3	[22]
$C_{19}H_{29}NO_5$		4-dodecyloxy-3-nitrobenzoic acid					
	Sol/Smec	367.2	30.8	83.88			
	Smec/Liq	368.2	2.3	6.25	90.13	172.2	[1]
$C_{19}H_{30}O_3$		4-dodecyloxybenzoic acid					
	Sol/Smec	363.7	35.6	97.88			
	Smec/Nem	405.2	1.8	4.44			
	Nem/Liq	413.2	2.0	4.84	107.16	155.4	[104–106]
	Independent values from another reference						
	Sol/Sol	356.2	17.99	50.51			
	Sol/Smec	363.2	16.32	44.93			
	Smec/Nem	406.2	3.35	8.25			
	Nem/Liq	412.2	4.18	10.14	113.83	155.4	[156]
$C_{19}H_{30}O_4$		4-dodecyloxy-2-hydroxybenzoic acid					
	Sol/Smec	372.6	30.9	82.93			
	Smec/Nem	380.0	2.9	7.63			
	Nem/Liq	383.1	3.3	8.61	99.17	160.8	[104]
$C_{19}H_{38}O_6S$		6-O-(propylene-[3′-S-decyl])-α-D-galactopyranose					
	Sol/Smec	374.2	54.29	145.08			
	Smec/Liq	439.2	0.55	1.25	146.33	178	[39]
$C_{19}H_{40}O_4$		1,2,18,19-tetrahydroxynonadecane					
	Sol/Meso	362.2	45.4	125.35			
	Meso/Meso	408.2	12.4	30.38			
	Meso/Liq	412.2	15.0	36.39	192.12	244.1	[145]
$C_{19}H_{40}O_6$		6-O-tridecyl-D-galacitol					
	Sol/Smec	415.2	59.27	142.75			
	Smec/Liq	458.2	Not reported in paper			224.5	[183]
$C_{20}H_7ClF_{13}NO_2$		5-chloro-2-(4-n-tridecafluorohexylphenyl)isoindole-1,3-dione					
	Sol/Sol	417.1	3.2	7.67			
	Sol/Smec	428.4	25.4	59.29			
	Smec/Liq	438.0	6.5	14.84	81.80	102.4	[32]
$C_{20}H_7F_{14}NO_2$		5-fluoro-2-(4-n-tridecafluorohexylphenyl)isoindole-1,3-dione					
	Sol/Smec	399.6	26.9	67.32			
	Smec/Liq	410.7	4.9	11.93	79.25	102.8	[32]
$C_{20}H_{14}N_2O_4$		4-[[(4-nitrophenyl)methylene]amino]phenol, benzoate (ester)					
	Sol/Nem	478.2	33.0	69.01			
	Nem/Liq	496.2	0.7	1.41	70.42		[346]
$C_{20}H_{14}N_2O_4$		4-[(phenylmethylene)amino]phenyl 4-nitrobenzoate					
	Sol/Nem	467.2	39.0	83.48			
	Nem/Liq	472.2	0.7	1.48	84.96		[346]
$C_{20}H_{14}N_2O_4$		4-[[(4-nitrophenyl)imino]methyl]phenol, benzoate (ester)					
	Sol/Nem	473.2	43.0	90.87			
	Nem/Liq	494.2	0.9	1.82	92.69		[346]
$C_{20}H_{14}N_2O_4$		phenyl 4-[[(4-nitrophenyl)methylene]amino]benzoate					
	Sol/Nem	474.2	40.0	84.35			
	Nem/Liq	483.2	0.7	1.45	85.80		[346]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{20}H_{14}N_2O_4$		4-nitrophenyl 4-[(phenylamino)methyl]benzoate					
	Sol/Nem	439.2	37.0	84.24			
	Nem/Liq	469.2	0.8	1.71	85.95		[346]
$C_{20}H_{15}F$		4-[(4-buten-1-yl)phenyl-1,3-butadiynyl]-4-fluorobenzene					
	Sol/Nem	366.2	23.68	64.66			
	Nem/Liq	438.9	0.62	1.41	66.07	69.3	[212]
$C_{20}H_{15}NO$		4-ethoxy-4″-cyano-*p*-terphenyl					
	Sol/Nem	481.2	25.94	53.90			
	Nem/Liq	575.2	Decomposed				[277]
$C_{20}H_{16}N_2O_3$		3-pyridyl 4-(4-methoxybenzylideneamino)benzoate					
	Sol/Nem	408.2	38.0	93.09			
	Nem/Liq	460.2	0.3	0.65	93.74		[291]
$C_{20}H_{16}N_2O_3$		4[(E)-[(4-methoxyphenyl)methylene]amino]phenyl 3-pyridinecarboxylate					
	Sol/Nem	406.2	41.0	100.94			
	Nem/Liq	475.2	0.6	1.26	102.20		[291]
$C_{20}H_{16}N_2O_3$		4-[(E)-(3-pyridimino)methyl]phenyl 4-methoxybenzoate					
	Sol/Nem	394.2	31.0	78.64			
	Nem/Liq	460.2	0.5	1.09	79.73		[291]
$C_{20}H_{16}N_2O_3$		4-[(E)-(3-pyridinylmethylene)amino]phenyl 4-methoxybenzoate					
	Sol/Nem	405.2	35.0	86.38			
	Nem/Liq	464.2	0.8	1.72	88.10		[291]
$C_{20}H_{17}F$		4-[4-butylphenyl-1,3-butadiynyl]-4-fluorobenzene					
	Sol/Nem	363.3	26.56	73.11			
	Nem/Liq	363.9	0.37	1.02	74.13	71.4	[212]
$C_{20}H_{17}F$		4-butyl-4′-fluorodiphenyldiacetylene					
	Sol/Nem	358.6	19.10	53.26			
	Nem/Liq	360.9	0.86	2.38	55.64	71.4	[270]
$C_{20}H_{17}F_9OS$		4-propoxyphenylbenzyl perfluorobutyl thioether					
	Sol/Sol	358.9	2.3	6.41			
	Sol/Smec	367.7	1.3	3.53			
	Smec/Liq	413.3	8.4	20.32	30.23	99.7	[66]
$C_{20}H_{17}NO$		4-benzylideneamino-4′-methoxybiphenyl					
	Sol/Nem	443.2	35.15	79.30			
	Nem/Liq	448.7	0.39	0.88	80.2	83.2	[314, 155]
$C_{20}H_{18}FN$		N-butyl-4-[4-(4-fluorophenyl)-1,3-butadiynyl]benzenamine					
	Sol/Nem	375.2	33.5	89.29			
	Nem/Liq	406.3	Value was not reported			68.2	[216]
$C_{20}H_{19}FNOS$		4′-pentyloxy-3′-fluoro-4-isothiocyanatotolane					
	Sol/Nem	334.3	30.33	90.73			
	Nem/Liq	338.6	3.47	10.25	100.98	NA	[135]
$C_{20}H_{19}NOS$		4′-pentyloxy-4-isothiocyanatotolane					
	Sol/Sol	342.8	24.39	71.15			
	Sol/Liq	386.0	13.81	35.77	106.92	NA	[135, 238]
$C_{20}H_{20}O_3$		6-(6-heptenyloxy)-2-naphthoic acid					
	Sol/Sol	307.2	18.41	59.93			
	Sol/Nem	421.2	50.63	120.23			
	Nem/Liq	464.4	8.37	18.03	198.19	88.7	[68]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{20}H_{21}NO_2$		4-cyanophenyl 4-(hexyl)benzoate					
	Sol/Nem	318.5	37.03	116.26			
	Nem/Liq	321.5	0.66	2.05	118.31	105.5	[34]
$C_{20}H_{21}NO_2$		ethyl 4-(4-ethoxybenzylideneamino)cinnamate					
	Sol/Smec	354.2	27.30	77.08			
	Smec/Smec	391.7	2.10	5.36			
	Smec/Nem	429.7	5.10	11.87			
	Nem/Liq	432.2	0.50	1.16	95.47		[393]
$C_{20}H_{21}NO_2$		(E)-4-{2-[4-(5-hydroxypentyloxy)phenyl]vinyl}benzonitrile					
	Sol/Smec	362.0	12.4	34.25			
	Smec/Liq	368.1	16.3	44.28			
	Nem/Liq	378.0	5.4	14.29	92.82		[435]
$C_{20}H_{22}N_2O$		4-[hexyloxybenzylideneamine]-4′-benzonitrile					
	Sol/Sol	307.0	5.11	16.64			
	Sol/Nem	334.1	23.77	71.15			
	Nem/Liq	375.0	1.75	4.67	92.46	106.9	[157, 380]
$C_{20}H_{22}N_2O$		N-(4-hexyloxybenzylidene)-4-aminobenzonitrile					
	Sol/Nem	329.7	25.8	78.25			
	Nem/Liq	375.4	0.64	1.70	79.95		[365]
$C_{20}H_{22}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-hexyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	399.0	9.47	23.73			
	Smec/Liq	456.8	5.13	11.23	34.96	113.3	[75]
$C_{20}H_{22}N_2O_2S_2$		2,5-*bis*(4-propoxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Nem	486.6	33.97	69.81			
	Nem/Liq	579.1	1.15	1.99	71.80		[269]
$C_{20}H_{22}N_2O_3$		4-pentanoyl-4′-propanoyloxyazobenzene					
	Sol/Sol	345.1	2.63	7.62			
	Sol/Smec	391.5	24.17	61.74			
	Smec/Nem	394.1	3.27	8.30			
	Nem/Liq	406.1	0.69	1.70	79.36	101.5	[157]
$C_{20}H_{22}N_4O_2S$		5-(4-pyridyl)-2-(4-hexyloxy)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	484.5	18.7	38.60			
	Smec/Liq	523.8	6.7	12.79	51.39		[31]
$C_{20}H_{22}O_6$		butyl-4-(4-ethoxyphenylcarbonyl)phenylcarbonate					
	Sol/Nem	328.3	23.40	71.27			
	Nem/Liq	358.1	Not reported in paper				[157]
$C_{20}H_{23}ClO_2S$		4-chlorophenyl 4-heptyloxythiobenzoate					
	Sol/Smec	344.7	27.74	80.48			
	Smec/Liq	365.9	4.56	12.46	92.94	NA	[383]
$C_{20}H_{23}F_9S$		4-propylcyclohexylbenzyl perfluorobutyl thioether					
	Sol/Smec	302.8	13.1	43.26			
	Smec/Liq	312.2	8.1	25.94	69.2	98.2	[66]
$C_{20}H_{23}N$		4′-heptyl-4-cyanobiphenyl					
	Sol/Nem	301.7	25.94	85.98			
	Nem/Liq	315.2	Value was not reported			105	[158]
	Independent values from another reference						
	Sol/Nem	303.0	28.49	94.03			
	Nem/Liq	315.6	0.75	2.38	96.41	105	[233]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Independent values from another reference						
	Sol/Nem	303.0	25.52	84.22			
	Nem/Liq	316.0	0.63	1.99	86.21	105	[237]
$C_{20}H_{23}NO$		4′-heptyloxy-4-cyanobiphenyl					
	Sol/Nem	326.7	28.87	88.37			
	Nem/Liq	348.2	Value was not reported			109.7	[158]
	Independent values from another reference						
	Sol/Nem	323.8	28.07	86.69			
	Nem/Liq	349.4	0.54	1.55	88.24	109.7	[233]
$C_{20}H_{23}NO_3$		4-(4-hexyloxyphenyliminomethyl)benzoic acid					
	Sol/Smec	462.2	16.0	34.62			
	Smec/Nem	531.2	3.0	5.65			
	Nem/Liq	539.2	8.5	15.76	56.03		[416]
$C_{20}H_{23}NO_5$		4-heptyloxyphenyl 4-nitrobenzoate					
	Sol/Nem	336.2	10.75	31.98			
	Nem/Liq	342.2	1.88	5.49	37.47	119.5	[236]
$C_{20}H_{23}NS$		4-heptyl-4′-thiocyanatobiphenyl					
	Sol/Meso	331.0	14.81	44.74			
	Meso/Liq	345.6	7.70	22.28	67.02	NA	[84]
$C_{20}H_{24}BrNOS$		1-[2-(5-heptylthienyl)]-3-(4-bromophenylamino)-2-propen-1-one					
	Sol/Smec	357.5	20.02	56.00			
	Smec/Smec	364.4	0.57	1.56			
	Smec/Liq	440.7	6.78	15.38	72.94	115.5	[75]
$C_{20}H_{24}ClN$		4-chlorobenzylidene 4′-heptylaniline					
	Sol/Smec	316.2	19.64	62.11			
	Smec/Liq	332.7	8.21	24.68	86.79	105.7	[70]
$C_{20}H_{24}ClNOS$		1-[2-(5-heptylthienyl)]-3-(4-chlorophenylamino)-2-propen-1-one					
	Sol/Smec	353.9	25.20	71.21			
	Smec/Liq	432.8	7.05	16.29	87.50	114.2	[75]
$C_{20}H_{24}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-heptyloxyphenylamino)-2-propen-1-one					
	Sol/Meso	342.5	24.30	70.95			
	Meso/Smec	369.7	0.03	0.08			
	Smec/Smec	378.7	1.89	4.99			
	Smec/Liq	458.1	7.47	16.31	92.33	118.9	[75]
$C_{20}H_{24}FNOS$		1-[2-(5-heptylthienyl)]-3-(4-fluorophenylamino)-2-propen-1-one					
	Sol/Smec	334.8	25.70	76.76			
	Smec/Liq	373.3	3.93	10.53	87.29	114.6	[75]
$C_{20}H_{24}FNO_2$		4-cyano-2-fluorophenyl 4-butylbicyclo[2.2.2]octane-1-carboxylate					
	Sol/Nem	364.7	29.71	81.46			
	Nem/Liq	398.2	Not reported in paper			85.6	[197]
$C_{20}H_{24}N_2O$		4-(ω-aminoheptyloxy)-4′-cyanobiphenyl					
	Sol/Nem	342.2	21.17	61.86			
	Nem/Liq	361.2	0.76	2.10	63.96	122.7	[17]
$C_{20}H_{24}N_2O_3$		4-pentanoyloxy-2-methyl-4′-ethoxyazobenzene					
	Sol/Nem	328.2	39	118.83			
	Nem/Liq	343.2	0.9	2.62	121.45		[339]
$C_{20}H_{24}N_2O_3$		4-pentanoyloxy-3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	349.2	40	114.55			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	351.2	0.8	2.28	116.83		[339]
$C_{20}H_{24}N_2O_3$		4-[(4-ethoxyphenyl)azo]phenyl hexanoate					
	Sol/Nem	347.8	35.9	103.22			
	Nem/Liq	403.6	1.29	3.20	106.42		[365]
$C_{20}H_{24}O_2$		2-methoxy-4′-pentyloxy-*trans*-stilbene					
	Sol/Nem	435.0	41.17	94.64			
	Nem/Liq	427.0	0.78	1.83	96.47	112.8	[157]
$C_{20}H_{24}O_3$		4-ethoxyphenyl 4′-pentylbenzoate					
	Sol/Nem	334.4	33.35	99.73			
	Nem/Liq	336.6	0.82	2.44	102.2	110.2	[218]
$C_{20}H_{25}NO$		4-hexyloxybenzylidene-4′-toluidine					
	Sol/Sol	317.5	5.04	15.87			
	Sol/Nem	334.3	25.04	74.90			
	Nem/Liq	346.9	1.37	3.95	94.72	104.7	[157, 334]
$C_{20}H_{25}NO$		N-(4-methoxybenzylidene)-4-hexylaniline					
	Sol/Nem	308.5	27.5	89.14			
	Nem/Liq	326.5	0.67	2.05	91.19		[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{20}H_{25}NO$		N-(4-ethoxybenzylidene)-4-pentylaniline					
	Sol/Nem	336.5	24.6	73.11			
	Nem/Liq	361.1	1.09	3.02	76.13		[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{20}H_{25}NO$		N-(4-propoxybenzylidene)-4-butylaniline					
	Sol/Nem	314.3	27.3	86.86			
	Nem/Liq	322.6	0.42	1.30	88.16		[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{20}H_{25}NO_2S$		4-isothiocyanatophenyl 4-butylbicyclo[2.2.2]octane-1-carboxylate					
	Sol/Nem	345.7	20.5	59.30			
	Nem/Liq	373.2	Not reported in paper			NA	[357]
$C_{20}H_{25}NO_3$		N-(4-methoxyphenyl)-α-(4-hexyloxyphenyl)nitrone					
	Sol/Nem	380.2	27.87	73.30			
	Nem/Liq	398.2	0.82	2.06	75.36	NA	[162]
$C_{20}H_{26}ClN_2O_2$		4-chloro-2′-hydroxy-4′-octyloxyazobenzene					
	Sol/Smec	334.6	27.8	83.08			
	Smec/Nem	367.6	1.2	3.26			
	Nem/Liq	371.4	0.6	1.62	87.96	119.2	[229]
$C_{20}H_{26}F_3$		1-(*trans* 4′-ethylbicyclohexyl)-2,3,4-trifluorobenzene					
	Sol/Nem	321.8	21.95	68.21			
	Nem/Liq	353.6	0.28	0.79	69.00		[27]
$C_{20}H_{26}N_2O$		4-pentyl-4′-propoxyazobenzene					
	Sol/Nem	329.9	16.10	48.80			
	Nem/Liq	348.1	0.95	2.73	51.53	106	[141]
$C_{20}H_{26}N_2O$		4-propyl-4′-pentyloxyazobenzene					
	Sol/Nem	326.6	35.02	107.23			
	Nem/Liq	346.8	2.96	8.54	115.77	106	[153]
$C_{20}H_{26}N_2O$		4-butyl-4′-butoxyazobenzene					
	Sol/Nem	338.2	14.98	44.29			
	Nem/Liq	347.7	0.65	1.87	46.16	106	[141]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{20}H_{26}N_2O$		4-heptyl-4′-methoxyazobenzene					
	Sol/Nem	307.2	20.12	65.49			
	Nem/Liq	336.1	0.81	2.41	67.90	106	[390]
$C_{20}H_{26}N_2O$		*bis*(4-butylphenyl)diazene N-oxide					
	Sol/Nem	292.8	13.4	45.77			
	Nem/Liq	305.7	0.35	1.14	46.91		[365]
$C_{20}H_{26}N_2O_3$		4,4′-dibutoxyazoxybenzene					
	Sol/Sol	338.0	5.20	15.38			
	Sol/Sol	360.6	1.37	3.80			
	Sol/Nem	377.5	19.50	51.66			
	Nem/Liq	411.9	1.25	3.03	73.87	121.4	[9]
	Independent values from another reference						
	Sol/Sol	315.5	10.44	33.09			
	Sol/Sol	323.4	0.93	2.88			
	Sol/Sol	360.5	1.57	4.36			
	Sol/Nem	376.7	20.96	55.64			
	Nem/Liq	409.9	1.03	2.51	98.48	121.4	[155,157]
	Independent values from another reference						
	Sol/Nem	375.2	20.94	55.81			
	Nem/Liq	409.9	1.03	2.51	58.32	121.4	[179]
	Independent values from another reference						
	Sol/Sol	321.0	7.18	22.37			
	Sol/Sol	358.0	1.19		3.32		
	Sol/Nem	377.0	20.3	53.84			
	Nem/Liq	411.0	1.29	3.14	82.67	121.4	[440]
$C_{20}H_{26}O_2S$		2-octanoyl-5-(4-ethoxyphenyl)thiophene					
	Sol/Meso	394.0	31.78	80.66			
	Meso/Liq	396.3	5.29	13.35	94.01	127.8	[18]
$C_{20}H_{27}NS$		1-(4-isothiocyanantophenyl)-4-pentylbicyclo[2.2.2]octane					
	Sol/Sol	337.7	5.0	14.81			
	Sol/Nem	347.2	15.5	44.64			
	Nem/Liq	372.7	Not reported in paper				[357]
$C_{20}H_{28}$		4-ethyl-4′-(5-octenyl)biphenyl					
	Sol/Smec	282.6	4.80	16.99			
	Smec/Liq	301.4	7.90	26.21	43.20	113.4	[165]
$C_{20}H_{28}$		4-butyl-4′-(5-hexenyl)biphenyl					
	Sol/Smec	248.6	2.20	8.85			
	Smec/Liq	315.6	9.60	30.41	39.26	114.9	[165]
$C_{20}H_{28}O_3$		4-butylcyclohexyl 4-methoxycinnamate					
	Sol/Nem	330.6	26.7	80.76			
	Nem/Liq	360.4	0.7	1.94	82.52	107.9	[5]
$C_{20}H_{29}NS$		4-(*trans*-4′-heptylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	311.3	32.1	103.12			
	Nem/Liq	325.3	1.10	3.38	106.50	NA	[151]
$C_{20}H_{31}NO_5$		4-tridecyloxy-3-nitrobenzoic acid					
	Sol/Smec	362.2	33.8	93.32			
	Smec/Liq	368.2	1.9	5.16	98.48	181.5	[1]
$C_{20}H_{32}N_2O_2$		N,N′-dipentanoyl-3,4,5,6-tetramethylbenzene-1,2-diamine					
	Sol/Meso	401.2	8	19.94			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Meso	447.2	4	8.94			
	Meso/Meso	483.2	5	10.34			
	Meso/Liq	532.2	20	37.58	76.80	97.8	[61]
$C_{20}H_{32}O_3$		4-tridecyloxybenzoic acid					
	Sol/Smec	373.2	46.44	124.44			
	Smec/Nem	408.2	4.18	10.24			
	Nem/Liq	410.2	2.51	6.12	140.80	164.7	[156]
$C_{20}H_{38}O_7$		6-O-tetradecanoyl-α-D-galactopyranose					
	Sol/Smec	390.2	27.45	70.35			
	Smec/Liq	457.2	0.86	1.88	72.23	207.5	[39]
$C_{20}H_{40}O_5S$		6-S-tetradecyl-6-thio-α-D-galactopyranose					
	Sol/Smec	373.2	41.26	110.56			
	Smec/Liq	456.2	2.94	6.44	118.00	211.2	[39]
$C_{20}H_{40}O_6$		6-O-tetradecyl-α-D-galactopyranose					
	Sol/Smec	387.2	44.47	114.85			
	Smec/Liq	442.2	2.60	5.88	120.73	213.8	[39]
$C_{20}H_{42}O_4$		1,2,19,20-tetrahydroxyeicosane					
	Sol/Meso	357.2	24.0	67.19			
	Meso/Meso	411.2	14.0	34.05			
	Meso/Liq	415.2	15.5	37.33	138.57	253.4	[145]
$C_{20}H_{42}O_6$		6-O-tetradecyl-D-galacitol					
	Sol/Smec	411.2	52.73	128.23			
	Smec/Liq	440.2	0.21	0.48	128.71	233.8	[183]
$C_{21}H_{10}F_{13}NO_2$		5-methyl-2-(4-n-tridecafluorohexylphenyl)isoindole-1,3-dione					
	Sol/Smec	418.3	50.6	120.97			
	Smec/Liq	438.4	9.2	20.99	141.96	101.7	[32]
$C_{21}H_{10}F_{13}NO_3$		5-methoxy-2-(4-n-tridecafluorohexylphenyl)isoindole-1,3-dione					
	Sol/Sol	407.0	5.5	13.51			
	Sol/Smec	423.1	34.9	82.49			
	Smec/Liq	454.7	6.1	13.42	109.42	108.5	[32]
$C_{21}H_{13}F_{13}SO$		2(perfluorohexyl)ethyl 4-phenylthiobenzoate					
	Sol/Smec	324.8	27.6	85.90			
	Smec/Liq	423.2	14.7	34.74	120.64	NA	[38]
$C_{21}H_{14}Cl_3NO_2$		2,3,4-trichloro-N-[4-(4-methylbenzoyloxy)benzylidene]aniline					
	Sol/Nem	449.2	33.0	73.46			
	Nem/Liq	463.2	0.5	1.08	74.54	72.5	[191]
$C_{21}H_{14}Cl_3NO_3$		2,3,4-trichloro-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	456.2	42.0	92.06			
	Nem/Liq	495.2	0.4	0.81	92.87	77.2	[191]
$C_{21}H_{14}N_2O_2$		4-[(phenylmethylene)amino]phenyl 4-cyanobenzoate					
	Sol/Nem	425.2	28.0	65.85			
	Nem/Liq	491.2	0.7	1.43	67.28		[346]
$C_{21}H_{14}N_2O_2$		4-[[(4-cyanophenyl)methylene]amino]phenol, benzoate (ester)					
	Sol/Nem	437.2	36.0	82.34			
	Nem/Liq	506.2	0.7	1.38	83.72		[346]
$C_{21}H_{14}N_2O_2$		4-[(phenylimino)methyl]phenyl 4-cyanobenzoate					
	Sol/Nem	433.2	31.0	71.56			
	Nem/Liq	494.2	0.8	1.62	73.18		[346]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{21}H_{14}N_2O_2$		phenyl 4-[[(4-cyanophenyl)imino]phenyl]benzoate					
	Sol/Nem	456.2	32.0	70.14			
	Nem/Liq	491.2	0.7	1.43	71.57		[346]
$C_{21}H_{14}N_2O_2$		4-[[(4-cyanophenyl)imino]methyl]phenol, benzoate (ester)					
	Sol/Nem	452.2	37.0	81.82			
	Nem/Liq	499.2	0.8	1.60	83.42		[346]
$C_{21}H_{14}N_2O_2$		phenyl 4-[[(4-cyanophenyl)methylene]amino]benzoate					
	Sol/Nem	447.2	27.0	60.38			
	Nem/Liq	496.2	0.7	1.41	61.79		[346]
$C_{21}H_{14}N_2O_2$		4-cyanophenyl 4-[(phenylamino)methyl]benzoate					
	Sol/Nem	407.2	34.0	83.50			
	Nem/Liq	484.2	0.8	1.65	85.15		[346]
$C_{21}H_{14}N_2O_2$		4-cyanophenyl 4-[(phenylmethylene)amino]benzoate					
	Sol/Nem	458.2	40.0	87.30			
	Nem/Liq	476.2	0.6	1.26	88.56		[346]
$C_{21}H_{15}Cl_2NO_2$		2,4-dichloro-N-[4-(4-methylbenzoyloxy)benzylidene]aniline					
	Sol/Nem	439.2	37.0	84.24			
	Nem/Liq	470.2	0.6	1.28	85.52	71.2	[191]
$C_{21}H_{15}Cl_2NO_2$		3,4-dichloro-N-[4-(4-methylbenzoyloxy)benzylidene]aniline					
	Sol/Nem	425.2	41.0	96.43			
	Nem/Liq	463.2	0.5	1.08	97.51	71.2	[191]
$C_{21}H_{15}Cl_2NO_3$		2,4-dichloro-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	416.2	43.0	103.32			
	Nem/Liq	504.2	2.1	4.17	107.49	75.9	[191]
$C_{21}H_{15}NO_3S$		4′-(2-propenyloxy)biphenyl 5-cyano-2-thiophenecarboxylate					
	Sol/Smec	404.1	60.25	149.10			
	Smec/Nem	417.6	5.44	13.03			
	Nem/Liq	481.2	1.26	2.62	164.75	99.4	[63]
$C_{21}H_{16}BrNO_3$		4-bromo-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	460.2	38.0	82.61			
	Nem/Liq	553.2	0.9	1.63	84.24		[191]
$C_{21}H_{16}BrNO_3$		4-methoxyphenyl 4-[4-(4-bromophenyliminomethyl)]benzoate					
	Sol/Nem	442.2	42.0	94.98			
	Nem/Liq	553.2	0.7	1.27	96.25		[203]
$C_{21}H_{16}ClNO_2$		4-chloro-N-[4-(4-methylbenzoyloxy)benzylidene]aniline					
	Sol/Nem	442.2	29.0	65.58			
	Nem/Liq	530.2	0.6	1.13	66.71		[191]
$C_{21}H_{16}ClNO_3$		4-chloro-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	445.2	27.0	60.65			
	Nem/Liq	558.2	1.6	2.87	63.52		[191]
$C_{21}H_{16}ClNO_3$		4-methoxyphenyl 4-[4-(4-chlorophenyliminomethyl)]benzoate					
	Sol/Nem	441.2	39.0	88.40			
	Nem/Liq	557.2	0.8	1.44	89.54		[203]
$C_{21}H_{16}FNO_3$		3-fluoro-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	408.2	39.0	95.54			
	Nem/Liq	423.2	0.4	0.95	96.49		[191]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{21}H_{16}FNO_3$		4-fluoro-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	404.2	32.0	79.17			
	Nem/Liq	528.2	0.8	1.51	80.68		[191]
$C_{21}H_{16}FNO_3$		4-methoxyphenyl 4-[4-(2-fluorophenyliminomethyl)]benzoate					
	Sol/Nem	391.2	31.0	79.24			
	Nem/Liq	425.2	0.3	0.71	79.95		[203]
$C_{21}H_{16}FNO_3$		4-methoxyphenyl 4-[4-(4-fluorophenyliminomethyl)]benzoate					
	Sol/Nem	419.2	36.0	85.88			
	Nem/Liq	524.2	0.8	1.53	87.41		[203]
$C_{21}H_{16}F_2O$		1-(6-propoxy-2-naphthyl)-2-(3,4-difluorophenyl)acetylene					
	Sol/Nem	362.8	25.6	70.56			
	Nem/Liq	364.5	0.4	1.10	71.66	78.2	[95]
$C_{21}H_{16}INO_3$		4-iodo-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	475.2	21.0	44.19			
	Nem/Liq	547.2	0.4	0.73	44.92		[191]
$C_{21}H_{16}INO_3$		4-methoxyphenyl 4-[4-(4-iodophenyliminomethyl)]benzoate					
	Sol/Nem	466.2	46.0	98.67			
	Nem/Liq	547.2	0.5	0.91	99.58		[202]
$C_{21}H_{17}F$		4-[(4-penten-1-yl)phenyl-1,3-butadiynyl]-4-fluorobenzene					
	Sol/Nem	358.8	19.56	54.52			
	Nem/Liq	442.7	0.79	1.78	56.30		[212]
$C_{21}H_{17}FO$		1-(6-propoxy-2-naphthyl)-2-(4-fluorophenyl)acetylene					
	Sol/Nem	395.2	27.8	70.34			
	Nem/Liq	404.7	0.5	1.23	71.57		[95]
$C_{21}H_{17}NO$		4-ethoxy-4″-cyano-p-terphenyl					
	Sol/Smec	438.2	4.49	10.25			
	Smec/Nem	494.2	16.74	33.87			
	Nem/Liq	577.2	Decomposed				[277]
$C_{21}H_{17}NO_3$		phenyl 4-(4-methoxybenzylideneamino)benzoate					
	Sol/Nem	409.2	34.0	83.09			
	Nem/Liq	444.2	0.3	0.68	83.77		[292]
$C_{21}H_{17}NO_3$		4-[[(4-methoxyphenyl)methylene]amino]phenol, benzoate (ester)					
	Sol/Nem	391.2	33.0	84.36			
	Nem/Liq	452.2	0.5	1.11	85.47		[346,347]
$C_{21}H_{17}NO_3$		4-[(phenylmethylene)amino]phenyl 4-methoxybenzoate					
	Sol/Nem	412.2	33.0	80.06			
	Nem/Liq	443.2	0.6	1.35	81.41		[346,347]
$C_{21}H_{17}NO_3$		4-[(phenylimino)methyl]phenyl 4-methoxybenzoate					
	Sol/Nem	402.2	31.0	77.08			
	Nem/Liq	450.2	0.4	0.89	77.98		[346,347]
$C_{21}H_{17}NO_3$		phenyl 4-[[(4-methoxyphenyl)imino]phenyl]benzoate					
	Sol/Nem	418.2	34.0	81.30			
	Nem/Liq	460.2	0.3	0.65	81.95		[346,347]
$C_{21}H_{17}NO_3$		4-[[(4-methoxyphenyl)imino]methyl]phenol, benzoate (ester)					
	Sol/Nem	417.2	34.0	81.50			
	Nem/Liq	460.2	0.3	0.65	82.15		[346,347]
$C_{21}H_{17}NO_3$		phenyl 4-[[(4-methoxyphenyl)methylene]amino]benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	412.2	32.0	77.63			
	Nem/Liq	447.2	0.4	0.89	78.52		[346,347]
$C_{21}H_{17}NO_3$		4-methoxyphenyl 4-[(phenylamino)methyl]benzoate					
	Sol/Nem	424.2	40.0	94.30			
	Nem/Liq	446.2	0.3	0.67	94.97		[346,347]
$C_{21}H_{17}NO_3$		4-methoxyphenyl 4-[(phenylmethylene)amino]benzoate					
	Sol/Nem	426.2	33.0	77.43			
	Nem/Liq	431.2	0.5	1.16	78.59		[346,347]
$C_{21}H_{17}NO_4$		4-methoxyphenyl 4-[4-(4-hydroxyphenyliminomethyl)]benzoate					
	Sol/Nem	499.2	56.0	112.18			
	Nem/Liq	603.2	Decomposed prior to transition				[203]
$C_{21}H_{17}NO_4$		N-[4-(4-methoxybenzoyloxy)benzylidene]-2-hydroxyaniline					
	Sol/Nem	413.2	35.0	84.70			
	Nem/Liq	426.2	0.3	0.70	85.40		[203]
$C_{21}H_{17}NO_4$		N-[4-(4-methoxybenzoyloxy)benzylidene]-4-hydroxyaniline					
	Sol/Nem	476.2	35.0	73.50			
	Nem/Liq	597.2	Decomposed prior to transition				[203]
$C_{21}H_{17}O_4S$		4′-(2-propenyloxy)biphenyl 5-methoxy-2-thiophenecarboxylate					
	Sol/Nem	387.0	73.64	190.28			
	Nem/Liq	484.1	3.77	7.79	198.07		[63]
$C_{21}H_{18}N_2O_3$		3-pyridyl 4-(4-ethoxybenzylideneamino)benzoate					
	Sol/Nem	411.2	31.0	75.39			
	Nem/Liq	468.2	0.4	0.85	76.24		[291]
$C_{21}H_{18}N_2O_3$		4[(E)-[(4-ethoxyphenyl)methylene]amino]phenyl 3-pyridinecarboxylate					
	Sol/Nem	406.2	34.0	83.70			
	Nem/Liq	481.2	0.9	1.87	85.57		[291]
$C_{21}H_{18}N_2O_3$		4-[(E)-(3-pyridimino)methyl]phenyl 4-ethoxybenzoate					
	Sol/Nem	401.2	38.0	94.72			
	Nem/Liq	469.2	0.6	1.28	96.00		[291]
$C_{21}H_{18}N_2O_3$		4-[(E)-(3-pyridinylmethylene)amino]phenyl 4-ethoxybenzoate					
	Sol/Nem	389.2	34.0	87.36			
	Nem/Liq	471.2	0.8	1.70	89.06		[291]
$C_{21}H_{19}F$		4-[4-pentylphenyl-1,3-butadiynyl]-4-fluorobenzene					
	Sol/Nem	361.6	24.69	68.28			
	Nem/Liq	368.8	0.53	1.44	69.72		[212]
$C_{21}H_{19}F$		4-pentyl-4′-fluorodiphenyldiacetylene					
	Sol/Nem	358.9	26.04				
	Nem/Liq	353.3	0.21				[270]
	Note: Nem/Liq transition temperature was reported in the paper to be lower than the Sol/Nem transition temperature.						
$C_{21}H_{19}NS$		2-butyl-5-(4′-cyanobiphenyl-4-yl)thiophene					
	Sol/Nem	428.5	11.2	26.14			
	Nem/Liq	474.0	0.83	1.75	27.89	101.7	[20]
$C_{21}H_{21}FNOS$		4′-hexyloxy-3′-fluoro-4-isothiocyanatotolane					
	Sol/Nem	322.9	29.50	91.36			
	Nem/Liq	344.9	0.48	1.39	92.75	NA	[135]
$C_{21}H_{21}N$		2-(4-butylphenyl)-5-phenylpyridine					
	Sol/Meso	353.6	2.31	6.53			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	386.6	7.54	19.50	26.03	99	[260]
$C_{21}H_{21}NO$		4-(4-cyanophenyl)-1-(4-butoxyphenyl)-buta-1E,3E-diene					
	Sol/Nem	414.7	25.8	64.21			
	Nem/Liq	482.3	0.4	0.83	65.04		[210]
$C_{21}H_{21}NOS$		4′-hexyloxy-4-isothiocyanatotolane					
	Sol/Sol	331.6	26.28	79.25			
	Sol/Nem	385.9	12.97	33.61			
	Nem/Liq	386.8	1.17	3.02	115.88	NA	[135]
$C_{21}H_{22}N_2O_2$		4-[[(4-cyanophenyl)imino]methyl]phenyl heptanoate					
	Sol/Nem	328.6	30.1	91.60			
	Nem/Liq	368.7	0.63	1.71	93.31		[365]
$C_{21}H_{22}O_3$		6-(7-octenyloxy)-2-naphthoic acid					
	Sol/Sol	331.1	27.20	82.15			
	Sol/Sol	378.9	0.84	2.22			
	Sol/Nem	420.8	64.02	152.14			
	Nem/Liq	454.1	7.95	17.51	254.03	100.5	[68]
$C_{21}H_{23}NO_2$		4-cyanophenyl 4-(heptyl)benzoate					
	Sol/Nem	316.7	35.48	112.03			
	Nem/Liq	329.5	0.94	2.85	114.88	112.7	[34]
$C_{21}H_{24}N_2O$		N-(4-heptyloxybenzylidene)-4-aminobenzonitrile					
	Sol/Nem	340.6	34.3	100.70			
	Nem/Liq	369.7	0.71	1.92	102.62		[365]
$C_{21}H_{24}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-heptyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	397.4	11.18	28.13			
	Smec/Liq	459.5	5.65	12.30	40.43	120.4	[75]
$C_{21}H_{24}N_2O_3$		4-pentanoyl-4′-butanoyloxyazobenzene					
	Sol/Smec	373.3	14.23	38.12			
	Smec/Smec	378.1	14.24	37.66			
	Smec/Nem	398.4	3.41	8.56			
	Nem/Liq	404.7	0.77	1.90	86.24	108.6	[157]
$C_{21}H_{24}N_2O_3$		4-propanoyl-4′-hexanoyloxyazobenzene					
	Sol/Smec	372.2	29.79	80.04			
	Smec/Nem	411.7	3.93	9.55			
	Nem/Liq	420.7	0.88	2.09	91.68	108.6	[157]
$C_{21}H_{24}N_4O_2S$		5-(4-pyridyl)-2-(4-heptyloxy)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	482.7	19.8	41.02			
	Smec/Liq	529.3	8.5	16.06	57.08		[31]
$C_{21}H_{25}ClN_2O_4$		4-(4-propyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Nem	323.5	25.43	78.61			
	Nem/Liq	325.9	0.28	0.86	79.47		[47]
$C_{21}H_{25}ClO_2S$		4-chlorophenyl 4-octyloxythiobenzoate					
	Sol/Smec	337.6	30.17	89.37			
	Smec/Liq	368.8	3.60	9.76	99.13	NA	[383]
$C_{21}H_{25}FO_3S$		S-(2-fluoro-4-hexyloxyphenyl) 4-ethoxythiobenzoate					
	Sol/Nem	351.2	45.2	128.70			
	Nem/Liq	352.2	1.7	4.83	133.53	NA	[4]
$C_{21}H_{25}N$		4-octyl-4′-cyanobiphenyl					
	Sol/Smec	294.5	22.62	76.81			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Nem	306.4	0.02	0.07			
	Nem/Liq	313.8	0.63	2.01	78.89	112.1	[33, 157]
	Independent values from another reference						
	Sol/Smec	292.9	29.16	99.56			
	Smec/Nem	306.3	0.08	0.26			
	Nem/Liq	312.4	0.88	2.82	102.64	112.1	[233]
	Independent values from another reference						
	Sol/Smec	295.0	23.43	79.42			
	Smec/Nem	307.0	0.04	0.13			
	Nem/Liq	313.0	0.67	2.14	81.69	112.1	[237]
	Independent values from another reference						
	Sol/Smec	294.4	25.7	87.30			
	Smec/Nem	307.0	0.40	1.30			
	Nem/Liq	313.9	0.61	1.94	90.54	112.1	[358]
	Independent values from another reference						
	Sol/Smec	297.2	25.3	85.13			
	Smec/Nem	307.2	0.13	0.42			
	Nem/Liq	315.8	0.97	3.07	88.62	112.1	[365]
	Independent values from another reference						
	Sol/Smec	294.4	25.7	87.30			
	Smec/Nem	307.2	Too small to be measured				
	Nem/Liq	313.7	0.61	1.94	89.24	112.1	[387]
$C_{21}H_{25}NO$		4-octyloxy-4′-cyanobiphenyl					
	Sol/Smec	327.7	26.65	81.32			
	Smec/Nem	340.4	0.03	0.09			
	Nem/Liq	353.4	0.63	1.78	83.19	116.8	[33]
	Independent values from another reference						
	Sol/Smec	326.1	29.79	91.35			
	Smec/Nem	339.9	0.04	0.12			
	Nem/Liq	352.6	0.88	2.50	93.97	116.8	[233]
	Independent values from another reference						
	Sol/Smec (I)	330.2	43.93	133.04			
	Sol/Smec(II)	323.2	49.37	152.75			
	Smec/Liq	Not reported in paper				116.8	[372]
$C_{21}H_{25}NO_3$		4-(4-heptyloxyphenyliminomethyl)benzoic acid					
	Sol/Smec	463.2	14.5	31.30			
	Smec/Nem	528.2	Not reported in paper				
	Nem/Liq	534.2	16.3	30.51			[416]
$C_{21}H_{25}NO_5$		4-nitrophenyl-4′-octyloxybenzoate					
	Sol/Smec	323.2	34.72	107.43			
	Smec/Nem	334.0	0.09	0.27			
	Nem/Liq	341.0	0.29	0.85	108.55	126.6	[157]
$C_{21}H_{25}NO_5$		4-octyloxyphenyl 4-nitrobenzoate					
	Sol/Smec	337.2	22.80	67.62			
	Smec/Nem	344.2	0.04	0.12			
	Nem/Liq	346.4	2.30	6.64	74.38	126.6	[236]
$C_{21}H_{25}NS$		4-octyl-4′-thiocyanatobiphenyl					
	Sol/Meso	303.6	18.40	60.61			
	Meso/Liq	342.6	10.13	29.57	90.18	NA	[84]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Independent values from another reference						
	Sol/Smec	301.5	16.4	54.39			
	Smec/Liq	345.0	10.3	29.86	84.25	NA	[407]
$C_{21}H_{26}BrNO$		4-octyloxy-N-(4-bromobenzylidene)aniline					
	Sol/Smec	365.5	29.34	80.27			
	Smec/Smec	384.8	3.31	8.60			
	Smec/Liq	388.2	7.69	19.80	108.67	120.9	[204]
$C_{21}H_{26}BrNOS$		1-[2-(5-octylthienyl)]-3-(4-bromophenylamino)-2-propen-1-one					
	Sol/Smec	363.7	28.73	78.99			
	Smec/Liq	440.1	7.73	17.56	96.55	122.6	[75]
$C_{21}H_{26}ClN$		4-chlorobenzylidene 4′-octylaniline					
	Sol/Smec	315.7	27.37	86.70			
	Smec/Liq	330.7	7.66	23.16	109.86	112.8	[70]
$C_{21}H_{26}ClNO$		4-octyloxy-N-(4-chlorobenzylidene)aniline					
	Sol/Smec	363.3	30.77	84.7			
	Smec/Smec	370.4	2.80	7.55			
	Smec/Liq	381.4	6.22	16.3	108.55	119.6	[204]
$C_{21}H_{26}ClNOS$		1-[2-(5-octylthienyl)]-3-(4-chlorophenylamino)-2-propen-1-one					
	Sol/Smec	361.3	30.68	84.92			
	Smec/Liq	432.3	7.13	16.49	101.41	121.3	[75]
$C_{21}H_{26}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-octyloxyphenylamino)-2-propen-1-one					
	Sol/Meso	338.7	21.61	63.80			
	Meso/Smec	368.8	0.02	0.05			
	Smec/Smec	379.0	1.96	5.17			
	Smec/Liq	457.8	7.74	16.91	85.93	126.0	[75]
$C_{21}H_{26}FNOS$		1-[2-(5-octylthienyl)]-3-(4-fluorophenylamino)-2-propen-1-one					
	Sol/Smec	356.6	41.90	117.50			
	Smec/Liq	375.1	4.20	11.20	128.70	121.7	[75]
$C_{21}H_{26}FNO_2$		4-cyano-2-fluorophenyl 4-pentylbicyclo[2.2.2]octane-1-carboxylate					
	Sol/Nem	357.2	32.20	90.15			
	Nem/Liq	406.2	Not reported in paper				[197]
$C_{21}H_{26}FNO_2S$		3-fluoro-4-isothiocyanatophenyl 4-pentylbicyclo[2.2.2]octane-1-carboxylate					
	Sol/Nem	336.7	27.4	81.38			
	Nem/Liq	375.7	Not reported in paper			NA	[357]
$C_{21}H_{26}N_2O$		4-(ω-aminooctyloxy)-4′-cyanobiphenyl					
	Sol/Nem	346.7	26.15	75.43			
	Nem/Liq	359.3	0.74	2.06	77.49	129.8	[17]
$C_{21}H_{26}N_2O_3$		4-octyloxy-N-(4-nitrobenzylidene)aniline					
	Sol/Smec	336.5	36.01	107.00			
	Smec/Nem	349.3	0.13	0.36			
	Nem/Liq	358.5	0.74	2.07	109.43	121.0	[204]
$C_{21}H_{26}N_2O_3$		4-pentanoyloxy-2,3-dimethyl-4′-ethoxyazobenzene					
	Sol/Nem	349.2	31	88.77			
	Nem/Liq	374.2	0.6	1.60	90.37		[339]
$C_{21}H_{27}ClN_2O_2$		4-chloro-2′-hydroxy-4′-nonyloxyazobenzene					
	Sol/Smec	330.5	23.3	70.50			
	Smec/Liq	371.2	4.0	10.78	81.28	110.1	[229]
$C_{21}H_{26}N_2O_3$		4-[(4-ethoxyphenyl)azo]phenyl heptanoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	338.8	21.7	64.05			
	Nem/Liq	391.8	1.21	3.09	67.14		[365]
$C_{21}H_{27}NO$		N-(4-methoxybenzylidene)-4-heptylaniline					
	Sol/Nem	308.2	33.7	109.34			
	Nem/Liq	333.3	0.63	1.89	111.23		[376, 381]
	Note: Temperature was calculated from published enthalpy and entropy data in paper.						
$C_{21}H_{27}NO$		N-(4-ethoxybenzylidene)-4-hexylaniline					
	Sol/Nem	312.8	25.9	82.80			
	Nem/Liq	350.0	0.88	2.51	85.31		[376, 381]
	Note: Temperature was calculated from published enthalpy and entropy data in paper.						
$C_{21}H_{27}NO$		N-(4-propoxybenzylidene)-4-pentylaniline					
	Sol/Smec	Not reported in paper					
	Smec/Nem	295.0	4.94	16.75			
	Nem/Liq	338.5	0.92	2.72			[376]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{21}H_{27}NO$		N-(4-butoxybenzylidene)-4-butylaniline					
	Sol/Sol	281.2	1.7	6.05			
	Sol/Smec	285.2	1.9	6.66			
	Smec/Smec	317.2	3.85	12.14			
	Smec/Nem	Peak was not resolved					
	Nem/Liq	346.9	0.71	2.05	26.90		[376,381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{21}H_{27}NO_2$		*trans*-4-octyloxy-3′-stilbazole-N-oxide					
	Sol/Smec	351.3	0.68	1.94			
	Smec/Smec	375.5	6.44	17.15			
	Smec/Liq	384.0	19.92	51.88	70.97		[278]
$C_{21}H_{27}NO_2$		*trans*-4-octyloxy-4′-stilbazole-N-oxide					
	Sol/Smec	385.6	29.00	75.21			
	Smec/Liq	389.9	2.73	7.00	82.21		[278]
$C_{21}H_{27}NO_2S$		4-isothiocyanatophenyl 4-pentylbicyclo[2.2.2]octane-1- carboxylate					
	Sol/Nem	347.7	18.0	51.77			
	Nem/Liq	386.7	Not reported in paper			NA	[357]
$C_{21}H_{27}NO_3$		N-(4-methoxyphenyl)-α-(4-heptyloxyphenyl)nitrone					
	Sol/Nem	393.2	34.86	88.66			
	Nem/Liq	398.2	0.92	2.31	90.97	NA	[162]
$C_{21}H_{28}FNO_2$		4-cyano-2-fluorophenyl *trans*-4-heptylcyclohexane-1-carboxylate					
	Sol/Nem	349.2	35.10	100.52			
	Nem/Liq	365.2	Not reported in paper				[197]
$C_{21}H_{28}N_2O$		4-butyl-4′-pentyloxyazobenzene					
	Sol/Nem	315.7	11.57	36.65			
	Nem/Liq	338.6	0.52	1.54	38.19	113.1	[141]
$C_{21}H_{28}N_2O$		4-propyl-4′-hexyloxyazobenzene					
	Sol/Nem	336.0	64.52	192.02			
	Nem/Liq	354.3	3.01	8.50	200.52	113.1	[153]
$C_{21}H_{28}N_2O$		4-pentyl-4′-butoxyazobenzene					
	Sol/Nem	341.0	15.32	44.93			
	Nem/Liq	360.8	1.08	2.99	47.92	113.1	[141]
$C_{21}H_{28}N_2O$		4-heptyl-4′-ethoxyazobenzene					
	Sol/Nem	320.2	19.11	59.68			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	361.3	0.71	1.97	61.65	113.1	[390]
$C_{21}H_{28}N_2O_2$		4-methyl-2′-hydroxy-4′-octyloxyazobenzene					
	Sol/Nem	342.1	29.9	87.40			
	Nem/Liq	358.9	1.12	3.12	90.52	118.5	[73]
	Independent value from another reference						
	Sol/Nem	344.2	5.59	16.24			
	Nem/Liq	361.2	0.42	1.16	17.40	118.5	[282]
	Note: Experimental enthalpies seem abnormally low for this compound.						
$C_{21}H_{28}O_3$		6-decyloxy-2-naphthoic acid					
	Sol/Sol	378.0	0.23	0.61			
	Sol/Smec	409.5	12.94	31.60			
	Smec/Nem	413.7	0.95	2.30			
	Nem/Liq	449.1	2.53	5.63	40.14	116.8	[60]
$C_{21}H_{29}F_3$		1-(*trans* 4′-propylbicyclohexyl)-2,3,4-trifluorobenzene					
	Sol/Nem	310.6	24.41	78.59			
	Nem/Liq	390.0	0.45	1.15	79.74	101.6	[27]
$C_{21}H_{29}F_3$		1-(*trans* 4′-propylbicyclohexyl)-3,4,5-trifluorobenzene					
	Sol/Nem	307.6	21.35	69.41			
	Nem/Liq	368.4	0.53	1.44	70.85	101.6	[27]
$C_{21}H_{29}NS$		1-hexyl-4-(4-isothiocyanatophenyl)-bicyclo[2.2.2]octane					
	Sol/Nem	323.7	13.5	41.70			
	Nem/Liq	362.2	Not reported in paper			NA	[357]
$C_{21}H_{29}NS$		1-butyl-4-[2-(4-isothiocyanatophenyl)ethyl]bicyclo[2.2.2]octane					
	Sol/Nem	337.2	10.5	31.14			
	Nem/Liq	378.7	Not reported in paper			NA	[357]
$C_{21}H_{30}F_2$		1-(*trans* 4′-propylbicyclohexyl)-3,4-difluorobenzene					
	Sol/Nem	317.9	27.54	86.63			
	Nem/Liq	391.7	0.31	0.79	87.42	99.9	[27]
$C_{21}H_{30}O_3$		4-n-dodecyloxycinnamic acid					
	Sol/Smec	400.2	40.6	101.45			
	Smec/Nem	429.2	5.3	12.35			
	Nem/Liq	437.2	13.3	30.42	144.22	164	[22]
$C_{21}H_{30}O_3$		4-pentyloxyphenyl 4′-pentylbenzoate					
	Sol/Nem	315.2	19.58	62.12			
	Nem/Liq	325.0	0.61	1.88	64.00	131.5	[218]
$C_{21}H_{31}NO_2S$		5-decyl-2-(4-isothiocyanatophenyl)-1,3-dioxane					
	Sol/Sol	317.7	7.37	23.20			
	Sol/Smec	336.1	29.4	87.47			
	Smec/Liq	354.8	3.79	10.68	121.35	NA	[407]
$C_{21}H_{31}NS$		4-(*trans*-4′-octylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	301.0	35.3	117.28			
	Nem/Liq	318.6	1.10	3.45	120.73	NA	[151]
$C_{21}H_{32}N_4O$		3-(4-heptylphenyl)-6-hexyloxy-1,2,4,5-tetrazine					
	Sol/Nem	321.1	30.12	93.80			
	Nem/Liq	325.8	1.85	5.68	99.48	159.1	[97]
$C_{21}H_{32}O_2$		1-methoxy-4-[(E)-3-(*trans*-4-pentylcyclohexyl)allyloxy]benzene					
	Sol/Nem	317.2	27.5	86.70			
	Nem/Liq	319.2	Not reported in paper				[198]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{21}H_{33}F_2N$		N-{2-[4-(4-propylcyclohexyl)cyclohexyl]ethyl}-3,4-difluoropyrole					
	Sol/Sol	310.2	3.47	11.19			
	Note: Sol/Sol transition was observed only in the first heating cycle.						
	Sol/Nem	348.5	17.9	51.35			
	Nem/Liq	352.6	1.8	5.10	67.64		[325]
$C_{21}H_{33}NO_5$		4-tetradecyloxy-3-nitrobenzoic acid					
	Sol/Smec	369.2	45.9	124.32			
	Smec/Liq	370.2	2.7	7.29	131.61	190.8	[1]
$C_{21}H_{33}N_3O_3$		N,N′,N″-tributanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	653.2	4.0	6.12			
	Meso/Liq	683.2	35.0	51.23	57.35	101.4	[190]
$C_{21}H_{34}O_3$		4-tetradecyloxybenzoic acid					
	Sol/Smec	369.2	41.42	112.19			
	Smec/Liq	408.2	8.37	20.50	132.69	174	[156]
$C_{21}H_{42}O_6S$		6-O-(propylene-[3′-S-dodecyl])-α-D-galactopyranose					
	Sol/Smec	372.2	59.08	158.73			
	Smec/Liq	438.2	0.80	1.83	160.56	192.2	[39]
$C_{21}H_{44}O_6$		6-O-pentadecyl-D-galacitol					
	Sol/Smec	416.2	68.03	163.46			
	Smec/Liq	445.2	0.44	0.99	164.45	243.1	[183]
$C_{22}H_{14}FNO_5S$		4-methoxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Nem	422.2	38.5	91.19			
	Nem/Liq	438.2	0.1	0.23	91.42	NA	[37]
$C_{22}H_{15}F_7O$		4-[difluoro(3,4,5-trifluorophenoxy)methyl]-3,5-difluoro-4′-propyl-[1,1′-biphenyl]					
	Sol/Nem	315.5	31.62	100.22			
	Nem/Liq	Not reported in paper					[437]
$C_{22}H_{15}NO_5S$		4-thiocyanophenyl 4-(4-methoxybenzoyloxy)benzoate					
	Sol/Nem	422.2	41.3	97.82			
	Nem/Liq	477.2	0.4	0.84	98.66	NA	[114]
$C_{22}H_{16}N_2O_3$		4-methoxyphenyl 4-[4-(4-cyanophenyliminomethyl)]benzoate					
	Sol/Nem	477.2	36.0	75.44			
	Nem/Liq	549.2	0.6	1.09	76.53		[203]
$C_{22}H_{16}N_2O_3$		N-[4-(4-methoxybenzoyloxy)benzylidene]-4-cyanoaniline					
	Sol/Nem	453.2	38.0	83.85			
	Nem/Liq	597.2	0.8	1.34	85.19	93.7	[203]
$C_{22}H_{17}F_3$		4-[(4-penten-1-yl)phenyl-1,3-butadiynyl]-4-(trifluoromethyl)benzene					
	Sol/Nem	403.8	17.43	43.16			
	Nem/Liq	413.6	0.92	2.22	45.38	74.3	[212]
$C_{22}H_{17}F_{13}OS$		4-propoxyphenylbenzyl perfluorohexyl thioether					
	Sol/Sol	341.4	7.5	21.97			
	Sol/Smec	361.3	2.4	6.64			
	Smec/Smec	373.6	2.1	5.62			
	Smec/Liq	433.3	10.8	24.92	59.15	107.4	[66]
$C_{22}H_{17}F_{17}O_7$		4-$CF_3CF_2CF_2OCF(CF_3)CF_2OCF(CF_3)CH_2OO(CH_2)_5O$-$C_6H_4COOH$					
	Sol/Smec	268.2	39.1	145.79			
	Smec/Liq	381.2	10.4	27.28	173.07		[3]
$C_{22}H_{17}F_{17}O_7$		4-{5-[1*H*,1*H*-2,5-di(fluoromethyl)-3,6-dioxaundecafluorononyloxycarbonyl]pentyloxy}benzoic acid					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	268.2	19.6	73.08			
	Smec/Liq	381.2	5.5	14.43	87.51		[221]
$C_{22}H_{17}N$		4-[(4-penten-1-yl)phenyl-1,3-butadiynyl]-4-cyanobenzene					
	Sol/Nem	448.0	30.88	68.93			
	Nem/Liq	501.0	Decomposed prior to transition				[212]
$C_{22}H_{17}N$		2-(4-cyanophenyl)-7-ethylfluorene					
	Sol/Nem	474.5	11.2	23.60			
	Nem/Liq	518.2	0.46	0.89	24.49	75.9	[2]
$C_{22}H_{18}ClNO_3$		2-methyl-3-chloro-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	412.2	31.0	75.21			
	Nem/Liq	422.2	0.4	0.95	76.16	92.8	[191]
$C_{22}H_{18}ClNO_3$		3-chloro-4-methyl-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	432.2	44.0	101.80			
	Nem/Liq	464.2	0.4	0.86	102.66	92.8	[191]
$C_{22}H_{18}O_4$		4,4′-dipropanyoyloxydiphenyldiacetylene					
	Sol/Sol	351.0	0.59	1.68			
	Sol/Sol	359.0	7.53	20.97			
	Sol/Nem	430.0	19.40	45.12			
	Nem/Liq	470.0	1.38	2.94	70.71	82.8	[157]
$C_{22}H_{19}F$		4-[(4-hexen-1-yl)phenyl-1,3-butadiynyl]-4-fluorobenzene					
	Sol/Nem	355.9	24.28	68.22			
	Nem/Liq	423.2	0.77	1.82	70.04	82	[212]
$C_{22}H_{19}FO$		1-(6-butoxy-2-naphthyl)-2-(4-fluorophenyl)acetylene					
	Sol/Nem	383.9	27.8	72.41			
	Nem/Liq	407.2	0.7	1.72	74.13	83.6	[95]
$C_{22}H_{19}F_{15}O_5$		4-{5-[(2-perfluoro-5-methylhexyl)ethoxycarbonyl]pentyloxy}benzoic acid					
	Sol/Smec	360.2	17.0	47.20			
	Smec/Liq	415.2	11.4	27.46	74.66		[221]
$C_{22}H_{19}N$		4-[4-pentylphenyl-1,3-butadiynyl]-4-cyanobenzene					
	Sol/Nem	422.2	33.11	78.42			
	Nem/Liq	435.1	0.38	0.87	79.29	79.6	[212]
$C_{22}H_{19}NO$		4-propoxy-4″-cyano-p-terphenyl					
	Sol/Smec	463.2	2.82	6.09			
	Smec/Nem	480.2	19.11	39.80			
	Nem/Liq	555.2	Decomposed				[277]
$C_{22}H_{19}NO_3$		4-methyl-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	402.2	28.0	69.62			
	Nem/Liq	551.2	1.1	2.00	71.62	106.5	[191]
$C_{22}H_{19}NO_3$		4-methoxyphenyl 4-[4-(4-methylphenyliminomethyl)]benzoate					
	Sol/Nem	422.2	36.0	85.27			
	Nem/Liq	548.2	0.9	1.64	86.91	106.5	[203]
$C_{22}H_{19}NO_3$		phenyl 4-(4-ethoxybenzylideneamino)benzoate					
	Sol/Nem	436.2	46.0	105.46			
	Nem/Liq	457.2	0.4	0.87	106.33		[292]
$C_{22}H_{19}NO_3$		4-[[(4-ethoxyphenyl)methylene]amino]phenol, benzoate (ester)					
	Sol/Nem	416.2	33.0	79.29			
	Nem/Liq	461.2	0.8	1.73	81.02		[346]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{22}H_{19}NO_3$		4-[(phenylimino)methyl]phenyl 4-ethoxybenzoate					
	Sol/Nem	420.2	33.0	78.53			
	Nem/Liq	458.2	0.6	1.31	79.84		[346]
$C_{22}H_{19}NO_3$		4-[(phenylmethylene)amino]phenyl 4-ethoxybenzoate					
	Sol/Nem	416.2	33.0	79.29			
	Nem/Liq	456.2	1.0	2.19	81.48		[346]
$C_{22}H_{19}NO_3$		phenyl 4-[[(4-ethoxyphenyl)imino]phenylbenzoate					
	Sol/Nem	433.2	37.0	85.41			
	Nem/Liq	466.2	0.5	1.07	86.48		[346,347]
$C_{22}H_{19}NO_3$		4-[[(4-ethoxyphenyl)imino]methyl]phenol, benozate (ester)					
	Sol/Nem	419.2	37.0	88.26			
	Nem/Liq	463.2	0.7	1.51	89.77		[346]
$C_{22}H_{19}NO_3$		phenyl 4-[[(4-ethoxyphenyl)methylene]amino]benzoate					
	Sol/Nem	434.2	36.0	82.91			
	Nem/Liq	455.2	0.5	1.10	84.01		[346]
$C_{22}H_{19}NO_3$		4-ethoxyphenyl 4-[(phenylamino)methyl]benzoate					
	Sol/Nem	434.2	38.0	87.52			
	Nem/Liq	455.2	0.5	1.10	88.62		[346]
$C_{22}H_{19}NO_3$		4-ethoxyphenyl 4-[(phenylmethylene)amino]benzoate					
	Sol/Nem	418.2	35.0	83.69			
	Nem/Liq	440.2	0.6	1.36	85.05		[346]
$C_{22}H_{19}N_3O$		4-[5-(4′-propyl[1,1′-biphenyl]-yl)-1,2,4-oxadiazol-3-yl]pyridine					
	Sol/Smec	363.2	19.12	52.64			
	Smec/Nem	418.2	0.65	1.55			
	Nem/Liq	438.2	0.27	0.62	54.81		[279]
$C_{22}H_{20}$		4-[(4-penten-1-yl)phenyl-1,3-butadiynyl]-4-methylbenzene					
	Sol/Nem	387.2	27.90	72.09			
	Nem/Liq	454.0	1.28	2.82	74.91	75.3	[212]
$C_{22}H_{20}$		4-[(4-buten-1-yl)phenyl-1,3-butadiynyl]-4-ethylbenzene					
	Sol/Nem	377.6	19.37	51.30			
	Nem/Liq	447.3	0.85	1.90	53.20	75.3	[212]
$C_{22}H_{20}N_2O_2$		N,N′-*bis*[(4-methoxyphenyl)methylene]-1,4-benzenediamine					
	Sol/Nem	498.3	45.4	91.11			
	Nem/Liq	Not reported in paper					[365]
$C_{22}H_{20}N_2O_3$		3-pyridyl 4-(4-propoxybenzylideneamino)benzoate					
	Sol/Smec	409.2	31.0	75.76			
	Smec/Nem	416.2	2.3	5.53			
	Nem/Liq	449.2	0.3	0.67	81.96		[291]
$C_{22}H_{20}N_2O_3$		4[(E)-[(4-propoxyphenyl)methylene]amino]phenyl 3-pyridinecarboxylate					
	Sol/Nem	393.2	36.0	91.56			
	Nem/Liq	458.2	0.6	1.31	92.87		[291]
$C_{22}H_{20}N_2O_3$		4-[(E)-(3-pyridimino)methyl]phenyl 4-propoxybenzoate					
	Sol/Nem	395.2	39.0	98.68			
	Nem/Liq	447.2	0.4	0.89	99.57		[291]
$C_{22}H_{20}N_2O_3$		4-[(E)-(3-pyridinylmethylene)amino]phenyl 4-propoxybenzoate					
	Sol/Nem	391.2	39.0	99.69			
	Nem/Liq	448.2	0.7	1.56	101.25		[291]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{22}H_{21}F$		4-[4-hexylphenyl-1,3-butadiynyl]-4-fluorobenzene					
	Sol/Nem	349.2	31.10	89.06			
	Nem/Liq	353.3	0.21	0.59	89.65	85.6	[212]
$C_{22}H_{21}F$		4-hexyl-4′-fluorodiphenyldiacetylene					
	Sol/Nem	349.2	31.06	88.95			
	Nem/Liq	353.3	0.21	0.59	89.54	85.6	[270]
$C_{22}H_{21}F_9OS$		4-pentyloxyphenylbenzyl perfluorobutyl thioether					
	Sol/Sol	320.3	7.3	22.79			
	Sol/Smec	350.2	4.5	12.85			
	Smec/Liq	391.7	7.4	18.89	58.53		[66]
$C_{22}H_{21}NS$		2-pentyl-5-(4′-cyanobiphenyl-4-yl)thiophene					
	Sol/Nem	423.1	12.0	28.36			
	Nem/Liq	470.3	0.66	1.40	29.76		[20]
$C_{22}H_{22}$		4-[4-butylphenyl-1,3-butadiynyl]-4-ethylbenzene					
	Sol/Nem	317.6	22.34	70.34			
	Nem/Liq	371.6	0.60	1.61	71.95	77.4	[212]
$C_{22}H_{22}$		4-[4-pentylphenyl-1,3-butadiynyl]-4-methylbenzene					
	Sol/Nem	360.9	22.06	61.12			
	Nem/Liq	381.6	1.01	2.65	63.77	77.4	[212]
$C_{22}H_{22}N_2O_2$		N-hexyl-4-[4-(4-nitrophenyl)-1,3-butadinyl]benzenamine					
	Sol/Nem	403.2	39.8	98.71			
	Nem/Liq	422.4	0.33	0.78	99.49		[216]
$C_{22}H_{23}F_{13}S$		4-propylcyclohexylbenzyl perfluorohexyl thioether					
	Sol/Smec	326.7	22.3	68.26			
	Smec/Liq	345.0	13.2	38.26	106.52	108.2	[66]
$C_{22}H_{23}NO$		2-(4-pentylphenyl)-5-phenylpyridine					
	Sol/Meso	339.8	2.17	6.39			
	Meso/Liq	385.0	6.83	17.74	24.13		[260]
	Note: Experimental enthalpies seem abnormally low for this compound.						
$C_{22}H_{23}NOS$		4′-heptyloxy-4-isothiocyanatotolane					
	Sol/Sol	333.5	29.54	88.58			
	Sol/Smec	384.8	1.55	4.03			
	Smec/Liq	386.1	12.01	31.11	123.72	NA	[135]
$C_{22}H_{23}NO_2$		1-[2-(*trans*-4-ethylcyclohexyl)]-4-[(4-nitrophenyl)ethynyl]benzene					
	Sol/Nem	437.1	25.65	58.68			
	Nem/Liq	483.3	0.59	1.22	59.90	79	[238]
$C_{22}H_{23}NO_2$		(E)-4-{2-[4-(5-vinyloxypentyloxy)phenyl]vinyl}benzonitrile					
	Sol/Smec	343.6	7.1	20.66			
	Smec/Nem	347.2	8.5	24.48			
	Nem/Liq	347.9	10.3	29.61	74.75		[435]
$C_{22}H_{23}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-ethylcyclohexyl)benzoate					
	Sol/Nem	416.2	32.22	77.41			
	Nem/Liq	493.2	0.79	1.60	79.01	NA	[356]
$C_{22}H_{24}FNO_2S$		S-(2-fluoro-4-octyloxyphenyl) 4-cyanothiobenzoate					
	Sol/Nem	351.2	40.4	115.03			
	Nem/Liq	352.2	0.9	2.56	117.59	NA	[4]
$C_{22}H_{24}O_3$		6-(8-nonenyloxy)-2-naphthoic acid					
	Sol/Sol	307.2	5.86	19.08			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Sol	375.6	57.32	152.61			
	Sol/Nem	412.3	54.39	131.92			
	Nem/Liq	454.4	9.20	20.25	323.86	107.6	[68]
$C_{22}H_{24}O_4$		di(4′-methylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Nem	450.4	35.5	78.82			
	Nem/Liq	466.3	1.07	2.29	81.11	90.7	[215]
$C_{22}H_{24}O_6$		di(4′-methoxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Sol	411.6	4.81	11.69			
	Sol/Nem	416.2	31.48	75.64			
	Nem/Liq	516.0	2.87	5.56	92.89	104.3	[157, 405]
	Independent values from another reference						
	Sol/Nem	416.2	36.65	88.06			
	Note: The reported enthalpy might include the Sol/Sol phase transition that is indicated in the first set of values.						
	Nem/Liq	516.2	2.87	5.56	93.62	104.3	[220]
$C_{22}H_{25}NO_2$		(E)-4-{2-[4-(7-hydroxyheptyloxy)phenyl]vinyl}benzonitrile					
	Sol/Nem	356.6	15.6	43.75			
	Nem/Liq	364.5	9.6	26.34	70.09		[435]
$C_{22}H_{25}N_3O$		4-[5-[4-(*trans*-4-propylcyclohexyl)phenyl]-1,2,4-oxadiazol-3-yl]pyridine					
	Sol/Nem	367.2	23.52	64.05			
	Nem/Liq	430.2	0.21	0.49	64.54	110.8	[279]
$C_{22}H_{25}N_3O$		3-[5-[4-(*trans*-4-propylcyclohexyl)phenyl]-1,2,4-oxadiazol-3-yl]pyridine					
	Sol/Sol	345.2	10.11	29.29			
	Sol/Smec	346.2	4.10	11.84			
	Smec/Nem	349.2	0.03	0.09			
	Nem/Liq	463.2	0.35	0.76	41.98	110.8	[279]
$C_{22}H_{25}N_3O$		2-[5-[4-(*trans*-4-propylcyclohexyl)phenyl]-1,2,4-oxadiazol-3-yl]pyridine					
	Sol/Sol	393.2	20.64	52.49			
	Sol/Nem	400.2	2.60	6.50			
	Nem/Liq	427.2	0.17	0.40	59.39	110.8	[279]
$C_{22}H_{26}N_2O$		4-octyloxy-N-(4-cyanobenzylidene)aniline					
	Sol/Sol	339.9	11.28	33.19			
	Sol/Smec	347.0	29.70	85.6			
	Smec/Nem	356.2	To small to be measured				
	Nem/Liq	382.1	0.87	2.27	121.06	121.1	[204]
$C_{22}H_{26}N_2O$		N-(4-octyloxybenzylidene)-4-aminobenzonitrile					
	Sol/Nem	353.1	37.6	106.49			
	Nem/Liq	366.6	0.83	2.26	108.75		[365]
$C_{22}H_{26}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-octyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	391.8	14.69	37.49			
	Smec/Liq	456.6	5.85	12.81	50.30		[75]
$C_{22}H_{26}N_2O_2S_2$		2,5-*bis*(4-butoxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Sol	455.8	1.75	3.84			
	Sol/Smec	470.9	19.15	40.67			
	Smec/Nem	483.8	3.45	7.13			
	Nem/Liq	567.4	1.62	2.86	54.50		[269]
$C_{22}H_{26}N_2O_3$		4-pentanoyl-4′-pentanoyloxyazobenzene					
	Sol/Smec	355.1	7.10	19.99			
	Smec/Smec	377.1	4.69	12.44			
	Smec/Smec	377.5	7.68	20.34			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	399.5	6.09	15.24	68.01	115.7	[157]
$C_{22}H_{26}N_2O_3$		4-propanoyl-4′-heptanoyloxyazobenzene					
	Sol/Smec	365.2	24.81	67.94			
	Smec/Nem	414.7	5.31	12.80			
	Nem/Liq	416.7	0.92	2.21	82.95	115.7	[157]
$C_{22}H_{26}N_4OS$		5-(4-pyridyl)-2-(4-n-octyl)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	468.6	29.8	63.59			
	Smec/Liq	480.6	4.4	9.16	72.75		[31]
$C_{22}H_{26}N_4OS$		5-(4-pyridyl)-2-(4-octyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	420.7	21.9	52.06			
	Smec/Liq	434.0	2.5	5.76	57.82		[79]
$C_{22}H_{26}N_4O_2S$		5-(4-pyridyl)-2-(4-octyloxy)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	484.4	14.1	29.11			
	Smec/Liq	523.5	5.3	10.12	39.23		[31]
$C_{22}H_{27}ClO_2S$		4-chlorophenyl 4-nonyloxythiobenzoate					
	Sol/Smec	343.5	34.69	100.99			
	Smec/Liq	370.2	5.23	14.13	115.12	NA	[383]
$C_{22}H_{27}N$		4′-nonyl-4-cyanobiphenyl					
	Sol/Smec	313.7	33.48	106.73			
	Smec/Nem	320.8	Value is very small				
	Nem/Liq	322.7	1.20	3.72	110.45	119.2	[158]
	Independent values from another reference						
	Sol/Smec	313.4	37.57	119.88			
	Smec/Nem	320.4	0.29	0.91			
	Nem/Liq	322.1	1.44	4.47	125.26	119.2	[233]
	Independent values from another reference						
	Sol/Smec	305.0	30.96	101.51			
	Smec/Nem	321.0	0.25	0.78			
	Nem/Liq	323.0	1.00	3.10	105.39	119.2	[237]
	Independent values from another reference						
	Sol/Smec	314.9	34.7	110.19			
	Smec/Nem	320.2	0.5	1.56			
	Nem/Liq	322.2	1.63	5.06	116.81	119.2	[350]
	Independent values from another reference						
	Sol/Smec	315.7	34.5	109.28			
	Smec/Nem	320.8	0.01	0.03			
	Nem/Liq	322.8	1.20	3.72	113.03	119.2	[387]
$C_{22}H_{27}NO$		4-nonyloxy-4′-cyanobiphenyl					
	Sol/Smec	335.7	35.48	105.69			
	Smec/Nem	353.2	0.38	1.08			
	Nem/Liq	353.3	0.92	2.60	109.37	126	[233]
	Independent values from another reference						
	Sol/Smec	Not reported in paper					
	Smec/Nem	351.4	0.16	0.46			
	Nem/Liq	353.2	0.84	2.38	126		[232]
$C_{22}H_{27}NO_3$		4-(4-octyloxyphenyliminomethyl)benzoic acid					
	Sol/Smec	456.2	16.0	35.07			
	Smec/Nem	531.2	Not reported in paper				
	Nem/Liq	534.2	19.7	36.88			[416]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{22}H_{27}NO_5$		4-nonyloxyphenyl 4-nitrobenzoate					
	Sol/Nem	340.2	43.51	127.90			
	Nem/Liq	350.2	4.06	11.59	139.49	133.7	[236]
$C_{22}H_{27}NS$		4-nonyl-4′-thiocyanatobiphenyl					
	Sol/Meso	323.4	31.55	97.56			
	Meso/Liq	340.4	10.28	30.20	127.76	NA	[84]
$C_{22}H_{28}BrNOS$		1-[2-(5-nonylthienyl)]-3-(4-bromophenylamino)-2-propen-1-one					
	Sol/Smec	362.5	28.64	79.01			
	Smec/Smec	363.8	0.82	2.25			
	Smec/Liq	440.6	7.77	17.64	98.90	129.7	[75]
$C_{22}H_{28}ClN$		4-chlorobenzylidene 4′-nonylaniline					
	Sol/Smec	320.2	27.70	86.51			
	Smec/Smec	329.7	2.68	8.13			
	Smec/Liq	331.6	3.96	11.94	106.58		[31]
$C_{22}H_{28}ClNOS$		1-[2-(5-nonylthienyl)]-3-(4-chlorophenylamino)-2-propen-1-one					
	Sol/Smec	358.2	29.52	82.41			
	Smec/Liq	431.6	6.93	16.06	98.47	128.4	[75]
$C_{22}H_{28}FNOS$		1-[2-(5-nonylthienyl)]-3-(4-fluorophenylamino)-2-propen-1-one					
	Sol/Smec	343.8	28.61	83.22			
	Smec/Liq	374.9	4.10	10.94	94.16	128.8	[75]
$C_{22}H_{28}INOS$		1-[2-(5-nonylthienyl)]-3-(4-iodophenylamino)-2-propen-1-one					
	Sol/Smec	374.8	12.89	34.39			
	Smec/Smec	387.1	1.73	4.47			
	Smec/Liq	440.8	7.94	18.01	56.87	131.6	[75]
$C_{22}H_{28}N_2O$		4-(ω-aminononyloxy)-4′-cyanobiphenyl					
	Sol/Nem	349.1	33.5	95.96			
	Nem/Liq	356.4	0.83	2.33	98.29	136.9	[17]
$C_{22}H_{28}N_2O_2$		4-nitrobenzylidene 4′-nonylaniline					
	Sol/Smec	319.2	7.53	23.59			
	Smec/Nem	323.2	0.42	1.30			
	Nem/Liq	325.2	11.76	36.16	61.05	121.4	[235]
$C_{22}H_{28}N_2O_3$		4-hexanoyloxy-2,3-dimethyl-4′-ethoxyazobenzene					
	Sol/Nem	349.2	32	91.64			
	Nem/Liq	362.2	0.4	1.10	92.74		[339]
$C_{22}H_{28}N_2O_3$		4-heptanoyloxy-2-methyl-4′-ethoxyazobenzene					
	Sol/Nem	324.2	38	117.21			
	Nem/Liq	340.2	0.9	2.65	119.86		[339]
$C_{22}H_{28}N_2O_3$		4-heptanoyloxy-3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	335.2	39	116.35			
	Nem/Liq	345.2	0.8	2.32	118.67		[339]
$C_{22}H_{28}O_2$		4-methoxy-4′-heptoxy-*trans*-stilbene					
	Nem/Liq	421	421	1.6			
	Sol/Liq	423	42.76	101.1	101.1	127.0	[157]
	Note: Nem/Smec transition observed on cooling.						
$C_{22}H_{28}O_2S$		4-pentylphenyl 4′-butyloxythiobenzoate					
	Sol/Nem	336.1	23.43	69.71			
	Nem/Liq	362.9	0.75	2.07	71.78	NA	[409]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{22}H_{28}O_3$		4-butoxyphenyl 4′-pentylbenzoate					
	Sol/Nem	321.6	26.07	81.06			
	Nem/Liq	330.9	0.73	2.21	83.27	124.4	[218]
$C_{22}H_{29}ClN_2O_2$		4-chloro-2′-hydroxy-4′- decyloxyazobenzene					
	Sol/Smec	333.7	28.4	85.11			
	Smec/Liq	372.1	4.4	11.82	96.93	133.4	[229]
$C_{22}H_{29}NO$		4-ethyl-N-[[4-(heptyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	326.2	22.91	70.23			
	Smec/Smec	331.8	4.04	12.18			
	Smec/Nem	337.8	2.77	8.20			
	Nem/Liq	342.2	0.92	2.69	93.30		[242]
$C_{22}H_{29}NO$		N-(4-methoxybenzylidene)-4-octylaniline					
	Sol/Nem	322.5	30.9	95.81			
	Nem/Liq	343.8	0.46	1.34	97.15	118.9	[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{22}H_{29}NO$		N-(4-ethoxybenzylidene)-4-heptylaniline					
	Sol/Nem	325.7	26.3	80.75			
	Nem/Liq	365.4	0.79	2.16	82.91	118.9	[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{22}H_{29}NO$		N-(4-propoxybenzylidene)-4-hexylaniline					
	Sol/Nem	313.9	27.2	86.65			
	Nem/Liq	323.5	0.42	1.30	87.95	118.9	[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{22}H_{29}NO$		N-(4-butoxybenzylidene)-4-pentylaniline					
	Sol/Smec	301.2	4.2	13.94			
	Smec/Nem	Error in published data					
	Nem/Liq	363.6	1.17	3.22	118.9		[376, 318]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{22}H_{29}NO$		N-4-pentyloxybenzylidene-4-butylaniline					
	Sol/Smec	299.7	22.68	75.68			
	Smec/Nem	325.7	7.11	21.83			
	Nem/Liq	342.5	1.78	5.20	102.71	118.9	[157]
	Independent values from another reference						
	Sol/Smec	285.2	8.4	29.45			
	Smec/Smec	325.6	5.86	18.00			
	Smec/Nem	Peak was not resolved					
	Nem/Liq	343.3	0.96	2.80		118.9	[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{22}H_{29}NO_2S$		4-isothiocyanatophenyl 4-hexylbicyclo[2.2.2]octane-1-carboxylate					
	Sol/Sol	312.1	7.1	22.75			
	Sol/Nem	324.7	19.2	59.13			
	Nem/Liq	379.2	Not reported in paper			NA	[357]
$C_{22}H_{29}NO_3$		N-(4-methoxyphenyl)-α-(4-octyloxyphenyl)nitrone					
	Sol/Nem	385.2	49.37	128.17			
	Nem/Liq	401.2	1.12	2.79	130.96	NA	[162]
$C_{22}H_{30}$		4,4′-dicyclopentylbiphenyl					
	Sol/Smec	298.3	7.10	23.80			
	Smec/Smec	319.3	0.25	0.78			
	Smec/Smec	320.3	2.03	6.34			
	Smec/Liq	325.5	9.56	29.37	60.29	77.2	[90]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{22}H_{30}F_3$		1-(*trans*-4′-butylbicyclohexyl)-2,3,4-trifluorobenzene					
	Sol/Nem	314.8	25.05	79.57			
	Nem/Liq	391.5	0.31	0.79	80.36	101.6	[27]
$C_{22}H_{30}N_2O$		4-propyl-4′-heptyloxyazobenzene					
	Sol/Nem	337.0	90.71	269.17			
	Nem/Liq	349.6	2.70	7.72	276.89	120.2	[153]
	Note: Sol/Nem transition enthalpy is out of line with other derivatives in this series.						
$C_{22}H_{30}N_2O$		4-butyl-4′-hexyloxyazobenzene					
	Sol/Nem	316.0	22.79	72.12			
	Nem/Liq	346.5	0.89	2.57	74.69	120.2	[141]
$C_{22}H_{30}N_2O$		4-pentyl-4′-pentyloxyazobenzene					
	Sol/Nem	328.1	13.93	42.46			
	Nem/Liq	352.5	1.04	2.95	45.41	120.2	[141]
$C_{22}H_{30}N_2O$		4-heptyl-4′-propoxyazobenzene					
	Sol/Nem	319.4	9.46	29.62			
	Nem/Liq	346.1	0.48	1.39	31.01	120.2	[390]
$C_{22}H_{30}N_2O$		*bis*(4-pentylphenyl)diazene N-oxide					
	Sol/Nem	299.8	15.7	52.42			
	Nem/Liq	341.1	0.95	2.79	55.21		[365]
$C_{22}H_{30}N_2O_2$		4-methyl-2′-hydroxy-4′-nonyloxyazobenzene					
	Sol/Nem	339.7	31.9	93.91			
	Nem/Liq	355.3	0.83	2.34	96.25	125.6	[73]
$C_{22}H_{30}N_2O_3$		4,4′-dipentyloxyazoxybenzene					
	Sol/Sol	342.0	22.0	64.33			
	Sol/Nem	350.2	15.80	45.12			
	Nem/Liq	397.2	1.50	3.78	113.23	135.6	[9]
	Independent values from another reference						
	Sol/Nem	348.7	14.59	41.84			
	Note: Three other independent studies report that this compound exhibits a Sol/Sol transition.						
	Nem/Liq	396.4	0.72	1.82	43.66	135.6	[179]
	Independent values from another reference						
	Sol/Sol	340.7	22.8	66.92			
	Sol/Nem	350.2	15.4	43.97			
	Nem/Liq	395.2	1.10	2.78	113.67	135.6	[365]
	Independent values from another reference						
	Sol/Sol	341.0	23.0	67.45			
	Sol/Nem	349.0	13.8	39.54			
	Nem/Liq	397.0	0.86	2.17	109.16	135.6	[440]
$C_{22}H_{30}O_2$		4,4′-*bis*(2-methylbutoxy)biphenyl					
	Sol/Smec	356.8	8.43	23.63			
	Smec/Liq	360.2	36.29	100.75	124.38	104.6	[172]
$C_{22}H_{30}O_2$		4,4′-*bis*(S-(+)-2-methylbutoxy)biphenyl					
	Sol/Smec	346.4	20.96	60.51			
	Smec/Liq	349.9	51.45	147.04	207.55	104.6	[172]
$C_{22}H_{30}O_2S$		2-octanoyl-5-(4-butoxyphenyl)thiophene					
	Sol/Meso	400.8	24.57	61.30			
	Meso/Liq	404.1	8.42	20.84	82.14	138.9	[18]
$C_{22}H_{31}NS$		4-(*trans*, *trans*-4-propylbicyclohexyl)benzene-isothiocyanate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	349.7	10.45	29.88			
	Nem/Liq	521.9	1.46	2.80	32.68	NA	[52]
$C_{22}H_{32}N_6OS$		1-(1-oxodecyl)-4-[4-[(1E)-1,3,4-thiadiazol-2-ylazo]phenyl]piperazine					
	Sol/Smec	417.9	16.33	39.08			
	Smec/Liq	428.6	1.97	4.60	43.68		[384]
$C_{22}H_{33}NS$		4-(*trans*-4′-nonylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	312.3	40.0	128.08			
	Nem/Liq	326.6	1.20	3.67	131.75	NA	[151]
$C_{22}H_{34}F_2O_2$		1-ethoxy-2,3-difluoro-4-[3-(*trans*-4-pentylcyclohexyl)propoxybenzene					
	Sol/Nem	298.2	25.4	85.18			
	Nem/Liq	299.2	Not reported in paper				[198]
$C_{22}H_{34}O$		1-methoxy-(4-[(E)-3-(*trans*-4-pentylcyclohexyl)-1-butenyl])-benzene					
	Sol/Nem	298.2	17.5	58.69			
	Nem/Liq	307.2	Not reported in paper				[198]
$C_{22}H_{35}NO_5$		4-pentadecyloxy-3-nitrobenzoic acid					
	Sol/Smec	368.2	50.1	136.07			
	Smec/Liq	370.2	1.9	5.13	141.20	200.1	[1]
$C_{22}H_{36}N_2O_2$		N,N′-dihexanoyl-3,4,5,6-tetramethylbenzene-1,2-diamine					
	Sol/Meso	387.2	10	25.83			
	Meso/Meso	400.2	5	12.49			
	Meso/Meso	480.2	6	12.49			
	Meso/Liq	534.2	24	44.93	95.74	112.0	[61]
$C_{22}H_{36}O_2$		1-ethoxy-4-[3-(*trans*-4-pentylcyclohexyl)-1-propoxy]benzene					
	Sol/Nem	323.2	22.6	69.93			
	Nem/Liq	330.2	Not reported in paper				[198]
$C_{22}H_{36}O_3$		4-pentadecyloxybenzoic acid					
	Sol/Smec	375.2	51.88	138.27			
	Smec/Liq	407.2	9.62	23.62	161.89	183.3	[156]
$C_{22}H_{42}O_7$		6-O-hexadecanoyl-α-D-galactopyranose					
	Sol/Smec	391.2	43.78	111.91			
	Smec/Liq	455.2	0.67	1.47	113.38	226.1	[39]
$C_{22}H_{44}O_5S$		6-S-hexadecyl-6-thio-α-D-galactopyranose					
	Sol/Smec	376.2	58.89	156.54			
	Smec/Liq	454.2	3.45	7.60	164.14	229.8	[39]
$C_{22}H_{44}O_6$		6-O-hexadecyl-α-D-galactopyranose					
	Sol/Smec	394.2	51.42	130.44			
	Smec/Liq	440.2	0.64	1.45	131.89	232.4	[39]
$C_{22}H_{46}O_4$		1,2,21,22-tetrahydroxydocosane					
	Sol/Meso	360.2	20.3	56.36			
	Meso/Meso	413.2	17.0	41.14			
	Meso/Liq	416.2	15.2	36.52	134.02	272.0	[145]
$C_{22}H_{46}O_6$		6-O-hexadecyl-D-galacitol					
	Sol/Smec	419.2	69.28	165.27			
	Smec/Liq	438.2	0.82	1.87	167.14	252.4	[183]
$C_{23}H_{13}F_{17}SO$		2(perfluorooctyl)ethyl 4-phenylthiobenzoate					
	Sol/Smec	355.5	25.3	71.17			
	Smec/Liq	432.5	9.2	21.27	92.44	NA	[38]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{23}H_{16}FNO_5S$		4-ethoxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Nem	412.2	19.7	47.79			
	Nem/Liq	439.2	0.3	0.68	48.47	NA	[37]
$C_{23}H_{16}O_5$		7-(4′-methoxybenzoyloxy)isoflavone					
	Sol/Nem	459.3	13.23	28.80			
	Nem/Liq	499.0	0.19	0.38	29.18		[14]
$C_{23}H_{16}F_2O$		1-(6-propoxy-2-naphthyl)-4-(3,4-difluorophenyl)diacetylene					
	Sol/Nem	413.6	31.9	77.13			
	Nem/Liq	419.9	0.1	0.24	77.37	72.6	[95]
$C_{23}H_{17}ClO_8$		di-(4-methoxycarbonylphenyl) 2-chloroterephthalate					
	Sol/Nem	459.2	41.4	90.16			
	Nem/Liq	515.2	0.61	1.18	91.34		[174]
$C_{23}H_{17}FO$		1-(6-propoxy-2-naphthyl)-4-(4-fluorophenyl)diacetylene					
	Sol/Nem	405.6	25.4	62.62			
	Nem/Liq	460.8	0.1	0.22	62.84	70.9	[95]
$C_{23}H_{17}NO_5S$		4-thiocyanophenyl 4-(4-ethoxybenzoyloxy)benzoate					
	Sol/Nem	431.2	40.1	93.00			
	Nem/Liq	481.2	0.3	0.62	93.62	NA	[114]
$C_{23}H_{18}ClNO_4$		ethyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	494.2	48.0	97.13			
	Smec/Nem	491.2	11.0	22.39			
	Nem/Liq	539.2	0.4	0.74	120.26	102.3	[196]
$C_{23}H_{18}N_2O_6$		ethyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	448.2	40.0	89.25			
	Nem/Liq	553.2	Not reported in paper				[196]
$C_{23}H_{19}N$		2-(4-cyanophenyl)-7-propylfluorene					
	Sol/Nem	459.8	15.77	34.30			
	Nem/Liq	512.8	0.4	0.78	35.08	93.5	[2]
$C_{23}H_{19}NO_3S$		4′-(4-pentenyloxy)biphenyl 5-cyano-2-thiophenecarboxylate					
	Sol/Smec	386.5	16.32	42.23			
	Smec/Smec	408.9	17.15	41.94			
	Smec/Nem	419.6	2.15	5.12			
	Nem/Liq	451.5	2.51	5.56	94.85	115.9	[63]
$C_{23}H_{19}NO_5$		methyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	483.2	55.0	113.82			
	Nem/Liq	589.2	Not reported in paper				[195]
$C_{23}H_{19}NO_5$		methyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Nem	485.2	56.0	115.42			
	Nem/Liq	574.2	0.8	1.39	116.81		[195]
$C_{23}H_{20}F_2O$		1-(6-pentyloxy-2-naphthyl)-2-(3,4-difluorophenyl)acetylene					
	Sol/Nem	347.7	18.0	51.77			
	Nem/Liq	358.6	0.2	0.56	52.33	92.4	[95]
$C_{23}H_{21}FO$		1-(6-pentyloxy-2-naphthyl)-2-(4-fluorophenyl)acetylene					
	Sol/Nem	373.6	21.1	56.48			
	Nem/Liq	396.2	0.4	1.01	57.49	90.7	[95]
$C_{23}H_{21}NO$		4-butoxy-4″-cyano-p-terphenyl					
	Sol/Smec	394.2	4.91	12.46			
	Smec/Nem	458.2	11.79	25.73			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	545.2	Decomposed			105.1	[277]
$C_{23}H_{21}NO_3$		2,3-dimethyl-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	399.2	31.0	77.66			
	Nem/Liq	431.2	0.4	0.93	78.59	92.1	[191]
$C_{23}H_{21}NO_3$		2,4-dimethyl-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	415.2	36.0	86.71			
	Nem/Liq	495.2	0.8	1.62	88.33	92.1	[191]
$C_{23}H_{21}NO_3$		3,4-dimethyl-N-[4-(4-methoxybenzoyloxy)benzylidene]aniline					
	Sol/Nem	391.2	26.0	66.46			
	Nem/Liq	455.2	0.5	1.10	67.56	92.1	[191]
$C_{23}H_{21}NO_3$		phenyl 4-(4-propoxybenzylideneamino)benzoate					
	Sol/Nem	394.2	39.0	98.93			
	Nem/Liq	436.2	0.3	0.69	99.62		[292]
$C_{23}H_{21}NO_3$		4-ethylphenyl 4-(4-methoxybenzylideneamino)benzoate					
	Sol/Nem	411.2	31.0	75.39			
	Nem/Liq	528.2	0.9	1.70	77.09		[292]
$C_{23}H_{21}NO_3$		phenyl 4-(4-propoxybenzylideneamino)benzoate					
	Sol/Nem	394.2	39.0	98.93			
	Nem/Liq	436.2	0.3	0.69	99.62	105.1	[292]
$C_{23}H_{21}NO_3$		4-ethylphenyl 4-(4-methoxybenzylideneamino)benzoate					
	Sol/Nem	411.2	31.0	75.39			
	Nem/Liq	528.2	0.9	1.70	77.09	115.6	[292]
$C_{23}H_{21}O_4S$		4′-(4-pentyloxy)biphenyl 5-methoxy-2-thiophenecarboxylate					
	Sol/Nem	398.2	83.26	209.09			
	Nem/Liq	468.7	4.18	8.92	218.01		[63]
$C_{23}H_{22}$		4-[(4-penten-1-yl)phenyl-1,3-butadiynyl]-4-ethylbenzene					
	Sol/Nem	355.5	23.17	65.18			
	Nem/Liq	450.2	1.12	2.49	67.67	82.4	[212]
$C_{23}H_{22}N_2O_3$		4-[(pyridine-4-ylmethylene)amino]phenyl 4-butoxybenzoate					
	Sol/Nem	411.7	40.9	99.34			
	Nem/Liq	433.2	0.4	0.92	100.26		[265, 266]
$C_{23}H_{22}N_2O_3$		3-pyridyl 4-(4-butoxybenzylideneamino)benzoate					
	Sol/Smec	391.2	36.0	92.02			
	Smec/Nem	424.2	1.8	4.24			
	Nem/Liq	452.2	0.5	1.11	97.37	115.9	[291]
$C_{23}H_{22}N_2O_3$		4[(E)-[(4-butoxyphenyl)methylene]amino]phenyl 3-pyridinecarboxylate					
	Sol/Nem	384.2	41.0	106.72			
	Nem/Liq	460.2	0.6	1.30	108.02		[291]
$C_{23}H_{22}N_2O_3$		4-[(E)-(3-pyridimino)methyl]phenyl 4-butoxybenzoate					
	Sol/Nem	374.2	35.0	93.53			
	Nem/Liq	451.2	0.7	1.55	95.08		[291]
$C_{23}H_{22}N_2O_3$		4-[(E)-(3-pyridinylmethylene)amino]phenyl 4-butoxybenzoate					
	Sol/Nem	390.2	41.0	105.07			
	Nem/Liq	450.2	0.8	1.78	106.85		[291]
$C_{23}H_{23}NS$		2-hexyl-5-(4′-cyanobiphenyl-4-yl)thiophene					
	Sol/Sol	336.6	0.71	2.11			
	Sol/Nem	419.1	10.6	25.29			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	462.2	0.81	1.75	29.15	115.9	[20]
$C_{23}H_{23}NS$		4′-(4-ethylcyclohexyl)-4-isothiocyanatotolane					
	Sol/Nem	413.4	25.69	62.14			
	Nem/Liq	516.2	0.84	1.63	63.77	NA	[135, 238]
$C_{23}H_{24}$		4-[4-pentylphenyl-1,3-butadiynyl]-4-ethylbenzene					
	Sol/Nem	317.9	17.85	56.15			
	Nem/Liq	374.9	Not reported in paper				[212]
$C_{23}H_{25}NO_2$		6-n-pentyloxy-2-[4-methoxystyryl]quinoline					
	Sol/Sol	354.6	1.19	3.36			
	Sol/Nem	401.6	30.65	76.32			
	Nem/Liq	455.4	0.56	1.23	80.91	116.1	[112]
$C_{23}H_{25}NO_2$		1-[2-(*trans*-4-propylcyclohexyl)]-4-[(4-nitrophenyl)ethynyl]-benzene					
	Sol/Nem	437.4	28.07	64.17			
	Nem/Liq	504.9	0.92	1.82	65.99		[238]
$C_{23}H_{26}N_2O$		3-phenyl-5-[4-(*trans*-4-propylcyclohexyl)phenyl]-1,2,4-oxadiazole					
	Sol/Nem	361.2	20.23	56.01			
	Nem/Liq	439.2	0.31	0.71	56.72	107.3	[279]
$C_{23}H_{26}O_3$		6-(9-decenyloxy)-2-naphthoic acid					
	Sol/Smec	402.7	50.21	124.68			
	Smec/Nem	407.1	3.35	8.22			
	Nem/Liq	447.4	8.79	19.65	152.55	114.7	[68]
$C_{23}H_{28}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-nonyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	395.2	14.42	36.49			
	Smec/Liq	459.0	6.59	14.36	50.85	134.6	[75]
$C_{23}H_{28}N_2O_3$		4-pentanoyl-4′-hexanoyloxyazobenzene					
	Sol/Sol	323.8	4.67	14.42			
	Sol/Smec	365.1	7.12	19.50			
	Smec/Smec	375.2	3.36	8.96			
	Smec/Smec	377.5	9.57	25.35			
	Smec/Liq	401.2	5.81	14.48	82.71	122.8	[157]
$C_{23}H_{28}N_2O_3$		4-propanoyl-4′-octanoyloxyazobenzene					
	Sol/Smec	369.7	27.49	101.63			
	Smec/Meso	416.2	5.31	12.76			
	Meso/Liq	416.7	1.00	2.40	116.79	122.8	[157]
$C_{23}H_{28}N_4OS$		5-(4-pyridyl)-2-(4-nonyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	415.1	23.6	56.85			
	Smec/Liq	436.5	3.7	8.48	65.33		[79]
$C_{23}H_{28}N_4O_2$		1-[4-[(1E)-(4-formylphenyl)azo]phenyl]-4-(1-oxohexyl)piperazine					
	Sol/Nem	417.5	19.9	47.66			
	Nem/Liq	450.6	0.2	0.44	48.10		[345]
$C_{23}H_{29}ClO_2S$		4-chlorophenyl 4-decyloxythiobenzoate					
	Sol/Smec	341.2	30.21	88.54			
	Smec/Liq	366.3	4.85	13.24	101.78	NA	[383]
$C_{23}H_{29}N$		4-decyl-4′-cyanobiphenyl					
	Sol/Smec	320.9	37.87	118.01			
	Smec/Liq	327.8	3.05	9.30	127.31	126.3	[233]
	Independent values from another reference						
	Sol/Smec	317.0	33.47	105.58			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	322.0	2.68	8.32	113.90	126.3	[237]
	Independent values from another reference						
	Sol/Smec	316.9	37.2	117.39			
	Smec/Liq	323.6	3.05	9.43	126.82	126.3	[350]
	Independent values from another reference						
	Sol/Smec	317.7	36.0	113.31			
	Smec/Liq	324.5	2.83	8.72	122.02	126.3	[387]
$C_{23}H_{29}NO$		4-decyloxy-4′-cyanobiphenyl					
	Sol/Smec	330.8	36.07	109.04			
	Smec/Liq	357.2	3.31	9.27	118.31	133.1	[233]
$C_{23}H_{29}NO_3$		4-(4-nonyloxyphenyliminomethyl)benzoic acid					
	Sol/Smec	453.2	16.2	35.75			
	Smec/Liq	533.2	19.6	36.76	72.51		[416]
$C_{23}H_{29}NO_5$		4-decyloxyphenyl 4-nitrobenzoate					
	Sol/Smec	322.2	5.90	18.31			
	Smec/Nem	326.2	16.44	50.40			
	Nem/Liq	347.2	4.39	12.64	81.35		[236]
$C_{23}H_{29}NS$		4-decyl-4′-thiocyanatobiphenyl					
	Sol/Meso	305.4	27.4	89.72			
	Meso/Liq	338.1	10.04	29.70	119.42	NA	[84]
$C_{23}H_{30}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-decyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	344.7	29.19	84.68			
	Smec/Smec	378.2	1.57	4.15			
	Smec/Liq	455.5	8.21	18.02	106.85		[75]
$C_{23}H_{30}N_2O_2$		4-nitrobenzylidene 4′-decylaniline					
	Sol/Nem	325.2	34.81	107.04			
	Nem/Liq	327.2	1.72	5.26	112.30		[235]
$C_{23}H_{30}N_2O_3$		4-heptanoyloxy-2,3-dimethyl-4′-ethoxyazobenzene					
	Sol/Nem	346.2	45	129.99			
	Nem/Liq	365.2	0.6	1.64	131.63		[339]
$C_{23}H_{30}N_2O_3$		4-octanoyloxy-2-methyl-4′-ethoxyazobenzene					
	Sol/Nem	327.2	40	122.25			
	Nem/Liq	333.2	0.7	2.10	124.35		[339]
$C_{23}H_{30}N_2O_3$		4-octanoyloxy-3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	323.2	43	133.04			
	Nem/Liq	339.2	0.6	1.77	134.81		[339]
$C_{23}H_{30}O_3$		4-pentyloxyphenyl 4′-pentylbenzoate					
	Sol/Nem	315.2	19.58	62.12			
	Nem/Liq	325.0	0.61	1.88	64.00	131.5	[218]
$C_{23}H_{30}O_3S$		S-(4-octyloxyphenyl) 4-butoxythiobenzoate					
	Sol/Nem	333.2	40.1	120.35			
	Nem/Liq	378.2	1.7	4.49	124.84	NA	[4]
$C_{23}H_{30}O_4$		4,4′-*bis*(ω-hydroxybutoxy)-α-methylstilbene					
	Sol/Sol	348.5	5.82	16.7			
	Sol/Smec	412.4	20.70	50.2			
	Smec/Nem	426.6	5.20	12.2			
	Nem/Liq	432.4	Not reported in paper				[56]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{23}H_{31}NO$		4-propyl-N-[[4-(heptyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	312.3	22.29	71.37			
	Smec/Smec	337.4	4.64	13.75			
	Smec/Liq	346.7	1.29	3.72			
	Nem/Liq	354.3	0.99	2.79	91.63		[242]
$C_{23}H_{31}NO$		N-(4-ethoxybenzylidene)-4-octylaniline					
	Sol/Nem	320.8	31.0	96.63			
	Nem/Liq	340.9	0.63	1.85	98.48	126	[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{23}H_{31}NO$		N-(4-propoxybenzylidene)-4-heptylaniline					
	Sol/Nem	303.8	29.2	96.12			
	Nem/Liq	350.0	0.88	2.51	98.63	126	[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{23}H_{31}NO$		N-(4-butoxybenzylidene)-4-hexylaniline					
	Sol/Sol	280.2	4.2	14.99			
	Sol/Sol	295.2	0.2	0.68			
	Sol/Smec	299.2	8.9	29.75			
	Smec/Smec	310.5	2.47	7.95			
	Smec/Nem	322.6	0.84	2.60			
	Nem/Liq	360.7	0.92	2.55	58.52	126	[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{23}H_{31}NO$		N-(4-pentyloxybenzylidene)-4-pentylaniline					
	Sol/Smec	302.2	7.1	23.49			
	Smec/Smec	312.5	2.09	6.69			
	Smec/Nem	333.3	0.21	0.63			
	Nem/Liq	355.9	0.88	2.47	33.28	126	[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{23}H_{31}NO$		N-(4-hexyloxybenzilidene)-4-n-butylaniline					
	Sol/Smec	306.6	23.29	75.96			
	Smec/Smec	331.6	0.80	2.42			
	Smec/Smec	332.9	3.37	10.12			
	Smec/Smec	343.2	3.20	9.32			
	Nem/Liq	350.9	1.89	5.38	103.22	126	[157]
	Independent values from another reference						
	Sol/Smec	283.2	1.1	3.88			
	Smec/Smec	328.6	2.89	8.79			
	Smec/Nem	337.5	2.26	6.70			
	Nem/Liq	348.6	1.59	4.56	23.93	126	[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper. The Sol/Smec transition enthalpy is unusually low, and is likely in error.						
$C_{23}H_{32}$		4-pentyl-4′-hexylbiphenyl					
	Sol/Smec	Not reported in paper					
	Smec/Smec	284.9	0.34	1.19			
	Smec/Smec	314.9	0.20	0.64			
	Smec/Smec	315.8	1.62	5.13			
	Smec/Liq	326.9	9.99	30.56			[355]
$C_{23}H_{32}ClN_2O_2$		4-chloro-2′-hydroxy-4′-undecyloxyazobenzene					
	Sol/Smec	340.6	37.3	109.51			
	Smec/Liq	369.5	4.6	12.45	121.96		[229]
$C_{23}H_{32}FNO_2$		4-cyano-2-fluorophenyl *trans*-4-nonylcyclohexane-1-carboxylate					
	Sol/Nem	352.7	41.00	116.25			
	Nem/Liq	364.7	Not reported in paper				[197]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{23}H_{32}N_2O$		4-propyl-4′-octyloxyazobenzene					
	Sol/Nem	338.9	94.93	280.11			
	Nem/Liq	354.2	3.39	9.57	289.68	127.3	[153]
$C_{23}H_{32}N_2O$		4-butyl-4′-heptyloxyazobenzene					
	Sol/Nem	326.2	28.28	86.70			
	Nem/Liq	343.3	0.72	2.10	88.80	127.3	[141]
$C_{23}H_{32}N_2O$		4-pentyl-4′-hexyloxyazobenzene					
	Sol/Nem	320.2	20.81	64.99			
	Nem/Liq	359.0	1.19	3.31	68.30	127.3	[131]
$C_{23}H_{32}N_2O$		4-heptyl-4′-butoxyazobenzene					
	Sol/Nem	312.8	13.22	42.26			
	Nem/Liq	354.6	1.30	3.67	45.93	127.3	[390]
$C_{23}H_{32}N_2O$		3-cyclohexyl-5-[4-(*trans*-4-propylcyclohexyl)phenyl]-1,2,4-oxadiazole					
	Sol/Smec	342.2	4.86	14.20			
	Smec/Nem	343.2	3.35	9.76			
	Nem/Liq	349.2	0.42	1.20	25.16	110	[279]
$C_{23}H_{32}N_2O_2$		4-methyl-2′-hydroxy-4′-decyloxyazobenzene					
	Sol/Nem	341.8	31.9	93.33			
	Nem/Liq	358.1	1.1	3.07	96.40	132.7	[73]
	Independent values from another reference						
	Sol/Nem	338.2	10.96	32.41			
	Nem/Liq	357.2	0.60	1.68	34.09	132.7	[282]
	Note: Transition enthalpies seem abnormally low for this compound.						
$C_{23}H_{32}O_2S$		2-octanoyl-5-(4-pentyloxyphenyl)thiophene					
	Sol/Meso	393.7	22.16	56.29			
	Meso/Liq	400.6	7.53	18.80	75.09	146.0	[18]
$C_{23}H_{33}F_3$		1-(*trans* 4′-pentylbicyclohexyl)-2,3,4-trifluorobenzene					
	Sol/Nem	314.9	35.79	113.66			
	Nem/Liq	395.7	0.49	1.24	114.90		[27]
$C_{23}H_{33}F_3$		1-(*trans* 4′-pentylbicyclohexyl)-3,4,5-trifluorobenzene					
	Sol/Nem	309.2	27.17	87.87			
	Nem/Liq	373.2	0.53	1.42	89.29		[27]
$C_{23}H_{33}NS$		4-(*trans*, *trans*-4-butylbicyclohexyl)benzene-isothiocyanate					
	Sol/Nem	322.3	22.57	70.03			
	Nem/Liq	512.6	1.67	3.26	73.29	NA	[52]
$C_{23}H_{33}NS$		1-(4-isothiocyanatophenyl)-4-octylbicyclo[2.2.2]octane					
	Sol/Nem	323.7	19.2	59.31			
	Nem/Liq	360.7	Not reported in paper			NA	[357]
$C_{23}H_{33}NS$		1-hexyl-4-[2-(4-isothiocyanatophenyl)ethyl]bicyclo[2.2.2]octane					
	Sol/Nem	334.2	15.5	46.38			
	Nem/Liq	378.7	Not reported in paper				[357]
$C_{23}H_{34}F_2$		1-(*trans* 4′-pentylbicyclohexyl)-3,4-difluorobenzene					
	Sol/Nem	327.4	22.18	67.75			
	Nem/Liq	398.2	0.39	0.98	68.73		[27]
$C_{23}H_{34}N_2O_6$		4,4′-*bis*[4-(4- methoxybenzylideneamino)benzoyloxy]diphenylmethane					
	Sol/Smec	483.2	53.0	109.69			
	Smec/Liq	509.2	4.0	7.86	117.55		[284]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{23}H_{34}O$		4-hexyl-4′-[S-(+)-2-methylbutoxy]biphenyl					
	Sol/Smec	308.8	6.97	22.57			
	Smec/Liq	318.8	32.35	101.47	124.04	117.9	[172]
$C_{23}H_{34}O_2$		4-propylcyclohexyl 4-pentylcinnamate					
	Sol/Nem	318.5	18.2	57.14			
	Nem/Liq	338.6	1.0	2.95	60.09	122.4	[5]
$C_{23}H_{34}O_3$		4-heptylcyclohexyl 4-methoxycinnamate					
	Sol/Nem	325.9	36.0	110.46			
	Nem/Liq	368.5	1.3	3.53	113.99	129.2	[5]
$C_{23}H_{35}F_2N$		N-{2-[4-(4-pentylcyclohexyl)cyclohexyl]ethyl}-3,4-difluoropyrrole					
	Sol/Nem	343.7	31.6	91.94			
	Nem/Liq	363.4	0.75	2.06	94.00		[325]
$C_{23}H_{35}NS$		4-(*trans*-4′-decylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	314.9	37.80	120.04			
	Nem/Liq	323.9	0.80	2.47	122.51	NA	[151]
$C_{23}H_{36}O$		1-ethoxy-(4-[(E)-3-(*trans*-4-pentylcyclohexyl)-1-butenyl])benzene					
	Sol/Nem	307.2	17.9	58.27			
	Nem/Liq	324.2	Not reported in paper				[198]
$C_{23}H_{37}NO_5$		4-hexadecyloxy-3-nitrobenzoic acid					
	Sol/Smec	371.2	57.7	155.44			
	Smec/Liq	371.2	2.5	6.73	162.17	209.4	[1]
$C_{23}H_{38}N_2O_2$		N,N′-diheptanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	453.2	14	30.89			
	Meso/Liq	512.2	24	46.86	77.75		[36]
$C_{23}H_{38}O$		1-ethoxy-4-[4-(*trans*-4-pentylcyclohexyl)-1-butyl]benzene					
	Sol/Smec	291.2	14.6	50.14			
	Smec/Liq	304.2	Not reported in paper				[198]
$C_{23}H_{38}O_3$		4-hexadecyloxybenzoic acid					
	Sol/Smec	375.2	48.53	129.34			
	Smec/Liq	406.2	9.62	23.68	153.02	192.6	[156]
$C_{23}H_{46}O_6S$		6-O-(propylene-[3′-S-tetradecyl])-α-D-galactopyranose					
	Sol/Smec	382.2	66.70	174.52			
	Smec/Liq	436.2	0.68	1.56	176.08		[39]
$C_{24}H_{18}FNO_5S$		4-propoxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Nem	422.9	39.8	94.11			
	Nem/Liq	425.2	0.2	0.47	94.58	NA	[37]
$C_{24}H_{18}F_2O$		1-(6-butoxy-2-naphthyl)-4-(3,4-difluorophenyl)diacetylene					
	Sol/Nem	399.2	34.5	86.42			
	Nem/Liq	427.8	0.1	0.23	86.65		[95]
$C_{24}H_{18}N_2O_4$		ethyl 4-[4-(4-cyanobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	454.2	36.0	79.26			
	Nem/Liq	579.2	0.3	0.52	79.78		[196]
$C_{24}H_{18}O_5$		7-(4′-ethoxybenzoyloxy)isoflavone					
	Sol/Nem	468.2	28.26	60.36			
	Nem/Liq	503.5	0.72	1.43	61.79		[14]
$C_{24}H_{18}O_6S_2$		*bis*(4-methoxyphenyl) 2,2′-bithiophene-5,5′-dicarboxylate					
	Sol/Nem	519.4	57.6	110.90			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	556.3	1.1	1.98	112.88	121.0	[12]
$C_{24}H_{18}O_8$		*bis*(4-methoxycarbonylphenyl) terephthalate					
	Sol/Nem	520.2	58.0	111.50			
	Nem/Liq	574.2	1.01	1.76	113.26	109.8	[194]
$C_{24}H_{19}FO$		1-(6-butoxy-2-naphthyl)-4-(4-fluorophenyl)diacetylene					
	Sol/Nem	380.5	25.4	66.75			
	Nem/Liq	459.3	0.2	0.44	67.19		[95]
$C_{24}H_{19}NO_5S$		4-thiocyanophenyl 4-(4-propoxybenzoyloxy)benzoate					
	Sol/Smec	412.2	30.5	73.99			
	Smec/Nem	417.2	Not reported in paper				
	Nem/Liq	467.2	0.4	0.86		NA	[114]
$C_{24}H_{20}ClNO_4$		isopropyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	429.2	26.0	60.58			
	Smec/Liq	481.2	8.3	17.25	77.83		[196]
$C_{24}H_{20}ClNO_4$		propyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	447.2	38.0	84.97			
	Smec/Nem	472.2	2.8	5.93	90.90		[196]
$C_{24}H_{20}N_2O_4$		dimethyl N,N′-[1,4-phenylene-*bis*(methylidyne)]-*bis*[aminobenzoate]					
	Sol/Nem	516.2	53.0	102.67			
	Nem/Liq	612.2	Not reported in paper				[192]
$C_{24}H_{20}N_2O_6$		isopropyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	451.2	42.0	93.09			
	Nem/Liq	504.2	0.6	1.19	94.28		[196]
$C_{24}H_{20}N_2O_6$		propyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	414.2	32.0	77.26			
	Nem/Liq	544.2	Not reported in paper				[196]
$C_{24}H_{21}N$		2-(4-cyanophenyl)-7-butylfluorene					
	Sol/Nem	431.1	18.92	43.89			
	Nem/Liq	492.8	0.41	0.83	44.72		[2]
$C_{24}H_{21}NO_4$		ethyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	454.2	46.0	101.28			
	Nem/Liq	523.2	0.5	0.96	102.24		[196]
$C_{24}H_{21}NO_5$		ethyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	474.2	52.0	109.66			
	Nem/Liq	555.2	0.6	1.08	110.74		[195]
$C_{24}H_{21}NO_5$		ethyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Nem	458.2	53.0	115.67			
	Nem/Liq	541.2	0.6	1.11	116.78		[195]
$C_{24}H_{22}F_2O$		1-(6-hexyloxy-2-naphthyl)-2-(3,4-difluorophenyl)acetylene					
	Sol/Nem	346.3	18.6	53.71			
	Nem/Liq	361.4	0.4	1.11	54.82		[95]
$C_{24}H_{23}FO$		1-(6-hexyloxy-2-naphthyl)-2-(4-fluorophenyl)acetylene					
	Sol/Nem	370.4	23.0	62.10			
	Nem/Liq	397.2	0.5	1.26	63.36		[95]
$C_{24}H_{23}F_7O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl-4-(hexyloxy) benzoate					
	Sol/Smec	336.9	19.49	57.86			
	Smec/Smec	345.2	0.31	0.90			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	372.4	6.18	16.60	75.36		[125]
$C_{24}H_{23}F_{17}S$		4-propylcyclohexylbenzyl perfluorooctyl thioether					
	Sol/Smec	358.6	21.8	60.79			
	Smec/Liq	366.2	12.7	34.68	95.47		[66]
$C_{24}H_{23}N$		4-(4-pentylphenyl)-4′-cyanobiphenyl					
	Sol/Sol	353.2	0.79	2.24			
	Sol/Sol	388.2	6.61	17.03			
	Sol/Nem	404.2	9.00	22.27			
	Nem/Liq	513.2	0.93	1.81	43.35		[365]
$C_{24}H_{23}NO$		4-pentyloxy-4″-cyano-p-terphenyl					
	Sol/Smec	377.2	7.17	19.01			
	Smec/smec	403.2	1.20	2.98			
	Smec/Nem	445.2	12.29	27.61			
	Nem/Liq	526.2	1.37	2.60	52.20		[277]
$C_{24}H_{23}NO_3$		phenyl 4-(4-butoxybenzylideneamino)benzoate					
	Sol/Smec	388.2	32.0	82.43			
	Smec/Nem	408.2	1.3	3.18			
	Nem/Liq	441.2	0.5	1.13	86.74		[292]
$C_{24}H_{23}NO_3$		4-ethylphenyl 4-(4-ethoxybenzylideneamino)benzoate					
	Sol/Nem	429.2	40.0	93.20			
	Nem/Liq	534.2	1.3	2.43	95.63		[292]
$C_{24}H_{23}NO_3$		4-isopropylphenyl 4-(4-methoxybenzylideneamino)benzoate					
	Sol/Nem	404.2	30.0	74.22			
	Nem/Liq	479.2	0.5	1.04	75.26		[292]
$C_{24}H_{23}NO_8$		4-[[4-(hexyloxy)phenoxy]carbonyl]phenyl 5-nitro-2-furancarboxylate					
	Sol/Nem	420.2	Value not reported in paper				
	Nem/Liq	445.2	1.1	2.47			[352]
$C_{24}H_{24}N_2O_3$		4-[(pyridine-4-ylmethylene)amino]phenyl 4-pentyloxybenzoate					
	Sol/Nem	386.2	24.7	63.96			
	Nem/Liq	431.3	0.2	0.46	64.42		[265]
$C_{24}H_{25}NS$		4′-(4-propylcyclohexyl)-4-isothiocyanatotolane					
	Sol/Nem	410.4	26.5	64.57			
	Nem/Liq	538.6	1.51	2.80	67.37	NA	[135, 238]
$C_{24}H_{27}NO_2$		6-n-pentyloxy-2-[4-ethoxystyryl]quinoline					
	Sol/Sol	374.8	11.75	31.35			
	Sol/Nem	396.7	28.84	72.70			
	Nem/Liq	465.9	0.54	1.16	105.21		[112]
$C_{24}H_{27}NO_2$		1-[2-(*trans*-4-butylcyclohexyl)]-4-[(4-nitrophenyl)ethynyl]benzene					
	Sol/Nem	409.4	23.68	57.84			
	Nem/Liq	497.9	0.88	1.77	59.61		[238]
$C_{24}H_{27}NO_2$		(E)-4-{2-[4-(7-vinyloxyheptyloxy)phenyl]vinyl}benzonitrile					
	Sol/Smec	334.7	5.3	15.84			
	Smec/Nem	345.1	16.3	47.23			
	Nem/Liq	351.3	8.5	24.20	87.25		[435]
$C_{24}H_{27}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-butylcyclohexyl)benzoate					
	Sol/Smec	382.2	25.94	67.87			
	Smec/Nem	397.7	Too small to be measured				
	Nem/Liq	512.2	0.92	1.80	69.67	NA	[356]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{24}H_{28}O_3$		6-(10-undecenyloxy)-2-naphthoic acid					
	Sol/Sol	393.8	126.4	320.98			
	Sol/Smec	399.7	Not completely resolved				
	Note: Sol/Smec transition enthalpy is included in the value for the Sol/Sol transition.						
	Smec/Nem	410.4	1.67	4.07			
	Nem/Liq	444.2	7.95	17.90	342.95	121.8	[68]
$C_{24}H_{28}O_4$		di(4′-ethylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Nem	384.2	30.4	79.13			
	Nem/Liq	434.2	0.51	1.17	80.30	104.9	[215]
$C_{24}H_{28}O_6$		di(4′-ethoxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Nem	414.2	52.59	126.97			
	Nem/Liq	517.2	1.44	2.78	129.75	118.5	[220]
$C_{24}H_{29}NO_2$		(E)-4-{2-[4-(9-hydroxynonyloxy)phenyl]vinyl}benzonitrile					
	Sol/Nem	364.2	28.8	79.08			
	Nem/Liq	371.6	12.0	32.29	111.37		[435]
$C_{24}H_{29}N_3O$		4-[5-[4-(*trans*-4-pentylcyclohexyl)phenyl]-1,2,4-oxadiazol-3-yl]pyridine					
	Sol/Nem	351.2	16.52	47.04			
	Nem/Liq	431.2	0.30	0.70	47.74	125	[279]
$C_{24}H_{29}N_3O$		2-[5-[4-(*trans*-4-pentylcyclohexyl)phenyl]-1,2,4-oxadiazol-3-yl]pyridine					
	Sol/Nem	368.2	21.22	57.63			
	Nem/Liq	425.2	0.34	0.80	58.43	125	[279]
$C_{24}H_{29}NO_5$		butyl 4-[[[4- [[(pentyloxy)carbonyl]oxy]phenyl]imino]methyl]benzoate					
	Sol/Nem	321.7	25.8	80.20			
	Nem/Liq	369.2	0.77	2.09	82.29		[365]
$C_{24}H_{30}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-decyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	386.7	7.11	18.39			
	Smec/Liq	461.1	7.03	15.25	33.64		[75]
$C_{24}H_{30}N_2O_2S_2$		2,5-*bis*(4-pentyloxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Sol	362.9	4.98	13.72			
	Sol/Sol	392.3	4.69	11.96			
	Sol/Smec	453.0	26.52	58.54			
	Smec/Smec	497.3	5.43	10.92			
	Smec/Liq	543.9	1.74	3.20	98.34		[269]
$C_{24}H_{30}N_2O_3$		4-n-pentanoyl-4-n′-heptanoyloxyazobenzene					
	Sol/Sol	347.1	7.51	21.63			
	Sol/Smec	371.4	13.27	35.74			
	Smec/Smec	375.6	8.71	23.18			
	Smec/Liq	401.7	6.83	17.01	97.56	130.0	[157]
$C_{24}H_{30}N_2O_3$		4-n-propanoyl-4-n′-nonanoyloxyazobenzene					
	Sol/Sol	367.2	3.02	8.22			
	Sol/Smec	361.1	1.76	4.87			
	Smec/Smec	417.2	1.76	4.87			
	Smec/Liq	417.2	7.03	16.84	29.9	130.0	[157]
$C_{24}H_{30}N_4OS$		5-(4-pyridyl)-2-(4-decyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	415.3	25.3	60.92			
	Smec/Liq	438.8	5.0	11.39	72.31		[79]
$C_{24}H_{31}ClN_2O_4$		4-(4-hexyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methyl-pentanoate					
	Sol/Smec	326.4	29.14	89.28			
	Smec/Nem	329.2	0.36	1.09			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	346.8	0.85	2.45	92.82		[47]
$C_{24}H_{31}ClO_2S$		4-chlorophenyl 4-undecyloxythiobenzoate					
	Sol/Smec	348.4	34.10	97.88			
	Smec/Liq	370.9	4.39	11.84	109.72	NA	[383]
$C_{24}H_{31}N$		4-cyano-4′-undecylbiphenyl					
	Sol/Smec	325.3	46.90	144.17			
	Smec/Liq	329.3	4.18	12.69	156.86	133.4	[233]
	Independent values from another reference						
	Sol/Smec	326.0	38.07	116.78			
	Smec/Liq	330.0	3.39	10.27	127.05	133.4	[237]
	Independent values from another reference						
	Sol/Smec	325.5	42.7	131.18			
	Smec/Liq	329.5	3.85	11.68	142.86	133.4	[350]
	Independent values from another reference						
	Sol/Smec	326.2	43.2	132.43			
	Smec/Liq	330.2	3.8	11.50	143.93	133.4	[387]
$C_{24}H_{31}NO$		4-cyano-4′-undecyloxybiphenyl					
	Sol/Smec	342.2	37.12	108.47			
	Smec/Liq	359.2	3.32	9.24	117.71	140.2	[222]
	Independent values from another reference						
	Sol/Smec	341.8	44.73	130.87			
	Smec/Liq	359.8	4.10	11.40	142.27	140.2	[233]
$C_{24}H_{31}NO_3$		4-(4-decyloxyphenyliminomethyl)benzoic acid					
	Sol/Smec	448.2	29.1	64.93			
	Semc/Liq	532.2	33.3	62.57	127.50		[416]
$C_{24}H_{31}NO_5$		4-undecyloxyphenyl 4-nitrobenzoate					
	Sol/Smec	346.2	46.02	132.93			
	Smec/Liq	358.2	3.56	9.94	142.87	155.5	[236]
$C_{24}H_{31}NO_5$		4′-undecyloxy-3′-nitrobiphenyl-4-carboxylic acid					
	Sol/Smec	397.0	27.15	68.39			
	Smec/Smec	473.0	0.33	0.70			
	Smec/Liq	482.0	3.86	8.01	77.10		[87]
$C_{24}H_{32}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-undecyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	348.3	29.89	85.82			
	Smec/Smec	377.5	2.20	5.83			
	Smec/Liq	453.5	8.34	18.39	110.04		[75]
$C_{24}H_{32}FNO_2S$		3-fluoro-4-isothiocyanatophenyl 4-octylbicyclo[2.2.2]octane-1-carboxylate					
	Sol/Sol	332.2	5.0	15.05			
	Sol/Nem	341.7	33.8	98.92			
	Nem/Liq	365.7	Not reported in paper			NA	[357]
$C_{24}H_{32}N_2O_2$		4-nitrobenzylidene 4′-undecylaniline					
	Sol/Nem	325.2	15.94	49.02			
	Nem/Liq	334.2	1.09	3.26	52.28	135.6	[235]
$C_{24}H_{32}N_4OS_2$		2-(4-pentyloxyphenylazo)-5-(5′-heptyl-2′-thienyl)-1,3,4-thiadiazole					
	Sol/Nem	416.0	31.7	76.20			
	Nem/Liq	418.9	0.2	0.48	76.68		[396]
$C_{24}H_{32}N_2O_3$		4-octanoyloxy-2,3-dimethyl-4′-ethoxyazobenzene					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	342.2	32	93.51			
	Nem/Liq	358.2	0.4	1.12	94.63		[339]
$C_{24}H_{32}N_2O_3$		4-nonanoyloxy-2-methyl-4′-ethoxyazobenzene					
	Sol/Nem	335.2	51	152.15			
	Nem/Liq	336.2	1.0	2.97	155.12		[339]
$C_{24}H_{32}N_2O_3$		4-nonanoyloxy-3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	324.2	48	148.06			
	Nem/Liq	339.2	0.9	2.65	150.71		[339]
$C_{24}H_{32}O_3$		4-hexyloxyphenyl 4′-pentylbenzoate					
	Sol/Nem	307.4	15.44	50.23			
	Nem/Liq	333.1	0.93	2.79	53.02	138.6	[218]
$C_{24}H_{32}O_6S$		*bis*(4-pentyloxyphenyl) 2,5-thiophenedicarboxylate					
	Sol/Sol	365.1	13.7	37.52			
	Sol/Nem	409.8	43.1	105.17			
	Nem/Liq	413.9	0.8	1.93	144.62		[12]
$C_{24}H_{33}NO$		N-(4-propoxybenzylidene)-4-octylaniline					
	Sol/Sol	302.2	3.4	11.25			
	Sol/Sol	305.2	1.9	6.23			
	Sol/Sol	309.2	16.5	53.36			
	Sol/Sol	311.2	10.3	33.10			
	Sol/Nem	312.1	6.6	21.14			
	Nem/Liq	333.3	0.88	2.64	127.72		[376, 381]
	Note: Temperature calculated from published enthalpy and entropy data in paper.						
$C_{24}H_{33}NO$		N-(4-butoxybenzylidene)-4-heptylaniline					
	Sol/Smec	293.2	6.6	22.51			
	Smec/Smec	317.6	2.26	7.12			
	Smec/Nem	333.3	0.42	1.26			
	Nem/Liq	363.6	1.17	3.22	34.11		[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{24}H_{33}NO$		N-(4-pentyloxybenzylidene)-4-hexylaniline					
	Sol/Smec	309.2	23.1	74.71			
	Smec/Smec	316.7	2.38	7.51			
	Smec/Nem	329.4	1.17	3.55			
	Nem/Liq	343.4	1.42	4.14	89.91		[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{24}H_{33}NO$		N-(4-hexyloxybenzylidene)-4-pentylaniline					
	Sol/Smec	313.2	9.7	30.97			
	Smec/Smec	342.0	2.72	7.95			
	Smec/Nem	350.0	1.46	4.17			
	Nem/Liq	364.3	2.13	5.85	48.94		[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{24}H_{33}NO$		N-(4-heptyloxybenzylidene)-4-butylaniline					
	Sol/Smec	305.4	30.2	98.89			
	Smec/Liq	Not reported in paper					[381]
$C_{24}H_{33}NO$		N-(4-nonyloxybenzylidene)-4-ethylaniline					
	Sol/Smec	309.1	28.51	92.24			
	Smec/Smec	333.9	3.41	10.21			
	Smec/Liq	343.6	6.61	19.24	121.69		[65]
$C_{24}H_{33}NO_2S$		4-isothiocyanatophenyl 4-octylbicyclo[2.2.2]octane-1-carboxylate					
	Sol/Sol	325.7	2.3	7.06			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	335.7	22.2	66.13			
	Nem/Liq	376.2	Not reported in paper				[357]
$C_{24}H_{33}NO_3$		N-(4-methoxyphenyl)-α-(4-pentyloxyphenyl)nitrone					
	Sol/Smec	381.2	48.37	126.89			
	Smec/Nem	382.2	Not reported in paper				
	Smec/Liq	402.2	1.56	3.88		NA	[162]
$C_{24}H_{34}ClN_2O_2$		4-chloro-2′-hydroxy-4′-dodecyloxyazobenzene					
	Sol/Smec	333.9	33.5	100.33			
	Smec/Liq	369.2	4.9	13.27	113.60		[229]
$C_{24}H_{34}F_2O$		1,2-difluoro-4-[[3-(4′-propyl[1,1′-bicyclohexyl]-4-yl)-2-propenyl]oxy]benzene					
	Sol/Nem	321.2	27.0	84.06			
	Nem/Liq	374.2	Not reported in paper				[198]
$C_{24}H_{34}N_2O$		4-propyl-4′-nonyloxyazobenzene					
	Sol/Nem	336.2	105.1	312.61			
	Nem/Liq	351.9	3.64	10.34	322.95	134.4	[153]
$C_{24}H_{34}N_2O$		4-butyl-4′-octyloxyazobenzene					
	Sol/Smec	328.3	32.93	100.30			
	Smec/Nem	331.2	0.80	2.42			
	Nem/Liq	349.0	1.11	3.18	105.90	134.4	[141]
$C_{24}H_{34}N_2O$		4-pentyl-4′-heptyloxyazobenzene					
	Sol/Nem	320.2	21.64	67.58			
	Nem/Liq	355.0	1.22	3.44	71.02	134.4	[141]
$C_{24}H_{34}N_2O$		4-heptyl-4′-pentyloxyazobenzene					
	Sol/Nem	312.7	16.19	51.77			
	Nem/Liq	348.3	1.22	3.50	55.27	134.4	[390]
$C_{24}H_{34}N_2O$		*bis*(4-hexylphenyl)diazene N-oxide					
	Sol/Nem	298.7	17.2	57.58			
	Nem/Liq	327.5	0.69	2.11	59.69		[365]
$C_{24}H_{34}N_2O$		2-[4-(5-hexenyloxy)phenyl]-5-[(S)-5-methylheptyl]pyrimidine					
	Sol/Chol	303.2	7.9	26.06			
	Chol/Liq	304.2	Not reported in paper				[201]
$C_{24}H_{34}N_2O_2$		4-methyl-2′-hydroxy-4′-undecyloxyazobenzene					
	Sol/Nem	339.6	38.4	113.07			
	Nem/Liq	350.6	1.0	2.85	115.92	139.8	[73]
$C_{24}H_{34}N_2O_3$		4,4′-dihexyloxyazoxybenzene					
	Sol/Sol	352.0	3.90	11.08			
	Sol/Nem	355.5	37.50	105.49			
	Nem/Liq	403.5	1.35	3.35	119.92	149.8	[9]
	Independent values from another reference						
	Sol/Nem	354.5	41.39	116.76			
	Nem/Liq	402.3	1.05	2.61	119.37	149.8	[179]
	Independent values from another reference						
	Sol/Sol	349.0	3.84	11.00			
	Sol/Nem	355.0	36.3	102.25			
	Nem/Liq	403.0	1.35	3.35	116.60	149.8	[440]
$C_{24}H_{34}O_2S$		2-octanoyl-5-(4-hexyloxyphenyl)thiophene					
	Sol/Meso	393.2	22.99	58.47			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	403.0	7.09	17.59	76.06	153.1	[18]
$C_{24}H_{35}FO$		1-fluoro-4-[[3-(4′-propyl[1,1′-bicyclohexyl]-4-yl)-2-propenyl]oxy]benzene					
	Sol/Nem	348.2	29.9	85.87			
	Nem/Liq	400.2	Not reported in paper				[198]
$C_{24}H_{35}NS$		4-(*trans*, *trans*-4-pentylbicyclohexyl)benzene-isothiocyanate					
	Sol/Sol	411.6	12.5	30.37			
	Sol/Nem	328.7	10.45	31.79			
	Nem/Liq	510.2	1.46	2.86	65.02	NA	[52]
$C_{24}H_{36}F_2O$		1,2-difluoro-4-[[3-(4′-propyl[1,1′-bicyclohexyl]-4-yl)propoxy]benzene					
	Sol/Nem	352.2	35.1	99.66			
	Nem/Liq	380.2	Not reported in paper				[198]
$C_{24}H_{36}O_3$		4-heptylcyclohexyl 4-ethoxycinnamate					
	Sol/Nem	372.0	30.6	82.26			
	Nem/Liq	377.5	1.4	3.71	85.97	136.3	[5]
$C_{24}H_{37}FO$		1-fluoro-4-[[3-(4′-propyl[1,1′-bicyclohexyl]-4-yl)propoxy]benzene					
	Sol/Nem	351.2	35.8	101.94			
	Nem/Liq	397.2	Not reported in paper				[198]
$C_{24}H_{37}NS$		4-(*trans*-4′-undecylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	321.3	41.7	129.79			
	Nem/Liq	327.2	1.2	3.67	133.46	NA	[151]
$C_{24}H_{38}F_2O_2$		1-butoxy-2,3-difluoro-4-[3-(*trans*-4-pentylcyclohexyl)propoxybenzene					
	Sol/Nem	293.2	34.6	118.00			
	Nem/Liq	295.2	Not reported in paper				[198]
$C_{24}H_{38}O$		1-propoxy-(4-[(E)-3-(*trans*-4-pentylcyclohexyl)-1-butenyl])benzene					
	Sol/Smec	305.2	10.2	33.42			
	Smec/Liq	315.2	Not reported in paper				[198]
$C_{24}H_{39}N_3O_3$		N,N′,N″-tripentanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	588.2	16.0	27.20			
	Meso/Liq	653.2	34.0	52.05	79.25	122.7	[190]
$C_{24}H_{40}N_2O_2$		N,N′-diheptanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Meso	570.2	20	35.08			
	Meso/Liq	582.2	25	42.94	78.02		[36]
$C_{24}H_{40}O_3$		4-heptadecyloxybenzoic acid					
	Sol/Smec	377.2	54.39	144.19			
	Smec/Liq	405.2	9.20	22.70	166.89	201.9	[156]
$C_{24}H_{46}O_7$		6-O-octadecanoyl-α-D-galactopyranose					
	Sol/Smec	387.2	33.36	86.16			
	Smec/Liq	454.2	0.80	1.76	87.92	244.7	[39]
$C_{24}H_{48}O_5S$		6-S-octadecyl-6-thio-α-D-galactopyranose					
	Sol/Smec	387.2	68.47	176.83			
	Smec/Liq	450.2	1.48	3.29	180.12	248.4	[39]
$C_{24}H_{48}O_6$		6-O-octadecyl-α-D-galactopyranose					
	Sol/Smec	392.2	54.34	138.55			
	Smec/Liq	437.2	0.50	1.14	139.69	251	[39]
$C_{24}H_{50}O_6$		6-O-octadecyl-D-galacitol					
	Sol/Smec	412.2	44.12	107.04			
	Smec/Liq	422.2	0.62	1.47	108.51	271	[183]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{24}H_{70}Si_{10}$		1,10-diethyl(permethyl)decasilane					
	Sol/Meso	323.2	11.9	36.82			
	Meso/Liq	378.2	14.1	37.28	74.10		[110]
$C_{25}H_{16}F_{16}O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-[(perfluorobutyl)propoxy]benzoate					
	Sol/Smec	353.7	22.17	62.68			
	Smec/Smec	360.6	1.05	2.91			
	Smec/Liq	364.1	3.28	9.01	74.60		[128]
$C_{25}H_{17}ClF_4O_3$		4-(4-butoxyphenyl)acetylene-2,3,5,6-tetrafluorophenyl 4′-chlorobenzoate					
	Sol/Nem	398.6	24.89	62.44			
	Nem/Liq	459.5	0.77	1.68	64.12		[101]
$C_{25}H_{17}ClF_4O_3$		4-(4-butoxy-2,3,5,6-tetrafluorophenylacetylenyl)phenyl 4′-chlorobenzoate					
	Sol/Nem	364.4	30.00	82.33			
	Nem/Liq	486.8	0.76	1.56	83.89		[101]
$C_{25}H_{17}F_{13}O_4S$		2-(perfluorohexyl)ethyl 4-[4-(allyloxy)benzoyloxy]thiobenzoate					
	Sol/Smec	309.5	7.60	24.56			
	Smec/Liq	490.8	9.38	19.11	43.67	NA	[134]
$C_{25}H_{18}N_2O_2$		[1,1′-biphenyl]-4-yl 4-(phenylazo)benzoate					
	Sol/Nem	484.2	37.0	76.41			
	Nem/Liq	502.2	0.46	0.92	77.33		[338]
$C_{25}H_{18}N_2O_2$		4-(phenylazo)phenyl [1,1′-biphenyl]-4-carboxylate					
	Sol/Nem	485.2	41.0	84.50			
	Nem/Liq	503.2	0.20	0.40	84.90		[338]
$C_{25}H_{18}N_4O_2$		4-(phenylazo)phenyl 4-(phenylazo)benzoate					
	Sol/Nem	487.2	51.0	104.68			
	Nem/Liq	525.2	0.25	0.48	105.16		[338]
$C_{25}H_{19}N$		N-{[1,1′-biphenyl]-4-yl-methylene}-[1,1′biphenyl]amine					
	Sol/Nem	523.2	39.0	74.54			
	Nem/Liq	524.2	0.43	0.82	75.36		[338]
$C_{25}H_{20}FNO_5S$		4-butoxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Smec	401.2	34.4	85.74			
	Smec/Nem	Not reported in paper					
	Nem/Liq	426.2	0.3	0.70			[37]
$C_{25}H_{20}F_2O$		1-(6-pentyloxy-2-naphthyl)-4-(3,4-difluorophenyl)diacetylene					
	Sol/Nem	378.3	32.6	86.17			
	Nem/Liq	414.2	0.1	0.24	86.41		[95]
$C_{25}H_{20}N_2O_4$		isopropyl 4-[4-(4-cyanobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	441.2	38.0	86.13			
	Nem/Liq	519.2	0.3	0.58	86.71		[196]
$C_{25}H_{20}N_2O_4$		propyl 4-[4-(4-cyanobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	406.2	34.0	83.70			
	Nem/Liq	531.2	Not reported in paper				[196]
$C_{25}H_{20}O_5$		7-(4′-propoxybenzoyloxy)isoflavone					
	Sol/Nem	467.8	36.89	78.86			
	Nem/Liq	486.4	0.62	1.27	80.13		[14]
$C_{25}H_{21}ClO_8$		di-(4-ethoxycarbonylphenyl) 2-chloroterephthalate					
	Sol/Nem	412.2	38.8	94.13			
	Nem/Liq	435.2	0.35	0.80	94.93		[174]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{25}H_{21}FO$		1-(6-pentyloxy-2-naphthyl)-4-(4-fluorophenyl)diacetylene					
	Sol/Nem	380.0	37.1	97.63			
	Nem/Liq	451.1	0.6	1.33	98.96		[95]
$C_{25}H_{21}NO$		5-(4′-methoxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Nem	537.0	23.0	42.83			
	Nem/Liq	Decomposed prior to transition					[185]
$C_{25}H_{21}NO_5S$		4-thiocyanophenyl 4-(4-butoxybenzoyloxy)benzoate					
	Sol/Smec	402.2	42.1	104.67			
	Smec/Nem	429.2	1.1	2.56			
	Nem/Liq	464.2	0.4	0.86	108.09		[114]
$C_{25}H_{21}NO_6$		ethyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	419.2	23.0	54.87			
	Smec/Nem	423.2	0.1	0.24			
	Nem/Liq	Not reported in paper					[196]
$C_{25}H_{22}ClNO_4$		*tert*-butyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	484.2	57.0	117.72			
	Smec/Nem	491.2	11.0	22.39			
	Nem/Liq	536.2	0.5	0.93	141.04		[196]
$C_{25}H_{22}ClNO_4$		1-methylpropyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	403.2	27.0	66.96			
	Smec/Liq	460.2	5.7	12.39	79.35		[196]
$C_{25}H_{22}ClNO_4$		2-methylpropyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	405.2	54.0	133.27			
	Smec/Nem	451.2	1.6	3.55			
	Nem/Liq	511.2	0.3	0.59	137.41		[196]
$C_{25}H_{22}ClNO_4$		butyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	428.2	37.0	86.41			
	Smec/Nem	474.2	0.4	0.84			
	Nem/Liq	497.2	0.3	0.60	87.85		[196]
$C_{25}H_{22}N_2O_6$		*tert*-butyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	448.2	42.0	93.71			
	Nem/Liq	458.2	0.1	0.22	93.93		[196]
$C_{25}H_{22}N_2O_6$		1-methylpropyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	422.2	18.0	42.63			
	Nem/Liq	434.2	0.5	1.15	43.78		[196]
$C_{25}H_{22}N_2O_6$		2-methylpropyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	415.2	37.0	89.11			
	Nem/Liq	531.2	0.4	0.75	89.86		[196]
$C_{25}H_{23}ClN_2O$		5-(2-chlorophenyl)-3-(4′-pentyl[1,1′-biphenyl]-4-yl)-1,2,4-oxadiazole					
	Sol/Nem	353.9	27.16	76.74			
	Nem/Liq	359.0	0.20	0.56	77.30		[392]
$C_{25}H_{23}N$		2-(4-cyanophenyl)-7-pentylfluorene					
	Sol/Nem	401.8	14.54	36.19			
	Nem/Liq	489.5	0.43	0.88	37.07		[2]
$C_{25}H_{23}NO_3S$		4-thiocyanophenyl 4-pentyloxybiphenyl-4′-carboxylate					
	Sol/Smec	382.2	30.7	80.32			
	Smec/Nem	444.2	2.2	4.95			
	Nem/Liq	450.2	0.3	0.67	85.94		[114]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{25}H_{23}NO_4$		propyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	423.2	40.0	94.52			
	Nem/Liq	509.2	0.3	0.59	95.11		[196]
$C_{25}H_{23}NO_5$		isopropyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	434.2	39.0	89.82			
	Nem/Liq	485.2	0.1	0.21	90.03		[195]
$C_{25}H_{23}NO_5$		propyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	438.2	46.0	104.97			
	Nem/Liq	540.2	0.5	0.93	105.90		[195]
$C_{25}H_{23}NO_5$		propyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	432.2	52.0	120.31			
	Smec/Nem	434.2	0.1	0.23			
	Nem/Liq	531.2	0.3	0.56	121.10		[195]
$C_{25}H_{23}NO_5$		isopropyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	426.2	38.0	89.16			
	Smec/Nem	450.2	1.7	3.78			
	Nem/Liq	478.2	0.4	0.84	93.78		[195]
$C_{25}H_{23}NO_6$		4-[[4-(hexyloxy)phenoxy]carbonyl]phenyl 5-cyano-2-furancarboxylate					
	Sol/Nem	412.2	Not reported in paper				
	Nem/Liq	426.2	0.9	2.11			[352]
$C_{25}H_{24}F_8O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-(hexyloxy)benzoate					
	Sol/Smec	333.0	37.31	112.04			
	Smec/Liq	344.4	5.56	16.14	128.18		[125]
$C_{25}H_{25}F_7O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-(heptyloxy)benzoate					
	Sol/Smec	332.5	21.47	64.57			
	Smec/Smec	356.8	0.32	0.90			
	Smec/Liq	368.6	6.08	16.49	81.96		[125]
$C_{25}H_{25}IO_3S$		4′-(7-octenyloxy)biphenyl 5-iodo-2-thiophenecarboxylate					
	Sol/Smec	418.9	23.85	56.93			
	Smec/Liq	428.1	15.99	37.35	94.28		[63]
$C_{25}H_{25}NO$		4-hexyloxy-4″-cyano-p-terphenyl					
	Sol/Smec	363.2	2.45	6.75			
	Smec/Smec	388.2	2.24	5.77			
	Smec/Nem	440.2	8.89	20.20			
	Nem/Liq	524.2	1.17	2.23	34.95	119.3	[277]
$C_{25}H_{25}NO_3$		phenyl 4-(4-pentyloxybenzylideneamino)benzoate					
	Sol/Smec	389.2	41.0	105.34			
	Smec/Nem	408.2	1.4	3.43			
	Nem/Liq	431.2	0.4	0.93	109.70		[292]
$C_{25}H_{25}NO_3$		4-isopropylphenyl 4-(4-ethoxybenzylideneamino)benzoate					
	Sol/Nem	419.2	37.0	88.26			
	Nem/Liq	490.2	0.7	1.43	89.69		[292]
$C_{25}H_{25}NO_3$		4-ethylphenyl 4-(4-propoxybenzylideneamino)benzoate					
	Sol/Nem	398.2	33.0	82.87			
	Nem/Liq	516.2	1.1	2.13	85.00		[292]
$C_{25}H_{26}$		4-[(4-hexen-1-yl)phenyl-1,3-butadiynyl]-4-propylbenzene					
	Sol/Nem	326.8	24.89	76.16			
	Nem/Liq	436.5	1.09	2.50	78.66		[212]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{25}H_{26}FNS$		4′-(4-butylcyclohexyl)-3-fluoro-4-isothiocyanatotolane					
	Sol/Nem	350.3	20.75	59.23			
	Nem/Liq	512.1	1.21	2.36	61.59	NA	[135]
$C_{25}H_{26}N_2O_3$		4-[(pyridine-4-ylmethylene)amino]phenyl 4-hexyloxybenzoate					
	Sol/Nem	384.4	27.2	70.76			
	Nem/Liq	420.4	0.2	0.48	71.24		[265]
$C_{25}H_{26}N_2O_3$		3-pyridyl 4-(4-hexyloxybenzylideneamino)benzoate					
	Sol/Smec	373.2	39.0	104.50			
	Smec/Nem	427.2	1.9	4.45			
	Nem/Liq	442.2	0.6	1.36	110.31		[291]
$C_{25}H_{26}N_2O_3$		4[(E)-[(4-hexyloxyphenyl)methylene]amino]phenyl 3-pyridinecarboxylate					
	Sol/Nem	383.2	45.0	117.43			
	Nem/Liq	448.2	0.7	1.56	118.99		[291]
$C_{25}H_{26}N_2O_3$		4-[(E)-(3-pyridimino)methyl]phenyl 4-hexyloxybenzoate					
	Sol/Nem	378.2	35.0	92.54			
	Nem/Liq	441.2	0.6	1.36	93.90		[291]
$C_{25}H_{26}N_2O_3$		4-[(E)-(3-pyridinylmethylene)amino]phenyl 4-hexyloxybenzoate					
	Sol/Nem	384.2	42.0	109.32			
	Nem/Liq	438.2	0.8	1.83	111.15		[291]
$C_{25}H_{26}O_3$		4-biphenylyl 4″-hexyloxybenzoate					
	Sol/Nem	405.7	39.33				
	Nem/Liq	409.7	Not reported in paper				[425]
	Note: Authors report only an enthalpy of fusion, and state in a footnote that Nem/Liq transition enthalpies for the compounds studied were in the 0.84–2.09 kJ·mol^{-1} range.						
$C_{25}H_{27}NS$		4′-(4-butylcyclohexyl)-4-isothiocyanatotolane					
	Sol/Sol	349.3	4.69	13.43			
	Sol/Smec	380.1	21.05	55.38			
	Smec/Nem	413.1	0.59	1.43			
	Nem/Liq	530.6	1.09	2.05	72.29	NA	[135]
$C_{25}H_{27}NS$		1-(*trans*-4-ethylcyclohexyl)-4-[(4-isothiocyanatophenyl)ethynyl]benzene					
	Sol/Smec	380.1	21.88	57.56			
	Smec/Nem	413.1	0.08	0.19			
	Nem/Liq	530.6	0.83	1.56	59.31	NA	[238]
$C_{25}H_{28}$		4-[4-hexylphenyl-1,3-butadiynyl]-4-propylbenzene					
	Sol/Nem	318.0	14.35	45.13			
	Nem/Liq	377.2	0.87	2.31	47.44		[212]
$C_{25}H_{29}BrN_2O$		5-(2-bromophenyl)-3-[4-(*trans*-4-pentylcyclohexyl)phenyl]-1,2,4-oxadiazole					
	Sol/Sol	315.8	0.82	2.60			
	Sol/Nem	324.5	29.06	89.55			
	Nem/Liq	370.4	0.27	0.73	92.88		[392]
$C_{25}H_{29}ClN_2O$		5-(2-chlorophenyl)-3-[4-(*trans*-4-pentylcyclohexyl)phenyl]-1,2,4-oxadiazole					
	Sol/Smec	317.1	22.12	69.76			
	Smec/Nem	336.5	0.16	0.48			
	Nem/Liq	379.3	0.53	1.40	71.64		[392]
$C_{25}H_{29}ClN_2O$		3-(2-chlorophenyl)-5-[4-(*trans*-4-pentylcyclohexyl)phenyl]-1,2,4-oxadiazole					
	Sol/Sol	319.2	0.12	0.38			
	Sol/Sol	320.3	0.12	0.37			
	Sol/Sol	329.3	7.52	22.84			
	Sol/Nem	344.6	17.79	51.63			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	370.5	0.29	0.78	76.00		[392]
$C_{25}H_{29}N$		N-butyl-4-[4-(4-pentylphenyl)-1,3-butadinyl]benzenamine					
	Sol/Nem	370.9	23.9	64.44			
	Nem/Liq	416.2	1.16	2.79	67.23		[216]
$C_{25}H_{29}NO$		4-(4-cyanophenyl)-1-(4-octyloxyphenyl)-buta-1E,3E-diene					
	Sol/Smec	378.5	36.2	95.64			
	Smec/Nem	432.8	Not reported in paper				
	Nem/Liq	459.8	0.4	0.87	96.51		[210]
$C_{25}H_{29}NO_2$		6-n-pentyloxy-2-[4-propoxystyryl]quinoline					
	Sol/Nem	393.9	30.71	77.96			
	Nem/Liq	449.3	0.65	1.45	79.41		[112]
$C_{25}H_{29}NO_2$		1-[2-(*trans*-4-pentylcyclohexyl)]-4-[(4-nitrophenyl)ethynyl]benzene					
	Sol/Nem	408.3	27.24	66.72			
	Nem/Liq	497.5	0.88	1.77	68.49		[238]
$C_{25}H_{29}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-pentylcyclohexyl)benzoate					
	Sol/Sol	339.7	0.79	2.33			
	Sol/Smec	390.2	22.18	56.84			
	Smec/Nem	402.2	Too small to be measured				
	Nem/Liq	508.2	1.26	2.48	61.65	NA	[356]
$C_{25}H_{30}BrNO_2$		3-(4-decyloxyphenyl)-5-(4-bromophenyl)isoxazole					
	Sol/Sol	350.2	28.7	81.95			
	Sol/Smec	385.5	12.4	32.17			
	Smec/Liq	459.9	7.9	17.18	131.30		[138]
$C_{25}H_{30}ClNO_2$		3-(4-decyloxyphenyl)-5-(4-chlorophenyl)isoxazole					
	Sol/Sol	367.7	37.9	103.07			
	Sol/Smec	370.6	6.3	17.00			
	Smec/Liq	448.4	Not reported in paper				[138]
$C_{25}H_{30}N_2O_2$		5-methyl-5′-[2-(4-hexyloxyphenyl)-2-hydroxyethyl]-2,2′-bipyridine					
	Sol/Smec	371.0	21.48	57.90			
	Smec/Nem	396.1	0.27	0.68			
	Nem/Liq	416.4	3.24	7.78	66.36		[48]
$C_{25}H_{31}BrN_2O$		3-(4-decyloxyphenyl)-5-(4-bromophenyl)pyrazole					
	Sol/Sol	385.9	32.1	83.18			
	Sol/Smec	436.5	10.5	24.05			
	Smec/Liq	497.2	8.2	16.49	123.72		[138]
$C_{25}H_{31}ClN_2O$		3-(4-decyloxyphenyl)-5-(4-chlorophenyl)pyrazole					
	Sol/Sol	372.2	32.6	87.59			
	Sol/Smec	427.3	9.8	22.93			
	Smec/Liq	494.9	8.2	16.57	127.09		[138]
$C_{25}H_{31}NO_5$		4-[4-(4-butoxyphenyliminomethyl)-3-hydroxyphenoxy]butylmethacrylate					
	Sol/Smec	312.0	30.25	96.96			
	Smec/Smec	331.1	Not reported in paper				
	Smec/Nem	355.7	2.08	5.85			
	Nem/Liq	361.7	4.76	13.16	115.97		[294]
$C_{25}H_{31}N_3O_2S$		5-(4-pentyloxyphenyl)-N-[[4-(2S)-2-methylbutoxy]phenyl]methylene-1,3,4-thiadiazol-2-amine					
	Sol/Smec	393.9	21.42	54.38			
	Smec/Nem	402.7	2.24	5.56			
	Nem/Liq	447.1	0.82	1.83	61.77		[167]
$C_{25}H_{32}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-undecyloxyphenylamino)-2-propen-1-one					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	389.6	27.52	70.64			
	Smec/Liq	459.4	7.26	15.80	86.44		[75]
$C_{25}H_{32}N_2O_3$		4-pentanoyl-4′-octanoyloxyazobenzene					
	Sol/Sol	333.0	5.23	15.71			
	Sol/Smec	366.1	16.31	44.56			
	Smec/Smec	370.1	7.26	19.61			
	Smec/Liq	403.8	6.94	17.19	97.07		[157]
$C_{25}H_{32}N_2O_3$		4-[(4-ethoxyphenyl)azo]phenyl 10-undecenoate					
	Sol/Nem	336.7	44.8	133.06			
	Nem/Liq	382.2	1.63	4.26	137.32		[365]
$C_{25}H_{32}N_4O_2$		1-[4-[(1E)-(4-formylphenyl)azo]phenyl]-4-(1-oxooctyl)piperazine					
	Sol/Nem	398.6	19.4	48.67			
	Nem/Liq	431.9	0.3	0.69	49.36		[345]
$C_{25}H_{32}N_4O_3$		4-[(1E)-[4-[4-(1-oxohexyl)-1-piperazinyl]phenyl]azo]benzoic acid, ethyl ester					
	Sol/Smec	388.9	6.55	16.84			
	Smec/Smec	422.6	0.13	0.31			
	Smec/Liq	490.9	3.45	7.03	24.18		[344]
$C_{25}H_{32}O_4$		4-(4-pentenyloxy)phenyl 4-[(S)-4-methylhexyloxy]benzoate					
	Sol/Chol	314.2	24.2	77.02			
	Chol/Liq	331.2	Not reported in paper				[200]
$C_{25}H_{33}FO_3S$		S-(2-fluoro-4-hexyloxyphenyl) 4-hexyloxythiobenzoate					
	Sol/Nem	330.2	38.0	115.08			
	Nem/Liq	347.2	1.7	4.90	119.98	NA	[4]
$C_{25}H_{33}FO_3S$		S-(2-fluoro-4-octyloxyphenyl) 4-butoxythiobenzoate					
	Sol/Nem	321.2	43.1	134.18			
	Nem/Liq	345.2	1.6	4.63	138.81	NA	[4]
$C_{25}H_{33}N$		4-dodecyl-4′-cyanobiphenyl					
	Sol/Smec	318.9	39.71	124.52			
	Smec/Liq	331.5	4.77	14.39	138.91	140.5	[233]
	Independent values from another reference						
	Sol/Smec	321.0	33.47	104.27			
	Smec/Liq	332.0	4.06	12.23	116.50	140.5	[237]
	Independent values from another reference						
	Sol/Smec	318.9	34.9	109.44			
	Smec/Liq	331.0	4.57	13.81	123.25	140.5	[350]
$C_{25}H_{33}NO$		4-dodecyloxy-4′-cyanobiphenyl					
	Sol/Smec	340.7	43.18	126.74			
	Smec/Liq	361.7	4.77	13.19	139.93	147.3	[233]
$C_{25}H_{33}NO_5$		4′-dodecyloxy-3′-nitrobiphenyl-4-carboxylic acid					
	Sol/Sol	365.0	3.39	9.28			
	Sol/Smec	372.0	37.80	101.61			
	Smec/Smec	473.0	0.57	1.21			
	Smec/Liq	482.0	3.37	6.99	119.09	162.6	[87]
$C_{25}H_{33}NO_5$		4-dodecyloxyphenyl 4-nitrobenzoate					
	Sol/Smec	340.2	54.39	159.88			
	Smec/Liq	359.2	3.59	9.99	169.87	155	[236]
$C_{25}H_{34}ClNO_2S$		1-[2-(5-chlorothienyl)]-3-(4-dodecyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	352.7	35.97	101.98			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Smec	377.4	1.34	3.55			
	Smec/Liq	451.4	8.35	18.50	124.03		[75]
$C_{25}H_{34}N_2O_2$		4-nitrobenzylidene 4′-dodecylaniline					
	Sol/Nem	335.2	37.40	111.58			
	Nem/Liq	336.2	2.20	6.54	118.12		[235]
$C_{25}H_{34}N_2O_3$		4-nonanoyloxy-2,3-dimethyl-4′-ethoxyazobenzene					
	Sol/Nem	344.2	43.0	124.93			
	Nem/Liq	358.2	0.7	1.95	126.88		[339]
$C_{25}H_{34}N_2O_3$		4-decanoyloxy-2-methyl-4′-ethoxyazobenzene					
	Sol/Nem	335.2	46.0	137.23			
	Nem/Liq	336.2	1.0	2.97	140.20		[339]
$C_{25}H_{34}N_2O_3$		4-decanoyloxy-3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	328.2	52.0	158.44			
	Nem/Liq	337.2	0.8	2.37	160.81		[339]
$C_{25}H_{34}N_4OS_2$		2-(4-hexyloxyphenylazo)-5-(5′-heptyl- 2′-thienyl)-1,3,4-thiadiazole					
	Sol/Nem	420.9	34.1	81.02			
	Nem/Liq	422.7	0.28	0.66	81.68		[396]
$C_{25}H_{34}O_2S$		4-pentylphenyl 4′-heptyloxythiobenzoate					
	Sol/Sol	183.5	1.17	6.38			
	Sol/Sol	272.0	0.23	0.85			
	Sol/Nem	325.9	28.51	87.48			
	Nem/Liq	352.2	2.55	7.24	101.95	NA	[157]
$C_{25}H_{34}O_2S$		4-pentylbenzenethio 4′-heptyloxybenzoate					
	Sol/Nem	328.2	26.99	82.24			
	Nem/Liq	356.9	1.02	2.86	85.10	NA	[217]
$C_{25}H_{34}O_3$		4-heptyloxyphenyl 4′-pentylbenzoate					
	Sol/Nem	313.7	25.15	80.17			
	Nem/Liq	330.6	0.90	2.72	82.89		[218]
$C_{25}H_{34}O_3S$		S-(4-octyloxyphenyl) 4-hexyloxythiobenzoate					
	Sol/Nem	331.2	35.4	106.88			
	Nem/Liq	378.2	1.7	4.49	111.37	NA	[4]
$C_{25}H_{35}NO$		N-(4-butoxybenzylidene)-4-octylaniline					
	Sol/Smec	306.2	37.2	121.49			
	Smec/Smec	312.5	2.09	6.69			
	Smec/Nem	320.0	0.33	1.03			
	Nem/Liq	354.4	1.17	3.30	132.51		[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{25}H_{35}NO$		N-(4-pentyloxybenzylidene)-4-heptylaniline					
	Sol/Sol	285.2	7.3	25.60			
	Sol/Sol	292.2	5.8	19.85			
	Sol/Sol	298.2	1.0	3.35			
	Sol/Smec	302.7	2.7	8.92			
	Smec/Smec	323.5	2.30	0.71			
	Smec/Nem	329.5	0.41	1.24			
	Nem/Liq	350.5	1.42	4.05	63.72		[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{25}H_{35}NO$		N-(4-hexyloxybenzylidene)-4-hexylaniline					
	Sol/Smec	288.2	11.9	41.29			
	Smec/Smec	325.0	2.72	8.37			
	Smec/Nem	352.9	2.51	7.11			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	359.4	1.92	5.34	62.11		[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{25}H_{35}NO$		N-(4-heptyloxybenzylidene)-4-pentylaniline					
	Sol/Smec	296.2	13.5	45.58			
	Smec/Liq	Not reported in paper					[381]
$C_{25}H_{35}NO_2$		trans-4-dodecyloxy-3′-stilbazole-N-oxide					
	Sol/Smec	326.2	1.83	5.61			
	Smec/Smec	338.3	1.76	5.20			
	Smec/Smec	362.9	7.40	20.39			
	Smec/Smec	375.2	21.79	58.08			
	Smec/Liq	402.8	4.35	10.80	100.08		[278]
$C_{25}H_{35}NO_2$		trans-4-dodecyloxy-4′-stilbazole-N-oxide					
	Sol/Smec	381.2	36.90	96.80			
	Smec/Liq	411.5	4.20	10.21	107.01		[278]
$C_{25}H_{36}F_2$		1,2-difluoro-4-[4-(4′-propyl[1,1′-bicyclohexyl]-4-yl)-3-butenyl]benzene					
	Sol/Smec	300.2	20.4	67.95			
	Smec/Nem	323.2	Not reported in paper				
	Nem/Liq	392.2	Not reported in paper				[198]
$C_{25}H_{36}N_2O$		4-propyl-4′-decyloxyazobenzene					
	Sol/Smec	337.3	91.25	270.53			
	Smec/Nem	341.9	5.09	14.89			
	Nem/Liq	354.0	4.71	13.31	298.73	141.5	[153]
$C_{25}H_{36}N_2O$		4-butyl-4′-nonyloxyazobenzene					
	Sol/Smec	334.6	36.81	110.01			
	Smec/Nem	337.0	1.71	5.07			
	Nem/Liq	346.5	1.02	2.94	118.02	141.5	[141]
$C_{25}H_{36}N_2O$		4-pentyl-4′-octyloxyazobenzene					
	Sol/Smec	332.2	35.55	107.01			
	Smec/Smec	334.3	Not reported in paper				
	Smec/Nem	337.3	0.91	2.70			
	Nem/Liq	359.0	1.97	5.49		141.5	[141]
$C_{25}H_{36}N_2O$		4-heptyl-4′-hexyloxyazobenzene					
	Sol/Nem	322.8	23.05	71.41			
	Nem/Liq	356.0	1.67	4.69	76.10	141.5	[390]
$C_{25}H_{36}N_2O$		2-[4-(5-hexenyloxy)phenyl]-5-[(S)-6-octylheptyl]pyrimidine					
	Sol/Chol	286.2	9.8	34.24			
	Chol/Liq	294.2	Not reported in paper				[201]
$C_{25}H_{36}N_2O_2$		4-methyl-2′-hydroxy-4′-dodecyloxyazobenzene					
	Sol/Nem	335.4	24.1	71.85			
	Nem/Liq	350.4	1.7	4.85	76.70	146.9	[73]
	Independent value from another reference						
	Sol/Nem	345.2	8.86	25.67			
	Nem/Liq	353.2	0.74	2.10	27.77	146.9	[282]
	Note: Transition enthalpies seem too low for this compound.						
$C_{25}H_{36}O_2S$		2-octanoyl-5-(4-heptyloxyphenyl)thiophene					
	Sol/Meso	382.2	21.49	56.23			
	Meso/Liq	400.6	7.68	19.17	75.40	160.2	[18]
$C_{25}H_{37}F_3O_2$		4-(trifluoromethoxy)-1-[3-(4′-propyl[1,1′-bicyclohexyl]-4-yl)propoxy]benzene					
	Sol/Smec	317.2	25.5	80.39			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Nem	335.2	Not reported in paper				
	Nem/Liq	390.2	Not reported in paper				[198]
$C_{25}H_{37}NS$		4-(*trans*, *trans*-4-hexylbicyclohexyl)benzene-isothiocyanate					
	Sol/Nem	315.4	26.33	83.48			
	Nem/Liq	496.3	1.3	2.62	86.10	NA	[52]
$C_{25}H_{38}F_2$		1,2-difluoro-4-[4-(4′-propyl[1,1′-bicyclohexyl]-4-yl)butyl]benzene					
	Sol/Smec	312.2	30.5	97.69			
	Smec/Nem	342.2	Not reported in paper				[198]
$C_{25}H_{38}N_2O_6$		4,4′-*bis*[4-(4-ethoxybenzylideneamino)benzoyloxy]diphenylmethane					
	Sol/Smec	483.2	48.0	99.34			
	Smec/Liq	519.2	12.0	23.11	122.45		[284]
$C_{25}H_{38}O_2$		4-pentylcyclohexyl 4-pentylcinnamate					
	Sol/Nem	309.7	22.5	72.65			
	Nem/Liq	342.2	0.9	2.63	75.28		[5]
$C_{25}H_{38}O_3$		4-pentylcyclohexyl 4-pentyloxycinnamate					
	Sol/Nem	339.3	20.1	59.24			
	Nem/Liq	368.5	1.2	3.26	62.50		[5]
$C_{25}H_{38}O_3$		4-heptylcyclohexyl 4-propoxycinnamate					
	Sol/Nem	358.2	34.0	94.92			
	Nem/Liq	366.0	1.1	3.01	97.93		[5]
$C_{25}H_{39}F$		1-fluoro-4-[4-(4′-propyl[1,1′-bicyclohexyl]-4-yl)butyl]benzene					
	Sol/Smec	329.2	29.6	89.91			
	Smec/Nem	360.2	Not reported in paper				
	Nem/Liq	389.2	Not reported in paper				[198]
$C_{25}H_{39}NS$		4-(*trans*-4′-dodecylcyclohexyl)isothiocyanatobenzene					
	Sol/Nem	324.0	56.7	175.00			
	Nem/Liq	326.0	1.3	3.99	179.0	NA	[151]
$C_{25}H_{40}F_2O_2$		1-pentyloxy-2,3-difluoro-4-[3-(*trans*-4-pentylcyclohexyl)propoxybenzene					
	Sol/Nem	293.2	20.3	69.24			
	Nem/Liq	295.2	Not reported in paper				[198]
$C_{25}H_{40}O$		1-butoxy-(4-[(E)-3-(*trans*-4-pentylcyclohexyl)-1-butenyl])benzene					
	Sol/Smec	297.2	12.1	40.71			
	Smec/Liq	326.2	Not reported in paper				[198]
$C_{25}H_{40}O_2$		1-pentyloxy-4-[(E)-3-(*trans*-4-pentylcyclohexyl)allyloxy]benzene					
	Sol/Smec	314.2	17.2	54.74			
	Smec/Nem	319.2	Not reported in paper				
	Nem/Liq	327.2	Not reported in paper				[198]
$C_{25}H_{41}DO_3$		4-octadecyloxybenzoic acid-d_1					
	Sol/Smec	374.2	65.70	175.57			
	Smec/Liq	402.5	14.40	35.78	211.35		[157]
$C_{25}H_{42}N_2O_2$		N,N′-dioctanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	399.2	23	57.62			
	Meso/Liq	500.2	20	39.98	97.60		[36]
$C_{25}H_{42}O$		1-butoxy-4-[4-(*trans*-4-pentylcyclohexyl)-1-butyl]benzene					
	Sol/Smec	302.2	31.4	103.90			
	Smec/Liq	316.2	Not reported in paper				[198]
$C_{25}H_{42}O_2$		1-pentyloxy-4-[3-(*trans*-4-pentylcyclohexyl)-1-propoxy]benzene					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	315.2	22.2	70.43			
	Smec/Nem	321.2	Not reported in paper				
	Nem/Liq	326.2	Not reported in paper				[198]
$C_{25}H_{42}O_3$		4-octadecyloxybenzoic acid					
	Sol/Smec	378.2	55.65	147.14			
	Smec/Liq	405.2	12.13	29.94	177.08	211.2	[156]
	Independent values from another reference						
	Sol/Smec	379.5	67.30	177.34			
	Smec/Liq	408.5	13.30	32.56	209.90	211.2	[157]
$C_{25}H_{50}O_6S$		6-O-(propylene-[3′-S-hexadecyl])-α-D-galactopyranose					
	Sol/Smec	363.2	53.23	146.56			
	Smec/Liq	435.2	0.53	1.22	147.78		[39]
$C_{26}H_{18}F_{16}O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-[(perfluorobutyl)-butoxy]benzoate					
	Sol/Smec	361.6	43.43	120.11			
	Smec/Liq	368.3	3.83	10.40	130.51		[128]
$C_{26}H_{18}N_2O$		2-(p-terphenyl-4-yl)-5-phenyl-1,3,4-oxadiazole					
	Sol/Nem	499.2	41.0	82.13			
	Nem/Liq	526.2	0.1	0.19	82.32		[35]
$C_{26}H_{18}N_2O_4$		1,4-benzenedicarboxylic acid, phenyl, 4-(phenylazo)phenyl ester					
	Sol/Nem	493.2	53.0	107.46			
	Nem/Liq	519.2	0.38	0.73	108.19		[338]
$C_{26}H_{18}N_2O_4$		4-(phenylazo)phenyl 4-(benzoyloxy)benzoate					
	Sol/Nem	453.2	40.0	88.26			
	Nem/Liq	525.2	0.54	1.03	89.29		[338]
$C_{26}H_{18}N_2O_4$		4-(phenoxycarbonyl)phenyl 4-(phenylazo)benzoate					
	Sol/Nem	458.2	49.0	106.94			
	Nem/Liq	527.2	0.27	0.51	107.45		[338]
$C_{26}H_{18}N_2O_4$		4-(benzoyloxy)phenyl 4-(phenylazo)benzoate					
	Sol/Nem	497.2	45.0	90.51			
	Nem/Liq	529.2	0.40	0.76	91.27		[338]
$C_{26}H_{18}O_4$		diphenyl 4,4′-biphenyldicarboxylate					
	Sol/Sol	453.0	4.8	10.60			
	Sol/Nem	485.0	38.4	79.18			
	Nem/Liq	518.6	0.5	0.96	90.74		[12]
$C_{26}H_{18}O_4$		[1,1′-biphenyl]-4-yl 4-(benzoyloxy)benzoate					
	Sol/Nem	483.2	43.0	88.99			
	Nem/Liq	497.2	0.41	0.82	89.81		[338]
$C_{26}H_{18}O_4$		4-(phenoxycarbonyl)phenyl [1,1′-biphenyl]-4-carboxylate					
	Sol/Nem	459.2	45.0	98.00			
	Nem/Liq	501.2	0.29	0.58	98.58		[338]
$C_{26}H_{18}O_4$		4-(benzoyloxy)phenyl [1,1′-biphenyl]-4-carboxylate					
	Sol/Nem	487.2	51.0	104.68			
	Nem/Liq	506.2	0.53	1.05	105.73		[338]
$C_{26}H_{19}ClF_4O_3$		4-(4-pentyloxyphenyl)acetylene-2,3,5,6-tetrafluorophenyl 4′-chlorobenzoate					
	Sol/Nem	364.8	32.99	90.43			
	Nem/Liq	456.4	1.33	2.91	93.34		[101]
$C_{26}H_{19}ClF_4O_3$		4-(4-pentyloxy-2,3,5,6-tetrafluorophenylacetylenyl)phenyl 4′-chlorobenzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	340.0	19.34	56.88			
	Nem/Liq	450.2	0.48	1.07	57.95		[101]
$C_{26}H_{19}NO_2$		phenyl {([1,1′-biphenyl]-4-ylimino)methyl}benzoate					
	Sol/Nem	472.2	44.0	93.18			
	Nem/Liq	531.2	0.47	0.88	94.06		[338]
$C_{26}H_{19}NO_2$		4-[([1,1′-biphenyl]-4-ylimino)methyl]phenol, benzoate (ester)					
	Sol/Nem	473.2	47.0	99.32			
	Nem/Liq	525.2	0.49	0.93	100.25		[338]
$C_{26}H_{19}NO_2$		4-[([1,1′-biphenyl]-ylmethylene)amine]benzoic acid, phenyl ester					
	Sol/Nem	484.2	46.0	95.00			
	Nem/Liq	518.2	0.43	0.83	95.83		[338]
$C_{26}H_{19}NO_2$		4-[([1,1′-biphenyl]-4-ylmethylene)amino]phenol, benzoate (ester)					
	Sol/Nem	473.2	36.0	76.08			
	Nem/Liq	524.2	0.32	0.61	76.69		[338]
$C_{26}H_{19}NO_2$		[1,1′-biphenyl]-4-yl 4-[(phenylimino)methyl]benzoate					
	Sol/Nem	481.2	44.0	91.44			
	Nem/Liq	516.2	0.32	0.62	92.06		[338]
$C_{26}H_{19}NO_2$		[1,1′-biphenyl]-4-yl 4-[(phenylmethylene)amino]benzoate					
	Sol/Nem	474.2	43.0	90.68			
	Nem/Liq	499.2	0.36	0.72	91.40		[338]
$C_{26}H_{19}NO_2$		4-[(phenylimino)methyl]phenyl [1,1′-biphenyl]-4-carboxylate					
	Sol/Nem	465.2	36.0	77.39			
	Nem/Liq	515.2	0.46	0.89	78.28		[338]
$C_{26}H_{19}NO_2$		4-[(phenylmethylene)amino]phenyl [1,1′-biphenyl]-4-carboxylate					
	Sol/Nem	493.2	44.0	89.21			
	Nem/Liq	506.2	0.55	1.09	90.30		[338]
$C_{26}H_{19}N_3O_2$		phenyl 4-[[[4-(phenylazo)phenyl]imino]methyl]benzoate					
	Sol/Nem	478.2	38.0	79.46			
	Nem/Liq	541.2	0.19	0.35	79.81		[338]
$C_{26}H_{19}N_3O_2$		4-[[[4-(phenylazo)phenyl]imino]methyl]phenol, benzoate (ester)					
	Sol/Nem	461.2	40.0	86.73			
	Nem/Liq	540.2	0.29	0.54	87.27		[338]
$C_{26}H_{19}N_3O_2$		4-(phenylazo)phenyl 4-[(phenylimino)methyl]benzoate					
	Sol/Nem	484.2	52.0	107.39			
	Nem/Liq	529.2	0.34	0.64	108.03		[338]
$C_{26}H_{19}N_3O_2$		4-(phenylazo)phenyl 4-[(phenylmethylene)amino]benzoate					
	Sol/Nem	458.2	40.0	87.30			
	Nem/Liq	522.2	0.35	0.67	87.97		[338]
$C_{26}H_{19}N_3O_2$		4-[(phenylimino)methyl]phenyl 4-(phenylazo)benzoate					
	Sol/Nem	463.2	44.0	94.99			
	Nem/Liq	538.2	0.26	0.48	95.47		[338]
$C_{26}H_{19}N_3O_2$		4-[(phenylmethylene)amino]phenyl 4-(phenylazo)benzoate					
	Sol/Nem	479.2	45.0	93.91			
	Nem/Liq	524.2	0.44	0.84	94.75		[338]
$C_{26}H_{20}N_2O_2$		[1,1′-biphenyl]-4-carboxylic acid, 4-[(4-methylphenyl)azo]phenyl ester					
	Sol/Nem	426.6	13.47	31.58			
	Nem/Liq	534.0	0.38	0.71	32.29		[57]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{26}H_{20}N_2O_3$		[1,1′-biphenyl]-4-carboxylic acid, 4-[(4-methoxyphenyl)azo]phenyl ester					
	Sol/Nem	447.4	15.87	35.47			
	Nem/Liq	546.7	0.36	0.66	36.13		[57]
$C_{26}H_{20}N_2O_6$		*bis*(4-methoxyphenyl) 2,2′-bipyridine-5,5′-dicarboxylate					
	Sol/Smec	493.2	40.4	81.91			
	Smec/Liq	Sample decomposed before isotropic liquid					[93]
$C_{26}H_{21}F_{17}O_4$		3-[[3-(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoro-undecyl)-4′-hydroxy[1,1′-biphenyl]-4-yl]oxy]-1,2-propanediol					
	Sol/Smec	391.2	0.8	2.04			
	Note: Authors report that sample was not totally crystalline.						
	Smec/Liq	412.2	6.0	14.56			[404]
$C_{26}H_{22}$		4′-[2-(4-methylphenyl)-1-ethynyl]-2′-methyl-4-ethyltolane					
	Sol/Nem	416.4	30.8	73.97			
	Nem/Liq	465.6	0.9	1.93	75.90		[55, 430]
$C_{26}H_{22}$		4′-[2-(4-ethylphenyl)-1-ethynyl]-2′-methyl-4-methyltolane					
	Sol/Nem	409.7	29.8	72.74			
	Nem/Liq	462.8	0.74	1.60	74.34		[55, 430]
$C_{26}H_{22}FNO_5S$		4-pentyloxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Smec	395.2	23.9	60.48			
	Smec/Nem	Not reported in paper					
	Nem/Liq	452.2	0.3	0.66			[37]
$C_{26}H_{22}F_2O$		1-(6-hexyloxy-2-naphthyl)-4-(3,4-difluorophenyl)diacetylene					
	Sol/Nem	364.7	21.4	58.68			
	Nem/Liq	415.9	0.3	0.72	59.40		[95]
$C_{26}H_{22}N_2O_4$		*tert*-butyl 4-[4-(4-cyanobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	478.2	26.0	54.37			
	Nem/Liq	485.2	Not reported in paper				[196]
$C_{26}H_{22}N_2O_4$		1-methylpropyl 4-[4-(4-cyanobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	426.2	38.0	89.16			
	Nem/Liq	486.2	0.1	0.21	89.37		[196]
$C_{26}H_{22}N_2O_4$		2-methylpropyl 4-[4-(4-cyanobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	399.2	37.0	92.69			
	Nem/Liq	549.2	0.1	0.18	92.87		[196]
$C_{26}H_{22}O_2$		4,4‴-dimethoxy-p-quaterphenyl					
	Sol/Sol	604.0	10.27	17.00			
	Sol/Smec	626.0	13.15	21.01			
	Smec/Liq	665.0	Not reported in paper				[111]
$C_{26}H_{22}O_5$		7-(4′-butoxybenzoyloxy)isoflavone					
	Sol/Nem	452.7	34.15	75.44			
	Nem/Liq	486.7	0.43	0.88	76.32		[14]
$C_{26}H_{22}O_6S_2$		*bis*(4-ethoxyphenyl) 2,2′-bithiophene-5,5′-dicarboxylate					
	Sol/Nem	491.6	47.4	96.42			
	Nem/Liq	555.3	1.2	2.16	98.58	135.2	[12]
$C_{26}H_{22}O_8$		*bis*(4-ethoxycarbonylphenyl) terephthalate					
	Sol/Smec	466.2	43.0	92.24			
	Smec/Nem	477.2	0.9	1.89			
	Nem/Liq	509.2	0.5	0.98	95.11	124	[194]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{26}H_{23}FO$		1-(6-hexyloxy-2-naphthyl)-4-(4-fluorophenyl)diacetylene					
	Sol/Nem	386.3	25.0	64.72			
	Nem/Liq	447.1	0.6	1.34	66.06		[95]
$C_{26}H_{23}NO$		5-(4′-ethoxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Nem	541.0	20.0	36.97			
	Nem/Liq	Decomposed prior to transition					[185]
$C_{26}H_{23}NO_5S$		4-thiocyanophenyl 4-(4-pentyloxybenzoyloxy)benzoate					
	Sol/Smec	393.2	29.4	74.77			
	Smec/Nem	435.2	1.3	2.99			
	Nem/Liq	457.2	0.4	0.87	78.63		[114]
$C_{26}H_{23}NO_6$		isopropyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	420.2	31.0	73.77			
	Smec/Nem	441.2	0.1	0.23			
	Nem/Liq	529.2	0.1	0.19	74.19		[196]
$C_{26}H_{23}NO_6$		propyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	405.2	21.0	51.83			
	Smec/Nem	428.2	0.1	0.23			
	Nem/Liq	Not reported in paper					[196]
$C_{26}H_{24}ClNO_4$		1,1-dimethylpropyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	481.2	43.0	89.36			
	Smec/Nem	492.2	1.0	2.03			
	Nem/Liq	566.2	0.1	0.18	91.57		[196]
$C_{26}H_{24}ClNO_4$		1,2-dimethylpropyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	411.2	33.0	80.25			
	Smec/Nem	438.2	3.0	6.85			
	Nem/Liq	442.2	0.3	0.68	87.78		[196]
$C_{26}H_{24}ClNO_4$		2,2-dimethylpropyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	419.2	30.0	71.56			
	Smec/Nem	427.2	10.0	23.41			
	Nem/Liq	483.2	0.3	0.62	95.59		[196]
$C_{26}H_{24}ClNO_4$		1-methylbutyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	395.2	26.0	65.79			
	Smec/Liq	457.2	6.3	13.78	79.57		[196]
$C_{26}H_{24}ClNO_4$		2-methylbutyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	391.2	28.0	71.57			
	Smec/Nem	452.2	2.2	4.87			
	Nem/Liq	485.2	0.3	0.62	77.06		[196]
$C_{26}H_{24}ClNO_4$		3-methylbutyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	421.2	30.0	71.23			
	Smec/Nem	480.2	4.0	8.33			
	Nem/Liq	488.2	0.3	0.61	80.17		[196]
$C_{26}H_{24}ClNO_4$		pentyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	418.2	38.0	90.87			
	Smec/Nem	474.2	2.7	5.69			
	Nem/Liq	494.2	0.4	0.81	97.37		[196]
$C_{26}H_{24}N_2O_4$		diethyl N,N′-[1,4-phenylene-*bis*(methylidyne)]-*bis*[aminobenzoate]					
	Sol/Nem	483.2	31.0	64.16			
	Nem/Liq	568.2	0.21	0.37	64.53		[192]
$C_{26}H_{24}N_2O_6$		1,2-dimethylpropyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	418.2	32.0	76.52			
	Nem/Liq	459.2	0.3	0.65	77.17		[196]
$C_{26}H_{24}N_2O_6$		2,2-dimethylpropyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	451.2	41.0	90.87			
	Nem/Liq	492.2	0.1	0.20	91.07		[196]
$C_{26}H_{25}ClO_4S$		4-[[(4-chlorophenyl)thio]carbonyl]phenyl 4-(hexyloxy)benzoate					
	Sol/Smec	391.8	35.31	90.12			
	Smec/Nem	473.5	0.92	1.94			
	Nem/Liq	522.8	0.75	1.43	93.49	NA	[383]
$C_{26}H_{25}N$		2-(4-cyanophenyl)-7-hexylfluorene					
	Sol/Nem	387.4	18.5	47.75			
	Nem/Liq	476.5	0.41	0.86	48.61		[2]
$C_{26}H_{25}NO_3S$		4-thiocyanophenyl 4-hexyloxybiphenyl-4′-carboxylate					
	Sol/Smec	379.2	32.7	86.23			
	Smec/Nem	446.2	2.0	4.48			
	Nem/Liq	450.2	0.3	0.67	91.38		[114]
$C_{26}H_{25}NO_3S$		4′-(7-octenyloxy)biphenyl 5-cyano-2-thiophenecarboxylate					
	Sol/Smec	385.7	71.12	184.39			
	Smec/Nem	410.8	2.93	7.13			
	Nem/Liq	442.8	2.09	4.72	196.24		[63]
$C_{26}H_{25}NO_4$		2-methylpropyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	409.2	37.0	90.42			
	Nem/Liq	502.2	0.3	0.60	91.02		[196]
$C_{26}H_{25}NO_4$		butyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	409.2	37.0	90.42			
	Smec/Nem	422.2	0.1	0.24			
	Nem/Liq	482.2	0.3	0.62	91.28		[196]
$C_{26}H_{25}NO_5$		*tert*-butyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	470.2	57.0	121.23			
	Nem/Liq	551.2	0.5	0.91	122.14		[195]
$C_{26}H_{25}NO_5$		1-methylpropyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	424.2	42.0	99.01			
	Nem/Liq	457.2	0.1	0.22	99.23		[195]
$C_{26}H_{25}NO_5$		2-methylpropyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	412.2	39.0	94.61			
	Nem/Liq	528.2	0.4	0.76	95.37		[195]
$C_{26}H_{25}NO_5$		butyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	444.2	58.0	130.58			
	Nem/Liq	510.2	0.3	0.59	131.17		[195]
$C_{26}H_{25}NO_5$		1-methylpropyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	417.2	36.0	86.29			
	Smec/Nem	441.2	1.4	3.17			
	Nem/Liq	457.2	0.1	0.22	89.68		[195]
$C_{26}H_{25}NO_5$		2-methylpropyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	407.2	41.0	100.69			
	Smec/Nem	429.2	0.3	0.70			
	Nem/Liq	519.2	0.9	1.73	103.12		[195]
$C_{26}H_{25}NO_5$		butyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	430.2	55.0	127.85			
	Smec/Nem	443.2	0.5	1.13			
	Nem/Liq	504.2	0.5	0.99	129.97		[195]
$C_{26}H_{25}NO_6$		4-[[4-(heptyloxy)phenoxy]carbonyl]phenyl 5-cyano-2-furancarboxylate					
	Sol/Nem	410.2	Value was not reported in paper				
	Nem/Liq	420.2	0.9	2.14			[352]
$C_{26}H_{26}F_2O$		1-(6-octyloxy-2-naphthyl)-2-(3,4-difluorophenyl)acetylene					
	Sol/Nem	356.8	40.0	112.11			
	Nem/Liq	359.4	0.5	1.39	113.50		[95]
$C_{26}H_{26}F_8O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-(heptyloxy)benzoate					
	Sol/Smec	316.3	17.16	54.25			
	Smec/Liq	324.7	5.68	17.49	71.74		[125]
$C_{26}H_{26}FNS$		4′-(4-pentylcyclohexyl)-3-fluoro-4-isothiocyanatotolane					
	Sol/Sol	336.2	3.81	11.33			
	Sol/Smec	358.4	18.91	52.76			
	Smec/Nem	385.8	Too small to be measured				
	Nem/Liq	516.4	1.21	2.34	66.43	NA	[135]
$C_{26}H_{26}O_4$		4,4′-dipentanoyloxydiphenyldiacetylene					
	Sol/Sol	290.0	1.24	4.28			
	Sol/Nem	405.0	24.70	60.99			
	Nem/Liq	434.0	2.30	5.30	70.57	111.2	[157]
$C_{26}H_{27}FO$		1-(6-octyloxy-2-naphthyl)-2-(4-fluorophenyl)acetylene					
	Sol/Nem	366.9	31.8	86.67			
	Nem/Liq	390.6	0.7	1.79	88.46		[95]
$C_{26}H_{27}F_7O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-(octyloxy)benzoate					
	Sol/Smec	338.7	26.83	79.21			
	Smec/Smec	358.4	0.44	1.23			
	Smec/Liq	365.2	6.29	17.22	97.66		[125]
$C_{26}H_{27}NO$		4-heptyloxy-4″-cyano-p-terphenyl					
	Sol/Smec	356.2	19.95	56.01			
	Smec/Smec	373.2	4.06	10.88			
	Smec/Nem	442.2	9.61	21.73			
	Nem/Liq	513.2	1.22	2.38	91.00	126.4	[277]
$C_{26}H_{27}NO_3$		phenyl 4-(4-hexyloxybenzylideneamino)benzoate					
	Sol/Smec	376.2	38.0	101.01			
	Smec/Nem	414.2	1.6	3.86			
	Nem/Liq	433.2	0.6	1.39	106.26		[292]
$C_{26}H_{27}NO_3$		4-ethylphenyl 4-(4-butoxybenzylideneamino)benzoate					
	Sol/Smec	379.2	29.0	76.48			
	Smec/Nem	406.2	0.3	0.74			
	Nem/Liq	511.2	1.2	2.35	79.57		[292]
$C_{26}H_{27}NO_3$		4-isopropylphenyl 4-(4-propoxybenzylideneamino)benzoate					
	Sol/Nem	413.2	40.0	96.81			
	Nem/Liq	474.2	0.7	1.48	98.29		[292]
$C_{26}H_{27}N_1O_8$		4-[[4-(octyloxy)phenoxy]carbonyl]phenyl 5-nitro-2-furancarboxylate					
	Sol/Smec	412.2	Value not reported in paper				
	Smec/Nem	438.2	0.1	0.23			
	Nem/Liq	446.2	2.2	4.93			[352]
$C_{26}H_{28}O_4S$		4′-(7-octenyloxy)biphenyl 5-methoxy-2-thiophenecarboxylate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	378.9	72.38	191.03			
	Nem/Liq	438.3	3.35	7.64	198.67		[63]
$C_{26}H_{28}$		4-[(4-hexen-1-yl)phenyl-1,3-butadiynyl]-4-butylbenzene					
	Sol/Nem	328.0	9.70	29.57			
	Nem/Liq	426.4	1.00	2.35	31.92		[212]
$C_{26}H_{28}$		1-(*trans*-4-ethylcyclohexylethynyl)-4-(4-ethylphenylethynyl)benzene					
	Sol/Nem	396.3	16.9	42.64			
	Nem/Liq	454.3	1.2	2.64	45.28		[436]
$C_{26}H_{28}N_2O_3$		4-[(pyridine-4-ylmethylene)amino]phenyl 4-heptyloxybenzoate					
	Sol/Smec	384.2	28.8	74.96			
	Smec/Nem	391.0	0.22	0.56			
	Nem/Liq	415.0	0.3	0.72	76.24		[265]
$C_{26}H_{28}N_2O_3$		3-pyridyl 4-(4-heptyloxybenzylideneamino)benzoate					
	Sol/Smec	360.2	42.0	116.60			
	Smec/Nem	432.2	2.4	5.55			
	Nem/Liq	439.2	0.6	1.37	123.52		[291]
$C_{26}H_{28}N_2O_3$		4[(E)-[(4-heptyloxyphenyl)methylene]amino]phenyl 3-pyridinecarboxylate					
	Sol/Nem	389.2	53.0	136.18			
	Nem/Liq	440.2	0.8	1.82	138.00		[291]
$C_{26}H_{28}N_2O_3$		4-[(E)-(3-pyridimino)methyl]phenyl 4-heptyloxybenzoate					
	Sol/Smec	367.2	46.0	125.27			
	Smec/Nem	390.2	0.3	0.77			
	Nem/Liq	434.2	0.7	1.61	127.65		[291]
$C_{26}H_{28}N_2O_3$		4-[(E)-(3-pyridinylmethylene)amino]phenyl 4-heptyloxybenzoate					
	Sol/Nem	370.2	31.0	83.74			
	Nem/Liq	432.2	0.8	1.85	85.59		[291]
$C_{26}H_{28}O_3$		4-biphenylyl 4″-heptyloxybenzoate					
	Sol/Nem	399.2	39.75				
	Nem/Liq	402.7	Not reported in paper				[425]
	Note: Authors report only an enthalpy of fusion, and state in a footnote that Nem/Liq transition enthalpies for the compounds studied were in the 0.84–2.09 kJ·mol^{-1} range.						
$C_{26}H_{29}F_3O$		1-[4-(ω-undecyloxy)phenyl]-2-(4′-trifluoromethylphenyl)acetylene					
	Sol/Smec	340.1	16.97	49.90			
	Smec/Liq	351.5	13.66	38.86	88.76		[92]
$C_{26}H_{29}NS$		4′-(4-pentylcyclohexyl)-4-isothiocyanatotolane					
	Sol/Smec	392.7	26.86	68.40			
	Smec/Nem	420.8	0.63	1.50			
	Nem/Liq	528.1	1.05	1.99	71.89	NA	[135]
	Independent values from another reference						
	Sol/Smec	392.7	26.32	67.02			
	Smec/Nem	420.8	0.25	0.59			
	Nem/Liq	528.1	1.42	2.69	70.30	NA	[238]
$C_{26}H_{29}NS$		4′-(4-propylcyclohexylethyl)-4-isothiocyanatotolane					
	Sol/Nem	403.2	26.02	64.53			
	Nem/Liq	484.6	2.68	5.53	70.06	NA	[135, 238]
$C_{26}H_{30}$		4-[4-hexylphenyl-1,3-butadiynyl]-4-butylbenzene					
	Sol/Nem	312.3	10.26	32.85			
	Nem/Liq	355.8	Not reported in paper				[212]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{26}H_{31}NO_2$		6-n-pentyloxy-2-[4-butoxystyryl]quinoline					
	Sol/Nem	385.7	25.33	65.67			
	Nem/Liq	453.3	0.83	1.83	67.50		[112]
$C_{26}H_{31}NO_2$		1-[2-(*trans*-4-butylcyclohexyl)ethyl]-4-[(4-nitrophenyl)ethynyl]-benzene					
	Sol/Nem	376.0	21.97	58.43			
	Nem/Liq	455.9	2.18	4.78	63.21		[238]
$C_{26}H_{31}NO_2$		(E)-4-{2-[4-(9-vinyloxynonyloxy)phenyl]vinyl}benzonitrile					
	Sol/Nem	358.6	11.1	30.95			
	Nem/Liq	361.1	11.2	31.02	61.97		[435]
$C_{26}H_{31}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-hexylcyclohexyl)benzoate					
	Sol/Sol	321.5	12.59	39.16			
	Sol/Smec	377.2	24.85	65.88			
	Smec/Nem	419.7	0.21	0.50			
	Nem/Liq	498.2	2.01	4.03	109.57	NA	[356]
$C_{26}H_{31}N_3O$		3-(4-decyloxyphenyl)-5-(4-cyanophenyl)pyrazole					
	Sol/Smec	433.1	35.5	81.97			
	Smec/Liq	459.2	3.1	6.75	88.72		[138]
$C_{26}H_{31}N_2O_2$		3-(4-decyloxyphenyl)-5-(4-chlorophenyl)isoxazole					
	Sol/Sol	338.0	0.5	1.48			
	Sol/Sol	350.9	7.8	22.23			
	Sol/Smec	365.0	30.8	84.38			
	Smec/Liq	456.8	3.6	7.88	115.97		[138]
$C_{26}H_{32}N_2O$		5-(2-methylphenyl)-3-[4-(*trans*-4-pentylcyclohexyl)phenyl]-1,2,4-oxadiazole					
	Sol/Sol	317.8	0.31	0.98			
	Sol/Nem	348.4	28.33	81.31			
	Nem/Liq	401.1	0.47	1.17	83.46		[392]
$C_{26}H_{32}N_2O_2$		6-n-pentyloxy-2-[(4′-N-pentyloxyphenylimino)methyl]quinoline					
	Sol/Smec	372.6	36.02	96.67			
	Smec/Nem	397.8	0.83	2.09			
	Nem/Liq	414.6	0.86	2.07	100.83		[112]
$C_{26}H_{32}O_4$		di(4′-propylphenyl) *trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Nem	389.1	34.9	89.69			
	Nem/Liq	446.7	0.86	1.93	91.62		[215]
$C_{26}H_{32}O_6$		di(4′-propoxyphenyl) *trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Nem	410.2	53.01	129.23			
	Nem/Liq	487.2	0.44	0.90	130.13		[220]
$C_{26}H_{33}NOS$		3-[4-(*trans*-4-heptylcyclohexyl)phenyl]-5-(2-thienyl)-isoxazole					
	Sol/Smec	380.2	27.05	71.15			
	Smec/Nem	403.2	1.32	3.27			
	Nem/Liq	459.2	1.14	2.48	76.90		[131]
$C_{26}H_{33}NO_2$		(E)-4-{2-[4-(11-hydroxyundecyloxy)phenyl]vinyl}benzonitrile					
	Sol/Nem	371.4	14.2	38.23			
	Nem/Liq	374.4	26.4	70.51	108.74		[435]
$C_{26}H_{33}NO_3$		6-hexyloxynaphth-2-yl 5-butoxy-2-methypyridyl ketone					
	Sol/Sol	330.2	15.10	45.73			
	Sol/Nem	365.2	18.63	51.01			
	Nem/Liq	377.2	3.30	8.75	105.49		[123]
$C_{26}H_{33}NO_3$		3-(4-decyloxyphenyl)-5-(4-methoxyphenyl)isoxazole					
	Sol/Nem	374.8	43.7	116.60			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	425.7	0.6	1.41	118.01		[138]
$C_{26}H_{33}NO_5$		4-[4-(4-pentyloxyphenyliminomethyl)-3-hydroxyphenoxy]butylmethacrylate					
	Sol/Smec	314.6	45.00	143.04			
	Smec/Smec	339.8	Not reported in paper				
	Smec/Nem	357.0	2.50	7.00			
	Nem/Liq	360.3	1.54	4.27	154.31		[294]
$C_{26}H_{33}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-dodecyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	378.4	7.74	20.45			
	Smec/Liq	455.6	7.17	15.74	36.19		[75]
$C_{26}H_{33}N_2O_2S_2$		2,5-*bis*(4-hexyloxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Sol	392.4	8.60	21.92			
	Sol/Smec	440.6	22.27	50.54			
	Smec/Smec	505.8	4.83	9.55			
	Smec/Liq	535.9	2.09	3.90	85.91		[269]
$C_{26}H_{33}N_3O_2S$		5-(4-hexyloxyphenyl)-N-[[4-(2S)-2-methylbutoxy]phenyl]methylene-1,3,4-thiadiazol-2-amine					
	Sol/Smec	383.5	18.47	48.16			
	Smec/Nem	402.7	1.73	4.30			
	Nem/Liq	429.8	0.95	2.21	54.67		[167]
$C_{26}H_{34}N_2O_2$		3-(4-decyloxyphenyl)-5-(4-methoxyphenyl)pyrazole					
	Sol/Smec	379.9	39.0	102.66			
	Smec/Liq	454.1	3.7	8.15	110.81		[138]
$C_{26}H_{34}N_2O_3$		4-n-pentanoyl-4-n′-nonanoyloxyazobenzene					
	Sol/Sol	352.2	4.33	12.29			
	Sol/Smec	367.2	24.81	67.56			
	Smec/Liq	404.3	7.57	18.72	98.57	144.1	[157]
	Smec/Smec	366.8	6.12	16.68			
$C_{26}H_{34}O_4$		4-[(S)-2-methylbutoxy]phenyl 4-(7-octenyloxy)benzoate					
	Sol/Smec	317.2	25.3	79.76			
	Smec/Liq	322.2	Not reported in paper				[200]
$C_{26}H_{34}O_4$		4-(5-hexenyloxy)phenyl 4-[(S)-4-methylhexyloxy]benzoate					
	Sol/Chol	311.2	20.7	66.52			
	Chol/Liq	323.2	Not reported in paper				[200]
$C_{26}H_{34}O_4$		4-(3-butenyloxy)phenyl 4-[(S)-6-methyloctyloxy]benzoate					
	Sol/Chol	316.2	26.8	84.76			
	Chol/Liq	325.2	Not reported in paper				[200]
$C_{26}H_{35}ClN_2O_4$		4-(4-octyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Smec	330.5	37.76	114.25			
	Smec/Nem	333.8	0.33	0.99			
	Nem/Liq	343.7	1.05	3.05	118.29		[47]
$C_{26}H_{35}NO_3$		4-(4-dodecyloxyphenyliminomethyl)benzoic acid					
	Sol/Smec	428.2	30.8	71.93			
	Smec/Liq	528.2	35.8	67.78	139.71		[416]
$C_{26}H_{35}NO_5$		4′-tridecyloxy-3′-nitrobiphenyl-4-carboxylic acid					
	Sol/Smec	392.0	39.83	101.61			
	Smec/Smec	472.0	0.76	1.61			
	Smec/Liq	480.0	4.32	9.00	112.22	169.7	[87]
$C_{26}H_{35}N_3OS$		5-[4-(pentyloxy)phenyl]-N-[(5-octyl-2-thienyl)methylene]-1,2,4-thiadiazole-2-amine					
	Sol/Smec	387.4	36.4	93.96			
	Smec/Nem	389.0	4.8	1.23			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	403.7	0.7	1.73	96.92		[396,397]
$C_{26}H_{35}N_3O_2S$		6-n-decyloxy-2-(4-propoxyphenylazo)benzothiazole					
	Sol/Nem	354.0	32.6	92.09			
	Nem/Liq	385.9	0.9	2.33	94.42		[41]
$C_{26}H_{36}N_2O_3$		4-decanoyloxy-2,3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	341.2	44.0	128.96			
	Nem/Liq	354.2	0.6	1.69	130.65		[339]
$C_{26}H_{36}N_2O_3$		4-undecanoyloxy-3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	323.2	49.0	151.61			
	Nem/Liq	340.2	1.0	2.94	154.55		[339]
$C_{26}H_{36}N_4OS_2$		2-(4-heptyloxyphenylazo)-5-(5′-heptyl-2′-thienyl)-1,3,4-thiadiazole					
	Sol/Nem	423.8	35.9	84.71			
	Nem/Liq	426.0	0.38	0.89	85.60		[396]
$C_{26}H_{36}O_2S$		4-pentylbenzenethio-4′-octyloxybenzoate					
	Sol/Smec	332.3	33.10	99.61			
	Smec/Nem	336.3	0.15	0.45			
	Nem/Liq	360.1	1.38	3.83	103.89	NA	[217]
$C_{26}H_{36}O_3$		4-octyloxyphenyl 4′-pentylbenzoate					
	Sol/Nem	322.2	27.70	85.97			
	Nem/Liq	333.8	1.04	3.12	89.09		[218]
$C_{26}H_{36}O_3S$		S-(2-methyl-4-octyloxyphenyl) 4-butoxythiobenzoate					
	Sol/Nem	325.2	42.0	129.15			
	Nem/Liq	326.2	1.7	5.21	134.36	NA	[4]
$C_{26}H_{37}F_3O$		1-[4-(4′-propyl[1,1′-bicyclohexyl]-4-yl)-3-butenyl]-4-(trifluoromethoxy)benzene					
	Sol/Smec	314.2	3.1				
	Note: Enthalpy of fusion is significantly small compared with other compounds in series.						
	Smec/Liq	401.2	Not reported in paper				[198]
$C_{26}H_{37}NO$		N-(4-pentyloxybenzylidene)-4-octylaniline					
	Sol/Smec	316.4	35.7	112.83			
	Smec/Smec	327.5	2.26	6.90			
	Smec/Nem	333.3	0.71	2.13			
	Nem/Liq	345.7	1.17	3.38	125.24		[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{26}H_{37}NO$		N-(4-hexyloxybenzylidene)-4-heptylaniline					
	Sol/Smec	300.2	10.3	34.31			
	Smec/Smec	331.8	3.05	9.19			
	Smec/Nem	354.2	2.13	6.01			
	Nem/Liq	359.1	2.43	6.77	56.28		[376, 381]
	Note: Temperatures calculated from published enthalpy and entropy data in paper.						
$C_{26}H_{37}NO$		N-(4-heptyloxybenzylidene)-4-hexylaniline					
	Sol/Smec	313.6	36.6	116.71			
	Smec/Liq	Not reported in paper					[381]
$C_{26}H_{37}NO$		N-(p-n-octyloxybenzylidene)-4-(n-pentyl)aniline					
	Sol/Smec	314.7	29.34	93.23			
	Smec/Smec	343.8	3.42	9.95			
	Smec/Liq	358.7	5.43	15.14	118.32		[11]
$C_{26}H_{38}N_2O$		4-propyl-4′-undecyloxyazobenzene					
	Sol/Smec	343.9	83.72	243.44			
	Smec/Nem	345.5	5.57	16.12			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	352.3	4.79	13.60	273.16	148.6	[153]
$C_{26}H_{38}N_2O$		4-butyl-4′-decyloxyazobenzene					
	Sol/Smec	327.4	26.97	82.38			
	Smec/Smec	337.2	Not reported in paper				
	Smec/Nem	344.1	3.30	9.59			
	Nem/Liq	349.6	1.84	5.26		148.6	[141]
$C_{26}H_{38}N_2O$		4-pentyl-4′-nonyloxyazobenzene					
	Sol/Smec	324.5	25.04	77.16			
	Smec/Smec	338.3	Not reported in paper				
	Smec/Nem	345.6	1.61	4.66			
	Nem/Liq	357.2	2.06	5.77		148.6	[141]
$C_{26}H_{38}N_2O$		4-heptyl-4′-heptyloxyazobenzene					
	Sol/Smec	323.4	28.03	86.67			
	Smec/Nem	325.4	0.34	1.04			
	Nem/Liq	353.0	1.55	4.39	92.10	148.6	[390]
$C_{26}H_{38}N_2O$		2-[4-(7-octenyloxy)phenyl]-5-[(S)-5-methylheptyl]pyrimidine					
	Sol/Chol	302.2	11.4	37.72			
	Chol/Liq	313.2	Not reported in paper				[201]
$C_{26}H_{38}N_2O$		2-[4-(6-heptenyloxy)phenyl]-5-[(S)-6-methyloctyl]pyrimidine					
	Sol/Smec	280.2	9.7	34.62			
	Smec/Chol	292.2	Not reported in paper				
	Chol/Liq	312.2	Not reported in paper				[201]
$C_{26}H_{38}N_2O_3$		4,4′-*bis*(heptyloxy)azoxybenzene					
	Sol/Smec	347.8	27.45	78.92			
	Smec/Nem	368.2	0.55	1.49			
	Nem/Liq	397.3	0.83	2.09	82.50	164	[157]
	Independent values from another reference						
	Sol/Smec	347.6	40.92	117.72			
	Smec/Nem	368.6	1.59	4.31			
	Nem/Liq	397.4	1.02	2.57	124.60	164	[179]
	Independent values from another reference						
	Sol/Sol	346.0	1.12	3.24			
	Sol/Smec	348.0	41.0	117.82			
	Smec/Nem	368.0	1.13	3.07			
	Nem/Liq	398.0	1.24	3.12	127.25	164	[440]
$C_{26}H_{38}O_2$		4,4′-*bis*[2-(S-(+)2-methylbutoxy)ethoxy]biphenyl					
	Sol/Smec	342.1	26.79	78.31			
	Smec/Liq	345.2	71.47	207.03	285.34		[172]
$C_{26}H_{38}O_2S$		2-octanoyl-5-(4-octyloxyphenyl)thiophene					
	Sol/Meso	379.3	18.07	47.64			
	Meso/Liq	399.4	6.32	15.82	63.46	167.3	[18]
$C_{26}H_{39}F_3O$		1-(trifluoromethoxy)-4-[4-(4′-propyl[1,1′-bicyclohexyl]-4-yl)butyl]benzene					
	Sol/Smec	320.2	27.2	84.95			
	Smec/Nem	359.2	Not reported in paper				
	Nem/Liq	384.2	Not reported in paper				[198]
$C_{26}H_{39}NS$		4-(*trans*, *trans*-4- heptylbicyclohexyl)benzene-isothiocyanate					
	Sol/Nem	328.1	33.86	103.20			
	Nem/Liq	491.0	1.67	3.40	106.60	NA	[52]
$C_{26}H_{40}O_3$		4-heptylcyclohexyl 4-butoxycinnamate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	349.0	24.6	70.49			
	Nem/Liq	370.7	1.3	3.51	74.00		[5]
$C_{26}H_{42}F_2O_2$		1-hexyloxy-2,3-difluoro-4-[3-(*trans*-4-pentylcyclohexyl)propoxybenzene					
	Sol/Nem	293.2	30.9	105.39			
	Nem/Liq	301.2	Not reported in paper				[198]
$C_{26}H_{42}O$		1-pentyloxy-(4-[(E)-3-(*trans*-4-pentylcyclohexyl)-1-butenyl])benzene					
	Sol/Smec	301.2	9.9	32.87			
	Smec/Liq	325.2	Not reported in paper				[198]
$C_{26}H_{42}O$		*trans*-1-(4-heptanoylphenyl)-4-heptylcyclohexane					
	Sol/Sol	313.35	4.33	13.81			
	Sol/Smec	343.15	16.47	47.98			
	Smec/Liq	344.65	7.70	22.33	84.13	145.5	[313]
$C_{26}H_{42}O_2$		1-hexyloxy-4-[(E)-3-(*trans*-4-pentylcyclohexyl)allyloxy]benzene					
	Sol/Smec	323.2	28.4	87.87			
	Smec/Nem	328.2	Not reported in paper				
	Nem/Liq	333.2	Not reported in paper				[198]
$C_{26}H_{44}N_2O_2$		N,N′-dioctanoyl-3,4,5,6-tetramethylbenzene-1,2-diamine					
	Sol/Meso	391.2	8	20.45			
	Meso/Meso	493.2	2	4.06			
	Meso/Liq	517.2	22	42.54	67.05		[61]
$C_{26}H_{44}N_2O_2$		N,N′-dioctanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Sol	408.2	6.0	14.70			
	Sol/Meso	529.2	16.0	30.23			
	Meso/Meso	538.2	7.0	13.01			
	Meso/Liq	573.2	23.0	40.13	98.07		[36]
$C_{26}H_{44}O$		1-pentyloxy-4-[4-(*trans*-4-pentylcyclohexyl)-1-butyl]benzene					
	Sol/Smec	304.2	27.1	89.09			
	Smec/Liq	312.2	Not reported in paper				[198]
$C_{26}H_{44}O_2$		1-hexyloxy-4-[3-(*trans*-4-pentylcyclohexyl)-1-propoxy]benzene					
	Sol/Smec	317.2	28.8	90.79			
	Smec/Nem	327.2	Not reported in paper				
	Nem/Liq	330.2	Not reported in paper				[198]
$C_{26}H_{74}Si_{10}$		1,10-dipropyl(permethyl)decasilane					
	Sol/Meso	295.2	22.1	74.86			
	Meso/Liq	360.2	14.2	39.42	114.28		[110]
$C_{27}H_{18}O_6$		4-(phenoxycarbonyl)phenyl 4-(benzoyloxy)benzoate					
	Sol/Nem	451.2	44.0	97.52			
	Nem/Liq	527.2	0.59	1.12	98.64		[338]
$C_{27}H_{18}O_6$		1,4-benzenedicarboxylic acid, 4-(phenoyxcarbonyl)phenyl, phenyl ester					
	Sol/Nem	496.2	51.0	102.78			
	Nem/Liq	528.2	0.48	0.91	103.69		[338]
$C_{27}H_{18}O_6$		4-(benzoyloxy)phenyl 4-(benzoyloxy)benzoate					
	Sol/Nem	499.2	40.0	80.13			
	Nem/Liq	524.2	0.68	1.30	81.43		[338]
$C_{27}H_{18}O_6$		1,4-benzenedicarboxylic acid, 4-(benzoyloxy)phenyl, phenyl ester					
	Sol/Nem	511.2	51.0	99.77			
	Nem/Liq	526.2	0.39	0.74	100.51		[338]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{27}H_{19}NO_4$		4-[[[4-(phenoxycarbonyl)phenyl]imino]methyl]benzoic acid, phenyl ester					
	Sol/Nem	464.2	39.0	84.02			
	Nem/Liq	541.2	0.27	0.50	84.52		[338]
$C_{27}H_{19}NO_4$		phenyl 4-[[[4-(benzoyloxy)phenyl]imino]methyl]benzoate					
	Sol/Nem	462.2	44.0	95.20			
	Nem/Liq	544.2	0.60	1.10	96.30		[338]
$C_{27}H_{19}NO_4$		phenyl 4-[[[4-(benzoyloxy)phenyl]methylene]amino]benzoate					
	Sol/Nem	488.2	46.0	94.22			
	Nem/Liq	547.2	0.08	0.15	94.37		[338]
$C_{27}H_{19}NO_4$		4-[[[4-(benzoyloxy)phenyl]imino]methyl]phenol, benzoate (ester)					
	Sol/Nem	475.2	40.0	84.18			
	Nem/Liq	541.2	1.2	2.22	86.40		[338]
$C_{27}H_{19}NO_4$		4-(phenoxycarbonyl)phenyl 4-[(phenylimino)methyl]benzoate					
	Sol/Nem	465.2	42.0	90.28			
	Nem/Liq	532.2	0.22	0.41	90.69		[338]
$C_{27}H_{19}NO_4$		4-(phenoxycarbonyl)phenyl 4-[(phenylmethylene)amino]benzoate					
	Sol/Nem	489.2	48.0	98.12			
	Nem/Liq	524.2	0.26	0.50	98.62		[338]
$C_{27}H_{19}NO_4$		1,4-benzenedicarboxylic acid, phenyl, 4-[(phenylimino)methyl]phenyl ester					
	Sol/Nem	492.2	56.0	113.77			
	Nem/Liq	532.2	0.32	0.60	114.37		[338]
$C_{27}H_{19}NO_4$		1,4-benzenedicarboxylic acid, phenyl, 4-[(phenylmethylene)amino]phenyl ester					
	Sol/Nem	484.2	50.0	103.26			
	Nem/Liq	523.2	0.32	0.61	103.87		[338]
$C_{27}H_{19}NO_4$		4-(benzoyloxy)phenyl 4-[(phenylimino)methyl]benzoate					
	Sol/Nem	462.2	42.0	90.87			
	Nem/Liq	539.2	0.53	0.98	91.85		[338]
$C_{27}H_{19}NO_4$		4-(benzoyloxy)phenyl 4-[(phenylmethylene)amino]benzoate					
	Sol/Nem	474.2	37.0	78.03			
	Nem/Liq	520.2	0.31	0.60	78.63		[338]
$C_{27}H_{19}NO_4$		4-[(phenylimino)methyl]phenyl 4-(benzoyloxy)benzoate					
	Sol/Nem	482.2	49.0	101.62			
	Nem/Liq	528.2	0.48	0.91	102.53		[338]
$C_{27}H_{19}NO_4$		4-[(phenylmethylene)amino]phenyl 4-(benzoyloxy)benzoate					
	Sol/Nem	459.2	36.0	78.40			
	Nem/Liq	525.2	0.48	0.91	79.31		[338]
$C_{27}H_{20}F_{16}O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-[(perfluorobutyl)-pentyloxy]benzoate					
	Sol/Smec	344.1	33.23	96.57			
	Smec/Smec	354.1	0.68	1.92			
	Smec/Liq	362.8	3.31	9.12	107.61		[128]
$C_{27}H_{20}N_2O_2$		4-[(phenylimino)methyl]phenyl 4-[(phenylimino)methyl]benzoate					
	Sol/Nem	464.2	33.0	71.09			
	Nem/Liq	546.2	0.71	1.30	72.39		[338]
$C_{27}H_{20}N_2O_2$		4-[(phenylmethylene)amino]phenyl 4-[(phenylimino)methyl]benzoate					
	Sol/Nem	469.2	45.0	95.91			
	Nem/Liq	566.2	Not reported in paper				[338]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{27}H_{20}N_2O_2$		4-[(phenylimino)methyl]phenyl 4-[(phenylmethylenen)amino]benzoate					
	Sol/Nem	451.2	45.0	99.73			
	Nem/Liq	550.2	Not reported in paper				[338]
$C_{27}H_{20}N_2O_2$		4-[(phenylmethylene)amino]phenyl 4-[(phenylmethylene)amino]benzoate					
	Sol/Nem	470.2	43.0	91.45			
	Nem/Liq	529.2	1.1	2.08	93.53		[338]
$C_{27}H_{20}F_{16}O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-[(perfluorobutyl)pentyloxy]benzoate					
	Sol/Smec	344.1	33.23	96.57			
	Smec/Smec	354.1	0.68	1.92			
	Smec/Liq	362.8	3.31	9.12	107.61		[128]
$C_{27}H_{21}ClF_4O_3$		4-(4-hexyloxyphenyl)acetylene-2,3,5,6-tetrafluorophenyl 4′-chlorobenzoate					
	Sol/Nem	364.5	34.13	93.64			
	Nem/Liq	446.2	2.22	4.98	98.62		[101]
$C_{27}H_{21}ClF_4O_3$		4-(4-hexyloxy-2,3,5,6-tetrafluorophenylacetylenyl)phenyl 4′-chlorobenzoate					
	Sol/Nem	355.5	34.34	96.60			
	Nem/Liq	471.0	0.70	1.49	98.09		[101]
$C_{27}H_{22}ClF_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-methoxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	354.5	23.24	65.56			
	Nem/Liq	422.0	0.31	0.73	66.29		[124]
$C_{27}H_{22}N_2O_3$		4′-methoxy-[1,1′-biphenyl]-4-carboxylic acid, 4-[(4-methylphenyl)azo]phenyl ester					
	Sol/Nem	329.1	13.75	41.78			
	Nem/Liq	570.5	0.17	0.30	42.08		[57]
$C_{27}H_{24}$		4′-[2-(4-methylphenyl)-1-ethynyl]-2′-methyl-4-propyltolane					
	Sol/Nem	412.3	27.8	67.43			
	Nem/Liq	460.6	0.73	1.58	69.01		[55, 430]
$C_{27}H_{24}$		4′-[2-(4-ethylphenyl)-1-ethynyl]-2′-methyl-4-ethyltolane					
	Sol/Nem	417.7	26.4	63.20			
	Nem/Liq	459.6	0.45	0.98	64.18		[55, 430]
$C_{27}H_{24}FNO_5S$		4-hexyloxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Smec	378.2	20.8	55.00			
	Smec/Smec	389.2	0.1	0.26			
	Smec/Nem	393.2	0.1	0.25			
	Nem/Liq	424.2	0.2	0.47	55.98		[37]
$C_{27}H_{24}N_2O_4$		1,2-dimethylpropyl 4-[4-(4-cyanobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	414.2	22.0	53.11			
	Nem/Liq	476.2	0.4	0.84	53.95		[196]
$C_{27}H_{24}N_2O_4$		2,2-dimethylpropyl 4-[4-(4-cyanobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	423.2	32.0	75.61			
	Nem/Liq	521.2	0.4	0.77	76.38		[196]
$C_{27}H_{24}O_5$		7-[(4′-pentyloxy)benzoyloxy]isoflavone					
	Sol/Smec	445.0	33.14	74.47			
	Smec/Nem	450.5	1.36	3.03			
	Nem/Liq	477.8	0.44	0.92	78.42		[14]
$C_{27}H_{25}ClO_8$		di-(4-propoxycarbonylphenyl) 2-chloroterephthalate					
	Sol/Smec	359.2	29.0	80.73			
	Smec/Nem	378.2	0.31	0.82			
	Nem/Liq	414.2	0.16	0.39	81.94		[174]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{27}H_{25}NO$		5-(4′-propoxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Sol	522.0	2.8	5.36			
	Sol/Smec	530.0	6.6	12.45			
	Smec/Smec	549.0	6.4	11.66			
	Smec/Nem	555.0	0.4	0.72			
	Nem/Liq	Decomposed prior to transition					[185]
$C_{27}H_{25}NO_5S$		4-thiocyanophenyl 4-(4-hexyloxybenzoyloxy)benzoate					
	Sol/Smec	387.2	28.9	74.64			
	Smec/Nem	443.2	1.3	2.93			
	Nem/Liq	456.2	0.5	1.10	78.67	NA	[114]
$C_{27}H_{25}NO_6$		1-methylpropyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	417.2	34.0	81.50			
	Smec/Nem	438.2	0.5	1.14			
	Nem/Liq	500.2	0.3	0.60	83.24		[196]
$C_{27}H_{25}NO_6$		2-methylpropyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	406.2	32.0	78.78			
	Smec/Nem	419.2	0.1	0.24			
	Nem/Liq	548.2	0.3	0.55	79.57		[196]
$C_{27}H_{25}NO_6$		butyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	424.2	41.0	96.65			
	Smec/Nem	435.2	0.2	0.46			
	Nem/Liq	529.2	0.4	0.76	97.87		[196]
$C_{27}H_{26}ClNO_4$		1,1,2-trimethylpropyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	482.2	54.0	111.99			
	Smec/Nem	492.2	12.0	24.38			
	Nem/Liq	539.2	0.6	1.11	137.48		[196]
$C_{27}H_{26}ClNO_4$		1-methylpentyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	408.2	34.0	83.29			
	Smec/Liq	447.2	5.9	13.19	96.48		[196]
$C_{27}H_{26}ClNO_4$		2-methylpentyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	372.2	31.0	83.29			
	Smec/Nem	443.2	0.9	2.03			
	Nem/Liq	481.2	0.3	0.62	85.94		[196]
$C_{27}H_{26}ClNO_4$		3-methylpentyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	432.2	36.0	83.29			
	Smec/Liq	471.2	5.9	12.52	95.81		[196]
$C_{27}H_{26}ClNO_4$		4-methylpentyl 4-[4-(4-chlorobenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	422.2	41.0	97.11			
	Smec/Nem	471.2	4.4	9.34			
	Nem/Liq	478.2	0.4	0.84	107.29		[196]
$C_{27}H_{26}N_2O_6$		1,1,2-trimethylpropyl 4-[4-(4-nitrobenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	450.2	44.0	97.73			
	Nem/Liq	559.2	Not reported in paper				[196]
$C_{27}H_{26}O_8$		di-(4-propoxycarbonylphenyl) terephthalate					
	Sol/Smec	398.2	38.1	95.68			
	Smec/Nem	481.2	Not reported in paper				
	Nem/Liq	499.2	4.2	8.41	104.09		[174]
$C_{27}H_{27}ClO_4S$		4-[[(4-chlorophenyl)thio]carbonyl]phenyl 4-(heptyloxy)benzoate					
	Sol/Smec	394.1	41.97	106.50			
	Smec/Nem	477.1	1.59	3.33			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	513.8	0.67	1.30	111.13	NA	[383]
$C_{27}H_{27}N$		2-(4-cyanophenyl)-7-heptylfluorene					
	Sol/Smec	390.7	19.85	50.81			
	Smec/Nem	Weak transition not detected by dsc					
	Nem/Liq	475.0	0.49	1.03	51.84		[2]
$C_{27}H_{27}NO_3S$		4-thiocyanophenyl 4-heptyloxybiphenyl-4′-carboxylate					
	Sol/Smec	375.2	40.0	106.61			
	Smec/Liq	449.2	3.6	8.01	114.62		[114]
$C_{27}H_{27}NO_4$		2-methylbutyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	392.2	26.0	66.29			
	Smec/Nem	409.2	0.9	2.20			
	Nem/Liq	472.2	0.4	0.85	69.34		[196]
$C_{27}H_{27}NO_4$		3-methylbutyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	408.2	28.0	68.59			
	Smec/Nem	437.2	1.9	4.34			
	Nem/Liq	467.2	0.2	0.43	73.36		[196]
$C_{27}H_{27}NO_4$		pentyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	412.2	41.0	99.47			
	Smec/Nem	420.2	0.5	1.19			
	Nem/Liq	479.2	0.5	1.04	101.70		[196]
$C_{27}H_{27}NO_5$		1-methylbutyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	414.2	37.0	89.33			
	Nem/Liq	431.2	0.1	0.23	89.56		[195]
$C_{27}H_{27}NO_5$		2-methylbutyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	395.2	29.0	73.38			
	Nem/Liq	496.2	0.3	0.60	73.98		[195]
$C_{27}H_{27}NO_5$		3-methylbutyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	428.2	46.0	107.43			
	Nem/Liq	486.2	0.5	1.03	108.46		[195]
$C_{27}H_{27}NO_5$		1,1-dimethylpropyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	466.2	52.0	111.54			
	Nem/Liq	563.2	0.5	0.89	112.43		[195]
$C_{27}H_{27}NO_5$		2,2-dimethylpropyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	408.2	30.0	73.49			
	Nem/Liq	503.2	0.2	0.40	73.89		[195]
$C_{27}H_{27}NO_5$		pentyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	434.2	54.0	124.37			
	Nem/Liq	510.2	0.5	0.98	125.35		[195]
$C_{27}H_{27}NO_5$		1,3-dimethylpropyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	420.2	27.0	64.26			
	Smec/Nem	435.0	0.7	1.61			
	Nem/Liq	455.2	0.1	0.22	66.09		[195]
$C_{27}H_{27}NO_5$		2,2-dimethylpropyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	418.2	39.0	93.26			
	Smec/Nem	437.2	0.7	1.60			
	Nem/Liq	497.2	0.8	1.61	96.47		[195]
$C_{27}H_{27}NO_5$		ethylpropyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	418.2	33.0	78.91			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	426.2	2.6	6.10	85.01		[195]
$C_{27}H_{27}NO_5$		1-methylbutyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	398.2	31.0	77.85			
	Smec/Liq	442.2	3.3	7.46	85.31		[195]
$C_{27}H_{27}NO_5$		2-methylbutyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	399.2	34.0	85.17			
	Smec/Nem	436.2	0.5	1.15			
	Nem/Liq	494.2	0.4	0.81	87.13		[195]
$C_{27}H_{27}NO_5$		3-methylbutyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	418.2	41.0	98.04			
	Smec/Nem	458.2	1.5	3.27			
	Nem/Liq	482.2	0.5	1.04	102.35		[195]
$C_{27}H_{27}NO_5$		pentyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	423.2	29.0	68.53			
	Smec/Nem	445.2	0.4	0.90			
	Nem/Liq	501.2	0.8	1.60	71.03		[195]
$C_{27}H_{27}NO_6$		4-[[4-(octyloxy)phenoxy]carbonyl]phenyl 5-cyano-2-furancarboxylate					
	Sol/Smec	408.2	Value not reported in paper				
	Smec/Smec	413.2	Value not reported in paper				
	Smec/Nem	414.2	3.3	7.97			
	Note: Smec/Smec transition enthalpy was included in the Smec/Nem value.						
	Nem/Liq	420.2	1.0	2.38			[352]
$C_{27}H_{28}F_8O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-(octyloxy)benzoate					
	Sol/Smec	330.5	21.61	65.39			
	Smec/Liq	336.6	5.20	15.45	80.84		[125]
$C_{27}H_{29}F_7O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-(nonyloxy)benzoate					
	Sol/Smec	337.8	17.72	52.46			
	Smec/Smec	350.9	0.45	1.28			
	Smec/Liq	357.5	6.28	17.57	74.31		[125]
$C_{27}H_{29}N$		4-octyl-4″-cyano-p-terphenyl					
	Sol/Meso	355.2	16.33	45.97			
	Note: Transition enthalpy includes a Sol/Sol transition.						
	Meso/Meso	391.7	5.55	14.17			
	Smec/Nem	470.7	0.18	0.38			
	Nem/Liq	486.9	0.95	1.95	62.47	119.3	[8]
$C_{27}H_{29}NO_2$		4′-cyano[1,1′-biphenyl]-4-yl 8-propyltricyclo[4.4.0.03,8]deccane-1-carboxylate					
	Sol/Chol	418.2	26.15	62.53			
	Chol/Liq	470.2	Not reported in paper				[382]
	Note: Authors report only a single transition enthalpy, which we have assumed is for the Sol/Chol transition.						
$C_{27}H_{29}NO_3$		phenyl 4-(4-heptyloxybenzylideneamino)benzoate					
	Sol/Smec	361.2	41.0	113.51			
	Smec/Nem	417.2	2.1	5.03			
	Nem/Liq	429.2	0.6	1.40	119.94		[292]
$C_{27}H_{29}NO_3$		4-ethylphenyl 4-(4-pentyloxybenzylideneamino)benzoate					
	Sol/Smec	362.2	22.0	60.74			
	Smec/Nem	418.2	0.5	1.20			
	Nem/Liq	498.2	1.2	2.41	54.35		[292]
$C_{27}H_{29}NO_3$		4-isopropylphenyl 4-(4-butoxybenzylideneamino)benzoate					
	Sol/Smec	406.2	27.0	66.47			
	Smec/Nem	426.2	0.4	0.94			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	473.2	0.7	1.48	68.89		[292]
$C_{27}H_{30}$		4-[(4-hexen-1-yl)phenyl-1,3-butadiynyl]-4-pentylbenzene					
	Sol/Nem	352.6	17.29	49.04			
	Nem/Liq	429.1	1.66	3.87	52.91		[212]
$C_{27}H_{30}$		4-[(4-penten-1-yl)phenyl-1,3-butadiynyl]-4-hexylbenzene					
	Sol/Nem	345.8	11.85	34.27			
	Nem/Liq	433.0	1.13	2.61	36.88		[212]
$C_{27}H_{30}$		1-(*trans*-4-ethylcyclohexylethynyl)-4-(4-propylphenylethynyl)benzene					
	Sol/Nem	388.0	15.3	39.43			
	Nem/Liq	461.8	1.3	2.82	42.26		[436]
$C_{27}H_{30}$		1-(*trans*-4-propylcyclohexylethynyl)-4-(4-ethylphenylethynyl)benzene					
	Sol/Nem	405.4	14.1	34.78			
	Nem/Liq	481.2	0.9	1.87	36.65		[436]
$C_{27}H_{30}N_2O_3$		4-[(pyridine-4-ylmethylene)amino]phenyl 4-octyloxybenzoate					
	Sol/Smec	372.2	26.7	71.74			
	Smec/Nem	398.7	0.17	0.43			
	Nem/Liq	425.5	0.4	0.94	73.11		[265]
$C_{27}H_{30}N_2O_3$		3-pyridyl 4-(4-octyloxybenzylideneamino)benzoate					
	Sol/Smec	364.2	33.0	90.61			
	Smec/Nem	434.2	3.3	7.60			
	Nem/Liq	438.2	1.0	2.28	100.49		[291]
$C_{27}H_{30}N_2O_3$		4[(E)-[(4-octyloxyphenyl)methylene]amino]phenyl 3-pyridinecarboxylate					
	Sol/Smec	386.2	53.0	137.23			
	Smec/Nem	397.2	0.6	1.51			
	Nem/Liq	438.2	0.8	1.83	140.57		[291]
$C_{27}H_{30}N_2O_3$		4-[(E)-(3-pyridimino)methyl]phenyl 4-octyloxybenzoate					
	Sol/Smec	364.2	35.0	96.10			
	Smec/Nem	400.2	0.4	1.00			
	Nem/Liq	433.2	0.8	1.85	98.95		[291]
$C_{27}H_{30}N_2O_3$		4-[(E)-(3-pyridinylmethylene)amino]phenyl 4-octyloxybenzoate					
	Sol/Smec	352.2	39.0	110.73			
	Smec/Nem	381.2	0.3	0.79			
	Nem/Liq	431.2	1.0	2.32	113.84		[291]
$C_{27}H_{30}O_3$		4-biphenylyl 4″-octyloxybenzoate					
	Sol/Nem	392.2	37.66				
	Nem/Liq	403.7	Not reported in paper				[425]
	Note: Authors report only an enthalpy of fusion, and state in a footnote that Nem/Liq transition enthalpies for the compounds studied were in the 0.84–2.09 kJ·mol^{-1} range.						
$C_{27}H_{31}NS$		4′-(4-butylcyclohexylethyl)-4-isothiocyanatotolane					
	Sol/Sol	343.6	17.41	50.67			
	Sol/Nem	375.5	22.97	61.17			
	Nem/Liq	480.2	2.18	4.54	116.38	NA	[135]
	Independent values from another reference						
	Sol/Nem	374.0	22.64	60.53			
	Nem/Liq	478.9	2.59	5.41	65.94	NA	[238]
	Note: The compound might exhibit a Sol/Sol transition as indicated in the data set immediately above.						
$C_{27}H_{32}$		4-[4-pentylphenyl-1,3-butadiynyl]-4-hexylbenzene					
	Sol/Nem	333.2	14.62	43.88			
	Nem/Liq	371.0	Not reported in paper				[212]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}}S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}}S_{tpce}$ (estimated)	Ref.
$C_{27}H_{32}F_4O$		3′-fluoro-4-[(E)-4,4,4-trifluorobut-2-enyloxy]-4′-(*trans*-4-pentylcyclohexyl)biphenyl					
	Sol/Smec	367.2	20.00	54.47			
	Smec/Smec	383.2	1.21	3.16			
	Smec/Liq	434.2	4.58	10.55	68.18		[72]
$C_{27}H_{33}ClO_5$		4-[[3-[4-(hexyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-4-methylpentanoate					
	Sol/Smec	354.7	25.15	70.90			
	Smec/Liq	366.7	4.02	10.96	81.86		[257]
$C_{27}H_{33}ClO_5$		4-[[3-[4-(hexyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-3-methylpentanoate					
	Sol/Smec	354.2	25.10	70.86			
	Smec/Chol	363.7	0.54	1.48			
	Chol/Liq	371.7	0.59	1.59	73.93		[257]
$C_{27}H_{33}F_3O$		4-[(E)-4,4,4-trifluorobut-2-enyloxy]-4′-(*trans*-4-pentylcyclohexyl)biphenyl					
	Sol/Smec	364.2	17.52	48.11			
	Smec/Smec	440.2	2.15	4.88			
	Smec/Liq	482.2	7.79	16.16	69.15		[72]
$C_{27}H_{33}NO_2$		6-n-pentyloxy-2-[4-pentyloxystyryl]quinoline					
	Sol/Sol	367.1	8.64	23.54			
	Sol/Nem	389.8	18.10	46.43			
	Nem/Liq	445.3	0.47	1.06	71.03		[112]
$C_{27}H_{33}NO_2$		1-[2-(*trans*-4-pentylcyclohexyl)ethyl]-4-[(4-nitrophenyl)ethynyl]benzene					
	Sol/Nem	392.4	26.15	66.64			
	Nem/Liq	456.3	2.09	4.58	71.22		[238]
$C_{27}H_{33}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-heptylcyclohexyl)benzoate					
	Sol/Smec	382.7	28.62	74.78			
	Smec/Nem	428.7	0.13	0.30			
	Nem/Liq	495.2	1.26	2.54	77.62	NA	[356]
$C_{27}H_{34}F_4O$		3-fluoro-4-(*trans*-4-pentylcyclohexyl)- 4′-(4,4,4-trifluorobutoxy)biphenyl					
	Sol/Smec	349.2	19.33	55.36			
	Smec/Smec	392.2	1.44	3.67			
	Smec/Nem	440.2	4.73	10.75			
	Nem/Liq	Not reported in paper					[72]
$C_{27}H_{33}NO_3$		3(5)-(4-hex-5′-enyl-1′-oxyphenyl)-5(3)-(4-hexyl-1′-oxyphenyl)isoxazole					
	Sol/Smec	371.2	18.5	49.84			
	Smec/Nem	395.3	0.6	1.52			
	Nem/Liq	425.3	1.1	2.59	53.95		[117]
$C_{27}H_{34}N_2O_2$		5-methyl-5′-[2-(4-octyloxyphenyl)-2-hydroxyethyl]-2,2′-bipyridine					
	Sol/Smec	353.2	10.46	29.61			
	Smec/Nem	411.5	1.84	4.47			
	Nem/Liq	420.6	5.36	12.74	46.82		[48]
$C_{27}H_{35}F_3O$		4-(*trans*-4-pentylcyclohexyl)-4′-(4,4,4-trifluorobutoxy)biphenyl					
	Sol/Smec	345.2	16.26	47.10			
	Smec/Smec	440.2	41.61	94.52			
	Note: Enthalpy of Smec/Smec transition is out of line with other compounds in series.						
	Smec/Nem	483.2	7.61	15.75			
	Nem/Liq	Not reported in paper					[72]
$C_{27}H_{35}NO_5$		4-[4-(4-hexyloxyphenyliminomethyl)-3-hydroxyphenoxy]butylmethacrylate					
	Sol/Smec	303.5	45.66	150.44			
	Smec/Smec	331.9	Not reported in paper				
	Smec/Liq	361.0	5.12	14.18			[294]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{27}H_{35}N_3O_2S$		5-(4-heptyloxyphenyl)-N-[[4-(2S)-2-methylbutoxy]phenyl]-methylene-1,3,4-thiadiazol-2-amine					
	Sol/Smec	384.4	19.29	50.18			
	Smec/Nem	432.9	1.96	4.53			
	Nem/Liq	445.1	1.38	3.10	57.81		[167]
$C_{27}H_{35}N_3O_2S$		N-[[4-(butoxy)phenyl]methylene]-5-[4-(octyloxy)phenyl]-1,2,4-thiadiazol-2-amine					
	Sol/Smec	373.3	33.82	90.60			
	Smec/Nem	423.1	1.16	2.74			
	Nem/Liq	484.1	1.23	2.54	95.88		[283]
$C_{27}H_{35}N_3O_3S$		2-[(E)-[(5-[4-(butoxy)phenyl]-1,3,4-thiadiazol-2-yl]imino]methyl]-5-(octyloxy)phenol					
	Sol/Smec	381.2	27.22	71.41			
	Smec/Nem	458.7	2.66	5.80			
	Nem/Liq	496.3	2.25	4.53	81.74		[283]
$C_{27}H_{36}$		1-(*trans*-4-ethylcyclohexylethynyl)-4-(*trans*-propylcyclohexylethynyl)benzene					
	Sol/Nem	408.8	15.8	38.65			
	Nem/Liq	441.8	1.4	3.17	41.82		[436]
$C_{27}H_{36}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-tridecyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	395.6	3.65	9.23			
	Smec/Liq	457.6	8.01	17.50	26.73		[75]
$C_{27}H_{36}N_2O_2S$		6-n-decyloxy-2-(4-propoxybenzylidenamino)benzothiazole					
	Sol/Sol	348.2	Not given in paper				
	Sol/Nem	352.9	25.9	73.39			
	Nem/Liq	376.4	0.5	1.33			[41]
$C_{27}H_{36}N_2O_3$		4-pentanoyl-4′-decanoyloxyazobenzene					
	Sol/Sol	338.2	4.31	12.74			
	Sol/Smec	368.6	28.75	78.00			
	Smec/Liq	405.2	8.00	19.74	110.48	151.2	[157]
$C_{27}H_{36}N_2O_3$		4-propanoyl-4′-dodecanoyloxyazobenzene					
	Sol/Smec	373.7	38.07	101.87			
	Smec/Liq	416.2	7.87	18.91	120.78	151.2	[157]
$C_{27}H_{36}N_4O_2$		1-[4-[(1E)-(4-formylphenyl)azo]phenyl]-4-(1-oxodecyl)piperazine					
	Sol/Nem	422.5	21.4	50.65			
	Nem/Liq	437.9	0.3	0.69	51.34		[345]
$C_{27}H_{36}O$		4-[(E)-but-2-enyloxy]-4′-(*trans*-4-pentylcyclohexyl)biphenyl					
	Sol/Smec	354.2	25.53	72.08			
	Smec/Smec	433.2	2.64	6.09			
	Smec/Nem	463.2	1.85	3.99			
	Nem/Liq	481.2	0.45	0.94	83.10		[72]
$C_{27}H_{36}O_3$		4-(*trans*-4-propylcyclohexyl)phenyl 4-{[(S)-2-methylbutyl]oxy}benzoate					
	Sol/Chol	386.2	22.02	57.02			
	Chol/Liq	441.2	Not reported in paper				[208]
$C_{27}H_{36}O_4$		4-[(S)-2-methylbutoxy]phenyl 4-(8-nonenyloxy)benzoate					
	Sol/Smec	309.2	25.3	81.82			
	Smec/Liq	331.2	Not reported in paper				[200]
$C_{27}H_{36}O_4$		4-[(S)-4-methylhexyloxy]phenyl 4-(6-heptenyloxy)benzoate					
	Sol/Smec	337.2	23.9	70.88			
	Smec/Chol	338.2	Not reported in paper				
	Chol/Liq	342.2	Not reported in paper				[200]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{27}H_{36}O_4$		4-(3-butenyloxy)phenyl 4-[(S)-6-methyloctyloxy]benzoate					
	Sol/Smec	321.2	20.0	62.27			
	Smec/Chol	327.2	Not reported in paper				
	Chol/Liq	339.2	Not reported in paper				[200]
$C_{27}H_{36}O_4$		4-(6-heptenyloxy)phenyl 4-[(S)-4-methylhexyloxy]benzoate					
	Sol/Smec	306.2	16.5	53.89			
	Smec/Chol	310.2	Not reported in paper				
	Chol/Liq	334.2	Not reported in paper				[200]
$C_{27}H_{37}ClN_2O_4$		4-(4-nonyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Smec	333.7	37.66	112.86			
	Smec/Nem	340.5	0.24	0.70			
	Nem/Liq	346.3	1.27	3.67	117.23		[47]
$C_{27}H_{37}ClO_2S$		4-chlorophenyl 4-tetradecyloxythiobenzoate					
	Sol/Sol	340.5	2.38	6.99			
	Sol/Smec	354.5	50.67	142.93			
	Smec/Liq	369.0	5.98	16.21	166.13	NA	[383]
$C_{27}H_{37}FO$		4-butoxy-3-fluoro-4′-(*trans*-4-pentylcyclohexyl)biphenyl					
	Sol/Smec	327.2	9.04	27.63			
	Smec/Smec	387.2	1.39	3.59			
	Smec/Nem	389.2	2.78	7.14			
	Nem/Liq	444.2	0.79	1.78	40.14		[72]
$C_{27}H_{37}FO_3S$		S-(2-fluoro-4-octyloxyphenyl) 4-hexyloxybenzoate					
	Sol/Nem	315.2	32.7	103.74			
	Nem/Liq	345.2	1.6	4.63	108.37	NA	[4]
$C_{27}H_{37}N$		4-cyano-4′-tetradecylbiphenyl					
	Sol/Smec	328.4	41.7	126.98			
	Smec/Liq	335.1	5.72	17.07	144.05		[351]
	Independent values from another reference						
	Sol/Smec	331.4	41.4	124.92			
	Smec/Liq	338.0	5.4	15.98	140.90		[407]
$C_{27}H_{37}NO_5$		4′-tetradecyloxy-3′-nitrobiphenyl-4-carboxylic acid					
	Sol/Smec	392.0	36.50	93.11			
	Smec/Smec	470.0	0.80	1.70			
	Smec/Liq	479.0	5.75	12.00	106.81	175.8	[87]
$C_{27}H_{37}N_3OS$		5-[4-(hexyloxy)phenyl]-N-[(5-octyl-2-thienyl)methylene]-1,2,4-thiadiazole-2-amine					
	Sol/Smec	390.1	21.9	56.14			
	Smec/Nem	400.8	3.25	8.11			
	Nem/Liq	409.6	1.1	2.69	66.94		[396,397]
$C_{27}H_{37}N_3O_2S$		6-n-decyloxy-2-(4-butyloxyphenylazo)benzothiazole					
	Sol/Nem	357.0	50.7	142.02			
	Nem/Liq	395.1	0.8	2.02	144.04		[41]
$C_{27}H_{38}N_2O_3$		4-undecanoyloxy-2,3-dimethyl-4′-ethoxyazobenzene					
	Sol/Nem	340.2	39	114.64			
	Nem/Liq	355.2	0.7	1.97	116.61		[339]
$C_{27}H_{38}N_2O_3$		4-dodecanoyloxy-3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	325.2	49	150.68			
	Nem/Liq	337.2	0.8	2.37	153.05		[339]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{27}H_{38}N_4OS_2$		2-(4-octyloxyphenylazo)-5-(5′-heptyl-2′-thienyl)-1,3,4-thiadiazole					
	Sol/Nem	425.1	36.1	84.92			
	Nem/Liq	430.8	0.42	0.97	85.89		[396]
$C_{27}H_{38}O$		4-butoxy-4′-(*trans*-4-pentylcyclohexyl)biphenyl					
	Sol/Smec	337.2	27.03	80.16			
	Smec/Smec	449.2	3.48	7.45			
	Smec/Nem	464.2	2.80	6.03			
	Nem/Liq	475.2	0.80	1.68	95.32		[72]
$C_{27}H_{38}O_2S$		4-pentylbenzenethio-4′-nonyloxybenzoate					
	Sol/Smec	336.7	35.65	105.88			
	Smec/Nem	347.4	0.38	1.09			
	Nem/Liq	359.2	1.46	4.06	111.03	NA	[217]
$C_{27}H_{38}O_3S$		S-(4-octyloxyphenyl) 4-octyloxythiobenzoate					
	Sol/Nem	332.2	40.5	121.91			
	Nem/Liq	375.2	2.6	6.93	128.84	NA	[4]
$C_{27}H_{38}O_4$		4,4′-*bis*(ω-hydroxyhexyloxy)-α-methylstilbene					
	Sol/Sol	350.8	17.43	49.7			
	Sol/Smec	406.5	33.33	82.0			
	Smec/Nem	411.0	8.55	20.8			
	Nem/Liq	413.7	Not reported in paper				[56]
$C_{27}H_{39}NO$		4-decyl-N-[[4-(butoxy)phenyl]methylene]benzenamine					
	Sol/Smec	329.6	48.17	146.15			
	Smec/Liq	349.1	0.9	2.58	148.73		[242]
$C_{27}H_{39}NO$		4-hexyl-N-[[4-(octyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	317.6	40.64	127.96			
	Smec/Smec	338.1	0.06	0.18			
	Smec/Smec	346.1	4.07	11.76			
	Smec/Liq	359.0	6.70	18.66	158.56		[242]
$C_{27}H_{39}NO$		4-nonyl-N-[[4-(pentyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	311.2	10.44	33.55			
	Smec/Smec	319.3	2.73	8.55			
	Smec/Nem	336.4	0.53	1.58			
	Nem/Liq	347.1	1.68	4.84	48.52		[243]
$C_{27}H_{39}NO$		4-pentyl-N-[[4-(nonyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	307.0	25.75	83.88			
	Smec/Smec	335.2	0.04	0.12			
	Smec/Smec	346.0	6.31	18.24			
	Smec/Liq	359.4	3.60	10.02	112.26		[243]
$C_{27}H_{39}NO$		N-(4-hexyloxybenzylidene)-4-octylaniline					
	Sol/Sol	268.2	6.4	23.86			
	Sol/Smec	302.2	26.6	88.02			
	Smec/Smec	320.0	0.67	2.09			
	Smec/Nem	352.1	0.42	1.19			
	Nem/Liq	356.4	0.75	2.10	117.26		[376, 381]
$C_{27}H_{40}N_2O$		4-propyl-4′-dodecyloxyazobenzene					
	Sol/Smec	342.5	105.3	307.45			
	Smec/Nem	350.3	10.50	29.97			
	Nem/Liq	354.0	6.01	16.98	334.93	155.7	[153]
$C_{27}H_{40}N_2O$		4-butyl-4′-undecyloxyazobenzene					
	Sol/Smec	338.8	34.39	101.51			
	Smec/Smec	340.4	Not reported in paper				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Nem	347.6	4.49	12.92			
	Nem/Liq	349.5	2.25	6.44		155.7	[141]
$C_{27}H_{40}N_2O$		4-pentyl-4′-decyloxyazobenzene					
	Sol/Smec	325.1	23.96	73.70			
	Smec/Smec	343.0	Not given in paper				
	Smec/Nem	352.6	2.60	7.37			
	Nem/Liq	359.0	2.51	6.99		155.7	[141]
$C_{27}H_{40}N_2O$		4-heptyl-4′-octyloxyazobenzene					
	Sol/Smec	391.3	37.45	95.71			
	Smec/Nem	344.2	1.01	2.93			
	Nem/Liq	356.9	2.36	6.61	105.25	155.7	[390]
$C_{27}H_{40}N_2O$		2-[4-(8-nonenyloxy)phenyl]-5-[(S)-5-methylheptyl]pyrimidine					
	Sol/Smec	289.2	10.4	35.96			
	Smec/Chol	308.2	Not reported in paper				
	Chol/Liq	321.2	Not reported in paper				[201]
$C_{27}H_{40}O_2S$		2-octanoyl-5-(4-nonyloxyphenyl)thiophene					
	Sol/Meso	378.3	21.31	56.33			
	Meso/Liq	397.0	7.03	17.71	74.04	174.4	[18]
$C_{27}H_{42}N_2O_6$		4,4′-*bis*[4-(4-propoxybenzylideneamino)benzoyloxy]diphenylmethane					
	Sol/Smec	472.2	53.0	112.24			
	Smec/Liq	515.2	14.0	27.17	139.41		[284]
$C_{27}H_{42}O_3$		4-heptylcyclohexyl 4-pentyloxycinnamate					
	Sol/Nem	334.2	47.2	141.23			
	Nem/Liq	365.7	1.4	3.83	145.06		[5]
$C_{27}H_{44}O$		1-hexyloxy-(4-[(E)-3-(*trans*-4-pentylcyclohexyl)-1-butenyl])benzene					
	Sol/Smec	305.2	32.9	107.80			
	Smec/Liq	329.2	Not reported in paper			145.3	[198]
$C_{27}H_{44}O_2$		1-heptyloxy-4-[(E)-3-(*trans*-4- pentylcyclohexyl)allyloxy]benzene					
	Sol/Smec	315.2	32.0	101.52			
	Smec/Nem	330.2	Not reported in paper				
	Nem/Liq	331.2	Not reported in paper			163	[198]
$C_{27}H_{45}N_3O_3$		N,N′,N″-trihexanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	573.2	22.0	38.38			
	Meso/Liq	630.2	30.0	47.60	85.98	144	[190]
$C_{27}H_{46}N_2O_2$		N,N′-dinonanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	410.2	31	75.57			
	Meso/Liq	487.2	19	39.00	114.57	154	[36]
$C_{27}H_{46}O_2$		1-heptyloxy-4-[3-(*trans*-4-pentylcyclohexyl)-1-propoxy]benzene					
	Sol/Smec	324.2	42.0	129.55			
	Smec/Liq	330.2	Not reported in paper				[198]
$C_{27}H_{46}O_6$		3′-pentadecylphenyl-β-D-glucopyranoside					
	Sol/Meso	415.9	Not reported in paper				
	Meso/Liq	418.2	22.22	53.13	53.13		[290]
	Note: Reported enthalpy is a combination of the Sol/Meso and Meso/Liq values.						
$C_{27}H_{54}O_6S$		6-O-(propylene-[3′-S-octadecyl])-α-D-galactopyranose					
	Sol/Smec	377.2	70.54	187.01			
	Smec/Liq	427.2	0.41	0.96	187.97		[39]
$C_{28}H_{14}F_4N_2O_5$		2,3-difluorobenzoic acid, 1,2,4-oxadiazole-3,5-diylyl-4,1-phenylene ester					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	459.9	44.01	95.69			
	Nem/Liq	475.7	0.21	0.44	96.13		[264]
$C_{28}H_{16}F_2N_2O_5$		4-fluorobenzoic acid, 1,2,4-oxadiazole-3,5-diylyl-4,1-phenylene ester					
	Sol/Nem	489.2	22.37	45.73			
	Nem/Liq	Decomposed prior to transition					[264]
$C_{28}H_{18}F_{20}O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-[(perfluorohexyl)butoxy]benzoate					
	Sol/Smec	371.6	46.32	124.65			
	Smec/Liq	384.5	4.29	11.16	135.81		[128]
$C_{28}H_{20}S$		2-(p-quaterphenyl-4-yl)thiophene					
	Sol/Nem	654.2	22.0	33.63			
	Nem/Liq	698.2	0.70	1.00	34.63		[35]
$C_{28}H_{20}S$		2-(p-terphenyl-4-yl)-5-phenylthiophene					
	Sol/Smec	562.2	22.0	39.13			
	Smec/Nem	589.2	3.0	5.09			
	Nem/Liq	629.2	0.5	0.79	45.01		[35]
$C_{28}H_{21}F_{17}O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-[(perfluorobutyl)pentyloxy]benzoate					
	Sol/Smec	342.7	40.09	116.98			
	Smec/Liq	346.6	3.37	9.72	126.70		[128]
$C_{28}H_{21}F_{17}O_8$		4-hydroxyphenyl 4-{5-[1H-2,5-di(trifluoromethyl)-3,6-dioxaundecafluorononyloxycarbonyl]-pentyloxy}benzoate					
	Sol/Smec	334.2	9.3	27.83			
	Smec/Smec	361.2	1.6	4.43			
	Smec/Liq	369.2	0.7	1.90	34.16		[221]
$C_{28}H_{21}F_{21}O_4$		3-[[3-(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,13- heneicosafluorotridecyl)-4′-hydroxy-[1,1′-biphenyl]-4-yl]oxy]-1,2-propanediol					
	Sol/Smec	408.3	37.2	91.11			
	Note: Sol/Smec transition enthalpy may include Sol/Sol transition(s).						
	Smec/Smec	425.7	2.0	4.70			
	Smec/Liq	429.2	1.7	3.96	99.77		[404]
$C_{28}H_{22}O_6$		*bis*(4-methoxyphenyl) 4,4′-biphenylenedicarboxylate					
	Sol/Sol	455.6	3.3	7.24			
	Sol/Smec	466.3	28.7	61.55			
	Smec/Nem	504.5	0.03	0.06			
	Nem/Liq	Not reported in paper					[12]
$C_{28}H_{23}ClF_4O_3$		4-(4-heptyloxyphenyl)acetylene-2,3,5,6-tetrafluorophenyl 4′-chlorobenzoate					
	Sol/Nem	382.8	33.71	88.06			
	Nem/Liq	448.4	1.24	2.77	90.83		[101]
$C_{28}H_{23}ClF_4O_3$		4-(4-heptyloxy-2,3,5,6-tetrafluorophenylacetylenyl)phenyl 4′-chlorobenzoate					
	Sol/Nem	353.8	41.59	117.55			
	Nem/Liq	458.4	0.99	2.16	119.71		[101]
$C_{28}H_{23}F_{15}O_6$		4-hydroxyphenyl 4-{5-[2-(perfluoro-5-methylhexyl)ethoxycarbonyl]pentyloxy}benzoate					
	Sol/Smec	371.2	34.9	94.02			
	Smec/Liq	385.2	4.7	12.20	106.22		[221]
$C_{28}H_{23}NO$		1-[(4-pentyloxyphenyl)ethynyl]-4-[(4-cyanophenyl)ethynyl]benzene					
	Sol/Nem	472.2	18.8	39.82			
	Nem/Liq	570.2	1.5	2.63	42.45		[82]
$C_{28}H_{24}F_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-ethoxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	365.0	31.37	85.95			
	Nem/Liq	440.0	0.46	1.05	87.00		[24]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{28}H_{24}N_6O_6$		*α,ω-bis*(4-nitroazobenzene-4′-oxy)butane					
	Sol/Nem	524.2	50.99	97.27			
	Nem/Liq	526.2	2.89	5.49	102.76		[422]
$C_{28}H_{25}F_{13}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-(hexyloxy)benzoate					
	Sol/Smec	356.6	30.55	85.68			
	Smec/Smec	382.6	0.07	0.18			
	Smec/Liq	414.4	9.36	22.59	108.45		[125]
$C_{28}H_{26}$		4′-[2-(4-methylphenyl)-1-ethynyl]-2′-methyl-4-butyltolane					
	Sol/Nem	393.2	22.3	56.71			
	Nem/Liq	457.8	0.90	1.97	58.68		[55, 430]
$C_{28}H_{26}$		4′-[2-(4-propylphenyl)-1-ethynyl]-2′-methyl-4-ethyltolane					
	Sol/Nem	388.5	22.5	57.92			
	Nem/Liq	463.2	1.01	2.18	60.10		[55, 430]
$C_{28}H_{26}FNO_5S$		4-heptyloxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Smec	374.2	21.3	56.92			
	Smec/Smec	390.2	Too small to be measured				
	Smec/Nem	400.2	0.2	0.50			
	Nem/Liq	427.2	0.3	0.70	58.12		[37]
$C_{28}H_{26}F_2O$		1-(6-octyloxy-2-naphthyl)-4-(3,4-difluorophenyl)diacetylene					
	Sol/Smec	361.8	26.8	74.07			
	Smec/Nem	380.0	0.3	0.79			
	Nem/Liq	406.3	0.3	0.74	75.60		[95]
$C_{28}H_{26}O_2$		4,4‴-diethoxy-p-quaterphenyl					
	Sol/Sol	548.0	8.77	16.00			
	Sol/Smec	637.0	10.19	16.00			
	Smec/Liq	678.0	Not reported in paper				[111]
$C_{28}H_{26}O_5$		7-[(4′-hexyloxy)benzoyloxy]isoflavone					
	Sol/Smec	432.9	21.98	50.77			
	Smec/Nem	455.3	1.82	4.00			
	Nem/Liq	477.8	0.15	0.31	55.08		[14]
$C_{28}H_{26}O_6$		*bis*(4-pentyloxyphenyl) terephthalate					
	Sol/Sol	413.0	6.7	16.22			
	Sol/Smec	439.6	38.8	88.26			
	Smec/Nem	447.0	0.1	0.22			
	Nem/Liq	485.4	1.1	2.27	106.97	160.6	[12]
$C_{28}H_{26}O_6S_2$		*bis*(4-propoxyphenyl) 2,2′-bithiophene-5,5′-dicarboxylate					
	Sol/Smec	473.1	43.7	92.37			
	Smec/Nem	488.4	0.7	1.43			
	Nem/Liq	525.9	1.1	2.09	95.89	149.4	[12]
$C_{28}H_{26}O_8$		*bis*(4-propoxycarbonylphenyl) terephthalate					
	Sol/Smec	403.2	35.0	86.81			
	Smec/Nem	480.2	1.9	3.96			
	Nem/Liq	490.2	0.6	1.22	91.99	138.2	[194]
$C_{28}H_{27}FO$		1-(6-octyloxy-2-naphthyl)-4-(4-fluorophenyl)diacetylene					
	Sol/Nem	378.0	24.6	65.08			
	Nem/Liq	433.2	0.8	1.85	66.93		[95]
$C_{28}H_{27}NO$		5-(4′-butoxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Sol	487.0	7.1	14.58			
	Sol/Smec	522.0	4.2	8.05			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Smec	548.0	4.5	8.21			
	Smec/Nem	574.0	0.8	1.39			
	Nem/Liq	668.0	0.8	1.20	33.43		[185]
$C_{28}H_{27}NO_5S$		4-thiocyanophenyl 4-(4-heptyloxybenzoyloxy)benzoate					
	Sol/Smec	385.2	31.3	81.26			
	Smec/Nem	445.2	2.5	5.62			
	Nem/Liq	451.2	0.2	0.44	87.32		[114]
$C_{28}H_{27}NO_6$		1,2-dimethylpropyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	429.2	36.0	83.88			
	Nem/Liq	486.2	0.2	0.41	84.29		[196]
$C_{28}H_{27}NO_6$		2,2-dimethylpropyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	433.2	28.0	64.64			
	Smec/Liq	526.2	0.1	0.19	64.83		[196]
$C_{28}H_{27}NO_6$		1-methylbutyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	408.2	30.0	73.49			
	Smec/Nem	440.2	1.5	3.41			
	Nem/Liq	453.2	0.1	0.22	77.12		[196]
$C_{28}H_{27}NO_6$		2-methylbutyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	395.2	29.0	73.38			
	Smec/Nem	416.2	0.1	0.24			
	Nem/Liq	506.2	0.3	0.59	74.21		[196]
$C_{28}H_{27}NO_6$		3-methylbutyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	414.2	34.0	82.09			
	Smec/Nem	443.2	0.4	0.90			
	Nem/Liq	506.2	0.3	0.59	83.58		[196]
$C_{28}H_{27}NO_6$		pentyl 4-[4-(4- acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	398.2	32.0	80.36			
	Smec/Nem	434.2	0.1	0.23			
	Nem/Liq	515.2	0.4	0.78	81.37		[196]
$C_{28}H_{28}N_2O_4$		dipropyl N,N′-[1,4-phenylene-*bis*(methylidyne)]-*bis*[amino benzoate]					
	Sol/Smec	426.2	39.0	91.50			
	Smec/Liq	472.3	0.21	0.44	91.94		[192]
$C_{28}H_{28}O_2$		3-butyxo-6-[4-(4-butoxyphenyl)buta-1,3-diynyl]naphthalene					
	Sol/Sol	379.2	29.7	78.32			
	Sol/Nem	384.1	0.8	2.08			
	Nem/Liq	498.6	5.6 (Some decomposition)				[225]
$C_{28}H_{29}ClO_2$		1-(4-heptylbiphenyl)-3-(4-chlorophenyl)propane-1,3-dione					
	Sol/Smec	411.7	27.61	67.06			
	Smec/Liq	417.7	4.31	10.32	77.38		[250]
$C_{28}H_{29}F_3$		3-methyl-4-[2-(*trans*-4-pentylcyclohexyl)ethynyl]-1-[(3,4,5-trifluorophenyl)ethynyl]benzene					
	Sol/Nem	329.2	21.9	66.52			
	Nem/Liq	371.2	0.4	1.08	67.60		[76]
$C_{28}H_{29}N$		2-(4-cyanophenyl)-7-octylfluorene					
	Sol/Smec	387.7	21.14	54.53			
	Smec/Nem	451.1	0.55	1.22			
	Nem/Liq	466.5	0.41	0.88	56.63		[2]
$C_{28}H_{29}NO_4$		2-methylpentyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	394.2	32.0	81.18			
	Smec/Nem	402.2	1.7	4.23			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	469.2	0.4	0.85	86.26		[196]
$C_{28}H_{29}NO_4$		3-methylpentyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	420.2	35.0	83.29			
	Smec/Nem	434.2	1.6	3.68			
	Nem/Liq	457.2	0.3	0.66	87.63		[196]
$C_{28}H_{29}NO_4$		4-methylpentyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	409.2	30.0	73.31			
	Smec/Nem	435.2	0.8	1.84			
	Nem/Liq	471.2	0.3	0.64	75.79		[196]
$C_{28}H_{29}NO_4$		1,1,2-trimethylpropyl 4-[4-(4-methylbenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	454.2	52.0	114.49			
	Nem/Liq	525.2	0.4	0.76	115.25		[196]
$C_{28}H_{29}NO_5$		1,1,2-trimethylpropyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	402.2	38.0	94.48			
	Nem/Liq	413.2	0.2	0.48	94.96		[195]
$C_{28}H_{29}NO_5$		1,2,2-trimethylpropyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	427.2	48.0	112.36			
	Nem/Liq	436.2	0.2	0.46	112.82		[195]
$C_{28}H_{29}NO_5$		1,1-dimethylbutyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]-benzoate					
	Sol/Smec	384.2	21.0	54.66			
	Smec/Liq	393.2	2.4	6.10	60.76		[195]
$C_{28}H_{29}NO_5$		1,3-dimethylbutyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	416.2	30.0	72.08			
	Smec/Liq	425.2	0.3	0.71	72.79		[195]
$C_{28}H_{29}NO_5$		1-ethylbutyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	412.2	39.0				
	Smec/Liq	399.2	2.3				[195]
	Note: There is likely an error in the published temperatures of the two phase transitions.						
$C_{28}H_{29}NO_5$		2-ethylbutyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	395.2	28.0	70.85			
	Nem/Liq	466.2	0.2	0.43	71.28		[195]
$C_{28}H_{29}NO_5$		1-methylpentyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	406.2	33.0	81.24			
	Smec/Nem	414.2	0.7	1.69			
	Nem/Liq	423.2	0.2	0.47	83.40		[195]
$C_{28}H_{29}NO_5$		2-methylpentyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	383.2	38.0	99.16			
	Nem/Liq	492.2	0.3	0.61	99.77		[195]
$C_{28}H_{29}NO_5$		3-methylpentyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	433.2	48.0	110.80			
	Nem/Liq	476.2	0.2	0.42	111.22		[195]
$C_{28}H_{29}NO_5$		4-methylpentyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	426.2	44.0	103.24			
	Nem/Liq	490.2	0.5	1.02	104.26		[195]
$C_{28}H_{29}NO_5$		hexyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	424.2	57.0	134.37			
	Nem/Liq	490.2	0.5	1.02	135.39		[195]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{28}H_{29}NO_5$		1,3-dimethylbutyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	394.2	34.0	86.25			
	Smec/Liq	444.2	4.2	9.46	95.71		[195]
$C_{28}H_{29}NO_5$		1-ethylbutyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	397.2	32.0	80.56			
	Smec/Liq	424.2	3.9	9.19	89.75		[195]
$C_{28}H_{29}NO_5$		2-ethylbutyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	387.2	21.0	54.24			
	Smec/Nem	432.9	0.6	1.39			
	Nem/Liq	467.2	0.2	0.43	56.06		[195]
$C_{28}H_{29}NO_5$		1-methylpentyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	392.2	32.0	81.59			
	Smec/Liq	437.8	3.3	7.54	89.13		[195]
$C_{28}H_{29}NO_5$		2-methylpentyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	378.2	34.0	89.90			
	Smec/Nem	431.2	0.3	0.70			
	Nem/Liq	490.2	1.2	2.45	93.05		[195]
$C_{28}H_{29}NO_5$		3-methylpentyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	419.2	40.0	95.42			
	Smec/Nem	457.2	1.1	2.41			
	Nem/Liq	476.2	0.4	0.84	98.67		[195]
$C_{28}H_{29}NO_5$		4-methylpentyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	423.2	46.0	108.70			
	Smec/Nem	455.2	0.8	1.76			
	Nem/Liq	485.2	0.7	1.44	111.90		[195]
$C_{28}H_{29}NO_5$		hexyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	418.2	50.0	119.56			
	Smec/Nem	451.2	0.5	1.11			
	Nem/Liq	486.2	0.7	1.44	122.11		[195]
$C_{28}H_{29}NO_6$		4-[[4-(nonyloxy)phenoxy]carbonyl]phenyl 5-cyano-2-furancarboxylate					
	Sol/Smec	407.2	Value not reported in paper				
	Smec/Smec	415.2	1.9	4.58			
	Smec/Nem	417.2	1.5	3.60			
	Nem/Liq	418.2	1.7	4.07			[352]
$C_{28}H_{30}F_8O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-(nonyloxy)benzoate					
	Sol/Smec	321.8	16.74	52.02			
	Smec/Liq	326.8	4.37	13.37	65.39		[125]
$C_{28}H_{30}O_4$		4,4′-dihexanoyloxydiphenyldiacetylene					
	Sol/Sol	343.0	19.00	55.39			
	Sol/Sol	396.0	1.46	3.69			
	Sol/Nem	407.0	26.30	64.62			
	Nem/Liq	430.0	1.71	3.98	127.68	125.4	[157]
$C_{28}H_{30}O_7$		4-(4-hexyloxybenzoyloxy)phenyl (3,4-dimethoxy)benzoate					
	Sol/Nem	343.4	8.91	25.95			
	Nem/Liq	433.2	0.39	0.90	26.85		[103]
$C_{28}H_{31}F_7O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-(decyloxy)benzoate					
	Sol/Smec	333.1	17.86	53.62			
	Smec/Smec	353.7	0.46	1.30			
	Smec/Liq	356.3	6.15	17.26	72.18		[125]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{28}H_{31}IO_3S$		4′-(10-undecenyloxy)biphenyl 5-iodo-2-thiophenecarboxylate					
	Sol/Smec	375.0	2.51	6.69			
	Smec/Smec	397.6	40.17	101.03			
	Smec/Smec	410.8	5.86	14.26			
	Smec/Liq	427.0	7.53	17.63	139.61		[63]
$C_{28}H_{31}N$		4-nonyl-4″-cyano-p-terphenyl					
	Sol/Meso	358.3	20.19	56.35			
	Meso/Meso	383.3	1.74	4.54			
	Meso/Smec	391.0	3.27	8.36			
	Smec/Nem	478.7	0.51	1.07			
	Nem/Liq	484.8	1.00	2.06	72.38	126.4	[8]
$C_{28}H_{31}NO_3$		phenyl 4-(4-octyloxybenzylideneamino)benzoate					
	Sol/Smec	362.2	41.0	113.20			
	Smec/Nem	421.2	2.5	5.94			
	Nem/Liq	429.2	0.8	1.86	121.00	140.6	[292]
$C_{28}H_{31}NO_3$		4-ethylphenyl 4-(4-hexyloxybenzylideneamino)benzoate					
	Sol/Smec	366.2	33.0	90.11			
	Smec/Nem	432.2	0.7	1.62			
	Nem/Liq	492.2	1.2	2.44	94.17	141.2	[292]
$C_{28}H_{31}NO_3$		4-isopropylphenyl 4-(4-pentyloxybenzylideneamino)benzoate					
	Sol/Smec	390.2	35.0	89.70			
	Smec/Nem	426.2	0.5	1.17			
	Nem/Liq	461.2	0.7	1.52	92.39	121.1	[292]
$C_{28}H_{31}NO_3$		4-(4-octyloxybenzylideneamino)phenyl benzoate					
	Sol/Nem	383.2	42.0	109.60			
	Nem/Liq	424.2	0.8	1.89	111.49	140.6	[292]
$C_{28}H_{32}$		1-(*trans*-4-ethylcyclohexylethynyl)-4-(4-butylphenylethynyl)benzene					
	Sol/Nem	375.8	15.4	40.98			
	Nem/Liq	448.5	1.3	2.90	43.88		[436]
$C_{28}H_{32}$		1-(*trans*-4-propylcyclohexylethynyl)-4-(4-propylphenylethynyl)benzene					
	Sol/Nem	379.1	16.0	42.21			
	Nem/Liq	485.9	1.1	2.26	44.47		[436]
$C_{28}H_{32}$		1-(*trans*-4-butylcyclohexylethynyl)-4-(4-ethylphenylethynyl)benzene					
	Sol/Nem	386.2	18.5	47.90			
	Nem/Liq	468.0	1.3	2.78	50.68		[436]
$C_{28}H_{33}NS$		4′-(4-pentylcyclohexylethyl)-4-isothiocyanatotolane					
	Sol/Nem	387.3	27.53	71.08			
	Nem/Liq	480.2	2.93	6.10	77.18	NA	[135, 238]
$C_{28}H_{35}ClO_5$		2-chloro-4-methylpentyl 4-[[3-[4-(hexyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	324.7	38.07	117.25			
	Smec/Chol	351.2	1.46	4.16			
	Chol/Liq	353.7	0.84	2.37	123.78		[257]
$C_{28}H_{35}ClO_5$		2-chloro-3-methylpentyl 4-[[3-[4-(hexyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	344.2	21.76	63.22			
	Smec/Chol	356.7	1.67	4.68			
	Chol/Liq	357.7	0.42	1.17	69.07		[257]
$C_{26}H_{35}ClO_5$		4-[[3-[4-(heptyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-4-methylpentanoate					
	Sol/Smec	328.2	34.14	104.02			
	Smec/Smec	340.2	0.21	0.62			
	Smec/Liq	363.7	3.39	9.32	113.96		[257]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{28}H_{35}ClO_5$		4-[[3-[4-(heptyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-3-methylpentanoate					
	Sol/Smec	334.7	36.40	108.75			
	Smec/Smec	341.7	0.25	0.73			
	Smec/Chol	361.2	0.50	1.38			
	Chol/Liq	368.2	0.88	2.39	113.25		[257]
$C_{28}H_{35}NO_2$		6-n-pentyloxy-2-[4-hexyloxystyryl]quinoline					
	Sol/Smec	383.0	21.74	56.76			
	Smec/Nem	392.3	12.00	30.59			
	Nem/Liq	444.1	0.88	1.98	89.33		[112]
$C_{28}H_{35}NO_2$		(E)-4-{2-[4-(11-vinyloxyundecyloxy)phenyl]vinyl}benzonitrile					
	Sol/Nem	350.7	2.2	6.27			
	Nem/Liq	369.5	21.8	59.00	65.27		[435]
$C_{28}H_{35}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-octylcyclohexyl)benzoate					
	Sol/Sol	340.5	16.95	49.78			
	Sol/Smec	372.2	23.85	64.08			
	Smec/Nem	443.7	0.17	0.38			
	Nem/Liq	487.2	1.09	2.24	116.48	NA	[356]
$C_{28}H_{35}N_5O$		4-[4-[(1E)-(4-cyanophenyl)azo]phenyl]-4-(1-oxo-10-undecenyl)piperazine					
	Sol/Smec	403.4	39.58	98.12			
	Smec/Nem	409.7	0.05	0.12			
	Nem/Liq	431.7	0.55	1.27	99.51		[403]
$C_{28}H_{35}NO_3$		3(5)-(4-hex-5′-enyl-1′-oxyphenyl)-5(3)-(4-heptyl-1′-oxyphenyl)isoxazole					
	Sol/Smec	362.1	18.4	50.81			
	Smec/Nem	400.9	0.6	1.50			
	Nem/Liq	423.2	1.2	2.84	55.15		[117]
$C_{28}H_{36}O_4$		7-propoxy-3-(4-decyloxyphenyl)-3*H*-1-benzopyran-4-one					
	Sol/Sol	353.5	1.6	4.53			
	Sol/Nem	377.5	30.2	80.00			
	Nem/Liq	405.8	0.9	2.22	86.75		[44]
$C_{28}H_{36}O_4$		di(4′-butylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	364.8	27.0	74.01			
	Smec/Nem	380.9	0.36	0.95			
	Nem/Liq	423.9	0.56	1.32	76.28	133.3	[215]
$C_{28}H_{36}O_6$		di(4′-butoxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	380.2	28.69	75.46			
	Smec/Nem	429.2	0.96	2.24			
	Nem/Liq	482.2	0.89	1.85	79.55	146.9	[220]
$C_{28}H_{37}NO_3$		6-hexyloxynaphth-2-yl 5-hexyloxy-2-methypyridyl ketone					
	Sol/Sol	349.2	0.72	2.06			
	Sol/Nem	383.2	46.01	120.07			
	Nem/Liq	392.2	0.35	0.89	123.02		[123]
$C_{28}H_{37}NO_5$		4-[4-(4-heptyloxyphenyliminomethyl)-3-hydroxyphenoxy]butylmethacrylate					
	Sol/Smec	313.5	48.52	154.77			
	Smec/Smec	344.2	Not reported in paper				
	Smec/Liq	359.2	6.63	18.45			[294]
$C_{28}H_{37}N_3O_2S$		5-(4-octyloxyphenyl)-N-[[4-(2S)-2-methylbutoxy]phenyl]methylene-1,3,4-thiadiazol-2-amine					
	Sol/Smec	374.6	20.72	55.31			
	Smec/Nem	412.6	2.83	6.86			
	Nem/Liq	426.0	1.65	3.87	66.04		[167]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{28}H_{37}N_3O_2S$		5-(4-pentyloxyphenyl)-2-(4-octyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	396.7	36.4	91.76			
	Smec/Nem	449.0	2.4	5.35			
	Nem/Liq	483.0	1.7	3.52	100.63		[79,396,397]
$C_{28}H_{37}N_3O_3S$		5-(4-pentyloxy)phenyl-2-(4-n-octyloxy)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	438.0	20.7	47.26			
	Smec/Nem	515.0	3.8	7.38			
	Nem/Liq	533.7	1.2	2.25	56.89		[31]
$C_{28}H_{38}$		1-(*trans*-4-ethylcyclohexylethynyl)-4-(*trans*-butylcyclohexylethynyl)benzene					
	Sol/Nem	386.5	18.0	46.57			
	Nem/Liq	451.3	1.1	2.44	49.01		[436]
$C_{28}H_{38}$		1-(*trans*-4-propylcyclohexylethynyl)-4-(*trans*-propylcyclohexylethynyl)benzene					
	Sol/Nem	438.1	14.0	31.96			
	Nem/Liq	471.7	1.3	2.76	34.72		[436]
$C_{28}H_{38}N_2O_2S$		6-n-decyloxy-2-(4-butoxybenzylidenamino)benzothiazole					
	Sol/Nem	358.2	40.7	113.62			
	Nem/Liq	392.1	1.1	2.81	116.43		[41]
$C_{28}H_{38}N_2O_2S$		1-[2-(5-cyanothienyl)]-3-(4-tetradecyloxyphenylamino)-2-propen-1-one					
	Sol/Smec	379.8	7.70	20.27			
	Smec/Liq	457.2	7.70	16.84	37.11		[75]
$C_{28}H_{38}N_2O_2S_2$		2,5-*bis*(4-heptyloxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Sol	386.6	32.52	84.11			
	Sol/Smec	433.9	44.68	102.97			
	Smec/Smec	509.3	6.24	12.25			
	Smec/Liq	523.5	2.05	3.92	203.25		[269]
$C_{28}H_{38}N_2O_3$		4-pentanoyl-4′-undecanoyloxyazobenzene					
	Sol/Sol	354.4	4.68	13.21			
	Sol/Smec	368.7	31.36	85.06			
	Smec/Liq	404.6	8.54	21.11	119.38	158.3	[157]
$C_{28}H_{38}N_2O_3$		4-propanoyl-4-tridecanoyloxyazobenzene					
	Sol/Smec	374.7	44.77	119.48			
	Smec/Liq	416.7	8.08	19.39	138.87	158.3	[157]
$C_{28}H_{38}O_4$		4-[(S)-2-methylbutoxy]phenyl 4-(9-decenyloxy)benzoate					
	Sol/Smec	312.2	26.9	86.16			
	Smec/Liq	328.2	Not reported in paper				[200]
$C_{28}H_{38}O_4$		4-[(S)-4-methylhexyloxy]phenyl 4-(7-octenyloxy)benzoate					
	Sol/Smec	321.2	30.4	94.65			
	Smec/Chol	334.2	Not reported in paper				
	Chol/Liq	336.2	Not reported in paper				[200]
$C_{28}H_{38}O_4$		4-[(S)-6-methyloctyloxy]phenyl 4-(5-hexenyloxy)benzoate					
	Sol/Smec	318.2	18.6	58.45			
	Smec/Chol	324.2	Not reported in paper				
	Chol/Liq	338.2	Not reported in paper				[200]
$C_{28}H_{38}O_4$		4-(7-octenyloxy)phenyl 4-[(S)-4-methylhexyloxy]benzoate					
	Sol/Smec	303.2	11.7	38.59			
	Smec/Chol	313.2	Not reported in paper				
	Chol/Liq	329.2	Not reported in paper				[200]
$C_{28}H_{38}O_4$		4-(5-hexenyloxy)phenyl 4-[(S)-6-methyloctyloxy]benzoate					
	Sol/Smec	312.2	24.0	76.87			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Chol	324.2	Not reported in paper				
	Chol/Liq	333.2	Not reported in paper				[200]
$C_{28}H_{38}O_3$		4-[(*trans*-4-propylcyclohexyl)methoxy]phenyl 4-{[(S)-2-methylbutyl]oxy}benzoate					
	Sol/Chol	365.2	23.05	63.12			
	Chol/Liq	417.2	Not reported in paper				[208]
$C_{28}H_{39}ClN_2O_4$		4-(4-decyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Smec	338.8	44.17	130.37			
	Smec/Nem	343.6	0.15	0.44			
	Nem/Liq	347.5	2.87	8.26	139.07		[47]
$C_{28}H_{39}ClO_2S$		4-chlorophenyl 4-pentadecyloxythiobenzoate					
	Sol/Smec	358.3	57.32	159.98			
	Smec/Liq	366.7	4.90	13.36	173.34	NA	[383]
$C_{28}H_{39}NO_3$		4-(4-tetradecyloxyphenyliminomethyl)benzoic acid					
	Sol/Smec	405.2	10.8	26.65			
	Smec/Nem	505.2	0.97	1.92			
	Nem/Liq	515.2	13.8	26.79	55.36		[416]
$C_{28}H_{39}NO_5$		4′-pentadecyloxy-3′-nitrobiphenyl-4-carboxylic acid					
	Sol/Smec	400.0	47.24	118.10			
	Smec/Smec	460.0	0.32	0.70			
	Smec/Smec	471.0	1.32	2.80			
	Smec/Liq	479.0	6.23	13.01	134.61		[87]
$C_{28}H_{39}N_3OS$		5-[4-(heptyloxy)phenyl]-N-[(5-octyl-2-thienyl)methylene]-1,2,4-thiadiazole-2-amine					
	Sol/Smec	399.2	24.6	61.62			
	Smec/Nem	406.5	2.39	5.88			
	Nem/Liq	408.2	1.37	3.36	70.86		[396,397]
$C_{28}H_{39}N_3O_2S$		6-n-decyloxy-2-(4-pentyloxyphenylazo)benzothiazole					
	Sol/Nem	335.5	21.4	63.79			
	Nem/Liq	388.6	0.8	2.06	65.85		[41]
$C_{28}H_{40}N_2O_2$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl *trans*-4-propylcyclohexane-1-carboxylate					
	Sol/Chol	392.2	13.8	35.19			
	Chol/Liq	426.2	Not reported in paper				[201]
$C_{28}H_{40}N_2O_3$		4-dodecanoyloxy-2,3-dimethyl-4′-ethoxyazobenzene					
	Sol/Nem	340.2	45.0	132.28			
	Nem/Liq	350.2	0.8	2.28	134.56		[339]
$C_{28}H_{40}N_2O_3$		4-tridecanoyloxy-3-methyl-4′-ethoxyazobenzene					
	Sol/Nem	323.2	42.0	129.95			
	Nem/Liq	337.2	1.0	2.97	132.92		[339]
$C_{28}H_{40}N_4OS_2$		2-(4-nonyloxyphenylazo)-5-(5′-heptyl-2′-thienyl)-1,3,4-thiadiazole					
	Sol/Smec	425.9	38.3	89.93			
	Nem/Liq	431.7	0.88	2.04	91.07		[396]
$C_{28}H_{40}O_2S$		4-pentylbenzenethio-4′-decyloxybenzoate					
	Sol/Smec	338.9	38.74	114.31			
	Smec/Nem	354.3	0.97	2.73			
	Nem/Liq	360.3	1.87	5.19	122.23	NA	[217]
$C_{28}H_{40}O_2S$		4-(decyloxy)benzenecarbothioic acid, S-(4-pentylphenyl) ester					
	Sol/Meso	303.4	3.2	10.55			
	Meso/Smec	312.6	6.1	19.51			
	Smec/Smec	320.1	3.3	10.31			
	Smec/Smec	331.2	Too small to be measured				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Nem	352.5	1.0	2.84			
	Nem/Liq	358.6	1.5	4.18	47.39		[371]
$C_{28}H_{41}NO$		N-(4-n-octyloxybenzylidene)-4-(n-heptyl)aniline					
	Sol/Smec	302.3	29.37	97.16			
	Smec/Smec	347.4	3.59	10.33			
	Smec/Liq	359.8	6.53	18.15	125.64		[11]
$C_{28}H_{41}NO$		N-(4-tridecyloxybenzylidene)-4-ethylaniline					
	Sol/Smec	324.4	29.92	92.23			
	Smec/Smec	337.5	1.55	4.59			
	Smec/Liq	346.0	4.44	12.83	109.65		[65]
$C_{28}H_{41}NO$		4-dodecyloxybenzylidene 4′-isopropylaniline					
	Sol/Smec	327.7	10.95	33.41			
	Smec/Liq	333.2	1.20	3.60	37.01		[273]
$C_{28}H_{41}NO_3$		N-(4-methoxyphenyl)-α-(4-tetradecyloxyphenyl)nitrone					
	Sol/Smec	385.2	64.94	168.59			
	Smec/Liq	397.2	3.88	9.77	178.36	NA	[162]
$C_{28}H_{41}NO_5$		4-hexadecyloxyphenyl 4-nitrobenzoate					
	Sol/Smec	355.6	60.2	169.29			
	Smec/Liq	364.9	4.9	13.43	182.72	183.4	[144]
$C_{28}H_{41}NO_5$		4-nitrophenyl 4-hexadecyloxybenzoate					
	Sol/Smec	352.6	54.5	154.57			
	Smec/Liq	361.9	3.6	9.95	164.52	183.4	[144]
$C_{28}H_{42}N_2O$		4-butyl-4′-dodecyloxyazobenzene					
	Sol/Smec	337.0	32.74	97.15			
	Smec/Smec	341.1	Not reported in paper				
	Smec/Nem	349.5	7.86	22.49			
	Nem/Liq	349.9	Not detected by dsc			162.8	[141]
	Nem/Liq transition enthalpy is likely included in the Smec/Nem value.						
$C_{28}H_{42}N_2O$		4-pentyl-4′-undecyloxyazobenzene					
	Sol/Smec	331.9	25.18	75.87			
	Smec/Smec	335.1	1.57	4.69			
	Smec/Nem	355.0	3.40	9.58			
	Nem/Liq	357.4	2.43	6.80	96.94	162.8	[141]
$C_{28}H_{42}N_2O$		4-heptyl-4′-nonyloxyazobenzene					
	Sol/Smec	312.4	34.54	110.56			
	Smec/Smec	320.5	0.65	2.03			
	Smec/Nem	349.4	1.93	5.52			
	Nem/Liq	355.3	2.15	6.05	124.16	162.8	[390]
$C_{28}H_{42}N_2O$		2-[4-(9-decenyloxy)phenyl]-5-[(S)-5-methylheptyl]pyrimidine					
	Sol/Smec	290.2	14.2	48.93			
	Smec/Chol	307.2	Not reported in paper				
	Chol/Liq	317.2	Not reported in paper				[201]
$C_{28}H_{42}N_2O$		2-[4-(8-nonenyloxy)phenyl]-5-[(S)-6-methyloctyl]pyrimidine					
	Sol/Smec	272.2	9.1	33.43			
	Smec/Chol	301.2	Not reported in paper				
	Chol/Liq	315.2	Not reported in paper				[201]
$C_{28}H_{42}N_2O_3$		4,4′-dioctyloxyazoxybenzene					
	Sol/Smec	352.7	42.18	119.59			
	Smec/Nem	360.9	1.18	3.27			
	Nem/Liq	399.3	1.44	3.61	126.47	178.22	[179]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{28}H_{44}O_3$		4-heptylcyclohexyl 4-hexyloxycinnamate					
	Sol/Nem	342.9	48.1	140.27			
	Nem/Liq	367.7	1.7	4.62	144.89		[5]
$C_{28}H_{45}N_3O_6$		4,4′-*bis*[4-(4-butoxybenzoyloxy)benzylideneamino]diphenylamine					
	Sol/Nem	504.2	46.0	91.23			
	Nem/Liq	626.2	2.4	3.83	95.06		[284]
$C_{28}H_{46}$		*trans*, *trans*-4,4′-*bis*[2-(4-propylcyclohexyl)ethyl]benzene					
	Sol/Smec	337.2	2.21	6.55			
	Smec/Smec	375.7	7.53	20.04			
	Smec/Nem	377.0	7.49	19.87			
	Nem/Liq	388.2	3.22	8.29	54.75		[348]
$C_{28}H_{46}O$		*trans*-1-heptyl-4-(4-nonanoylphenyl)cyclohexane					
	Sol/Smec	343.35	19.52	56.86			
	Smec/Liq	353.25	10.62	30.07	86.92	159.7	[313]
$C_{28}H_{48}N_2O_2$		N,N′-dinonanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Sol	425.2	15.0	35.28			
	Sol/Meso	491.2	12.0	24.43			
	Meso/Meso	527.2	10.0	18.97			
	Meso/Liq	568.2	23.0	40.48	119.16		[36]
$C_{28}H_{48}N_2O_2$		N,N′-dinonanoyl-3,4,5,6-tetramethylbenzene-1,2-diamine					
	Sol/Meso	396.2	11.0	27.76			
	Meso/Meso	483.2	2.0	4.14			
	Meso/Liq	512.2	19.0	37.09	63.99		[61]
$C_{28}H_{48}N_2O_2$		N,N′-didecylbenzene-1,2-dicarboxamide					
	Sol/Meso	349.2	39.0	111.68			
	Meso/Liq	373.2	11.0	29.47	141.15		[61]
$C_{28}H_{49}NO_4$		3,4,5-*tris*(heptyloxy)benzamide					
	Sol/Meso	353.2	17.9	50.68			
	Meso/Liq	362.2	6.1	16.84	67.52		[378]
$C_{28}H_{78}Si_{10}$		1,10-dibutyl(permethyl)decasilane					
	Sol/Meso	296.2	28.6	96.56			
	Meso/Liq	342.2	12.5	36.53	133.09		[110]
$C_{29}H_{18}F_{17}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-[(perfluorobutyl)propoxy]benzoate					
	Sol/Smec	377.3	32.4	85.87			
	Smec/Liq	389.0	6.44	16.56	102.43		[128]
$C_{29}H_{19}F_{21}O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-[(perfluorohexyl)butoxy]benzoate					
	Sol/Smec	365.0	45.04	123.40			
	Smec/Liq	372.9	4.56	12.23	135.63		[128]
$C_{29}H_{20}F_{20}O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-[(perfluorohexyl)pentyloxy]benzoate					
	Sol/Smec	346.9	35.80	103.20			
	Smec/Smec	365.5	0.73	2.00			
	Smec/Liq	377.2	3.73	9.89	115.09		[128]
$C_{29}H_{21}F_{17}O_9$		4-(carboxy)phenyl 4-{5-[1H,1H-2,5-di(trifluoromethyl)-3,6-dioxaundecafluorononyloxycarbonyl]-pentyloxy}benzoate					
	Sol/Smec	374.2	4.4	11.76			
	Smec/Liq	491.2	11.2	22.80	34.56		[221]
$C_{29}H_{23}F_{15}O_7$		4-(carboxy)phenyl 4-{5-[2-(perfluoro-5-methylhexyl)ethoxycarboxy]pentyloxy}benzoate					
	Sol/Smec	406.2	10.1	24.86			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	496.2	18.2	36.68	61.54		[221]
$C_{29}H_{24}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-ethoxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	368.6	30.80	83.56			
	Smec/Chol	383.5	0.18	0.47			
	Chol/Liq	447.9	0.42	0.94	84.97		[91]
$C_{29}H_{25}ClF_4O_3$		4-(4-octyloxyphenyl)acetylene-2,3,5,6-tetrafluorophenyl 4′-chlorobenzoate					
	Sol/Nem	388.4	32.51	83.70			
	Nem/Liq	440.2	1.08	2.45	86.15		[101]
$C_{29}H_{25}ClF_4O_3$		4-(4-octyloxy-2,3,5,6-tetrafluorophenylacetylenyl)phenyl 4′-chlorobenzoate					
	Sol/Nem	354.0	25.23	71.27			
	Nem/Liq	452.9	0.74	0.16	71.43		[101]
$C_{29}H_{26}F_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-propoxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	381.3	25.47	66.80			
	Nem/Liq	433.3	0.26	0.60	67.40		[124]
$C_{29}H_{27}F_{13}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-(heptyloxy)benzoate					
	Sol/Smec	362.3	29.83	82.34			
	Smec/Smec	391.9	0.07	0.18			
	Smec/Liq	407.8	8.92	21.87	104.39		[125]
$C_{29}H_{28}$		4′-[2-(4-methylphenyl)-1-ethynyl]-2′-methyl-4-pentyltolane					
	Sol/Nem	384.5	22.5	58.52			
	Nem/Liq	458.9	1.05	2.29	60.81		[55, 430]
$C_{29}H_{28}$		4′-[2-(4-propylphenyl)-1-ethynyl]-2′-methyl-4-propyltolane					
	Sol/Nem	396.6	21.0	52.95			
	Nem/Liq	473.6	1.05	2.22	55.17		[55, 430]
$C_{29}H_{28}$		4′-[2-(4-butylphenyl)-1-ethynyl]-2′-methyl-4-ethyltolane					
	Sol/Nem	345.4	17.5	50.67			
	Nem/Liq	450.6	0.98	2.17	52.84		[55, 430]
$C_{29}H_{28}$		4′-[2-(4-ethylphenyl)-1-ethynyl]-2′-ethyl-4-propyltolane					
	Sol/Nem	347.1	14.0	40.33			
	Nem/Liq	414.7	0.94	2.27	42.60		[55]
$C_{29}H_{28}$		4′-[2-(4-propylphenyl)-1-ethynyl]-2′-ethyl-4-ethyltolane					
	Sol/Nem	310.4	13.3	42.85			
	Nem/Liq	409.2	0.83	2.03	44.88		[55]
$C_{29}H_{28}FNO_5S$		4-octyloxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Smec	377.2	24.6	65.22			
	Smec/Smec	382.2	Too small to be measured				
	Smec/Nem	411.2	0.2	0.49			
	Nem/Liq	429.2	0.7	1.63	67.34		[37]
$C_{29}H_{28}O_5$		7-(4′-heptyloxybenzoyloxy)isoflavone					
	Sol/Smec	434.8	33.71	77.53			
	Smec/Nem	460.8	1.67	3.62			
	Nem/Liq	472.9	0.49	1.04	82.19		[14]
$C_{29}H_{29}ClO_8$		di-(4-butoxycarbonylphenyl) 2-chloroterephthalate					
	Sol/Smec	366.2	26.3	71.82			
	Smec/Liq	372.2	1.99	5.35	77.17		[174]
$C_{29}H_{29}NO$		5-(4′-pentyloxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Sol	445.0	6.3	14.16			
	Sol/Smec	518.0	4.0	7.72			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Smec	548.0	3.6	6.57			
	Smec/Nem	589.0	1.4	2.38			
	Nem/Liq	654.0	0.3	0.46	31.29		[185]
$C_{29}H_{29}NO_5S$		4-thiocyanophenyl 4-(4-octyloxybenzoyloxy)benzoate					
	Sol/Smec	383.2	38.8	101.25			
	Smec/Liq	452.2	3.8	8.40	109.65		[114]
$C_{29}H_{29}NO_6$		1,2,2-trimethylpropyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	455.2	42.0	92.27			
	Nem/Liq	472.2	0.3	0.64	92.91		[196]
$C_{29}H_{29}NO_6$		1-methylpentyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	396.2	25.0	63.10			
	Smec/Nem	445.2	1.5	3.37			
	Nem/Liq	451.2	0.2	0.44	66.91		[196]
$C_{29}H_{29}NO_6$		2-methylpentyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	400.2	31.0	77.46			
	Smec/Nem	423.2	0.1	0.24			
	Nem/Liq	511.2	0.5	0.98	78.68		[196]
$C_{29}H_{29}NO_6$		3-methylpentyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	397.2	28.0	70.49			
	Smec/Nem	441.2	0.5	1.13			
	Nem/Liq	483.2	0.3	0.62	72.24		[196]
$C_{29}H_{29}NO_6$		4-methylpentyl 4-[4-(4-acetoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	388.2	28.0	72.13			
	Smec/Nem	423.2	0.1	0.24			
	Nem/Liq	485.2	0.1	0.21	72.58		[196]
$C_{29}H_{31}N$		2-(4-cyanophenyl)-7-nonylfluorene					
	Sol/Smec	386.2	21.87	56.63			
	Smec/Nem	455.1	0.93	2.04	58.67		[2]
$C_{29}H_{30}N_4O_2S$		5-(4-pentyloxyphenyl)-5-(4-decyloxy)phenylazo-1,3,4-thiadiazole					
	Sol/Nem	435.3	51.95	119.34			
	Nem/Liq	451.5	0.79	1.75	121.09		[79]
$C_{29}H_{30}O_8$		di-(4-butoxycarbonylphenyl) terephthalate					
	Sol/Smec	414.2	40.1	96.81			
	Smec/Nem	467.2	Not reported in paper				
	Nem/Liq	499.2	4.1	8.21	105.02		[174]
$C_{29}H_{31}ClO_2$		1-(4-octylbiphenyl)-3-(4-chlorophenyl)propane-1,3-dione					
	Sol/Smec	410.7	19.25	46.87			
	Smec/Liq	419.2	4.60	10.97	57.84		[250]
$C_{29}H_{31}F_3O$		3-methyl-4-[2-(*trans*-4-pentylcyclohexyl)ethynyl]-1-[(4-trifluoromethoxyphenyl)ethynyl]benzene					
	Sol/Smec	338.2	24	70.96			
	Smec/Nem	366.2	0.09	0.25			
	Nem/Liq	440.2	1.0	2.27	73.48		[76]
$C_{29}H_{31}N$		3-methyl-4-[2-(*trans*-4-pentylcyclohexyl)ethynyl]-1-[(4-cyanophenyl)ethynyl]benzene					
	Sol/Nem	351.2	29	82.57			
	Nem/Liq	501.2	3.6	7.18	89.75		[76]
$C_{29}H_{31}N$		2-methyl-4-[2-(*trans*-4-pentylcyclohexyl)ethynyl]-1-[(4-cyanophenyl)ethynyl]benzene					
	Sol/Nem	361.2	25.5	70.60			
	Nem/Liq	485.2	1.0	2.06	72.66		[76]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{29}H_{31}NO_3S$		4′-(10-undecenyloxy)biphenyl 5-cyano-2-thiophenecarboxylate					
	Sol/Smec	400.7	92.47	230.77			
	Smec/Nem	428.5	Not given in paper				
	Nem/Liq	432.8	4.60	10.63			[63]
$C_{29}H_{31}NO_5$		2-methylhexyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Smec	381.2	35.0	91.82			
	Smec/Nem	396.2	0.1	0.25			
	Nem/Liq	477.2	0.3	0.63	92.70		[195]
$C_{29}H_{31}NO_5$		heptyl 4-[4-(4-methoxybenzoyloxy)benzylideneamino]benzoate					
	Sol/Nem	423.2	66.0	155.95			
	Nem/Liq	487.2	0.5	1.03	156.98		[195]
$C_{29}H_{31}NO_5$		2-methylhexyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	365.2	26.0	71.19			
	Smec/Nem	438.2	0.6	1.37			
	Nem/Liq	480.2	0.6	1.25	73.81		[195]
$C_{29}H_{31}NO_5$		heptyl 4-[4-(4-methoxybenzylideneamino)benzoyloxy]benzoate					
	Sol/Smec	415.2	51.0	122.83			
	Smec/Nem	454.2	0.5	1.10			
	Nem/Liq	482.2	0.7	1.45	125.38		[195]
$C_{29}H_{31}NO_6$		ethoxyethyl 4-(4′-butoxybenzoyloxybenzylidene)-4″-aminobenzoate					
	Sol/Smec	430.2	6.04	14.04			
	Smec/Nem	450.2	0.04	0.09			
	Nem/Liq	480.2	0.55	1.15	15.33		[58]
$C_{29}H_{31}NO_6$		4-[[4-(decyloxy)phenoxy]carbonyl]phenyl 5-cyano-2-furancarboxylate					
	Sol/Smec	408.2	Value not reported in paper				
	Smec/Smec	417.2	2.8	6.71			
	Smec/Liq	421.2	3.3	7.83			[352]
$C_{29}H_{32}F_8O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-(decyloxy)benzoate					
	Sol/Smec	324.0	21.60	66.67			
	Smec/Liq	331.3	5.14	15.51	82.18		[125]
$C_{29}H_{32}O_7$		4-(4-heptyloxybenzoyloxy)phenyl (3,4-dimethoxy)benzoate					
	Sol/Nem	349.2	9.92	28.41			
	Nem/Liq	423.4	0.40	0.94	29.35		[103]
$C_{29}H_{33}F_7O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-(undecyloxy)benzoate					
	Sol/Smec	332.9	25.78	77.44			
	Smec/Smec	350.0	0.48	1.37			
	Smec/Liq	352.4	6.12	17.37	96.18		[125]
$C_{29}H_{33}N$		4-decyl-4″-cyano-p-terphenyl					
	Sol/Meso	365.2	28.52	78.09			
	Note: Transition enthalpy includes a Sol/Sol transition.						
	Meso/Meso	380.9	1.53	4.02			
	Meso/Smec	390.4	3.24	8.30			
	Smec/Liq	478.5	4.15	8.67	99.08	133.5	[8]
$C_{29}H_{33}NO_3$		4-ethylphenyl 4-(4-heptyloxybenzylideneamino)benzoate					
	Sol/Smec	453.2	39.0	86.05			
	Smec/Nem	440.2	0.9	2.04			
	Nem/Liq	483.2	1.2	2.48	90.57	148.3	[292]
$C_{29}H_{33}NO_3$		4-(4′-octyloxybenzoyloxybenzylidene)-2″-aniline					
	Sol/Nem	352.1	35.00	99.40			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	384.4	0.55	1.43	100.83		[399]
$C_{29}H_{33}NO_3$		4-isopropylphenyl 4-(4-hexyloxybenzylideneamino)benzoate					
	Sol/Smec	385.2	32.0	83.07			
	Smec/Nem	435.2	0.9	2.07			
	Nem/Liq	460.2	0.9	1.96	87.10	128.2	[292]
$C_{29}H_{33}O_4S$		4′-(10-undecenyloxy)biphenyl 5-methoxy-2-thiophenecarboxylate					
	Sol/Nem	362.4	92.47	255.16			
	Nem/Liq	426.4	3.77	8.84	264.00		[63]
$C_{29}H_{34}$		1-(*trans*-4-ethylcyclohexylethynyl)-4-(4-pentylphenylethynyl)benzene					
	Sol/Nem	360.6	16.9	46.87			
	Nem/Liq	444.0	0.7	1.58	48.45		[436]
$C_{29}H_{34}$		1-(*trans*-4-propylcyclohexylethynyl)-4-(4-butylphenylethynyl)benzene					
	Sol/Nem	375.1	17.7	47.19			
	Nem/Liq	472.5	1.6	3.39	50.58		[436]
$C_{29}H_{34}$		1-(*trans*-4-butylcyclohexylethynyl)-4-(4-propylphenylethynyl)benzene					
	Sol/Nem	386.8	17.3	44.73			
	Nem/Liq	477.7	1.4	2.93	47.66		[436]
$C_{29}H_{34}$		1-(*trans*-4-pentylcyclohexylethynyl)-4-(4-ethylphenylethynyl)benzene					
	Sol/Nem	388.8	9.0	23.15			
	Nem/Liq	480.2	0.6	1.25	24.40		[436]
$C_{29}H_{34}N_2O_3$		4-[(pyridine-4-ylmethylene)amino]phenyl 4-decyloxybenzoate					
	Sol/Smec	367.2	40.9	111.38			
	Smec/Smec	406.2	Not reported in paper				
	Smec/Nem	416.2	1.6	3.84			
	Nem/Liq	418.2	0.8	1.91			[265, 266]
$C_{29}H_{34}N_2O_3$		3-pyridyl 4-(4-decyloxybenzylideneamino)benzoate					
	Sol/Smec	356.2	51.0	143.18			
	Smec/Liq	437.2	5.5	12.58	155.76		[291]
$C_{29}H_{34}N_2O_3$		4[(E)-[(4-decyloxyphenyl)methylene]amino]phenyl 3-pyridinecarboxylate					
	Sol/Smec	390.2	57.0	146.08			
	Smec/Nem	407.2	0.7	1.72			
	Nem/Liq	432.2	0.9	2.08	149.88		[291]
$C_{29}H_{34}N_2O_4$		4-[(4-ethoxyphenyl)azo]phenyl 4-(octyloxy)benzoate					
	Sol/Nem	390.2	40.0	102.51			
	Nem/Liq	515.2	1.5	2.91	105.42		[339]
$C_{29}H_{34}O_3$		4-biphenylyl 4″-decyloxybenzoate					
	Sol/Nem	383.2	53.14	138.67			
	Nem/Liq	400.2	Not reported in paper				[425]
	Note: Authors report only an enthalpy of fusion, and state in a footnote that Nem/Liq transition enthalpies for the compounds studied were in the 0.84–2.09 kJ·mol^{-1} range.						
$C_{29}H_{34}O_7$		4-propoxyphenyl 7-decanoyloxychromone-2-carboxylate					
	Sol/Smec	392.0	16.3	41.58			
	Smec/Liq	417.6	2.9	6.94	48.52		[286]
$C_{29}H_{37}ClO_5$		2-chloro-4-methylpentyl 4-[[3-[4-(heptyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	330.7	33.05	99.94			
	Smec/Chol	347.7	1.05	3.02			
	Chol/Liq	350.2	0.92	2.63	105.59		[257]
$C_{29}H_{37}ClO_5$		2-chloro-3-methylpentyl 4-[[3-[4-(heptyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	337.7	33.89	100.36			
	Smec/Chol	353.7	0.84	2.37			
	Chol/Liq	355.7	0.59	1.66	102.86		[257]
$C_{29}H_{37}ClO_5$		4-[[3-[4-(octyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-4-methylpentanoate					
	Sol/Smec	335.2	24.27	72.40			
	Smec/Smec	346.2	0.21	0.61			
	Smec/Liq	365.7	4.06	11.10	84.11		[257]
$C_{29}H_{37}ClO_5$		4-[[3-[4-(octyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-3-methylpentanoate					
	Sol/Smec	334.2	18.83	56.34			
	Smec/Smec	346.2	0.21	0.61			
	Smec/Chol	366.2	0.42	1.15			
	Chol/Liq	369.7	0.75	2.03	60.13		[257]
$C_{29}H_{37}NO$		4-(4-cyanophenyl)-1-(4-dodecyloxyphenyl)-buta-1E,3E-diene					
	Sol/Smec	370.1	46.2	124.83			
	Smec/Nem	445.1	3.4	7.64	132.47		[210]
$C_{29}H_{37}NO_2$		3-[4-(*trans*-4-heptylcyclohexyl)phenyl]-5-(4-methoxyphenyl)isoxazole					
	Sol/Nem	408.2	25.04	61.34			
	Nem/Liq	551.2	0.98	1.78	63.12		[131]
$C_{29}H_{37}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-nonylcyclohexyl)benzoate					
	Sol/Smec	373.7	35.98	96.28			
	Smec/Nem	450.7	0.13	0.29			
	Nem/Liq	484.2	1.76	3.63	100.20	NA	[356]
$C_{29}H_{37}N_3O_3$		1-[4-(N-ethoxycarbonylpiperazinyl)phenyl]-3-(4-heptyloxy phenyl)(1-propargyl-3-imine)					
	Sol/Smec	410.7	15.3	37.25			
	Smec/Liq	454.5	6.0	13.20	50.45		[154]
$C_{29}H_{37}NO_3$		3(5)-(4-hex-5′-enyl-1′-oxyphenyl)-5(3)-(4-octyl-1′-oxyphenyl)isoxazole					
	Sol/Smec	350.0	15.7	44.86			
	Smec/Nem	405.2	0.4	0.99			
	Nem/Liq	422.4	1.4	3.31	49.16		[117]
$C_{29}H_{38}N_2O$		5-methyl-5′-[2-(4-dodecyloxyphenyl)ethyl]-2,2′-bipyridine					
	Sol/Smec	333.9	25.8	77.27			
	Smec/Smec	346.0	4.5	13.01			
	Smec/Nem	361.8	0.5	1.38			
	Nem/Liq	379.8	4.6	12.11	103.77		[48]
$C_{29}H_{38}N_2O_2$		5-methyl-5′-[2-(4-decyloxyphenyl)-2-hydroxyethyl]-2,2′-bipyridine					
	Sol/Smec	337.5	21.39	63.38			
	Smec/Liq	402.1	6.83	16.99	80.37		[48]
$C_{29}H_{38}O_3$		4-pentylphenyl 4-[4-(1-oxopentyl)cyclohexyl]benzoate					
	Sol/Smec	349.4	76.2	218.09			
	Smec/Smec	393.7	0.85	2.16			
	Smec/Nem	430.8	0.46	1.07			
	Nem/Liq	445.0	0.15	0.34	221.66		[389]
$C_{29}H_{38}O_4$		7-butoxy-3-(4-decyloxyphenyl)-3*H*-1-benzopyran-4-one					
	Sol/Smec	380.2	28.0	73.65			
	Smec/Nem	411.2	Not given in paper				
	Nem/Liq	417.0	1.9	4.56			[44]
$C_{29}H_{39}NO_3$		6-hexyloxynaphth-2-yl 5-heptyloxy-2-methypyridyl ketone					
	Sol/Sol	337.2	5.59	16.58			
	Sol/Sol	353.2	0.79	2.24			
	Sol/Smec	376.2	34.50	91.71			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	384.2	6.85	17.83	128.36		[123]
$C_{29}H_{39}NO_5$		4-[4-(4-octyloxyphenyliminomethyl)-3-hydroxyphenoxy]butyl methacrylate					
	Sol/Smec	311.5	50.26	161.35			
	Smec/Smec	343.6	Not reported in paper				
	Smec/Liq	365.7	6.83	18.68	180.03		[294]
$C_{29}H_{39}NO_5$		6-[4-(4-hexyloxyphenyliminomethyl)-3-hydroxyphenoxy]hexyl methacrylate					
	Sol/Smec	333.2	38.72	116.21			
	Smec/Smec	342.2	Not reported in paper				
	Smec/Liq	369.6	5.53	14.96	131.17		[294]
$C_{29}H_{39}N_3O_2S$		5-(4-nonyloxyphenyl)-N-[[4-(2S)-2-methylbutoxy]phenyl]methylene-1,3,4-thiadiazol-2-amine					
	Sol/Smec	379.3	21.48	56.63			
	Smec/Nem	413.8	2.28	5.51			
	Nem/Liq	427.4	1.31	3.07	65.21		[167]
$C_{29}H_{39}N_3O_2S$		5-(4-hexyloxyphenyl)-2-(4-octyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	389.3	33.4	85.80			
	Smec/Nem	457.5	2.8	6.12			
	Nem/Liq	481.9	1.5	3.11	95.03		[79,396,397]
$C_{29}H_{39}N_3O_2S$		N-[[4-(hexyloxy)phenyl]methylene]-5-[4-(octyloxy)phenyl]-1,2,4-thiadiazol-2-amine					
	Sol/Smec	381.7	35.90	94.05			
	Smec/Nem	452.4	2.76	6.10			
	Nem/Liq	479.9	1.69	3.52	103.67		[283]
$C_{29}H_{39}N_3O_3S$		5-(4-hexyloxy)phenyl-2-(4-n-octyloxy)phenylamido-1,3,4-thiadizole					
	Sol/Smec	427.1	23.1	54.09			
	Smec/Nem	519.5	5.0	9.62			
	Nem/Liq	532.8	1.3	2.44	66.15		[31]
$C_{29}H_{39}N_3O_3S$		2-[(E)-[(5-[4-hexyloxy)phenyl]-1,3,4-thiadiazol-2-yl]imino]methyl]-5-(octyloxy)phenol					
	Sol/Smec	371.2	22.45	60.48			
	Smec/Nem	484.4	4.40	9.08			
	Nem/Liq	496.1	2.81	5.66	75.22		[283]
$C_{29}H_{40}N_2O_2S$		6-n-decyloxy-2-(4-pentyloxybenzylidenamino)benzothiazole					
	Sol/Nem	349.1	35.6	101.98			
	Nem/Liq	385.4	1.2	3.11	105.09		[41]
$C_{29}H_{40}$		1-(*trans*-4-ethylcyclohexylethynyl)-4-(*trans*-pentylcyclohexylethynyl)benzene					
	Sol/Nem	371.1	13.7	36.92			
	Nem/Liq	442.8	0.8	1.81	38.73		[436]
$C_{29}H_{40}$		1-(*trans*-4-propylcyclohexylethynyl)-4-(*trans*-butylcyclohexylethynyl)benzene					
	Sol/Nem	421.1	16.0	38.00			
	Nem/Liq	468.1	1.3	2.78			[436]
$C_{29}H_{40}N_2O_3$		4-pentanoyl-4′-dodecanoyloxyazobenzene					
	Sol/Sol	315.6	3.03	9.60			
	Sol/Sol	347.5	5.23	15.05			
	Sol/Smec	371.0	33.62	90.62			
	Smec/Liq	404.4	8.87	21.93	137.20	165.4	[157]
$C_{29}H_{40}N_2O_3$		4-propanoyl-4′-tetradecanoyloxyazobenzene					
	Sol/Smec	375.7	45.90	122.17			
	Smec/Liq	413.7	8.12	19.63	141.80	165.4	[157]
$C_{29}H_{40}N_4OS$		2-(4-decanoxyphenylazo)-5-(4-pentyloxy)phenyl-1,3,4-thiadiazole					
	Sol/Nem	435.3	51.95	119.34			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	451.5	0.79	1.75	121.09		[396]
$C_{29}H_{40}N_4O_2$		1-[4-[(1E)-(4-formylphenyl)azo]phenyl]-4-(1-oxododecyl)piperazine					
	Sol/Nem	394.7	16.0	40.54			
	Nem/Liq	435.9	1.5	3.44	43.98		[345]
$C_{29}H_{40}N_4O_3$		4-[(1E)-[4-[4-(1-oxohexyl)-1-piperazinyl]phenyl]azo]benzoic acid, hexyl ester					
	Sol/Smec	374.9	29.56	78.85			
	Smec/Smec	390.6	0.69	1.77			
	Smec/Smec	407.3	1.18	2.89			
	Smec/Liq	476.6	11.28	23.67	107.18		[344]
$C_{29}H_{40}O_3$		4-(*trans*-4-propylcyclohexyl)phenyl 4-{[(S)-4-methylhexyl]oxy}benzoate					
	Sol/Chol	353.2	25.01	70.81			
	Chol/Liq	443.2	Not reported in paper				[208]
$C_{29}H_{40}O_3$		4-(*trans*-4-pentylcyclohexyl)phenyl 4-{[(S)-2-methylbutyl]oxy}benzoate					
	Sol/Chol	373.2	23.27	62.35			
	Chol/Liq	434.2	Not reported in paper				[208]
$C_{29}H_{40}O_4$		4-[(S)-2-methylbutoxy]phenyl 4-(10-undecenyloxy)benzoate					
	Sol/Smec	321.2	32.9	102.43			
	Smec/Liq	333.2	Not reported in paper				[200]
$C_{29}H_{40}O_4$		4-[(S)-4-methylhexyloxy]phenyl 4-(8-nonenyloxy)benzoate					
	Sol/Smec	314.2	24.1	76.70			
	Smec/Liq	341.2	Not reported in paper				[200]
$C_{29}H_{40}O_4$		4-[(S)-6-methyloctyloxy]phenyl 4-(6-heptenyloxy)benzoate					
	Sol/Smec	315.2	31.5	99.94			
	Smec/Chol	347.2	Not reported in paper				
	Chol/Liq	348.2	Not reported in paper				[200]
$C_{29}H_{40}O_4$		4-(8-nonenyloxy)phenyl 4-[(S)-4-methylhexyloxy]benzoate					
	Sol/Smec	293.2	8.1	27.63			
	Smec/Chol	314.2	Not reported in paper				
	Chol/Liq	336.2	Not reported in paper				[200]
$C_{29}H_{41}BrN_2O_4$		4-(4-undecyloxyphenylazoxy)phenyl 2S,3S-2-bromo-3-methylpentanoate					
	Sol/Smec	326.8	37.62	115.12			
	Smec/Nem	337.3	0.17	0.50			
	Nem/Liq	347.5	2.25	6.47	122.09		[47]
$C_{29}H_{41}BrO_3S$		S-(2-bromo-4-octyloxyphenyl) 4-octyloxythiobenzoate					
	Sol/Nem	307.2	46.2	150.39			
	Nem/Liq	308.2	2.0	6.49	156.88	NA	[4]
$C_{29}H_{41}ClN_2O_4$		4-(4-undecyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Smec	319.7	35.94	112.42			
	Smec/Smec	342.1	0.31	0.91			
	Smec/Nem	349.2	0.16	0.46			
	Nem/Liq	350.8	3.41	9.72	123.51		[47]
$C_{29}H_{41}ClO_2S$		4-chlorophenyl 4-hexadecyloxythiobenzoate					
	Sol/Smec	358.9	58.83	163.92			
	Smec/Liq	365.7	5.69	15.56	179.48	NA	[383]
$C_{29}H_{41}ClO_3S$		S-(2-chloro-4-octyloxyphenyl) 4-octyloxythiobenzoate					
	Sol/Nem	316.2	50.6	160.03			
	Nem/Liq	317.2	2.6	8.20	168.23	NA	[4]
$C_{29}H_{41}FO_3S$		S-(2-fluoro-4-octyloxyphenyl) 4-octyloxythiobenzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	317.2	44.6	140.61			
	Nem/Liq	347.2	1.9	5.47	146.08	NA	[4]
$C_{29}H_{41}NO_3$		4-hexadecyloxyphenyl 4-cyanobenzoate					
	Sol/Smec	361.4	49.4	136.69			
	Smec/Liq	380.0	5.9	15.53	152.22	183.4	[144]
$C_{29}H_{41}NO_3$		4-cyanophenyl 4-hexadecyloxybenzoate					
	Sol/Smec	358.6	61.1	170.38			
	Smec/Liq	369.5	5.7	15.42	185.80	183.4	[144]
$C_{29}H_{41}NO_5$		4′-hexadecyloxy-3′-nitrobiphenyl-4-carboxylic acid					
	Sol/Sol	320.7	0.6	1.87			
	Sol/Sol	347.7	2.3	6.61			
	Sol/Sol	362.6	0.2	0.55			
	Sol/Smec	398.2	38.6	96.94			
	Smec/Cube	447.7	0.5	1.12			
	Cube/Smec	471.1	1.5	3.18			
	Smec/Liq	472.0	0.9	1.91	112.18	191.0	[133]
	Independent values from another reference						
	Sol/Sol	369.2	16.59	44.93			
	Note: Value includes two neighboring Sol/Sol transition enthalpies.						
	Sol/Smec	401.1	38.92	97.03			
	Smec/Smec	445.9	0.73	1.64			
	Smec/Smec	470.8	1.90	4.04			
	Smec/Liq	472.0	4.65	9.85	157.49	191.0	[40]
	Independent values from another reference						
	Sol/Sol	352.0	4.29	12.18			
	Sol/Smec	401.0	42.67	106.41			
	Smec/Smec	450.0	0.63	1.40			
	Smec/Smec	472.0	1.37	2.90			
	Smec/Liq	475.0	6.65	14.00	136.89	191.0	[87]
$C_{29}H_{41}N_3OS$		5-[4-(octyloxy)phenyl]-N-[(5-octyl-2-thienyl)methylene]-1,2,4-thiadiazole-2-amine					
	Sol/Smec	396.6	22.5	56.73			
	Smec/Liq	410.6	6.5	15.83	72.56		[396,397]
$C_{29}H_{41}N_3O_2S$		6-n-decyloxy-2-(4-hexyloxyphenylazo)benzothiazole					
	Sol/Sol	338.6	6.8	20.08			
	Sol/Smec	321.5	Not given in paper				
	Smec/Nem	348.4	34.5	99.02			
	Nem/Liq	394.9	1.1	2.79			[41]
$C_{29}H_{42}N_2O_2$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl *trans*-4-propylcyclohexane-1-carboxylate					
	Sol/Chol	371.2	12.1	32.60			
	Chol/Liq	414.2	Not reported in paper				[201]
$C_{29}H_{42}N_2O_3$		4-dodecanoyloxy-2,3-dimethyl-4′-ethoxyazobenzene					
	Sol/Nem	352.2	45	127.77			
	Nem/Liq	352.2	0.9	2.55	130.32		[339]
$C_{29}H_{42}N_4OS_2$		2-(4-decyloxyphenylazo)-5-(5′-heptyl-2′-thienyl)-1,3,4-thiadiazole					
	Sol/Nem	427.0	35.9	84.07			
	Nem/Liq	433.0	2.75	6.35	90.42		[396]
$C_{29}H_{42}O_2S$		4-pentylbenzenethio-4′-undecyloxybenzoate					
	Sol/Smec	338.1	38.12	112.75			
	Smec/Nem	358.3	1.95	5.44			
	Nem/Liq	360.0	2.05	5.69	123.88	NA	[217]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{29}H_{43}NO$		N-(4-tetradecloxybenzylidene)-4-ethylaniline					
	Sol/Smec	328.0	37.32	113.78			
	Smec/Smec	340.0	3.79	11.15			
	Smec/Liq	348.3	8.05	23.11	148.04		[65]
$C_{29}H_{43}NO$		N-(4-dodecyloxybenzylidene)-4-butylaniline					
	Sol/Smec	328.3	29.36	89.43			
	Smec/Smec	345.8	0.07	0.20			
	Smec/Smec	348.5	4.68	13.43			
	Smec/Liq	358.8	8.06	22.46	125.52		[256]
$C_{29}H_{43}NO_2$		*trans*-4-hexadecyloxy-3′-stilbazole-N-oxide					
	Sol/Smec	375.3	43.05	114.71			
	Smec/Liq	400.1	3.50		8.75	123.46	[278]
$C_{29}H_{43}NO_2$		*trans*-4-hexadecyloxy-4′-stilbazole-N-oxide					
	Sol/Smec	373.8	42.42	113.48			
	Smec/Liq	406.7	3.88	9.54	123.02		[278]
$C_{29}H_{44}N_2O$		5-pentyl-2-[4-[3-[(*trans*-4-pentylcyclohexyl)oxy]propyl]phenyl]pyrimidine					
	Sol/Nem	355.2	19.2	54.05			
	Nem/Liq	412.2	Not reported in paper				[198]
$C_{29}H_{44}N_2O$		4-propyl-4′-tetradecyloxyazobenzene					
	Sol/Smec	344.8	113.7	329.76			
	Smec/Liq	352.7	26.36	74.73	404.49	169.9	[153]
$C_{29}H_{44}N_2O$		4-pentyl-4′-dodecyloxyazobenzene					
	Sol/Smec	333.6	27.63	82.82			
	Smec/Smec	341.0	2.96	8.68			
	Smec/Nem	357.4	8.40	23.50			
	Nem/Liq	358.0	Not detected by dsc		115.00	169.9	[141]
	Note: Nem/Liq transition enthalpy is likely included in the Smec/Nem value.						
$C_{29}H_{44}N_2O$		4-heptyl-4′-decyloxyazobenzene					
	Sol/Smec	310.6	30.22	97.30			
	Smec/Smec	328.5	1.61	4.90			
	Smec/Nem	353.6	2.19	6.19			
	Nem/Liq	355.6	2.62	7.37	115.76	169.9	[390]
$C_{29}H_{44}N_2O$		2-[4-(10-undecenyloxy)phenyl]-5-[(S)-5-methylheptyl]pyrimidine					
	Sol/Smec	293.2	11.1	37.86			
	Smec/Chol	313.2	Not reported in paper				
	Chol/Liq	322.2	Not reported in paper				[201]
$C_{29}H_{44}N_2O$		2-[4-(9-decenyloxy)phenyl]-5-[(S)-6-methyloctyl]pyrimidine					
	Sol/Smec	285.2	21.7	76.09			
	Smec/Chol	300.2	Not reported in paper				
	Chol/Liq	311.2	Not reported in paper				[201]
$C_{29}H_{46}N_2O_6$		4,4′-*bis*[4-(4-butoxybenzylideneamino)benzoyloxy]diphenylmethane					
	Sol/Smec	448.2	27.0	60.24			
	Smec/Liq	518.2	17.0	32.81	93.05		[284]
$C_{29}H_{46}O_3$		4-heptylcyclohexyl 4-heptyloxycinnamate					
	Sol/Nem	350.4	40.8	116.44			
	Nem/Liq	365.7	1.6	4.38	120.82		[5]
$C_{29}H_{48}OS$		cholesteryl thioacetate					
	Sol/Liq	399.2	27.3	68.4	68.4	NA	[155,312]
	Chol/Liq	385.2	0.3	0.8			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Note: Liquid crystalline behavior was observed upon cooling.						
$C_{29}H_{48}O_6$		*cis*, *cis*-(3,5-dihydroxycyclohexyl) 3,4-*bis*(octyloxy)benzoate					
	Sol/Meso	336.2	16.6	49.38			
	Meso/Liq	368.7	0.9	2.44	51.82		[98]
$C_{29}H_{50}N_2O_2$		N,N′-didecanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	394.2	30.0	76.10			
	Meso/Liq	477.2	17.0	35.62	111.72		[36]
$C_{30}H_{20}F_2N_2O_7$		2-fluoro-4-methoxybenzoic acid 1,2,4-oxadiazole-3,5-diylyl-4,1-phenylene ester					
	Sol/Nem	460.0	47.11	102.41			
	Nem/Liq	Decomposed prior to transition					[264]
$C_{30}H_{21}F_{21}O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-[(perfluorohexyl)pentyloxy]benzoate					
	Sol/Smec	349.5	32.20	92.13			
	Smec/Smec	350.2	0.34	0.97			
	Smec/Liq	368.4	4.32	11.73	104.83		[128]
$C_{30}H_{21}F_{21}O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-[(perfluorohexyl)pentyloxy]benzoate					
	Sol/Smec	349.5	32.20	92.13			
	Smec/Smec	350.2	0.34	0.97			
	Smec/Liq	368.4	4.32	11.73	104.83		[128]
$C_{30}H_{21}F_{25}O_4$		3-[[3-(4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-pentacosafluoropentadecyl)-4′-hydroxy-[1,1′-biphenyl]-4-yl]oxy]-1,2-propanediol					
	Sol/Smec	427.2	18.6	43.54			
	Note: Sol/Smec transition enthalpy might include Sol/Sol transition(s).						
	Smec/Liq	461.2	2.0	4.34	47.88		[404]
$C_{30}H_{22}$		p-quinquephenyl					
	Sol/Nem	661.2	44.0	66.55			
	Nem/Liq	693.2	0.70	1.01	67.56	102.8	[35]
	Independent values from another reference						
	Sol/Nem	659.6	42.30	64.13			
	Nem/Liq	688.1	0.92	1.34	65.47	102.8	[159]
	Independent values from another reference						
	Sol/Sol	264.0	0.45	1.70			[386]
	Note: Authors reported results of low temperature adiabatic calorimetric measurements from 6 to 303 K.						
$C_{30}H_{22}F_{20}O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-[(perfluorohexyl)hexyloxy]benzoate					
	Sol/Smec	378.0	47.24	124.97			
	Smec/Liq	380.3	4.35	11.44	136.41		[128]
$C_{30}H_{26}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-propoxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	366.8	24.19	65.95			
	Smec/Chst	391.2	0.29	0.74			
	Chst/Liq	437.6	0.44	1.01	67.70		[91]
$C_{30}H_{26}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]*bis*, diethyl ester					
	Sol/Nem	464.5	62.6	134.77			
	Nem/Liq	588.1	Not reported in paper				[271]
$C_{30}H_{26}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(ethoxy)-3-oxo-1-propenyl]phenyl ester					
	Sol/Sol	443.3	5.8	13.08			
	Sol/Smec	463.2	40.0	86.36			
	Smec/Nem	502.8	0.7	1.39			
	Nem/Liq	Not observed by dsc			100.83		[271]
$C_{30}H_{27}BrN_2O_4$		3′-bromo-4′-methoxy- [1,1′-biphenyl]-4-carboxylic acid, 4-[(4-butoxyphenyl)azo]phenyl ester					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	449.5	23.15	51.50			
	Nem/Liq	587.8	0.59	1.00	52.50		[57]
$C_{30}H_{27}ClF_4O_3$		4-(4-nonyloxy-2,3,5,6-tetrafluorophenylacetylenyl)phenyl 4′-chlorobenzoate					
	Sol/Nem	385.4	30.89	80.15			
	Nem/Liq	435.5	1.01	2.32	82.47		[101]
$C_{30}H_{27}NO$		1-[(4-pentyloxyphenyl)ethynyl]-3-methyl-4-[(3-methyl-4-cyanophenyl)ethynyl]benzene					
	Sol/Nem	379.2	39.0	102.85			
	Nem/Liq	464.2	0.7	1.51	104.36		[82]
$C_{30}H_{27}NO$		1-[(4-pentyloxyphenyl)ethynyl]-4-[(3,5-dimethyl-4-cyanophenyl)ethynyl]benzene					
	Sol/Nem	422.2	37.6	89.06			
	Nem/Liq	433.2	0.5	1.15	90.21		[82]
$C_{30}H_{28}F_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-butoxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	371.9	22.20	59.69			
	Nem/Liq	435.4	0.57	1.31	61.00		[124]
$C_{30}H_{28}N_6O_6$		*α,ω-bis*(4-nitroazobenzene-4′-oxy)hexane					
	Sol/Nem	476.2	46.72	98.11			
	Nem/Liq	500.2	2.95	5.90	104.01		[422]
$C_{30}H_{29}F_{13}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-(octyloxy)benzoate					
	Sol/Smec	359.4	28.14	78.30			
	Smec/Smec	395.5	0.21	0.53			
	Smec/Liq	403.8	8.81	21.82	100.65		[125]
$C_{30}H_{30}$		4′-[2-(4-methylphenyl)-1-ethynyl]-2′-methyl-4-hexyltolane					
	Sol/Nem	351.3	21.2	60.35			
	Nem/Liq	435.9	0.97	2.23	62.58		[55, 430]
$C_{30}H_{30}$		4-[2-(4-ethylphenyl)-1-ethynyl]-4′-hexyltolane					
	Sol/Nem	406.8	15.1	37.12			
	Nem/Liq	464.3	1.05	2.26	39.38		[55]
$C_{30}H_{30}$		4′-[2-(4-ethylphenyl)-1-ethynyl]-2′-methyl-4-pentyltolane					
	Sol/Nem	371.0	18.9	50.94			
	Nem/Liq	453.1	0.97	2.14	53.08		[55, 430]
$C_{30}H_{30}$		4′-[2-(4-propylphenyl)-1-ethynyl]-2′-methyl-4-butyltolane					
	Sol/Nem	371.7	22.0	59.19			
	Nem/Liq	464.4	1.40	3.01	62.20		[55, 430]
$C_{30}H_{30}$		4′-[2-(4-pentylphenyl)-1-ethynyl]-2′-methyl-4-ethyltolane					
	Sol/Nem	334.8	14.8	44.21			
	Nem/Liq	446.7	0.94	2.10	46.31		[55, 430]
$C_{30}H_{30}$		4′-[2-(4-butylphenyl)-1-ethynyl]-2′-ethyl-4-ethyltolane					
	Sol/Nem	342.8	27.0	78.76			
	Nem/Liq	397.0	0.98	2.47	81.23		[55]
$C_{30}H_{30}FNO_5S$		4-nonyloxyphenyl 3-fluoro-4-thiocyanatophenyl terephthalate					
	Sol/Smec	374.2	41.3	110.37			
	Smec/Smec	375.2	Too small to be measured				
	Smec/Nem	423.2	0.3	0.71			
	Nem/Liq	430.3	0.5	1.16	112.24		[37]
$C_{30}H_{30}O_2$		4,4‴-dipropoxy-p-quaterphenyl					
	Sol/Sol	529.0	8.46	15.99			
	Sol/Smec	631.0	10.10	16.01			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	680.0	Not reported in paper				[111]
$C_{30}H_{30}O_5$		7-[(4′-octyloxy)benzoyloxy]isoflavone					
	Sol/Smec	421.1	29.10	69.10			
	Smec/Nem	464.5	1.71	3.68			
	Nem/Liq	472.3	1.14	2.41	75.19		[14]
$C_{30}H_{30}O_6$		*bis*(4-hexyloxyphenyl) terephthalate					
	Sol/Sol	401.0	6.0	14.96			
	Sol/Smec	433.0	38.7	89.38			
	Smec/Smec	447.5	0.2	0.45			
	Smec/Nem	453.3	0.4	0.88			
	Nem/Liq	479.3	1.4	2.92	108.59	174.8	[12]
$C_{30}H_{30}O_6S_2$		*bis*(4-butoxyphenyl) 2,2′-bithiophene-5,5′-dicarboxylate					
	Sol/Sol	379.4	13.2	34.79			
	Sol/Smec	443.8	30.6	68.95			
	Smec/Nem	505.8	1.3	2.57			
	Nem/Liq	523.3	1.0	1.91	108.22	163.6	[12]
$C_{30}H_{30}O_8$		*bis*(4-butoxycarbonylphenyl) terephthalate					
	Sol/Smec	410.2	31.0	75.57			
	Smec/Liq	455.2	4.0	8.79	84.36	152.4	[194]
$C_{30}H_{31}NO$		5-(4′-hexyloxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Sol	435.0	9.9	22.76			
	Sol/Smec	514.0	4.1	7.98			
	Smec/Smec	546.0	4.6	8.42			
	Smec/Nem	590.0	1.5	2.54			
	Nem/Liq	642.0	1.1	1.71	43.41		[185]
$C_{30}H_{31}NO_5S$		4-thiocyanophenyl 4-(4-nonyloxybenzoyloxy)benzoate					
	Sol/Smec	378.3	35.3	93.31			
	Smec/Liq	453.2	4.1	9.05	102.36		[114]
$C_{30}H_{32}N_2O_4$		dibutyl N,N′-[1,4-phenylene-*bis*(methylidyne)]-*bis*[aminobenzoate]					
	Sol/Smec	365.2	32.0	87.62			
	Smec/Smec	410.2	Not reported in paper				
	Smec/Nem	463.2	0.84	1.81			
	Nem/Liq	482.2	0.38	0.08			[192]
$C_{30}H_{32}N_3O_2S$		5-(4-hexyloxyphenyl)-5-(4-decyloxy)phenylazo-1,3,4-thiadiazole					
	Sol/Nem	428.8	50.06	116.74			
	Nem/Liq	452.2	0.66	1.46	118.20		[79]
$C_{30}H_{32}O_7$		2-acetyl-1,4-phenylene 4-butoxybenzoate					
	Sol/Nem	383.0	34.6	90.34			
	Nem/Liq	428.2	2.2	5.14	95.48		[432]
$C_{30}H_{33}ClO_2$		1-(4-nonylbiphenyl)-3-(4-chlorophenyl)propane-1,3-dione					
	Sol/Smec	409.7	27.61	67.39			
	Smec/Liq	419.2	4.60	10.97	78.36		[250]
$C_{30}H_{33}ClO_4$		4-pentylphenyl 2-chloro[(4-pentylbenzoyl)oxy]benzoate					
	Sol/Nem	312.8	23.8	76.09			
	Nem/Liq	396.2	1.18	2.98	79.08		[365]
$C_{30}H_{34}F_8O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-(undecyloxy)benzoate					
	Sol/Smec	324.1	15.84	48.87			
	Smec/Smec	325.1	0.31	0.95			
	Smec/Liq	330.4	5.32	16.10	65.92		[125]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{30}H_{34}O_4$		4,4′-diheptanoyloxydiphenyldiacetylene					
	Sol/Sol	318.0	18.90	59.43			
	Sol/Nem	402.0	25.50	63.43			
	Nem/Liq	411.0	1.17	2.85	125.71	139.6	[157]
$C_{30}H_{34}O_7$		4-(4-octyloxybenzoyloxy)phenyl (3,4-dimethoxy)benzoate					
	Sol/Nem	355.8	9.44	26.53			
	Nem/Liq	422.2	0.38	0.90	27.43		[103]
$C_{30}H_{35}F_7O_5$		4-(2,2,3,3,4,4,4-heptafluorobutyloxycarbonyl)phenyl 4-(dodecyloxy)benzoate					
	Sol/Smec	338.9	27.00	79.67			
	Smec/Smec	346.2	0.36	1.04			
	Smec/Liq	348.8	6.02	17.26	97.97		[125]
$C_{30}H_{35}NO_3$		4-(4′-heptyloxybenzoyloxy)benzylidene 4″-isopropylaniline					
	Sol/Smec	381.2	13.61	35.70			
	Smec/Nem	391.2	1.04	2.66			
	Nem/Liq	455.2	0.65	1.43	39.79		[273]
$C_{30}H_{35}NO_3$		phenyl 4-(4-decyloxybenzylideneamino)benzoate					
	Sol/Smec	365.2	48.0	131.43			
	Smec/Liq	424.2	5.1	12.02	143.45	154.8	[292]
$C_{30}H_{35}NO_3$		4-ethylphenyl 4-(4-octyloxybenzylideneamino)benzoate					
	Sol/Smec	360.2	35.0	97.17			
	Smec/Nem	446.2	1.1	2.47			
	Nem/Liq	479.2	1.2	2.50	102.14	155.4	[292]
$C_{30}H_{35}NO_3$		4-isopropylphenyl 4-(4-heptyloxybenzylideneamino)benzoate					
	Sol/Smec	370.2	37.0	99.95			
	Smec/Nem	436.2	1.0	2.29			
	Nem/Liq	453.2	1.1	2.43	104.67	135.3	[292]
$C_{30}H_{35}NO_3$		4-(4-octyloxybenzylideneamino)phenyl 4-ethylbenzoate					
	Sol/Nem	369.2	31.0	83.97			
	Nem/Liq	482.2	1.7	3.53	87.50	148.3	[292]
$C_{30}H_{35}NO_3$		4-(4-decyloxybenzylideneamino)phenyl benzoate					
	Sol/Nem	378.2	55.0	145.43			
	Nem/Liq	419.2	1.0	2.39	147.82	154.8	[292]
$C_{30}H_{35}NO_3$		4-(4′-nonyloxybenzoyloxybenzylidene)-2″-aniline					
	Sol/Nem	343.8	29.26	85.11			
	Nem/Liq	384.8	0.63	1.64	86.75		[399]
$C_{30}H_{36}$		1-(*trans*-4-propylcyclohexylethynyl)-4-(4-pentylphenylethynyl)benzene					
	Sol/Nem	363.6	13.6	37.40			
	Nem/Liq	471.4	1.3	2.76	40.16		[436]
$C_{30}H_{36}$		1-(*trans*-4-butylcyclohexylethynyl)-4-(4-butylphenylethynyl)benzene					
	Sol/Nem	367.1	17.5	47.67			
	Nem/Liq	465.7	1.5	3.22	50.89		[436]
$C_{30}H_{36}$		1-(*trans*-4-pentylcyclohexylethynyl)-4-(4-propylphenylethynyl)benzene					
	Sol/Nem	389.3	13.1	33.65			
	Nem/Liq	479.9	1.1	2.29	35.94		[436]
$C_{30}H_{36}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2-methylphenyl 4-(octyloxy)benzoate					
	Sol/Nem	361.2	50	138.43			
	Nem/Liq	474.2	1.7	3.58	142.01		[339]
$C_{30}H_{36}N_2O_4$		4-[(4-ethoxyphenyl)azo]-3-methylphenyl 4-(octyloxy)benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	365.2	42	115.01			
	Nem/Liq	468.2	1.6	3.41	118.42		[339]
$C_{30}H_{36}O_5$		2-hydroxyethyl 4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoate					
	Sol/Sol	414.4	12.68	30.60			
	Sol/Smec	444.9	6.20	13.94			
	Smec/Smec	455.9	4.57	10.02			
	Smec/Smec	457.4	0.24	0.52			
	Smec/Liq	470.5	18.73	39.81	94.89		[304]
$C_{30}H_{36}O_6S$		*bis*(4-hexyloxyphenyl) 2,5-thiophenedicarboxylate					
	Sol/Sol	379.2	11.2	29.53			
	Sol/Nem	403.0	40.0	99.26			
	Nem/Liq	416.8	1.0	2.40	131.19		[12]
$C_{30}H_{36}O_7$		4-butoxyphenyl 7-decanoyloxychromone-2-carboxylate					
	Sol/Smec	397.0	20.0	50.38			
	Smec/Smec	423.2	Not observed by dsc				
	Smec/Liq	434.6	3.5	8.05	58.43		[286]
$C_{30}H_{37}N_5O_3$		2-cyano-3-[4-[(1E)-[4-[4-(1-oxohexyl)-1-piperazinyl]phenyl]azo]phenyl]-2-propenoic acid, butyl ester					
	Sol/Smec	459.9	23.61	51.34			
	Smec/Liq	485.2	Not observed by dsc				[326]
$C_{30}H_{38}N_2O_2S$		2-(4-butoxyphenyl)-5-[4-[(2-methyl-2,3-undecadienyl)oxy]phenyl-1,3,4-thiadiazole					
	Sol/Smec	333.2	27.4	82.23			
	Smec/Nem	364.2	1.54	4.23			
	Nem/Liq	374.2	0.89	2.38	88.84		[398]
$C_{30}H_{38}N_2O_3$		1-[4-(N-ethoxycarbonylpiperazinyl)phenyl]-4-(4-heptyloxyphenyl)but-3-en-1-yne					
	Sol/Smec	448.5	32.7	72.91			
	Smec/Nem	475.2	2.0	4.21			
	Nem/Liq	483.6	1.4	2.89	80.01		[154]
$C_{30}H_{39}ClO_5$		2-chloro-4-methylpentyl 4-[[3-[4-(octyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	323.2	24.27	75.09			
	Smec/Smec	329.7	0.33	1.00			
	Smec/Chol	352.7	0.88	2.50			
	Chol/Liq	353.4	0.67	1.90	80.49		[257]
$C_{30}H_{39}ClO_5$		2-chloro-3-methylpentyl 4-[[3-[4-(octyloxy)phenyl]-1-oxo 2-propenyl]oxy]benzoate					
	Sol/Smec	330.2	30.54	92.49			
	Smec/Smec	332.2	0.17	0.51			
	Smec/Chol	357.7	1.26	3.52			
	Chol/Liq	358.2	0.84	2.35	98.87		[257]
$C_{30}H_{39}ClO_5$		4-[[3-[4-(nonyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-4-methylpentanoate					
	Sol/Smec	346.2	25.65	74.09			
	Smec/Smec	348.7	0.25	0.72			
	Smec/Liq	363.7	4.18	11.49	86.30		[257]
$C_{30}H_{39}ClO_5$		4-[[3-[4-(nonyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-3-methylpentanoate					
	Sol/Smec	342.2	30.54	89.25			
	Smec/Smec	351.2	0.25	0.71			
	Smec/Chol	368.2	0.21	0.57			
	Chol/Liq	370.2	0.96	2.59	93.12		[257]
$C_{30}H_{39}NO_2$		6-n-pentyloxy-2-[4-octyloxystyryl]quinoline					
	Sol/Sol	366.1	7.15	19.53			
	Sol/Smec	375.0	21.45	57.20			
	Smec/Nem	402.4	1.99	4.95			
	Nem/Liq	436.9	0.98	2.24	83.92		[112]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{30}H_{39}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-decylcyclohexyl)benzoate					
	Sol/Sol	357.2	15.48	43.34			
	Sol/Smec	368.7	32.38	87.82			
	Smec/Nem	453.2	0.42	0.93			
	Nem/Liq	473.2	0.71	1.50	133.59	NA	[356]
$C_{30}H_{39}N_3O_3$		1-[4-(N-ethoxycarbonylpiperazinyl)phenyl]-3-(4-octyloxyphenyl)(1-propargyl-3-imine)					
	Sol/Smec	407.4	19.0	46.64			
	Smec/Liq	455.3	4.1	9.01	55.65		[154]
$C_{30}H_{40}N_2O_2$		6-n-decyloxy-2-[(4′-N-butoxyphenylimino)methyl]quinoline					
	Sol/Smec	352.3	34.37	97.56			
	Smec/Nem	372.9	0.19	0.51			
	Nem/Liq	411.1	1.48	3.60	101.67		[112]
$C_{30}H_{40}N_2O_3$		N-4-butyoxyphenyl-6-decyloxyquinoline-2-carboxamide					
	Sol/Smec	367.0	45.6	124.25			
	Smec/Liq	384.4	5.1	13.27	137.52		[43]
$C_{30}H_{40}N_4O_3$		4-[(1E)-[4-[4-(1-oxo-10-undecenyl)-1-piperazinyl]phenyl]azo]benzoic acid, ethyl ester					
	Sol/Smec	341.4	2.12	6.21			
	Smec/Smec	353.6	0.35	0.99			
	Smec/Smec	395.9	0.50	1.26			
	Smec/Smec	434.3	0.25	0.58			
	Smec/Liq	473.6	8.13	17.17	26.21		[403]
$C_{30}H_{40}O_4$		7-pentyloxy-3-(4-decyloxyphenyl)-3*H*-1-benzopyran-4-one					
	Sol/Smec	385.2	28.1	72.95			
	Smec/Liq	415.5	4.5	10.83	83.78		[44]
$C_{30}H_{40}O_4$		di(4′-pentylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	364.2	35.2	96.65			
	Smec/Smec	368.1	2.06	5.60			
	Smec/Nem	401.9	0.65	1.62			
	Nem/Liq	426.5	0.85	1.99	105.86	147.5	[215]
$C_{30}H_{40}O_6$		di(4′-pentyloxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	374.2	29.08	77.71			
	Smec/Smec	378.2	1.16	3.07			
	Smec/Nem	446.2	0.73	1.64			
	Nem/Liq	466.2	1.04	2.23	84.65	161.1	[220]
$C_{30}H_{41}NO_3$		6-hexyloxynaphth-2-yl 5-octyloxy-2-methypyridyl ketone					
	Sol/Sol	326.2	0.86	2.64			
	Sol/Sol	347.2	4.67	13.45			
	Sol/Smec	372.2	35.12	94.36			
	Smec/Liq	384.2	9.60	24.99	135.44		[123]
$C_{30}H_{41}NO_3$		4′-hexadecyloxy-3′-cyanobiphenyl-4-carboxylic acid					
	Sol/Sol	385.7	26.34	68.29			
	Sol/Sol	397.2	14.98	37.71			
	Sol/Smec	399.2	21.64	54.21			
	Smec/Cube	431.2	1.15	2.67			
	Cube/Liq	474.3	3.96	8.35	171.23	176.8	[223]
$C_{30}H_{41}NO_5$		6-[4-(4-heptyloxyphenyliminomethyl)-3-hydroxyphenoxy]hexylmethacrylate					
	Sol/Smec	324.6	27.72	85.40			
	Smec/Smec	343.0	Not reported in paper				
	Smec/Liq	364.6	5.00	13.71	99.11		[294]
$C_{30}H_{41}N_3O_2S$		5-(4-decyloxyphenyl)-N-[[4-(2S)-2-methylbutoxy]phenyl]methylene-1,3,4-thiadiazol-2-amine					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	379.0	33.45	88.26			
	Smec/Nem	416.4	2.33	5.60			
	Nem/Liq	434.3	1.43	3.29	97.15		[167]
$C_{30}H_{41}N_3O_2S$		5-(4-heptyloxyphenyl)-2-(4-octyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	386.0	31.3	81.09			
	Smec/Nem	462.7	3.6	7.78			
	Nem/Liq	479.5	1.4	2.92	91.79		[79,396,397]
$C_{30}H_{41}N_3O_2S$		N-[[4-(heptyloxy)phenyl]methylene]-5-[4-(octyloxy)phenyl]-1,2,4-thiadiazol-2-amine					
	Sol/Smec	393.2	41.27	104.96			
	Smec/Nem	460.8	3.56	7.73			
	Nem/Liq	478.4	2.07	4.33	116.82		[283]
$C_{30}H_{41}N_3O_3S$		5-(4-heptyloxy)phenyl-2-(4-n-octyloxy)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	422.5	19.9	47.10			
	Smec/Nem	520.7	5.6	10.75			
	Nem/Liq	529.6	1.7	3.21	61.06		[31]
$C_{30}H_{41}N_3O_3S$		5-(4-decyloxy)phenyl-2-(2-hydroxy-4-pentyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	373.2	29.68	79.53			
	Smec/Nem	478.2	3.24	6.78			
	Nem/Liq	487.2	1.66	3.41	89.72		[59]
$C_{30}H_{41}N_3O_3S$		2-[(E)-[(5-[4-(heptyloxy)phenyl]-1,3,4-thiadiazol-2-yl]imino]methyl]-5-(octyloxy)phenol					
	Sol/Smec	375.3	25.03	66.69			
	Smec/Nem	487.1	4.82	9.90			
	Nem/Liq	492.6	3.22	6.54	83.13		[283]
$C_{30}H_{42}$		1-(*trans*-4-propylcyclohexylethynyl)-4-(*trans*-pentylcyclohexylethynyl)benzene					
	Sol/Nem	389.2	19.8	50.87			
	Nem/Liq	468.9	1.5	3.20	54.07		[436]
$C_{30}H_{42}$		1-(*trans*-4-butylcyclohexylethynyl)-4-(*trans*-butylcyclohexylethynyl)benzene					
	Sol/Nem	411.9	9.3	22.57			
	Nem/Liq	463.6	0.9	1.94	24.51		[436]
$C_{30}H_{42}N_2O_2S$		6-n-decyloxy-2-(4-hexyloxybenzylidenamino)benzothiazole					
	Sol/Smec	355.9	39.4	110.71			
	Smec/Nem	362.1	0.6	1.66			
	Nem/Liq	394.3	1.4	3.55	115.92		[41]
$C_{30}H_{42}N_2O_2S_2$		2,5-*bis*(4-octyloxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Sol	383.5	29.26	76.30			
	Sol/Smec	426.3	37.88	88.86			
	Smec/Smec	510.3	8.47	16.60			
	Smec/Liq	517.2	3.01	5.82	187.58		[269]
$C_{30}H_{42}N_2O_3$		4-pentanoyl-4′-tridecanoyloxyazobenzene					
	Sol/Sol	361.5	6.09	16.85			
	Sol/Smec	371.6	37.07	99.76			
	Smec/Liq	402.9	9.23	22.91	139.52	172.5	[157]
$C_{30}H_{42}N_2O_3$		4-propanoyl-4′-pentadecanoyloxyazobenzene					
	Sol/Smec	376.7	51.51	136.74			
	Smec/Liq	412.2	8.45	20.50	157.24	172.5	[157]
$C_{30}H_{42}N_4OS$		2-(4-decanoxyphenylazo)-5-(4-hexyloxy)phenyl-1,3,4-thiadiazole]					
	Sol/Nem	428.8	50.06	116.74			
	Nem/Liq	452.2	0.66	1.46	118.20		[396]
$C_{30}H_{42}O_4$		4-[(S)-2-methylbutoxy]phenyl 4-(11-dodecenyloxy)benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	318.2	27.1	85.17			
	Smec/Liq	331.2	Not reported in paper				[200]
$C_{30}H_{42}O_4$		4-[(S)-4-methylhexyloxy]phenyl 4-(9-decenyloxy)benzoate					
	Sol/Smec	302.2	28.9	95.63			
	Smec/Smec	327.2	Not reported in paper				
	Smec/Liq	338.2	Not reported in paper				[200]
$C_{30}H_{42}O_4$		4-[(S)-6-methyloctyloxy]phenyl 4-(7-octenyloxy)benzoate					
	Sol/Smec	327.2	34.0	103.91			
	Smec/Smec	329.2	Not reported in paper				
	Smec/Chol	344.2	Not reported in paper				
	Chol/Liq	344.2	Not reported in paper				[200]
$C_{30}H_{42}O_4$		4-(9-decenyloxy)phenyl 4-[(S)-4-methylhexyloxy]benzoate					
	Sol/Smec	298.2	9.8	32.86			
	Smec/Chol	313.2	Not reported in paper				
	Chol/Liq	329.2	Not reported in paper				[200]
$C_{30}H_{42}O_4$		4-(7-octenyloxy)phenyl 4-[(S)-6-methyloctyloxy]benzoate					
	Sol/Smec	311.2	24.0	77.12			
	Smec/Chol	330.2	Not reported in paper				
	Chol/Liq	338.2	Not reported in paper				[200]
$C_{30}H_{42}O_4$		4-[(*trans*-4-propylcyclohexyl)methoxy]phenyl 4-{[(S)-4-methylhexyl]oxy}benzoate					
	Sol/Chol	352.2	22.36	63.49			
	Chol/Liq	421.2	Not reported in paper				[208]
$C_{30}H_{42}O_4$		4-[(*trans*-4-pentylcyclohexyl)methoxy]phenyl 4-{[(S)-2-methylbutyl]oxy}benzoate					
	Sol/Chol	361.2	23.15	64.09			
	Chol/Liq	414.2	Not reported in paper				[208]
$C_{30}H_{43}BrN_2O_4$		4-(4-dodecyloxyphenylazoxy)phenyl 2S,3S-2-bromo-3-ethylpentanoate					
	Sol/Smec	330.0	45.82	138.85			
	Smec/Nem	338.8	0.17	0.50			
	Nem/Liq	347.4	2.30	6.62	145.97		[47]
$C_{30}H_{43}ClN_2O_4$		4-(4-dodecyoxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Smec	326.1	2.02	6.19			
	Note: Value is abnormally small compared to other compounds in series.						
	Smec/Smec	339.3	0.16	0.47			
	Smec/Liq	349.3	3.82	10.94	17.60		[47]
$C_{30}H_{43}NO$		N-(4-pentyloxybenzylidene)-4-dodecylaniline					
	Sol/Smec	303.7	38.86	127.96			
	Smec/Smec	327.5	2.23	6.81			
	Smec/Nem	344.6	0.40	1.16			
	Nem/Liq	347.5	1.38	3.97	139.90		[147]
$C_{30}H_{43}N_3OS$		5-[4-(4-(nonyloxy)phenyl]-N-[(5-octyl-2-thienyl)methylene]-1,2,4-thiadiazole-2-amine					
	Sol/Smec	394.5	37.0	93.79			
	Smec/Liq	411.9	7.1	17.24	111.03		[396,397]
$C_{30}H_{43}N_3O_2S$		6-n-decyloxy-2-(4-heptyloxyphenylazo)benzothiazole					
	Sol/Smec	347.6	47.0	135.21			
	Smec/Nem	352.7	Not given in paper				
	Nem/Liq	394.4	1.2	3.04			[41]
$C_{30}H_{44}N_2O$		5-hexyl-2-[4-[3-[(*trans*-4-pentylcyclohexyl)oxy]-1-propenyl]phenyl]pyrimidine					
	Sol/Nem	356.2	18.1	50.81			
	Nem/Liq	412.2	Not reported in paper				[198]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{30}H_{44}N_2O_2$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl *trans*-4-pentylcyclohexane-1-carboxylate					
	Sol/Chol	405.2	15.4	38.00			
	Chol/Liq	427.2	Not reported in paper				[201]
$C_{30}H_{44}N_2O_4$		1,2-*bis*(4-n-octyloxybenzoyl)hydrazine					
	Sol/Sol	405.2	21.05	51.95			
	Sol/Cube	410.6	27.6	67.22			
	Cube/Smec	433.3	0.98	2.26			
	Smec/Liq	437.5	9.97	22.79	144.22	176.2	[49]
$C_{30}H_{44}O_2S$		4-pentylbenzenethio 4′-dodecyloxybenzoate					
	Sol/Smec	335.3	34.10	101.70			
	Smec/Liq	360.2	6.95	19.29	120.99	NA	[217]
$C_{30}H_{44}O_3S$		S-(2-methyl-4-octyloxyphenyl) 4-octyloxythiobenzoate					
	Sol/Nem	302.2	39.9	132.03			
	Nem/Liq	322.2	1.8	5.59	137.62	NA	[4]
$C_{30}H_{45}NO$		N-(p-n-nonyloxybenzylidene)-4-(n-octyl)aniline					
	Sol/Smec	323.2	47.6	147.28			
	Smec/Smec	348.5	3.91	11.22			
	Smec/Liq	358.0	7.64	21.34	179.84		[11]
$C_{30}H_{45}NO$		N-(4-pentadecyloxybenzylidene)-4-ethylaniline					
	Sol/Smec	338.5	48.32	142.75			
	Smec/Smec	341.0	4.05	11.88			
	Smec/Liq	346.1	7.15	20.66	175.29		[65]
$C_{30}H_{45}NO$		4-ethyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	340.2	57.52	169.08			
	Smec/Liq	347.2	9.39	27.04	196.12		[240]
$C_{30}H_{45}NO$		4-dodecyl-N-[[4-(pentyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	322.7	42.12	130.52			
	Smec/Smec	325.5	6.98	21.44			
	Smec/Nem	343.7	0.95	2.76			
	Nem/Liq	346.2	1.62	4.68	159.40		[242]
$C_{30}H_{45}NO$		N-(4-dodecyloxybenzylidene)-4-pentylaniline					
	Sol/Smec	325.0	28.86	88.80			
	Smec/Smec	355.6	5.18	14.57			
	Smec/Liq	364.8	9.06	24.84	128.21		[256]
$C_{30}H_{45}NO_3$		N-(4-methoxyphenyl)- α-(4-hexadecyloxyphenyl)nitrone					
	Sol/Smec	388.2	66.48	171.25			
	Smec/Liq	401.2	4.48	11.17	182.42	NA	[162]
$C_{30}H_{46}N_2O$		4-butyl-4′-tetradecyloxyazobenzene					
	Sol/Smec	334.6	28.68	85.71			
	Smec/Liq	343.3	7.92	23.07	108.78	177	[141]
$C_{30}H_{46}N_2O$		4-heptyl-4′-undecyloxyazobenzene					
	Sol/Smec	324.7	32.49	100.06			
	Smec/Smec	336.7	2.40	7.13			
	Smec/Nem	355.4	3.16	8.89			
	Nem/Liq	357.2	3.15	8.82	124.90	177	[390]
$C_{30}H_{46}N_2O$		2-[4-(11-dodecenyloxy)phenyl]-5-[(S)-5-methylheptyl]pyrimidine					
	Sol/Smec	308.2	27.1	87.93			
	Smec/Chol	313.2	Not reported in paper				
	Chol/Liq	320.2	Not reported in paper				[201]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{30}H_{46}N_2O$		2-[4-(10-undecenyloxy)phenyl]-5-[(S)-6-methyloctyl]pyrimidine					
	Sol/Smec	290.2	19.1	65.82			
	Smec/Chol	309.2	Not reported in paper				
	Chol/Liq	318.2	Not reported in paper				[201]
$C_{30}H_{46}N_2O_3$		4,4′-dinonyloxyazoxybenzene					
	Sol/Smec	348.7	38.17	109.46			
	Nem/Liq	386.2	1.65	4.27			
	Nem/Liq	394.7	1.76	4.46	118.19		[179]
$C_{30}H_{49}BrO_2$		cholesterol β-bromopropionate					
	Sol/Chol	375.0	20.8	55.47			
	Chol/Liq	390.0	0.49	1.26	56.73		[182]
$C_{30}H_{49}ClO_2$		cholesterol β-chloropropionate					
	Sol/Chol	359.9	19.5	54.18			
	Chol/Liq	398.0	0.74	1.86	56.04		[182]
$C_{30}H_{49}N_3O_6$		4,4′-*bis*[4-(4-pentyloxybenzoyloxy)benzylideneamino]diphenylamine					
	Sol/Nem	504.2	42.0	83.30			
	Nem/Liq	608.2	1.8	2.96	86.26		[284]
$C_{30}H_{50}OS$		cholesteryl thiopropionate					
	Sol/Liq	385.2	24.6	63.7	64.3	NA	
	Chol/Liq	384.3	0.3	0.6			[155,312]
	Note: Liquid crystalline behavior was observed upon cooling.						
$C_{30}H_{50}O_2$		cholesterol propionate					
	Sol/Chol	370.4	24.82	67.01			
	Chol/Liq	386.2	0.31	0.80	67.81	104.4	[166, 170]
	Independent values from another reference						
	Sol/Chol	374.8	24.08	64.25			
	Chol/Liq	388.4	0.43	1.11	65.36	104.4	[169]
	Independent values from another reference						
	Sol/Chol	372.8	21.8	58.48			
	Chol/Liq	387.3	0.69	1.78	60.26	104.4	[180]
	Independent values from another reference						
	Sol/Chol	368.8	22.7	61.55			
	Chol/Liq	384.1	0.25	0.65	62.20	104.4	[182]
$C_{30}H_{50}O_3$		cholesterol ethyl carbonate					
	Sol/Chol	356.9	21.1	59.12			
	Chol/Liq	378.9	0.70	1.85	60.97		[180]
$C_{30}H_{51}N_3O_3$		N,N′,N″-triheptanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	530.2	28.0	52.81			
	Meso/Liq	630.2	16.0	25.39	78.20		[190]
$C_{30}H_{52}N_2O_2$		N,N′-didecanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Sol	421.2	22	52.23			
	Sol/Meso	486.2	15	30.85			
	Meso/Meso	522.2	10	19.15			
	Meso/Liq	560.2	22	39.27	141.50		[36]
$C_{30}H_{52}N_2O_2$		N,N′-didecanoyl-3,4,5,6-tetramethylbenzene-1,2-diamine					
	Sol/Meso	395.2	15	37.96			
	Meso/Meso	475.2	2	4.21			
	Meso/Liq	508.2	21	41.32	83.49		[61]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{30}H_{52}N_2O_2$		N,N′-diundecylbenzene-1,2-dicarboxamide					
	Sol/Meso	355.2	49	137.95			
	Meso/Liq	373.2	11	29.47	167.42		[61]
$C_{31}H_{22}F_{22}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-[(perfluorobutyl)pentyloxy]benzoate					
	Sol/Smec	366.0	29.12	79.56			
	Smec/Liq	387.9	6.72	17.32	96.88		[128]
$C_{31}H_{23}F_{21}O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-[(perfluorohexyl)hexyloxy]benzoate					
	Sol/Smec	368.7	45.99	124.74			
	Smec/Liq	373.2	5.17	13.85	138.59		[128]
$C_{31}H_{28}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-butoxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	363.6	26.61	73.18			
	Smec/Chol	409.2	0.60	1.47			
	Chol/Liq	442.4	0.45	1.02	75.67		[91]
$C_{31}H_{30}F_4O_4$		pentyl 4-[4-((4-butoxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					
	Sol/Smec	366.2	28.14	76.84			
	Smec/Nem	367.8	Not detected by dsc				
	Nem/Liq	375.5	0.80	2.13	78.97		[96]
$C_{31}H_{30}F_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-pentyloxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	375.6	28.22	75.13			
	Nem/Liq	423.8	0.46	1.09	76.22		[124]
$C_{31}H_{30}F_4O_4$		methyl 4-[4-((4-octyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					
	Sol/Smec	383.3	39.06	101.90			
	Smec/Nem	400.5	0.15	0.37			
	Nem/Liq	413.7	1.32	3.19	105.46		[96]
$C_{31}H_{30}N_6O_6$		*α,ω-bis*(4- nitroazobenzene-4′-oxy)heptane					
	Sol/Nem	449.2	68.71	152.96			
	Nem/Liq	464.2	1.12	2.41	155.37		[422]
$C_{31}H_{31}F_{13}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-(nonyloxy)benzoate					
	Sol/Smec	357.5	29.49	82.49			
	Smec/Smec	386.7	0.29	0.75			
	Smec/Liq	393.2	8.39	21.34	104.58		[125]
$C_{31}H_{32}$		4′-[2-(4-ethylphenyl)-1-ethynyl]-2′-methyl-4-hexyltolane					
	Sol/Nem	347.1	21.6	62.23			
	Nem/Liq	439.7	1.01	2.30	64.43		[55, 430]
$C_{31}H_{32}$		4′-[2-(4-propylphenyl)-1-ethynyl]-2′-methyl-4-pentyltolane					
	Sol/Nem	359.4	15.1	42.01			
	Nem/Liq	456.0	1.45	3.18	45.19		[55, 430]
$C_{31}H_{32}$		4′-[2-(4-hexylphenyl)-1-ethynyl]-2′-methyl-4-ethyltolane					
	Sol/Nem	330.0	14.4	43.64			
	Nem/Liq	433.3	0.85	1.96	45.60		[55]
$C_{31}H_{32}$		4′-[2-(4-ethylphenyl)-1-ethynyl]-2′-ethyl-4-pentyltolane					
	Sol/Nem	331.6	11.9	35.89			
	Nem/Liq	397.8	1.09	2.74	38.63		[55]
$C_{31}H_{32}$		4′-[2-(4-butylphenyl)-1-ethynyl]-2′-ethyl-4-propyltolane					
	Sol/Nem	309.1	18.6	60.17			
	Nem/Liq	399.9	1.25	3.13	63.30		[55]
$C_{31}H_{32}$		4′-[2-(4-pentylphenyl)-1-ethynyl]-2′-ethyl-4-ethyltolane					
	Sol/Nem	302.6	13.6	44.94			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	401.2	1.11	2.76	47.70		[55]
$C_{31}H_{32}$		1-[(4-hexylphenyl)ethynyl]-4-[(4-propylphenyl)ethynyl]benzene					
	Sol/Nem	420.2	18.6	44.26			
	Nem/Liq	482.2	1.2	2.49	46.75		[82]
$C_{31}H_{32}N_2O_2$		2,3-dicyano-4-pentylphenyl 4′-pentyl-4-biphenyl-1-carboxylate					
	Sol/Nem	372.2	30.54	82.05			
	Nem/Liq	385.7	Not reported in paper				[202]
$C_{31}H_{32}N_2O_5$		4-methyl-2-oxo-2H-1-benzopyran-7-yl 4-[(1E)-4-(octyloxy)phenyl]azo]benzoate					
	Sol/Smec	403.2	5.53	13.72			
	Smec/Nem	436.2	0.29	0.66			
	Nem/Liq	478.2	0.52	1.09	15.47		[320]
$C_{31}H_{32}N_4O_2$		α-(4′-methylazobenzene-4-oxy)-ω-(azobenzene-4-oxy)hexane					
	Sol/Nem	422.2	47.39	112.25			
	Nem/Liq	432.2	4.31	9.97	122.22		[67]
$C_{31}H_{32}O_5$		7-[(4′-nonyloxy)benzoyloxy]isoflavone					
	Sol/Smec	423.5	26.55	62.69			
	Smec/Nem	467.4	1.99	4.26			
	Nem/Liq	468.5	0.29	0.62	67.57		[14]
$C_{31}H_{33}ClF_2O_5$		4-[(2S)-2-chloro-3-methylbutanoyloxy]biphenyl-4′-yl 4-heptyloxy-2,3-difluorobenzoate					
	Sol/Smec	348.2	18.15	52.13			
	Smec/Nem	408.9	1.6	3.91			
	Nem/Liq	445.0	0.6	1.35	57.39		[121]
$C_{31}H_{33}NO$		5-(4′-heptyloxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Sol	424.0	9.1	21.46			
	Sol/Smec	512.0	4.0	7.81			
	Smec/Smec	545.0	4.0	7.34			
	Smec/Nem	597.0	1.2	2.01			
	Nem/Liq	633.0	1.1	1.74	40.36		[185]
$C_{31}H_{33}O$		1-[(4-pentyloxyphenyl)ethynyl]-4-[(4-butylphenyl)ethynyl]benzene					
	Sol/Nem	435.2	19.4	44.58			
	Nem/Liq	507.2	1.4	2.76	47.34		[82]
$C_{31}H_{34}N_4O_2S$		5-(4-heptyloxyphenyl)-5-(4-decyloxy)phenylazo-1,3,4-thiadiazole					
	Sol/Nem	426.9	42.49	99.53			
	Nem/Liq	449.7	0.58	1.29	100.82		[79]
$C_{31}H_{35}ClO_2$		1-(4-decylbiphenyl)-3-(4-chlorophenyl)propane-1,3-dione					
	Sol/Smec	406.2	44.18	108.76			
	Smec/Liq	418.2	5.15	12.31	121.07		[250]
$C_{31}H_{35}NO_6$		4-nitrophenyl 3-[[4′-(decyloxy)[1,1′-biphenyl]-4-yloxy]-2-propenoate					
	Sol/Smec	368.8	36.5	98.97			
	Smec/Liq	403.3	3.8	9.42	108.39		[305]
$C_{31}H_{36}ClNO_4$		3-hydroxy-4-[(E)-[(4-pentylphenyl)imino]methyl]phenyl 4-butoxy-α-chlorobenzenepropanoate					
	Sol/Smec	324.2	Not reported in paper				
	Smec/Smec	328.8	2.30	7.00			
	Smec/Smec	359.5	0.34	0.95			
	Smec/Liq	385.5	5.42	14.06			[249]
$C_{31}H_{36}F_8O_5$		4-(2,2,3,3,4,4,5,5-octafluoropentyloxycarbonyl)phenyl 4-(dodecyloxy)benzoate					
	Sol/Smec	319.4	15.87	49.69			
	Smec/Smec	325.2	0.27	0.83			
	Smec/Liq	327.2	5.30	16.20	66.72		[125]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{31}H_{36}O_7$		4-(4-nonyloxybenzoyloxy)phenyl (3,4-dimethoxy)benzoate					
	Sol/Nem	357.2	10.49	29.37			
	Nem/Liq	415.3	0.27	0.65	30.02		[103]
$C_{31}H_{37}NO_3$		4-isopropylphenyl 4-(4-octyloxybenzylideneamino)benzoate					
	Sol/Smec	373.2	29.0	77.71			
	Smec/Nem	439.2	1.1	2.50			
	Nem/Liq	451.2	1.1	2.44	82.65	142.4	[292]
$C_{31}H_{37}NO_3$		4-(4-octyloxybenzylideneamino)phenyl 4-isopropylbenzoate					
	Sol/Nem	384.2	34.0	88.50			
	Nem/Liq	449.2	1.5	3.34	91.84	142.4	[292]
$C_{31}H_{37}NO_3$		4-(4′-decyloxybenzoyloxybenzylidene)-2″-aniline					
	Sol/Smec	343.1	26.84	78.23			
	Smec/Nem	359.4	0.36	1.00			
	Nem/Liq	386.7	0.64	1.66	80.89		[399]
$C_{31}H_{38}$		1-(*trans*-4-butylcyclohexylethynyl)-4-(4-pentylphenylethynyl)benzene					
	Sol/Nem	358.3	15.7	43.82			
	Nem/Liq	466.9	1.4	3.00	46.82		[436]
$C_{31}H_{38}$		1-(*trans*-4-butylcyclohexylethynyl)-4-(4-pentylphenylethynyl)benzene					
	Sol/Nem	358.3	15.7	43.82			
	Nem/Liq	466.9	1.4	3.00	46.82		[436]
$C_{31}H_{38}$		1-(*trans*-4-pentylcyclohexylethynyl)-4-(4-butylphenylethynyl)benzene					
	Sol/Nem	368.3	12.4	33.67			
	Nem/Liq	468.5	0.9	1.92	35.59		[436]
$C_{31}H_{38}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-(5-hexenyloxy)benzoate					
	Sol/Chol	281.2	28.2	100.28			
	Chol/Liq	416.2	Not reported in paper				[201]
$C_{31}H_{38}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3-methylphenyl 4-(octyloxy)benzoate					
	Sol/Nem	377.2	39.0	103.39			
	Nem/Liq	492.2	1.5	3.05	106.44		[339]
$C_{31}H_{38}N_2O_4$		4-[(4-ethoxyphenyl)azo]phenyl 4-(decyloxy)benzoate					
	Sol/Nem	381.2	37.0	97.06			
	Nem/Liq	501.2	1.3	2.59	99.65		[339]
$C_{31}H_{38}O_5$		2-hydroxypropyl 4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoate					
	Sol/Sol	408.6	25.07	61.36			
	Sol/Smec	422.0	3.73	8.84			
	Smec/Smec	440.9	3.58	8.12			
	Smec/Smec	446.1	0.25	0.56			
	Smec/Liq	459.8	16.63	36.17	115.05		[304]
$C_{31}H_{38}O_5$		3-hydroxypropyl 4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoate					
	Sol/Sol	409.8	10.55	25.74			
	Sol/Smec	423.2	2.85	6.73			
	Smec/Smec	448.2	3.78	8.43			
	Smec/Smec	454.9	0.69	1.52			
	Smec/Liq	461.8	18.50	40.06	82.48		[304]
$C_{31}H_{38}O_7$		4-pentyloxyphenyl 7-decanoyloxychromone-2-carboxylate					
	Sol/Smec	390.1	22.3	57.16			
	Smec/Smec	428.2	Not observed by dsc				
	Smec/Liq	434.1	4.6	10.60	67.76		[286]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{31}H_{40}O$		4-octyloxy-4″-pentylterphenyl					
	Sol/Smec	369.9	12.55	33.93			
	Smec/Smec	457.2	5.02	10.98			
	Smec/Smec	483.7	6.69	13.83			
	Smec/Nem	494.7	11.30	22.84	81.58		[50]
$C_{31}H_{40}N_2O_2S$		2-(4-butoxyphenyl)-5-[4-[(2-ethyl-2,3-undecadienyl)oxy]phenyl]-1,3,4-thiadiazole					
	Sol/Smec	360.2	35.5	98.56			
	Smec/Nem	364.2	1.41	3.87			
	Nem/Liq	366.2	1.02	2.79	105.22		[398]
$C_{31}H_{40}N_2O_2S$		2-(4-butyoxyphenyl)-5-[4-[[(3S)-3-methyl-3,4-dodecadienyl]oxy]phenyl]-1,3,4-thiadiazole					
	Sol/Smec	321.2	13.6	42.34			
	Smec/Nem	356.2	1.8	5.05			
	Nem/Liq	377.2	0.5	1.33	48.72		[398]
$C_{31}H_{40}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-hexyloxybenzoate					
	Sol/Chol	329.2	18.5	56.20			
	Chol/Liq	425.2	Not reported in paper				[201]
$C_{31}H_{40}O_2$		8-propyltricyclo[4.4.0.0^{3,8}]dec-1-yl 4′-pentyl[1,1′-bipheny]-4-carboxylate					
	Sol/Chol	365.2	14.98	41.02			
	Chol/Liq	395.2	Not reported in paper				[382]
	Note: Authors report only a single transition enthalpy, which we have assumed is for the Sol/Chol transition.						
$C_{31}H_{40}O_4$		4-[[(4-propylcyclohexyl)carbonyl]oxy]phenyl 4-(4-ethylcyclohexyl)benzoate					
	Sol/Smec	365.2	12.34	33.79			
	Smec/Nem	407.7	13.39	32.84			
	Nem/Liq	596.2	Not reported in paper				[348]
$C_{31}H_{41}ClN_2O_3$		3-{4-[(2S,3S)-2-chloro-3-methylpentanoyloxy]phenyl}-5-(4-decyloxyphenyl)pyrazole					
	Sol/Sol	381.6	6.7	17.56			
	Sol/Smec	398.4	16.2	40.66			
	Smec/Smec	408.0	Not reported in paper				
	Smec/Liq	429.2	3.3	7.69			[137]
$C_{31}H_{41}ClO_5$		2-chloro-4-methylpentyl 4-[[3-[4-(nonyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	335.2	41.84	124.82			
	Smec/Chol	351.2	0.84	2.39			
	Chol/Liq	352.2	0.84	2.39	129.60		[257]
$C_{31}H_{41}ClO_5$		2-chloro-3-methylpentyl 4-[[3-[4-(nonyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	325.2	28.45	87.48			
	Smec/Smec	337.2	0.21	0.62			
	Smec/Liq	358.2	3.35	9.35	97.45		[257]
$C_{31}H_{41}ClO_5$		4-[[3-[4-(decyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-4-methylpentanoate					
	Sol/Smec	342.2	23.39	68.35			
	Smec/Smec	351.2	0.21	0.60			
	Smec/Liq	365.7	3.85	10.53	79.48		[257]
$C_{31}H_{41}ClO_5$		4-[[3-[4-(decyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-3-methylpentanoate					
	Sol/Smec	329.2	33.4	101.46			
	Smec/Smec	353.2	0.17	0.48			
	Smec/Chol	371.7	0.29	0.78			
	Chol/Liq	372.2	0.88	2.36	105.08		[257]
$C_{31}H_{41}NO_2$		6-n-pentyloxy-2-[4-nonyloxystyryl]quinoline					
	Sol/Smec	370.2	39.83	107.59			
	Smec/Nem	405.1	2.07	5.11			
	Nem/Liq	433.7	1.00	2.31	115.01		[112]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{31}H_{41}N_3O_3$		1-[4-(N-ethoxycarbonylpiperazinyl)phenyl]-3-(4-nonyloxyphenyl)(1-propargyl-3-imine)					
	Sol/Smec	405.8	34.4	84.77			
	Smec/Liq	456.8	9.1	19.92	104.69		[154]
$C_{31}H_{42}N_2O_2$		6-n-decyloxy-2-[(4′-N-pentyloxyphenylimino)methyl]quinoline					
	Sol/Smec	353.1	27.95	79.16			
	Smec/Nem	375.9	0.10	0.27			
	Nem/Liq	401.1	1.29	3.22	82.65		[112]
$C_{31}H_{42}N_2O_2$		5-methyl-5′-[2-(4-dodecyloxyphenyl)-2-hydroxyethyl]-2,2′-bipyridine					
	Sol/Smec	355.0	29.15	82.11			
	Smec/Liq	413.5	4.84	11.70	93.81		[48]
$C_{31}H_{42}N_2O_3$		N-4-pentyloxyphenyl-6-decyloxyquinoline-2-carboxamide					
	Sol/Smec	364.1	42.3	116.18			
	Smec/Liq	385.5	5.7	14.79	130.97		[43]
$C_{31}H_{42}O_4$		7-hexyloxy-3-(4-decyloxyphenyl)-3*H*-1-benzopyran-4-one					
	Sol/Smec	390.4	31.6	80.94			
	Smec/Liq	421.7	6.3	14.94	95.88		[44]
$C_{31}H_{43}NO_5$		4-[4-(4-decyloxyphenyliminomethyl)-3-hydroxyphenoxy]butyl methacrylate					
	Sol/Smec	332.5	56.09	168.69			
	Smec/Smec	351.6	Not reported in paper				
	Smec/Liq	371.2	7.23	19.48	188.17		[294]
$C_{31}H_{43}NO_5$		6-[4-(4-octyloxyphenyliminomethyl)-3-hydroxyphenoxy]hexyl methacrylate					
	Sol/Smec	327.9	39.38	120.10			
	Smec/Smec	353.2	Not reported in paper				
	Smec/Liq	371.1	5.80	15.63	135.73		[294]
$C_{31}H_{43}N_3O_2S$		5-(4-octyloxyphenyl)-2-(4-octyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	381.0	33.8	88.71			
	Smec/Nem	467.1	4.6	9.85			
	Nem/Liq	478.4	1.1	2.30	100.86		[79,396,397]
$C_{31}H_{43}N_3O_2S$		N-[[4-(octyloxy)phenyl]methylene]-5-[4-(octyloxy)phenyl]-1,2,4-thiadiazol-2-amine					
	Sol/Smec	383.5	39.27	102.40			
	Smec/Nem	462.8	4.07	8.79			
	Nem/Liq	474.8	2.43	5.12	116.31		[283]
$C_{31}H_{43}N_3O_2S$		5-(4-octyloxy)phenyl-2-(4-n-octyloxy)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	419.8	17.0	40.50			
	Smec/Nem	520.9	5.0	9.60			
	Nem/Liq	527.5	1.3	2.46	52.56		[31]
$C_{31}H_{43}N_3O_3S$		5-(4-decyloxy)phenyl-2-(2-hydroxy-4-hexyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	370.2	28.90	78.07			
	Smec/Nem	482.2	7.66	15.89			
	Nem/Liq	486.2	0.07	0.14	94.10		[59]
$C_{31}H_{43}N_3O_3S$		2-[(E)-[(5-[4-(octyloxy)phenyl]-1,3,4-thiadiazol-2-yl]imino]methyl]-5-(octyloxy)phenol					
	Sol/Smec	379.6	26.63	70.15			
	Smec/Nem	489.5	6.18	12.63			
	Nem/Liq	490.4	2.98	6.08	88.86		[283]
$C_{31}H_{44}$		1-(*trans*-4-butylcyclohexylethynyl)-4-(*trans*-pentylcyclohexylethynyl)benzene					
	Sol/Nem	394.8	17.0	43.06			
	Nem/Liq	465.4	1.2	2.58	45.64		[436]
$C_{31}H_{44}N_2O_2$		3,5-di(4-n-octyloxyphenyl)pyrazole					
	Sol/Sol	334.9	26.9	80.32			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	416.5	14.3	34.33			
	Smec/Smec	452.6	0.3	0.66			
	Smec/Liq	465.4	6.4	13.75	129.06		[16]
$C_{31}H_{44}N_2O_2S$		6-n-decyloxy-2-(4-heptyloxybenzylidenamino)benzothiazole					
	Sol/Smec	354.0	36.7	103.67			
	Smec/Nem	374.4	0.9	2.40			
	Nem/Liq	393.5	1.8	4.57	110.64		[41]
$C_{31}H_{44}N_2O_3$		4-pentanoyl-4′-tetradecanoyloxyazobenzene					
	Sol/Sol	325.1	3.23	9.94			
	Sol/Sol	354.4	6.00	16.93			
	Sol/Smec	373.5	38.12	102.06			
	Smec/Liq	402.6	9.54	23.70	152.63		[157]
$C_{31}H_{44}N_2O_3$		4-propanoyl-4′- hexadecanoyloxyazobenzene					
	Sol/Smec	378.7	53.01	139.98			
	Smec/Liq	410.7	8.62	20.99	160.97		[157]
$C_{31}H_{44}N_2O_3S$		N-[2-(6-decyloxybenzothiazolyl)]-4-heptyloxybenzamide					
	Sol/Sol	357.1	13.2	36.96			
	Sol/Smec	378.1	28.2	74.58			
	Smec/Liq	410.6	4.9	11.93	123.47		[41]
$C_{31}H_{44}N_4OS$		2-(4-decanoxyphenylazo)-5-(4-heptyloxy)phenyl-1,3,4-thiadiazole					
	Sol/Nem	426.9	48.49	113.59			
	Nem/Liq	449.7	0.58	1.29	114.88		[396]
$C_{31}H_{44}N_4O_3$		4-[(1E)-[4-[4-(1-oxohexyl)-1-piperazinyl]phenyl]azo]benzoic acid, octyl ester					
	Sol/Smec	373.9	22.65	60.58			
	Smec/Smec	382.2	2.71	7.09			
	Smec/Smec	405.9	0.83	2.04			
	Smec/Liq	473.6	9.84	20.78	90.49		[344]
$C_{31}H_{44}O_3$		4-(*trans*-4-propylcyclohexyl)phenyl 4-{[(S)-6-methyloctyl]oxy}benzoate					
	Sol/Smec	358.2	37.55	104.83			
	Smec/Chol	359.2	Not reported in paper				
	Chol/Liq	436.2	Not reported in paper				[208]
$C_{31}H_{44}O_3$		4-(*trans*-4-pentylcyclohexyl)phenyl 4-{[(S)-4-methylhexyl]oxy}benzoate					
	Sol/Chol	358.2	38.51	107.51			
	Chol/Liq	438.2	Not reported in paper				[208]
$C_{31}H_{44}O_4$		4-[(S)-4-methylhexyloxy]phenyl 4-(10-undecenyloxy)benzoate					
	Sol/Smec	313.2	39.8	127.08			
	Smec/Smec	329.2	Not reported in paper				
	Smec/Liq	343.2	Not reported in paper				[200]
$C_{31}H_{44}O_4$		4-[(S)-6-methyloctyloxy]phenyl 4-(8-nonenyloxy)benzoate					
	Sol/Smec	325.2	31.6	97.17			
	Smec/Liq	351.2	Not reported in paper				[200]
$C_{31}H_{44}O_4$		4-(10-undecenyloxy)phenyl 4-[(S)-4-methylhexyloxy]benzoate					
	Sol/Smec	307.2	27.5	89.52			
	Smec/Chol	315.2	Not reported in paper				
	Chol/Liq	334.2	Not reported in paper				[200]
$C_{31}H_{44}O_4$		4-(8-nonenyloxy)phenyl 4-[(S)-6-methyloctyloxy]benzoate					
	Sol/Smec	311.2	27.0	86.76			
	Smec/Chol	334.2	Not reported in paper				
	Chol/Liq	343.2	Not reported in paper				[200]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{31}H_{45}FO_3S$		S-(2-fluoro-4-octyloxyphenyl) 4-decyloxythiobenzoate					
	Sol/Nem	335.2	45.6	136.04			
	Nem/Liq	346.2	2.0	5.78	141.82	NA	[4]
$C_{31}H_{45}NO_5$		4′-n-octadecyloxy-3′-nitrobiphenyl-4-carboxylic acid					
	Sol/Sol	324.8	11.42	35.16			
	Sol/Sol	337.2	3.41	10.11			
	Sol/Smec	399.4	42.5	106.41			
	Smec/Smec	428.1	1.14	2.66			
	Smec/Liq	464.0	1.88	4.05	158.39		[46]
$C_{31}H_{45}N_3OS$		5-[4-(4-(decyloxy)phenyl]-N-[(5-octyl-2-thienyl)methylene]-1,2,4-thiadiazole-2-amine					
	Sol/Smec	391.7	39.2	100.08			
	Smec/Liq	414.5	8.5	20.51	120.59		[396,397]
$C_{31}H_{45}N_3O_2S$		6-n-decyloxy-2-(4-octyloxyphenylazo)benzothiazole					
	Sol/Smec	343.9	44.9	130.56			
	Smec/Nem	368.2	0.8	2.17			
	Nem/Liq	397.0	1.8	4.53	137.26		[42]
$C_{31}H_{46}N_2O$		5-heptyl-2-[4-[3-[(*trans*-4-pentylcyclohexyl)oxy]-1-propenyl]phenyl]pyrimidine					
	Sol/Nem	364.2	18.5	50.80			
	Nem/Liq	414.2	Not reported in paper				[198]
$C_{31}H_{46}N_2O_2$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl *trans*-4-pentylcyclohexane-1-carboxylate					
	Sol/Chol	383.2	31.0	80.90			
	Chol/Liq	420.2	Not reported in paper				[201]
$C_{31}H_{46}O_2$		4-(*trans*-4-pentylcyclohexyl)phenyl 8-propyltricyclo[4.4.0.0^{3,8}]decane-1-carboxylate					
	Sol/Chol	374.2	21.25	56.79			
	Chol/Liq	401.2	Not reported in paper				[382]
	Note: Authors report only a single transition enthalpy, which we have assumed is for the Sol/Chol transition.						
$C_{31}H_{46}O_2S$		4-pentylbenzenethio-4′-tridecyloxybenzoate					
	Sol/Smec	339.2	37.66	111.03			
	Smec/Liq	361.9	7.78	21.50	132.53	NA	[217]
$C_{31}H_{47}NO$		N-(p-n-nonyloxybenzylidene)-4-(n-nonyl)aniline					
	Sol/Smec	320.2	42.20	131.79			
	Smec/Smec	351.3	4.31	12.27			
	Smec/Liq	360.1	8.42	23.38	167.44		[11]
$C_{31}H_{47}NO$		N-(4-hexadecyloxybenzylidene)-4-ethylaniline					
	Sol/Smec	336.2	21.05	62.61			
	Smec/Smec	341.6	4.09	11.97			
	Smec/Liq	345.6	2.92	8.45	83.03		[65]
$C_{31}H_{47}NO$		N-(4-dodecyloxybenzylidene)-4-hexylaniline					
	Sol/Smec	322.4	25.70	79.71			
	Smec/Smec	356.7	6.18	17.33			
	Smec/Liq	363.0	9.00	24.79	121.83		[256]
$C_{31}H_{47}NO$		4-propyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	344.0	25.06	72.82			
	Smec/Smec	352.8	2.90	8.22			
	Smec/Liq	359.3	5.39	15.00	96.04		[240]
$C_{31}H_{47}NO$		N-(4-ethoxybenzylidene)-4-hexadecylaniline					
	Sol/Smec	322.2	45.60	141.53			
	Smec/Liq	342.3	2.16	6.31	147.84		[65]
$C_{31}H_{48}N_2$		5-hexyl-2-[4-[4-(*trans*-4-pentylcyclohexyl)butyl]phenyl]pyrimidine					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	352.2	18.9	53.66			
	Nem/Liq	386.2	Not reported in paper				[198]
$C_{31}H_{48}N_2O$		4-propyl-4′-hexadecyloxyazobenzene					
	Sol/Smec	347.1	107.9	310.86			
	Smec/Liq	352.4	26.92	76.39	387.25	184.1	[153]
$C_{31}H_{48}N_2O$		4-pentyl-4′-tetradecyloxyazobenzene					
	Sol/Smec	335.2	29.13	86.90			
	Smec/Smec	346.1	4.57	13.20			
	Smec/Liq	357.6	10.56	29.53	129.63	184.1	[141]
$C_{31}H_{48}N_2O$		4-heptyl-4′-dodecyloxyazobenzene					
	Sol/Smec	323.4	27.54	85.16			
	Smec/Smec	343.7	3.39	9.86			
	Smec/Liq	358.7	9.93	27.68	122.70	184.1	[390]
$C_{31}H_{48}N_2O$		5-heptyl-2-[4-[3-[(*trans*-4-pentylcyclohexyl)oxy]propyl]phenyl]pyrimidine					
	Sol/Nem	357.2	16.1	45.07			
	Nem/Liq	410.2	Not reported in paper				[198]
$C_{31}H_{48}N_2O$		2-[4-(11-dodecenyloxy)phenyl]-5-[(S)-6-methyloctyl]pyrimidine					
	Sol/Smec	306.2	27.9	91.11			
	Smec/Chol	310.2	Not reported in paper				
	Chol/Liq	316.2	Not reported in paper				[201]
$C_{31}H_{50}N_2O_6$		4,4′-*bis*[4-(4-pentyloxybenzylideneamino)benzoyloxy]diphenylmethane					
	Sol/Smec	438.2	21.0	47.92			
	Smec/Liq	503.2	17.0	33.78	81.70		[284]
$C_{31}H_{50}O_2$		cholesteryl crotonate					
	Sol/Chol	385.95	24.73	64.07			
	Chol/Liq	435.15	1.26	2.88	66.95	107.9	[155,310]
$C_{31}H_{52}OS$		cholesteryl thiobutyrate					
	Sol/Chol	373.2	23.6	63.2			
	Chol/Liq	390.8	0.36	0.9	64.1	NA	[155,312]
$C_{31}H_{52}O_6$		*cis*, *cis*-(3,5-dihydroxycyclohexyl) 3,4-*bis*(nonyloxy)benzoate					
	Sol/Meso	352.2	10.9	30.95			
	Meso/Liq	382.7	0.9	2.35	33.30		[98]
$C_{31}H_{53}BrO_2$		3-[2-(2-bromoethoxy)ethoxy]-cholest-5-ene					
	Sol/Nem	313.0	20.9	66.77			
	Nem/Liq	319.7	0.43	1.35	68.12		[316]
$C_{31}H_{53}ClO_2$		3-[2-(2-chloroethoxy)ethoxy]-cholest-5-ene					
	Sol/Nem	312.4	3.26	10.44			
	Nem/Liq	319.2	0.42	1.32	11.76		[316]
$C_{31}H_{53}IO_2$		3-[2-(2-iodoethoxy)ethoxy]-cholest-5-ene					
	Sol/Nem	314.3	26.4	84.00			
	Nem/Liq	322.7	1.26	3.90	87.90		[322]
$C_{31}H_{54}O_2$		5α-cholesta-3β-ol butyrate					
	Sol/Liq	361.15	26.9	74.6	74.6	110.7	[311]
	Chol/Liq	356.15	0.34	1.0			
	Note: Liquid crystalline phase detected upon cooling.						
$C_{31}H_{54}N_2O_2$		N,N′-diundecanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	398.2	38	95.43			
	Meso/Nem	467.2	17	36.39			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	468.2	To small to be measured		130.92		[36]
$C_{31}H_{55}NO_4$		3,4,5-*tris*(octyloxy)benzamide					
	Sol/Meso	355.2	43.0	121.06			
	Meso/Liq	362.2	6.8	18.77	139.83		[378]
$C_{32}H_{20}F_{26}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-[(perfluorohexyyl)butoxy]benzoate					
	Sol/Smec	399.2	49.33	123.57			
	Smec/Smec	399.6	1.86	4.65			
	Smec/Liq	404.3	4.11	10.17	138.39		[128]
$C_{32}H_{22}F_4N_2O_7$		4-ethoxy-2,3-difluorobenzoic acid, 1,2,4-oxadiazole-3,5-diylyl-4,1-phenylene ester					
	Sol/Sol	453.5	25.33	55.85			
	Sol/Nem	461.3	17.84	38.67			
	Nem/Liq	Decomposed prior to transition					[264]
$C_{32}H_{30}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-pentyloxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	362.7	26.08	71.91			
	Smec/Smec	363.2	Not detected by dsc				
	Smec/Chol	397.9	0.36	0.90			
	Chol/Liq	426.3	0.41	0.96	73.77		[91]
$C_{32}H_{30}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]*bis*, dipropyl ester					
	Sol/Nem	487.6	60.6	124.28			
	Nem/Liq	571.1	2.0	3.50	127.78		[271]
$C_{32}H_{30}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(propoxy)-3-oxo-1-propenyl]phenyl ester					
	Sol/Sol	386.2	1.2	3.11			
	Sol/Smec	407.6	31.9	78.26			
	Smec/Nem	526.6	0.8	1.52			
	Nem/Liq	575.9	0.8	1.39	84.28		[271]
$C_{32}H_{32}F_4O_4$		pentyl 4-[4-((4-pentyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					
	Sol/Smec	361.3	22.59	62.52			
	Smec/Nem	367.4	1.00	2.72			
	Nem/Liq	371.6	0.83	2.23	67.47		[96]
$C_{32}H_{32}F_4O_4$		ethyl 4-[4-((4-octyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					
	Sol/Smec	367.6	43.36	117.95			
	Smec/Nem	376.0	0.41	1.09			
	Nem/Liq	388.4	1.56	4.02	123.06		[96]
$C_{32}H_{32}F_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-hexyloxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	354.6	33.13	93.43			
	Nem/Liq	409.5	0.54	1.32	94.75		[124]
$C_{32}H_{32}N_2O_6$		*bis*(4-butyoxyphenyl) 2,2′-bipyridine-5,5′-dicarboxylate					
	Sol/Smec	467.2	31.5	67.42			
	Smec/Liq	Sample decomposed before isotropic liquid.					[93]
$C_{32}H_{32}N_4O_6S_3$		*bis*[4-(5-n-pentylthio-1,3,4-oxadiazole-2-yl)phenyl]-2,5-thiophenedicarboxylate					
	Sol/Smec	416.2	27.7	66.55			
	Smec/Liq	501.2	5.8	11.57	78.12		[23]
$C_{32}H_{32}N_6O_6$		α,ω-*bis*(4-nitroazobenzene-4′-oxy)octane					
	Sol/Nem	462.2	54.56	118.04			
	Nem/Liq	477.2	3.25	6.81	124.85		[422]
$C_{32}H_{33}F_{13}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-(decyloxy)benzoate					
	Sol/Smec	355.4	27.45	77.24			
	Smec/Smec	382.2	0.30	0.78			
	Smec/Liq	385.7	8.41	21.80	99.82		[125]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{32}H_{34}$		4′-[2-(4-propylphenyl)-1-ethynyl]-2′-methyl-4-hexyltolane					
	Sol/Nem	351.1	15.7	44.72			
	Nem/Liq	443.2	1.17	2.64	47.36		[55, 430]
$C_{32}H_{34}$		4′-[2-(4-hexylphenyl)-1-ethynyl]-2′-methyl-4-propyltolane					
	Sol/Nem	330.5	13.7	31.45			
	Nem/Liq	441.9	1.7	3.85	35.30		[55]
$C_{32}H_{34}$		4′-[2-(4-propylphenyl)-1-ethynyl]-2′-ethyl-4-pentyltolane					
	Sol/Nem	329.3	12.5	37.96			
	Nem/Liq	408.1	1.26	3.08	41.04		[55]
$C_{32}H_{34}$		4′-[2-(4-hexylphenyl)-1-ethynyl]-2′-ethyl-4-ethyltolane					
	Sol/Nem	304.2	13.3	43.72			
	Nem/Liq	380.0	0.75	1.97	45.69		[55]
$C_{32}H_{34}$		1-[(4-hexylphenyl)ethynyl]-3-methyl-4-[(4-propylphenyl)ethynyl]benzene					
	Sol/Nem	330.2	14.4	43.61			
	Nem/Liq	442.2	1.3	2.94	46.55		[82]
$C_{32}H_{34}$		1-[(4-hexylphenyl)ethynyl]-4-[(2-methyl-4-propylphenyl)ethynyl]benzene					
	Sol/Nem	340.2	13.5	39.68			
	Nem/Liq	449.2	1.0	2.23	41.91		[82]
$C_{32}H_{34}$		1-[(4-hexylphenyl)ethynyl]-4-[(3-methyl-4-propylphenyl)ethynyl]benzene					
	Sol/Nem	358.2	30.9	86.26			
	Nem/Liq	416.2	0.9	2.16	88.42		[82]
$C_{32}H_{34}N_2O_2$		2,3-dicyano-4-pentylphenyl 4′-hexyl-4-biphenyl-1-carboxylate					
	Sol/Nem	366.2	31.80	86.84			
	Nem/Liq	382.2	Not reported in paper				[202]
$C_{32}H_{34}N_2O_2$		2,3-dicyano-4-heptylphenyl 4′-butyl-4-biphenyl-1-carboxylate					
	Sol/Nem	360.7	29.29	81.20			
	Nem/Liq	373.2	Not reported in paper				[202]
$C_{32}H_{34}N_2O_2$		α-(4′-methylazobenzene-4-oxy)-ω-(4′-methylazobenzene-4-oxy)hexane					
	Sol/Nem	458.2	53.33	116.39			
	Nem/Liq	481.2	6.96	14.46	130.85		[67]
$C_{32}H_{34}N_4O_2$		α-(4′-ethylazobenzene-4-oxy)-ω-(azobenzene-4-oxy)hexane					
	Sol/Nem	415.2	53.51	128.88			
	Nem/Liq	426.2	3.44	8.07	136.95		[67]
$C_{32}H_{34}O$		1-[(4-pentyloxyphenyl)ethynyl]-3-methyl-4-[(4-butylphenyl)ethynyl]benzene					
	Sol/Nem	356.2	16.4	46.04			
	Nem/Liq	474.2	1.4	2.95	48.99		[82]
$C_{32}H_{34}O_2$		4,4‴-dibutoxy-p-quaterphenyl					
	Sol/Sol	520.0	8.84	17.00			
	Sol/Sol	610.0	4.88	8.00			
	Sol/Smec	616.0	3.70	6.01			
	Smec/Liq	670.0	10.05	15.00	46.01	145.6	[111]
$C_{32}H_{34}O_5$		7-[(4′-decyloxy)benzoyloxy]isoflavone					
	Sol/Smec	413.1	8.03	19.44			
	Note: Solid/Smectic transition enthalpy is abnormally low compared to other compounds in this series.						
	Smec/Liq	469.6	3.42	7.28			[14]
$C_{32}H_{34}O_6$		*bis*(4-heptyloxyphenyl) terephthalate					
	Sol/Smec	425.5	56.2	132.08			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Smec	449.2	0.3	0.67			
	Smec/Nem	454.0	0.9	1.98			
	Nem/Liq	468.0	1.7	3.63	138.36	189.0	[12]
$C_{32}H_{34}O_6S_2$		*bis*(4-pentyloxyphenyl) 2,2′- bithiophene-5,5′-dicarboxylate					
	Sol/Sol	372.8	2.0	5.36			
	Sol/Sol	378.9	5.2	13.72			
	Sol/Sol	403.4	2.4	5.95			
	Sol/Smec	422.8	29.6	70.01			
	Smec/Nem	504.6	1.8	3.57			
	Nem/Liq	510.0	1.3	2.55	101.16	177.8	[12]
$C_{32}H_{34}O_8$		*bis*[4-(2-methylbutoxycarbonyl)phenyl] terephthalate					
	Sol/Smec	406.2	35.0	86.16			
	Smec/Nem	426.2	0.6	1.41			
	Nem/Liq	438.2	0.4	0.91	88.48	126.4	[194]
$C_{32}H_{34}O_8$		*bis*[4-(3-methylbutoxycarbonyl)phenyl] terephthalate					
	Sol/Smec	426.2	47.0	110.28			
	Smec/Nem	440.2	4.4	10.00	120.28	126.4	[194]
$C_{32}H_{34}O_8$		*bis*(4-pentyloxycarbonylphenyl) terephthalate					
	Sol/Smec	418.2	40.0	95.65			
	Smec/Liq	463.2	5.3	11.44	107.09	166.6	[194]
$C_{32}H_{35}ClF_2O_5$		4-[(2S)-2-chloro-3-methylpentanoyloxy]biphenyl-4′-yl 4-heptyloxy-2,3-difluorobenzoate					
	Sol/Smec	347.9	16.08	46.22			
	Smec/Nem	397.4	1.7	4.28			
	Nem/Liq	425.4	0.7	1.65	52.15		[121]
$C_{32}H_{35}ClF_2O_5$		4-[(2S)-2-chloro-3-methylbutanoyloxy]biphenyl-4′-yl 4-octyloxy-2,3-difluorobenzoate					
	Sol/Smec	342.7	23.01	67.14			
	Smec/Nem	412.9	1.4	3.39			
	Nem/Liq	443.3	0.86	1.94	72.47		[121]
$C_{32}H_{35}NO$		5-(4′-octyloxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Sol	415.0	8.5	20.48			
	Sol/Smec	510.0	4.0	7.84			
	Smec/Smec	543.0	4.0	7.37			
	Smec/Nem	599.0	1.6	2.67			
	Nem/Liq	623.0	1.2	1.93	40.29		[185]
$C_{32}H_{35}NO_4$		4-cyanophenyl 3-[[4′-(decyloxy)[1,1′-biphenyl]-4-yloxy]-2-propenoate					
	Sol/Smec	358.6	38.8	108.20			
	Smec/Liq	362.8	4.9	13.51	121.71		[305]
$C_{32}H_{35}NO_4$		4′-cyano[1,1′-biphenyl]-4-yl 3-[4-(decyloxy)phenoxy]-2-propenoate					
	Sol/Smec	364.1	35.5	97.50			
	Smec/Liq	391.2	4.1	10.48	107.98		[305]
$C_{32}H_{36}N_2O_4$		dipentyl N,N′-[1,4-phenylene-*bis*(methylidyne)]-*bis*[aminobenzoate]					
	Sol/Smec	373.2	34.0	91.10			
	Smec/Nem	479.2	1.3	2.71			
	Nem/Liq	489.2	0.46	0.94	94.75		[192]
$C_{32}H_{36}N_4O_2S$		5-(4-octyloxyphenyl)-5-(4-decyloxy)phenylazo-1,3,4-thiadiazole					
	Sol/Smec	423.1	37.46	88.54			
	Smec/Nem	429.4	1.13	2.63			
	Nem/Liq	449.6	1.15	2.56	93.97		[79]
$C_{32}H_{36}O_7$		2-acetyl-1,4-phenylene 4-(pentyloxy)benzoate					
	Sol/Nem	363.3	28.3	77.90			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	408.1	1.8	4.41	82.31		[432]
$C_{32}H_{37}ClO_2$		1-(4-undecylbiphenyl)-3-(4-chlorophenyl)propane-1,3-dione					
	Sol/Smec	397.7	35.48	89.21			
	Smec/Liq	417.2	5.15	12.34	101.55		[250]
$C_{32}H_{38}N_2O_2$		2,3-dicyano-4-heptylphenyl 4-[4-butylbicyclo[2.2.2]oct-1-yl]benzoate					
	Sol/Nem	396.2	21.33	53.84			
	Nem/Liq	398.2	Not reported in paper				[202]
$C_{32}H_{38}O_4$		4,4′-dioctanoyloxydiphenyldiacetylene					
	Sol/Sol	359.0	35.40	98.61			
	Sol/Nem	406.0	34.00	83.74			
	Nem/Liq	412.0	2.18	5.29	187.64	153.8	[157]
$C_{32}H_{38}O_7$		4-(4-decyloxybenzoyloxy)phenyl (3,4-dimethoxy)benzoate					
	Sol/Nem	361.7	9.39	25.96			
	Nem/Liq	412.0	0.39	0.95	26.91		[103]
$C_{32}H_{38}O_7$		4-(4-butoxybenzoyloxy)phenyl (3,4-dibutoxy)benzoate					
	Sol/Nem	376.7	9.53	25.30			
	Nem/Liq	397.0	0.34	0.86	26.16		[103]
$C_{32}H_{39}NO_3$		4-ethylphenyl 4-(4-decyloxybenzylideneamino)benzoate					
	Sol/Smec	356.2	37.0	103.87			
	Smec/Liq	452.2	1.7	3.76	107.63	169.6	[292]
$C_{32}H_{39}NO_3$		4-*tert*-butylphenyl 4-(4-octyloxybenzylideneamino)benzoate					
	Sol/Smec	404.2	37.0	91.54			
	Smec/Liq	425.2	4.4	10.35	101.89	141.6	[292]
$C_{32}H_{39}NO_3$		4-(4′-undecyloxybenzoyloxybenzylidene)-2″-aniline					
	Sol/Smec	348.4	33.41	95.90			
	Smec/Nem	359.8	0.63	1.75			
	Nem/Liq	380.0	0.90	2.37	100.02		[399]
$C_{32}H_{39}NO_3$		4-(4-decyloxybenzylideneamino)phenyl 4-ethylbenzoate					
	Sol/Nem	361.2	32.0	88.59			
	Nem/Liq	469.2	1.7	3.62	92.21	162.6	[292]
$C_{32}H_{40}$		1-(*trans*-4-pentylcyclohexylethynyl)-4-(4-pentylphenylethynyl)benzene					
	Sol/Nem	368.0	11.8	32.07			
	Nem/Liq	461.6	0.8	1.73	33.80		[436]
$C_{32}H_{40}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-(5-hexenyloxy)benzoate					
	Sol/Chol	339.2	29.4	86.67			
	Chol/Liq	412.2	Not reported in paper				[201]
$C_{32}H_{40}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-(6-heptenyloxy)benzoate					
	Sol/Smec	317.2	20.7	65.26			
	Smec/Chol	321.2	Not reported in paper				
	Chol/Liq	422.2	Not reported in paper				[201]
$C_{32}H_{40}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-(5-hexenyloxy)benzoate					
	Sol/Chol	339.2	29.4	86.67			
	Chol/Liq	412.2	Not reported in paper				[201]
$C_{32}H_{40}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2-methylphenyl 4-(decyloxy)benzoate					
	Sol/Nem	365.2	51.0	139.65			
	Nem/Liq	459.2	1.5	3.27	142.92		[339]
$C_{32}H_{40}N_2O_4$		4-[(4-ethoxyphenyl)azo]-3-methylphenyl 4-(decyloxy)benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	366.2	54.0	147.46			
	Nem/Liq	458.2	1.4	3.06	150.52		[339]
$C_{32}H_{40}O_5$		3-hydroxybutyl 4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoate					
	Sol/Sol	364.4	22.86	62.73			
	Sol/Smec	413.0	2.67	6.46			
	Smec/Smec	435.4	3.89	8.93			
	Smec/Smec	444.0	0.56	1.26			
	Smec/Liq	447.7	16.65	37.19	116.57		[304]
$C_{32}H_{40}O_5$		4-hydroxybutyl 4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoate					
	Sol/Sol	394.8	24.38	61.75			
	Sol/Smec	414.2	2.57	6.20			
	Smec/Smec	442.1	3.99	9.03			
	Smec/Smec	447.9	0.35	0.78			
	Smec/Liq	452.9	17.46	38.55	116.31		[304]
$C_{32}H_{40}O_6S$		*bis*(4-heptyloxyphenyl) 2,5-thiophenedicarboxylate					
	Sol/Sol	388.9	12.3	31.63			
	Sol/Sol	395.5	7.6	19.22			
	Sol/Nem	403.9	39.7	98.29			
	Nem/Liq	408.9	1.4	3.42	152.56	190.3	[12]
$C_{32}H_{40}O_7$		4-hexyloxyphenyl 7-decanoyloxychromone-2-carboxylate					
	Sol/Smec	385.9	25.7	66.60			
	Smec/Smec	430.2	Not observed by dsc				
	Smec/Liq	435.6	5.2	11.94	78.54		[286]
$C_{32}H_{41}NO_2$		N-(2-hydroxy-4-methoxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	386.2	41.84	108.34			
	Smec/Nem	489.7	1.67	3.41			
	Nem/Liq	493.7	1.17	2.37	114.12		[323]
$C_{32}H_{41}NO_2$		7-(undec-10-enyloxy)-3-(4′-butyoxystyryl)quinoline					
	Sol/Smec	339.9	39.86	117.27			
	Smec/Liq	437.4	3.91	8.94	126.21		[139]
$C_{32}H_{41}N_5O_3$		2-cyano-3-[4-[(1E)-[4-[4-(1-oxooctyl)-1-piperazinyl]phenyl]azo]phenyl]-2-propenoic acid, butyl ester					
	Sol/Smec	456.3	17.94	39.32			
	Smec/Liq	479.9	2.45	5.11	44.43		[326]
$C_{32}H_{42}O_4$		4-[[(4-butylcyclohexyl)carbonyl]oxy]phenyl 4-(4-ethylcyclohexyl)benzoate					
	Sol/Smec	361.0	14.14	39.17			
	Smec/Nem	404.7	13.68	33.80			
	Nem/Liq	592.2	Not reported in paper				[348]
$C_{32}H_{42}O_4$		4-[[(4-propylcyclohexyl)carbonyl]oxy]phenyl 4-(4- propylcyclohexyl)benzoate					
	Sol/Smec	349.6	11.72	33.52			
	Smec/Nem	418.7	17.24	41.18			
	Nem/Liq	598.2	Not reported in paper				[348]
$C_{32}H_{43}ClO_5$		2-chloro-4-methylpentyl 4-[[3-[4-(decyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	317.2	32.22	101.58			
	Smec/Smec	336.7	0.38	1.13			
	Smec/Liq	354.3	3.77	10.64	113.35		[257]
$C_{32}H_{43}ClO_5$		2-chloro-3-methylpentyl 4-[[3-[4-(decyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	315.7	30.12	95.41			
	Smec/Smec	339.7	0.21	0.62			
	Smec/Liq	360.2	3.77	10.47	106.50		[257]
$C_{32}H_{43}ClO_5$		4-[[3-[4-(undecyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-4-methylpentanoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	327.2	26.90	82.21			
	Smec/Smec	352.2	0.17	0.48			
	Smec/Liq	365.2	4.35	11.91	94.60		[257]
$C_{32}H_{43}ClO_5$		4-[[3-[4-(undecyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-3-methylpentanoate					
	Sol/Smec	323.2	22.72	70.30			
	Smec/Smec	356.7	0.25	0.70			
	Smec/Liq	372.7	3.72	9.98	80.98		[257]
$C_{32}H_{43}NO_2$		6-n-pentyloxy-2-[4-decyloxystyryl]quinoline					
	Sol/Sol	367.6	19.56	53.21			
	Sol/Smec	375.0	22.22	59.25			
	Smec/Nem	405.6	1.60	3.94			
	Nem/Liq	431.1	1.05	2.44	118.84		[112]
$C_{32}H_{43}NO_2S$		4-isothiocyanatophenyl 4-(*trans*-4-dodecylcyclohexyl)benzoate					
	Sol/Smec	363.7	53.14	146.11			
	Smec/Nem	455.2	0.88	1.93			
	Nem/Liq	461.2	1.30	2.82	150.86	NA	[356]
$C_{32}H_{43}N_3O_3$		1-[4-(N-ethoxycarbonylpiperazinyl)phenyl]-3-(4-decyloxyphenyl)(1-propargyl-3-imine)					
	Sol/Smec	399.0	26.2	65.66			
	Smec/Liq	457.7	9.0	19.66	85.32		[154]
$C_{32}H_{44}N_2O_2$		6-n-decyloxy-2-[(4′-N-hexyloxyphenylimino)methyl]quinoline					
	Sol/Smec	341.6	42.09	123.21			
	Smec/Nem	388.2	Not detected by dsc				
	Nem/Liq	406.0	1.90	4.68	118.53		[112]
$C_{32}H_{44}N_2O_3$		N-4-hexyloxyphenyl-6-decyloxyquinoline-2-carboxamide					
	Sol/Smec	367.1	42.6	116.04			
	Smec/Liq	387.4	6.0	15.49	131.53		[43]
$C_{32}H_{44}N_2O_4$		3-{4-[(2S)-2-butyloxypropanoyloxy]phenyl}-5-(4-decyloxyphenyl)pyrazole					
	Sol/Smec	396.8	15.9	40.07			
	Smec/Smec	400.8	Not reported in paper				
	Smec/Liq	406.8	3.0	7.37			[137]
$C_{32}H_{44}N_4O_3$		4-[(1E)-[4-[4-(1-oxo-10-undecenyl)-1-piperazinyl]phenyl]azo]benzoic acid, butyl ester					
	Sol/Smec	333.3	1.81	5.43			
	Smec/Smec	398.4	1.01	2.54			
	Smec/Liq	462.2	9.53	20.62	28.59		[403]
$C_{32}H_{44}O_4$		7-hepyloxy-3-(4-decyloxyphenyl)-3*H*-1-benzopyran-4-one					
	Sol/Smec	393.6	35.0	88.92			
	Smec/Liq	419.3	7.7	18.36	107.28		[44]
$C_{32}H_{44}O_4$		di(4′-hexylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	347.2	30.0	86.41			
	Smec/Smec	379.6	2.94	7.74			
	Smec/Nem	411.5	2.65	6.44			
	Nem/Liq	415.5	1.03	2.48	103.07	161.7	[215]
$C_{32}H_{44}O_6$		di(4′-hexyloxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	371.2	37.03	99.76			
	Smec/Smec	381.2	1.21	3.17			
	Smec/Nem	454.2	1.91	4.21			
	Nem/Liq	461.2	1.18	2.56	109.70	175.3	[220]
$C_{32}H_{45}NO_3$		6-hexyloxynaphth-2-yl 5-decyloxy-2-methypyridyl ketone					
	Sol/Sol	329.2	10.06	30.56			
	Sol/Sol	341.2	0.29	0.85			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	372.2	Not resolved by disc				
	Smec/Liq	385.2	36.76	95.43	126.84		[123]
	Note: Sol/Smec transition enthalpy is included in Smec/Liq value.						
$C_{32}H_{45}NO_5$		4-[4-(4-undecyloxyphenyliminomethyl)-3-hydroxyphenoxy]butyl methacrylate					
	Sol/Smec	334.6	60.25	180.07			
	Smec/Smec	351.1	Not reported in paper				
	Smec/Liq	366.7	6.90	18.82			[294]
$C_{32}H_{45}NO_5$		6-[4-(4-nonyloxyphenyliminomethyl)-3-hydroxyphenoxy]hexyl methacrylate					
	Sol/Smec	328.4	29.29	89.19			
	Smec/Smec	343.4	Not reported in paper				
	Smec/Liq	364.5	6.01	16.49			[294]
$C_{32}H_{45}N_3O_2S$		5-(4-nonyloxyphenyl)-2-(4-octyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	380.0	35.4	93.16			
	Smec/Nem	466.7	3.9	8.36			
	Nem/Liq	474.3	1.4	2.95	104.47		[79,396,397]
$C_{32}H_{45}N_3O_2S$		N-[[4-(nonyloxy)phenyl]methylene]-5-[4-(octyloxy)phenyl]-1,2,4-thiadiazol-2-amine					
	Sol/Smec	376.6	32.14	85.34			
	Smec/Liq	432.2	8.08	18.70	104.04		[283]
$C_{32}H_{45}N_3O_3S$		5-(4-nonyloxy)phenyl-2-(4-n-octyloxy)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	412.7	14.1	34.17			
	Smec/Nem	519.4	3.6	6.93			
	Nem/Liq	524.0	0.8	1.53	42.63		[31]
$C_{32}H_{45}N_3O_3S$		5-(4-decyloxy)phenyl-2-(2-hydroxy-4-heptyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	369.2	30.98	83.91			
	Smec/Liq	486.2	6.26	12.88	96.79		[59]
$C_{32}H_{45}N_3O_3S$		2-[(E)-[(5-[4-(nonyloxy)phenyl]-1,3,4-thiadiazol-2-yl]imino]methyl]-5-(octyloxy)phenol					
	Sol/Smec	388.5	16.08	41.39			
	Smec/Liq	452.2	8.11	17.93	59.32		[283]
$C_{32}H_{46}$		1-(*trans*-4-pentylcyclohexylethynyl)-4-(*trans*-pentylcyclohexylethynyl)benzene					
	Sol/Nem	405.6	15.6	38.46			
	Nem/Liq	465.0	1.4	3.01	41.47		[436]
$C_{32}H_{46}N_2O_2S$		6-n-decyloxy-2-(4-octyloxybenzylidenamino)benzothiazole					
	Sol/Smec	355.8	40.1	112.70			
	Smec/Nem	385.3	1.2	3.11			
	Nem/Liq	396.2	2.5	6.31	122.12		[41]
$C_{32}H_{46}N_2O_2S_2$		2,5-*bis*(4-nonyloxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Sol	394.1	41.43	105.13			
	Sol/Smec	420.8	51.19	121.65			
	Smec/Liq	506.9	11.64	22.96	249.74		[269]
$C_{32}H_{46}N_2O_3$		4-propanoyl-4′-heptadecanoyloxyazobenzene					
	Sol/Smec	379.7	58.74	154.70			
	Smec/Liq	409.7	8.70	21.24	175.94		[157]
$C_{32}H_{46}N_2O_3$		4-pentanoyl-4′-pentadecanoyloxyazobenzene					
	Sol/Sol	368.9	9.12	24.72			
	Sol/Smec	374.8	42.70	113.93			
	Smec/Liq	401.2	9.84	24.53	163.18		[157]
$C_{32}H_{46}N_2O_3S$		N-[2-(6-decyloxybenzothiazolyl)]-4-octyloxybenzamide					
	Sol/Sol	361.2	Not reported in paper				
	Sol/Smec	373.2	32.1	86.01			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	406.0	4.0	9.85	95.86		[41]
$C_{32}H_{46}N_4OS$		2-(4-decanoxyphenylazo)-5-(4-octyloxy)phenyl-1,3,4-thiadiazole					
	Sol/Smec	423.1	37.46	88.54			
	Smec/Nem	429.4	1.13	2.63			
	Nem/Liq	449.6	1.15	2.56	93.73		[396]
$C_{32}H_{46}O_3$		4-[2-(*trans*-4-propylcyclohexyl)ethyl]phenyl 4-{[(S)-1-methylheptyl]oxy}benzoate					
	Sol/Chol	313.2	27.07	86.43			
	Chol/Liq	347.2	Not reported in paper				[208]
$C_{32}H_{46}O_4$		4-[(*trans*-4-pentylcyclohexyl)methoxy]phenyl 4-heptyloxybenzoate					
	Sol/Smec	353.2	27.94	79.11			
	Smec/Nem	363.2	Not reported in paper				
	Nem/Liq	436.2	Not reported in paper				[207]
$C_{32}H_{46}O_4$		4-[(S)-4-methylhexyloxy]phenyl 4-(11-dodecenyloxy)benzoate					
	Sol/Smec	323.2	35.4	109.53			
	Smec/Smec	334.2	Not reported in paper				
	Smec/Liq	342.2	Not reported in paper				[200]
$C_{32}H_{46}O_4$		4-[(S)-6-methyloctyloxy]phenyl 4-(9-decenyloxy)benzoate					
	Sol/Smec	336.2	43.2	128.49			
	Smec/Smec	340.2	Not reported in paper				
	Smec/Liq	348.2	Not reported in paper				[200]
$C_{32}H_{46}O_4$		4-(9-decenyloxy)phenyl 4-[(S)-6-methyloctyloxy]benzoate					
	Sol/Smec	318.2	21.8	68.51			
	Smec/Chol	333.2	Not reported in paper				
	Chol/Liq	340.2	Not reported in paper				[200]
$C_{32}H_{46}O_4$		4-[(*trans*-4-propylcyclohexyl)methoxy]phenyl 4-{[(S)-6-methyloctyl]oxy}benzoate					
	Sol/Smec	356.2	28.82	80.91			
	Smec/Chol	367.2	Not reported in paper				[208]
$C_{32}H_{46}O_4$		4-[(*trans*-4-pentylcyclohexyl)methoxy]phenyl 4-{[(S)-4-methylhexyl]oxy}benzoate					
	Sol/Chol	359.2	26.12	72.72			
	Chol/Liq	421.2	Not reported in paper				[208]
$C_{32}H_{47}BrN_2O_4$		4-(4-tetradecyloxyphenylazoxy)phenyl 2S,3S-2-bromo-3-methylpentanoate					
	Sol/Smec	333.5	46.96	140.81			
	Smec/Smec	339.1	0.18	0.53			
	Smec/Liq	346.5	4.10	11.83	153.17		[47]
$C_{32}H_{47}ClN_2O_4$		4-(4-tetradecyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Smec	328.2	43.33	132.02			
	Smec/Smec	339.2	0.11	0.32			
	Smec/Liq	348.6	4.31	12.36	144.70		[47]
$C_{32}H_{47}NO$		N-(4-pentyloxybenzylidene)-4-tetradecylaniline					
	Sol/Smec	316.2	45.47	143.80			
	Smec/Smec	324.9	2.48	7.63			
	Smec/Nem	342.5	0.72	2.10			
	Nem/Liq	344.7	1.83	5.31	158.84		[147]
$C_{32}H_{47}N_3O_2S$		6-n-decyloxy-2-(4-nonyloxyphenylazo)benzothiazole					
	Sol/Smec	347.7	22.7	65.29			
	Smec/Nem	389.4	0.9	2.31			
	Nem/Liq	396.5	1.8	4.54	72.14		[41]
$C_{32}H_{48}N_2O$		5-octyl-2-[4-[3-[(*trans*-4-pentylcyclohexyl)oxy]-1-propenyl]phenyl]pyrimidine					
	Sol/Smec	360.2	17.2	47.75			
	Smec/Nem	361.2	Not reported in paper				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	411.2	Not reported in paper				[198]
$C_{32}H_{48}N_2O_2$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl *trans*-4-heptylcyclohexane-1-carboxylate					
	Sol/Chol	387.2	13.8	35.64			
	Chol/Liq	438.2	Not reported in paper				[201]
$C_{32}H_{48}O_2S$		4-pentylbenzenethio-4′-tetradecyloxybenzoate					
	Sol/Smec	342.0	45.02	131.64			
	Smec/Liq	361.7	7.82	21.62	153.26	NA	[217]
$C_{32}H_{49}NO$		4-butyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	340.9	32.48	95.28			
	Smec/Smec	347.8	0.02	0.06			
	Smec/Smec	349.5	3.43	9.81			
	Smec/Liq	356.1	6.57	18.45	123.55		[240]
$C_{32}H_{49}NO$		N-(p-n-nonyloxybenzylidene)-4-(n-decyl)aniline					
	Sol/Smec	329.4	58.0	176.08			
	Smec/Smec	348.5	4.16	11.94			
	Smec/Liq	356.7	8.58	24.05	212.07		[11]
$C_{32}H_{49}NO_3$		N-(4-methoxyphenyl)-α-(4-octadecyloxyphenyl)nitrone					
	Sol/Smec	392.2	79.50	202.70			
	Smec/Liq	400.2	4.94	12.34	215.04		[162]
$C_{32}H_{50}N_2$		5-heptyl-2-[4-[4-(*trans*-4-pentylcyclohexyl)butyl]phenyl]pyrimidine					
	Sol/Nem	350.2	18.6	53.11			
	Nem/Liq	389.2	Not reported in paper				[198]
$C_{32}H_{50}N_2O$		4-butyl-4′-hexadecyloxyazobenzene					
	Sol/Smec	344.1	35.58	103.40			
	Smec/Liq	349.6	11.12	31.81	135.21		[141]
$C_{32}H_{50}N_2O$		5-octyl-2-[4-[3-[(*trans*-4-pentylcyclohexyl)oxy]propyl]phenyl]pyrimidine					
	Sol/Smec	352.2	25.3	71.83			
	Smec/Nem	361.2	Not reported in paper				
	Nem/Liq	406.2	Not reported in paper				[198]
$C_{32}H_{50}N_2O_3$		4,4′-didecyloxyazoxybenzene					
	Sol/Smec	351.4	38.58	109.79			
	Smec/Nem	393.8	2.32	5.89			
	Nem/Liq	396.6	3.15	7.94	123.62		[179]
$C_{32}H_{52}O_6$		(S)-4-(2-ethylheptyloxycarbonyl)phenyl 4-undecanoyloxytolane-4′-carboxylate					
	Sol/Smec	329.6	34.8	105.58			
	Smec/Smec	330.1	2.47	7.48			
	Smec/Smec	354.9	0.43	1.21			
	Smec/Liq	370.1	1.72	4.65	118.92		[173]
$C_{32}H_{53}N_3O_6$		4,4′-*bis*[4-(4-hexyloxybenzoyloxy)benzylideneamino]diphenylamine					
	Sol/Nem	499.2	42.0	84.13			
	Nem/Liq	604.2	1.6	2.65	86.78		[284]
$C_{32}H_{54}OS$		cholesteryl thiopentanoate					
	Sol/Chol	364.2	23.8	65.5			
	Chol/Liq	377.9	0.24	0.6	66.1	NA	[155,312]
$C_{32}H_{55}IO_2$		3-[2-(2-iodopentyl)oxy]-cholest-5-ene					
	Sol/Nem	336.5	18.41	54.71			
	Nem/Liq	340.0	0.42	1.24	55.95		[316]
$C_{32}H_{56}N_2O_2$		N,N′-didodecanoyl-2,6-dimethylbenzene-1,4-diamine					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Meso	389.2	47.0	120.76			
	Meso/Liq	401.2	13.0	32.40	53.16		[36]
$C_{32}H_{56}N_2O_2$		N,N′-diundecanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Meso	425.2	41.0	96.43			
	Meso/Meso	515.2	11.0	21.35			
	Meso/Liq	548.2	17.0	31.01	148.79		[36]
$C_{32}H_{56}N_2O_2$		N,N′-diundecanoyl-3,4,5,6-tetramethylbenzene-1,2-diamine					
	Sol/Meso	398.2	17.0	42.69			
	Meso/Meso	467.2	2.0	4.28			
	Meso/Liq	507.2	16.0	31.55	78.52		[61]
$C_{32}H_{56}N_2O_2$		N,N′-didodecylbenzene-1,2-dicarboxamide					
	Sol/Meso	364.2	53.0	145.52			
	Meso/Liq	372.2	12.0	32.24	177.76		[61]
$C_{33}H_{22}F_{26}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-[(perfluorohexyl)pentyloxy]benzoate					
	Sol/Smec	376.1	34.11	90.69			
	Smec/Liq	399.8	7.90	19.76	110.45		[128]
$C_{33}H_{32}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-hexyloxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	362.0	24.15	66.71			
	Smec/Smec	363.0	Not detected by dsc				
	Smec/Chol	406.0	0.60	1.48			
	Chol/Liq	427.9	0.43	1.00	69.19		[91]
$C_{33}H_{34}F_4O_4$		pentyl 4-[4-((4-hexyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					
	Sol/Smec	363.1	37.74	103.94			
	Smec/Nem	368.8	1.29	3.50			
	Nem/Liq	372.0	0.99	2.66	110.10		[96]
$C_{33}H_{34}F_4O_4$		propyl 4-[4-((4-octyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					
	Sol/Smec	364.2	40.25	110.52			
	Smec/Nem	375.1	0.62	1.65			
	Nem/Liq	382.5	1.18	3.08	115.25		[96]
$C_{33}H_{34}F_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-heptyloxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	371.8	26.88	72.30			
	Nem/Liq	411.0	0.41	1.00	73.30		[124]
$C_{33}H_{34}N_6O_6$		*α,ω-bis*(4-nitroazobenzene-4′-oxy)nonane					
	Sol/Nem	424.2	44.79	105.59			
	Nem/Liq	457.2	1.52	3.32	108.91		[422]
$C_{33}H_{35}ClN_2O_3$		2″-[4-[4′-decyloxybenzoyloxy)-3-chlorophenylazo]naphthalene					
	Sol/Nem	369.2	24.06	65.17			
	Nem/Liq	443.2	0.48	1.08	66.25		[274]
$C_{33}H_{35}F_{13}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-(undecyloxy)benzoate					
	Sol/Smec	362.4	35.55	98.10			
	Smec/Liq	387.0	10.08	26.05	124.15		[125]
$C_{33}H_{36}$		4′-[2-(4-propylphenyl)-1-ethynyl]-2′-ethyl-4-hexyltolane					
	Sol/Nem	330.1	12.7	38.47			
	Nem/Liq	393.6	1.08	2.74	41.21		[55]
$C_{33}H_{36}$		4′-[2-(4-hexylphenyl)-1-ethynyl]-2′-ethyl-4-propyltolane					
	Sol/Nem	293.2	14.7	50.14			
	Nem/Liq	381.0	1.16	3.04	53.18		[55]
$C_{33}H_{36}N_2O_2$		2,3-dicyano-4-pentylphenyl 4′-heptyl-4-biphenyl-1-carboxylate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	371.2	31.38	84.54			
	Nem/Liq	386.2	Not reported in paper				[202]
$C_{33}H_{36}N_2O_2$		2,3-dicyano-4-heptylphenyl 4′-pentyl-4-biphenyl-1-carboxylate					
	Sol/Nem	366.2	31.80	86.84			
	Nem/Liq	383.2	Not reported in paper				[202]
$C_{33}H_{36}N_4O_2$		α-(4′-propylazobenzene-4-oxy)-ω-(azobenzene-4-oxy)hexane					
	Sol/Nem	415.2	52.47	126.37			
	Nem/Liq	434.2	4.66	10.73	137.10		[67]
$C_{33}H_{36}N_4O_2$		α-(4′-ethylazobenzene-4-oxy)-ω-(4′-methylazobenzene-4-oxy)hexane					
	Sol/Nem	429.2	51.03	118.90			
	Nem/Liq	474.2	6.11	12.88	131.78		[67]
$C_{33}H_{37}ClF_2O_5$		4-[(2S)-2-chloro-3-methylpentanoyloxy]biphenyl-4′-yl 4-octyloxy-2,3-difluorobenzoate					
	Sol/Smec	334.5	13.05	39.01			
	Smec/Nem	401.6	1.4	3.49			
	Nem/Liq	424.9	0.8	1.88	44.38		[121]
$C_{33}H_{37}ClF_2O_5$		4-[(2S)-2-chloro-3-methylbutanoyloxy]biphenyl-4′-yl 4-nonyloxy-2,3-difluorobenzoate					
	Sol/Smec	371.3	49.2	132.51			
	Smec/Nem	416.0	1.4	3.37			
	Nem/Liq	439.7	0.82	1.86	137.74		[121]
$C_{33}H_{37}NO$		5-(4′-nonyloxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Sol	400.0	7.7	19.25			
	Sol/Smec	506.0	3.9	7.71			
	Smec/Smec	540.0	4.2	7.78			
	Smec/Nem	598.0	2.0	3.34			
	Nem/Liq	612.0	1.5	2.45	40.53		[185]
$C_{33}H_{38}N_4O_2S$		5-(4-nonyloxyphenyl)-5-(4-decyloxy)phenylazo-1,3,4-thiadiazole					
	Sol/Smec	422.7	44.41	105.06			
	Smec/Nem	432.7	2.17	5.02			
	Nem/Liq	447.2	1.09	2.44	112.52		[79]
$C_{33}H_{39}BrO_2$		1-(4-dodecylbiphenyl)-3-(3-bromophenyl)propane-1,3-dione					
	Sol/Smec	373.7	45.06	120.58			
	Smec/Liq	382.7	4.22	11.03	131.61		[297]
$C_{33}H_{39}ClO_2$		1-(4-dodecylbiphenyl)-3-(4-chlorophenyl)propane-1,3- dione					
	Sol/Smec	400.7	47.57	118.72			
	Smec/Liq	416.2	4.39	10.55	129.27		[250]
$C_{33}H_{39}ClO_2$		1-(4-dodecylbiphenyl)-3-(3-chlorophenyl)propane-1,3- dione					
	Sol/Smec	371.7	34.98	94.11			
	Smec/Liq	383.7	4.18	10.89	105.00		[297]
$C_{33}H_{39}NO_6$		ethoxyethyl 4-(4′-octyloxybenzoyloxybenzylidene)-4″-aminobenzoate					
	Sol/Smec	385.2	10.29	26.71			
	Smec/Liq	455.2	1.01	2.22	28.93		[58]
$C_{33}H_{40}ClNO_4$		3-hydroxy-4-[(E)-[(4-heptylphenyl)imino]methyl]phenyl 4-butoxy-α-chlorobenzenepropanoate					
	Sol/Smec	323.2	Not reported in paper				
	Smec/Smec	336.0	1.64	4.88			
	Smec/Smec	367.3	0.26	0.71			
	Smec/Liq	389.2	5.14	13.21			[249]
$C_{33}H_{40}N_2O_2$		2,3-dicyano-4-heptylphenyl 4-[4-pentylbicyclo[2.2.2]oct-1-yl]benzoate					
	Sol/Nem	404.2	30.96	76.60			
	Nem/Liq	411.2	Not reported in paper				[202]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{33}H_{41}NO_3$		4-isopropylphenyl 4-(4-decyloxybenzylideneamino)benzoate					
	Sol/Smec	363.2	38.0	104.63			
	Smec/Nem	440.2	Not reported in paper				
	Nem/Liq	453.2	4.6	10.15	114.78	156.6	[292]
	Note: Smec/Nem transition enthalpy is included in the Nem/Liq value.						
$C_{33}H_{41}NO_3$		4-(4′-dodecyloxybenzoyloxybenzylidene)-2″-aniline					
	Sol/Smec	350.4	34.48	98.40			
	Smec/Nem	362.9	0.78	2.15			
	Nem/Liq	379.3	0.79	2.08	102.63		[399]
$C_{33}H_{41}NO_3$		4-(4-decyloxybenzylideneamino)phenyl 4-isopropylbenzoate					
	Sol/Nem	375.2	26.0	69.30			
	Nem/Liq	442.2	1.5	3.39	72.69	156.6	[292]
$C_{33}H_{41}O$		3-methyl-4-[2-(*trans*-4-pentylcyclohexyl)ethynyl]-1-[(4-pentyloxyphenyl)ethynyl]benzene					
	Sol/Nem	352.2	26.9	76.38			
	Nem/Liq	464.2	0.4	0.86	77.24		[76]
$C_{33}H_{42}N_2O_2$		2-(4-butoxyphenyl)-5-[4-[(4-ethyl-2,3-undecadienyl)oxy]phenyl]pyrimidine					
	Sol/Smec	342.2	28.7	83.87			
	Smec/Nem	347.2	4.8	13.82			
	Nem/Liq	351.7	0.6	1.71	99.40		[398]
$C_{33}H_{42}N_2O_2$		2-(4-butoxyphenyl)-5-[4-[(3-methyl-3,4-dodecadienyl)oxy]phenyl]pyrimidine					
	Sol/Smec	305.2	18.5	60.62			
	Smec/Nem	374.2	Not reported in paper				
	Nem/Liq	394.2	Not reported in paper				[398]
$C_{33}H_{42}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-(6-heptenyloxy)benzoate					
	Sol/Smec	318.2	32.3	101.51			
	Smec/Chol	321.2	Not reported in paper				
	Chol/Liq	417.2	Not reported in paper				[201]
$C_{33}H_{42}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3-dimethylphenyl 4-(decyloxy)benzoate					
	Sol/Nem	386.2	35.0	90.63			
	Nem/Liq	479.2	1.4	2.92	93.55		[339]
$C_{33}H_{42}N_2O_4$		4-[(4-ethoxyphenyl)azo]-3,6-dimethylphenyl 4-(decyloxy)benzoate					
	Sol/Nem	378.2	70.0	185.09			
	Nem/Liq	414.2	2.1	5.07	190.16		[339]
$C_{33}H_{42}N_2O_4$		4-[(4-ethoxyphenyl)azo]-3,5-dimethylphenyl 4-(decyloxy)benzoate					
	Sol/Nem	363.2	42.0	115.64			
	Nem/Liq	427.2	2.0	4.68	120.32		[339]
$C_{33}H_{42}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,6-dimethylphenyl 4-(decyloxy)benzoate					
	Sol/Nem	369.2	45.0	121.89			
	Nem/Liq	419.2	2.0	4.77	126.66		[339]
$C_{33}H_{42}N_2O_4$		4-[(4-ethoxyphenyl)azo]phenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	375.2	50.0	133.26			
	Nem/Liq	490.2	1.3	2.65	135.91		[339]
$C_{33}H_{42}O_5$		4-hydroxypentyll 4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoate					
	Sol/Sol	354.4	19.92	56.21			
	Sol/Smec	399.0	2.33	5.84			
	Smec/Smec	429.5	3.73	8.69			
	Smec/Smec	436.8	0.41	0.94			
	Smec/Liq	441.0	16.55	37.53	109.21		[304]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{33}H_{42}O_7$		4-heptyloxyphenyl 7-decanoyloxychromone-2-carboxylate					
	Sol/Smec	385.6	20.4	52.90			
	Smec/Smec	429.2	Not observed by dsc				
	Smec/Liq	434.5	5.0	11.51	64.41		[286]
$C_{33}H_{43}NO_2$		N-(2-hydroxy-4-ethoxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Sol	347.7	Not reported in paper				
	Sol/Smec	371.2	17.78	47.90			
	Smec/Smec	421.7	0.92	2.18			
	Smec/Liq	503.2	6.11	12.14			[323]
$C_{33}H_{43}NO_4$		4′-(2-diethylamino-ethoxy)biphenyl 4-octyloxybenzoate					
	Sol/Smec	340.4	5.34	15.69			
	Smec/Smec	382.9	2.35	6.14			
	Smec/Liq	415.2	0.97	2.34	24.17		[427]
$C_{33}H_{44}N_2O_2S$		2-(4-butoxyphenyl)-5-[4-[(2-butyl-2,3-undecadienyl)oxy]phenyl-1,3,4-thiadiazole					
	Sol/Smec	341.2	36.4	106.68			
	Smec/Nem	347.2	1.68	4.84			
	Nem/Liq	351.7	0.98	2.78	114.30		[398]
$C_{33}H_{44}N_2O_3$		1-[4-(N-ethoxycarbonylpiperazinyl)phenyl]-4-(4-decyloxyphenyl)-but-3-en-1-yne					
	Sol/Smec	427.1	17.7	41.44			
	Smec/Liq	471.0	4.0	0.85	42.29		[154]
$C_{33}H_{44}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-octyloxybenzoate					
	Sol/Chol	344.2	25.4	73.79			
	Chol/Liq	415.2	Not reported in paper				[201]
$C_{33}H_{44}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-heptyloxybenzoate					
	Sol/Smec	329.2	33.9	102.98			
	Smec/Chol	337.2	Not reported in paper				
	Chol/Liq	417.2	Not reported in paper				[201]
$C_{33}H_{44}O_2$		8-pentyltricyclo[4.4.0.0^{3,8}]dec-1-yl 4′-pentyl[1,1′-bipheny]-4-carboxylate					
	Sol/Chol	341.2	12.97	38.01			
	Chol/Liq	401.2	Not reported in paper				[382]
	Note: Authors report only a single transition enthalpy, which we have assumed is for the Sol/Chol transition.						
$C_{33}H_{44}O_4$		4-[[(4-pentylcyclohexyl)carbonyl]oxy]phenyl 4-(4-ethylcyclohexyl)benzoate					
	Sol/Smec	361.2	13.39	37.07			
	Smec/Nem	401.9	15.94	39.66			
	Nem/Liq	592.2	Not reported in paper				[348]
$C_{33}H_{44}O_4$		4-[[(4-butylcyclohexyl)carbonyl]oxy]phenyl 4-(4-propylcyclohexyl)benzoate					
	Sol/Smec	380.1	10.50	27.62			
	Smec/Nem	405.9	12.05	29.69			
	Nem/Liq	599.2	Not reported in paper				[348]
$C_{33}H_{45}ClO_5$		2-chloro-4-methylpentyl 4-[[3-[4-(undecyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	328.7	38.07	115.82			
	Smec/Smec	337.7	0.25	0.74			
	Smec/Liq	353.7	3.77	10.66	127.22		[257]
$C_{33}H_{45}ClO_5$		2-chloro-3-methylpentyl 4-[[3-[4-(undecyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	335.7	38.49	114.66			
	Smec/Smec	341.7	0.17	0.50			
	Smec/Liq	361.2	4.06	11.24	126.40		[257]
$C_{33}H_{45}ClO_5$		4-[[3-[4-(dodecyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-4-methylpentanoate					
	Sol/Smec	335.2	31.38	93.62			
	Smec/Smec	353.2	0.21	0.59			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	365.7	4.18	11.43	105.64		[257]
$C_{33}H_{45}ClO_5$		4-[[3-[4-(dodecyloxy)phenyl]-1-oxo-2-propenyl]oxy]phenyl 2-chloro-3-methylpentanoate					
	Sol/Smec	329.7	42.17	127.90			
	Smec/Smec	357.7	0.21	0.59			
	Smec/Liq	373.2	4.18	11.20	139.69		[257]
$C_{33}H_{46}N_2O_2$		6-n-decyloxy-2-[(4′-N-heptyloxyphenylimino)methyl]quinoline					
	Sol/Smec	344.2	69.9	203.08			
	Smec/Nem	383.1	0.19	0.50			
	Nem/Liq	405.5	1.72	4.24	207.82		[112]
$C_{33}H_{46}N_2O_3$		N-4-heptyloxyphenyl-6-decyloxyquinoline-2-carboxamide					
	Sol/Smec	372.5	48.6	130.47			
	Smec/Liq	389.4	6.5	16.69	147.16		[43]
$C_{33}H_{46}N_2O_3$		N-[4-[5-oxo-4-[(1-oxodecyl)amino]-1,3,6-cycloheptatrien-1-yl]-phenyl]decamide					
	Sol/Sol	418.2	6.9	16.50			
	Sol/Smec	424.2	Not reported in paper				
	Smec/Liq	427.2	8.4	19.66			[251]
$C_{33}H_{46}O_4$		7-octyloxy-3-(4-decyloxyphenyl)-3*H*-1-benzopyran-4-one					
	Sol/Smec	394.1	30.9	78.41			
	Smec/Liq	423.2	7.4	17.49	95.90		[44]
$C_{33}H_{47}NOS$		3-[4-(*trans*-4-heptylcyclohexyl)phenyl]-5-(5-heptyl-2-thienyl)isoxazole					
	Sol/Smec	355.8	24.09	67.71			
	Smec/Nem	438.4	1.81	4.13			
	Nem/Liq	451.6	1.87	4.14	75.98		[131]
$C_{33}H_{47}NO_3$		6-hexyloxynaphth-2-yl 5-undecyloxy-2-methypyridyl ketone					
	Sol/Sol	368.2	0.27	0.73			
	Sol/Smec	385.2	38.41	99.71			
	Smec/Liq	391.2	10.26	26.23	126.67		[123]
$C_{33}H_{47}NO_3$		pentyl 4-(4-dodecyloxybenzalamino)cinnamate					
	SolSmec	347.8	28.0	80.51			
	Smec/Smec	369.5	5.48	14.83			
	Smec/Smec	380.5	0.61	1.60			
	Smec/Liq	406.3	8.44	20.77	117.71		[181]
$C_{33}H_{47}NO_5$		4-[4-(4-dodecyloxyphenyliminomethyl)-3-hydroxyphenoxy]butyl methacrylate					
	Sol/Smec	329.7	59.12	179.31			
	Smec/Smec	351.4	Not reported in paper				
	Smec/Liq	367.5	7.95	21.63			[294]
$C_{33}H_{47}NO_5$		6-[4-(4-decyloxyphenyliminomethyl)-3-hydroxyphenoxy]hexyl methacrylate					
	Sol/Smec	321.5	30.02	93.34			
	Smec/Smec	356.5	Not reported in paper				
	Smec/Liq	369.8	6.82	18.44			[294]
$C_{33}H_{47}N_3O_2S$		5-(4-decyloxyphenyl)-2-(4-octyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	376.5	38.2	101.46			
	Smec/Nem	467.1	4.1	8.78			
	Nem/Liq	472.0	1.3	2.75	112.99		[79,396,397]
$C_{33}H_{47}N_3O_3S$		5-(4-decyloxy)phenyl-2-(4-n-octyloxy)phenylamido-1,3,4-thiadiazole					
	Sol/Smec	413.9	16.3	39.38			
	Smec/Nem	518.2	3.8	7.33			
	Nem/Liq	521.5	0.9	1.73	48.44		[31]
$C_{33}H_{47}N_3O_3S$		5-(4-decyloxy)phenyl-2-(2-hydroxy-4-octyloxy)benzylideneamino-1,3,4-thiadiazole					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	371.2	26.60	71.66			
	Smec/Liq	486.2	8.16	16.78	88.44		[59]
$C_{33}H_{47}N_3O_3S$		2-[(E)-[(5-[4-(decyloxy)phenyl]-1,3,4-thiadiazol-2-yl]imino]methyl]-5-(octyloxy)phenol					
	Sol/Smec	368.5	26.66	72.35			
	Smec/Liq	488.9	9.90	20.25	92.60		[283]
$C_{33}H_{48}N_2O_2S$		6-n-decyloxy-2-(4-nonyloxybenzylidenamino)benzothiazole					
	Sol/Smec	354.0	38.3	108.19			
	Smec/Nem	389.6	1.9	4.88			
	Nem/Liq	394.9	2.9	7.34	120.41		[41]
$C_{33}H_{48}N_2O_3$		4-propanoyl-4′-octadecanoyloxyazobenzene					
	Sol/Smec	380.7	59.62	156.61			
	Smec/Liq	408.7	8.95	21.90	178.51		[157]
$C_{33}H_{48}N_2O_3$		4-pentanoyl-4′-hexadecanoyloxyazobenzene					
	Sol/Sol	333.9	4.69	14.05			
	Sol/Sol	361.8	7.15	19.76			
	Sol/Smec	377.4	45.63	120.90			
	Smec/Liq	399.6	10.07	25.20	179.91		[157]
$C_{33}H_{48}N_2O_3S$		N-[2-(6-decyloxybenzothiazolyl)]-4-nonyloxybenzamide					
	Sol/Sol	346.7	7.9	22.79			
	Sol/Sol	359.4	2.8	7.79			
	Sol/Smec	374.8	26.1	69.64			
	Smec/Liq	408.3	4.6	11.27	111.49		[41]
$C_{33}H_{48}N_4OS$		2-(4-decanoxyphenylazo)-5-(4-nonyloxy)phenyl-1,3,4-thiadiazole					
	Sol/Smec	422.7	44.41	105.06			
	Smec/Nem	432.7	2.17	5.02			
	Nem/Liq	447.2	1.09	2.44	112.52		[396]
$C_{33}H_{48}N_4O_3$		4-[(1E)-[4-[4-(1-oxohexyl)-1-piperazinyl]phenyl]azo]benzoic acid, decyl ester					
	Sol/Smec	364.9	23.32	63.91			
	Smec/Smec	405.6	1.48	3.65			
	Smec/Liq	470.6	10.48	22.27	89.83		[344]
$C_{33}H_{48}O$		4-octyloxy-4′-(pentylbicyclo[2.2.2]octan-1-yl)biphenyl					
	Sol/Smec	362.4	16.32	45.03			
	Smec/Smec	463.1	3.35	7.23			
	Smec/Nem	489.6	Not given in paper				
	Nem/Liq	490.2	6.69	13.65	65.91		[50]
	Note: Enthalpy for Smec/Nem transition is included in the Nem/Liq value.						
$C_{33}H_{48}O_3$		4-(2-methylbutoxy)benzoic acid, 4-[2-(*trans*-4-heptylcyclohexyl)ethyl]phenyl ester					
	Sol/Chol	339.2	21.91	64.59			
	Chol/Liq	404.2	Not reported in paper				[199, 208]
$C_{33}H_{48}O_3$		4-(heptyloxy)benzoic acid, 4-[2-(*trans*-4-pentylcyclohexyl)ethyl]phenyl ester					
	Sol/Smec	340.2	23.19	68.17			
	Smec/Nem	341.2	Not reported in paper				
	Nem/Liq	433.2	Not reported in paper				[199, 207]
$C_{33}H_{48}O_3$		4-(*trans*-4-pentylcyclohexyl)phenyl 4-{[(S)-6-methylhexyl]oxy}benzoate					
	Sol/Smec	348.2	17.98	51.64			
	Smec/Chol	379.2	Not reported in paper				
	Chol/Liq	436.2	Not reported in paper				[208]
$C_{33}H_{48}O_4$		4-[(S)-6-methyloctyloxy]phenyl 4-(10-undecenyloxy)benzoate					
	Sol/Smec	326.2	41.7	127.84			
	Smec/Smec	342.2	Not reported in paper				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	351.2	Not reported in paper				[200]
$C_{33}H_{48}O_4$		4-(10-undecenyloxy)phenyl 4-[(S)-6-methyloctyloxy]benzoate					
	Sol/Smec	318.2	35.3	110.94			
	Smec/Chol	336.2	Not reported in paper				
	Chol/Liq	343.2	Not reported in paper				[200]
$C_{33}H_{48}O_4$		4-[(*trans*-4-pentylcyclohexyl)methoxy]phenyl 4-octyloxybenzoate					
	Sol/Smec	354.2	19.23	54.29			
	Smec/Nem	380.2	Not reported in paper				
	Nem/Liq	436.2	Not reported in paper				[207]
$C_{33}H_{49}NO_5$		4′-eicosyloxy-3′-nitrobiphenyl-4-carboxylic acid					
	Sol/Sol	350.1	6.9	19.71			
	Sol/Smec	382.0	44.7	117.02			
	Smec/Cube	417.7	1.3	3.11			
	Cube/Liq	465.8	2.7	5.80	145.64		[133]
$C_{33}H_{49}N_3O_2S$		6-n-decyloxy-2-(4-decyloxyphenylazo)benzothiazole					
	Sol/Sol	329.2	2.6	7.90			
	Sol/Smec	351.1	21.5	61.24			
	Smec/Nem	387.9	6.0	15.47			
	Nem/Liq	396.3	Not given in paper				[41]
$C_{33}H_{50}N_2O_2$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl *trans*-4-heptylcyclohexane-1-carboxylate					
	Sol/Chol	378.2	17.1	45.21			
	Chol/Liq	414.2	Not reported in paper				[201]
$C_{33}H_{50}O_2$		8-pentyltricyclo[4.4.0.0^{3,8}]dec-1-yl 4-(*trans*-4-pentylcyclohexyl)benzoate					
	Sol/Chol	333.7	21.55	64.58			
	Chol/Liq	398.7	Not reported in paper				[382]
	Note: Authors report only a single transition enthalpy, which we have assumed is for the Sol/Chol transition.						
$C_{33}H_{51}NO$		4-pentyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	338.0	41.68	123.31			
	Smec/Smec	358.3	6.28	17.53			
	Smec/Liq	362.8	10.26	28.28	169.12		[240]
$C_{33}H_{51}NO$		N-(4-dodecyloxybenzylidene)-4-octylaniline					
	Sol/Smec	327.5	38.91	118.81			
	Smec/Smec	361.5	5.13	14.19			
	Smec/Liq	364.3	7.59	20.83	153.83		[256]
$C_{33}H_{52}N_2$		5-octyl-2-[4-[4-(*trans*-4-pentylcyclohexyl)butyl]phenyl]pyrimidine					
	Sol/Nem	342.2	15.5	45.30			
	Nem/Liq	383.2	Not reported in paper				[189]
$C_{33}H_{52}N_2O$		4-pentyl-4′-hexadecyloxyazobenzene					
	Sol/Smec	339.0	28.30	83.48			
	Smec/Smec	350.4	4.16	11.87			
	Smec/Liq	358.1	8.95	24.99	120.34	198.3	[141]
$C_{33}H_{52}N_2O$		4-heptyl-4′-tetradecyloxyazobenzene					
	Sol/Smec	337.0	27.99	83.06			
	Smec/Smec	354.4	2.64	7.44			
	Smec/Liq	363.1	6.82	18.78	109.28	198.3	[390]
$C_{33}H_{54}$		1-hexyl-4-[2-[4-[2-(4-propylcyclohexyl)ethyl]phenyl]ethyl]bicyclo[2.2.2]octane					
	Sol/Smec	339.5	7.53	22.18			
	Smec/Nem	428.5	10.63	24.81			
	Nem/Liq	434.2	2.13	0.91	51.90		[348]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{33}H_{54}N_2O_6$		4,4′-*bis*[4-(4-hexyloxybenzylideneamino)benzoyloxy]diphenylmethane					
	Sol/Smec	432.2	32.0	74.04			
	Smec/Liq	493.2	18.0	36.50	110.54		[284]
$C_{33}H_{54}O_4$		3-cholesteryloxycarbonylpentanoic acid					
	Sol/Nem	407.2	24.5	60.17			
	Nem/Liq	421.2	1.5	3.56	63.73		[265, 266]
$C_{33}H_{54}O_6$		(S)-4-(2-ethylheptyloxycarbonyl)phenyl 4-dodecanoyloxytolane-4′-carboxylate					
	Sol/Smec	347.5	44.1	126.91			
	Smec/Smec	354.2	0.54	1.52			
	Smec/Liq	366.6	1.35	3.68	32.11		[173]
$C_{33}H_{56}N_2O_4$		N,N′-dioctanoyl-2,5,6-trimethyl-4-octanoyloxy-1,3-benzenediamine					
	Sol/Meso	403.2	8.0	19.84			
	Meso/Meso	459.2	20.0	43.55			
	Meso/Liq	474.2	4.0	8.44	71.83	192.8	[193]
$C_{33}H_{56}OS$		cholesteryl thiohexanoate					
	Sol/Liq	368.2	26.2	71.2	71.2	NA	
	Chol/Liq	380.9	0.42	1.1			[155,312]
$C_{33}H_{56}O_6$		*cis*, *cis*-(3,5-dihydroxycyclohexyl) 3,4-*bis*(decyloxy)benzoate					
	Sol/Sol	302.2	11.2	37.06			
	Sol/Meso	345.2	12.0	34.76			
	Meso/Liq	386.7	1.1	2.84	74.66		[98]
$C_{33}H_{57}N_3O_3$		N,N′,N″-trioctanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	512.2	30.0	58.57			
	Meso/Liq	619.2	15.0	24.22	82.79		[190]
$C_{33}H_{58}N_2O_2$		N,N′-didodecanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	397.2	39	98.19			
	Meso/Nem	462.2	15.0	32.45			
	Nem/Liq	463.2	Very small		130.64		[36]
$C_{33}H_{58}O_2$		5α-cholestan-3β-ol hexanoate					
	Sol/Liq	360.15	29.6	82.1			
	Chol/Liq	340.15	0.63	1.8	84.0	124.9	[311]
	Note: Liquid crystalline phase detected upon cooling.						
$C_{34}H_{24}F_{26}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-[(perfluorohexyl)hexyloxy]benzoate					
	Sol/Smec	393.5	41.60	105.72			
	Smec/Smec	395.9	2.25	5.68			
	Smec/Liq	399.5	3.84	9.61	121.01		[128]
$C_{34}H_{31}NO_2$		[1-(4-hexylbiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Nem	463.7	37.70	81.30			
	Nem/Liq	467.2	0.13	0.28	81.58		[254]
$C_{34}H_{32}N_2O_3$		4-[(1E)-2-naphthalenylazo]-1-naphthalenyl 4-(heptyloxy)benzoate					
	Sol/Nem	408.2	12.65	30.99			
	Nem/Liq	443.2	0.27	0.61	31.60		[385]
$C_{34}H_{34}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-heptyloxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	351.0	23.22	66.15			
	Smec/Smec	351.8	Not detected by dsc				
	Smec/Chol	402.8	0.53	1.32			
	Chol/Liq	420.7	0.29	0.69	68.16		[91]
$C_{34}H_{34}N_4O_6$		α,ω-*bis*(4-ethoxyazobenzene-4′-carbonyloxy)butane					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	441.3	47.7	108.09			
	Nem/Liq	494.0	7.1	14.37	122.46		[107]
$C_{34}H_{34}N_4O_6S_2$		*bis*[4-(5-n-pentylthio-1,3,4-oxadiazole-2-yl)phenyl] terephthalate					
	Sol/Smec	402.2	37.1	92.24			
	Smec/Nem	552.2	1.5	2.72			
	Nem/Liq	565.2	0.6	1.06	96.02		[23]
$C_{34}H_{34}O_6$		*bis*(4-butoxyphenyl) 4,4′-biphenylenedicarboxylate					
	Sol/Smec	444.4	34.2	76.96			
	Smec/Nem	612.8	1.6	2.61			
	Nem/Liq	639.7	2.4	3.75	83.32	317.0	[12]
$C_{34}H_{34}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]*bis*, dibutyl ester					
	Sol/Sol	304.6	1.7	5.58			
	Sol/Smec	470.5	54.1	114.98			
	Note: Smec/Nem was not observed by dsc.						
	Nem/Liq	535.5	1.1	2.05	122.61		[271]
$C_{34}H_{34}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(butoxy)-3-oxo-1-propenyl]phenyl ester					
	Sol/Smec	382.9	33.3	86.97			
	Smec/Nem	526.6	1.6	3.04			
	Nem/Liq	542.4	0.8	1.47	91.48		[271]
$C_{34}H_{35}N_3O_6$		4-(4′-ethoxybenzoyloxy)-2-ethoxy-4′-(4-butyoxysalicylaldimine)azobenzene					
	Sol/Nem	430.2	45.78	106.42			
	Nem/Liq	562.2	3.18	5.66	112.08		[109]
$C_{34}H_{36}F_4O_4$		pentyl 4-[4-((4-heptyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)-benzyloxy]benzoate					
	Sol/Smec	361.2	36.05	99.80			
	Smec/Nem	357.9	1.38	3.86			
	Nem/Liq	369.4	0.98	2.65	106.31		[96]
$C_{34}H_{36}F_4O_4$		butyl 4-[4-((4-octyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					
	Sol/Smec	361.9	29.21	80.71			
	Smec/Nem	363.8	1.32	3.63			
	Nem/Liq	366.4	1.15	3.14	87.48		[96]
$C_{34}H_{36}F_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-octyloxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	358.8	35.06	97.71			
	Nem/Liq	409.5	0.60	1.47	99.18		[124]
$C_{34}H_{36}N_2$		3,8-*bis*(4-pentylphenyl)-1,10-phenanthroline					
	Sol/Smec	461.2	18.1	39.25			
	Smec/Nem	502.2	24.9	49.58			
	Nem/Liq	568.2	1.56	2.75	91.58		[258]
$C_{34}H_{36}N_4O_6S_3$		*bis*[4-(5-n-hexylthio-1,3,4-oxadiazole-2-yl)phenyl]-2,5-thiophenedicarboxylate					
	Sol/Smec	409.2	23.7	57.92			
	Smec/Liq	499.2	6.5	13.02	70.95		[23]
$C_{34}H_{36}N_4O_6$		*α*,*ω*-*bis*(4-nitroazobenzene-4′-oxy)decane					
	Sol/Nem	462.2	57.64	124.71			
	Nem/Liq	466.2	3.68	7.89	132.60		[422]
$C_{34}H_{37}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-heptyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Nem	351.2	40.24	114.58			
	Nem/Liq	358.0	0.53	1.48	116.06		[267]
$C_{34}H_{37}F_{13}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-(dodecyloxy)benzoate					
	Sol/Smec	358.4	16.44	45.87			
	Smec/Liq	381.3	10.58	27.75	73.62		[125]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{34}H_{37}NO_7$		5-[[[4′-(decyloxy)[1,1′-biphenyl]-4-yl]oxy]carbonyl]-1,3-dihydro-1,3-dioxo-2*H*-isoindole-2-acetic acid, methyl ester					
	Sol/Sol	336.7	10.3	30.59			
	Sol/Smec	387.2	22.2	57.33			
	Smec/Liq	428.6	4.92	11.48	99.40		[280]
$C_{34}H_{38}N_2O_2$		2,3-dicyano-4-pentylphenyl 4′-octyl-4-biphenyl-1-carboxylate					
	Sol/Nem	367.7	33.47	91.03			
	Nem/Liq	382.7	Not reported in paper				[202]
$C_{34}H_{38}N_2O_2$		2,3-dicyano-4-heptylphenyl 4′-hexyl-4-biphenyl-1-carboxylate					
	Sol/Nem	356.7	11.72	32.86			
	Nem/Liq	381.2	Not reported in paper				[202]
$C_{34}H_{38}N_4O_2$		α-(4′-ethylazobenzene-4-oxy)-ω-(4′-ethylazobenzene-4-oxy)hexane					
	Sol/Nem	442.2	39.34	88.96			
	Nem/Liq	468.2	5.33	11.38	100.34		[67]
$C_{34}H_{38}N_4O_2$		α-(4′-butylazobenzene-4-oxy)-ω-(azobenzene-4-oxy)hexane					
	Sol/Nem	412.2	51.75	125.55			
	Nem/Liq	427.2	4.26	9.97	135.52		[67]
$C_{34}H_{38}N_4O_2$		α-(4′-propylazobenzene-4-oxy)-ω-(4′-methylazobenzene-4-oxy)hexane					
	Sol/Nem	424.2	46.91	110.58			
	Nem/Liq	479.2	7.13	14.88	125.46		[67]
$C_{34}H_{38}O_2$		4,4‴-dipentyloxy-p-quaterphenyl					
	Sol/Sol	335.0	9.72	29.01			
	Sol/Sol	493.0	7.89	16.00			
	Sol/Sol	594.0	7.72	13.00			
	Sol/Smec	600.0	5.4	9.00			
	Smec/Liq	653.0	9.14	14.00	81.01	159.8	[111]
$C_{34}H_{38}O_5$		7-[(4′-dodecyloxy)benzoyloxy]isoflavone					
	Sol/Smec	415.2	30.78	74.13			
	Smec/Liq	468.5	5.93	12.66	86.79		[14]
$C_{34}H_{38}O_6S_2$		*bis*(4-hexyloxyphenyl) 2,2′-bithiophene-5,5′-dicarboxylate					
	Sol/Sol	384.3	3.8	9.89			
	Sol/Sol	398.8	6.9	17.30			
	Sol/Smec	413.0	22.5	54.48			
	Smec/Nem	505.8	3.7	7.32			
	Nem/Liq	507.3	2.3	4.53	93.52	192.0	[12]
$C_{34}H_{38}O_8$		*bis*(4-hexyloxycarbonylphenyl) terephthalate					
	Sol/Smec	423.2	41.0	96.88			
	Smec/Liq	452.2	5.6	12.38	109.26	180.8	[194]
$C_{34}H_{39}ClF_2O_5$		4-[(2S)-2-chloro-3-methylpentanoyloxy]biphenyl-4′-yl 4-nonyloxy-2,3-difluorobenzoate					
	Sol/Smec	357.8	38.12	106.54			
	Smec/Nem	404.5	1.6	3.96			
	Nem/Liq	421.6	0.8	1.90	112.40		[121]
$C_{34}H_{39}ClF_2O_5$		4-[(2S)-2-chloro-3-methylbutanoyloxy]biphenyl-4′-yl 4-decyloxy-2,3-difluorobenzoate					
	Sol/Smec	358.7	24.67	68.78			
	Smec/Nem	418.2	1.25	2.99			
	Nem/Liq	437.5	1.07	2.45	74.22		[121]
$C_{34}H_{39}NO$		5-(4′-decyloxybiphenyl-4-yl)-2-(4-methylphenyl)pyridine					
	Sol/Sol	395.0	9.9	25.06			
	Sol/Smec	506.0	3.7	7.31			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Smec	539.0	3.5	6.49			
	Smec/Nem	600.0	2.0	3.33			
	Nem/Liq	609.0	1.3	2.13	44.32		[185]
$C_{34}H_{40}N_2O_4$		dihexyl N,N′-[1,4-phenylene-*bis*(methylidyne)]-*bis*[aminobenzoate]					
	Sol/Smec	386.2	27.0	69.91			
	Smec/Smec	421.2	Not reported in paper				
	Smec/Liq	462.2	2.9	6.27			[192]
$C_{34}H_{40}N_4O_2S$		5-(4-decyloxyphenyl)-5-(4-decyloxy)phenylazo-1,3,4-thiadiazole					
	Sol/Smec	420.0	46.92	111.71			
	Smec/Nem	435.2	2.76	6.34			
	Nem/Liq	446.1	1.45	3.25	121.30		[79]
$C_{34}H_{42}N_2O_2$		2,3-dicyano-4-heptylphenyl 4-[4-hexylbicyclo[2.2.2]oct-1-yl]benzoate					
	Sol/Nem	395.2	25.10	63.51			
	Nem/Liq	403.2	Not reported in paper				[202]
$C_{34}H_{42}O_2$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-methylphenyl)propane-1,3-dione					
	Sol/Smec	362.7	34.14	94.13			
	Smec/Liq	367.7	4.02	10.93	105.06		[297]
$C_{34}H_{42}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-methoxyphenyl)propane-1,3-dione					
	Sol/Nem	352.7	21.71	61.55			
	Nem/Liq	362.2	0.67	1.85	63.40		[297]
$C_{34}H_{42}O_4$		4,4′-dinonanoyloxydiphenyldiacetylene					
	Sol/Sol	326.0	19.50	59.82			
	Sol/Nem	400.0	33.50	83.75			
	Nem/Liq	401.0	14.60	36.41	179.98		[157]
$C_{34}H_{42}O_5S$		(R)-4-(3-ethylmercapto-2-methylpropionyl)phenyl 4′-nonyloxybiphenyl-4-carboxylate					
	Sol/Smec	334.6	30.78	91.99			
	Smec/Smec	339.4	3.88	11.43			
	Smec/Smec	357.1	3.33	9.33			
	Smec/Smec	407.9	0.17	0.42			
	Smec/Liq	430.7	5.85	13.58	126.75		[100]
$C_{34}H_{42}O_6$		4-(2-butoxy-1-methyl-2-oxoethoxy)phenyl [1,1′-biphenyl]-4-carboxylate					
	Sol/Smec	284.5	0.78	2.74			
	Smec/Smec	329.6	1.93	5.86			
	Smec/Liq	392.5	3.74	9.53	18.13		[428]
$C_{34}H_{42}O_7$		4-(4-dodecyloxybenzoyloxy)phenyl (3,4-dimethoxy)benzoate					
	Sol/Nem	367.8	11.44	31.10			
	Nem/Liq	406.7	0.51	1.25	32.35	189.3	[103]
$C_{34}H_{42}O_7$		4-(4-butoxybenzoyloxy)phenyl (3,4-dipentyloxy)benzoate					
	Sol/Nem	368.9	12.09	32.77			
	Nem/Liq	390.2	0.37	0.95	33.72	189.3	[103]
$C_{34}H_{43}NO_3$		4-*tert*-butylphenyl 4-(4-decyloxybenzylideneamino)benzoate					
	Sol/Smec	402.2	31.0	77.08			
	Smec/Liq	421.2	4.1	9.73	86.81	155.8	[292]
$C_{34}H_{44}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-(8-nonenyloxy)benzoate					
	Sol/Chol	335.2	25.2	75.18			
	Chol/Liq	415.2	Not reported in paper				[201]
$C_{34}H_{44}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-(7-octenyloxy)benzoate					
	Sol/Smec	323.2	33.3	103.00			
	Smec/Chol	333.2	Not reported in paper				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Chol/Liq	410.2	Not reported in paper				[201]
$C_{34}H_{44}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3,6-trimethylphenyl 4-(decyloxy)benzoate					
	Sol/Nem	395.2	44.0	111.34			
	Nem/Liq	431.2	1.9	4.41	115.75		[339]
$C_{34}H_{44}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3,5-trimethylphenyl 4-(decyloxy)benzoate					
	Sol/Nem	390.2	61.0	156.33			
	Nem/Liq	445.2	2.0	4.49	160.82		[339]
$C_{34}H_{44}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2-methylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	360.2	37.0	102.72			
	Nem/Liq	450.2	1.4	3.11	105.83		[339]
$C_{34}H_{44}N_2O_4$		4-[(4-ethoxyphenyl)azo]-3-methylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	368.2	55.0	149.38			
	Nem/Liq	446.2	1.3	2.91	152.29		[339]
$C_{34}H_{44}O_3S$		S-4-heptyloxybiphenylyl (S)-4-(1-methylheptyloxy)benzoate					
	Sol/Smec	345.3	29.3	84.85			
	Smec/Nem	363.4	2.2	6.05			
	Nem/Liq	407.9	1.1	2.70	93.60		[281]
$C_{34}H_{44}O_6S$		*bis*(4-octyloxyphenyl) 2,5-thiophenedicarboxylate					
	Sol/Sol	390.6	13.1	33.54			
	Meso/Smec	397.1	44.6	112.31			
	Smec/Nem	408.8	3.3	8.07			
	Nem/Liq	411.4	2.5	6.08	160.00	204.5	[12]
$C_{34}H_{44}O_7$		4-octyloxyphenyl 7-decanoyloxychromone-2-carboxylate					
	Sol/Smec	383.3	22.5	58.70			
	Smec/Liq	436.4	6.1	13.98	72.68		[286]
$C_{34}H_{45}NO_2$		N-(2-hydroxy-4-propoxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	364.2	34.85	95.69			
	Smec/Smec	422.2	1.00	2.37			
	Smec/Smec	444.7	0.29	0.65			
	Smec/Liq	479.2	7.82	16.32	115.03		[323]
$C_{34}H_{45}NO_2$		7-(undec-10-enyloxy)-3-(4′-hexyloxystyryl)quinoline					
	Sol/Smec	330.5	27.93	84.51			
	Smec/Liq	438.6	5.50	12.54	97.05		[139]
$C_{34}H_{45}NO_4$		4′-(2-diethylamino-ethoxy)biphenyl 4-nonyloxybenzoate					
	Sol/Smec	346.8	8.60	24.80			
	Smec/Smec	390.5	2.39	6.12			
	Smec/Liq	422.6	0.97	2.30	33.22		[427]
$C_{34}H_{45}NO_4$		4′-(3-diethylamino-propoxy)biphenyl 4-octyloxybenzoate					
	Sol/Smec	333.2	7.77	23.32			
	Smec/Smec	394.5	2.99	7.58			
	Smec/Liq	424.4	1.18	2.78	33.68		[427]
$C_{34}H_{45}N_5O_3$		2-cyano-3-[4-[(1E)-[4-[4-(1-oxodecyl)-1-piperazinyl]phenyl]azo]phenyl]-2-propenoic acid, butyl ester					
	Sol/Smec	453.9	17.60	38.78			
	Smec/Liq	479.9	3.54	7.38	46.16		[326]
$C_{34}H_{46}N_2O_2S$		2-[4-(2-methyl-2,3-undecadienyl)oxy]phenyl]-5-[4-(octyloxy)phenyl]-1,3,4-thiadiazole					
	Sol/Smec	337.2	29.9	88.67			
	Smec/Nem	371.2	1.9	5.12			
	Nem/Liq	374.2	1.37	3.66	97.45		[398]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{34}H_{46}N_2O_2S$		2-(butoxyphenyl)-5-[4-[[(2S)-2-methyl]-2,3-pentadecadienyl]oxyphenyl]-1,3,4-thiadiazole					
	Sol/Smec	327.2	30.6	93.52			
	Smec/Nem	352.2	1.3	3.69			
	Nem/Blue	359.2	0.98	2.73			
	Blue/Liq	359.8	Not reported in paper				[398]
$C_{34}H_{46}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-nonyloxybenzoate					
	Sol/Chol	351.2	28.6	81.44			
	Chol/Liq	415.2	Not reported in paper				[201]
$C_{34}H_{46}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-octyloxybenzoate					
	Sol/Smec	329.2	33.6	102.07			
	Smec/Chol	345.2	Not reported in paper				
	Chol/Liq	415.2	Not reported in paper				[201]
$C_{34}H_{46}N_2O_6$		N,N′-diheptanoyl-2,4-*bis*(heptanoyloxy)-1,3-benzenediamine					
	Sol/Disc	362.2	9.0	24.85			
	Disc/Liq	397.2	19.0	47.84	72.69		[189]
$C_{34}H_{46}O_2$		8-propyltricyclo[4.4.0.0^{3,8}]ec-1-yl 4′-octyl[1,1′-bipheny]-4-carboxylate					
	Sol/Chol	367.7	22.80	62.01			
	Chol/Liq	376.9	Not reported in paper				[382]
	Note: Authors report only a single transition enthalpy, which we have assumed is for the Sol/Chol transition.						
$C_{34}H_{46}O_4$		4-[[(4-pentylcyclohexyl)carbonyl]oxy]phenyl 4-(4-propylcyclohexyl)benzoate					
	Sol/Smec	377.5	15.73	41.67			
	Smec/Nem	408.5	14.02	34.32			
	Nem/Liq	603.2	Not reported in paper				[348]
$C_{34}H_{46}O_4$		4-[[(4-propylcyclohexyl)carbonyl]oxy]phenyl 4-(4-pentylcyclohexyl)benzoate					
	Sol/Smec	359.1	11.63	32.39			
	Smec/Nem	402.7	15.86	39.38			
	Nem/Liq	603.2	Not reported in paper				[348]
$C_{34}H_{47}ClO_5$		2-chloro-4-methylpentyl 4-[[3-[4-(dodecyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	325.2	33.89	104.21			
	Smec/Smec	338.7	0.42	1.24			
	Smec/Liq	354.2	4.18	11.80	117.25		[257]
$C_{34}H_{47}ClO_5$		2-chloro-3-methylpentyl 4-[[3-[4-(dodecyloxy)phenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	326.7	43.93	134.47			
	Smec/Smec	342.2	0.21	0.61			
	Smec/Liq	361.7	5.86	16.20	151.28		[257]
$C_{34}H_{48}N_2O_2$		6-n-decyloxy-2-[(4′-N-octyloxyphenylimino)methyl]quinoline					
	Sol/Smec	346.6	50.10	144.55			
	Smec/Nem	386.6	0.13	0.34			
	Nem/Liq	405.7	1.77	4.36	149.25		[112]
$C_{34}H_{48}N_2O_3$		N-4-octyloxyphenyl-6-decyloxyquinoline-2-carboxamide					
	Sol/Smec	373.3	48.6	130.19			
	Smec/Liq	389.9	6.5	16.67	146.85		[43]
$C_{34}H_{48}N_4O_3$		4-[(1E)-[4-[4-(1-oxo-10-undecenyl)-1-piperazinyl]phenyl]azo]benzoic acid, hexyl ester					
	Sol/Smec	384.4	16.04	41.73			
	Smec/Liq	405.4	11.38	28.07	69.80		[403]
$C_{34}H_{48}O_4$		7-nonyloxy-3-(4-decyloxyphenyl)-3*H*-1-benzopyran-4-one					
	Sol/Smec	395.3	34.8	88.03			
	Smec/Liq	421.4	7.9	18.75	106.78		[44]
$C_{34}H_{48}O_4$		di(4′-heptylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	342.4	30.0	87.62			
	Smec/Smec	384.0	2.67	6.95			
	Smec/Liq	414.1	5.45	13.16	107.73	175.9	[215]
$C_{34}H_{48}O_6$		di(4′-heptyloxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	369.2	46.2	125.14			
	Smec/Smec	380.2	1.09	2.87			
	Smec/Smec	384.2	Not reported in paper				
	Smec/Liq	453.2	5.70	12.58	189.4		[220]
$C_{34}H_{49}BrO_2$		4-bromophenyl cholest-5-ene-3β-carboxylate					
	Sol/Nem	382.4	23.31	60.96			
	Nem/Liq	517.6	0.78	1.51	62.47		[369]
$C_{34}H_{49}IO_2$		4-iodophenyl cholest-5-ene-3β-carboxylate					
	Sol/Nem	401.0	10.02	24.99			
	Nem/Liq	526.3	0.92	1.75	26.74		[369]
$C_{34}H_{49}NO_5$		6-[4-(4-undecyloxyphenyliminomethyl)-3-hydroxyphenoxy]hexyl methacrylate					
	Sol/Smec	331.3	41.99	126.74			
	Smec/Smec	347.8	Not reported in paper				
	Smec/Liq	365.2	7.27	19.91			[294]
$C_{34}H_{50}$		*trans*, *trans*-4,4′-*bis*[2-(4-propylcyclohexyl)ethyl]-1,1′-biphenyl					
	Sol/Smec	339.2	8.87	26.15			
	Smec/Smec	395.2	4.77	12.07			
	Smec/Smec	423.7	3.68	8.69			
	Smec/Smec	447.2	5.02	11.23			
	Smec/Nem	470.7	0.46	0.98			
	Nem/Liq	504.2	4.81	9.54	68.66		[348]
$C_{34}H_{50}N_2O_2S$		6-n-decyloxy-2-(4-decyloxybenzylidenamino)benzothiazole					
	Sol/Smec	354.2	40.0	112.93			
	Smec/Nem	394.8	Not given in paper				
	Nem/Liq	395.9	8.1	20.46			[41]
$C_{34}H_{50}N_2O_2S_2$		2,5-*bis*(4-decyloxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Sol	389.0	35.62	91.57			
	Sol/Smec	413.8	44.68	107.97			
	Smec/Liq	500.0	11.88	23.76	223.30		[269]
$C_{34}H_{50}N_2O_3$		4-pentanoyl-4′-heptadecanoyloxyazobenzene					
	Sol/Sol	371.5	9.22	24.82			
	Sol/Smec	377.4	46.50	123.21			
	Smec/Liq	397.0	9.98	25.14	173.17		[157]
$C_{34}H_{50}N_2O_3S$		N-[2-(6-decyloxybenzothiazolyl)]-4-decyloxybenzamide					
	Sol/Sol	373.8	24.4	65.28			
	Sol/Smec	389.2	18.3	47.02			
	Smec/Nem	397.7	0.8	2.01			
	Nem/Liq	400.7	2.1	5.24	119.55		[41]
$C_{34}H_{50}N_4OS$		2-(4-decanoxyphenylazo)-5-(4-decyloxy)phenyl-1,3,4-thiadiazole					
	Sol/Smec	420.0	46.92	111.71			
	Smec/Nem	435.2	2.76	6.34			
	Nem/Liq	446.1	1.45	3.25	121.30		[396]
$C_{34}H_{50}O_2$		cholesterol benzoate					
	Sol/Chol	422.3	29.16	69.05			
	Chol/Liq	450.0	0.51	1.13	70.18	109.2	[166]

Independent values from another reference

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Chol	418.6	32.72	78.16			
	Chol/Liq	453.9	0.71	1.57	79.73	109.2	[155, 310]
$C_{34}H_{50}O_2$		phenyl cholest-5-ene-3β-carboxylate					
	Sol/Nem	379.9	16.37	43.09			
	Nem/Liq	448.4	0.51	1.14	44.23		[369]
$C_{34}H_{50}O_3$		4-[2-(*trans*-4-pentylcyclohexyl)ethyl]phenyl 4-{[(S)-1-methylheptyl]oxy}benzoate					
	Sol/Chol	301.2	25.44	84.46			
	Chol/Liq	351.2	Not reported in paper				[208]
$C_{34}H_{50}O_3$		4-(octyloxy)benzoic acid, 4-[2-(*trans*-4-pentylcyclohexyl)ethyl]phenyl ester					
	Sol/Smec	341.2	32.83	96.22			
	Smec/Nem	360.2	Not reported in paper				
	Nem/Liq	431.2	Not reported in paper				[199, 207]
$C_{34}H_{50}O_4$		4-[(S)-6-methyloctyloxy]phenyl 4-(11-dodecenyloxy)benzoate					
	Sol/Smec	325.2	34.9	107.32			
	Smec/Smec	344.2	Not reported in paper				
	Smec/Liq	348.2	Not reported in paper				[200]
$C_{34}H_{50}O_4$		4-[(*trans*-4-pentylcyclohexyl)methoxy]phenyl 4-nonyloxybenzoate					
	Sol/Smec	348.2	26.32	75.59			
	Smec/Nem	383.2	Not reported in paper				
	Nem/Liq	429.2	Not reported in paper				[207]
$C_{34}H_{50}O_4$		4-[(*trans*-4-pentylcyclohexyl)methoxy]phenyl 4-{[(S)-6-methyloctyl]oxy}benzoate					
	Sol/Smec	346.2	23.63	68.26			
	Smec/Chol	381.2	Not reported in paper				
	Chol/Liq	419.2	Not reported in paper				[207]
$C_{34}H_{50}O_4$		4-[(*trans*-4-heptylcyclohexyl)methoxy]phenyl 4-{[(S)-4-methylhexyl]oxy}benzoate					
	Sol/Smec	343.2	34.07	99.27			
	Smec/Smec	350.2	Not reported in paper				
	Smec/Chol	366.2	Not reported in paper				
	Chol/Liq	415.2	Not reported in paper				[208]
$C_{34}H_{51}BrN_2O_4$		4-(4-hexadecyloxyphenylazoxy)phenyl 2S,3S-2-bromo-3-methylpentanoate					
	Sol/Smec	332.6	38.34	115.27			
	Smec/Liq	345.7	4.36	12.61	127.88		[47]
$C_{34}H_{51}ClN_2O_4$		4-(4-hexadecyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Smec	336.0	33.35	99.26			
	Smec/Smec	346.0	0.12	0.35			
	Smec/Liq	351.3	4.76	13.55	113.16		[47]
$C_{34}H_{51}NO$		N-(4-pentyloxybenzylidene)-4-hexadecylaniline					
	Sol/Smec	327.8	57.57	175.63			
	Smec/Nem	340.9	0.64	1.88			
	Nem/Liq	342.2	1.87	5.46	182.97		[147]
$C_{34}H_{52}N_2O_2$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl *trans*-4-nonylcyclohexane-1-carboxylate					
	Sol/Chol	377.2	18.7	49.58			
	Chol/Liq	414.2	Not reported in paper				[201]
$C_{34}H_{52}N_2O_2$		1,2-*bis*(4-decyloxybenzoyl)hydrazine					
	Sol/Sol	395.2	24.3	61.49			
	Sol/Sol	400.3	4.9	12.24			
	Sol/Cube	414.4	23.1	55.74			
	Cube/Smec	426.2	0.4	0.94			
	Smec/Liq	437.1	7.2	16.47	146.88		[434]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{34}H_{53}NO$		4-hexyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	336.4	35.75	106.27			
	Smec/Smec	358.6	6.53	18.21			
	Smec/Liq	360.7	8.90	24.67	149.15		[240]
$C_{34}H_{53}NO$		4-propyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	349.7	55.37	158.34			
	Smec/Smec	351.7	5.18	14.73			
	Smec/Liq	355.3	10.06	28.31	201.38		[240]
$C_{34}H_{54}$		1-ethyl-4-[2-[4-[2-(4-hexylbicyclo[2.2.2]oct-1-yl)ethyl]phenyl]ethyl]bicyclo[2.2.2]octane					
	Sol/Smec	335.9	10.25	30.52			
	Smec/Smec	391.1	5.52	14.11			
	Smec/Nem	428.2	7.61	17.77			
	Nem/Liq	452.9	1.21	2.67	65.07		[348]
$C_{34}H_{54}N_2$		5-nonyl-2-[4-[4-(*trans*-4-pentylcyclohexyl)butyl]phenyl]pyrimidine					
	Sol/Smec	347.2	15.9	45.79			
	Smec/Smec	355.2	Not reported in paper				
	Smec/Nem	370.2	Not reported in paper				
	Nem/Liq	386.2	Not reported in paper				[198]
$C_{34}H_{54}N_2O$		4-butyl-4′-octadecyloxyazobenzene					
	Sol/Smec	342.8	59.56	173.75			
	Smec/Liq	343.5	14.08	40.99	214.74	205.4	[141]
$C_{34}H_{54}N_2O$		5-decyl-2-[4-[3-[(*trans*-4-pentylcyclohexyl)oxy]propyl]phenyl]pyrimidine					
	Sol/Smec	342.2	32.2	94.10			
	Smec/Nem	383.2	Not reported in paper				
	Nem/Liq	403.2	Not reported in paper				[198]
$C_{34}H_{54}N_2O_3$		4,4′-diundecyloxyazoxybenzene					
	Sol/Smec	354.0	41.09	116.07			
	Smec/Nem	394.6	10.07	25.52	141.59	220.8	[179]
$C_{34}H_{56}O_6$		(S)-4-(2-ethylheptyloxycarbonyl)phenyl 4-tridecanoyloxytolane-4′-carboxylate					
	Sol/Smec	353.3	49.6	140.39			
	Smec/Smec	356.2	0.68	1.91			
	Smec/Liq	364.9	0.94	2.58	144.88		[173]
$C_{34}H_{57}N_3O_6$		4,4′-*bis*[4-(4-heptyloxybenzoyloxy)benzylideneamino]diphenylamine					
	Sol/Smec	494.2	41.0	82.96			
	Smec/Nem	496.2	0.6	1.21			
	Nem/Liq	593.2	1.8	3.03	87.20		[284]
$C_{34}H_{58}OS$		cholesteryl thioheptanoate					
	Sol/Liq	380.2	32.6	85.6	85.6	NA	
	Smec/Chol	346.3	0.1	0.3			
	Chol/Liq	375.3	0.3	0.9			[155,312]
	Note: Liquid crystalline behavior observed on cooling.						
$C_{34}H_{60}N_2O_2$		N,N′-didodecanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Meso	417.2	40	95.88			
	Meso/Meso	510.2	11	21.56			
	Meso/Liq	536.2	16	29.84	147.28		[36]
$C_{34}H_{60}N_2O_2$		N,N′-didodecanoyl-3,4,5,6-tetramethylbenzene-1,2-diamine					
	Sol/Meso	401.2	18	44.87			
	Meso/Meso	460.2	1	2.17			
	Meso/Liq	505.2	22	43.55	90.59		[61]
$C_{34}H_{61}NO_4$		3,4,5-*tris*(nonyloxy)benzamide					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Meso	354.2	37.9	107.00			
	Meso/Liq	361.2	6.6	18.27	125.27		[378]
$C_{35}H_{33}NO_2$		[1-(4-heptylbiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Nem	459.7	27.15	59.06			
	Nem/Liq	469.2	0.13	0.28	59.34		[254]
$C_{35}H_{34}N_2O_2$		*α,ω-bis*[(4,4′-cyanobiphenylyl)oxy]nonane					
	Sol/Nem	406.8	47.0	115.54			
	Nem/Liq	445.5	3.75	8.42	123.96		[127]
$C_{35}H_{35}F_7O_6$		4-[[(1-methylhepthyl)oxy]carbonyl]phenyl 4′-[3-(2,2,3,3,4,4,4-heptafluoro-1-oxobutoxy)propyl] [1,1′-biphenyl]-4-carboxylate					
	Sol/Smec	359.2	25.36	70.60			
	Smec/Smec	395.8	0.11	0.28			
	Smec/Smec	398.3	1.50	3.77			
	Smec/Liq	403.6	4.01	9.94	84.59		[394]
$C_{35}H_{35}F_7O_7$		(S)-4-(1-methylheptyloxycarbonyl)phenyl 4′-(3-perfluoro-butanoyloxyprop-1-oxy)biphenyl-4-carboxylate					
	Sol/Smec	356.7	18.49	51.84			
	Smec/Smec	394.2	1.26	3.20			
	Smec/Smec	397.1	1.34	3.37			
	Smec/Liq	402.2	3.18	7.91	66.32		[390]
$C_{35}H_{36}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-octyloxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	348.6	25.49	73.16			
	Smec/Smec	350.9	Not detected by dsc				
	Smec/Chst	402.6	0.70	1.74			
	Chst/Liq	418.0	0.45	1.08	75.98		[91]
$C_{35}H_{36}N_4O_6$		*α,ω-bis*(4-ethoxyazobenzene-4′-carbonyloxy)pentane					
	Sol/Smec	377.1	18.8	49.85			
	Smec/Liq	397.5	12.5	31.45	81.30		[107]
$C_{35}H_{37}NO_9$		5-[[4-[[4-(decyloxy)benzoyl]oxy]phenoxy]carbonyl]-1,3-dihydro-1,3-dioxo-2*H*-isoindole-2-acetic acid, methyl ester					
	Sol/Nem	404.1	33.9	83.89			
	Nem/Liq	435.3	1.44	3.31	87.20		[280]
$C_{35}H_{38}F_4O_4$		pentyl 4-[4-((4-octyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					
	Sol/Smec	357.5	48.62	136.00			
	Smec/Nem	369.8	1.99	5.38			
	Nem/Liq	370.5	1.8	4.86	146.24		[96]
$C_{35}H_{38}F_4O_4$		4-[(S)-2-methylbutoxy]phenyl 4-[(4-nonyloxy-2,3,5,6-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Nem	355.4	26.65	74.99			
	Nem/Liq	404.5	0.62	1.53	76.52		[124]
$C_{35}H_{38}N_2O_7$		5-[[4-[(E)-[[4-(decyloxy)phenyl]methylene]amino]phenoxy]carbonyl]-1,3-dihydro-1,3-dioxo-2*H*-isoindole-2-acetic acid, methyl ester					
	Sol/Nem	403.6	33.8	83.75			
	Nem/Liq	416.4	0.73	1.75	85.50		[280]
$C_{35}H_{38}N_6O_6$		*α,ω-bis*(4-nitroazobenzene-4′-oxy)undecane					
	Sol/Nem	421.2	64.43	152.97			
	Nem/Liq	450.2	2.43	5.40	158.37		[422]
$C_{35}H_{39}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-octyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	340.9	31.33	91.90			
	Smec/Nem	354.7	2.33	6.57			
	Nem/Liq	359.8	0.66	1.83	100.3		[267]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{35}H_{39}NO_7$		5-[[[4′-(decyloxy)[1,1′-biphenyl]-4-yl]oxy]carbonyl]-1,3-dihydro-1,3-dioxo-2*H*-isoindole-2-propanoic acid, methyl ester					
	Sol/Smec	440.5	10.9	24.74			
	Smec/Liq	458.4	7.55	16.47	41.21		[280]
$C_{35}H_{40}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(azobenzene-4-oxy)hexane					
	Sol/Nem	413.2	52.56	127.20			
	Nem/Liq	431.2	4.84	11.22	138.42		[67]
$C_{35}H_{40}N_4O_2$		α-(4′-butylazobenzene-4-oxy)-ω-(4′-methylazobenzene-4-oxy)hexane					
	Sol/Nem	403.2	48.94	121.38			
	Nem/Liq	470.2	6.23	13.25	144.63		[67]
$C_{35}H_{40}N_4O_2$		α-(4′-propylazobenzene-4-oxy)-ω-(4′-ethylazobenzene-4-oxy)hexane					
	Sol/Nem	431.2	35.49	82.31			
	Nem/Liq	473.2	6.33	13.38	95.69		[67]
$C_{35}H_{41}ClF_2O_5$		4-[(2S)-2-chloro-3-methylpentanoyloxy]biphenyl-4′-yl 4-decyloxy-2,3-difluorobenzoate					
	Sol/Smec	348.5	28.88	82.87			
	Smec/Nem	405.7	1.28	3.16			
	Nem/Blue	420.1	0.9	2.14			
	Blue/Liq	420.8	Not detected by dsc		88.17		[121]
$C_{35}H_{41}ClF_2O_5$		4-[(2S)-2-chloro-3-methylbutanoyloxy]biphenyl-4′-yl 4-undecyloxy-2,3-difluorobenzoate					
	Sol/Smec	354.9	16.01	45.11			
	Smec/Nem	419.9	1.15	2.74			
	Nem/Liq	434.2	0.88	2.03	49.88		[121]
$C_{35}H_{41}NO_5$		2-butyl-2,3-dihydro-1,3-dioxo-1*H*-isoindole-5-carboxylic acid, 4′-(decyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Smec	404.6	26.8	66.24			
	Smec/Smec	451.4	0.72	1.60			
	Smec/Liq	459.9	5.07	11.02	78.86		[280]
$C_{35}H_{42}N_2O_7$		4-butoxy-2′-(4-methacryloyloxybutoxy)-4′-(4-butoxybenzoyloxy)azobenzene					
	Sol/Nem	356.4	50.21	140.88			
	Nem/Liq	358.7	0.64	1.78	142.66		[62]
$C_{35}H_{42}N_2O_7$		4-[[[(1S)-1-methylheptyl]oxy]carbonyl]phenyl 4′-[3-(1-oxobutoxy)propoxy][1,1′-biphenyl]-4-carboxylate					
	Sol/Smec	340.4	22.01	64.66			
	Smec/Smec	365.7	0.19	0.52			
	Smec/Liq	390.1	5.02	12.87	78.05		[391]
$C_{35}H_{42}O_7$		(1S)-2-butoxy-1-methyl-2-oxoethyl 4-[[(2E)-3-[6-octyloxy)-2-naphthalenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Meso	344.6	35.54	103.13			
	Meso/Liq	390.9	3.59	9.18	112.31		[401]
$C_{35}H_{43}ClO_4$		4-octylphenyl 2-chloro[(4-heptylbenzoyl)oxy]benzoate					
	Sol/Nem	312.9	30.4	97.16			
	Nem/Liq	376.2	1.03	2.74	99.90		[365]
$C_{35}H_{43}ClO_6$		[S]-4′-decyloxybiphenyl 4-(2-chloro-3-methylbutanoyloxy)-3-methylbenzoate					
	Sol/Smec	340.2	23.99	70.52			
	Smec/Smec	384.0	0.18	0.47			
	Smec/Nem	407.0	0.71	1.74			
	Nem/Liq	412.3	0.83	2.01	74.74		[45]
$C_{35}H_{43}NO_6$		ethoxyethyl 4-(4′-decyloxybenzoyloxybenzylidene)-4″-aminobenzoate					
	Sol/Smec	365.7	9.45	25.84			
	Smec/Liq	431.2	0.94	2.18	28.02		[58]
$C_{35}H_{44}ClNO_4$		3-hydroxy-4-[(E)-[(4-nonylphenyl)imino]methyl]phenyl 4-butoxy-α-chlorobenzenepropanoate					
	Sol/Smec	332.2	Not reported in paper				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Smec	332.7	3.27	9.82			
	Smec/Smec	361.6	0.29	0.80			
	Smec/Liq	387.5	7.56	19.51			[249]
$C_{35}H_{44}N_2O_2$		2,3-dicyano-4-heptylphenyl 4-[4-heptylbicyclo[2.2.2]oct-1-yl]benzoate					
	Sol/Nem	398.2	30.33	76.17			
	Nem/Liq	407.2	Not reported in paper				[202]
$C_{35}H_{44}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-ethoxyphenyl)propane-1,3-dione					
	Sol/Nem	343.7	27.02	78.62			
	Nem/Liq	366.7	0.33	0.90	79.52		[297]
$C_{35}H_{44}O_5S$		(R)-4-(3-ethylmercapto-2-methylpropionyl)phenyl 4′-decyloxybiphenyl-4-carboxylate					
	Sol/Smec	338.1	26.39	78.05			
	Smec/Smec	355.4	2.44	6.87			
	Smec/Smec	410.6	0.07	0.17			
	Smec/Smec	429.4	4.08	9.50	94.59		[100]
$C_{35}H_{44}O_6$		4-[(1R)-2-(1-ethylpropoxy)-1-methyl-2-oxoethoxy]phenyl 4′-(octyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Smec	302.3	16.04	53.06			
	Smec/Meso	385.9	1.46	3.78			
	Meso/Nem	387.5	Too small to be measured				
	Nem/Meso	393.7	Too small to be measured				
	Meso/Liq	394.4	1.68	4.26	61.11		[239]
$C_{35}H_{45}NO_3$		4-(4′-dodecyloxybenzoyloxy)benzylidene 4″-isopropylaniline					
	Sol/Smec	383.2	12.81	33.43			
	Smec/Nem	418.2	1.08	2.58			
	Nem/Liq	435.2	0.65	1.49	37.50	170.8	[273]
$C_{35}H_{46}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-(8-nonenyloxy)benzoate					
	Sol/Smec	326.2	27.2	83.38			
	Smec/Chol	340.2	Not reported in paper				
	Chol/Liq	412.2	Not reported in paper				[201]
$C_{35}H_{46}N_2O_4$		4-[(4-isobutyloxyphenyl)azo]phenyl 4-dodecyloxybenzoate					
	Sol/Smec	374.9	27.96	74.58			
	Smec/Nem	385.2	0.30	0.78			
	Nem/Liq	456.1	1.11	2.43	77.79		[319]
$C_{35}H_{46}N_2O_4$		4-[(4-ethoxyphenyl)azo]phenyl 4-(tetradecyloxy)benzoate					
	Sol/Nem	371.2	54.0	145.47			
	Nem/Liq	482.2	1.1	2.28	147.45		[339]
$C_{35}H_{46}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3,5,6-tetramethylphenyl 4-(decyloxy)benzoate					
	Sol/Nem	425.2	53.0	124.65			
	Nem/Liq	458.2	1.7	3.71	128.36		[339]
$C_{35}H_{46}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3-dimethylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	383.2	37.0	96.56			
	Nem/Liq	468.2	1.3	2.78	99.34		[339]
$C_{35}H_{46}N_2O_4$		4-[(4-ethoxyphenyl)azo]-3,6-dimethylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	375.2	63.0	167.91			
	Nem/Liq	405.2	1.8	4.44	172.35		[339]
$C_{35}H_{46}N_2O_4$		4-[(4-ethoxyphenyl)azo]-3,5-dimethylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	362.2	59.0	162.89			
	Nem/Liq	421.2	1.8	4.27	167.16		[339]
$C_{35}H_{46}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,6-dimethylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	361.2	52.0	143.96			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	408.2	2.0	4.90	148.86		[339]
$C_{35}H_{46}O_3S$		S-4-octyloxybiphenylyl (S)-4-(1-methylheptyloxy)benzoate					
	Sol/Smec	339.0	23.8	70.21			
	Smec/Nem	371.9	2.3	6.18			
	Nem/Liq	406.2	1.5	3.69	80.08		[281]
$C_{35}H_{46}O_7$		4-nonyloxyphenyl 7-decanoyloxychromone-2-carboxylate					
	Sol/Smec	377.9	23.3	61.66			
	Smec/Liq	436.5	6.3	14.43	76.09		[286]
$C_{35}H_{47}NO_2$		N-(2-hydroxy-4-butoxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	360.7	38.53	106.82			
	Smec/Smec	421.2	0.88	2.09			
	Smec/Smec	462.2	Too small to be measured				
	Smec/Liq	495.7	8.12	16.39	125.30		[323]
$C_{35}H_{47}NO_4$		4′-(2-diethylamino-ethoxy)biphenyl 4-decyloxybenzoate					
	Sol/Smec	356.7	7.87	22.06			
	Smec/Smec	392.8	1.72	4.38			
	Smec/Liq	415.8	0.87	2.09	28.53		[427]
$C_{35}H_{47}NO_4$		4′-(3-diethylamino-propoxy)biphenyl 4-nonyloxybenzoate					
	Sol/Smec	336.5	9.15	27.19			
	Smec/Smec	395.7	2.66	6.72			
	Smec/Liq	418.5	1.04	2.49	36.40		[427]
$C_{35}H_{48}N_2O_2S$		2-[4-(2-ethyl-2,3-undecadienyl)oxy]phenyl]-5-[4-(octyloxy)phenyl]-1,3,4-thiadiazole					
	Sol/Smec	323.2	27.9	86.32			
	Smec/Nem	365.2	2.24	6.13			
	Nem/Liq	368.2	1.68	4.56	97.01		[398]
$C_{35}H_{48}N_2O_2S$		2-[4-(4-ethyl-2,3-undecadienyl)oxy]phenyl]-5-[4-(octyloxy)phenyl]-1,3,4-thiadiazole					
	Sol/Smec	318.2	25.5	80.14			
	Smec/Smec	347.2	0.10	0.29			
	Smec/Nem	354.2	1.15	3.25			
	Nem/Liq	361.2	0.8	2.21	85.89		[398]
$C_{35}H_{48}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-nonyloxybenzoate					
	Sol/Smec	341.2	34.9	102.29			
	Smec/Chol	353.2	Not reported in paper				
	Chol/Liq	411.2	Not reported in paper				[201]
$C_{35}H_{48}O_4$		4-[[(4-butylcyclohexyl)carbonyl]oxy]phenyl 4-(4-pentylcyclohexyl)benzoate					
	Sol/Smec	384.5	13.51	35.14			
	Smec/Nem	404.7	11.55	28.54			
	Nem/Liq	601.2	Not reported in paper				[348]
$C_{35}H_{49}NO_2$		3-[4-(*trans*-4-heptylcyclohexyl)phenyl]-5-[4-(heptyloxy)phenyl]isoxazole					
	Sol/Smec	385.5	26.02	67.50			
	Smec/Nem	498.5	1.20	2.41			
	Nem/Liq	507.2	1.12	2.21	72.12		[131]
$C_{35}H_{49}N_3O_3S$		5-(4-decyloxy)phenyl-2-(2-hydroxy-4-nonyloxy)benzylideneamino-1,3,4-thiadiazole					
	Sol/Smec	374.2	26.04	69.59			
	Smec/Liq	486.2	9.42	19.37	85.96		[59]
$C_{35}H_{50}N_2O_2$		6-n-decyloxy-2-[(4′-N-nonyloxyphenylimino)methyl]quinoline					
	Sol/Smec	373.6	61.38	164.29			
	Smec/Nem	389.8	0.20	0.51			
	Nem/Liq	404.3	1.84	4.55	169.35		[112]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{35}H_{50}N_2O_3$		N-4-nonyloxyphenyl-6-decyloxyquinoline-2-carboxamide					
	Sol/Smec	371.2	48.7	131.20			
	Smec/Liq	389.7	6.8	17.45	148.65		[43]
$C_{35}H_{50}O_4$		7-decyloxy-3-(4-decyloxyphenyl)-3*H*-1-benzopyran-4-one					
	Sol/Smec	392.8	34.9	88.85			
	Smec/Liq	421.3	9.7	23.02	111.87		[44]
$C_{35}H_{51}NO_5$		6-[4-(4-dodecyloxyphenyliminomethyl)-3-hydroxyphenoxy]hexyl methacrylate					
	Sol/Smec	319.3	33.28	104.23			
	Smec/Smec	361.1	Not reported in paper				
	Smec/Liq	369.8	7.12	19.25			[294]
$C_{35}H_{51}N_3O_2S$		N-[[4-(dodecyloxy)phenyl]methylene]-5-[4-(octyloxy)phenyl]-1,2,4-thiadiazol-2-amine					
	Sol/Sol	369.2	11.5	31.15			
	Sol/Smec	391.5	32.76	83.68			
	Smec/Smec	462.9	9.81	21.19			
	Smec/Liq	466.9	Not reported in paper				[283]
$C_{35}H_{52}N_2O_2$		3,5-di(4-n-decyloxyphenyl)pyrazole					
	Sol/Sol	352.5	31.8	90.21			
	Sol/Smec	403.5	13.1	32.47			
	Smec/Smec	453.7	0.3	0.66			
	Smec/Liq	456.1	6.1	13.37	136.71		[16]
$C_{35}H_{52}N_2O_3$		4-pentanoyl-4′-octanodecanoyloxyazobenzene					
	Sol/Sol	339.6	5.31	15.64			
	Sol/Smec	367.5	8.27	22.50			
	Smec/Liq	379.3	51.83	136.65	174.79		[157]
$C_{35}H_{52}N_2O_3$		N-[4-[5-oxo-4-[(1-oxoundecyl)amino]-1,3,6-cycloheptatrien-1-yl]phenyl]undecamide					
	Sol/Smec	418.2	35.3	84.41			
	Smec/Liq	428.2	8.1	18.92	103.33		[251]
$C_{35}H_{52}O_3$		4-(4-methylhexyloxy)benzoic acid, 4-[2-(*trans*-4-heptyl-cyclohexyl)ethyl]phenyl ester					
	Sol/Smec	335.3	8.32	24.81			
	Smec/Smec	343.2	Not reported in paper				
	Smec/Chol	348.2	Not reported in paper				
	Chol/Liq	409.2	Not reported in paper				[199, 208]
$C_{35}H_{52}O_3$		4-(6-methyloctyloxy)benzoic acid, 4-[2-(*trans*-4-pentylcyclohexyl)ethyl]phenyl ester					
	Sol/Smec	331.2	19.95	60.24			
	Smec/Smec	332.2	Not reported in paper				
	Smec/Chol	366.2	Not reported in paper				
	Chol/Liq	413.2	Not reported in paper				[199, 208]
$C_{35}H_{52}O_3$		4-(nonyloxy)benzoic acid, 4-[2-(*trans*-4-pentylcyclohexyl)ethyl]phenyl ester					
	Sol/Smec	341.2	34.21	100.26			
	Smec/Nem	374.2	Not reported in paper				
	Nem/Liq	427.2	Not reported in paper				[199, 207]
$C_{35}H_{52}O_3$		cholesteryl anisoate					
	Sol/Chol	452.4	35.31	78.07			
	Chol/Liq	5.38.1	1.21	2.26	80.32	108.9	[155, 310]
$C_{35}H_{52}O_4$		4-[(*trans*-4-pentylcyclohexyl)methoxy]phenyl 4-decyloxybenzoate					
	Sol/Smec	345.2	25.40	73.58			
	Smec/Smec	351.2	Not reported in paper				
	Smec/Nem	387.2	Not reported in paper				
	Nem/Liq	427.2	Not reported in paper				[207]
$C_{35}H_{53}NO_5$		4′-docosanyloxy-3′-nitrobiphenyl-4-carboxylic acid					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	370.4	29.5	79.64			
	Smec/Cube	406.8	0.6	1.47			
	Cube/Liq	464.0	1.2	2.59	83.70		[133]
	Independent set of measurements						
	Sol/Sol	375.7	37.62	100.13			
	Sol/Smec	377.0	36.34	96.39			
	Smec/Cube	407.9	1.98	4.85			
	Cube/Cube	454.1	0.17	0.37			
	Cube/Liq	466.8	4.03	8.63	210.37		[337]
	Note: The authors observed a liquid phase anomaly in the dsc curve at 475 K, with a corresponding enthalpy of 5.6 kJ·mol^{-1}.						
$C_{35}H_{54}N_2O_2$	4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl *trans*-4-nonylcyclohexane-1-carboxylate						
	Sol/Smec	355.2	19.3	54.34			
	Smec/Smec	360.2	Not reported in paper				
	Smec/Chol	365.2	Not reported in paper				
	Chol/Liq	409.2	Not reported in paper				[201]
$C_{35}H_{55}NO$	4-heptyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine						
	Sol/Smec	333.1	30.30	90.96			
	Smec/Liq	364.0	45.94	126.21	217.17		[240]
$C_{35}H_{55}NO$	4-butyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine						
	Sol/Smec	346.9	56.10	161.70			
	Smec/Smec	349.7	4.35	12.44			
	Smec/Liq	352.4	5.85	16.60	190.74		[240]
$C_{35}H_{56}N_2O$	4-heptyl-4′-hexadecyloxyazobenzene						
	Sol/Smec	288.9	29.37	101.66			
	Smec/Smec	290.7	0.47	1.62			
	Smec/Smec	309.0	22.06	71.39			
	Smec/Liq	337.0	1.38	4.09	178.76		[390]
$C_{35}H_{56}N_2O$	4-pentyl-4′-octadecyloxyazobenzene						
	Sol/Smec	339.3	37.66	110.99			
	Smec/Liq	353.8	15.66	44.26	155.25	258.7	[141]
$C_{35}H_{58}N_2O_6$	4,4′-*bis*[4-(4-heptyloxybenzylideneamino)benzoyloxy]diphenylmethane						
	Sol/Smec	429.2	33.0	76.89			
	Smec/Liq	475.2	17.0	35.77	112.66		[284]
$C_{35}H_{58}OS$	cholesteryl thiooctanoate						
	Sol/Chol	370.2	29.0	78.3			
	Smec/Chol	349.8	3.1	0.01			
	Chol/Liq	374	0.67	1.8	80.1	NA	[155,312]
	Note: Smec/Chol behavior observed on cooling.						
$C_{35}H_{62}O_2$	5α-cholestan-3β-ol octanoate						
	Sol/Liq	349.15	40.6	116.4	116.4	139.1	[311]
	Smec/Chol	342.15	0.35	1.0			
	Note: Liquid crystalline phase detected upon cooling.						
$C_{36}H_{26}Cl_2N_2O_6$	4,5-dichloro-1,3-phenylene *bis*[4-(4-methoxybenzylideneamino)benzoate]						
	Sol/Nem	489.2	47	96.08			
	Nem/Liq	503.2	1.3	2.58	98.63		[86]
$C_{36}H_{27}ClN_2O_6$	4-chloro-1,3-phenylene *bis*[4-(4-methoxybenzylideneamino]benzoate						
	Sol/Nem	459.2	43	93.64			
	Nem/Liq	472.2	0.3	0.64	94.28		[86]
$C_{36}H_{32}N_2O_4$	3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(butylphenyl)diimide						
	Sol/Smec	537.9	33.5	62.28			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	556.3	8.4	15.10	77.38		[94]
$C_{36}H_{32}N_2O_6$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(butoxyphenyl)diimide					
	Sol/Smec	545.1	36.8	67.51			
	Smec/Liq	587.3	8.2	13.96	81.47		[94]
$C_{36}H_{33}F_{13}O_5$		(S)-4-(1-methylheptyloxycarbonyl)phenyl 4-(1*H*,1*H*,2*H*,2*H*-perfluorooctyloxy)biphenyl-4′-carboxylate					
	Sol/Sol	350.0	13.06	37.31			
	Sol/Smec	371.0	19.60	52.83			
	Smec/Smec	421.3	1.05	2.49			
	Smec/Liq	456.8	4.65	10.18	102.81		[255]
$C_{36}H_{35}NO_2$		[1-(4-octylbiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Smec	456.7	22.97	50.30			
	Smec/Nem	465.2	0.42	0.90			
	Nem/Liq	468.2	0.13	0.28	51.48		[254]
$C_{36}H_{36}N_2O_2$		*α*,*ω*-*bis*[(4,4′-cyanobiphenylyl)oxy]decane					
	Sol/Nem	438.7	53.1	121.04			
	Nem/Liq	457.6	8.2	17.92	138.96		[127]
$C_{36}H_{36}N_2O_6$		*α*,*ω*-*bis*[4-(4-ethoxybenzoyloxy)benzylideneamino]butane					
	Sol/Nem	437.2	54.0	123.51			
	Nem/Liq	504.2	9.2	18.24	141.75		[293]
$C_{36}H_{38}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-nonyloxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	347.2	27.02	77.82			
	Smec/Smec	362.2	Not detected by dsc				
	Smec/Chst	401.5	0.64	1.59			
	Chst/Liq	412.5	0.49	1.19	80.60		[91]
$C_{36}H_{38}N_4O_6$		*α*,*ω*-*bis*(4-ethoxyazobenzene-4′-carbonyloxy)hexane					
	Sol/Nem	405.6	47.7	117.60			
	Nem/Liq	460.9	7.5	16.27	133.87		[107]
$C_{36}H_{38}N_4O_6S_2$		*bis*[4-(5-n-hexylthio-1,3,4-oxadiazole-2-yl)phenyl] terephthalate					
	Sol/Smec	407.2	48.7	119.60			
	Smec/Nem	552.2	1.7	3.08			
	Nem/Liq	556.2	0.8	1.44	124.12		[23]
$C_{36}H_{38}O_6$		*bis*(4-pentyloxyphenyl) 4,4′-biphenylenedicarboxylate					
	Sol/Sol	378.6	19.4	51.24			
	Sol/Smec	418.6	30.6	73.10			
	Smec/Nem	608.6	2.7	4.44			
	Nem/Liq	619.2	2.1	3.39	132.17	175.2	[12]
$C_{36}H_{38}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]-*bis*, dipentyl ester					
	Sol/Sol	390.7	3.8	9.73			
	Sol/Smec	447.0	47.0	105.15			
	Smec/Nem	503.5	0.7	1.39			
	Nem/Liq	527.9	0.7	1.33	117.60		[271]
$C_{36}H_{38}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(pentyloxy)-3-oxo-1-propenyl]phenyl ester					
	Sol/Smec	386.0	36.6	94.82			
	Smec/Nem	526.1	2.2	4.18			
	Nem/Liq	532.6	0.9	1.69	100.69		[271]
$C_{36}H_{39}N_3O_6$		4-(4′-ethoxybenzoyloxy)-2-butoxy-4′-(4-butyoxysalicylaldimine)azobenzene					
	Sol/Nem	431.2	42.30	98.10			
	Nem/Liq	540.2	2.43	4.50	102.60		[109]
$C_{36}H_{40}F_4O_4$		pentyl 4-[4-((4-nonyloxy-2,3,5,6-tetrafluorophenyl)ethynyl)benzyloxy]benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	357.9	47.62	133.05			
	Smec/Liq	369.3	5.86	15.87	148.92		[96]
$C_{36}H_{40}N_4O_6S_3$		*bis*[4-(5-n-heptylthio-1,3,4-oxadiazole-2-yl)phenyl]-2,5-thiophene-dicarboxylate					
	Sol/Smec	409.2	25.2	61.58			
	Smec/Liq	498.2	7.5	15.05	76.63		[23]
$C_{36}H_{41}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-nonyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	338.7	36.13	106.67			
	Smec/Nem	348.2	1.35	3.88			
	Nem/Liq	354.8	0.62	1.75	112.3		[267]
$C_{36}H_{41}F_{13}O_5$		4-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyloxycarbonyl)phenyl 4-(tetradecyloxy)benzoate					
	Sol/Smec	365.5	23.84	65.23			
	Smec/Liq	374.9	11.12	29.66	94.89		[125]
$C_{36}H_{41}NO_3$		4-(4′-dodecyloxybenzoyloxybenzylidene)-2″-aminonaphthalene					
	Sol/Smec	379.2	10.77	28.40			
	Smec/Nem	430.2	0.12	0.28			
	Nem/Liq	471.2	0.35	0.74	29.42		[186]
$C_{36}H_{41}NO_3S$		4-(4′-dodecyloxybenzoyloxybenzylidene)-2″-aminonaphthalene-1″-thiol					
	Sol/Nem	413.2	21.48	51.98			
	Nem/Liq	488.2	0.23	0.47	52.45		[186]
$C_{36}H_{41}NO_7$		5-[[[4′-(decyloxy)[1,1′-biphenyl]-4-yl]oxy]carbonyl]-1,3-dihydro-1,3-dioxo-2*H*-isoindole-2-butanoic acid, methyl ester					
	Sol/Sol	408.1	8.82	21.61			
	Sol/Smec	421.1	34.4	81.69			
	Smec/Liq	440.4	6.30	14.31	117.61		[280]
$C_{36}H_{42}F_2O_2S$		3,4-difluoro-2,5-*bis*[[4-(octyloxy)phenyl]ethynyl]thiophene					
	Sol/Smec	338.4	38.9	114.95			
	Smec/Liq	382.9	1.4	3.66	118.61		[373]
$C_{36}H_{42}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-heptyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy] benzoate					
	Sol/Smec	341.7	17.94	52.50			
	Smec/Smec	343.6	0.08	0.23			
	Smec/Liq	381.2	4.99	13.09	65.82		[69]
$C_{36}H_{42}N_2O_2$		2,3-dicyano-4-heptylphenyl 4′-octyl-4-biphenyl-1-carboxylate					
	Sol/Nem	357.2	11.30	31.63			
	Nem/Liq	383.7	Not reported in paper				[202]
$C_{36}H_{42}N_2O_2S$		2-[4-(octyloxy)phenyl]-5-[[4-(octyloxy)phenyl]ethynyl]-3,4-thiophenedicarbonitrile					
	Sol/Smec	346.2	29.6	85.50			
	Smec/Nem	353.8	0.4	1.13			
	Nem/Liq	368.6	1.5	4.07	90.70		[373]
$C_{36}H_{42}N_4O_2$		α-(4′-propylazobenzene-4-oxy)-ω-(4′-propylazobenzene-4-oxy)hexane					
	Sol/Nem	438.2	37.2	84.89			
	Nem/Liq	476.2	7.32	15.37	99.86		[67]
$C_{36}H_{42}N_4O_2$		α-(4′-hexylazobenzene-4-oxy)-ω-(azobenzene-4-oxy)hexane					
	Sol/Nem	409.2	52.73	128.86			
	Nem/Liq	424.2	4.16	9.81	138.67		[67]
$C_{36}H_{42}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-methylazobenzene-4-oxy)hexane					
	Sol/Nem	406.2	45.59	112.23			
	Nem/Liq	471.2	6.78	14.39	126.62		[67]
$C_{36}H_{42}N_4O_2$		α-(4′-butylazobenzene-4-oxy)-ω-(4′-ethylazobenzene-4-oxy)hexane					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	413.2	30.92	74.38			
	Smec/Nem	416.2	Too small to be measured				
	Nem/Liq	465.2	5.84	12.55	86.93		[67]
$C_{36}H_{42}O_2$		4,4‴-dihexyloxy-p-quaterphenyl					
	Sol/Sol	344.0	5.84	16.98			
	Sol/Sol	476.0	6.66	13.99			
	Sol/Smec	587.0	11.74	20.00			
	Smec/Liq	640.0	8.96	14.00	64.97	174.0	[111]
$C_{36}H_{42}O_5$		7-[(4′-tetradecyloxy)benzoyloxy]isoflavone					
	Sol/Smec	407.3	29.82	3.21			
	Smec/Liq	466.6	4.75	10.18	83.39		[14]
$C_{36}H_{42}O_6S_2$		*bis*(4-heptyloxyphenyl) 2,2′-bithiophene-5,5′-dicarboxylate					
	Sol/Sol	389.2	9.8	24.06			
	Sol/Sol	400.9	14.6	36.41			
	Sol/Smec	410.9	24.6	59.87			
	Smec/Liq	498.0	7.1	14.26	134.60	206.2	[12]
$C_{36}H_{42}O_8$		*bis*(4-heptyloxycarbonylphenyl) terephthalate					
	Sol/Smec	418.2	41.0	98.04			
	Smec/Liq	452.2	6.3	13.93	111.97	195.0	[194]
$C_{36}H_{43}ClF_2O_5$		4-[(2S)-2-chloro-3-methylpentanoyloxy]biphenyl-4′-yl 4-undecyloxy-2,3-difluorobenzoate					
	Sol/Smec	340.0	36.57	107.56			
	Smec/Nem	407.8	1.19	2.92			
	Nem/Blue	417.3	1.01	2.42			
	Blue/Liq	417.4	Not detected by dsc	112.90			[121]
$C_{36}H_{43}ClF_2O_5$		4-[(2S)-2-chloro-3-methylbutanoyloxy]biphenyl-4′-yl 4-dodecyloxy-2,3-difluorobenzoate					
	Sol/Smec	347.8	26.96	77.52			
	Smec/Nem	422.4	1.04	2.46			
	Nem/Liq	432.6	1.22	2.82	82.80		[121]
$C_{36}H_{43}NO_3S_2$		2,3-dihydro-2[(1S)-1-methylpropyl]-1,3-dithioxo-1*H*-isoindole-5-carboxylic acid, 4′-(undecyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Sol	236.5	14.4	60.89			
	Sol/Smec	324.9	19.5	60.02			
	Smec/Smec	412.8	0.80	1.94			
	Smec/Liq	419.1	1.51	3.60	126.45		[306]
$C_{36}H_{43}NO_4S$		2,3-dihydro-2[(1S)-1-methylpropyl]-1-oxo-3-thioxo-1*H*-isoindole-5-carboxylic acid, 4′-(undecyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Sol	233.6	2.22	9.50			
	Sol/Smec	488.2	26.2	53.67			
	Smec/Liq	517.9	4.48	8.65	71.82		[306]
$C_{36}H_{43}NO_4S$		2,3-dihydro-2[(1S)-1-methylpropyl]-3-oxo-1-thioxo-1*H*-isoindole-5-carboxylic acid, 4′-(undecyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Smec	489.1	36.7	75.04			
	Smec/Liq	505.8	2.84	5.61	80.65		[306]
$C_{36}H_{43}NO_5$		2,3-dihydro-2[(1S)-1-methylpropyl]-1,3-dioxo-1*H*-isoindole-5-carboxylic acid, 4′-(undecyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Sol	446.3	7.53	16.87			
	Sol/Smec	529.6	20.6	38.90			
	Smec/Liq	570.6	2.34	4.10	59.87		[306]
$C_{36}H_{44}N_2O_4$		diheptyl N,N′-[1,4-phenylene-*bis*(methylidyne)]-*bis*[aminobenzoate]					
	Sol/Smec	365.2	41.0	112.27			
	Smec/Smec	413.2	Not reported in paper				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	469.2	4.5	9.59			[192]
$C_{36}H_{44}O_2$		2-octyloxy-6-[4-(4-octyloxyphenyl)buta-1,3-diynyl]naphthalene					
	Sol/Nem	358.1	35.4	98.86			
	Nem/Liq	445.7	3.2	7.18	106.04		[225]
$C_{36}H_{44}O_5$		2-acetyl-1,4-phenylene 4-heptylbenzoate					
	Sol/Nem	340.2	20.6	60.55			
	Nem/Liq	366.8	3.21	8.75	69.30		[432]
$C_{36}H_{44}O_5S$		(S)-1-methylheptyl 5-[(4-octyloxybenzoyloxyphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	321.1	30.63	95.39			
	Smec/Liq	369.5	5.41	14.64	110.03		[267]
$C_{36}H_{44}O_6S$		4-[[4-(heptyloxy)benzoyl]thio]benzoic acid, 4-[[(1-methylheptyl)oxy]carbonyl]phenyl ester					
	Sol/Smec	356.9	28.6	80.13			
	Smec/Liq	434.9	6.0	13.80	93.93		[85]
$C_{36}H_{44}O_7$		(1S)-2-butoxy-1-methyl-2-oxoethyl 4-[[(2E)-3-[6-nonyloxy)-2-naphthalenyl]1-oxo-2-propenyl]oxy]benzoate					
	Sol/Meso	342.9	27.82	81.13			
	Meso/Liq	383.4	3.38	8.82	89.95		[401]
$C_{36}H_{44}O_7$		2-acetyl-1,4-phenylene 4-(heptyloxy)benzoate					
	Sol/Nem	369.9	51.2	138.42			
	Nem/Liq	401.9	2.6	6.47	144.89		[432]
$C_{36}H_{45}F_3O_3$		4-(1,1,1-trifluoro-2-octyl)phenyl 4′-nonyloxybiphenyl-4-carboxylate					
	Sol/Smec	337.2	33.22	98.52			
	Smec/Liq	356.2	2.86	8.03	106.55		[142]
$C_{36}H_{46}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-propoxyphenyl)propane-1,3-dione					
	Sol/Nem	333.2	44.18	132.59			
	Nem/Liq	339.2	0.37	1.09	133.68		[297]
$C_{36}H_{46}O_5S$		(R)-4-(3-ethylmercapto-2-methylpropionyl)phenyl 4′-undecyloxy-biphenyl-4-carboxylate					
	Sol/Smec	353.8	34.43	97.31			
	Smec/Smec	406.5	0.06	0.15			
	Smec/Liq	424.3	3.26	7.68	105.14		[100]
$C_{36}H_{46}O_6$		4-[(1R)-2-(1-ethylpropoxy)-1-methyl-2-oxoethoxy]phenyl 4′-(nonyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Smec	302.5	19.83	65.55			
	Smec/Meso	302.5	0.99	3.27			
	Meso/Nem	381.1	Too small to be measured				
	Nem/Meso	388.2	Too small to be measured				
	Meso/Liq	389.2	1.47	3.78	72.60		[239]
$C_{36}H_{46}O_7$		4-(4-tetradecyloxybenzoyloxy)phenyl (3,4-dimethoxy)benzoate					
	Sol/Nem	368.9	10.49	28.44			
	Nem/Liq	401.0	0.60	1.50	29.94	203.5	[103]
$C_{36}H_{46}O_7$		4-(4-butoxybenzoyloxy)phenyl (3,4-dihexyloxy)benzoate					
	Sol/Nem	360.7	7.08	19.63			
	Nem/Liq	388.6	0.31	0.80	20.43	203.5	[103]
$C_{36}H_{46}O_7$		4-(4-octyloxybenzoyloxy)phenyl (3,4-dibutoxy)benzoate					
	Sol/Nem	371.6	9.50	25.57			
	Nem/Liq	390.2	0.41	1.05	26.62	203.5	[103]
$C_{36}H_{47}ClN_2O_2$		2-chloro-N,N′-*bis*[[4-(octyloxy)phenyl]methylene]-1,4-benzenediamine					
	Sol/Nem	331.9	49.5	149.14			
	Nem/Liq	453.6	1.68	3.70	152.84		[365]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{36}H_{48}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-(10-undecenyloxy)benzoate					
	Sol/Smec	340.2	34.7	102.00			
	Smec/Chol	348.2	Not reported in paper				
	Chol/Liq	409.2	Not reported in paper				[201]
$C_{36}H_{48}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-(9-decenyloxy)benzoate					
	Sol/Smec	340.2	35.5	104.35			
	Smec/Chol	348.2	Not reported in paper				
	Chol/Liq	406.2	Not reported in paper				[201]
$C_{36}H_{48}N_2O_4$		4-[(4-isoamyloxyphenyl)azo]phenyl 4-dodecyloxybenzoate					
	Sol/Smec	367.1	13.46	36.67			
	Smec/Nem	390.1	0.17	0.44			
	Nem/Liq	464.4	0.57	1.23	38.34		[319]
$C_{36}H_{48}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2-methylphenyl 4-(tetradecyloxy)benzoate					
	Sol/Nem	357.2	35.0	97.98			
	Nem/Liq	441.2	1.3	2.95	100.93		[339]
$C_{36}H_{48}N_2O_4$		4-[(4-ethoxyphenyl)azo]-3-methylphenyl 4-(tetradecyloxy)benzoate					
	Sol/Nem	370.2	53.0	143.17			
	Nem/Liq	437.2	1.2	2.74	145.91		[339]
$C_{36}H_{48}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3,6-trimethylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	383.2	48.0	125.26			
	Nem/Liq	421.2	1.9	4.51	129.77		[339]
$C_{36}H_{48}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3,5-trimethylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	374.2	53.0	141.64			
	Nem/Liq	434.2	1.8	4.15	145.79		[339]
$C_{36}H_{48}N_2O_4$		2,5-dihydro-2,5-dimethyl-3,6-*bis*[4-(octyloxy)phenyl]pyrrolo-[3,4-c]pyrrole-1,4-dione					
	Sol/Nem	379.5	59.2	155.99			
	Nem/Liq	387.2	0.9	2.32	158.31		[388]
$C_{36}H_{48}O_3S$		S-4-nonyloxybiphenylyl (S)-4-(1-methylheptyloxy)benzoate					
	Sol/Smec	330.0	31.5	95.45			
	Smec/Nem	376.7	2.6	6.90			
	Nem/Liq	404.6	1.6	3.95	106.3		[281]
$C_{36}H_{48}O_6S$		*bis*(4-nonyloxyphenyl) 2,5-thiophenedicarboxylate					
	Sol/Sol	393.8	8.6	21.84			
	Sol/Smec	399.7	60.6	151.61			
	Smec/Liq	409.6	9.1	22.22	195.67	218.7	[12]
$C_{36}H_{48}O_7$		4-decyloxyphenyl 7-decanoyloxychromone-2-carboxylate					
	Sol/Smec	375.1	22.1	58.72			
	Smec/Liq	434.9	5.8	13.34	72.06		[286]
$C_{36}H_{49}NO_2$		7-(undec-10-enyloxy)-3-(4′-octyloxystyryl)quinoline					
	Sol/Smec	331.5	29.40	88.69			
	Smec/Smec	338.3	0.69	2.04			
	Smec/Smec	342.8	0.37	1.08			
	Smec/Smec	430.4	0.21	0.49			
	Smec/Liq	441.1	8.76	19.86	112.16		[139]
$C_{36}H_{49}NO_2$		N-(2-hydroxy-4-pentyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	355.7	39.58	111.27			
	Smec/Smec	418.2	1.13	2.70			
	Smec/Smec	477.7	Too small to be measured				
	Smec/Liq	492.7	8.20	16.64	130.61		[323]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{36}H_{49}NO_4$		4′-(2-diethylamino-ethoxy)biphenyl 4-undecyloxybenzoate					
	Sol/Smec	348.6	11.70	33.56			
	Smec/Smec	388.8	2.70	6.94			
	Smec/Liq	406.1	1.24	3.05	43.55		[427]
$C_{36}H_{49}NO_4$		4′-(3-diethylamino-propoxy)biphenyl 4-decyloxybenzoate					
	Sol/Smec	343.7	6.99	20.34			
	Smec/Smec	396.7	2.61	6.58			
	Smec/Liq	416.5	0.83	1.99	28.91		[427]
$C_{36}H_{49}N_5O_3$		2-cyano-3-[4-[(1E)-[4-[4-(1-oxododecyl)-1-piperazinyl]phenyl]azo]phenyl]-2-propenoic acid, butyl ester					
	Sol/Smec	443.6	15.24	34.36			
	Smec/Liq	472.6	1.62	3.43	37.79		[326]
$C_{36}H_{50}N_2O_3$		4-[5-[(S)-methylheptyl]-2-pyrimidinyl]phenyl 4-undecyloxybenzoate					
	Sol/Smec	351.2	31.2	88.84			
	Smec/Chol	358.2	Not reported in paper				
	Chol/Liq	409.2	Not reported in paper				[201]
$C_{36}H_{50}O_4$		4-[[(4-pentylcyclohexyl)carbonyl]oxy]phenyl 4-(4-pentylcyclohexyl)benzoate					
	Sol/Smec	373.5	15.36	41.12			
	Smec/Nem	407.6	9.58	23.50			
	Nem/Liq	594.2	Not reported in paper				[348]
$C_{36}H_{50}S_4$		5,5‴-didecyl- 2,2′:5′,2″:5″,2‴-quaterthiophene					
	Sol/Smec	371.2	41.8	112.61			
	Smec/Liq	441.2	36.9	8.36	120.97		[303]
$C_{36}H_{51}NO_2$		3-[4-(*trans*-4-heptylcyclohexyl)phenyl]-5-[4-(octyloxy)phenyl]isoxazole					
	Sol/Smec	380.2	30.98	81.48			
	Smec/Nem	495.1	1.58	3.19			
	Nem/Liq	502.3	1.00	1.99	86.66		[131]
$C_{36}H_{52}N_2O_2$		6-n-decyloxy-2-[(4′-N-decyloxyphenylimino)methyl]quinoline					
	Sol/Smec	355.6	60.54	170.25			
	Smec/Nem	391.9	0.33	0.84			
	Nem/Liq	404.2	2.75	6.80	177.89		[112]
$C_{36}H_{52}N_2O_3$		N-4-decyloxyphenyl-6-decyloxyquinoline-2-carboxamide					
	Sol/Smec	372.6	50.2	134.73			
	Smec/Liq	390.1	7.1	18.20	152.93		[43]
$C_{36}H_{52}O_2$		2-decyloxy-6-(4-decyloxyphenylethynyl)naphthalene					
	Sol/Sol	360.3	24.4	67.72			
	Sol/Smec	365.0	9.2	25.21			
	Smec/Nem	384.1	0.9	2.34			
	Nem/Liq	413.3	2.3	5.56	100.83		[225]
	Note: Enthalpies of the Sol/Sol and Sol/Smec transitions are from cooling measurements.						
$C_{36}H_{52}O_2$		cholesteryl cinnamate					
	Sol/Chol	435.75	28.74	65.96			
	Chol/Liq	488.15	0.71	1.46	67.42	117.7	[155, 310]
$C_{36}H_{52}O_4$		di(4′-octylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	343.5	28.0	81.51			
	Smec/Smec	387.5	4.09	10.55			
	Smec/Liq	412.4	6.95	16.85	108.91	190.1	[215]
$C_{36}H_{52}O_6$		di(4′-octyloxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	366.2	31.2	85.20			
	Smec/Smec	384.2	1.28	3.33			
	Smec/Smec	392.2	Not reported in paper				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	451.2	6.75	14.96	203.7		[220]
$C_{36}H_{53}NOS$		3-[4-(*trans*-4-heptylcyclohexyl)phenyl]-5-(5-decyl-2-thienyl)isoxazole					
	Sol/Smec	347.8	22.25	63.97			
	Smec/Nem	441.2	1.74	3.94			
	Nem/Liq	444.2	1.54	3.47	71.38		[131]
$C_{36}H_{54}$		4-[2-(4-pentylcyclohexyl)ethyl]-4′-[2-(4-propylcyclohexyl)ethyl-1,1′-biphenyl					
	Sol/Smec	349.2	6.07	17.38			
	Smec/Smec	421.2	2.09	4.96			
	Smec/Smec	463.7	6.28	13.54			
	Smec/Nem	488.2	1.55	3.17			
	Nem/Liq	511.2	5.44	10.64	49.69		[348]
$C_{36}H_{54}O_2$		cholesteryl ω-phenylpropionoate					
	Sol/Chol	384.7	36.69	95.38			
	Chol/Liq	387.3	0.50	1.30	96.68	121.3	[155, 169]
$C_{36}H_{54}O_3$		4-(decyloxy)benzoic acid, 4-[2-(*trans*-4-pentylcyclohexyl)ethyl]phenyl ester					
	Sol/Smec	333.2	24.89	74.70			
	Smec/Nem	380.2	Not reported in paper				
	Nem/Liq	426.2	Not reported in paper				[199, 207]
$C_{36}H_{54}O_4$		4-[(*trans*-4-pentylcyclohexyl)methoxy]phenyl 4-undecyloxybenzoate					
	Sol/Smec	339.2	28.85	85.05			
	Smec/Smec	349.2	Not reported in paper				
	Smec/Nem	398.2	Not reported in paper				
	Nem/Liq	427.2	Not reported in paper				[207]
$C_{36}H_{55}ClN_2O_4$		4-(4-octadecyloxyphenylazoxy)phenyl 2S,3S-2-chloro-3-methylpentanoate					
	Sol/Smec	334.8	38.70	115.60			
	Smec/Liq	348.7	5.23	15.00	130.60		[47]
$C_{36}H_{56}N_2O_{10}$		N,N′-dipentanoyl-2,3,5,6-*tetrakis*(pentanoyloxy)-1,4-benzenediamine					
	Sol/Disc	407.2	26.0	63.85			
	Disc/Liq	481.2	45.0	93.52	157.4		[188]
$C_{36}H_{57}NO$		4-octyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	341.9	53.10	155.31			
	Smec/Liq	363.4	18.49	50.88	206.19		[240]
$C_{36}H_{57}NO$		4-pentyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	343.4	55.88	162.73			
	Smec/Liq	358.7	13.06	36.41	199.14		[240]
$C_{36}H_{58}N_2O_3$		4,4′-didodecyloxyazoxybenzene					
	Sol/Smec	354.9	42.06	118.51			
	Smec/Liq	395.2	11.97	30.29	121.80		[179]
$C_{36}H_{60}O_6$		(S)-4-(2-ethylheptyloxycarbonyl)phenyl 4-pentadecanoyloxytolane-4′-carboxylate					
	Sol/Smec	354.8	52.3	147.41			
	Smec/Liq	370.2	2.6	7.02	154.43		[173]
$C_{36}H_{61}N_3O_6$		4,4′-*bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]diphenylamine					
	Sol/Smec	488.2	40.0	81.93			
	Smec/Smec	497.2	0.7	1.41			
	Smec/Nem	505.2	0.3	0.59	83.93		[284]
$C_{36}H_{62}N_2O_4$		N,N′-dinonanoyl-2,5,6-trimethyl-4-nonanoyloxy-1,3-benzenediamine					
	Sol/Meso	399.2	14.0	35.07			
	Meso/Meso	442.2	21.0	47.49			
	Meso/Liq	471.2	4.0	8.49	91.05	214.1	[193]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{36}H_{62}OS$		cholesteryl thiononanoate					
	Sol/Smec	342.2	22.3	65.3			
	Smec/Chol	357.2	0.6	1.6			
	Chol/Liq	370.7	0.5	1.4	68.3	NA	[155,312]
$C_{36}H_{62}O_2$		cholesterol nonanoate					
	Sol/Chol	351.0	25.13	71.60			
	Chol/Liq	364.9	0.55	1.51	73.11		[166, 170]
	Independent values from another reference						
	Sol/Chol	353.9	22.27	62.93			
	Chol/Liq	366.2	0.51	1.39	64.32		[169]
$C_{36}H_{63}N_3O_3$		N,N′,N″-trinonanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	473.2	8.0	16.91			
	Meso/Liq	495.2	19.0	38.37	55.28		[190]
$C_{36}H_{64}N_2O_2$		N,N′-ditetradecanoyl-2,6-dimethylbenzene-1,4-diamine					
	Sol/Meso	386.2	47.0	121.70			
	Meso/Liq	394.2	12.0	30.44	152.14		[36]
$C_{36}H_{64}N_2O_2$		N,N′-ditetradecylbenzene-1,2-dicarboxamide					
	Sol/Meso	372.2	84.0	225.69			
	Meso/Liq	373.2	12.0	32.15	257.84		[61]
$C_{36}H_{82}Si_{12}$		1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-tetracosomethyl-1,12-diphenyldodecasilane					
	Sol/Meso	399.2	38.1	95.44			
	Meso/Liq	412.2	24.2	58.71	154.15		[400]
$C_{37}H_{37}NO_2$		[1-(4-nonylbiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Smec	458.7	22.97	50.08			
	Smec/Liq	472.7	2.13	4.51	54.59		[254]
$C_{37}H_{39}F_3O$		2-methyl-4-{4-[2-(*trans*-4-pentylcyclohexy)ethyl]phenylethynyl}-1-[(4-trifluoromethoxyphenyl)ethynyl] benzene					
	Sol/Smec	370.2	26.4	71.31			
	Smec/Nem	489.2	0.17	0.35			
	Nem/Liq	532.2	2.9	5.45	77.11		[76]
$C_{37}H_{39}FeNO$		[4′-[(E)-[[4-(octyloxy)phenyl]imino]methyl][1,1′-biphenyl]-4-yl]ferrocene					
	Sol/Smec	450.2	17.94	39.85			
	Smec/Nem	456.2	17.94	39.32			
	Nem/Liq	474.2	0.68	1.43	80.60		[433]
$C_{37}H_{40}N_4O_6$		*α*,*ω*-*bis*(4-butoxyazobenzene-4′-carbonyloxy)propane					
	Sol/Smec	406.9	31.8	78.15			
	Smec/Liq	423.4	15.9	37.55	115.70		[107]
$C_{37}H_{43}ClN_2O_3$		2″-[4-[4′-tetradecyloxybenzoyloxy]-3-chlorophenylazo]naphthalene					
	Sol/Nem	367.2	40.77	111.03			
	Nem/Liq	422.2	0.55	1.30	112.33		[274]
$C_{37}H_{43}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-decyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	334.6	35.90	107.29			
	Smec/Nem	348.8	1.16	3.33			
	Nem/Liq	355.1	0.77	2.17	112.79		[267]
$C_{37}H_{44}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-octyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy] benzoate					
	Sol/Smec	335.1	23.67	70.64			
	Smec/Smec	340.7	Too small to be measured				
	Smec/Smec	342.6	Too small to be measured				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Smec	354.0	0.10	0.28			
	Smec/Liq	379.9	4.98	13.11	84.03		[69]
$C_{37}H_{44}N_4O_2$		α-(4′-hexylazobenzene-4-oxy)-ω-(4′-methylazobenzene-4-oxy)hexane					
	Sol/Nem	412.2	45.24	109.75			
	Nem/Liq	464.2	6.10	13.14	122.89		[67]
$C_{37}H_{44}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-ethylazobenzene-4-oxy)hexane					
	Sol/Smec	393.2	37.92	96.44			
	Smec/Nem	432.2	0.21	0.49			
	Nem/Liq	466.2	6.40	13.73	110.66		[67]
$C_{37}H_{44}N_4O_2$		α-(4′-butylazobenzene-4-oxy)-ω-(4′-propylazobenzene-4-oxy)hexane					
	Sol/Smec	427.2	34.81	81.48			
	Smec/Nem	434.2	0.29	0.67			
	Nem/Liq	469.2	6.67	14.22	96.37		[67]
$C_{37}H_{44}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-hexyloxycinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	380.4	34.68	91.17			
	Smec/Smec	391.2	0.03	0.08			
	Smec/Liq	451.6	5.22	11.56	102.81		[149]
$C_{37}H_{45}ClF_2O_5$		4-[(2S)-2-chloro-3-methylpentanoyloxy]biphenyl-4′-yl 4-dodecyloxy-2,3-difluorobenzoate					
	Sol/Smec	334.2	42.5	127.17			
	Smec/Nem	409.7	1.23	3.00			
	Nem/Liq	417.2	1.17	2.80	132.97		[121]
$C_{37}H_{45}NO_3S_2$		2,3-dihydro-2[(2S)-2-methylbutyl]-1,3-dithioxo-1*H*-isoindole-5-carboxylic acid, 4′-(undecyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Smec	361.3	24.6	68.09			
	Smec/Smec	548.9	0.13	0.24			
	Smec/Nem	616.7	1.26	2.04			
	Nem/Liq	627.6	2.17	3.46	73.83		[306]
$C_{37}H_{45}NO_4S$		2,3-dihydro-2[(2S)-2-methylbutyl]-1-oxo-3-thioxo-1*H*-isoindole-5-carboxylic acid, 4′-(undecyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Smec	418.8	26.3	62.80			
	Smec/Smec	539.7	0.24	0.44			
	Smec/Liq	645.6	4.77	7.39	70.63		[306]
$C_{37}H_{45}NO_4S$		2,3-dihydro-2[(2S)-2-methylbutyl]-3-oxo-1-thioxo-1*H*-isoindole-5-carboxylic acid, 4′-(undecyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Sol	402.8	5.32	13.21			
	Sol/Smec	437.5	16.7	38.17			
	Smec/Smec	597.9	0.20	0.33			
	Smec/Smec	730.0	3.72	5.10	56.81		[306]
$C_{37}H_{45}NO_5$		2,3-dihydro-2[(2S)-2-methylbutyl]-1,3-dioxo-1*H*-isoindole-5-carboxylic acid, 4′-(undecyloxy)[1,1′-biphenyl]-4-yl ester					
	Sol/Smec	443.8	27.7	62.42			
	Smec/Smec	615.1	0.13	0.21			
	Smec/Liq	750.3	6.69	8.92	71.55		[306]
$C_{37}H_{46}O_5S$		(S)-1-methylheptyl 5-[(4-nonyloxybenzoyloxyphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	328.2	37.67	114.78			
	Smec/Liq	365.8	5.04	13.78	128.56		[267]
$C_{37}H_{46}O_6S$		4-[[4-(octyloxy)benzoyl]thio]benzoic acid, 4-[[(1-methylheptyl)oxy]carbonyl]phenyl ester					
	Sol/Smec	359.5	36.4	101.25			
	Smec/Liq	432.4	6.2	14.34	115.59		[85]
$C_{37}H_{46}O_7$		2-(1-oxopropyl)-1,4-phenylene 4-(heptyloxy)benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	361.3	41.9	115.97			
	Nem/Liq	378.3	1.7	4.49	120.46		[432]
$C_{37}H_{48}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-butoxyphenyl)propane-1,3-dione					
	Sol/Sol	315.2	12.76	40.48			
	Sol/Nem	320.7	27.78	86.62			
	Nem/Liq	343.7	0.50	1.45	128.55		[297]
$C_{37}H_{48}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-butoxyphenyl)propane-1,3-dione					
	Sol/Sol	352.7	19.30	54.72			
	Sol/Smec	366.2	29.70	81.10			
	Smec/Liq	371.7	6.94	18.67	154.49		[297]
$C_{37}H_{48}O_5$		(S)-4-(1-methyloctyloxycarbonyl)phenyl 4-octyloxybiphenyl-4′-carboxylate					
	Sol/Sol	331.0	7.49	22.63			
	Sol/Smec	353.0	23.4	66.29			
	Smec/Smec	392.0	0.12	0.31			
	Smec/Smec	392.6	0.04	0.10			
	Smec/Liq	417.2	5.94	14.24	103.57		[255]
$C_{37}H_{48}O_5$		(R)-4-(1-methylheptyloxycarbonyl)phenyl 4-(4-heptyloxyphenyl)ethylbenzoate					
	Sol/Smec	339.7	41.0	120.69			
	Smec/Smec	342.6	0.02	0.06			
	Smec/Liq	363.2	8.2	22.58	143.3		[184]
$C_{37}H_{48}O_5S$		(R)-4-(3-ethylmercapto-2-methylpropionyl)phenyl 4′-dodecyloxybiphenyl-4-carboxylate					
	Sol/Smec	356.1	37.85	106.29			
	Smec/Smec	413.7	0.12	0.29			
	Smec/Liq	426.2	4.33	0.16	116.74		[100]
$C_{37}H_{48}O_6$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)2-[(2S)-2-methylbutoxy]-1-oxopropoxy]benzoate					
	Sol/Sol	362.2	4.95	13.67			
	Sol/Smec	380.2	23.49	61.78			
	Smec/Liq	415.2	6.42	15.46	90.91		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{37}H_{48}O_6$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-1-oxo-2-(pentyloxy)propoxy]benzoate					
	Sol/Smec	371.2	28.38	76.45			
	Smec/Liq	414.2	6.59	15.91	92.36		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{37}H_{48}O_6$		4-[(1R)-2-(1-ethylpropoxy)-1-methyl-2-oxoethoxy]phenyl 4′-(decyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Smec	300.7	37.42	124.44			
	Smec/Meso	381.0	0.85	2.23			
	Meso/Nem	382.8	Too small to be measured				
	Nem/Meso	386.5	Too small to be measured				
	Meso/Liq	387.4	0.75	1.94	128.61		[239]
$C_{37}H_{49}FO_7$		[(R)-4-(1-methylheptyloxycarbonyl)]phenyl 4-(4-decyloxy-3-fluorobenzoyloxy)benzoate					
	Sol/Smec	362.2	37.8	104.36			
	Smec/Smec	386.0	0.24	0.63			
	Smec/Liq	400.2	5.04	12.59	117.58		[51]
$C_{37}H_{50}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-(11-dodecenyloxy)]benzoate					
	Sol/Smec	341.2	31.2	91.44			
	Smec/Chol	354.2	Not reported in paper				
	Chol/Liq	404.2	Not reported in paper				[201]
$C_{37}H_{50}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-(10-undecenyloxy)benzoate					
	Sol/Smec	334.2	34.9	104.43			
	Smec/Chol	353.2	Not reported in paper				
	Chol/Liq	405.2	Not reported in paper				[201]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{37}H_{50}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3-dimethylphenyl 4-(tetradecyloxy)benzoate					
	Sol/Nem	371.2	48.0	129.31			
	Nem/Liq	460.2	1.2	2.61	131.92		[339]
$C_{37}H_{50}N_2O_4$		4-[(4-ethoxyphenyl)azo]-2,3,5,6-tetramethylphenyl 4-(dodecyloxy)benzoate					
	Sol/Nem	420.2	55.0	130.89			
	Nem/Liq	443.2	1.6	3.61	134.50		[339]
$C_{37}H_{50}O_3S$		S-4-decyloxybiphenylyl (S)-4-(1-methylheptyloxy)benzoate					
	Sol/Smec	341.8	35.6	104.15			
	Smec/Nem	379.6	2.7	7.11			
	Nem/Liq	402.8	1.6	3.97	115.23		[281]
$C_{37}H_{51}NO_2$		N-(2-hydroxy-4-hexyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Sol	347.7	Not reported in paper				
	Sol/Smec	354.2	18.87	53.27			
	Smec/Smec	418.2	2.34	5.60			
	Smec/Smec	482.2	0.17	0.35			
	Smec/Liq	491.2	8.12	16.53	75.75		[323]
$C_{37}H_{51}NO_4$		4′-(2-diethylamino-ethoxy)biphenyl 4-dodecyloxybenzoate					
	Sol/Smec	351.0	11.14	31.74			
	Smec/Smec	392.8	2.74	6.97			
	Smec/Liq	408.2	1.27	3.11	41.82		[427]
$C_{37}H_{51}NO_4$		4′-(2-diethylamino-propoxy)biphenyl 4-undecyloxybenzoate					
	Sol/Smec	345.9	9.88	28.56			
	Smec/Smec	397.5	2.99	7.52			
	Smec/Liq	411.7	1.17	2.84	38.92		[427]
$C_{37}H_{52}N_2O_3$		4-[5-[(S)-5-methylheptyl]-2-pyrimidinyl]phenyl 4-dodecyloxybenzoate					
	Sol/Smec	356.2	32.0	89.84			
	Smec/Chol	361.2	Not reported in paper				
	Chol/Liq	406.2	Not reported in paper				[201]
$C_{37}H_{52}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-undecyloxybenzoate					
	Sol/Smec	356.2	35.8	100.51			
	Smec/Chol	363.2	Not reported in paper				
	Chol/Liq	405.2	Not reported in paper				[201]
$C_{37}H_{53}NO_2$		3-[4-(*trans*-4-heptylcyclohexyl)phenyl]-5-[4-(nonyloxy)phenyl]isoxazole					
	Sol/Smec	371.9	24.47	65.80			
	Smec/Smec	496.2	1.87	3.77			
	Smec/Nem	502.9	1.23	2.45	72.02		[131]
$C_{37}H_{54}$		4-[2-(4-butylcyclohexyl)ethyl]-4′-[2-(4-pentylcyclohexyl)ethyl]-1,1-biphenyl					
	Sol/Smec	341.2	2.30	6.74			
	Smec/Smec	346.2	3.64	10.51			
	Smec/Smec	431.2	1.46	3.39			
	Smec/Smec	470.2	6.69	14.23			
	Smec/Nem	492.2	2.93	5.95			
	Nem/Liq	498.2	5.86	11.76	52.58		[348]
$C_{37}H_{56}N_2O_3$		N-[4-[5-oxo-4-[(1-oxododecyl)amino]-1,3,6-cycloheptatrien-1-yl]phenyl]dodecamide					
	Sol/Sol	406.2	6.4	15.76			
	Sol/Smec	423.2	36.1	85.30			
	Smec/Liq	430.2	7.3	16.97	118.03		[251]
$C_{37}H_{56}O_2$		cholesteryl ω-phenylbutyrate					
	Sol/Liq	364.1	28.20	77.45	77.45	128.4	[155, 169]
	Liq/Chol	299.3	0.84	0.3			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Note: Enthalpy of the Liq/Chol transition is from cooling measurements.						
$C_{37}H_{56}O_3$		4-(6-methyloctyloxy)benzoic acid, 4-[2-(*trans*-4-heptylcyclohexyl)ethyl]phenyl ester					
	Sol/Smec	315.2	24.97	79.22			
	Smec/Smec	317.2	Not reported in paper				
	Smec/Smec	342.2	Not reported in paper				
	Smec/Chol	376.2	Not reported in paper				
	Chol/Liq	409.2	Not reported in paper				[199, 208]
$C_{37}H_{56}O_3$		4-(undecyloxy)benzoic acid, 4-[2-(*trans*-4-pentylcyclohexyl)ethyl]phenyl ester					
	Sol/Smec	327.2	32.97	100.76			
	Smec/Smec	341.2	Not reported in paper				
	Smec/Smec	393.2	Not reported in paper				
	Smec/Nem	398.2	Not reported in paper				
	Nem/Liq	422.2	Not reported in paper				[199, 207]
$C_{37}H_{58}N_4O_7$		3,4,5-trioctyloxybenzaldehyde-2′,4′-dinitrophenyl hydrazone					
	Sol/Meso	369.2	29.2	79.09			
	Meso/Liq	409.2	3.8	9.29	88.48		[13]
$C_{37}H_{58}N_4O_6$		3,4-didodecyloxybenzaldehyde-2′,4′-dinitrophenyl hydrazone					
	Sol/Meso	367.2	48.5	132.08			
	Meso/Liq	403.2	3.0	7.44	139.52		[13]
$C_{37}H_{59}NO$		4-nonyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	338.1	39.97	118.22			
	Smec/Liq	364.9	14.77	40.48	158.70		[240]
$C_{37}H_{59}NO$		4-hexyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	342.6	42.46	123.93			
	Smec/Liq	358.5	14.54	40.56	164.49		[240]
$C_{37}H_{59}NO$		N-(4-dodecyloxybenzylidene)-4-dodecylaniline					
	Sol/Smec	341.7	55.13	161.34			
	Smec/Liq	363.5	17.31	47.62	208.96		[256]
$C_{37}H_{60}N_2O$		4-heptyl-4′-octadecyloxyazobenzene					
	Sol/Smec	299.5	40.76	136.09			
	Smec/Smec	317.7	25.10	79.01			
	Smec/Liq	335.1	1.91	5.70	220.80		[390]
$C_{37}H_{62}N_2O_6$		4,4′-*bis*[4-(4-octyloxybenzylideneamino)benzoyloxy]diphenylmethane					
	Sol/Smec	416.2	46.0	110.52			
	Smec/Liq	469.2	20.0	42.63	153.15		[284]
$C_{37}H_{64}OS$		cholesteryl thiodecanoate					
	Sol/Smec	353.2	23.4	66.2			
	Smec/Chol	360.6	1.8	2.0			
	Chol/Liq	371.5	0.8	2.0	73.1	NA	[155,312]
$C_{37}H_{64}O_2$		cholesterol decanoate					
	Sol/Chol	360.4	30.10	83.52			
	Chol/Liq	364.6	0.63	1.73	85.25		[169]
	Independent values from another reference						
	Sol/Smec	342.2	22.3	65.3			
	Smec/Chol	357.2	0.6	1.6			
	Chol/Liq	370.7	0.5	1.4	68.3		[155,312]
$C_{37}H_{64}O_6$		*cis*, *cis*-(3,5-dihydroxycyclohexyl) 3,4-*bis*(dodecyloxy)benzoate					
	Sol/Sol	320.7	25.0	77.95			
	Sol/Meso	352.7	21.6	61.24			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	397.2	1.4	3.52	142.71		[98]
$C_{37}H_{66}O_2$		5α-cholestan-3β-ol decanoate					
	Sol/Liq	354.65	51.5	145.2	145.2	153.3	[311]
	Smec/Chol	326.15	0.36	1.1			
	Chol/Liq	344.15	1.42	4.1			
	Note: Liquid crystalline phase detected upon cooling.						
$C_{37}H_{66}N_2O_2$		N,N′-ditetradecanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	399.2	50	125.25			
	Meso/Meso	447.2	17	38.01			
	Meso/Nem	447.2	0.6	1.34	164.60		[36]
$C_{37}H_{67}NO_4$		3,4,5-*tris*(decyloxy)benzamide					
	Sol/Meso	331.2	9.8	29.59			
	Meso/Liq	358.2	6.1	17.03	46.62		[378]
$C_{38}H_{30}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-ethoxybenzylideneamino)benzoate]					
	Sol/Nem	471.2	38	80.65			
	Nem/Liq	502.2	2.3	4.58	85.23		[86]
$C_{38}H_{32}N_2O_6$		1,3-phenylene *bis*[4-(4-ethoxyphenyliminomethyl)benzoate]					
	Sol/Smec	467.2	36	77.05			
	Smec/Liq	476.2	14	29.40	106.45		[86]
$C_{38}H_{32}N_2O_6$		1,3-phenylene *bis*[4-(4-ethoxybenzylideneamino)benzoate]					
	Sol/Smec	450.2	26	57.75			
	Smec/Liq	461.2	5.4	11.71	69.46		[86]
$C_{38}H_{36}N_2$		3,8-*bis*[(4-pentylphenyl)ethynyl]-1,10-phenanthroline					
	Sol/Nem	431.2	28.0	64.94			
	Nem/Liq	Decomposed prior to transition					[258]
$C_{38}H_{36}N_2O_4$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(pentylphenyl)diimide					
	Sol/Sol	364.0	5.7	15.66			
	Sol/Sol	392.9	5.5	14.00			
	Sol/Smec	521.4	25.9	49.67			
	Smec/Liq	566.0	10.6	18.73	98.06		[94]
$C_{38}H_{36}N_2O_6$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(pentyloxyphenyl)diimide					
	Sol/Smec	523.5	25.2	48.14			
	Smec/Liq	586.1	9.9	16.89	65.03		[94]
$C_{38}H_{38}FeO_4$		[4-[[[4′-[(octyloxy)carbonyl][1,1′-biphenyl]-4-yl]oxy]carbonyl]phenyl]ferrocene					
	Sol/Nem	419.2	41.9	99.95			
	Nem/Liq	434.2	1.02	2.35	102.30	NA	[375]
$C_{38}H_{38}N_2O_4$		N,N′-diheptyl-3,4,9,10-perylene*bis*carboxamide					
	Sol/Meso	486.2	24.3	49.98			
	Meso/Meso	518.2	0.5	0.96			
	Meso/Meso	658.2	21.8	33.12			
	Meso/Liq	677.2	8.8	12.99	97.05		[263]
$C_{38}H_{39}NO_2$		[1-(4-decylbiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Smec	455.2	34.64	76.10			
	Smec/Liq	477.2	2.13	4.46	80.56		[254]
$C_{38}H_{39}NO_3$		[1-(4-decyloxybiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Smec	488.7	50.00	102.31			
	Smec/Liq	490.2	2.09	4.26	106.57		[254]
$C_{38}H_{39}NO_4$		4′-cyano[1,1′-biphenyl]-4-yl 3-[[4′-(decyloxy)[1,1′-biphenyl]-4-yl]oxy]-2-propenoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	433.9	33.1	76.28			
	Smec/Liq	460.2	4.5	9.78	86.06		[305]
$C_{38}H_{40}N_2O_6$		α,ω-*bis*[4-(4-propoxybenzoyloxy)benzylideneamino]butane					
	Sol/Nem	455.2	61.0	134.01			
	Nem/Liq	478.2	7.8	16.31	150.32		[293]
$C_{38}H_{40}N_2O_6$		α,ω-*bis*[4-(4-ethoxybenzoyloxy)benzylideneamino]hexane					
	Sol/Nem	424.2	51.0	120.23			
	Nem/Liq	475.2	8.8	18.52	138.75		[293]
$C_{38}H_{42}N_2O_2S$		2,5-*bis*[[4-(octyloxy)phenyl]ethynyl]-3,4-thiophenedicarbonitrile					
	Sol/Sol	339.0	12.1	35.69			
	Sol/Nem	372.8	31.7	85.03			
	Nem/Liq	400.6	1.2	3.00	123.72		[373]
$C_{38}H_{42}N_4O_6$		α,ω-*bis*(4-ethoxyazobenzene-4′-carbonyloxy)octane					
	Sol/Nem	402.2	47.2	117.35			
	Nem/Liq	439.2	8.4	19.13	136.48		[107]
$C_{38}H_{42}N_4O_6$		α,ω-*bis*(4-butoxyazobenzene-4′-carbonyloxy)butane					
	Sol/Smec	418.3	36.8	87.98			
	Smec/Nem	462.1	5.0	10.82			
	Nem/Liq	469.0	9.2	19.62	118.72		[107]
$C_{38}H_{42}N_4O_6S_2$		*bis*[4-(5-n-heptylthio-1,3,4-oxadiazole-2-yl)phenyl] terephthalate					
	Sol/Smec	389.2	21.6	55.50			
	Smec/Liq	554.2	5.5	9.92	65.42		[23]
$C_{38}H_{42}O_6$		*bis*(4-hexyloxyphenyl) 4,4′-biphenylenedicarboxylate					
	Sol/Sol	375.4	18.2	48.48			
	Sol/Smec	412.5	31.2	75.64			
	Smec/Nem	602.4	4.5	7.47			
	Nem/Liq	605.8	2.5	4.13	135.72	189.4	[12]
$C_{38}H_{42}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]*bis*, dihexyl ester					
	Sol/Sol	327.6	12.0	36.63			
	Sol/Smec	442.1	60.0	135.72			
	Smec/Smec	474.9	0.2	0.42			
	Smec/Nem	498.4	1.1	2.21			
	Nem/Liq	511.4	1.1	2.15	177.03		[271]
$C_{38}H_{42}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(hexyloxy)-3-oxo-1-propenyl]phenyl ester					
	Sol/Sol	318.8	3.8	11.92			
	Sol/Smec	381.8	35.9	94.03			
	Smec/Liq	518.1	5.2	10.04	115.99		[271]
$C_{38}H_{43}N_3O_6$		4-(4′-ethoxybenzoyloxy)-2-hexyloxy-4′-(4-butoxysalicylaldimine)azobenzene					
	Sol/Sol	422.2	9.13	21.62			
	Sol/Nem	426.2	35.43	83.13			
	Nem/Liq	530.2	2.03	3.83	108.58		[109]
$C_{38}H_{44}F_2O_5$		1-methylheptyl 4′-(4″-octyloxy-2″,3″-difluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	347.2	29.89	86.09			
	Smec/Liq	397.3	4.33	10.90	96.99		[213]
$C_{38}H_{44}N_4O_6S_3$		*bis*[4-(5-n-octylthio-1,3,4-oxadiazole-2-yl)phenyl]-2,5-thiophenedicarboxylate					
	Sol/Smec	404.2	25.1	62.10			
	Smec/Liq	497.2	8.2	16.49	78.59		[23]
$C_{38}H_{45}FO_5$		1-methylheptyl 4′-(4″-octyloxy-3″-fluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	353.7	24.93	70.48			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	392.2	5.14	13.11	83.59		[213]
$C_{38}H_{45}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-undecyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	342.4	40.70	118.87			
	Smec/Nem	345.4	0.80	2.32			
	Nem/Liq	351.8	0.69	1.68	122.87		[267]
$C_{38}H_{45}F_3O_7$		(S) 1-ethylheptyl 4-[4-(4-octyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]-2-fluorobenzoate					
	Sol/Smec	322.3	18.66	57.90			
	Smec/Smec	347.9	0.41	1.18			
	Smec/Liq	363.6	3.90	10.73	69.81		[80]
$C_{38}H_{46}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-nonyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy] benzoate					
	Sol/Smec	338.4	37.67	111.32			
	Smec/Smec	364.0	0.26	0.71			
	Smec/Liq	376.8	4.70	12.47	124.50		[69]
$C_{38}H_{46}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-pentylazobenzene-4-oxy)butane					
	Sol/Smec	391.2	29.60	75.66			
	Smec/Nem	491.2	2.61	5.31			
	Nem/Liq	493.2	8.65	17.54	98.51		[67]
$C_{38}H_{46}N_4O_2$		α-(4′-butylazobenzene-4-oxy)-ω-(4′-butylazobenzene-4-oxy)hexane					
	Sol/Smec	421.2	31.17	74.00			
	Smec/Nem	441.2	0.59	1.34			
	Nem/Liq	460.2	5.89	12.80	88.14		[67]
$C_{38}H_{46}N_4O_2$		α-(4′-hexylazobenzene-4-oxy)-ω-(4′-ethylazobenzene-4-oxy)hexane					
	Sol/Smec	403.2	36.20	89.78			
	Smec/Nem	438.2	0.33	0.75			
	Nem/Liq	456.2	5.99	13.13	103.66		[67]
$C_{38}H_{46}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-propylazobenzene-4-oxy)hexane					
	Sol/Smec	409.2	28.92	70.67			
	Smec/Nem	447.2	Too small to be measured				
	Nem/Liq	470.2	7.27	15.46	86.13		[67]
$C_{38}H_{46}O_2$		1,4-phenylene *bis*[3-methyl-4-(heptyloxy)ethynylbenzene]					
	Sol/Nem	419.2	54.8	130.73			
	Nem/Liq	435.2	1.8	4.14	134.87		[82]
$C_{38}H_{46}O_2$		4,4‴-diheptyloxy-p-quaterphenyl					
	Sol/Sol	380.0	14.82	39.00			
	Sol/Sol	454.0	2.27	5.00			
	Sol/Sol	463.0	6.95	15.01			
	Sol/Smec	580.0	13.34	23.00			
	Smec/Liq	623.0	9.97	16.00	98.01	188.2	[111]
$C_{38}H_{46}O_5$		7-[(4′-hexadecyloxy)benzoyloxy]isoflavone					
	Sol/Smec	406.6	61.53	151.33			
	Smec/Liq	464.3	8.20	17.66	168.99		[14]
$C_{38}H_{46}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-heptyloxycinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	365.7	32.17	87.97			
	Smec/Smec	406.2	0.03	0.07			
	Smec/Liq	445.2	4.85	10.89	98.93		[149]
$C_{38}H_{48}N_2O_2$		2,5-dihydro-2,5-dimethyl-3,6-*bis*[4-(*trans*-4-propylcyclohexyl)phenyl]pyrrolo[3,4-c]pyrrole-1,4-dione					
	Sol/Nem	464.2	23.3	50.19			
	Nem/Liq	631.2	1.7	2.69	52.88		[388]
$C_{38}H_{48}O_5S$		(S)-1-methylheptyl 5-[(4-decyloxybenzoyloxyphenyl)ethynyl]thiophene-2-carboxylate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	338.7	32.42	95.72			
	Smec/Liq	366.3	5.46	14.91	110.63		[267]
$C_{38}H_{48}O_6S$		4-[[4-(nonyloxy)benzoyl]thio]benzoic acid, 4-[[(1-methylheptyl)oxy]carbonyl]phenyl ester					
	Sol/Smec	374.5	40.1	107.08			
	Smec/Smec	388.7	0.06	0.15			
	Smec/Liq	428.6	6.1	14.23	121.46		[85]
$C_{38}H_{48}O_7$		2-acetyl-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	374.8	39.6	105.66			
	Nem/Liq	397.4	1.8	4.53	110.19		[432]
$C_{38}H_{49}F_{13}O_7$		3,3′-[[3-[(6,6,7,7,8,8,9,9,10,10,11,11,11-tridecafluoro-2-nonylundecyl)oxy]oxy]-[1,1′-biphenyl]-4,4′-diyl]*bis*(oxy)-*bis*(1,2-propanediol)					
	Sol/Col	339.2	21.6	63.68			
	Col/Liq	404.2	7.3	18.06	81.74		[374]
$C_{38}H_{50}ClNO_4$		3-hydroxy-4-[(E)-[(4-dodecylphenyl)imino]methyl]phenyl 4-butoxy-α-chlorobenzenepropanoate					
	Sol/Smec	331.2	Not reported in paper				
	Smec/Smec	332.0	3.38	10.18			
	Smec/Smec	362.7	0.24	0.66			
	Smec/Liq	387.2	6.17	15.93			[249]
$C_{38}H_{50}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-pentyloxyphenyl)propane-1,3-dione					
	Sol/Nem	326.7	40.58	124.21			
	Nem/Liq	338.2	0.42	1.24	125.45		[297]
$C_{38}H_{50}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-pentyloxyphenyl)propane-1,3-dione					
	Sol/Sol	351.2	20.29	57.77			
	Sol/Smec	363.2	30.37	83.62			
	Smec/Liq	372.2	7.49	20.12	161.51		[297]
$C_{38}H_{50}O_5$		(R)-4-(1-methylheptyloxycarbonyl)phenyl 4-(4-octyloxyphenyl)ethylbenzoate					
	Sol/Smec	327.2	25.0	76.41			
	Smec/Smec	350.2	0.10	0.29			
	Smec/Liq	364.4	9.10	24.97	101.7		[184]
$C_{38}H_{50}O_5S$		(R)-4-(3-ethylmercapto-2-methylpropionyl)phenyl 4′-tridecyloxybiphenyl-4-carboxylate					
	Sol/Smec	359.5	37.32	103.81			
	Smec/Smec	413.2	0.06	0.15			
	Smec/Liq	424.7	3.58	8.49	112.45		[100]
$C_{38}H_{50}O_6$		4-[(1R)-2-(1-ethylpropoxy)-1-methyl-2-oxoethoxy]phenyl 4′-(undecyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Smec	306.1	49.90	163.02			
	Smec/Meso	380.0	0.47	1.24			
	Meso/Nem	381.8	Too small to be measured				
	Nem/Meso	383.7	Too small to be measured				
	Meso/Liq	384.6	0.43	1.12	165.38		[239]
$C_{38}H_{50}O_7$		4-(4-butoxybenzoyloxy)phenyl (3,4-diheptyloxy)benzoate					
	Sol/Nem	360.5	9.59	26.60			
	Nem/Liq	383.4	0.33	0.86	27.34	217.7	[103]
$C_{38}H_{50}O_7$		4-(4-octyloxybenzoyloxy)phenyl (3,4-dipentyloxy)benzoate					
	Sol/Nem	365.4	9.94	27.20			
	Nem/Liq	384.2	0.45	1.17	28.37	217.7	[103]
$C_{38}H_{52}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-(11-dodecenyloxy)benzoate					
	Sol/Smec	338.2	37.2	109.99			
	Smec/Chol	357.2	Not reported in paper				
	Chol/Liq	400.2	Not reported in paper				[201]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{38}H_{52}O_3S$		S-4-undecyloxybiphenylyl (S)-4-(1-methylheptyloxy)benzoate					
	Sol/Smec	329.7	20.9	63.39			
	Smec/Nem	379.3	2.8	7.38			
	Nem/Liq	397.1	1.4	3.53	74.30		[281]
$C_{38}H_{52}O_5$		10-hydroxydecyl 4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoate					
	Sol/Sol	388.5	48.52	124.89			
	Sol/Smec	389.0	2.47	6.35			
	Smec/Liq	427.6	28.56	66.79	198.03		[304]
$C_{38}H_{52}O_6S$		*bis*(4-decyloxyphenyl) 2,5-thiophenedicarboxylate					
	Sol/Sol	391.5	11.4	29.12			
	Sol/Smec	397.6	60.4	151.91			
	Smec/Liq	410.5	10.6	25.82	206.85	232.9	[12]
$C_{38}H_{53}NO_2$		N-(2-hydroxy-4-heptyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	356.2	55.56	155.98			
	Smec/Smec	416.2	2.01	4.83			
	Smec/Smec	483.2	Too small to be measured				
	Smec/Liq	485.7	8.62	17.75	178.56		[323]
$C_{38}H_{53}NO_2$		7-(undec-10-enyloxy)-3-(4′-decyloxystyryl)quinoline					
	Sol/Smec	344.4	42.24	122.65			
	Smec/Liq	437.7	10.51	24.01	146.66		[139]
$C_{38}H_{53}NO_4$		4′-(3-diethylamino-propoxy)biphenyl 4-dodecyloxybenzoate					
	Sol/Smec	349.4	8.84	25.30			
	Smec/Smec	399.9	3.29	8.23			
	Smec/Liq	410.9	1.42	3.46	36.99		[427]
$C_{38}H_{54}N_2O_2S$		2-[4-[[(2S)-2-methyl-2,3-pentadecadienyl]oxy]phenyl]-5-[4-(octyloxy)phenyl]-1,3,4-thiadiazole					
	Sol/Smec	335.2	39.8	118.74			
	Smec/Nem	353.2	0.3	0.85			
	Nem/Liq	361.2	0.82	2.27	121.86		[398]
$C_{38}H_{54}N_2O_3$		4-[5-[(S)-6-methyloctyl]-2-pyrimidinyl]phenyl 4-dodecyloxybenzoate					
	Sol/Smec	342.2	30.0	87.67			
	Smec/Chol	367.2	Not reported in paper				
	Chol/Liq	405.2	Not reported in paper				[201]
$C_{38}H_{54}N_2O_6$		N,N′-dioctanoyl-2,4-*bis*(octanoyloxy)-1,3-benzenediamine					
	Sol/Disc	360.2	10.0	27.76			
	Disc/Liq	395.2	18.0	45.55	73.31		[189]
$C_{38}H_{56}N_2O_3$		pentyldecyl 2-[(4-octyloxy)phenyl]-6-cycloheptimidazolecarboxylate					
	Sol/Sol	383.2	10.4	27.14			
	Sol/Col	397.2	4.1	10.32			
	Col/Smec	402.2	5.5	13.67			
	Smec/Liq	405.2	3.8	9.38	60.51		[231]
$C_{38}H_{56}O_4$		di(4′-nonylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	329.3	51.3	155.78			
	Smec/Smec	392.2	4.82	12.29			
	Smec/Liq	412.1	8.00	19.41	187.48	204.3	[215]
$C_{38}H_{57}NOS$		3-[4-(*trans*-4-heptylcyclohexyl)phenyl]-5-(5-dodecyl-2-thienyl)isoxazole					
	Sol/Smec	352.6	30.12	85.42			
	Smec/Liq	440.0	4.95	11.25	96.67		[131]
$C_{38}H_{58}N_2O_2S_2$		2,5-*bis*(4-dodecyloxyphenyl)thiazolo[5,4-d]dithiazole					
	Sol/Sol	395.7	46.60	117.77			
	Sol/Smec	402.2	53.56	133.17			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	494.3	11.49	23.24	274.18		[269]
$C_{38}H_{58}O_2$		cholesteryl ω-phenylpentanoate					
	Sol/Liq	371.5	31.38	84.47	84.47	135.5	[155, 169]
	Liq/Chol	364.5	0.63	1.7			
	Note: Enthalpy of the Liq/Chol transition is from cooling measurements.						
$C_{38}H_{58}O_3$		4-(dodecyloxy)benzoic acid, 4-[2-(*trans*-4-pentylcyclohexyl)ethyl]phenyl ester					
	Sol/Smec	331.2	23.84	71.98			
	Smec/Smec	351.2	Not reported in paper				
	Smec/Smec	391.2	Not reported in paper				
	Smec/Nem	405.2	Not reported in paper				
	Nem/Liq	420.2	Not reported in paper				[199, 207]
$C_{38}H_{61}NO$		4-decyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	343.8	61.20	178.01			
	Smec/Liq	359.7	20.47	56.91	234.92		[240]
$C_{38}H_{61}NO$		4-heptyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	338.5	33.48	98.91			
	Smec/Liq	360.3	16.37	45.43	144.34		[240]
$C_{38}H_{64}O_6$		(S)-4-(2-ethylheptyloxycarbonyl)phenyl 4-heptadecanoyloxytolane-4′-carboxylate					
	Sol/Smec	354.5	54.6	154.02			
	Smec/Liq	369.2	3.5	9.48	163.50		[173]
$C_{38}H_{66}OS$		cholesteryl thioundecanoate					
	Sol/Smec	354.2	26.2	73.8			
	Smec/Chol	361.3	1.1	1.0			
	Chol/Liq	368.2	0.6	1.7	78.4	NA	[155,312]
$C_{38}H_{66}O_2$		cholesteryl undecanoate					
	Sol/Liq	364.65	26.4	72.4	72.4	161.2	
	Chol/Smec	351.85	1.55	4.4			
	Smec/Liq	361.05	1.34	3.7			[170]
	Note: Liquid crystalline phase detected upon cooling.						
$C_{38}H_{67}BrO$		3-[(11-bromoundecyl)oxy′-cholest-5-ene					
	Sol/Nem	345.9	Not reported in paper				
	Nem/Liq	348.4	22.59	58.77	58.77		[323]
	Note: Sol/Nem enthalpy is included in the Nem/Liq value.						
$C_{38}H_{68}N_2O_2$		N,N′-ditetradecanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Meso	414.2	52.0	125.54			
	Meso/Meso	508.2	11.0	21.65			
	Meso/Liq	514.2	12.0	23.33	170.52		[36]
$C_{38}H_{68}N_2O_2$		N,N′-ditetradecanoyl-3,4,5,6-tetramethylbenzene-1,2-diamine					
	Sol/Meso	396.2	18.0	45.43			
	Meso/Meso	441.2	1.0	2.27			
	Meso/Liq	498.2	21.0	42.15	89.85		[61]
$C_{38}H_{88}Si_{13}$		1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13-tetracoso-methyl-1,13-diphenyltridecasilane					
	Sol/Meso	400.2	37.7	94.20			
	Meso/Liq	428.2	26.1	60.95	155.55		[400]
$C_{39}H_{38}N_2$		2-methyl-3,8-*bis*[(4-pentylphenyl)ethynyl]-1,10-phenanthroline					
	Sol/Nem	439.2	21.5	48.95			
	Nem/Liq	Decomposed prior to transition					[258]
$C_{39}H_{40}FeO_4$		[4-[[[4′-[(nonyloxy)carbonyl][1,1′-biphenyl]-4-yl]oxy]carbonyl]phenylferrocene					
	Sol/Nem	400.2	33.9	84.71			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Nem/Liq	430.2	1.12	2.60	87.31	NA	[375]
$C_{39}H_{41}NO_2$		[1-(4-undecylbiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Smec	453.2	28.70	63.33			
	Smec/Liq	480.2	3.22	6.71	70.04		[254]
$C_{39}H_{41}NO_3$		[1-(4-undecyloxybiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Smec	485.7	35.94	74.00			
	Smec/Liq	493.2	3.26	6.61	80.61		[254]
$C_{39}H_{42}N_2O_6$		*α,ω-bis*[4-(4-ethoxybenzoyloxy)benzylideneamino]heptane					
	Sol/Smec	367.2	40.0	108.93			
	Smec/Nem	379.2	0.1	0.26			
	Nem/Liq	403.2	0.5	1.24	110.43		[293]
$C_{39}H_{44}F_4O_5$		4-[(S)-2-methylbutoxycarbonyl]phenyl 4-[(4-dodecyloxy-2,3,4,5-tetrafluorophenyl)ethynyl]benzoate					
	Sol/Smec	346.1	34.15	98.67			
	Smec/Smec	354.8	Not detected by dsc				
	Smec/Chol	400.6	1.44	3.59			
	Chol/Liq	405.3	0.77	1.90	104.19		[91]
$C_{39}H_{44}N_4O_6$		*α,ω-bis*(4-butoxyazobenzene-4′-carbonyloxy)pentane					
	Sol/Smec	353.0	18.0	50.99			
	Smec/Liq	410.1	13.0	31.70	82.69		[107]
$C_{39}H_{46}F_2O_5$		1-methylheptyl 4′-(4″-nonyloxy-2″,3″-difluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	342.4	38.85	113.46			
	Smec/Liq	394.2	4.25	10.78	124.24		[213]
$C_{39}H_{47}FO_5$		1-methylheptyl 4′-(4″-nonyloxy-3″-fluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	353.4	27.24	77.08			
	Smec/Liq	388.9	4.98	12.81	89.89		[213]
$C_{39}H_{47}FO_5$		[(R)-1-methylheptyl] 4-[[2-fluoro-4-[[4-(nonyloxy)benzoyl]oxy]phenyl]ethynyl]benzoate					
	Sol/Smec	343.0	24.44	71.25			
	Smec/Liq	393.3	5.07	12.89	84.14		[211]
$C_{39}H_{47}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-dodecyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Meso	349.1	42.22	120.94			
	Meso/Liq	352.2	0.56	1.59	122.53		[267]
$C_{39}H_{47}F_3O_7$		(S) 1-ethylheptyl 4-[4-(4-nonyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]-2-fluorobenzoate					
	Sol/Smec	335.6	15.10	44.99			
	Smec/Smec	346.8	0.55	1.59			
	Smec/Liq	360.2	3.72	10.33	56.91		[80]
$C_{39}H_{48}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-decyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy] benzoate					
	Sol/Smec	330.9	31.80	96.10			
	Smec/Smec	367.1	0.37	1.01			
	Smec/Liq	376.9	4.97	13.19	110.30		[69]
$C_{39}H_{48}N_4O_2$		*α*-(4′-hexylazobenzene-4-oxy)-*ω*-(4′-propylazobenzene-4-oxy)hexane					
	Sol/Smec	398.2	37.74	94.78			
	Smec/Nem	452.2	0.79	1.75			
	Nem/Liq	464.2	6.68	14.39	110.92		[67]
$C_{39}H_{48}N_4O_2$		*α*-(4′-pentylazobenzene-4-oxy)-*ω*-(4′-butylazobenzene-4-oxy)hexane					
	Sol/Smec	414.2	30.65	74.00			
	Smec/Nem	453.2	1.09	2.41			
	Nem/Liq	464.2	7.18	15.47	91.88		[67]
$C_{39}H_{48}N_4O_2$		*α*-(4′-butylazobenzene-4-oxy)-*ω*-(4′-butylazobenzene-4-oxy)heptane					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	384.2	39.6	103.07			
	Smec/Nem	394.2	Too small to be measured				
	Nem/Liq	415.2	1.62	3.90	106.97		[67]
$C_{39}H_{48}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-pentylazobenzene-4-oxy)pentane					
	Sol/Smec	388.2	35.18	90.62			
	Smec/Nem	412.2	1.68	4.08			
	Nem/Liq	420.2	1.68	4.00	98.70	183.9	[67]
$C_{39}H_{48}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-octyloxycinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	352.7	41.95	118.94			
	Smec/Smec	415.2	0.12	0.29			
	Smec/Liq	441.7	4.45	10.07	129.30		[149]
$C_{39}H_{50}O_5S$		(S)-1-methylheptyl 5-[(4-undecyloxybenzoyloxyphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	341.4	32.81	96.10			
	Smec/Liq	363.4	4.97	13.68	109.78		[267]
$C_{39}H_{50}O_6S$		4-[[4-(dodecyloxy)benzoyl]thio]benzoic acid, 4-[[(1-methylheptyl)oxy]carbonyl]phenyl ester					
	Sol/Smec	382.9	45.5	118.83			
	Smec/Smec	396.8	0.06	0.15			
	Smec/Liq	425.8	6.2	14.56	133.54		[85]
$C_{39}H_{50}O_7$		(1S)-2-butoxy-1-methyl-2-oxoethyl 4-[[(2E)-3-[6-dodecyloxy)-2-naphthalenyl]-1-oxo-2-propenyl]oxy] benzoate					
	Sol/Smec	343.2	37.06	107.98			
	Smec/Smec	354.4	0.39	1.10			
	Smec/Liq	384.7	3.80	9.88	118.96		[401]
$C_{39}H_{50}O_7$		2-(1-oxyheptyl)-1,4-phenylene 4-(hexyloxy)benzoate					
	Sol/Nem	354.7	49.5	139.55			
	Nem/Liq	361.0	0.96	2.66	142.21		[432]
$C_{39}H_{50}O_7$		2-(1-oxopropyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	358.8	54.3	151.34			
	Nem/Liq	375.6	1.6	4.26	155.60		[432]
$C_{39}H_{52}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-hexyloxyphenyl)propane-1,3-dione					
	Sol/Nem	324.7	43.01	132.46			
	Nem/Liq	340.7	0.42	1.23	133.69		[297]
$C_{39}H_{52}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-hexyloxyphenyl)propane-1,3-dione					
	Sol/Sol	352.2	19.70	55.93			
	Sol/Smec	358.7	24.52	68.36			
	Smec/Liq	372.7	8.16	21.89	146.18		[297]
$C_{39}H_{52}O_5$		(R)-4-(1-methylheptyloxycarbonyl)phenyl 4-(4-nonyloxyphenyl)ethylbenzoate					
	Sol/Smec	328.2	27.0	82.27			
	Smec/Smec	355.5	0.17	0.48			
	Smec/Liq	362.2	8.9	24.57	107.3		[184]
$C_{39}H_{52}O_5S$		(R)-4-(3-ethylmercapto-2-methylpropionyl)phenyl 4′-tetradecyloxybiphenyl-4-carboxylate					
	Sol/Smec	359.7	40.30	112.04			
	Smec/Smec	413.1	0.03	0.07			
	Smec/Liq	424.1	4.06	9.57	121.68		[100]
$C_{39}H_{52}O_6$		4-[(1R)-2-(1-ethylpropoxy)-1-methyl-2-oxoethoxy]phenyl 4′-(dodecyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Smec	308.0	59.20	192.21			
	Smec/Meso	379.1	0.35	0.92			
	Meso/Nem	380.9	Too small to be measured				
	Nem/Meso	381.8	Too small to be measured				
	Meso/Liq	382.8	0.03	0.08	193.21		[239]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{39}H_{53}NO_4$		4-(3-decyloxyphenyliminomethyl)phenyl 4-nonyloxybenzoate					
	Sol/Smec	330.8	52.75	159.46			
	Smec/Liq	333.7	3.39	10.15	169.61		[175]
$C_{39}H_{54}O_3S$		S-4-dodecyloxybiphenylyl (S)-4-(1-methylheptyloxy)benzoate					
	Sol/Smec	334.5	23.5	70.25			
	Smec/Nem	379.3	3.4	8.96			
	Nem/Liq	395.4	1.4	3.54	82.75		[281]
$C_{39}H_{55}NO_2$		N-(2-hydroxy-4-octyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Sol	344.7	Not reported in paper				
	Sol/Smec	349.7	16.95	48.47			
	Smec/Smec	414.7	2.72	6.56			
	Smec/Liq	481.7	9.16	19.02	74.05		[323]
$C_{39}H_{60}N_2O_3$		N-[4-[5-oxo-4-[(1-oxotridecyl)amino]-1,3,6-cycloheptatrien-1-yl]phenyl]tridecamide					
	Sol/Sol	395.2	6.0	15.18			
	Sol/Smec	423.2	38.1	90.03			
	Smec/Liq	431.2	7.7	17.86	123.07		[251]
$C_{39}H_{60}N_2O_3$		N-[7-oxo-4-[4-[(1-oxooctyl)amino]phenyl]-1,3,5-cycloheptatrien-1-yl]octadecamide					
	Sol/Sol	405.2	3.8	9.38			
	Sol/Smec	418.2	39.7	94.93			
	Smec/Liq	431.2	8.5	19.71	124.02		[251]
$C_{39}H_{60}N_2O_3$		N-[7-oxo-4-[4-[(1-oxodecyl)amino]phenyl]-1,3,5-cycloheptatrien-1-yl]hexadecamide					
	Sol/Smec	424.2	46.0	108.44			
	Smec/Liq	429.2	8.0	18.64	127.08		[251]
$C_{39}H_{60}O_2$		cholesteryl ω-phenylhexanoate					
	Sol/Liq	354.5	27.74	78.25	78.25	142.6	[155, 169]
	Liq/Chol	318.4	0.29	0.9			
	Note: Enthalpy of the Liq/Chol transition is from cooling measurements.						
$C_{39}H_{63}NO$		4-octyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	339.7	25.00	73.58			
	Smec/Liq	358.8	20.71	57.72	131.30		[240]
$C_{39}H_{63}NO$		N-(4-dodecyloxybenzylidene)-4-tetradecylaniline					
	Sol/Smec	347.2	69.85	201.18			
	Smec/Liq	363.1	19.68	54.20	255.38		[256]
$C_{39}H_{68}OS$		cholesteryl thiododecanoate					
	Sol/Smec	357.2	34.9	97.6			
	Smec/Chol	359.9	1.5	4.2			
	Chol/Liq	365.5	0.8	2.2	104.0	NA	[155,312]
$C_{39}H_{68}O_2$		cholesteryl dodecanoate					
	Sol/Liq	364.45	31.8	87.4	87.4	168.3	
	Chol/Smec	353.35	0.95	2.7			
	Smec/Liq	360.35	0.74	2.0			[170]
	Note: Liquid crystalline phase detected upon cooling.						
$C_{39}H_{68}N_2O_4$		N,N′-didecanoyl-2,5,6-trimethyl-4-decanoyloxy-1,3-benzenediamine					
	Sol/Meso	381.2	19.0	49.84			
	Meso/Meso	432.2	21.0	48.59			
	Meso/Liq	468.2	3.0	6.41	104.84	235.4	[193]
$C_{39}H_{69}N_3O_3$		N,N′,N″-tridecanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	462.2	5.0	10.82			
	Meso/Meso	479.2	16.0	33.39			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	615.2	15.0	31.30	75.51		[190]
$C_{39}H_{70}O_2$		5α-cholestan-3β-ol dodecanoate					
	Sol/Liq	360.65	57.3	159.0	159.0	167.5	
	Smec/Chol	331.15	3.50	1.1			
	Chol/Liq	340.15	1.71	5.0			[311]
	Note: Liquid crystalline phase detected upon cooling.						
$C_{40}H_{34}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-propoxybenzylideneamino)benzoate]					
	Sol/Nem	427.2	36.0	84.27			
	Nem/Liq	471.2	2.1	4.46	88.73		[86]
$C_{40}H_{40}N_2O_4$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(hexylphenyl)diimide					
	Sol/Sol	432.4	19.9	46.02			
	Sol/Smec	513.8	26.2	50.99			
	Smec/Liq	563.3	9.5	16.86	113.87		[94]
$C_{40}H_{40}N_2O_6$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(hexyloxyphenyl)diimide					
	Sol/Sol	479.1	12.7	26.51			
	Sol/Sol	496.7	1.3	2.62			
	Sol/Smec	517.0	28.2	54.55			
	Smec/Liq	586.4	12.2	20.80	104.48		[94]
$C_{40}H_{42}FeO_4$		[4-[[[4′-[(decyloxy)carbonyl][1,1′-biphenyl]-4-yl]oxy]carbonyl]phenyl]ferrocene					
	Sol/Nem	408.2	48.8	119.55			
	Nem/Liq	428.2	0.21	0.49	120.04	NA	[376]
$C_{40}H_{42}O_9$		4-[[(1S)-2-butoxy-1-methyl-2-oxoethoxy]carbonyl]phenyl 4-[[(2E)-3-[6-(hexyloxy)-2-naphthenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	271.7	20.97	77.18			
	Smec/Smec	382.2	Not reported in paper				
	Smec/Liq	503.6	3.26	6.47	83.65		[401]
$C_{40}H_{43}NO_2$		[1-(4-dodecylbiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Smec	452.7	28.03	61.92			
	Smec/Liq	482.7	4.31	8.93	70.85		[254]
$C_{40}H_{43}NO_3$		[1-(4-dodecyloxybiphenyl)-3-(4‴-cyanobiphenyl)]-propane-1,3-dione					
	Sol/Smec	483.2	52.34	108.32			
	Smec/Liq	496.2	4.94	9.96	118.28		[254]
$C_{40}H_{44}N_2O_2$		3,6-*bis*[(4′-butyl)[1,1′-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethylpyrrolo[3,4-c]pyrrole-1,4-dione					
	Sol/Nem	493.2	4.2	8.52			
	Nem/Liq	603.2	0.1	0.17			[388]
	Note: Experimental values are extremely small. The values are either in error or there is an unmeasured Sol/Sol transition at a lower temperature.						
$C_{40}H_{44}N_2O_6$		α,ω-*bis*[4-(4-butoxybenzoyloxy)benzylideneamino]butane					
	Sol/Nem	442.2	55.0	124.38			
	Nem/Liq	474.2	8.8	18.56	142.94		[293]
$C_{40}H_{44}N_2O_6$		α,ω-*bis*[4-(4-propoxybenzoyloxy)benzylideneamino]hexane					
	Sol/Nem	413.2	51.0	123.43			
	Nem/Liq	453.2	7.9	17.43	140.86		[293]
$C_{40}H_{44}N_2O_6$		α,ω-*bis*[4-(4-ethoxybenzoyloxy)benzylideneamino]octane					
	Sol/Nem	428.2	47.0	109.76			
	Nem/Liq	457.2	8.8	19.25	129.01		[293]
$C_{40}H_{44}O_{13}$		1,4,7,10,13,20,28,31,34,37,45-decaoxa-21,44-dioxo[13.2.10.2]paracyclophane					
	Sol/Nem	418.2	55.3	132.23			
	Nem/Liq	445.2	1.8	4.04	136.27		[113]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{40}H_{46}N_4O_6$		*α,ω-bis*(4-butoxyazobenzene-4′-carbonyloxy)hexane					
	Sol/Smec	395.9	41.4	104.57			
	Smec/Nem	439.1	4.6	10.48			
	Nem/Liq	442.5	9.1	20.56	135.61		[107]
$C_{40}H_{46}N_4O_6S_2$		*bis*[4-(5-n-octylthio-1,3,4-oxadiazole-2-yl)phenyl]terephthalate					
	Sol/Smec	389.2	49.2	126.41			
	Smec/Liq	548.2	10.2	18.61	145.02		[23]
$C_{40}H_{46}O_6$		*bis*(4-heptyloxyphenyl) 4,4′-biphenylenedicarboxylate					
	Sol/Sol	388.8	28.4	73.05			
	Sol/Smec	416.2	29.6	71.12			
	Smec/Smec	484.2	0.8	1.65			
	Smec/Nem	591.4	2.6	4.40			
	Nem/Liq	592.7	4.7	7.93	158.15	203.6	[12]
$C_{40}H_{46}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]*bis*, diheptyl ester					
	Sol/Smec	436.3	59.1	135.46			
	Smec/Smec	482.4	0.2	0.41			
	Smec/Nem	502.0	1.1	2.19			
	Nem/Liq	506.7	1.1	2.17	140.23		[271]
$C_{40}H_{46}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(heptyloxy)]-3-oxo-1-propenyl]phenyl ester					
	Sol/Smec	381.7	38.1	99.82			
	Smec/Liq	511.0	5.8	11.35	111.17		[271]
$C_{40}H_{47}N_3O_6$		4-(4′-ethoxybenzoyloxy)-2-octyloxy-4′-(4-butoxysalicylaldimine)azobenzene					
	Sol/Sol	372.2	3.40	9.13			
	Sol/Nem	403.2	44.92	111.41			
	Nem/Liq	520.2	1.69	3.25	123.79		[109]
$C_{40}H_{48}F_2O_5$		1-methylheptyl 4′-(4″-decyloxy-2″,3″-difluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	347.1	32.47	93.55			
	Smec/Liq	394.6	4.52	11.45	105.00		[213]
$C_{40}H_{48}N_2$		3,8-*bis*(4-octylphenyl)-1,10-phenanthroline					
	Sol/Smec	395.2	12.9	32.64			
	Smec/Liq	545.2	4.8	8.80	41.44		[258]
$C_{40}H_{48}N_2O_6$		*bis*(4-octyloxyphenyl) 2,2′-bipyridine-5,5′-dicarboxylate					
	Sol/Sol	408.2	18.9	46.30			
	Sol/Smec	428.2	30.5	71.23			
	Smec/Nem	553.2	Not detected by dsc				
	Nem/Liq	563.2	1.23	2.18	119.71		[93,115]
$C_{40}H_{48}N_4O_6S_3$		*bis*[4-(5-n-nonylthio-1,3,4-oxadiazole-2-yl)phenyl]-2,5-thiophene-dicarboxylate					
	Sol/Smec	403.2	26.3	65.23			
	Smec/Liq	493.2	8.5	17.23	82.46		[23]
$C_{40}H_{49}FO_5$		[(R)-1-methylheptyl] 4-[[2-fluoro-4-[[4-(decyloxy)benzoyl]oxy]phenyl]ethynyl]benzoate					
	Sol/Smec	338.3	26.81	79.25			
	Smec/Liq	392.8	5.32	13.54	92.79		[211]
$C_{40}H_{49}FO_5$		1-methylheptyl 4′-(4″-decyloxy-3″-fluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	366.2	30.56	83.45			
	Smec/Liq	388.7	5.16	13.28	96.73		[213]
$C_{40}H_{49}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-tridecyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Meso	347.4	41.73	120.12			
	Meso/Liq	349.6	0.43	1.23	121.35		[267]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{40}H_{49}F_3O_7$		(S) 1-ethylheptyl 4-[4-(4-decyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]-2-fluorobenzoate					
	Sol/Smec	344.5	20.28	58.87			
	Smec/Smec	349.9	0.71	2.03			
	Smec/Liq	358.8	3.51	9.78	70.68		[80]
$C_{40}H_{50}$		1,8-*bis*[4-4′-(butylbiphenyl)]octane					
	Sol/Smec	398.2	13.0	32.6			
	Smec/Liq	414.2	27.0	65.2	97.8	184.6	[165]
$C_{40}H_{50}F_2O_5S$		(S)-1-methylheptyl 5-[(2,3-difluoro-4-dodecyloxybenzoyloxyphenyl)ethynyl]-thiophene-2-carboxylate					
	Sol/Smec	333.1	41.19	123.66			
	Smec/Liq	355.6	4.52	12.71	136.37		[267]
$C_{40}H_{50}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-undecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy] benzoate					
	Sol/Smec	342.5	35.19	102.74			
	Smec/Smec	368.5	0.36	0.98			
	Smec/Liq	374.9	4.96	13.23	116.95		[69]
$C_{40}H_{50}N_2O_2S$		2-[4-(decyloxy)phenyl]-5-[[4-(decyloxy)phenyl]ethynyl]-3,4-thiophene-dicarbonitrile					
	Sol/Smec	338.7	20.9	61.71			
	Smec/Nem	368.7	0.8	2.17			
	Nem/Liq	372.0	2.5	6.72	70.60		[373]
$C_{40}H_{50}N_4O_2$		α-(4′-hexylazobenzene-4-oxy)-ω-(4′-butylazobenzene-4-oxy)hexane					
	Sol/Smec	399.2	39.83	99.77			
	Smec/Nem	455.2	1.89	4.15			
	Nem/Liq	458.2	7.16	15.63	119.55		[67]
$C_{40}H_{50}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-pentylazobenzene-4-oxy)hexane					
	Sol/Smec	419.2	33.46	79.82			
	Smec/Nem	460.2	1.65	3.59			
	Nem/Liq	465.2	8.01	17.22	100.63		[67]
$C_{40}H_{50}O_2$		4,4‴-dioctyloxy-p-quaterphenyl					
	Sol/Sol	353.0	3.53	10.00			
	Sol/Sol	481.0	3.84	7.98			
	Sol/Smec	575.0	13.8	24.00			
	Smec/Liq	618.0	11.75	19.01	60.99		[111]
$C_{40}H_{50}O_5$		7-[(4′-octadecyloxy)benzoyloxy]isoflavone					
	Sol/Smec	397.8	46.23	116.21			
	Smec/Liq	461.2	5.46	11.84	128.05		[14]
$C_{40}H_{50}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-nonyloxycinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	354.2	26.00	73.40			
	Smec/Smec	418.7	0.22	0.53			
	Smec/Liq	437.7	4.1	9.37	83.30		[149]
$C_{40}H_{50}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-octyloxy-α-methylcinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	331.7	32.93	99.28			
	Smec/Liq	392.7	5.58	14.21	113.49		[149]
$C_{40}H_{51}FO_5S$		(S)-1-methylheptyl 5-[(3-fluoro-4-dodecyloxybenzoyloxyphenyl)ethynyl]-thiophene-2-carboxylate					
	Sol/Smec	332.4	35.55	106.95			
	Smec/Liq	347.3	4.82	13.88	120.83		[267]
$C_{40}H_{52}O_2$		2-decyloxy-6-[4-(4-decyloxyphenyl)buta-1,3-diynyl]naphthalene					
	Sol/Smec	349.2	23.8	68.16			
	Smec/Nem	359.1	0.7	1.95			
	Nem/Liq	426.3	2.4	5.63	75.74		[225]
$C_{40}H_{52}O_5S$		(S)-1-methylheptyl 5-[(4-dodecyloxybenzoyloxyphenyl)ethynyl]-thiophene-2-carboxylate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	336.1	53.32	158.64			
	Smec/Smec	348.3	0.10	0.29			
	Smec/Liq	362.5	5.23	14.43	173.36		[267]
$C_{40}H_{52}O_6S$		4-[[4-(undecyloxy)benzoyl]thio]benzoic acid, 4-[[(1-methylheptyl)oxy]carbonyl]phenyl ester					
	Sol/Smec	368.7	49	132.90			
	Smec/Smec	401.2	0.1	0.25			
	Smec/Liq	422.2	5.8	13.74	146.89		[85]
$C_{40}H_{52}O_7$		2-(1-oxooctyl)-1,4-phenylene 4-(hexyloxy)benzoate					
	Sol/Nem	354.3	53.3	150.44			
	Nem/Liq	360.6	0.76	2.11	152.55		[432]
$C_{40}H_{52}O_7$		2-(1-oxybutyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	356.1	44.8	125.81			
	Nem/Liq	367.2	1.8	4.90	130.71		[432]
$C_{40}H_{52}O_7$		2-acetyl-1,4-phenylene 4-(nonyloxy)benzoate					
	Sol/Nem	374.9	40.2	107.23			
	Nem/Liq	390.8	1.4	3.58	110.81		[432]
$C_{40}H_{52}O_8$		propyl 2,5-*bis*[[4-(octyloxy)benzoyl]oxy]benzoate					
	Sol/Nem	363.6	27.9	76.73			
	Nem/Liq	373.2	2.0	5.36	82.09		[432]
$C_{40}H_{52}S_5$		5,5′′′′-didecyl-2,2′:5′,5″:5″,2‴:5‴,2″-quinquethiophene					
	Sol/Smec	345.2	10.7	31.00			
	Smec/Liq	498.2	41.5	83.30	114.30		[303]
$C_{40}H_{53}ClO_5$		(R)-1-methylheptyl 4′-(3″-chloro-4″-dodecyloxybenzoyloxy)biphenyl-4-carboxylate					
	Sol/Smec	323.5	22.7	70.17			
	Smec/Smec	351.1	0.32	0.91			
	Smec/Meso	353.6	Could not be measured				
	Meso/Liq	356.8	2.1	5.89	76.97		[226]
$C_{40}H_{54}ClNO_4$		3-hydroxy-4-[(E)-[(4-tetradecylphenyl)imino]methyl]phenyl 4-butoxy-α-chlorobenzenepropanoate					
	Sol/Smec	332.2	Not reported in paper				
	Smec/Smec	340.0	4.41	12.97			
	Smec/Smec	366.4	0.44	1.20			
	Smec/Liq	391.4	9.43	24.09			[249]
$C_{40}H_{54}O_2$		2-(decyloxy)-6-[4-(decyloxy)phenyl]anthracene					
	Sol/Smec	456.2	38.38	84.13			
	Smec/Liq	475.2	7.48	15.74	99.87		[302]
$C_{40}H_{54}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-heptyloxyphenyl)propane-1,3-dione					
	Sol/Nem	321.7	50.42	156.73			
	Nem/Liq	339.2	0.33	0.97	157.70		[297]
$C_{40}H_{54}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-heptyloxyphenyl)propane-1,3-dione					
	Sol/Smec	351.2	49.29	140.35			
	Smec/Liq	372.2	8.20	22.03	62.36		[297]
$C_{40}H_{54}O_5$		(R)-4-(1-methylheptyloxycarbonyl)phenyl 4-(4-decyloxyphenyl)ethylbenzoate					
	Sol/Smec	322.2	23.7	73.56			
	Smec/Smec	358.0	0.18	0.50			
	Smec/Liq	361.8	9.2	25.43	99.49		[184]
$C_{40}H_{54}O_7$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(heptyloxy)-1-oxopropoxy]-3-methoxybenzoate					
	Sol/Sol	323.2	13.13	40.63			
	Sol/Smec	336.2	3.75	11.15			
	Smec/Liq	376.2	6.08	16.16	67.94		[227]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Note: Enthalpies determined from cooling measurements.						
$C_{40}H_{54}O_7$		4-(4-butoxybenzoyloxy)phenyl (3,4-dioctyloxy)benzoate					
	Sol/Nem	366.7	9.97	27.19			
	Nem/Liq	381.7	0.25	0.65	27.84		[103]
$C_{40}H_{54}O_7$		4-(4-octyloxybenzoyloxy)phenyl (3,4-dihexyloxy)benzoate					
	Sol/Smec	357.4	6.43	17.99			
	Smec/Nem	366.7	1.78	4.85			
	Nem/Liq	384.5	0.41	1.07	23.91		[103]
$C_{40}H_{54}O_7$		4-(4-dodecyloxybenzoyloxy)phenyl (3,4-dibutoxy)benzoate					
	Sol/Nem	365.7	8.63	23.60			
	Nem/Liq	380.2	0.30	0.79	24.39		[103]
$C_{40}H_{55}NO_4$		4-(3-decyloxyphenyliminomethyl)phenyl 4-decyloxybenzoate					
	Sol/Smec	334.2	44.4	132.85			
	Smec/Liq	337.2	4.0	11.86	144.71		[175]
$C_{40}H_{56}N_2O_2$		cholesteryl p-phenylazobenzoate					
	Sol/Liq	465.6	29.62	63.6	66.91		[155, 310]
	Liq/Chol	458.5	1.51	3.29			
$C_{40}H_{56}N_2O_4$		2,5-dihydro-2,5-dimethyl-3,6-*bis*[4-(decyloxy)phenyl]pyrrolo[3,4-c]pyrrole-1,4-dione					
	Sol/Smec	379.5	68.9	181.55			
	Smec/Liq	392.2	3.0	7.65	189.20		[388]
$C_{40}H_{57}NO_2$		7-(undec-10-enyloxy)-3-(4′-dodecyloxystyryl)quinoline					
	Sol/Smec	356.4	48.29	135.49			
	Smec/Liq	433.6	10.04	23.15	158.64		[139]
$C_{40}H_{57}NO_2$		N-(2-hydroxy-4-nonyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	358.2	65.10	181.74			
	Smec/Smec	413.2	1.55	3.75			
	Smec/Liq	480.2	10.79	22.47	207.96		[323]
$C_{40}H_{59}NO_7Si_2S$		(R)-6-[11-(1,1,1,3,3-pentamethyldisiloxanyl)undecyloxy]-5′-nitro-6′-(oct-2-yloxy)-[$\Delta^{2,2'}$-bi-1-benzothiophene]-3(2H),3′(2′H)dione					
	Sol/Smec	393.2	19.26	48.98			
	Smec/Liq	416.2	2.43	5.84	54.82		[316]
$C_{40}H_{60}N_2O_3$		pentyldecyl 2-[(4-decyloxy)phenyl]-6-cycloheptimidazolecarboxylate					
	Sol/Sol	383.2	8.0	20.88			
	Sol/Col	389.2	8.0	20.55			
	Col/Smec	394.2	4.1	10.40			
	Smec/Liq	400.2	3.2	8.00	59.83		[231]
$C_{40}H_{60}O_4$		di(4′-decylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	338.0	64.8	191.72			
	Smec/Smec	390.4	5.36	13.73			
	Smec/Liq	407.8	8.63	21.16	226.61	218.5	[215]
$C_{40}H_{60}O_6$		di(4′-decyloxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	360.2	41.66	115.66			
	Smec/Smec	384.2	2.71	7.05			
	Smec/Smec	419.2	Not reported in paper				
	Smec/Liq	443.2	8.24	8.59		232.1	[220]
$C_{40}H_{62}O_2$		cholesteryl ω-phenylheptanoate					
	Sol/Liq	370.6	39.58	106.8	106.8	149.7	[155, 169]
	Liq/Chol	355.9	0.79	2.23			
	Note: Enthalpy of the Liq/Chol transition is from cooling measurements.						

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{40}H_{65}NO$		N-(4-undecyloxybenzylidene)-4-hexadecylaniline					
	Sol/Smec	317.5	41.35	130.24			
	Smec/Liq	352.7	8.24	23.36	153.60		[65]
$C_{40}H_{65}NO$		4-dodecyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	347.9	44.28	127.28			
	Smec/Liq	364.1	13.34	36.64	163.92		[240]
$C_{40}H_{65}NO$		4-nonyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	338.9	48.58	143.35			
	Smec/Liq	356.8	18.27	51.21	194.56		[240]
$C_{40}H_{70}OS$		cholesteryl thiotridecanoate					
	Sol/Smec	353.2	34.9	98.7			
	Smec/Chol	359.7	1.3	3.6			
	Chol/Liq	364.6	0.6	1.7	104.0	NA	[155,312]
$C_{40}H_{73}NO_4$		3,4,5-*tris*(undecyloxy)benzamide					
	Sol/Meso	330.2	14.3	43.31			
	Meso/Liq	353.2	6.0	16.99	60.30		[378]
$C_{41}H_{39}N_3O_6$		4-[3,4-*bis*(4-butoxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	418.2	40.0	95.65			
	Nem/Liq	420.2	0.4	0.95	96.60		[205]
$C_{41}H_{46}N_2O_6$		α,ω-*bis*[4-(4-ethoxybenzoyloxy)benzylideneamino]nonane					
	Sol/Smec	365.2	42.0	115.01			
	Smec/Nem	381.2	Not reported in paper				
	Nem/Liq	407.2	0.8	1.96	116.97		[293]
$C_{41}H_{46}N_2O_8$		1,5-[4-(2-hydroxy-4-butyoxybenzylideneamino)benzoyloxy]pentane					
	Sol/Smec	407.2	33.0	81.04			
	Smec/Liq	433.2	12.0	27.70	108.74		[412]
$C_{41}H_{48}F_2O_7$		4-[[4-[(2-ethoxy-1-methyl-2-oxyethoxy)carbonyl]phenyl]ethynyl]phenyl 2,3-difluoro-4-(tetradecyloxy)-benzoate					
	Sol/Smec	363.7	53.4	146.82			
	Smec/Nem	384.0	0.6	1.56			
	Nem/Liq	394.4	0.6	1.52	149.90		[268]
$C_{41}H_{48}N_4O_6$		α,ω-*bis*(4-butoxyazobenzene-4′-carbonyloxy)heptane					
	Sol/Smec	351.7	25.1	71.37			
	Smec/Liq	395.9	10.9	27.53	98.90		[107]
$C_{41}H_{49}FO_7$		4-[[4-[(2-ethoxy-1-methyl-2-oxyethoxy)carbonyl]phenyl]ethynyl]phenyl 3-fluoro-4-(tetradecyloxy)benzoate					
	Sol/Smec	351.7	50.7	144.16			
	Smec/Nem	379.4	0.4	1.05			
	Nem/Liq	387.7	1.7	4.38	149.59		[268]
$C_{41}H_{50}F_2O_5$		1-methylheptyl 4′-(4″-undecyloxy-2″,3″-difluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	354.3	40.71	114.90			
	Smec/Liq	392.2	4.50	11.47	126.37		[213]
$C_{41}H_{50}O$		2-methyl-4{4-[2-(*trans*-pentylcyclohexyl)ethyl]phenylethynyl}-1-[(4-pentyloxyphenyl)ethynyl]benzene					
	Sol/Nem	381.2	26.2	68.73			
	Nem/Liq	540.2	3.0	5.55	74.28		[76]
$C_{41}H_{50}O_7$		4-[[4-[(2-ethoxy-1-methyl-2-oxyethoxy)carbonyl]phenyl]ethynyl]phenyl 4-(tetradecyloxy)benzoate					
	Sol/Smec	351.0	41.8	119.09			
	Smec/Nem	398.1	0.5	1.26			
	Nem/Liq	404.3	2.1	5.19	125.54		[268]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{41}H_{51}FO_5$		[(R)-1-methylheptyl] 4-[[2-fluoro-4-[[4-(undecyloxy)benzoyl]oxy]phenyl]ethynyl]benzoate					
	Sol/Smec	341.3	40.74	119.37			
	Smec/Liq	389.6	4.96	12.73	132.10		[211]
$C_{41}H_{51}FO_5$		1-methylheptyl 4′-(4″-undecyloxy-3″-fluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	369.7	35.16	95.10			
	Smec/Liq	385.9	5.08	13.16	108.26		[213]
$C_{41}H_{51}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-tetradecyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Meso	343.9	38.60	112.24			
	Meso/Liq	350.0	0.80	2.29	114.53		[267]
$C_{41}H_{51}F_3O_7$		(S) 1-ethylheptyl 4-[4-(4-undecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]-2-fluorobenzoate					
	Sol/Smec	336.4	28.01	83.26			
	Smec/Smec	348.7	0.87	2.49			
	Smec/Liq	356.2	3.28	9.21	94.96		[80]
$C_{41}H_{52}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-dodecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]benzoate					
	Sol/Smec	341.1	33.68	98.74			
	Smec/Smec	370.3	0.33	0.89			
	Smec/Liq	374.7	5.03	13.42	113.05		[69]
$C_{41}H_{52}N_4O_2$		α-(4′-hexylazobenzene-4-oxy)-ω-(4′-pentylazobenzene-4-oxy)hexane					
	Sol/Smec	400.2	45.25	113.07			
	Smec/Liq	461.2	12.85	27.86	140.93		[67]
$C_{41}H_{52}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-pentylazobenzene-4-oxy)heptane					
	Sol/Smec	391.2	39.35	100.59			
	Smec/Nem	404.2	0.54	1.34			
	Nem/Liq	420.2	2.97	7.07	109.00		[67]
$C_{41}H_{52}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-decyloxycinnamoyloxy)-benzoyloxy]benzoate					
	Sol/Smec	359.2	34.83	96.97			
	Smec/Smec	421.7	0.52	1.23			
	Smec/Liq	434.2	3.87	8.91	107.11		[149]
$C_{41}H_{52}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-nonyloxy-α-methylcinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	330.7	43.36	131.12			
	Smec/Smec	332.8	0.09	0.27			
	Smec/Liq	388.7	4.85	12.48	143.87		[149]
$C_{41}H_{53}NO_6$		4-cyanobenzyl 5-(4-octyloxybenzoyloxy)-2-undecyloxybenzoate					
	Sol/Smec	334.2	33.7	100.84			
	Smec/Liq	349.2	8.16	23.37	124.21		[407]
	Independent values from another reference						
	Sol/Smec	331.4	34.0	102.60			
	Smec/Liq	348.3	8.0	22.97	125.57		[407, 408]
$C_{41}H_{54}O_5S$		(S)-1-methylheptyl 5-[(4-tridecyloxybenzoyloxyphenyl)ethynyl]-thiophene-2-carboxylate					
	Sol/Smec	328.3	35.47	108.04			
	Smec/Smec	348.0	0.15	0.43			
	Smec/Liq	359.8	4.27	11.87	120.34		[267]
$C_{41}H_{54}O_6S$		4-[[4-(dodecyloxy)benzoyl]thio]benzoic acid, 4-[[(1-methylheptyl)oxy]carbonyl]phenyl ester					
	Sol/Smec	355.6	27.4	77.05			
	Smec/Smec	388.2	0.01	0.03			
	Smec/Smec	403.2	0.27	0.67			
	Smec/Liq	419.2	5.9	14.07	91.82	NA	[85]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{41}H_{54}O_7$		(1S)-2-butoxy-1-methyl-2-oxoethyl 4-[[(2E)-3-[6-tetradecyloxy)-2-naphthalenyl]-1-oxo-2-propenyl]oxy] benzoate					
	Sol/Smec	344.8	38.36	111.25			
	Smec/Smec	358.9	0.37	1.03			
	Smec/Liq	385.9	3.62	9.38	121.66		[401]
$C_{41}H_{54}O_7$		2-(1-oxoheptyl)-1,4-phenylene 4-(heptyloxy)benzoate					
	Sol/Nem	354.4	53.0	149.54			
	Nem/Liq	355.8	1.16	3.26	152.80		[432]
$C_{41}H_{54}O_7$		2-(1-oxopropyl)-1,4-phenylene 4-(nonyloxy)benzoate					
	Sol/Nem	350.7	60.3	171.94			
	Nem/Liq	369.3	1.6	4.33	176.27		[432]
$C_{41}H_{54}O_8$		butyl 2,5-*bis*[[4-(octyloxy)benzoyl]oxy]benzoate					
	Sol/Nem	355.4	27.2	76.53			
	Nem/Liq	371.8	1.5	4.03	80.56		[432]
$C_{41}H_{56}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-octyloxyphenyl)propane-1,3-dione					
	Sol/Nem	333.7	35.77	107.19			
	Nem/Liq	344.2	0.42	1.22	108.41		[297]
$C_{41}H_{56}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-octyloxyphenyl)propane-1,3-dione					
	Sol/Smec	349.7	48.07	137.46			
	Smec/Liq	372.7	8.70	23.34	160.80		[297]
$C_{41}H_{56}O_5$		(R)-4-(1-methylheptyloxycarbonyl)phenyl 4-(4-undecyloxyphenyl)ethylbenzoate					
	Sol/Smec	319.2	41.0	128.45			
	Smec/Liq	359.2	10.0	27.84	156.29		[184]
$C_{41}H_{56}O_5S$		(R)-4-(3-ethylmercapto-2-methylpropionyl)phenyl 4′-hexadecyloxy-biphenyl-4-carboxylate					
	Sol/Smec	364.7	35.36	96.96			
	Smec/Smec	413.8	0.02	0.05			
	Smec/Liq	423.8	3.63	8.57	105.58		[100]
$C_{41}H_{56}O_7$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(octyloxy)-1-oxopropoxy]-3-methoxybenzoate					
	Sol/Sol	325.2	15.00	46.13			
	Sol/Smec	335.2	2.58	7.70			
	Smec/Liq	375.2	6.15	16.39	70.22		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{41}H_{57}NO_4$		4-(3-decyloxyphenyliminomethyl)phenyl 4-undecyloxybenzoate					
	Sol/Smec	330.2	61.0	184.74			
	Smec/Smec	333.7	0.05	0.15			
	Smec/Smec	335.7	0.25	0.74			
	Smec/Liq	336.7	4.30	12.77	198.40		[175]
$C_{41}H_{59}NO_2$		N-(2-hydroxy-4-decyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	352.7	52.51	148.88			
	Smec/Smec	411.2	2.30	5.59			
	Smec/Liq	476.7	12.01	25.19	179.66		[323]
$C_{41}H_{64}N_2O_3$		N-[4-[5-oxo-4-[(1-oxotetradecyl)amino]-1,3,6-cycloheptatrien-1-yl]phenyl]tetradecamide					
	Sol/Smec	421.2	37.2	88.32			
	Smec/Liq	428.2	6.3	14.71	103.03		[251]
$C_{41}H_{64}N_2O_3$		N-[7-oxo-4-[4-[(1-oxohexadecyl)amino]phenyl]-1,3,5-cycloheptatrien-1-yl]dodecamide					
	Sol/Smec	416.2	45.7	109.80			
	Smec/Liq	429.2	7.7	17.94	127.74		[251]
$C_{41}H_{64}O_2$		cholesteryl ω-phenyloctanoate					
	Sol/Liq	364.4	38.16	104.71	104.71	156.8	[155, 169]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Liq/Chol	329.8	3.51	10.66			
	Chol/Smec	307.9	0.59	1.9			
		Note: Enthalpies of the Liq/Chol and Chol/Smec transitions are from cooling measurements.					
$C_{41}H_{67}NO$		4-decyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	345.6	46.93	135.79			
	Smec/Liq	363.5	16.01	44.04	179.83		[240]
$C_{41}H_{67}NO$		N-(4-dodecyloxybenzylidene)-4-hexadecylaniline					
	Sol/Smec	351.3	75.49	214.89			
	Smec/Liq	361.3	20.37	56.38	271.27		[256]
$C_{41}H_{70}N_2O_6$		4,4′-*bis*[4-(4-decyloxybenzylideneamino)benzoyloxy]diphenylmethane					
	Sol/Smec	419.2	55.0	131.20			
	Smec/Liq	456.2	22.0	48.22	179.42		[284]
$C_{41}H_{72}OS$		cholesteryl thiotetradecanoate					
	Sol/Smec	346.2	29.6	85.5			
	Smec/Chol	358.7	1.4	4.0			
	Chol/Liq	363.6	0.8	2.2	91.7	NA	[155,312]
$C_{41}H_{72}O_2$		cholesterol myristate (tetradecanoate)					
	Sol/Smec	346.8	46.71	134.69			
	Smec/Chol	353.2	1.30	3.68			
	Chol/Liq	358.8	1.02	2.84	141.21	182.5	[169]
	Independent values from another reference						
	Sol/Smec	343.7	46.46	135.18			
	Smec/Chol	351.0	1.40	3.99			
	Chol/Liq	356.4	1.02	2.86	142.03	182.5	[170]
	Independent values from another reference						
	Sol/Smec	344.2	47.5	138.00			
	Smec/Chol	352.3	1.78	5.05			
	Chol/Liq	354.8	1.51	4.26	147.31	182.5	[180]
	Independent values from another reference						
	Sol/Smec	346.8	46.6	133.5			
	Smec/Chol	352.9	1.3	3.7			
	Chol/Liq	358.7	1.0	2.9	141.0	182.5	[306]
$C_{41}H_{74}N_2O_2$		N,N′-dihexadecanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	400.2	61	152.42			
	Meso/Nem	435.2	18	41.36			
	Nem/Liq	436.2	0.6	1.38	195.16		[36]
$C_{42}H_{36}N_2O_5$		4-{4-[(4-hexyloxybenzoyloxy)benzoyloxy]phenyl}-6′-phenyl-2,2′-bipyridine					
	Sol/Nem	414.2	21.2	51.18			
	Nem/Liq	446.2	0.40	0.90	52.08		[171]
$C_{42}H_{38}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-butoxybenzylideneamino)benzoate]					
	Sol/Nem	423.2	36.0	85.07			
	Nem/Liq	460.2	2.3	5.00	90.07		[86]
$C_{42}H_{40}N_2O_6$		1,3-phenylene *bis*[4-(4-butoxyphenyliminomethyl)benzoate]					
	Sol/Meso	455.2	14.0	30.76			
	Meso/Smec	458.2	16.0	34.92			
	Smec/Liq	461.2	17.0	36.86	102.54		[86]
$C_{42}H_{40}N_2O_6$		1,3-phenylene *bis*[4-(4-butoxybenzylideneamino)benzoate]					
	Sol/Smec	435.2	14.0	32.17			
	Smec/Liq	442.2	12.0	27.14	59.31		[86]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{42}H_{40}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-butoxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	461.2	36.0	78.06			
	Meso/Liq	469.2	13.0	27.71	105.77		[412]
$C_{42}H_{42}O_4$		*bis*(4-heptylbutadiynylphenyl) terephthalate					
	Sol/Nem	394.1	27.0	68.51			
	Nem/Liq	469.2	Not reported in paper				[176]
$C_{42}H_{44}N_2O_4$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(heptylphenyl)diimide					
	Sol/Sol	411.0	18.8	45.74			
	Sol/Smec	504.9	24.7	48.92			
	Smec/Liq	560.8	11.1	19.79	114.45		[94]
$C_{42}H_{44}N_2O_6$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(heptyloxyphenyl)diimide					
	Sol/Sol	375.9	21.1	56.13			
	Sol/Sol	498.3	7.5	15.05			
	Sol/Smec	518.6	25.1	48.40			
	Smec/Liq	579.5	9.9	17.08	136.66		[94]
$C_{42}H_{46}FeO_4$		[4-[[[4′-[(dodecyloxy)carbonyl][1,1′-biphenyl]-4-yl]oxy]carbonyl]phenyl]ferrocene					
	Sol/Nem	396.2	28.6	72.19			
	Nem/Liq	406.2	0.75	1.85	74.04	NA	[376]
$C_{42}H_{46}O_9$		4-[[(1S)-2-butoxy-1-methyl-2-oxoethoxy]carbonyl]phenyl 4-[[(2E)-3-[6-(octyloxy)-2-naphthenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	353.9	18.43	52.08			
	Smec/Smec	430.6	0.17	0.39			
	Smec/Liq	497.3	2.73	5.49	57.96		[401]
$C_{42}H_{48}N_2O_6$		*α*,*ω*-*bis*[4-(4-pentyloxybenzoyloxy)benzylideneamino]butane					
	Sol/Nem	436.2	60.0	137.55			
	Nem/Liq	460.2	7.8	16.95	154.50		[293]
$C_{42}H_{48}N_2O_6$		*α*,*ω*-*bis*[4-(4-butoxybenzoyloxy)benzylideneamino]hexane					
	Sol/Nem	436.2	56.0	128.38			
	Nem/Liq	454.2	8.7	19.16	147.54		[293]
$C_{42}H_{48}N_2O_6$		*α*,*ω*-*bis*[4-(4-propoxybenzoyloxy)benzylideneamino]octane					
	Sol/Nem	406.2	38.0	93.55			
	Nem/Liq	436.2	8.3	10.03	103.58		[293]
$C_{42}H_{48}N_2O_6$		*α*,*ω*-*bis*[4-(4-ethoxybenzoyloxy)benzylideneamino]decane					
	Sol/Nem	432.2	54.0	124.94			
	Nem/Liq	439.2	7.7	17.53	142.47		[293]
$C_{42}H_{50}N_2O_2S$		2,5-*bis*[[4-(decyloxy)phenyl]ethynyl]-3,4-thiophenedicarbonitrile					
	Sol/Smec	362.2	45.2	124.79			
	Smec/Nem	384.5	1.9	4.94			
	Nem/Liq	394.9	1.9	4.81	134.54		[373]
$C_{42}H_{50}N_4O_6$		*α*,*ω*-*bis*(4-butoxyazobenzene-4′-carbonyloxy)octane					
	Sol/Smec	391.9	52.7	134.47			
	Smec/Nem	421.1	3.8	9.02			
	Nem/Liq	425.4	10.0	23.51	167.00		[107]
$C_{42}H_{50}N_4O_6S_2$		*bis*[4-(5-n-nonylthio-1,3,4-oxadiazole-2-yl)phenyl]terephthalate					
	Sol/Smec	386.2	44.3	114.71			
	Smec/Liq	541.2	8.1	14.97	129.68		[23]
$C_{42}H_{50}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]*bis*dioctyl ester					
	Sol/Sol	318.9	Not reported in paper				

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Sol	325.2	23.9	73.49			
	Note: Both Sol/Sol transition enthalpies are included in the latter value.						
	Sol/Smec	432.3	54.8	126.76			
	Smec/Smec	485.4	0.2	0.41			
	Smec/Liq	499.5	6.7	13.41	214.07		[271]
$C_{42}H_{50}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(octyloxy)-3-oxo-1-propenyl]phenyl ester					
	Sol/Sol	318.9	10.2	31.98			
	Sol/Sol	369.8	1.1	2.97			
	Sol/Smec	381.4	35.6	93.34			
	Smec/Liq	504.1	6.0	11.90	140.19		[271]
$C_{42}H_{51}N_3O_6$		4-(4′-ethoxybenzoyloxy)-2-decyloxy-4′-(4-butyoxysalicylaldimine)azobenzene					
	Sol/Sol	358.7	4.77	13.30			
	Sol/Nem	379.7	35.99	94.79			
	Nem/Liq	507.7	1.60	3.15	111.24		[109]
$C_{42}H_{52}F_2O_5$		1-methylheptyl 4′-(4″-dodecyloxy-2″,3″-difluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	338.8	35.57	104.99			
	Smec/Liq	390.5	4.27	10.93	115.92		[213]
$C_{42}H_{52}N_4O_6S_3$		*bis*[4-(5-n-decylthio-1,3,4-oxadiazole-2-yl)phenyl]-2,5-thiophene-dicarboxylate					
	Sol/Smec	400.2	29.7	74.21			
	Smec/Liq	492.2	9.4	19.10	93.31		[23]
$C_{42}H_{53}FO_5$		[(R)-1-methylheptyl] 4-[[2-fluoro-4-[[4-(dodecyloxy)benzoyl]oxy]phenyl]ethynyl]benzoate					
	Sol/Smec	323.8	36.54	112.85			
	Smec/Smec	358.7	0.03	0.08			
	Smec/Liq	387.0	5.02	12.97	125.90		[211]
$C_{42}H_{53}FO_5$		1-methylheptyl 4′-(4″-dodecyloxy-3″-fluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	358.7	28.77	80.21			
	Smec/Liq	383.9	4.40	11.46	91.67		[213]
$C_{42}H_{53}F_3O_7$		(S) 1-ethylheptyl 4-[4-(4-dodecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]-2-fluorobenzoate					
	Sol/Smec	314.1	22.49	71.60			
	Smec/Smec	350.0	0.84	2.4			
	Smec/Liq	356.5	3.35	9.40	83.40		[80]
$C_{42}H_{54}F_2O_5S$		(S)-1-methylheptyl 5-[(2,3-difluoro-4-tetradecyloxybenzoyloxy-phenyl)ethynyl]-thiophene-2-carboxylate					
	Sol/Smec	334.3	62.00	185.46			
	Smec/Smec	343.0	0.12	0.35			
	Smec/Liq	352.1	4.00	11.36	197.17		[267]
$C_{42}H_{54}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-tridecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]benzoate					
	Sol/Smec	336.1	31.79	94.58			
	Smec/Meso	370.0	0.37	1.00			
	Meso/Liq	373.2	4.67	12.51	108.09		[69]
$C_{42}H_{54}N_4O_2$		α-(4′-hexylazobenzene-4-oxy)-ω-(4′-hexylazobenzene-4-oxy)hexane					
	Sol/Smec	415.2	47.98	115.56			
	Smec/Liq	458.2	14.78	32.26	187.82		[67]
$C_{42}H_{54}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-pentylazobenzene-4-oxy)octane					
	Sol/Smec	393.2	50.34	128.03			
	Smec/Nem	427.2	0.46	1.08			
	Nem/Liq	444.2	7.57	17.04	146.15		[67]
$C_{42}H_{54}O_2$		4,4‴-dinonyloxy-p-quaterphenyl					
	Sol/Sol	396.0	22.57	56.99			
	Sol/Sol	439.0	2.20	5.01			
	Sol/Sol	453.0	6.34	14.00			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	566.0	12.45	22.00			
	Smec/Smec	597.0	1.79	3.00			
	Smec/Liq	600.0	9.00	15.00	116.00	216.6	[111]
$C_{42}H_{54}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-undecyloxycinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	360.2	34.03	94.48			
	Smec/Smec	420.5	0.60	1.43			
	Smec/Liq	430.2	2.94	6.83	102.74		[149]
$C_{42}H_{54}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-decyloxy-α-methylcinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	335.7	44.47	132.47			
	Smec/Smec	342.7	0.01	0.03			
	Smec/Smec	346.7	0.02	0.06			
	Smec/Liq	387.2	5.89	15.21	147.77		[149]
$C_{42}H_{55}FO_5S$		(S)-1-methylheptyl 5-[(3-fluoro-4-tetradecyloxybenzoyloxyphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	315.7	27.10	85.84			
	Smec/Smec	338.4	0.16	0.47			
	Smec/Liq	344.4	4.60	13.36	99.67		[267]
$C_{42}H_{56}O_2$		2-decyloxy-6-[4-(4-dodecyloxyphenyl)buta-1,3-diynyl]naphthalene					
	Sol/Smec	347.1	16.6	47.82			
	Smec/Nem	378.3	1.3	3.44			
	Nem/Liq	424.8	2.6	6.12	57.38		[225]
$C_{42}H_{56}O_5S$		(S)-1-methylheptyl 5-[(4-tetradecyloxybenzoyloxyphenyl)ethynyl]-thiophene-2-carboxylate					
	Sol/Smec	326.0	41.50	127.30			
	Smec/Smec	352.0	0.24	0.68			
	Smec/Liq	359.3	5.20	14.47	142.45		[267]
$C_{42}H_{56}O_7$		2-(1-oxohexyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	356.7	79.1	221.75			
	Nem/Liq	358.4	1.5	4.18	225.93		[432]
$C_{42}H_{57}ClO_5$		(R)-1-methylheptyl 4′-(3″-chloro-4″-tetradecyloxybenzoyloxy)-biphenyl-4-carboxylate					
	Sol/Smec	315.2	22.5	71.38			
	Smec/Smec	349.7	0.33	0.94			
	Smec/Meso	350.2	Could not be measured				
	Meso/Liq	355.0	2.3	6.48	78.80		[226]
$C_{42}H_{57}ClO_5$		(S)-1-methylheptyl 4′-(3″-chloro-4″-tetradecyloxybenzoyloxy)-biphenyl-4-carboxylate					
	Sol/Smec	312.2	24.8	79.44			
	Smec/Smec	348.5	0.34	0.98			
	Smec/Liq	353.7	2.3	6.50	86.92		[226]
$C_{42}H_{58}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-nonyloxyphenyl)propane-1,3-dione					
	Sol/Nem	339.7	38.78	114.16			
	Nem/Liq	343.7	0.37	1.08	115.24		[297]
$C_{42}H_{58}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-nonyloxyphenyl)propane-1,3-dione					
	Sol/Sol	333.7	8.95	26.82			
	Sol/Smec	347.7	46.77	134.51			
	Smec/Liq	371.7	8.37	22.52	183.85		[297]
$C_{42}H_{58}O_5$		(R)-4-(1-methylheptyloxycarbonyl)phenyl 4-(4-dodecyloxyphenyl)ethylbenzoate					
	Sol/Smec	325.2	40.0	123.00			
	Smec/Liq	359.2	9.4	26.17	149.17		[184]
$C_{42}H_{58}O_6$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(decyloxy)-1-oxo-propoxy]benzoate					
	Sol/Smec	373.2	51.72	138.59			
	Smec/Liq	408.2	10.94	26.80	165.39		[227]
	Note: Enthalpies were determined from cooling measurements.						

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{42}H_{58}O_7$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(nonyloxy)-1-oxo-propoxy]-3-methoxybenzoate					
	Sol/Smec	301.2	14.58	48.41			
	Smec/Liq	371.2	5.67	15.27	63.68		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{42}H_{58}O_7$		4-(4-octyloxybenzoyloxy)phenyl (3,4-diheptyloxy)benzoate					
	Sol/Smec	364.6	7.47	20.49			
	Smec/Nem	370.2	1.87	5.05			
	Nem/Liq	381.5	0.40	1.05	26.59		[103]
$C_{42}H_{58}O_7$		4-(4-dodecyloxybenzoyloxy)phenyl (3,4-dipentyloxy)benzoate					
	Sol/Smec	353.6	8.03	22.71			
	Smec/Nem	364.4	2.07	5.68			
	Nem/Liq	376.9	0.47	1.25	29.64		[103]
$C_{42}H_{59}NO_4$		4-(3-decyloxyphenyliminomethyl)phenyl 4-dodecyloxybenzoate					
	Sol/Smec	338.2	55.2	163.22			
	Smec/Liq	339.2	5.2	15.33	178.55		[175]
$C_{42}H_{60}O_6$		2,6,10-*tris*(pentyloxy)-3,7,11-*tris*(propoxy)triphenylene					
	Sol/Col	341.2	30.71	90.01			
	Col/Liq	378.2	5.44	14.38	104.39		[261]
	Independent values from another reference						
	Sol/Col	Not reported in paper					
	Col/Liq	378.2	5.4	14.28			[368]
$C_{42}H_{61}NO_2$		7-(undec-10-enyloxy)-3-(4′-tetradecyloxystyryl)quinoline					
	Sol/Smec	346.7	35.37	102.02			
	Smec/Smec	352.5	2.51	7.12			
	Smec/Liq	427.2	9.79	22.92	132.06		[139]
$C_{42}H_{61}NO_2$		N-(2-hydroxy-4-undecyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	356.2	70.63	198.29			
	Smec/Smec	409.7	2.72	6.64			
	Smec/Liq	474.7	10.50	22.12	227.05		[323]
$C_{42}H_{62}N_2O_6$		N,N′-dinonanoyl-2,4-*bis*(nonanoyloxy)-1,3-benzenediamine					
	Sol/Disc	363.2	16.0	44.05			
	Disc/Liq	394.2	18.0	45.66	89.71		[189]
$C_{42}H_{64}N_2O_3$		pentyldecyl 2-[(4-dodecyloxy)phenyl]-6-cycloheptimidazolecarboxylate					
	Sol/Sol	398.2	6.7	16.83			
	Sol/Smec	399.2	13.6	34.07			
	Smec/Liq	402.2	1.5	3.73	54.63		[231]
$C_{42}H_{64}O_4$		di(4′-undecylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	334.2	35.5	106.22			
	Smec/Smec	392.7	6.12	15.58			
	Smec/Liq	406.2	9.51	23.41	145.21	232.7	[215]
$C_{42}H_{65}NO_7Si_3S$		(R)-6-[11-(1,1,1,3,3,5,5-heptamethyltrisiloxanyl)undecyloxy]-5′-nitro-6′-(oct-2-yloxy) [$\Delta^{2,2'}$-bi-1-benzothiophene]-3(2H),3′(2′H)-dione					
	Sol/Smec	383.2	18.32	47.81			
	Smec/Liq	419.2	2.75	6.56	54.37		[316]
$C_{42}H_{68}N_2O_{10}$		N,N′-dihexanoyl-2,3,5,6-*tetrakis*(hexanoyloxy)-1,4-benzenediamine					
	Sol/Disc	344.2	18.0	52.30			
	Disc/Liq	482.2	45.0	93.32	145.62		[188]
$C_{42}H_{69}NO$		4-tetradecyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	353.1	42.10	119.23			
	Smec/Liq	364.3	18.12	49.74	168.97		[240]
$C_{42}H_{74}N_2O_4$		N,N′-diundecanoyl-2,5,6-trimethyl-4-undecanoyloxy-1,3-benzenediamine					
	Sol/Meso	396.2	25.0	63.10			
	Meso/Meso	425.2	21.0	49.39			
	Meso/Liq	465.2	3.0	6.45	118.94	256.7	[193]
$C_{42}H_{74}OS$		cholesteryl thiopentadecanoate					
	Sol/Smec	335.2	36.5	109.0			
	Smec/Chol	357.5	4.2	11.7			
	Chol/Liq	361.5	0.8	2.3	91.7	NA	[155,312]
$C_{42}H_{74}O_2$		cholesterol pentadecanoate					
	Sol/Smec	343.5	49.60	144.40			
	Smec/Chol	350.3	1.61	4.60			
	Chol/Liq	355.0	0.97	2.73	151.73	189.6	[170]
$C_{42}H_{75}N_3O_3$		N,N′,N″-triundecanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	458.2	15.0	32.74			
	Meso/Meso	464.2	15.0	32.31			
	Meso/Liq	611.2	9.0	14.73	79.78		[190]
$C_{42}H_{76}N_2O_2$		N,N′-dihexadecanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Meso	412.2	59	143.13			
	Meso/Liq	498.2	22	44.16	186.29		[36]
$C_{43}H_{44}N_3O_6$		4-[3,4-*bis*(4-pentyloxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	399.2	51.0	127.76			
	Nem/Liq	408.2	0.4	0.98	128.74		[205]
$C_{43}H_{44}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{3-[4-(4-butylphenylazo)phenoxy]propyloxy}terephthalate					
	Sol/Nem	392.2	22.6	57.62			
	Nem/Liq	426.2	2.1	4.93	62.55		[54]
$C_{43}H_{48}O_9$		4-[[(1S)-2-butoxy-1-methyl-2-oxoethoxy]carbonyl]phenyl 4-[[(2E)-3-[6-(nonyloxy)-2-naphthenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	353.4	20.97	59.34			
	Smec/Smec	445.3	0.23	0.52			
	Smec/Liq	501.0	3.71	7.41	67.27		[401]
$C_{43}H_{50}O_3$		4-[(1E)-2-naphthalenylazo]-1-naphthalenyl 4-(hexadecyloxy)benzoate					
	Sol/Nem	368.2	39.19	106.44			
	Nem/Liq	408.2	0.63	1.54	107.98		[385]
$C_{43}H_{50}N_2O_6$		*α,ω-bis*[4-(4-butoxybenzoyloxy)benzylideneamino]heptane					
	Sol/Nem	382.2	50.0	130.82			
	Nem/Liq	386.2	0.5	1.29	132.11		[293]
$C_{43}H_{50}N_2O_6$		*α,ω-bis*[4-(4-propoxybenzoyloxy)benzylideneamino]nonane					
	Sol/Nem	369.2	31.0	83.97			
	Nem/Liq	384.2	0.3	0.78	84.75		[293]
$C_{43}H_{50}N_2O_8$		malonic acid, *bis*{3-[4-[(4-butyoxyphenylimino)methyl]phenoxy]propyl} ester					
	Sol/Nem	394.7	31.1	78.79			
	Nem/Liq	401.8	1.7	4.23	83.02		[244]
$C_{43}H_{50}N_2O_8$		1,5-[4-(2-hydroxy-4-pentyloxybenzylideneamino)benzoyloxy]pentane					
	Sol/Smec	415.2	41.0	98.75			
	Smec/Liq	424.2	12.0	28.29	127.04		[412]
$C_{43}H_{50}N_2O_8$		1,5-[4-(2-hydroxy-4-butoxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	370.7	27.0	72.84			
	Smec/Liq	412.7	10.0	24.23	97.07		[412]
$C_{43}H_{50}N_2O_8$		1,5-[4-(2-hydroxy-4-butoxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	375.2	43.0	114.61			
	Smec/Smec	394.2	0.7	1.78			
	Smec/Liq	430.2	11.0	25.57	141.96		[412]
$C_{43}H_{51}FeNO$		[4′-[(E)-[[4-(tetradecyloxy)phenyl]imino]methyl][1,1′-biphenyl]-4-yl]ferrocene					
	Sol/Smec	419.2	3.01	7.18			
	Smec/Nem	437.2	10.39	23.76			
	Nem/Liq	455.2	0.63	1.38	25.32	NA	[433]
$C_{43}H_{52}N_4O_6$		α,ω-*bis*(4-butoxyazobenzene-4′-carbonyloxy)nonane					
	Sol/Smec	336.9	26.3	78.06			
	Smec/Liq	389.0	10.0	25.71	103.77		[107]
$C_{43}H_{55}FO_5$		[(R)-1-methylheptyl] 4-[[2-fluoro-4-[[4-(tridecyloxy)benzoyl]oxy]phenyl]ethynyl]benzoate					
	Sol/Smec	334.6	43.08	128.75			
	Smec/Smec	365.7	0.09	0.25			
	Smec/Liq	384.8	4.76	12.37	141.37		[211]
$C_{43}H_{55}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-hexadecyloxybenzoylphenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Meso	342.1	38.35	112.10			
	Meso/Nem	345.4	0.27	0.78			
	Nem/Liq	348.3	1.18	3.39	116.27		[267]
$C_{43}H_{56}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-tetradecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]benzoate					
	Sol/Smec	327.9	32.74	99.85			
	Smec/Meso	371.7	0.36	0.97			
	Meso/Liq	374.5	4.95	13.22	114.04		[69]
$C_{43}H_{56}N_4O_2$		α-(4′-pentylazobenzene-4-oxy)-ω-(4′-pentylazobenzene-4-oxy)nonane					
	Sol/Smec	377.2	39.20	103.92			
	Smec/Nem	385.2	0.32	0.83			
	Nem/Liq	412.9	2.98	7.22	111.97		[67]
$C_{43}H_{56}N_4O_5$		1,3-*bis*[4-[(1E)-[4-(octyloxy)phenyl]azo]phenoxy]-2-propanol					
	Sol/Smec	428.4	44.09	102.92			
	Smec/Liq	443.7	8.65	19.50	122.42		[230]
$C_{43}H_{56}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-dodecyloxycinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	361.2	35.49	98.26			
	Smec/Smec	419.0	0.66	1.58			
	Smec/Liq	427.7	2.94	6.87	106.71		[149]
$C_{43}H_{56}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-undecyloxy-α-methylcinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	333.9	33.0	98.83			
	Smec/Smec	357.4	0.01	0.03			
	Smec/Smec	361.2	0.01	0.03			
	Smec/Liq	386.9	5.40	13.96	112.85		[149]
$C_{43}H_{58}O_5S$		(S)-1-methylheptyl 5-[(4-pentadecyloxybenzoyloxyphenyl)ethynyl]-thiophene-2-carboxylate					
	Sol/Smec	337.2	51.72	153.38			
	Smec/Smec	353.1	0.37	1.05			
	Smec/Liq	357.9	5.34	14.92	169.35		[267]
$C_{43}H_{58}O_7$		2-(1-oxoheptyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	349.6	61.8	176.77			
	Nem/Liq	359.8	1.2	3.34	180.11		[432]
$C_{43}H_{58}O_8$		hexyl 2,5-*bis*[[4-(octyloxy)benzoyl]oxy]benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	333.1	31.7	95.17			
	Nem/Liq	370.8	1.4	3.78	98.95		[432]
$C_{43}H_{60}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-decyloxyphenyl)propane-1,3-dione					
	Sol/Nem	340.2	36.73	107.97			
	Nem/Liq	349.7	0.37	1.06	109.03		[297]
$C_{43}H_{60}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-decyloxyphenyl)propane-1,3-dione					
	Sol/Sol	327.7	10.42	31.80			
	Sol/Smec	346.7	46.98	135.51			
	Smec/Liq	371.2	9.04	24.35	191.66		[297]
$C_{43}H_{60}O_6$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(decyloxy)-1-oxopropoxy]-3-methylbenzoate					
	Sol/Smec	330.2	23.82	72.14			
	Smec/Liq	381.2	6.12	16.05	88.19		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{43}H_{60}O_7$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(decyloxy)-1-oxopropoxy]-3-methoxybenzoate					
	Sol/Smec	302.2	15.02	49.70			
	Smec/Liq	367.2	5.58	15.20	64.90		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{43}H_{61}BrO_4S$		2-bromo-6,7,10,11-*tetrakis*(pentyloxy)-3-(pentylsulfanyl)triphenylene					
	Sol/Chol	348.8	18.6	53.32			
	Chol/Liq	418.2	6.8	16.26	69.58		[29]
$C_{43}H_{63}NO_2$		N-(2-hydroxy-4-dodecyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	353.7	71.09	200.99			
	Smec/Smec	408.2	3.89	9.53			
	Smec/Liq	472.7	11.80	24.97	235.49		[323]
$C_{43}H_{71}NO$		4-dodecyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	351.4	64.69	184.09			
	Smec/Liq	366.0	25.80	70.49	254.58		[240]
$C_{43}H_{76}OS$		cholesteryl thiohexadecanoate					
	Sol/Smec	327.2	33.3	101.9			
	Smec/Chol	356.2	4.6	12.9			
	Chol/Liq	360.5	0.5	1.4	116.2	NA	[155,312]
$C_{43}H_{76}O_2$		cholesterol palmitate					
	Sol/Chol	350.5	58.58	167.13			
	Chol/Liq	354.8	1.18	3.33	170.46	196.7	[170]
	Note: Liquid crystalline phase detected on cooling.						
$C_{43}H_{79}NO_4$		3,4,5-*tris*(dodecyloxy)benzamide					
	Sol/Meso	331.2	26.4	79.71			
	Meso/Liq	353.2	5.7	16.14	95.85		[378]
$C_{44}H_{40}N_2O_5$		4-{4-[(4-octyloxybenzoyloxy)benzoyloxy]phenyl}-6′-phenyl-2,2′-bipyridine					
	Sol/Nem	413.2	44.2	106.97			
	Nem/Liq	435.4	0.60	1.38	108.35		[171]
$C_{44}H_{42}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-pentyloxybenzylideneamino)benzoate]					
	Sol/Nem	409.2	37	90.42			
	Nem/Liq	435.2	1.7	3.91	94.33		[86]
$C_{44}H_{44}N_2O_6$		1,3-phenylene *bis*[4-(4-pentyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	444.2	16	36.02			
	Meso/Smec	448.2	15	33.47			
	Smec/Liq	451.2	17	37.68	107.17		[86]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{44}H_{44}N_2O_6$		N,N′-*bis*[4-(4-pentyloxybenzoyloxy)benzylidene]phenylene-1,3-diamine					
	Sol/Meso	423.2	30.9	73.02			
	Meso/Liq	425.2	6.8	15.99	89.01		[78]
$C_{44}H_{44}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-pentyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	433.2	32.0	73.87			
	Meso/Liq	452.2	16.0	35.38	109.25		[412]
$C_{44}H_{46}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{4-[4-(4-butylphenylazo)phenoxy]butyloxy}terephthalate					
	Sol/Nem	384.2	41.5	108.02			
	Nem/Liq	440.2	2.3	5.22	113.24		[54]
$C_{44}H_{46}O_4$		*bis*(4-octylbutadiynylphenyl) terephthalate					
	Sol/Nem	378.2	26.0	68.75			
	Nem/Liq	483.2	Not reported in paper				[176]
$C_{44}H_{48}N_2$		3,8-*bis*[(4-octylphenyl)ethynyl]-1,10-phenanthroline					
	Sol/Smec	417.2	22.7	54.41			
	Smec/Nem	505.2	1.1	2.18			
	Nem/Liq	550.2	0.9	1.64	58.23		[258]
$C_{44}H_{48}N_2O_4$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(octylphenyl)diimide					
	Sol/Sol	428.5	36.1	84.25			
	Sol/Smec	499.2	21.3	42.67			
	Smec/Liq	553.5	8.5	15.36	142.28		[94]
$C_{44}H_{48}N_2O_4$		3,6-*bis*[4′-hexyloxy)[1,1′-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethyl-pyrrolo[3,4-c]pyrrole-1,4-dione					
	Sol/Nem	478.2	44.3	92.64			
	Nem/Liq	608.2	1.2	1.97	94.61		[388]
$C_{44}H_{48}N_2O_6$		3,3′,4,4′-biphenyltetracarboxy-N,N′-*bis*(octyloxyphenyl)diimide					
	Sol/Sol	341.9	6.8	19.89			
	Sol/Sol	477.1	8.5	17.82			
	Sol/Smec	517.3	25.0	48.33			
	Smec/Liq	574.4	10.8	18.80	104.84		[94]
$C_{44}H_{50}FeO_4$		[4-[[[4′-[(tetradecyloxy)carbonyl][1,1′-biphenyl]-4-yl]oxy]carbonyl]phenyl]ferrocene					
	Sol/Nem	392.2	27.2	69.35			
	Nem/Liq	409.2	0.69	1.69	71.04	NA	[376]
$C_{44}H_{50}N_4O_{10}S_2$		1,10-*bis*{4-[5-(4-(1,4,7-trioxaoctyl)phenyl)-1,3,4-thiadiazol-2-yl]phenyl}-1,4,7,10-tetraoxadecane					
	Sol/Smec	412.2	30.5	73.99			
	Smec/Nem	428.2	3.6	8.41			
	Nem/Liq	480.2	2.1	4.37	86.77		[113]
$C_{44}H_{50}O_9$		4-[[(1S)-2-butoxy-1-methyl-2-oxoethoxy]carbonyl]phenyl 4-[[(2E)-3-[6-(decyloxy)-2-naphthenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	353.6	19.17	54.21			
	Smec/Smec	433.7	0.18	0.42			
	Smec/Liq	486.1	3.77	7.76	62.39		[401]
$C_{44}H_{51}NO_{10}$		4-nitrophenyl 2,5-*bis*(4-octyloxybenzoyloxy)benzoate					
	Sol/Smec	366.9	29.2	79.59			
	Smec/Liq	436.1	9.6	22.01	101.60		[407]
$C_{44}H_{52}N_2O_6$		*α,ω-bis*[4-(4-hexyloxybenzoyloxy)benzylideneamino]butane					
	Sol/Nem	433.2	63.0	145.43			
	Nem/Liq	456.2	9.2	20.17	165.60		[293]
$C_{44}H_{52}N_2O_6$		*α,ω-bis*[4-(4-pentyloxybenzoyloxy)benzylideneamino]hexane					
	Sol/Nem	423.2	51.0	120.51			
	Nem/Liq	436.2	7.5	17.19	137.70		[293]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{44}H_{52}N_2O_6$		*α,ω-bis*[4-(4-butoxybenzoyloxy)benzylideneamino]octane					
	Sol/Nem	397.2	41.0	103.22			
	Nem/Liq	436.2	8.8	20.17	123.39		[293]
$C_{44}H_{54}N_2O_2S$		2,5-*bis*[[4-(dodecyloxy)phenyl]ethynyl]-3,4-thiophenedicarbonitrile					
	Sol/Smec	368.9	45.5	123.34			
	Smec/Liq	387.6	6.8	17.54	140.88		[373]
$C_{44}H_{54}N_4O_6S_2$		*bis*[4-(5-n-decylthio-1,3,4-oxadiazole-2-yl)phenyl]terephthalate					
	Sol/Smec	383.2	33.2	86.64			
	Smec/Liq	517.2	10.4	20.11	106.75		[23]
$C_{44}H_{54}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]*bis*,dinonyl ester					
	Sol/Smec	435.2	50.8	116.73			
	Smec/Smec	485.8	2.2	4.53			
	Smec/Liq	493.2	5.3	10.75	132.01		[271]
$C_{44}H_{54}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(nonyloxy)-3-oxo-1-propenyl]phenyl ester					
	Sol/Sol	338.7	12.7	37.50			
	Sol/Smec	380.1	40.6	106.81			
	Smec/Liq	498.9	6.5	13.03	157.34		[271]
$C_{44}H_{54}S_6$		5,5′′′′-didecyl-2,2′:5′,2″:5″,2 ‴:5‴,2″ :5,′′′,2′′′′-sexithiophene					
	Sol/Smec	381.2	21.9	57.45			
	Smec/Smec	554.2	34.0	61.35			
	Smec/Liq	563.2	17.3	30.72	149.52		[303]
$C_{44}H_{55}N_3O_6$		4-(4′-ethoxybenzoyloxy)-2-dodecyloxy-4′-(4-butoxysalicylaldimine)azobenzene					
	Sol/Sol	379.7	6.95	18.30			
	Sol/Nem	399.2	51.11	128.03			
	Nem/Liq	494.7	1.32	2.67	149.00		[109]
$C_{44}H_{56}F_2O_5$		1-methylheptyl 4′-(4″-tetradecyloxy-2″,3″-difluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	339.7	46.53	136.97			
	Smec/Smec	371.7	Too small to be detected by dsc				
	Smec/Liq	385.7	3.85	9.98	146.95		[213]
$C_{44}H_{57}FO_5$		[(R)-1-methylheptyl] 4-[[2-fluoro-4-[[4-(tetradecyloxy)benzoyl]oxy]phenyl]ethynyl]benzoate					
	Sol/Smec	339.5	49.86	146.86			
	Smec/Smec	351.6	0.01	0.03			
	Smec/Smec	369.0	0.2	0.54			
	Smec/Liq	383.2	4.69	12.24	159.67		[211]
$C_{44}H_{57}FO_5$		(R)-4-(1-methylheptyloxycarbonyl)-4′-(4″-tetradecyloxy-3″-fluorobenzoyloxy)tolane					
	Sol/Smec	339.7	35.62	104.86			
	Smec/Meso	368.1	0.16	0.43			
	Meso/Liq	378.1	3.63	9.60	114.89		[146, 213]
$C_{44}H_{57}FO_5$		[(R)-1-methylheptyl] 4′-[(3-fluoro-4-tetradecyloxyphenyl)propioloyoxy]biphenyl-4-carboxylate					
	Sol/Smec	309.9	22.18	71.57			
	Smec/Liq	347.7	1.11	3.19			
	Liq/Liq	352.9	1.40	3.97	78.73		[214]
$C_{44}H_{57}FO_5$		[(S)-1-methylheptyl] 4′-[(3-fluoro-4-tetradecyloxyphenyl)propioloyoxy]biphenyl-4-carboxylate					
	Sol/Smec	319.2	24.64	77.19			
	Smec/Liq	347.5	1.23	3.54			
	Liq/Liq	352.7	1.63	4.62	85.35		[214]
$C_{44}H_{57}FO_5$		[(R)-1-methylheptyl] 4′-[(2-fluoro-4-tetradecyloxyphenyl)propioloyoxy]biphenyl-4-carboxylate					
	Sol/Smec	307.1	34.52	112.41			
	Smec/Smec	348.5	0.17	0.49			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	358.1	5.41	15.11	128.01		[214]
$C_{44}H_{57}FO_5$		[(S)-1-methylheptyl] 4′-[(2-fluoro-4-tetradecyloxyphenyl)propioloyoxy]biphenyl-4-carboxylate					
	Sol/Smec	306.8	34.15	111.31			
	Smec/Smec	348.9	0.12	0.34			
	Smec/Liq	358.4	5.64	15.74	127.39		[214]
$C_{44}H_{57}F_3O_7$		(S) 1-ethylheptyl 4-[4-(4-tetradecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]-2-fluorobenzoate					
	Sol/Smec	327.7	31.61	96.46			
	Smec/Smec	338.3	0.02	0.06			
	Smec/Smec	350.1	0.33	0.94			
	Smec/Liq	358.7	3.42	9.53	106.99		[80]
$C_{44}H_{58}O_2$		4,4‴-didecyloxy-p-quaterphenyl					
	Sol/Sol	397.0	21.04	53.00			
	Sol/Sol	433.0	5.63	13.00			
	Sol/Sol	449.0	6.29	14.01			
	Sol/Smec	558.0	12.83	22.99			
	Smec/Liq	589.0	12.96	22.00	125.00	230.8	[111]
$C_{44}H_{58}F_2O_2S$		3,4-difluoro-2,5-*bis*[[4-(dodecyloxy)phenyl]ethynyl]thiophene					
	Sol/Nem	342.0	78.8	230.41			
	Nem/Liq	372.0	2.0	5.38	235.79		[373]
$C_{44}H_{58}F_2O_5S$		(S)-1-methylheptyl 5-[(2,3-difluoro-4-hexdecyloxybenzoyloxy-phenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	332.6	44.42	133.55			
	Smec/Smec	346.8	0.17	0.49			
	Smec/Liq	351.0	4.28	12.19	146.23		[267]
$C_{44}H_{58}N_2O_2S$		2-[4-(dodecyloxy)phenyl]-5-[[4-(dodecyloxy)phenyl]ethynyl]-3,4-thiophenedicarbonitrile					
	Sol/Smec	342.6	22.7	66.26			
	Smec/Liq	373.2	6.9	18.49	84.75		[373]
$C_{44}H_{58}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-dodecyloxy-α-methylcinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	330.2	52.76	159.78			
	Smec/Smec	335.3	0.28	0.84			
	Smec/Smec	363.8	0.02	0.05			
	Smec/Smec	366.2	0.02	0.05			
	Smec/Liq	386.2	5.44	14.09	174.81		[149]
$C_{44}H_{59}FO_5S$		(S)-1-methylheptyl 5-[(3-fluoro-4-hexadecyloxybenzoyloxy-phenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Smec	313.0	39.20	125.24			
	Smec/Smec	337.3	Not reported in paper				
	Smec/Liq	342.3	5.26	15.37	140.61		[267]
	Note: Smec/Smec transition enthalpy is included in the Smec/Liq value.						
$C_{44}H_{60}O_5S$		(S)-1-methylheptyl 5-[(4-hexadecyloxybenzoyloxyphenyl)ethynyl]-thiophene-2-carboxylate					
	Sol/Smec	333.0	46.31	139.07			
	Smec/Smec	353.1	0.30	0.85			
	Smec/Liq	357.0	5.52	15.46	155.38		[267]
$C_{44}H_{60}O_7$		2-(1-oxooctyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	350.1	60.5	172.81			
	Nem/Liq	360.0	1.1	3.06	175.87		[432]
$C_{44}H_{60}O_8$		heptyl 2,5-*bis*[[4-(octyloxy)benzoyl]oxy]benzoate					
	Sol/Nem	327.6	29.0	88.52			
	Nem/Liq	368.6	2.0	5.43	93.95		[432]
$C_{44}H_{61}ClO_5$		(R)-1-methylheptyl 4′-(3″-chloro-4″-hexadecyloxybenzoyloxy)biphenyl-4-carboxylate					
	Sol/Smec	314.2	44.6	141.95			
	Smec/Smec	344.1	0.21	0.61			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Meso	348.2	Could not be measured				
	Meso/Liq	352.2	2.5	7.10	149.66		[226]
$C_{44}H_{61}ClO_7$		2-chloro-4-methylpentanoic acid, 3,6,7,10,11-pentabutoxy-2-triphenylenyl ester					
	Sol/Meso	Not reported in paper					
	Meso/Liq	473.9	21.8	46.00			[324]
$C_{44}H_{61}ClO_7$		2-chloro-3-methylpentanoic acid, 3,6,7,10,11-pentabutoxy-2-triphenylenyl ester					
	Sol/Meso	Not reported in paper					
	Meso/Liq	465.2	21.8	46.86			[324]
$C_{44}H_{61}NO_4S$		6,7,10,11-*tetrakis*(pentyloxy)3-(pentylsulphanyl)-2-cyanotriphenylene					
	Sol/Col	394.2	30.0	76.10			
	Col/Liq	467.0	3.3	7.07	83.17		[29]
$C_{44}H_{62}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-undecyloxyphenyl)propane-1,3-dione					
	Sol/Nem	336.2	37.2	110.65			
	Nem/Liq	350.7	0.46	1.31	111.96		[297]
$C_{44}H_{62}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-undecyloxyphenyl)propane-1,3-dione					
	Sol/Smec	348.2	64.68	185.76			
	Smec/Liq	370.7	9.54	25.74	211.50		[297]
$C_{44}H_{62}O_6$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(dodecyloxy)-1-oxo-propoxy]benzoate					
	Sol/Smec	372.2	38.47	103.36			
	Smec/Liq	402.2	7.49	18.62	121.98		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{44}H_{62}O_7$		4-(4-octyloxybenzoyloxy)phenyl (3,4-dioctyloxy)benzoate					
	Sol/Smec	368.7	10.5	28.48			
	Smec/Nem	370.8	1.72	4.64			
	Nem/Liq	380.4	0.51	1.34	34.46		[103]
$C_{44}H_{62}O_7$		4-(4-dodecyloxybenzoyloxy)phenyl (3,4-dihexyloxy)benzoate					
	Sol/Smec	355.7	6.34	17.83			
	Smec/Nem	369.7	1.82	4.92			
	Nem/Liq	378.4	0.31	0.82	23.57		[103]
$C_{44}H_{64}N_2O_4$		2,5-dihydro-2,5-dimethyl-3,6-*bis*[4-(dodecyloxy)phenyl]pyrrolo-[3,4-c]pyrrole-1,4-dione					
	Sol/Smec	382.0	81.9	214.40			
	Smec/Liq	395.9	4.7	11.87	226.27		[388]
$C_{44}H_{66}N_2O_5$		di-n-dodecyl 4,4′-azoxy-α-methylcinnamate					
	Sol/Smec	352.2	75.20	213.52			
	Smec/Smec	355.7	0.10	0.28			
	Smec/Liq	360.7	8.80	24.40	238.20		[393]
$C_{44}H_{68}O_4$		di(4′-dodecylphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	341.8	57.0	166.76			
	Smec/Smec	392.4	6.41	16.34			
	Smec/Liq	403.9	8.71	21.56	204.66	246.9	[215]
$C_{44}H_{68}O_6$		di(4′-dodecyloxyphenyl)-*trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	363.2	38.71	106.58			
	Smec/Smec	385.2	3.95	10.25			
	Smec/Smec	429.2	Not reported in paper				
	Smec/Liq	436.2	8.49	19.46	260.5		[220]
$C_{44}H_{70}N_2O_6$		2,5-*bis*(3,4,5-tripentyloxyphenyl)-1,3,4-oxadiazole					
	Sol/Col	327.6	32.3	98.60			
	Col/Liq	343.8	2.44	7.10	105.70	292.3	[178]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{44}H_{73}NO$		4-hexadecyl-N-[[4-(pentadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	348.8	86.30	247.42			
	Smec/Liq	363.9	25.06	68.87	316.29		[240]
$C_{44}H_{78}OS$		cholesteryl thioheptadecanoate					
	Sol/Smec	339.2	42.7	125.8			
	Smec/Chol	354.2	1.7	4.7			
	Chol/Liq	358.2	0.8	2.3	132.9	NA	[155,312]
$C_{44}H_{78}O_2$		cholesterol heptadecanoate					
	Sol/Chol	349.5	60.96	174.42			
	Chol/Liq	352.9	1.39	3.94	178.36	203.8	[166, 170]
$C_{45}H_{47}N_3O_6$		4-[3,4-*bis*(4-hexyloxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	380.2	55.0	144.66			
	Nem/Liq	409.2	0.4	0.98	145.64		[205]
$C_{45}H_{47}N_3O_6$		4-[(4-butoxyphenyl)azo]phenyl 3-[[[4-[[4-(octyloxy)benzoyl]oxy]phenyl]methylene]amino]benzoate					
	Sol/Meso	424.5	19.4	45.70			
	Meso/Liq	431.6	17.0	39.39	85.09		[296]
$C_{45}H_{48}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{5-[4-(4-butylphenylazo)phenoxy]pentyloxy}terephthalate					
	Sol/Nem	383.2	50.3	131.26			
	Nem/Liq	418.2	2.4	5.74	137.00		[54]
$C_{45}H_{51}NO_8$		3-cyanophenyl 2,5-*bis*(4-octyloxybenzoyloxy)benzoate					
	Sol/Smec	363.4	42.4	116.68			
	Smec/Liq	374.1	3.1	8.29	124.97		[407]
$C_{45}H_{51}NO_8$		3-cyanophenyl 2,5-*bis*(4-octyloxybenzoyloxy)benzoate					
	Sol/Smec	360.0	25.6	71.11			
	Smec/Liq	423.0	8.1	19.15	90.26		[407]
$C_{45}H_{54}N_2O_6$		α,ω-*bis*[4-(4-heptyloxybenzoyloxy)benzylideneamino]propane					
	Sol/Smec	381.2	35.0	91.82			
	Smec/Liq	386.2	17.0	36.26	128.08		[293]
$C_{45}H_{54}N_2O_6$		α,ω-*bis*[4-(4-pentyloxybenzoyloxy)benzylideneamino]heptane					
	Sol/Smec	367.2	34.0	92.59			
	Smec/Liq	375.2	8.9	23.72	116.31		[293]
$C_{45}H_{54}N_2O_6$		α,ω-*bis*[4-(4-butoxybenzoyloxy)benzylideneamino]nonane					
	Sol/Nem	361.2	18.0	49.83			
	Nem/Liq	391.2	0.8	2.04	51.87		[293]
$C_{45}H_{54}N_2O_8$		malonic acid, *bis*{4-[4-[(4-butyoxyphenylimino)methyl]phenoxy]butyl} ester					
	Sol/Nem	390.9	52.7	134.82			
	Nem/Liq	396.1	1.2	3.03	137.85		[244, 298]
$C_{45}H_{54}N_2O_8$		1,5-[4-(2-hydroxy-4-hexyloxybenzylideneamino)benzoyloxy]pentane					
	Sol/Smec	415.2	41.0	98.75			
	Smec/Liq	420.2	13.0	30.94	129.69		[412]
$C_{45}H_{54}N_2O_8$		1,5-[4-(2-hydroxy-4-pentyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	372.2	23.0	61.79			
	Smec/Liq	408.2	12.0	29.40	91.19		[412]
$C_{45}H_{54}N_2O_8$		1,5-[4-(2-hydroxy-4-pentyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	391.2	36.0	92.02			
	Smec/Liq	426.2	12.0	28.16	120.18		[412]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{45}H_{56}F_2O_7$		4-[[4-[(2-ethoxy-1-methyl-2-oxoethoxy)carbonyl]phenyl]ethynyl]phenyl 2,3-difluoro-4-octadecyloxybenzoate					
	Sol/Smec	349.3	52.6	150.59			
	Smec/Nem	381.6	1.3	3.41			
	Nem/Liq	386.7	0.8	2.07	156.07		[268]
$C_{45}H_{57}FO_7$		4-[[4-[(2-ethoxy-1-methyl-2-oxoethoxy)carbonyl]phenyl]ethynyl]phenyl 3-fluoro-4-octadecyloxybenzoate					
	Sol/Smec	334.8	35.2	105.44			
	Note: Value is abnormally low compared to values for other compounds in this series.						
	Smec/Nem	377.0	0.3	0.80			
	Nem/Liq	380.1	1.8	4.74	110.98		[268]
$C_{45}H_{58}N_2O_6$		*α,ω-bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}propane					
	Sol/Smec	427.1	36.3	84.99			
	Smec/Smec	431.9	Not detected by dsc				
	Smec/Liq	456.8	9.8	21.45	106.44		[224]
$C_{45}H_{58}O_7$		4-[[4-[(2-ethoxy-1-methyl-2-oxoethoxy)carbonyl]phenyl]ethynyl]phenyl 4-octadecyloxybenzoate					
	Sol/Smec	363.4	61.3	168.68			
	Smec/Nem	392.1	0.04	0.10			
	Nem/Liq	394.6	3.2	8.11	176.89		[268]
$C_{45}H_{59}FO_5$		[(R)-1-methylheptyl] 4-[[2-fluoro-4-[[4-(pentadecyloxy)benzoyl]oxy]phenyl]ethynyl]benzoate					
	Sol/Smec	333.2	47.30	141.96			
	Smec/Smec	370.1	0.25	0.68			
	Smec/Liq	381.2	4.53	11.88	154.52		[211]
$C_{45}H_{59}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-octadecyloxybenzoyl-phenyl)ethynyl]thiophene-2-carboxylate					
	Sol/Meso	342.1	43.00	125.69			
	Meso/Liq	347.1	2.61	7.52	133.21		[267]
$C_{45}H_{60}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-hexadecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]benzoate					
	Sol/Smec	325.3	29.16	89.64			
	Smec/Meso	367.8	Not reported in paper				
	Meso/Liq	370.2	5.58	15.07			[69]
$C_{45}H_{60}N_4O_2$		*α*-(4′-pentylazobenzene-4-oxy)-*ω*-(4′-pentylazobenzene-4-oxy)undecane					
	Sol/Nem	387.2	60.52	156.30			
	Nem/Liq	409.2	3.33	8.14	164.44		[67]
$C_{45}H_{60}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-tetradecyloxycinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	358.7	46.63	130.00			
	Smec/Smec	416.9	0.70	1.68			
	Smec/Liq	424.2	2.42	5.70	137.38		[149]
$C_{45}H_{62}O_4S$		2-ethynyl-6,7,10,11-*tetrakis*(pentyloxy)3-(pentylsulphanyl)-triphenylene					
	Sol/Colh	330.9	24.3	73.44			
	Colh/Liq	398.6	2.8	7.02	80.46		[29]
$C_{45}H_{62}O_6S$		4-[[4-(hexadecyloxy)benzoyl]thio]benzoic acid, 4-[[(1-methylheptyl)oxy]carbonyl]phenyl ester					
	Sol/Smec	340.2	41.0	120.52			
	Smec/Smec	399.2	0.44	1.10			
	Smec/Liq	407.2	5.5	13.51	135.13	NA	[85]
$C_{45}H_{62}O_7$		2-(1-oxononyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	354.0	62.1	175.42			
	Nem/Liq	356.9	1.9	5.32	180.74		[432]
$C_{45}H_{62}O_7$		2-(1-oxoheptyl)-1,4-phenylene 4-(nonyloxy)benzoate					
	Sol/Nem	333.6	51.7	154.98			
	Nem/Liq	355.5	1.3	3.66	158.64		[432]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{45}H_{62}O_8$		octyl 2,5-*bis*[[4-(octyloxy)benzoyl]oxy]benzoate					
	Sol/Nem	324.8	35.5	109.30			
	Nem/Liq	366.5	1.7	4.64	113.94		[432]
$C_{45}H_{64}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(2-dodecyloxyphenyl)propane-1,3-dione					
	Sol/Nem	336.7	32.55	96.67			
	Nem/Liq	354.7	0.46	1.30	97.97		[297]
$C_{45}H_{64}O_3$		1-(4′-dodecylbiphenyl-4-yl)-3-(3-dodecyloxyphenyl)propane-1,3-dione					
	Sol/Smec	346.7	62.30	179.69			
	Smec/Liq	370.7	9.12	24.60	204.29		[297]
$C_{45}H_{64}O_6$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(dodecyloxy)-1-oxopropoxy]-3-methylbenzoate					
	Sol/Smec	381.2	42.27	110.89			
	Smec/Liq	372.2	3.29	8.84	119.73		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{45}H_{64}O_7$		4′-(decyloxy)[1,1′-biphenyl]-4-yl 4-[(2S)-2-(dodecyloxy)-1-oxopropoxy]-3-methoxybenzoate					
	Sol/Smec	313.2	15.70	50.13			
	Smec/Liq	371.2	5.45	14.68	64.81		[227]
	Note: Enthalpies were determined from cooling measurements.						
$C_{45}H_{66}O_6$		2,6,10-*tris*(pentyloxy)-3,7,11-*tris*(butoxy)triphenylene					
	Sol/Col	328.2	21.71	66.15			
	Col/Liq	402.2	10.09	25.09	91.24		[261]
	Independent values from another reference						
	Sol/Col	Not reported in paper					
	Col/Liq	402.2	9.9	24.61			[368]
$C_{45}H_{72}N_2O_3$		N-[4-[5-oxo-4-[(1-oxohexadecyl)amino]-1,3,6-cycloheptatrien-1-yl]phenyl]hexadecamide					
	Sol/Sol	403.2	1.4	3.47			
	Sol/Smec	415.2	41.5	99.95			
	Smec/Liq	427.2	7.0	16.39	119.81		[251]
$C_{45}H_{74}N_4O_6$		3,4-dihexadecyloxycinnamic aldehyde-2′,4′-dinitrophenylhydrazone					
	Sol/Meso	358.2	52.4	146.29			
	Meso/Liq	388.2	2.3	0.59	146.88		[13]
$C_{45}H_{74}N_4O_6$		3,4-dihexdecyloxybenzaldehyde-2′,4′-dinitrophenyl hydrazone					
	Sol/Meso	397.2	59.4	149.55			
	Meso/Liq	403.2	3.9	9.67	159.22		[13]
$C_{45}H_{75}NO$		N-(4-hexadecyloxybenzylidene)-4-hexadecylaniline					
	Sol/Smec	335.3	38.83	115.81			
	Smec/Liq	354.6	16.48	46.47	162.28		[65]
$C_{45}H_{75}NO$		4-tetradecyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	355.0	46.31	130.45			
	Smec/Liq	364.8	15.22	41.72	172.17		[240]
$C_{45}H_{80}OS$		cholesteryl thiooctadecanoate					
	Sol/Smec	337.2	40.9	121.2			
	Smec/Chol	353.4	1.7	4.9			
	Chol/Liq	357.4	0.5	1.5	127.6	NA	[155,312]
$C_{45}H_{80}O_2$		cholesteryl octadecanoate					
	Sol/Liq	354.95	70.38	198.3	198.3	210.9	[170]
	Chol/Smec	342.75	1.64	4.8			
	Chol/Liq	347.55	1.64	4.7			
	Note: Liquid crystalline phase detected on cooling.						

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{45}H_{80}N_2O_4$		N,N′-didodecanoyl-2,5,6-trimethyl-4-dodecanoyloxy-1,3-benzenediamine					
	Sol/Meso	384.2	32.0	83.29			
	Meso/Meso	416.2	20.0	48.05			
	Meso/Liq	461.2	2.0	4.34	135.68	278	[193]
$C_{45}H_{81}N_3O_3$		N,N′,N″-tridodecanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	456.2	14.0	30.69			
	Meso/Meso	462.2	7.0	15.14			
	Meso/Liq	615.2	11.0	17.88	63.71		[190]
$C_{45}H_{82}N_2O_2$		N,N′-dioctadecanoyl-2,3,5-trimethylbenzene-1,4-diamine					
	Sol/Meso	395.2	60.0	151.82			
	Meso/Nem	426.2	17.0	39.89			
	Nem/Liq	427.2	0.5	1.17	192.88		[36]
$C_{46}H_{44}N_2O_6$		1,3-phenylene *bis*[4-(4,5-hexenyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	312.8	2.8	8.95			
	Smec/Smec	386.6	47.2	122.09			
	Smec/Liq	406.0	9.8	24.14	155.18		[25]
$C_{46}H_{46}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-hexyloxybenzylideneamino)benzoate]					
	Sol/Nem	403.2	48.0	119.05			
	Nem/Liq	430.2	2.0	4.65	123.70		[86]
$C_{46}H_{46}Cl_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-hexyloxyphenyliminomethyl)benzoate]					
	Sol/Nem	400.2	46.2	115.44			
	Nem/Liq	438.2	1.8	4.11	119.55		[416]
$C_{46}H_{46}N_2O_9$		4-[4-[4-[(4-butoxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-butoxybenzoyl)oxy]benzoate					
	Sol/Nem	474.2	34.4	72.54			
	Nem/Liq	485.2	0.5	1.03	73.57		[289]
$C_{46}H_{46}O_8S_2$		1,3-phenylene 4-[[4-(hexyloxy)benzoyl]thio]benzoate					
	Sol/Meso	393.2	14.68	37.33			
	Meso/Liq	433.2	12.0	27.70	65.03	NA	[318]
$C_{46}H_{48}N_2O_6$		1,3-phenylene *bis*[4-(4-hexyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	430.2	20	46.49			
	Meso/Smec	444.2	16	36.02			
	Smec/Liq	448.2	20	44.62	127.13		[86]
$C_{46}H_{48}N_2O_6$		N,N′-*bis*[4-(4-hexyloxybenzoyloxy)benzylidene]-phenylene-1,3-diamine					
	Sol/Meso	409.2	37.7	92.13			
	Meso/Meso	415.7	0.1	0.24			
	Meso/Liq	422.7	14.0	33.12	125.49		[78]
$C_{46}H_{48}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-hexyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	416.2	11.0	26.43			
	Meso/Liq	447.2	17.0	38.01	64.44		[412]
$C_{46}H_{50}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{6-[4-(4-butylphenylazo)phenoxy]hexyloxy} terephthalate					
	Sol/Nem	374.2	55.2	147.51			
	Nem/Liq	422.2	2.6	6.15	153.66		[54]
$C_{46}H_{50}S_6$		(E)-1,6-*bis*{5-[5-(butyl-2-thienylvinyl)-2-thienylvinyl]-2-thienyl}hexane					
	Sol/Nem	427.2	68.19	159.62			
	Nem/Liq	442.2	3.3	7.46	167.08		[126]
$C_{46}H_{54}O_2$		2,6-*bis*[4-[(4Z)-4-decenyloxy]phenyl]anthracene					
	Sol/Smec	483.2	29.20	60.43			
	Smec/Smec	506.2	0.35	0.69			
	Smec/Liq	526.2	5.08	9.65	70.77		[302]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{46}H_{54}O_4$		1,6-*bis*(4-(4′-hexyloxyphenylethynyl)phenoxy)hexane					
	Sol/Sol	324.2	10	30.85			
	Sol/Sol	398.7	19	47.65			
	Sol/Smec	449.2	47	104.63			
	Smec/Meso	459.2	1.3	2.83			
	Meso/Nem	463.7	Not detected by dsc				
	Nem/Liq	469.2	8.7	18.54	204.50		[120]
$C_{46}H_{54}O_9$		4-[[(1S)-2-butoxy-1-methyl-2-oxoethoxy]carbonyl]phenyl 4-[[(2E)-3-[6-(dodecyloxy)-2-naphthenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	354.0	17.18	48.53			
	Smec/Smec	451.8	0.37	0.82			
	Smec/Liq	482.7	2.86	5.93	55.28		[401]
$C_{46}H_{56}N_2O_6$		*α*,*ω*-*bis*[4-(4-heptyloxybenzoyloxy)benzylideneamino]butane					
	Sol/Nem	421.2	65.0	154.32			
	Nem/Liq	448.2	9.3	20.75	175.07		[293]
$C_{46}H_{56}N_2O_6$		*α*,*ω*-*bis*[4-(4-hexyloxybenzoyloxy)benzylideneamino]hexane					
	Sol/Nem	414.2	54.0	130.37			
	Nem/Liq	436.2	9.8	22.47	152.84		[293]
$C_{46}H_{56}N_2O_6$		*α*,*ω*-*bis*[4-(4-pentyloxybenzoyloxy)benzylideneamino]octane					
	Sol/Nem	398.2	58.0	145.66			
	Nem/Liq	424.2	8.6	20.27	165.93		[293]
$C_{46}H_{56}N_2O_6$		*α*,*ω*-*bis*[4-(4-butoxybenzoyloxy)benzylideneamino]decane					
	Sol/Nem	393.2	60.0	152.59			
	Nem/Liq	422.2	8.5	20.13	172.72		[293]
$C_{46}H_{56}N_2O_8$		methylpropanedioic acid, *bis*[4-[4-[(E)-[(4-butoxyphenyl)imino]methyl]phenoxy]butyl] ester					
	Sol/Sol	374.3	25.1	67.06			
	Sol/Smec	380.8	4.9	12.87			
	Smec/Liq	402.4	10.9	27.09	107.02		[298]
$C_{46}H_{58}N_4O_6$		*α*,*ω*-*bis*(4-octyloxyazobenzene-4′-carbonyloxy)butane					
	Sol/Nem	418.2	43.9	104.97			
	Nem/Liq	440.7	10.5	23.83	128.80		[107]
$C_{46}H_{58}O_2$		2,6-*bis*[4-(decyloxy)phenyl]anthracene					
	Sol/Smec	510.2	32.02	62.76			
	Smec/Smec	551.2	0.48	0.87			
	Smec/Liq	560.2	6.43	11.48	75.11		[302]
$C_{46}H_{58}O_8$		benzoic acid, 4,4′-[1,4-phenylene*bis*[(1-oxo-2-propene-3,1-diyl)oxo]]*bis*, didecyl ester					
	Sol/Sol	375.5	13.2	35.15			
	Sol/Smec	430.0	51.3	119.30			
	Smec/Smec	483.9	0.5	1.03			
	Smec/Liq	487.5	5.2	10.67	166.15		[271]
$C_{46}H_{58}O_8$		1,4-benzenedicarboxylic acid, *bis*[4-[3-(decyloxy)]-3-oxo-1-propenyl]phenyl ester					
	Sol/Sol	349.9	21.7	62.02			
	Sol/Smec	381.5	40.2	105.37			
	Smec/Smec	477.3	0.3	0.63			
	Smec/Liq	493.3	0.3	0.61	168.63		[271]
$C_{46}H_{60}F_2O_5$		1-methylheptyl 4′-(4″-hexadecyloxy-2″,3″-difluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	338.8	49.05	144.78			
	Smec/Smec	375.2	0.23	0.61			
	Smec/Liq	382.4	3.74	9.78	155.17		[213]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{46}H_{60}N_2O_6$		*α,ω-bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}butane					
	Sol/Sol	337.2	14.3	42.41			
	Sol/Smec	443.1	64.4	145.34			
	Smec/Smec	489.3	Not detected by dsc				
	Smec/Liq	514.6	21.9	42.56	230.31		[224]
$C_{46}H_{61}FO_5$		1-methylheptyl 4′-(4″-hexadecyloxy-3″-fluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	334.2	50.41	150.84			
	Smec/Smec	368.8	0.30	0.81			
	Smec/Liq	374.8	5.06	13.50	165.15		[213]
$C_{46}H_{62}N_4O_2$		*α*-(4′-pentylazobenzene-4-oxy)-*ω*-(4′-pentylazobenzene-4-oxy)dodecane					
	Sol/Nem	396.2	65.89	166.30			
	Nem/Liq	419.2	8.26	19.70	186.00		[67]
$C_{46}H_{62}O_2$		4,4‴-diundecyloxy-p-quaterphenyl					
	Sol/Sol	409.0	29.45	72.00			
	Sol/Sol	427.0	6.83	16.00			
	Sol/Sol	447.0	6.26	14.00			
	Sol/Smec	549.0	13.73	25.01			
	Smec/Liq	579.0	14.48	25.01	152.02		[111]
$C_{46}H_{62}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-tetradecyloxy-*α*-methylcinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	337.4	41.23	122.20			
	Smec/Smec	367.2	0.15	0.41			
	Smec/Liq	383.2	4.28	11.17	133.78		[149]
$C_{46}H_{64}O_5S$		(S)-1-methylheptyl 5-[(4-octadecyloxybenzoyloxyphenyl)ethynyl]-thiophene-2-carboxylate					
	Sol/Smec	319.3	35.22	110.30			
	Smec/Smec	351.2	0.22	0.63			
	Smec/Liq	354.7	4.43	12.49	123.42		[267]
$C_{46}H_{64}O_7$		2-(1-oxodecyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	344.7	56.2	163.04			
	Nem/Liq	357.9	1.3	3.63	166.67		[432]
$C_{46}H_{64}O_7$		2-(1-oxooctyl)-1,4-phenylene 4-(nonyloxy)benzoate					
	Sol/Nem	347.2	76.3	219.75			
	Nem/Liq	356.0	1.2	3.37	223.12		[432]
$C_{46}H_{64}O_8$		nonyl 2,5-*bis*[[4-(octyloxy)benzoyl]oxy]benzoate					
	Sol/Nem	323.4	41.5	128.32			
	Nem/Liq	363.4	2.0	5.50	133.82		[432]
$C_{46}H_{65}ClO_5$		(R)-1-methylheptyl 4′-(3″-chloro-4″-octadecyloxybenzoyloxy)biphenyl-4-carboxylate					
	Sol/Smec	316.6	47.3	149.40			
	Smec/Smec	344.2	0.23	0.67			
	Smec/Meso	350.4	Could not be measured				
	Meso/Liq	352.2	2.6	7.38	157.45		[226]
$C_{46}H_{66}O_7$		4-(4-dodecyloxybenzoyloxy)phenyl (3,4-diheptyloxy)benzoate					
	Sol/Smec	359.5	7.79	21.67			
	Smec/Nem	373.5	1.91	5.11			
	Nem/Liq	376.7	0.32	0.85	27.63		[103]
$C_{46}H_{67}NO_4$		4-(3-decyloxyphenyliminomethyl)phenyl 4-hexadecyloxybenzoate					
	Sol/Smec	342.2	79.22	231.50			
	Smec/Liq	344.8	6.66	19.32	250.82		[175]
$C_{46}H_{70}N_2O_6$		N,N′-didecanoyl-2,4-*bis*(decanoyloxy)-1,3-benzenediamine					
	Sol/Disc	366.2	18.0	49.15			
	Disc/Liq	395.2	17.0	43.02	92.17	300.8	[189]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{46}H_{82}OS$		cholesteryl thiononadecanoate					
	Sol/Smec	347.2	41.6	119.8			
	Smec/Chol	351.5	1.7	4.8			
	Chol/Liq	355.6	0.5	1.5	126.1	NA	[155,312]
$C_{46}H_{82}O_2$		cholesteryl nonadecanoate					
	Sol/Liq	353.55	73.3	207.3	207.3	218	[170]
	Chol/Smec	344.95	1.9	5.5			
	Chol/Liq	348.75	1.7	4.8			
	Note: Liquid crystalline phase detected on cooling.						
$C_{46}H_{84}N_2O_2$		N,N′-dioctadecanoyl-2,3,5,6-tetramethylbenzene-1,4-diamine					
	Sol/Meso	386.2	21.0	54.38			
	Meso/Liq	489.2	24.0	49.06	103.44		[36]
$C_{47}H_{36}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-hexylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	448.7	57.8	128.82			
	Nem/Liq	470.4	0.42	0.89	129.71		[411]
$C_{47}H_{36}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-hexylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	432.7	54.0	124.80			
	Nem/Liq	470.7	0.59	1.25	126.05		[411]
$C_{47}H_{37}NO_8$		4-cyanophenyl 4-{3-[4-(4′-hexylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	429.2	46.7	108.81			
	Nem/Liq	477.2	0.48	1.01	109.82		[411]
$C_{47}H_{44}FNO_9$		3-[[4-[(4-cyanophenoxy)carbonyl]phenoxy]carbonyl]phenyl 3-fluoro-4-[[4-(dodecyloxy)benzoyl]oxy] benzoate					
	Sol/Smec	392.7	80.68	205.45			
	Smec/Liq	393.2	3.86	9.82	215.27		[248]
$C_{47}H_{44}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{5-[4-(4-biphenylazo)phenoxy]pentyloxy}terephthalate					
	Sol/Nem	417.2	47.0	112.66			
	Nem//Liq	463.2	3.0	6.48	119.14		[54]
$C_{47}H_{45}NO_9$		4-[(4-cyanophenoxy)carbonyl]phenyl 3-[[4-[[4-(dodecyloxy)benzoyl]oxy]benzoyl]oxy]benzoate					
	Sol/Smec	402.7	41.11	102.09			
	Smec/Smec	403.7	0.17	0.42			
	Smec/Liq	404.0	3.48	8.61	111.12		[348]
$C_{47}H_{47}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-hexyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	450.2	14.5	32.21			
	Meso/Liq	463.2	26.7	57.64	89.85		[246]
$C_{47}H_{47}N_3O_6$		4-cyano-1,3-phenylene *bis*[4-(4-hexyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	395.2	32.2	81.48			
	Meso/Smec	406.2	1.8	4.43			
	Smec/Nem	429.2	0.6	1.40			
	Nem/Liq	438.2	0.9	2.05	89.36		[252]
$C_{47}H_{51}N_3O_6$		4-[3,4-*bis*(4-heptyloxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	383.2	61.0	159.19			
	Nem/Liq	405.2	0.4	0.99	160.18		[205]
$C_{47}H_{51}N_3O_6$		4-[(4-hexyloxyphenyl)azo]phenyl 3-[[[4-[[4-(octyloxy)benzoyl]oxy]phenyl]methylene]amino]benzoate					
	Sol/Meso	420.1	25.8	61.41			
	Meso/Liq	430.4	22.9	53.21	114.62		[296]
$C_{47}H_{56}O_4$		1,7-*bis*(4-(4′-hexyloxyphenylethynyl)phenoxy)heptane					
	Sol/Sol	312.2	9.2	29.46			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	416.2	63.0	151.37			
	Nem/Liq	430.2	3.4	7.90	188.73		[120]
$C_{47}H_{58}N_2O_6$		α,ω-*bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]propane					
	Sol/Smec	377.2	50.0	132.56			
	Smec/Liq	383.2	18.0	46.97	179.53		[293]
$C_{47}H_{58}N_2O_6$		α,ω-*bis*[4-(4-heptyloxybenzoyloxy)benzylideneamino]pentane					
	Sol/Smec	382.2	49.0	128.21			
	Smec/Liq	392.2	15.0	28.25	156.46		[293]
$C_{47}H_{58}N_2O_6$		α,ω-*bis*[4-(4-hexyloxybenzoyloxy)benzylideneamino]heptane					
	Sol/Smec	370.2	35.0	94.54			
	Smec/Liq	387.2	13.0	33.57	128.11		[293]
$C_{47}H_{58}N_2O_6$		α,ω-*bis*[4-(4-pentyloxybenzoyloxy)benzylideneamino]nonane					
	Sol/Nem	371.2	55.0	148.17			
	Nem/Liq	383.2	0.7	1.83	150.00		[293]
$C_{47}H_{58}N_2O_8$		malonic acid, *bis*{5-[4-[(4-butyoxyphenylimino)methyl]phenoxy]pentyl} ester					
	Sol/Nem	396.2	63.9	161.28			
	Nem/Liq	400.4	2.0	5.00	166.28		[244]
$C_{47}H_{58}N_2O_8$		ethylpropanedioic acid, *bis*[4-[4-[(E)-[(4-butoxyphenyl)imino]methyl]phenoxy]butyl] ester					
	Sol/Sol	382.5	40.4	105.62			
	Sol/Smec	383.2	Not reported in paper				
	Note: Sol/Smec transition enthalpy is included in the Sol/Sol value.						
	Smec/Liq	402.2	13.9	34.56	140.18		[298]
$C_{47}H_{58}N_2O_8$		1,5-[4-(2-hydroxy-4-hexyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	370.2	24.0	64.83			
	Smec/Liq	408.2	12.0	29.40	94.23		[412]
$C_{47}H_{58}N_2O_8$		1,5-[4-(2-hydroxy-4-hexyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	385.2	33.0	85.67			
	Smec/Liq	424.2	12.0	28.29	113.96		[412]
$C_{47}H_{62}N_2O_6$		α,ω-*bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}pentane					
	Sol/Smec	427.7	73.8	172.55			
	Smec/Liq	454.8	11.1	24.41	196.96		[224]
$C_{47}H_{63}FO_7S$		1-(butoxycarbonyl)ethyl 5-[(3-fluoro-4-eicosyloxybenzoylphenyl)-ethynyl]thiophene-2-carboxylate					
	Sol/Meso	341.8	52.0	152.14			
	Meso/Liq	347.0	3.85	11.10 1	63.24		[267]
$C_{47}H_{64}F_2O_7$		(R)-1-methylheptyl 4-[4-(4-octadecyloxy-3-fluorobenzoyloxy)-3-fluorobenzoyloxy]benzoate					
	Sol/Smec	323.8	31.28	96.60			
	Smec/Meso	366.9	0.23	0.63			
	Meso/Liq	369.8	5.00	13.52	110.75		[69]
$C_{47}H_{64}N_4O_5$		1,3-*bis*[4-[(1E)-[4-(decyloxy)phenyl]azo]phenoxy]-2-propanol					
	Sol/Smec	423.5	52.61	124.23			
	Smec/Liq	446.2	12.08	27.07	151.30		[230]
$C_{47}H_{64}O_7$		(S)-(+)-1-methylheptyl 4-[4-(*trans*-4-hexadecyloxycinnamoyloxy)benzoyloxy]benzoate					
	Sol/Smec	356.2	32.93	92.45			
	Smec/Smec	414.2	1.25	3.02			
	Smec/Liq	420.2	1.77	4.21	99.68		[149]
$C_{47}H_{65}NO_{10}$		1-hexyloxy-5-(4′-nitrobenzyloxy)-2,3,6,7-tetrapentyloxy-9,10-anthraquinone					
	Sol/Meso	Not reported in paper					
	Col/Col	383.2	13.4	34.97			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Col/Liq	436.4	14.0	32.08			[363]
$C_{47}H_{66}O_6S$		4-[[4-(octadecyloxy)benzoyl]thio]benzoic acid, 4-[[(1-methylheptyl)oxy]carbonyl]phenyl ester					
	Sol/Smec	335.2	41	122.32			
	Smec/Smec	397.2	0.26	0.65			
	Smec/Liq	405.2	5.3	13.08	136.05		[85]
$C_{47}H_{66}O_7$		2-(1-oxoundecyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	349.1	53.2	152.39			
	Nem/Liq	356.0	1.2	3.27	155.76		[432]
$C_{47}H_{66}O_7$		2-(1-oxononyl)-1,4-phenylene 4-(nonyloxy)benzoate					
	Sol/Nem	349.8	44.20	126.36			
	Nem/Liq	355.5	0.64	1.80	128.16		[432]
$C_{47}H_{66}O_8$		decyl 2,5-*bis*[[4-(octyloxy)benzoyl]oxy]benzoate					
	Sol/Nem	326.8	58.8	179.93			
	Nem/Liq	363.6	1.6	4.40	184.33		[432]
$C_{47}H_{79}NO$		N-(4-octadecyloxybenzylidene)-4-hexadecylaniline					
	Sol/Meso	329.5	55.21	167.56			
	Meso/Liq	360.0	30.88	85.78	253.33		[65]
$C_{47}H_{79}NO$		4-hexadecyl-N-[[4-(octadecyloxy)phenyl]methylene]benzenamine					
	Sol/Smec	361.3	115.30	319.13			
	Smec/Liq	363.7	Not reported in paper				[240]
	Note: Smec/Liq transition enthalpy is likely included in the Sol/Smec value.						
$C_{47}H_{84}OS$		cholesteryl thioeicosanoate					
	Sol/Smec	344.2	47.3	137.4			
	Smec/Chol	350.3	1.8	5.0			
	Chol/Liq	354.5	1.0	2.8	145.2	NA	[155,312]
$C_{48}H_{42}N_4O_4$		m-terphenyl-4,4″-diyl *bis*[4-(5-butylpyrimidin-2-yl)benzoate]					
	Sol/Smec	468.2	38.6	82.44			
	Smec/Liq	476.2	9.8	20.58	103.02		[331]
$C_{48}H_{46}FNO_9$		3-[[4-[(4-cyanophenoxy)carbonyl]phenoxy]carbonyl]phenyl 3-fluoro-4-[[4-(tridecyloxy)benzoyl]oxy]-benzoate					
	Sol/Smec	393.2	82.75	210.45			
	Smec/Smec	396.6	0.02	0.05			
	Smec/Liq	398.7	4.22	10.58	221.08		[248]
$C_{48}H_{46}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{6-[4-(4-biphenylazo)phenoxy]hexyloxy}terephthalate					
	Sol/Nem	403.2	50.0	124.01			
	Nem/Liq	466.2	3.7	7.94	131.95		[54]
$C_{48}H_{47}NO_9$		4-[(4-cyanophenoxy)carbonyl]phenyl 3-[[[4-[[4-(tridecyloxy)benzoyl]oxy]benzoyl]oxy]benzoate]					
	Sol/Smec	402.2	80.86	201.04			
	Note: Sol/Sol transition enthalpy is included in the Sol/Smec value.						
	Smec/Smec	408.2	0.09	0.22			
	Smec/Liq	408.7	4.24	10.37	211.63		[248]
$C_{48}H_{48}N_2O_5$		4-{4-[(4-dodecyloxybenzoyloxy)benzoyloxy]phenyl}-6′-phenyl-2,2′-bipyridine					
	Sol/Sol	369.0	4.0	10.84			
	Sol/Nem	404.4	34.4	85.06			
	Nem/Liq	417.9	0.60	1.44	97.34		[171]
$C_{48}H_{50}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-heptyloxybenzylideneamino)benzoate]					
	Sol/Nem	418.2	43.0	102.82			
	Nem/Liq	419.2	1.5	3.58	106.40		[86]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{48}H_{50}Cl_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-heptyloxyphenyliminomethyl)benzoate]					
	Sol/Nem	388.2	35.9	92.48			
	Nem/Liq	426.2	1.3	3.05	95.53		[416]
$C_{48}H_{50}N_2O_9$		4-[4-[4-[(4-pentyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-pentyloxybenzoyl)oxy]benzoate					
	Sol/Nem	460.2	46.7	101.48			
	Nem/Liq	465.2	0.4	0.86	102.34		[289]
$C_{48}H_{50}O_8S_2$		1,3-phenylene 4-[[4-(heptyloxy)benzoyl]thio]benzoate					
	Sol/Meso	393.2	13.9	35.35			
	Meso/Meso	412.2	0.18	0.44			
	Meso/Liq	419.2	14.0	33.40	69.19	NA	[318]
$C_{48}H_{52}N_2O_6$		1,3-phenylene *bis*[4-(4-heptyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	429.2	21	48.93			
	Meso/Smec	436.2	12	27.51			
	Smec/Liq	443.2	22	49.64	126.08		[86]
$C_{48}H_{52}N_2O_6$		N,N′-*bis*[4-(4-heptyloxybenzoyloxy)benzylidene]-phenylene-1,3-diamine					
	Sol/Sol	379.7	13.7	36.08			
	Sol/Meso	387.2	20.5	52.94			
	Meso/Liq	413.2	15.7	38.00	127.02		[78]
$C_{48}H_{52}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-heptyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	401.2	20.0	49.85			
	Meso/Liq	446.7	17.0	38.06	87.91		[412]
$C_{48}H_{58}N_2O_4$		N,N′-didodecyl-3,4,9,10-perylene*bis*carboxamide					
	Sol/Sol	360.2	6.8	18.88			
	Meso/Meso	434.2	14.4	33.16			
	Meso/Meso	453.2	13.8	30.45			
	Meso/Meso	486.2	1.2	2.47			
	Meso/Meso	619.2	20.1	32.46			
	Meso/Liq	631.2	9.4	14.89	132.31		[263]
$C_{48}H_{58}O_4$		*bis*(4-decylbutadiynylphenyl) terephthalate					
	Sol/Nem	376.9	28.0	74.29			
	Nem/Liq	487.2	Not reported in paper				[176]
$C_{48}H_{58}O_4$		1,8-*bis*(4-(4′-hexyloxyphenylethynyl)phenoxy)octane					
	Sol/Sol	322.2	9.9	30.73			
	Sol/Sol	420.2	31	73.77			
	Sol/Nem	434.2	40	92.12			
	Nem/Liq	450.2	9.1	20.21	216.83		[120]
$C_{48}H_{58}O_9$		4-[[(1S)-2-butoxy-1-methyl-2-oxoethoxy]carbonyl]phenyl 4-[[(2E)-3-[6-(tetradecyloxy)-2-naphthenyl]-1-oxo-2-propenyl]oxy]benzoate					
	Sol/Smec	351.4	21.50	61.18			
	Smec/Smec	445.3	0.31	0.70			
	Smec/Liq	489.4	3.11	6.35	68.23		[401]
$C_{48}H_{60}N_2O_6$		*α*,*ω*-*bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]butane					
	Sol/Nem	395.2	60.0	151.82			
	Nem/Liq	442.2	9.6	21.71	173.53		[293]
$C_{48}H_{60}N_2O_6$		*α*,*ω*-*bis*[4-(4-heptyloxybenzoyloxy)benzylideneamino]hexane					
	Sol/Nem	411.2	61.0	148.35			
	Nem/Liq	429.2	9.8	22.83	171.18		[293]
$C_{48}H_{60}N_2O_6$		*α*,*ω*-*bis*[4-(4-hexyloxybenzoyloxy)benzylideneamino]octane					
	Sol/Nem	407.2	51.0	125.25			
	Nem/Liq	423.2	9.2	21.74	146.99		[293]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{48}H_{60}N_2O_6$		*α,ω-bis*[4-(4-pentyloxybenzoyloxy)benzylideneamino]decane					
	Sol/Nem	384.2	44.0	114.52			
	Nem/Liq	413.2	8.1	19.60	134.12		[293]
$C_{48}H_{62}N_4O_6$		*α,ω-bis*(4-octyloxyazobenzene-4′-carbonyloxy)hexane					
	Sol/Smec	374.7	48.5	129.44			
	Smec/Nem	419.1	7.5	17.90			
	Nem/Liq	420.2	12.5	29.75	177.09		[107]
$C_{48}H_{62}O_6$		2,5,6,9,12,13-hexabutoxydibenzo[fg,op]naphthacene					
	Sol/Col	420.9	27.7	65.81			
	Col/Liq	510.1	2.9	5.69	71.50		[6]
$C_{48}H_{63}N_9O_3$		2,4-*bis*[4-decyloxy-4′-aminoazobenzene]-6-methoxy-1,3,5-triazine					
	Sol/Smec	441.1	38.72	87.78			
	Smec/Liq	481.5	4.71	9.78	97.56		[187]
$C_{48}H_{64}F_2O_5$		1-methylheptyl 4′-(4″-octadecyloxy-2″,3″-difluorobenzoyloxy)-tolan-4-carboxylate					
	Sol/Smec	341.2	48.58	142.37			
	Smec/Smec	376.2	0.20	0.53			
	Smec/Liq	380.2	3.80	9.99	152.89		[213]
$C_{48}H_{64}N_2O_6$		*bis*(4-dodecyloxyphenyl) 2,2′-bipyridine-5,5′-dicarboxylate					
	Sol/Smec	413.2	33.5	81.07			
	Smec/Nem	533.2	1.67	3.13			
	Nem/Liq	538.2	2.03	3.77	87.97		[115]
$C_{48}H_{64}N_2O_6$		*α,ω-bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}hexane					
	Sol/Sol	342.8	14.4	2.01			
	Sol/Smec	436.9	76.4	174.87			
	Smec/Smec	456.9	Not detected by dsc				
	Smec/Liq	486.3	21.0	43.18	260.06		[224]
$C_{48}H_{65}FO_5$		[(R)-1-methylheptyl] 4-[[2-fluoro-4-[[4-(octadecyloxy)benzoyl]oxy]phenyl]ethynyl]benzoate					
	Sol/Smec	316.7	49.65	156.77			
	Smec/Smec	368.6	0.23	0.62			
	Smec/Liq	375.6	3.92	10.43	167.82		[211]
$C_{48}H_{65}FO_5$		(R)-4-(1-methylheptyloxycarbonyl)-4′-(4″-octadecyloxy-3″-fluorobenzoyloxy)tolane					
	Sol/Smec	340.2	49.65	145.94			
	Smec/Meso	366.2	0.21	0.57			
	Meso/Liq	370.2	4.05	10.94	157.45		[146]
$C_{48}H_{65}FO_5$		1-methylheptyl 4′-(4″-octadecyloxy-3″-fluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	340.2	49.65	145.95			
	Smec/Smec	366.2	0.21	0.57			
	Smec/Liq	370.2	4.05	10.94	157.46		[213]
$C_{48}H_{66}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-heptyloxybenzoyloxy)benzoate					
	Sol/Nem	414.2	42.7	103.09			
	Note: Sol/Nem transition enthalpy includes the enthalpy of a Sol/Sol transition.						
	Nem/Liq	Decomposed prior to transition					[333]
$C_{48}H_{66}O_2$		4,4‴-didodecyloxy-p-quaterphenyl					
	Sol/Sol	403.0	27.40	67.99			
	Sol/Sol	422.0	6.75	16.00			
	Sol/Sol	446.0	5.80	13.00			
	Sol/Smec	545.0	14.17	26.00			
	Smec/Liq	573.0	14.90	26.00	148.99	259.2	[111]
$C_{48}H_{68}O_5S$		2-methyl-4-[6,7,10,11-*tetrakis*(pentyloxy)-3-(pentylsulphanyl)-2-triphenylenyl]-3-butyn-2-ol					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Col	355.0	23.8	67.04			
	Col/Liq	441.0	5.8	13.15	80.19		[29]
$C_{48}H_{68}O_7$		2-(1-oxododecyl)-1,4-phenylene 4-(octyloxy)benzoate					
	Sol/Nem	347.4	55.1	158.61			
	Nem/Liq	354.0	1.4	3.95	162.56		[432]
$C_{48}H_{68}O_7$		2-(1-oxodecyl)-1,4-phenylene 4-(nonyloxy)benzoate					
	Sol/Nem	345.8	59.5	172.06			
	Nem/Liq	354.2	1.3	3.67	175.73		[432]
$C_{48}H_{70}O_4$		cholesterly 5-[4-(4′-butoxy)biphenyloxyl]pentanoate					
	Sol/Nem	377.8	18.35	48.57			
	Nem/Liq	426.3	1.00	2.35	50.92		[74]
$C_{48}H_{70}O_7$		4-(4-dodecyloxybenzoyloxy)phenyl (3,4-dioctyloxy)benzoate					
	Sol/Smec	357.7	9.16	25.61			
	Smec/Nem	374.8	1.92	5.12			
	Nem/Liq	376.8	0.38	1.01	31.74		[103]
$C_{48}H_{71}BrO_5$		2-cyano-3,6,7,10,11-*pentakis*(hexyloxy)triphenylene					
	Sol/Sol	348.2	6.79	19.50			
	Sol/Col	366.2	28.66	78.26			
	Col/Liq	488.2	9.80	20.07	117.83		[364]
$C_{48}H_{72}N_2$		terephthalylidene-*bis*-(tetradecylaniline)					
	Sol/Smec	359.0	65.40	182.17			
	Smec/Smec	417.2	7.17	17.19			
	Smec/Liq	442.7	12.37	27.94	227.30		[116]
$C_{48}H_{72}O_6$		2,3,6,7,10,11-*hexakis*(pentyloxy)triphenylene					
	Sol/Col	341.3	33.94	99.44			
	Col/Liq	395.8	9.31	23.52	122.96		[143]
	Independent values from another reference						
	Sol/Col	342.2	34.48	100.76			
	Col/Liq	395.2	8.20	20.75	121.51		[261]
	Independent values from another reference						
	Sol/Col	Not reported in paper					
	Col/Liq	395.2	8.2	20.75			[368]
$C_{48}H_{72}O_6$		2,6,10-*tris*(hexyloxy)-3,7,11-*tris*(butoxy)triphenylene					
	Sol/Col	331.2	38.95	117.60			
	Col/Liq	369.2	1.17	3.17	120.77		[261]
	Independent values from another reference						
	Sol/Col	Not reported in paper					
	Col/Liq	369.2	1.2	3.25			[368]
$C_{48}H_{72}O_{12}$		2,3,6,7-*tetrakis*(pentyloxy)-1,5-*bis*[2-[(tetrahydro-2*H*-pyran-2-yl)oxy]ethoxy]-9,10-anthracenedione					
	Sol/Col	352.7	21.96	62.26			
	Col/Liq	374.7	14.43	38.51	100.77		[275]
$C_{48}H_{76}O_6$		di(4′-tetradecyloxyphenyl) *trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	367.2	52.89	144.04			
	Smec/Smec	387.2	6.41	16.55			
	Smec/Smec	428.2	Not reported in paper				
	Smec/Liq	429.2	9.75	22.72	183.31		[220]
$C_{48}H_{78}O_{12}$		benzene-hexa-n-heptanoate					
	Sol/Sol	129	1.1	8.5			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Meso	353.8	32.2	91.1			
	Meso/Liq	359.3	21.5	59.9	159.5	319.8	[342]
$C_{48}H_{80}N_2O_{10}$		N,N′-diheptanoyl-2,3,5,6-*tetrakis*(heptanoyloxy)-1,4-benzenediamine					
	Sol/Disc	337.2	28.0	83.04			
	Disc/Liq	481.2	40.0	83.13	166.17		[188]
$C_{48}H_{82}N_2O_3$		4,4′-dioctadecyloxyazoxybenzene					
	Sol/Smec	367.3	79.0	215.08			
	Smec/Smec	372.2	10.56	28.37			
	Smec/Liq	388.5	22.6	58.17	301.62		[181]
$C_{48}H_{86}N_2O_4$		N,N′-ditridecanoyl-2,5,6-trimethyl-4-tridecanoyloxy-1,3-benzenediamine					
	Sol/Meso	390.7	Not reported in paper				
	Meso/Meso	410.2	21.0	51.19			
	Meso/Liq	458.2	2.0	4.36			[193]
$C_{49}H_{38}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-octylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	428.2	53.1	124.01			
	Nem/Liq	458.1	0.4	0.87	124.88		[411]
$C_{49}H_{38}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-octylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	430.2	40.2	93.44			
	Nem/Liq	459.6	0.47	1.02	94.46		[411]
$C_{49}H_{41}NO_8$		4-cyanophenyl 4-{3-[4-(4′-octylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	443.2	50.2	113.27			
	Nem/Liq	468.2	0.45	0.96	114.23		[411]
$C_{49}H_{48}FNO_9$		3-[[4-[(4-cyanophenoxy)carbonyl]phenoxy]carbonyl]phenyl 3-fluoro-4-[[4-(tetradecyloxy)benzoyl]oxy]-benzoate					
	Sol/Smec	393.7	85.46	217.07			
	Smec/Smec	399.4	0.04	0.10			
	Smec/Liq	403.2	4.77	11.83	229.00		[248]
$C_{49}H_{48}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{7-[4-(4-biphenylazo)phenoxy]heptyloxy} terephthalate					
	Sol/Nem	416.2	35.1	84.33			
	Nem/Liq	451.2	1.3	2.88	87.21		[54]
$C_{49}H_{49}NO_9$		4-[(4-cyanophenoxy)carbonyl]phenyl 3-[[[4-[[4-(tetradecyloxy)benzoyl]oxy]benzoyl]oxy]benzoate]					
	Sol/Smec	402.7	77.28	191.90			
	Note: Sol/Sol transition enthalpy is included in Sol/Smec value.						
	Smec/Smec	411.2	0.13	0.32			
	Smec/Liq	413.4	4.81	11.64	203.86		[248]
$C_{49}H_{51}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-hepyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	445.2	17.6	39.53			
	Meso/Liq	465.7	27.4	58.84	98.37		[246]
$C_{49}H_{55}N_3O_6$		4-[3,4-*bis*(4-octyloxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	375.2	59.0	157.25			
	Nem/Liq	404.2	0.4	0.99	158.24		[205]
$C_{49}H_{55}N_3O_6$		4-[(4-octyloxyphenyl)azo]phenyl 3-[[[4-[[4-(octyloxy)benzoyl]oxy]phenyl]methylene]amino]benzoate					
	Sol/Meso	411.8	21.0	51.00			
	Meso/Liq	426.6	18.2	42.66	93.66		[296]
$C_{49}H_{60}O_4$		1,9-*bis*(4-(4′-hexyloxyphenylethynyl)phenoxy)nonane					
	Sol/Sol	312.2	7.8	24.98			
	Sol/Nem	407.2	65.0	159.63			
	Nem/Liq	425.2	4.3	10.11	194.72		[120]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{49}H_{62}N_2O_6$		α,ω-*bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]pentane					
	Sol/Smec	364.2	67.0	183.96			
	Smec/Liq	391.2	16.0	40.90	224.86		[293]
$C_{49}H_{62}N_2O_6$		α,ω-*bis*[4-(4-heptyloxybenzoyloxy)benzylideneamino]heptane					
	Sol/Smec	388.2	68.0	175.17			
	Smec/Liq	390.2	15.0	38.44	213.61		[293]
$C_{49}H_{62}N_2O_6$		α,ω-*bis*[4-(4-hexyloxybenzoyloxy)benzylideneamino]nonane					
	Sol/Smec	356.2	37.0	103.87			
	Smec/Liq	383.2	12.0	31.32	135.19		[293]
$C_{49}H_{62}N_2O_8$		malonic acid, *bis*{6-[4-[(4-butyoxyphenylimino)methyl]phenoxy]hexyl} ester					
	Sol/Smec	372.5	70.8	190.07			
	Smec/Nem	393.5	4.6	11.69			
	Nem/Liq	396.7	1.7	4.29	206.05		[244]
$C_{49}H_{62}N_2O_8$		1,5-[4-(2-hydroxy-4-heptyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	368.2	37.0	100.49			
	Smec/Liq	406.2	12.0	29.54	130.03		[412]
$C_{49}H_{62}N_2O_9$		1,5-[4-(2-hydroxy-4-heptyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	386.2	39.0	100.98			
	Smec/Liq	422.2	13.0	30.79	131.77		[412]
$C_{49}H_{64}N_4O_6$		α,ω-*bis*(4-octyloxyazobenzene-4′-carbonyloxy)heptane					
	Sol/Smec	347.2	28.0	80.65			
	Smec/Liq	398.2	20.5	51.48	132.13		[107]
$C_{49}H_{66}N_2O_6$		α,ω-*bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}heptane					
	Sol/Sol	353.1	12.0	33.98			
	Sol/Smec	417.2	79.3	190.08			
	Smec/Liq	440.5	10.1	22.93	246.99		[224]
$C_{49}H_{68}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-octyloxybenzoyloxy)benzoate					
	Sol/Smec	388.2	23.5	60.54			
	Smec/Meso	394.2	Could not be measured				
	Meso/Nem	400.2	0.26	0.65			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{49}H_{68}O_3$		cholesteryl ω-[4-(4-butylphenylethynyl)phenoxy]butanoate					
	Sol/Smec	428.2	32.45	75.79			
	Smec/Nem	460.0	1.06	2.30			
	Nem/Liq	477.9	4.22	8.84	86.93	166.1	[245]
$C_{49}H_{70}O_7$		2-(1-oxoundecyl)-1,4-phenylene 4-(nonyloxy)benzoate					
	Sol/Nem	347.5	59.63				
	Nem/Liq	352.3	0.93				[432]
$C_{49}H_{71}ClO_7$		2-chloro-4-methylpentanoic acid, 3,6,7,10,11-*pentakis*(pentyloxy)-2-triphenylenyl ester					
	Sol/Meso	Not reported in paper					
	Meso/Liq	464.3	20.2	43.51			[324]
$C_{49}H_{71}NO_5$		2-cyano-3,6,7,10,11-*pentakis*(hexyloxy)triphenylene					
	Sol/Sol	348.2	6.79	19.50			
	Sol/Col	366.2	28.66	78.26			
	Col/Liq	488.2	9.80	20.07	117.83		[364]
$C_{49}H_{72}O_4$		cholesterly 5-[4-(4′-pentyloxy)biphenyloxyl]pentanoate					
	Sol/Smec	392.8	35.89	91.37			
	Smec/Meso	397.6	Not reported in paper				
	Meso/Nem	402.8	0.51	1.27			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Note: Smec/Meso transition enthalpy is included in Meso/Nem value.						
	Nem/Liq	423.2	1.52	3.59	96.23		[74]
$C_{49}H_{72}O_4$		cholesterly 5-[4-(4′-butyloxy)biphenyloxyl]hexanoate					
	Sol/Smec	389.8	22.41	57.49			
	Smec/Nem	439.7	0.94	2.14			
	Nem/Liq	463.8	4.71	10.16	69.79	186.3	[74]
$C_{49}H_{75}NO_2$		N-(2-hydroxy-4-octadecyloxybenzylidene)-4″-dodecylphenylaniline					
	Sol/Smec	360.2	76.27	211.74			
	Smec/Smec	401.7	0.96	2.39			
	Smec/Liq	452.7	11.09	24.50	238.63		[323]
$C_{49}H_{80}N_2O_3$		N-[4-[5-oxo-4-[(1-oxooctadecyl)amino]-1,3,6-cycloheptatrien-1-yl]phenyl]octadecamide					
	Sol/Sol	402.2	2.0	4.97			
	Sol/Smec	415.2	51.5	124.04			
	Smec/Liq	424.2	6.0	14.14	143.15		[251]
$C_{49}H_{82}N_4O_7$		3,4,5-tridodecyloxybenzaldehyde-2′,4′-dinitrophenyl hydrazone					
	Sol/Meso	370.2	43.2	116.69			
	Meso/Liq	410.2	4.6	11.22	127.91		[13]
$C_{49}H_{91}NO_4$		3,4,5-*tris*(tetradecyloxy)benzamide					
	Sol/Meso	352.2	14.2	40.32			
	Meso/Liq	353.2	5.7	16.14	56.46		[378]
$C_{50}H_{42}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-nonylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	433.2	52.3	120.73			
	Nem/Liq	456.2	0.40	0.88	121.61		[411]
$C_{50}H_{42}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-nonylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	427.2	35.9	84.04			
	Nem/Liq	456.3	0.35	0.77	84.81		[411]
$C_{50}H_{43}NO_8$		4-cyanophenyl 4-{3-[4-(4′-nonylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Nem	433.2	39.2	90.49			
	Nem/Liq	463.0	0.43	0.93	91.42		[411]
$C_{50}H_{50}FNO_9$		3-[[4-[(4-cyanophenoxy)carbonyl]phenoxy]carbonyl]phenyl 3-fluoro-4-[[4-(pentadecyloxy)benzoyl]oxy]-benzoate					
	Sol/Smec	394.2	72.64	184.27			
	Smec/Smec	401.2	0.09	0.22			
	Smec/Liq	407.0	4.95	12.16	196.65		[248]
$C_{50}H_{50}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{8-[4-(4-biphenylazo)phenoxy]octyloxy}terephthalate					
	Sol/Nem	400.2	44.7	111.69			
	Nem/Liq	455.2	3.9	8.57	120.26		[54]
$C_{50}H_{51}NO_9$		4-[(4-cyanophenoxy)carbonyl]phenyl 3-[[[4-[[4-(pentadecyloxy)benzoyl]oxy]benzoyl]oxy]benzoate]					
	Sol/Smec	402.7	89.07	221.18			
	Note: Sol/Sol transition enthalpy is included in Sol/Smec value.						
	Smec/Smec	413.4	0.09	0.22			
	Smec/Liq	417.2	5.27	12.63	234.03		[248]
$C_{50}H_{52}Cl_2F_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-octyloxy-3-fluorophenyl-iminomethyl)benzoate]					
	Sol/Nem	396.0	32.69	82.55			
	Nem/Liq	398.3	0.97	2.43	84.98		[150]
	Independent values from another reference						
	Sol/Smec	400.2	49.0	122.44			
	Smec/Nem	403.0	Not reported in paper				
	Nem/Liq	403.7	2.0	4.95	127.39		[415]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Note: Smec/Nem transition enthalpy is included in the Nem/Liq value.						
$C_{50}H_{52}Cl_4N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-octyloxy-3-chlorophenyliminomethyl)benzoate]					
	Sol/Nem	377.2	47.59	126.17			
	Nem/Liq	387.3	0.37	0.96	127.13		[150]
$C_{50}H_{52}N_2O_6$		1,3-phenylene *bis*[4-(4,7-octenyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	404.0	27.2	67.33			
	Smec/Smec	416.1	17.0	40.86			
	Smec/Liq	433.0	25.4	58.66	166.85		[25]
$C_{50}H_{54}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-octyloxybenzylideneamino)benzoate]					
	Sol/Nem	387.2	49	126.55			
	Nem/Liq	416.2	1.8	4.32	130.87	256.6	[86]
$C_{50}H_{54}Cl_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-octyloxyphenyliminomethyl)benzoate]					
	Sol/Sol	364.0	10.45	28.71			
	Sol/Nem	395.0	33.06	83.70			
	Nem/Liq	421.4	1.02	2.42	114.83	256.6	[150]
	Independent values from another reference						
	Sol/Nem	399.2	45.7	114.48			
	Nem/Liq	421.2	0.9	2.14	116.62	256.6	[416]
$C_{50}H_{54}N_2O_9$		4-[4-[4-[(4-hexyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-hexyloxybenzoyl)oxy]benzoate					
	Sol/Nem	449.2	41.5	92.39			
	Nem/Liq	461.2	0.5	1.08	93.47		[289]
$C_{50}H_{54}N_4O_{10}$		1,3-phenylene *bis*[[4-(methylamino)phenyl]-3-nitro-4-octyloxybenzoate]					
	Sol/Meso	408.2	43.6	106.81			
	Meso/Liq	418.2	12.18	29.12	135.93		[321]
$C_{50}H_{54}O_8S_2$		1,3-phenylene 4-[[4-(octyloxy)benzoyl]thio]benzoate					
	Sol/Meso	393.2	16.1	40.95			
	Meso/Liq	408.2	16.3	39.93	80.88	NA	[318]
$C_{50}H_{55}ClN_2O_6$		4-chloro-1,3-phenylene *bis*[4-(4-octyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	393.2	33.2	84.44			
	Meso/Liq	406.2	16.8	41.36	125.80	254.0	[42]
$C_{50}H_{55}ClN_2O_6$		4-chloro-1,3-phenylene *bis*[4-(4-octyloxybenzylideneamino)benzoate]					
	Sol/Nem	378.2	53.0	140.14			
	Nem/Liq	381.2	0.6	1.57	141.71	254.0	[86]
$C_{50}H_{56}N_2O_6$		1,3-phenylene *bis*[4-(4-octyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	429.2	22.0	51.26			
	Meso/Smec	433.2	14.0	32.32			
	Smec/Liq	448.2	25.0	55.78	139.36	251.4	[86]
$C_{50}H_{56}N_2O_6$		isophthalydene *bis*[4-(4-octyloxyphenyloxycarbonyl)aniline]					
	Sol/Meso	399.2	31.7	79.41			
	Meso/Meso	421.2	13.4	31.81			
	Meso/Liq	425.2	54.1	127.23	238.45		[417]
$C_{50}H_{56}N_2O_6$		1,3-phenylene 4-[[[4-(octyloxy)phenyl]imino]methyl]benzoate					
	Sol/Sol	431.2	26.7	61.92			
	Sol/Meso	435.2	10.1	23.21			
	Meso/Liq	448.2	24.6	54.89	140.02		[424]
$C_{50}H_{56}N_2O_6$		N,N′-*bis*[4-(4-octyloxybenzoyloxy)benzylidene]-phenylene-1,3-diamine					
	Sol/Sol	377.2	28.6	75.82			
	Sol/Meso	387.7	20.3	52.36			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	Compound $\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	407.7	16.0	39.24	167.42		[78]
$C_{50}H_{56}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-octyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	399.2	20.0	50.10			
	Meso/Liq	447.7	18.0	40.21	90.31		[412]
$C_{50}H_{58}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{10-[4-(4-butylphenylazo)phenoxy]decyloxy}terephthalate					
	Sol/Nem	363.2	63.3	174.28			
	Nem/Liq	397.3	3.2	8.05	182.33		[54]
$C_{50}H_{60}O_6$		2,7-*bis*(dodecyloxy)phenanthro[3,4-c]phenanthrene-9,12,13,16-tetraone					
	Sol/Meso	Not reported in paper					
	Meso/Liq	481.7	54.70	113.56			[420]
$C_{50}H_{62}O_4$		1,10-*bis*(4-(4′-hexyloxyphenylethynyl)phenoxy)decane					
	Sol/Sol	322.2	9.6	29.80			
	Sol/Sol	421.2	46	109.21			
	Sol/Nem	431.2	48	111.32			
	Nem/Liq	440.2	9.5	21.58	271.91		[120]
$C_{50}H_{64}N_2O_6$		*α,ω-bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]hexane					
	Sol/Nem	407.2	61.0	149.80			
	Nem/Liq	427.2	9.7	22.71	172.51		[293]
$C_{50}H_{64}N_2O_6$		*α,ω-bis*[4-(4-heptylyloxybenzoyloxy)benzylideneamino]octane					
	Sol/Nem	397.2	51.0	128.40			
	Nem/Liq	418.2	9.9	23.67	152.07		[293]
$C_{50}H_{64}N_2O_6$		*α,ω-bis*[4-(4-hexyloxybenzoyloxy)benzylideneamino]decane					
	Sol/Nem	384.2	44.0	114.52			
	Nem/Liq	414.2	8.8	21.25	135.77		[293]
$C_{50}H_{66}N_4O_6$		*α,ω-bis*(4-octyloxyazobenzene-4′-carbonyloxy)octane					
	Sol/Smec	379.1	48.1	126.88			
	Smec/Liq	412.7	25.9	62.76	189.64		[107]
$C_{50}H_{68}F_2O_5$		1-methylheptyl 4′-(4″-eicosyloxy-2″,3″-difluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	338.6	49.90	147.37			
	Smec/Smec	371.2	0.15	0.40			
	Smec/Liq	376.2	3.85	10.23	158.00		[213]
$C_{50}H_{68}N_2O_6$		*α,ω-bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}octane					
	Sol/Sol	342.4	10.6	30.96			
	Sol/Smec	434.4	79.8	183.70			
	Smec/Smec	439.5	Not detected by dsc				
	Smec/Liq	462.3	18.5	40.02	254.68		[224]
$C_{50}H_{69}FO_5$		1-methylheptyl 4′-(4″-eicosyloxy- 3″-fluorobenzoyloxy)tolan-4-carboxylate					
	Sol/Smec	345.2	68.45	198.29			
	Smec/Smec	366.2	0.18	0.49			
	Smec/Liq	369.7	4.00	10.82	209.60		[213]
$C_{50}H_{70}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-nonyloxybenzoyloxy)benzoate					
	Sol/Smec	388.7	28.8	74.09			
	Note: Sol/Sol transition enthalpy is included in the Sol/Smec value.						
	Smec/Meso	414.2	Could not be measured				
	Meso/Nem	422.7	0.25	0.59			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{50}H_{70}O_2$		4,4‴-ditridecyloxy-p-quaterphenyl					
	Sol/Sol	412.0	31.3	75.97			
	Sol/Sol	418.0	2.93	7.01			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Sol	445.0	3.11	6.99			
	Sol/Smec	539.0	13.47	24.99			
	Smec/Liq	565.0	13.56	24.00	138.96	273.4	[111]
$C_{50}H_{70}O_3$		cholesteryl ω-[4-(4-pentylphenylethynyl)phenoxy]butanoate					
	Sol/Smec	426.8	27.14	63.59			
	Smec/Nem	451.3	0.57		1.27		
	Nem/Liq	468.8	3.30	7.05	71.9	173.2	[245]
$C_{50}H_{70}O_3$		cholesteryl ω-[4-(4-butylphenylethynyl)phenoxy]pentanoate					
	Sol/Smec	391.4	29.22	74.66			
	Smec/Nem	400.0	0.57	1.44			
	Nem/Liq	421.5	2.4	2.04	78.14	173.2	[245]
$C_{50}H_{72}O_7$		2-(1-oxododecyl)-1,4-phenylene 4-(nonyloxy)benzoate					
	Sol/Nem	337.1	92.2	273.51			
	Nem/Liq	351.2	1.4	3.99	277.50		[432]
$C_{50}H_{74}O_4$		cholesterly 5-[4-(4′-hexyloxy)biphenyloxyl]pentanoate					
	Sol/Smec	400.4	50.04	124.98			
	Smec/Meso	409.3	Not reported in paper				
	Meso/Nem	410.8	1.11	2.70			
	Note: Smec/Meso transition enthalpy is included in Meso/Nem value.						
	Nem/Liq	423.9	1.63	3.85	131.53	199.8	[74]
$C_{50}H_{74}O_4$		cholesterly 5-[4-(4′-pentyloxy)biphenyloxyl]hexanoate					
	Sol/Smec	418.4	34.89	83.39			
	Smec/Meso	444.0	Not reported in paper				
	Meso/Nem	444.2	1.48	3.33			
	Note: Smec/Meso transition enthalpy is included in Meso/Nem value.						
	Nem/Liq	461.7	4.80	10.40	97.12	193.4	[74]
$C_{50}H_{78}N_2O_6$		N,N′-diundecanoyl-2,4-*bis*(undecanoyloxy)-1,3-benzenediamine					
	Sol/Disc	368.2	23.0	62.47			
	Disc/Liq	393.2	16.0	40.69	103.16	329.2	[189]
$C_{50}H_{80}O_{10}$		2,3,6,7-*tetrakis*(octyloxy)-1,5-*bis*(2-hydroxyethoxy)-9,10-anthracenedione					
	Sol/Col	345.7	56.76	164.19			
	Col/Liq	403.7	20.26	50.19	214.38		[275]
$C_{50}H_{82}N_2O_6$		2,5-*bis*(3,4,5-trihexyloxyphenyl)-1,3,4-oxadiazole					
	Sol/Col	Below ambient temperature					
	Col/Liq	341.5	5.33	15.61			[178]
$C_{51}H_{44}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-decylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	434.7	48.2	110.88			
	Smec/Smec	435.7	0.20	0.46			
	Smec/Nem	439.2	0.10	0.23			
	Nem/Liq	453.0	0.38	0.84	112.41		[411]
$C_{51}H_{44}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-decylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	431.2	40.2	93.23			
	Smec/Smec	435.2	0.13	0.30			
	Smec/Nem	440.1	0.10	0.23			
	Nem/Liq	453.0	0.69	1.52	95.28		[411]
$C_{51}H_{45}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-decylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	442.2	56.8	128.45			
	Smec/Smec	444.5	0.15	0.34			
	Smec/Nem	448.0	0.20	0.45			
	Nem/Liq	462.2	0.47	1.02	130.26		[411]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{51}H_{49}N_5O_4$		pyridine-2,6-diyl*bis*(1,4-phenylene) *bis*[4-(5-hexylpyrimidin-2-yl)benzoate]					
	Sol/Meso	497.2	35.5	71.40			
	Meso/Liq	515.2	21.1	40.95	112.35		[331]
$C_{51}H_{52}FNO_9$		3-[[4-[(4-cyanophenoxy)carbonyl]phenoxy]carbonyl]phenyl 2-fluoro-4-[[4-(hexadecyloxy)benzoyl]oxy]-benzoate					
	Sol/Smec	404.7	60.30	149.00			
	Smec/Liq	410.7	4.97	12.10	161.10		[248]
$C_{51}H_{52}FNO_9$		3-[[4-[(4-cyanophenoxy)carbonyl]phenoxy]carbonyl]phenyl 3-fluoro-4-[[4-(hexadecyloxy)benzoyl]oxy]-benzoate					
	Sol/Smec	394.2	67.15	170.35			
	Smec/Smec	402.2	0.08	0.20			
	Smec/Liq	410.2	5.47	13.33	183.88		[248]
$C_{51}H_{52}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{9-[4-(4-biphenylazo)phenoxy]nonyloxy}-terephthalate					
	Sol/Nem	391.2	52.2	133.44			
	Nem/Liq	437.2	2.5	5.72	139.16		[54]
$C_{51}H_{53}NO_9$		4-[(4-cyanophenoxy)carbonyl]phenyl 3-[[4-[[[4-(hexdecyloxy)benzoyl]oxy]benzoyl]oxy]benzoate]					
	Sol/Smec	403.2	86.67	214.96			
	Note: Sol/Sol transition enthalpy is included in Sol/Smec value.						
	Smec/Smec	415.1	0.08	0.19			
	Smec/Liq	420.7	5.79	13.76	228.91		[248]
$C_{51}H_{55}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-octyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	443.2	14.5	32.72			
	Meso/Liq	466.7	26.9	57.64	90.36		[246]
$C_{51}H_{55}N_3O_6$		4-cyano-1,3-phenylene *bis*[4-(4-octyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	370.2	37.4	101.03			
	Meso/Smec	415.2	1.9	4.58			
	Smec/Smec	419.2	2.1	5.01			
	Smec/Liq	448.2	4.8	10.71	121.33		[252]
$C_{51}H_{56}F_2N_2O_6$		2-methyl-1,3-phenylene *bis*[4-(3-fluoro-4-n-octyloxyphenyliminomethyl]benzoate]					
	Sol/Meso	376.2	11.4	30.30			
	Meso/Meso	385.2	0.5	1.30			
	Meso/Meso	409.2	0.4	0.98			
	Meso/Liq	426.2	18.1	42.47	75.05		[24]
$C_{51}H_{58}N_2O_6$		2-methyl-1,3-phenylene 4-[[[4-(octyloxy)phenyl]imino]methyl]benzoate					
	Sol/Sol	350.2	1.0	2.86			
	Sol/Sol	363.2	3.6	9.91			
	Sol/Sol	395.2	2.3	5.82			
	Sol/Meso	434.2	13.3	30.63			
	Meso/Liq	445.2	22.7	50.99	100.21		[424]
$C_{51}H_{59}N_3O_5$		4-[(4-decylphenyl)azo]phenyl 3-[[[4-[[4-(octyloxy)benzoyl]oxy]phenyl]methylene]amino]benzoate					
	Sol/Meso	404.2	15.9	39.34			
	Meso/Liq	409.6	12.7	31.01	70.35		[296]
$C_{51}H_{59}N_3O_6$		4-[(4-decyloxyphenyl)azo]phenyl 3-[[[4-[[4-(octyloxy)benzoyl]oxy]phenyl]methylene]amino]benzoate					
	Sol/Meso	407.7	22.3	54.70			
	Meso/Liq	420.2	18.1	43.07	97.77		[296]
	Note: Paper reported a value of 181.1 kJ·mol^{-1} for the Meso/Liq phase transition enthalpy, which is believed to be in error. Transition enthalpies for other derivatives in this series are in the range of 18 kJ·mol^{-1} .						
$C_{51}H_{59}N_3O_6$		4-[3,4-*bis*(4-nonyloxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	372.2	68.0	182.70			
	Nem/Liq	400.2	0.4	1.00	183.70	245.2	[205]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{51}H_{66}N_2O_6$		α,ω-*bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]heptane					
	Sol/Smec	383.2	51.0	133.09			
	Smec/Liq	391.2	16.0	40.90	173.99	271.9	[293]
$C_{51}H_{66}N_2O_6$		α,ω-*bis*[4-(4-heptyloxybenzoyloxy)benzylideneamino]nonane					
	Sol/Smec	361.2	63.0	174.42			
	Smec/Liq	387.2	14.0	36.16	210.58	271.9	[293]
$C_{51}H_{66}N_2O_8$		malonic acid, *bis*{7-[4-[(4-butyoxyphenylimino)methyl]phenoxy]heptyl} ester					
	Sol/Smec	391.8	75.0	191.42			
	Smec/Nem	394.8	3.5	8.87			
	Nem/Liq	398.2	2.7	6.78	207.07		[244]
$C_{51}H_{66}N_2O_8$		1,5-[4-(2-hydroxy-4-octyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	370.2	38.0	102.65			
	Smec/Liq	405.2	12.0	29.62	132.27		[412]
$C_{51}H_{66}N_2O_8$		1,5-[4-(2-hydroxy-4-octyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	382.2	40.0	104.66			
	Smec/Liq	421.2	13.0	30.86	135.52		[412]
$C_{51}H_{68}N_4O_6$		α,ω-*bis*(4-octyloxyazobenzene-4′-carbonyloxy)nonane					
	Sol/Smec	351.4	21.7	61.76			
	Smec/Liq	396.5	13.8	34.80	96.56	274.5	[107]
$C_{51}H_{70}N_2O_6$		α,ω-*bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}nonane					
	Sol/Smec	411.6	78.6	191.0			
	Smec/Smec	394.7	6.5	16.5			
	Note: Smec/Smec transition is reported to occur at a temperature lower than the Sol/Smec transition.						
	Smec/Nem	427.4	1.8	4.21			
	Nem/Liq	432.4	2.8	6.48		290.9	[224]
$C_{51}H_{72}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-decyloxybenzoyloxy)benzoate					
	Sol/Smec	374.2	22.4	59.86			
	Smec/Meso	428.2	Could not be measured				
	Meso/Nem	438.2	0.34	0.78			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{51}H_{72}N_4O_5$		1,3-*bis*[4-[(1E)-[4-(dodecyloxy)phenyl]azo]phenoxy]-2-propanol					
	Sol/Smec	421.5	119.8	284.22			
	Smec/Liq	445.1	15.14	34.01	318.23		[230]
	Note: Sol/Smec transition enthalpy is abnormal large compared with values for for other derivatives in series.						
$C_{51}H_{72}O_3$		cholesteryl ω-[4-(4-hexylphenylethynyl)phenoxy]butanoate					
	Sol/Smec	392.5	31.08	79.18			
	Smec/Nem	469.6	0.81	1.72			
	Nem/Liq	475.6	3.96	8.33	89.23		[245]
$C_{51}H_{72}O_3$		cholesteryl ω-[4-(4-pentylphenylethynyl)phenoxy]pentanoate					
	Sol/Smec	389.0	25.29	65.01			
	Smec/Nem	407.8	0.51	1.25			
	Nem/Liq	423.6	0.81	1.91	68.17		[245]
$C_{51}H_{72}O_3$		cholesteryl ω-[4-(4-butylphenylethynyl)phenoxy]hexanoate					
	Sol/Sol	366.9	Not reported in paper				
	Sol/Smec	372.7	2.57	6.90			
	Smec/Nem	425.7	0.73	1.71			
	Nem/Liq	459.3	3.74	8.14			[245]
$C_{51}H_{73}FO_5$		cholesteryl 2-fluoro-4-(4-decyloxybenzoyloxy)benzoate					
	Sol/Smec	356.2	34.1	95.73			
	Smec/Nem	391.2	0.27	0.69			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	Decomposed prior to transition					[333]
$C_{51}H_{74}F_2O_4$		cholesteryl 4-[4′-(2,3-difluoro-4-octyloxy)biphenyloxy]butanoate					
	Sol/Smec	400.2	47.5	118.69			
	Smec/Meso	450.3	2.5	5.55			
	Meso/Liq	453.1	4.1	9.05	133.29		[132]
$C_{51}H_{76}O_4$		cholesterly 5-[4-(4′-heptyloxy)biphenyloxyl]pentanoate					
	Sol/Smec	385.5	38.86	100.80			
	Smec/Meso	412.6	Not reported in paper				
	Meso/Nem	413.7	1.28	3.09			
	Note: Smec/Meso transition enthalpy is included in Meso/Nem value.						
	Nem/Liq	419.3	1.36	3.24	107.13		[74]
$C_{51}H_{76}O_4$		cholesterly 5-[4-(4′-hexyloxy)biphenyloxyl]hexanoate					
	Sol/Smec	407.5	30.58	75.04			
	Smec/Meso	431.5	Not reported in paper				
	Meso/Nem	437.5	0.60	1.37			
	Note: Smec/Meso transition enthalpy is included in Meso/Nem value.						
	Nem/Liq	455.3	4.67	10.26	86.67		[74]
$C_{51}H_{78}O_6$		2,6,10-*tris*(pentyloxy)-3,7,11-*tris*(hexyloxy)triphenylene					
	Sol/Col	321.2	28.28	88.04			
	Col/Liq	379.2	5.76	15.19	103.23		[261]
	Independent values from another reference						
	Sol/Col	Not reported in paper					
	Col/Liq	379.2	5.8	15.30			[368]
$C_{51}H_{92}N_2O_4$		N,N′-ditetradecanoyl-2,5,6-trimethyl-4-tetradecanoyloxy-1,3-benzenediamine					
	Sol/Meso	383.2	Not reported in paper				
	Meso/Meso	401.2	22.0	54.84			
	Meso/Liq	453.2	2.0	4.41			[193]
$C_{51}H_{93}N_3O_3$		N,N′,N″-tritetradecanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	391.2	16.0	40.90			
	Meso/Meso	455.2	19.0	41.74			
	Meso/Liq	661.2	9.0	13.61	96.25	314.4	[190]
$C_{52}H_{46}$		9,10-*bis*(4′-pentylbiphenyl-4-ylethynyl)anthracene					
	Sol/Nem	514.2	37.8	73.51			
	Nem/Liq	543.2	Decomposed				[429]
$C_{52}H_{46}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-undecylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	434.7	58.9	135.50			
	Smec/Smec	441.2	0.18	0.41			
	Smec/Nem	450.2	0.30	0.67			
	Nem/Liq	453.4	0.57	1.26	137.84		[411]
$C_{52}H_{46}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-undecylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	431.2	37.4	86.73			
	Smec/Smec	440.2	0.13	0.30			
	Smec/Nem	450.8	0.48	1.06			
	Nem/Liq	453.0	0.58	1.28	89.37		[411]
$C_{52}H_{47}NO_8$		4-cyanophenyl 4-{3-[4-(4′-undecylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	442.2	44.7	101.09			
	Smec/Smec	449.7	0.13	0.29			
	Smec/Nem	458.5	0.40	0.87			
	Nem/Liq	460.5	0.57	1.24	103.49		[411]
$C_{52}H_{50}N_2O_8S$		(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(butoxy)benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Nem	421.6	44.4	105.31			
	Nem/Liq	435.7	1.14	2.62	107.93		[234]
$C_{52}H_{50}N_4O_4$		m-terphenyl-4,4″-diyl *bis*[4-(5-hexylpyrimidin-2-yl)benzoate]					
	Sol/Smec	482.2	32.4	67.19			
	Smec/Liq	495.2	15.5	31.30	98.49		[331]
$C_{52}H_{52}$		9-(4′-pentylbiphenyl-4-ylethynyl)-10-[4-(4-pentylcyclohexyl)phenylethynyl]anthracene					
	Sol/Sol	399.2	13.2	33.07			
	Sol/Nem	508.2	34.5	67.89			
	Nem/Liq	548.2	Decomposed				[429]
$C_{52}H_{54}F_4O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-nonyloxybenzyoyloxy)-2-fluoro-benzoate]					
	Sol/Meso	380.2	74.8	196.74			
	Meso/Liq	383.7	19.7	51.34	248.08		[247]
$C_{52}H_{54}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{10-[4-(4-biphenylazo)phenoxy]decyloxy}-terephthalate					
	Sol/Nem	391.2	42.6	108.90			
	Nem/Liq	441.2	3.6	8.16	117.06		[54]
$C_{52}H_{56}Cl_2F_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-nonyloxy-3-fluoro-phenyliminomethyl)benzoate]					
	Sol/Smec	386.2	44.4	114.97			
	Smec/Liq	406.2	4.2	10.34	125.31		[415]
$C_{52}H_{56}Cl_2O_6$		4-[(1E)-[3-chloro-4-octyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	398.0	20.86	52.41			
	Meso/Liq	412.9	16.03	38.82	91.23		[177]
$C_{52}H_{57}ClO_{10}$		4-chlororesorcinol *bis*[4-(4-nonyloxybenzoyloxy)benzoate]					
	Sol/Nem	359.2	36.6	101.89			
	Nem/Liq	368.2	0.5	1.36	103.25		[438]
$C_{52}H_{58}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-nonyloxybenzylideneamino)benzoate]					
	Sol/Nem	374.2	44	117.58			
	Nem/Liq	404.2	1.5	3.71	121.29	270.8	[86]
$C_{52}H_{58}Cl_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-nonyloxyphenyliminomethyl)benzoate]					
	Sol/Nem	379.2	13.9	36.66			
	Nem/Liq	416.2	0.5	1.20	37.86		[416]
	Note: Sol/Nem transition enthalpy of this compound is much lower than value for other compounds in this series.						
$C_{52}H_{58}N_2O_9$		4-[4-[4-[(4-heptyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-heptyloxybenzoyl)oxy]benzoate					
	Sol/Nem	442.2	23.2	52.46			
	Nem/Liq	459.2	0.4	0.87	53.33		[289]
$C_{52}H_{58}O_8S_2$		1,3-phenylene 4-[[4-(nonyloxy)benzoyl]thio]benzoate					
	Sol/Meso	386.2	14.9	38.58			
	Meso/Liq	396.2	14.6	36.85	75.43	NA	[318]
$C_{52}H_{59}ClN_2O_6$		4-chloro-1,3-phenylene *bis*[4-(4-nonyloxybenzylideneamino)benzoate]					
	Sol/Nem	362.2	48.0	132.52			
	Nem/Liq	373.2	0.5	1.34	133.86	268.2	[86]
$C_{52}H_{59}ClN_2O_6$		4-chloro-1,3-phenylene *bis*[4-(4-nonyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	398.2	15.5	38.93			
	Meso/Liq	409.2	14.8	36.17	75.10	268.2	[42]
$C_{52}H_{60}N_2O_4S_2$		4-[(E)-[[4-(nonylthio)phenyl]imino]methyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	398.5	15.11	37.92			
	Meso/Meso	411.1	13.73	33.40			
	Meso/Liq	422.0	21.11	50.02	121.34	239.8	[272]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{52}H_{60}N_2O_6$		1,3-phenylene *bis*[4-(4-nonyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	417.2	35.0	83.89			
	Smec/Liq	442.2	23.0	52.01	135.90	251.0	[86]
$C_{52}H_{60}N_2O_6$		N,N′-*bis*[4-(4-nonyloxybenzoyloxy)benzylidene]-phenylene-1,3-diamine					
	Sol/Sol	354.7	29.8	84.01			
	Sol/Meso	392.2	20.7	52.78			
	Meso/Liq	398.2	15.6	39.18	175.97	251.0	[78]
$C_{52}H_{60}N_2O_6$		isophthalydene *bis*[4-(4-nonyloxyphenyloxycarbonyl)aniline]					
	Sol/Meso	405.2	45.8	113.03			
	Meso/Meso	418.2	37.2	88.95			
	Meso/Liq	422.2	12.0	28.42	230.40		[417]
$C_{52}H_{60}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-nonyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	392.2	19.0	48.44			
	Meso/Liq	449.7	19.0	42.25	90.69		[412]
$C_{52}H_{68}N_2O_6$		α,ω-*bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]octane					
	Sol/Smec	405.2	54.0	133.27			
	Smec/Nem	410.2	1.8	4.39	137.66	279.0	[293]
$C_{52}H_{68}N_2O_6$		α,ω-*bis*[4-(4-heptyloxybenzoyloxy)benzylideneamino]decane					
	Sol/Smec	389.2	49.0	125.90			
	Smec/Nem	401.2	0.6	1.50			
	Nem/Liq	409.2	10.0	24.44	151.84	279.0	[293]
$C_{52}H_{68}N_2O_6$		hexanedioic acid, *bis*[4-[[[4-(decyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Meso	422.2	32.64	77.31			
	Meso/Meso	450.6	10.98	24.37			
	Meso/Liq	498.5	22.99	46.12	147.80	293.2	[295]
$C_{52}H_{68}N_2O_6$		hexanedioic acid, *bis*[4-[4-(decyloxy)benzylideneamino]phenyl] ester					
	Sol/Meso	407.2	36.20	88.90			
	Meso/Meso	446.7	8.76	19.61			
	Meso/Liq	483.7	25.68	53.09	161.60	293.2	[295]
$C_{52}H_{71}N_9O_3$		2,4-*bis*[4-dodecyloxy-4′-aminoazobenzene]-6-methoxy-1,3,5-triazine					
	Sol/Col	432.8	43.41	100.30			
	Col/Liq	477.0	7.03	14.74	15.04		[187]
$C_{52}H_{72}N_2O_6$		α,ω-*bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}decane					
	Sol/Smec	433.6	88.6	204.33			
	Smec/Nem	443.0	2.6	5.87			
	Nem/Liq	445.0	7.7	17.30	227.50		[224]
$C_{52}H_{74}ClNO_5$		cholest-5-en-3-ol (3β), 6-[4-[(E)-[[4-[[(2S,3S)-2-chloro-3-methyl-1-oxypentyl]oxy]phenyl]imino]-methyl]phenoxy]hexanoate					
	Sol/Smec	393.9	17.19	43.64			
	Smec/Smec	423.7	1.00	2.36			
	Smec/Meso	438.8	Not reported in paper				
	Meso/Chol	438.9	0.30	0.68			
	Note: Smec/Meso transition enthalpy is included in the Meso/Chol value.						
	Chol/Liq	458.6	3.81	8.31	54.99		[362]
$C_{52}H_{74}F_2O_2S$		3,4-difluoro-2,5-*bis*[[4-(hexadecyloxy)phenyl]ethynyl]thiophene					
	Sol/Nem	354.2	107.3	302.94			
	Nem/Liq	365.6	2.5	6.84	309.78		[373]
$C_{52}H_{74}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-undecyloxybenzoyloxy)benzoate					
	Sol/Smec	380.2	33.8	88.90			
	Note: Sol/Sol transition enthalpy is included in the Sol/Smec value.						

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Meso	441.2	Could not be measured				
	Meso/Nem	451.7	0.50	1.11			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{52}H_{74}O_2$		4,4‴-ditetradecyloxy-p-quaterphenyl					
	Sol/Sol	411.0	4.80	109.00			
	Sol/Sol	445.0	4.90	11.01			
	Sol/Smec	534.0	13.35	25.00			
	Smec/Liq	558.0	13.39	24.00	169.01	287.6	[111]
$C_{52}H_{74}O_3$		cholesteryl ω-[4-(4-heptylphenylethynyl)phenoxy]butanoate					
	Sol/Smec	356.0	62.76	176.29			
	Smec/Nem	466.5	Not observed by dsc				
	Nem/Liq	469.5	5.60	11.93	188.22		[245]
$C_{52}H_{74}O_3$		cholesteryl ω-[4-(4-hexylphenylethynyl)phenoxy]pentanoate					
	Sol/Smec	379.1	20.55	54.21			
	Smec/Nem	411.3	0.97	2.36			
	Nem/Liq	419.3	0.82	1.96	58.53		[245]
$C_{52}H_{74}O_3$		cholesteryl ω-[4-(4-pentylphenylethynyl)phenoxy]hexanoate					
	Sol/Smec	388.1	26.67	68.72			
	Smec/Nem	434.6	0.37	0.85			
	Nem/Liq	458.6	3.96	8.63	78.20		[245]
$C_{52}H_{75}FO_4$		cholesteryl 2-fluoro-4-(4-undecylbenzoyloxy)benzoate					
	Sol/Smec	389.7	25.6	65.69			
	Smec/Meso	397.2	Could not be measured				
	Meso/Nem	406.2	0.19	0.47			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{52}H_{75}FO_5$		cholesteryl 2-fluoro-4-(4-undecyloxybenzoyloxy)benzoate					
	Sol/Smec	367.7	27.2	73.97			
	Smec/Meso	401.2	Could not be measured				
	Meso/Nem	408.7	0.29	0.71			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{52}H_{75}NO_5$		cholest-5-en-3-ol (3β), 6-[4-[(E)-[[4-[[(3S)-3-methyl-1-oxopentyl]oxy]phenyl]imino]methyl]phenoxy]-hexanoate					
	Sol/Smec	400.8	16.15	40.29			
	Smec/Meso	442.3	Not reported in paper				
	Meso/Chol	442.7	0.45	1.02			
	Note: Smec/Meso transition enthalpy is included in the Meso/Chol value.						
	Chol/Liq	466.4	3.11	6.67	47.98		[362]
$C_{52}H_{76}F_2O_4$		cholesteryl 4-{4′-(2,3-difluoro-4-octyloxy)biphenyloxy]pentanoate					
	Sol/Smec	353.3	45.4	128.50			
	Smec/Meso	392.9	1.0	2.55			
	Meso/Liq	398.7	0.7	1.76	132.81		[132]
$C_{52}H_{76}O_{10}$		5,5′-[[6,7,10,11-*tetrakis*(hexyloxy)]-2,3-triphenylenediyl]*bis*(oxy)-*bis*-pentanoic acid					
	Sol/Col	367.2	51.8	141.07			
	Col/Liq	378.5	6.1	16.12	157.19		[353]
$C_{52}H_{78}O_4$		cholesterly 5-[4-(4′-octyloxy)biphenyloxyl]pentanoate					
	Sol/Smec	381.0	38.36	100.68			
	Smec/Meso	417.9	Not reported in paper				
	Meso/Nem	418.4	1.99	4.76			
	Note: Smec/Meso transition enthalpy is included in Meso/Nem value.						
	Nem/Liq	421.0	1.15	2.73	108.17		[74]
$C_{52}H_{78}O_4$		cholesterly 5-[4-(4′-heptyloxy)biphenyloxyl]hexanoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	412.9	28.54	69.12			
	Smec/Meso	440.4	Not reported in paper				
	Meso/Nem	441.2	0.84	1.90			
	Note: Smec/Meso transition enthalpy is included in Meso/Nem value.						
	Nem/Liq	452.6	4.22	9.32	80.34		[74]
$C_{52}H_{80}N_2$		terephthalylidene-*bis*-(hexadecylaniline)					
	Sol/Smec	365.1	62.88	172.23			
	Smec/Smec	413.6	6.61	15.98			
	Smec/Liq	434.9	8.47	19.48	207.69	292.2	[116]
$C_{52}H_{80}O_{12}$		2,3,6,7-*tetrakis*(hexyloxy)-1,5-*bis*[2-[(tetrahydro-2*H*-pyran-2-yl)oxy]ethoxy]-9,10-anthracenedione					
	Sol/Col	356.7	34.41	96.47			
	Col/Liq	364.2	11.81	32.43	128.90		[275]
$C_{52}H_{84}O_6$		di(4′-hexadecyloxyphenyl) *trans*-cyclohexane-1,4-dicarboxylate					
	Sol/Smec	369.2	51.54	139.60			
	Smec/Smec	388.2	8.99	23.16			
	Smec/Liq	423.2	11.32	26.75	189.51	317.3	[220]
$C_{53}H_{48}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-dodecylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	433.2	45.6	105.26			
	Smec/Smec	445.7	0.10	0.22			
	Smec/Liq	456.2	2.70	5.92	111.40		[411]
$C_{53}H_{48}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-dodecylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	427.7	38.7	90.48			
	Smec/Smec	443.5	0.11	0.25			
	Smec/Liq	455.2	3.15	6.92	97.65		[411]
$C_{53}H_{49}NO_8$		4-cyanophenyl 4-{3-[4-(4′-dodecylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	431.2	53.6	124.30			
	Smec/Smec	454.2	0.25	0.55			
	Smec/Liq	465.2	2.9	6.23	131.08		[411]
$C_{53}H_{54}N_2O_9$		1,3-{4-[4-(4-pentyloxybenzoyloxy)benzylidene]aminophenoxy}-propan-2-ol					
	Sol/Nem	457.3	33.50	73.26			
	Nem/Liq	570.2	2.20	3.86	77.12		[413]
$C_{53}H_{56}FNO_9$		3-[[4-[(4-cyanophenoxy)carbonyl]phenoxy]carbonyl]phenyl 2-fluoro-4-[[4-(octadecyloxy)benzoyl]oxy]-benzoate					
	Sol/Smec	404.2	60.26	149.08			
	Smec/Smec	405.7	0.06	0.15			
	Smec/Liq	416.7	5.95	14.28	163.51	266.2	[248]
$C_{53}H_{56}FNO_9$		3-[[4-[(4-cyanophenoxy)carbonyl]phenoxy]carbonyl]phenyl 3-fluoro-4-[[4-(octadecyloxy)benzoyl]oxy]-benzoate					
	Sol/Smec	393.2	44.8	113.94			
	Smec/Smec	403.2	0.11	0.27			
	Smec/Liq	415.5	5.85	14.08	128.29	266.2	[248]
$C_{53}H_{57}NO_9$		4-[(4-cyanophenoxy)carbonyl]phenyl 3-[[[4-[[4-(octadecyloxy)benzoyl]oxy]benzoyl]oxy]benzoate]					
	Sol/Smec	402.7	60.57	150.41			
	Note: Sol/Sol transition enthalpy is included in Sol/Smec value.						
	Smec/Smec	416.4	0.11	0.26			
	Smec/Liq	425.7	6.17	14.49	165.16		[248]
$C_{53}H_{59}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-nonyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	436.2	16.6	38.06			
	Meso/Liq	466.7	28.2	60.42	98.48		[246]
$C_{53}H_{59}N_3O_6$		4-cyano-1,3-phenylene *bis*[4-(4-nonyloxyphenyliminomethyl)benzoate]					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Meso	335.2	45.9	136.93			
	Meso/Smec	407.2	3.5	8.60			
	Smec/Smec	411.7	2.7	6.56			
	Smec/Liq	453.2	5.8	12.80	164.89		[252]
$C_{53}H_{62}N_2O_6$		2-methyl-1,3-phenylene 4-[[[4-(nonyloxy)phenyl]imino]methyl]benzoate					
	Sol/Sol	348.2	4.8	13.79			
	Sol/Sol	374.2	2.9	7.75			
	Sol/Sol	405.2	13.6	33.56			
	Sol/Meso	430.2	8.5	19.76			
	Meso/Meso	436.2	17.8	40.81			
	Meso/Liq	441.2	25.2	57.12	172.79		[424]
$C_{53}H_{63}N_3O_5$		4-[(4-dodecylphenyl)azo]phenyl 3-[[[4-[[4-(octyloxy)benzoyl]oxy]phenyl]methylene]amino]benzoate					
	Sol/Meso	397.2	23.4	58.91			
	Meso/Liq	409.2	18.4	44.97	103.88		[296]
$C_{53}H_{63}N_3O_6$		4-[(4-dodecyloxyphenyl)azo]phenyl 3-[[[4-[[4-(octyloxy)benzoyl]oxy]phenyl]methylene]amino]benzoate					
	Sol/Meso	398.6	58.8	147.52			
	Meso/Liq	416.0	20.0	48.08	195.60		[296]
$C_{53}H_{63}N_3O_6$		4-[3,4-*bis*(4-decyloxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	364.2	67.0	183.96			
	Nem/Liq	398.2	0.5	1.26	185.22		[205]
$C_{53}H_{70}N_2O_6$		α,ω-*bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]nonane					
	Sol/Smec	384.2	51.0	132.74			
	Smec/Liq	392.2	15.0	38.25	170.99	286.1	[293]
$C_{53}H_{70}N_2O_6$		heptanedioic acid, *bis*[4-[[[4-(decyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Smec	438.2	61.0	139.21			
	Smec/Liq	455.7	16.97	37.24	176.45	300.3	[295]
$C_{53}H_{70}N_2O_8$		malonic acid, *bis*{8-[4-[(4-butyoxyphenylimino)methyl]phenoxy]octyl} ester					
	Sol/Sol	371.7	44.2	118.91			
	Sol/Smec	381.4	36.8	96.49			
	Smec/Liq	396.8	11.2	28.23	243.63		[244]
$C_{53}H_{70}N_2O_8$		1,5-[4-(2-hydroxy-4-nonyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	370.2	39.0	105.35			
	Smec/Liq	405.2	12.0	29.62	134.97		[412]
$C_{53}H_{70}N_2O_8$		1,5-[4-(2-hydroxy-4-nonyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	375.2	56.0	149.26			
	Smec/Liq	420.2	13.0	30.94	180.20		[412]
$C_{53}H_{74}N_2O_6$		α,ω-*bis*{4-[(2-hydroxy-4-octyloxyphenyl)iminomethyl]phenyloxy}undecane					
	Sol/Smec	405.6	82.0	202.17			
	Smec/Nem	410.1	Not detected by dsc				
	Nem/Liq	428.8	3.2	7.46	209.63		[224]
$C_{53}H_{76}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-dodecyloxybenzoyloxy)benzoate					
	Sol/Smec	383.2	70.5	183.98			
	Note: Sol/Sol transition enthalpy is included in the Sol/Smec value.						
	Smec/Meso	449.7	Could not be measured				
	Meso/Nem	459.2	0.50	1.09			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{53}H_{76}O_3$		cholesteryl ω-[4-(4-heptylphenylethynyl)phenoxy]pentanoate					
	Sol/Smec	376.2	36.76	97.71			
	Smec/Nem	415.4	1.52	3.66			
	Nem/Liq	419.7	0.91	2.17	103.54		[245]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{53}H_{76}O_3$		cholesteryl ω-[4-(4-hexylphenylethynyl)phenoxy]hexanoate					
	Sol/Smec	362.0	23.22	64.14			
	Smec/Smec	373.6	Not reported in paper				
	Smec/Nem	439.9	0.76	1.73			
	Nem/Liq	453.5	3.81	8.40			[245]
$C_{53}H_{76}O_3$		cholesteryl ω-[4-(4-butylphenylethynyl)phenoxy]octanoate					
	Sol/Smec	420.1	44.22	105.26			
	Note: Smec/Nem not observed by dsc.						
	Nem/Liq	442.0	3.81	8.62	113.88		[245]
$C_{53}H_{77}FO_4$		cholesteryl 2-fluoro-4-(4-dodecylbenzoyloxy)benzoate					
	Sol/Smec	384.2	24.4	63.51			
	Smec/Meso	417.2	Could not be measured				
	Meso/Nem	419.7	0.23	0.55			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{53}H_{77}FO_5$		cholesteryl 2-fluoro-4-(4-dodecyloxybenzoyloxy)benzoate					
	Sol/Smec	384.2	26.4	68.71			
	Smec/Meso	405.7	Could not be measured				
	Meso/Nem	419.7	0.21	0.50			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{53}H_{78}F_2O_4$		cholesteryl 4-[4′-(2,3-difluoro-4-decyloxy)biphenyloxy]butanoate					
	Sol/Smec	354.6	44.4	125.21			
	Smec/Smec	379.0	Enthalpy not reported in paper				
	Smec/Liq	447.5	10.7	23.91			[132]
$C_{53}H_{78}F_2O_4$		cholesteryl 4-[4′-(2,3-difluoro-4-octyloxy)biphenyloxy]hexanoate					
	Sol/Smec	340.6	20.3	59.60			
	Smec/Smec	365.7	Enthalpy not reported in paper				
	Smec/Meso	424.4	0.7	1.65			
	Meso/Liq	434.3	4.3	9.90			[132]
$C_{53}H_{80}O_4$		cholesterly 5-[4-(4′-octyloxy)biphenyloxyl]hexanoate					
	Sol/Smec	384.7	24.69	64.18			
	Smec/Meso	445.4	Not reported in paper				
	Meso/Nem	445.6	1.05	2.36			
	Note: Smec/Meso transition enthalpy is included in Meso/Nem value.						
	Nem/Liq	450.7	3.12	6.92	73.46		[74]
$C_{53}H_{82}O_8$		2-(1,4,7-trioxaoctyl)-3,6,7,10,11-*pentakis*(hexyloxy)triphenylene					
	Sol/Meso	328.6	38.55	117.32			
	Meso/Liq	342.5	1.86	5.43	122.75		[83]
$C_{54}H_{58}F_4O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-decyloxybenzyoyloxy)-2-fluoro-benzoate]					
	Sol/Meso	378.2	57.1	150.98			
	Meso/Liq	386.7	21.6	55.86	206.84	283.0	[247]
$C_{54}H_{58}N_2O_8$		*bis*[4-ethoxyphenyl] 2-{12-[4-(4-biphenylazo)phenoxy]dodecyloxy}-terephthalate					
	Sol/Nem	393.2	52.0	132.25			
	Nem/Liq	420.2	2.6	6.19	138.44		[54]
$C_{54}H_{60}Cl_2F_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-decyloxy-3-fluoro-phenyliminomethyl)benzoate]					
	Sol/Smec	381.2	50.5	132.48			
	Smec/Liq	410.2	5.1	12.43	144.91		[415]
$C_{54}H_{60}Cl_2O_6$		4-[(1E)-[3-chloro-4-nonyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	394.9	17.89	45.30			
	Meso/Liq	410.6	13.84	33.71	79.01		[177]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{54}H_{61}ClO_{10}$		4-chlororesorcinol *bis*[4-(4-decyloyxbenzoyloxy)benzoate]					
	Sol/Nem	362.2	62.5	172.56			
	Nem/Liq	369.2	0.6	1.63	174.19		[438]
$C_{54}H_{62}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-decyloxybenzylideneamino)benzoate]					
	Sol/Nem	357.2	61	170.77			
	Nem/Liq	405.2	1.7	4.20	174.97	285.0	[86]
$C_{54}H_{62}Cl_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-decyloxyphenyliminomethyl)benzoate]					
	Sol/Nem	384.3	43.8	113.97			
	Nem/Liq	413.2	1.5	3.63	117.60		[416]
$C_{54}H_{62}N_2O_9$		4-[4-[4-[(4-octyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-octyloxybenzoyl)oxy]benzoate					
	Sol/Smec	450.2	15.4	34.21			
	Smec/Nem	453.2	12.8	28.24			
	Nem/Liq	453.7	Not reported in paper	66.45			[289]
	Note: Nem/Liq transition enthalpy is included in the Smec/Nem value.						
$C_{54}H_{62}N_4O_{10}$		1,3-phenylene *bis*[[4-(methylamino)phenyl]-3-nitro-4-decyloxybenzoate]					
	Sol/Sol	Not reported in paper					
	Sol/Meso	386.2	25.74	66.65			
	Meso/Liq	427.2	15.86	37.13	103.78		[321]
$C_{54}H_{63}Cl\ N_2O_6$		4-chloro-1,3-phenylene *bis*[4-(4-decyloxybenzylideneamino)benzoate]					
	Sol/Nem	365.2	40	109.53			
	Nem/Liq	377.2	0.6	1.59	111.12	282.4	[86]
$C_{54}H_{64}N_2O_2$		2,5-dihydro-2,5-dimethyl-3,6-*bis*[4′-(*trans*-4-penylcyclohexyl)-[1,1′-biphenyl]-4-yl]pyrrolo[3,4-c]-pyrrole-1,4-dione					
	Sol/Nem	521.7	31.3	60.00			
	Nem/Liq	600.2	0.3	0.50	60.50		[388]
$C_{54}H_{64}N_2O_6$		1,3-phenylene *bis*[4-(4-decyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	417.2	37.0	88.69			
	Smec/Liq	441.2	24.0	54.40	143.09	279.8	[86]
$C_{54}H_{64}N_2O_6$		isophthalydene *bis*[4-(4-decyloxyphenyloxycarbonyl)aniline]					
	Sol/Meso	404.2	43.5	107.62			
	Meso/Meso	421.2	39.4	93.54			
	Meso/Liq	426.2	15.8	37.07	238.23		[417]
$C_{54}H_{64}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-decyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	390.2	20.0	51.26			
	Meso/Liq	451.7	21.0	46.49	97.75		[412]
$C_{54}H_{70}O_4$		1,6-*bis*(4-(4′-decyloxyphenylethynyl)phenoxy)hexane					
	Sol/Sol	383.2	22	57.41			
	Sol/Sol	390.2	18	46.13			
	Sol/Sol	425.2	7.0	16.46			
	Sol/Smec	430.2	29	67.41			
	Smec/Smec	438.2	Not detected by dsc				
	Smec/Smec	447.2	10.5	23.48			
	Smec/Liq	460.7	22	47.75	258.64		[120]
$C_{54}H_{72}N_2O_6$		α,ω-*bis*[4-(4-octyloxybenzoyloxy)benzylideneamino]decane					
	Sol/Smec	397.2	50.0	125.88			
	Smec/Liq	408.2	15.9	38.95	164.83		[293]
$C_{54}H_{74}N_4O_4$		2,2′-[1,2-phenylene*bis*(oxy-6,1-hexanediyloxy-4,1-phenylene)]*bis*[5-octylpyrimidine]					
	Sol/Smec	Not reported in paper					
	Smec/Nem	317.4	0.23	0.72			
	Nem/Liq	357.5	2.5	6.99			[360]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{54}H_{74}N_4O_6$		α,ω-*bis*(4-dodecyloxyazobenzene-4′-carbonyloxy)butane					
	Sol/Nem	416.0	122	293.27			
	Nem/Liq	424.2	17.6	41.49	334.76		[107]
$C_{54}H_{74}O_6$		2,5,6,9,12,13-hexapentyloxydibenzo[fg,op]naphthacene					
	Sol/Col	393.7	52.1	132.33			
	Col/Liq	496.3	4.1	8.26	140.59		[6]
$C_{54}H_{78}O_2$		4,4‴-dipentadecyloxy-p-quaterphenyl					
	Sol/Sol	415.0	50.6	121.93			
	Sol/Sol	444.0	4.88	10.99			
	Sol/Smec	529.0	13.75	25.99			
	Smec/Liq	550.0	15.40	28.00	186.91	301.8	[111]
$C_{54}H_{78}O_3$		cholesteryl ω-[4-(4-heptylphenylethynyl)phenoxy]hexanoate					
	Sol/Smec	381.2	26.74	70.15			
	Smec/Nem	444.0	1.16	2.61			
	Nem/Liq	451.9	4.03	8.92	81.68		[245]
$C_{54}H_{78}O_3$		cholesteryl ω-[4-(4-pentylphenylethynyl)phenoxy]octanoate					
	Sol/Nem	418.9	43.88	104.75			
	Nem/Liq	441.6	3.57	8.08	112.83		[245]
$C_{54}H_{80}\ D_4N_4$		7,12-dihydro-5,7-di(octadecyl-1,1-d_2)quinoxalino[2,3-b]-phenazinium (inner salt)					
	Sol/Meso	395.2	45.5	115.13			
	Meso/.Meso	439.8	19.3	43.88			
	Meso/Liq	459.0	28.8	62.75	221.76		[288]
$C_{54}H_{80}F_2O_4$		cholesteryl 4-{4′-(2,3-difluoro-4-decyloxy)biphenyloxy]pentanoate					
	Sol/Smec	356.6	47.1	132.08			
	Smec/Meso	394.9	0.7	1.77			
	Meso/Liq	394.9	0.7	1.77	135.62		[132]
$C_{54}H_{84}O_6$		2,3,6,7,10,11-hexa-n-hexyloxytriphenylene					
	Sol/Sol	105.9	1.16	10.95			
	Sol/Sol	220.9	1.95	8.83			
	Sol/Sol	233.9	1.30	5.56			
	Sol/Sol	330.8	3.06	9.25			
	Sol/Sol	337.1	2.5	7.42			
	Sol/Meso	340.3	39.05	114.75			
	Meso/Liq	371.2	5.24	14.12	170.88	301.3	[10]
$C_{54}H_{84}O_6$		2,6,10-*tris*(pentyloxy)-3,7,11-*tris*(heptyloxy)triphenylene					
	Sol/Col	331.2	31.73	95.80			
	Col/Liq	364.2	4.87	13.37	109.17	301.3	[261]
	Independent values from another reference						
	Sol/Col	Not reported in paper					
	Col/Liq	364.2	4.9	13.45			[368]
$C_{54}H_{86}N_2O_6$		N,N′-didodecanoyl-2,4-*bis*(dodecanoyloxy)-1,3-benzenediamine					
	Sol/Disc	370.2	26.0	70.23			
	Disc/Liq	390.2	15.0	38.44	108.67	357.6	[189]
$C_{54}H_{90}O_{12}$		benzene hexa-n-octanoate					
	Sol/Sol	301.9	49.0	164.0			
	Sol/Meso	355.1	46.1	129.8			
	Meso/Liq	357.1	19.2	53.8	347.6	362.4	[343]
$C_{54}H_{92}N_2O_{10}$		N,N′-dioctanoyl-2,3,5,6-*tetrakis*(octanoyloxy)-1,4-benzenediamine					
	Sol/Disc	348.2	39.0	112.00			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Disc/Liq	478.2	37.0	77.38	189.38		[188]
$C_{54}H_{98}N_2O_4$		N,N′-dipentadecanoyl-2,5,6-trimethyl-4-pentadecanoyloxy-1,3-benzenediamine					
	Sol/Meso	381.3	49.0	128.51			
	Meso/Meso	399.2	4.0	10.02			
	Meso/Liq	451.2	2.0	4.43	142.96	341.9	[193]
$C_{55}H_{52}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-tetradecylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	432.7	42.8	98.91			
	Smec/Smec	450.0	0.14	0.31			
	Smec/Liq	464.2	4.54	9.78	109.00		[411]
$C_{55}H_{52}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-tetradecylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	426.2	43.4	101.83			
	Smec/Smec	447.2	0.10	0.22			
	Smec/Liq	462.7	4.80	10.37	112.42		[411]
$C_{55}H_{53}NO_8$		4-cyanophenyl 4-{3-[4-(4′-tetradecylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	430.2	58.5	135.98			
	Smec/Smec	457.5	0.16	0.35			
	Smec/Liq	472.4	4.76	10.08	146.41		[411]
$C_{55}H_{58}N_2O_9$		1,3-{4-[4-(4-hexyloxybenzoyloxy)benzylidene]aminophenoxy}propan-2-ol					
	Sol/Nem	457.2	38.42	84.03			
	Nem/Liq	571.1	3.08	5.39	89.42		[413]
$C_{55}H_{59}N_5O_4$		4-[(1E)-(4-octylphenyl)azo]phenyl 3-[(E)-[[4-[[4-[(1E)-(4-octylphenyl)azo]phenoxy]carbonyl]phenyl]-methylene]amino]benzoate					
	Sol/Sol	Not reported in paper					
	Sol/Meso	425.2	43.7	101.36			
	Meso/Liq	493.2	18.03	36.56			[431]
$C_{55}H_{59}N_5O_6$		4-[(1E)-(4-octyloxyphenyl)azo]phenyl 3-[(E)-[[4-[[4-[(1E)-(4-octyloxyphenyl)azo]phenoxy]carbonyl]-phenyl]methylene]amino]benzoate					
	Sol/Sol	Not reported in paper					
	Sol/Meso	473.7	59.74	126.11			
	Meso/Liq	503.7	19.6	38.91			[431]
$C_{55}H_{62}Cl_2O_6$		4-[(1E)-[3-chloro-4-nonyloxyphenyl]ethenyl]benzoic acid, 2-methyl-1,3-phenylene ester					
	Sol/Meso	381.5	26.34	69.04			
	Meso/Liq	393.0	12.55	31.93	100.97		[177]
$C_{55}H_{63}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-decyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	436.2	35.1	80.47			
	Meso/Liq	466.7	27.9	59.78	140.25		[246]
$C_{55}H_{67}N_3O_6$		4-[3,4-*bis*(4-undecyloxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	355.2	65.0	183.00			
	Nem/Liq	394.2	0.5	1.27	184.27		[205]
$C_{55}H_{72}O_4$		1,7-*bis*(4-(4′-decyloxyphenylethynyl)phenoxy)heptane					
	Sol/Sol	383.2	22	57.41			
	Sol/Smec	404.2	62	153.39			
	Smec/Liq	419.2	12	28.63	239.43	278.7	[120]
$C_{55}H_{74}N_2O_8$		1,5-[4-(2-hydroxy-4-decyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	369.2	37.0	100.22			
	Smec/Liq	406.2	12.0	29.54	129.76		[412]
$C_{55}H_{74}N_2O_8$		1,5-[4-(2-hydroxy-4-decyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	373.2	59.0	158.09			
	Smec/Liq	420.2	14.0	33.32	191.41		[412]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	Compound ΔH_{pce} (kJ·mol^{-1})	Compound ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{55}H_{76}N_4O_6$		α,ω-*bis*(4-dodecyloxyazobenzene-4′-carbonyloxy)pentane					
	Sol/Smec	366.9	36.4	99.21			
	Smec/Liq	380.8	22.2	58.30	157.51		[107]
$C_{55}H_{77}NO_9$		cholest-5-en-3-ol (3β), 6-[4-[(E)-[[4-[(4R,5R)-4,5-*bis*(ethoxycarbonyl)-1,3-dioxolan-2-yl]phenyl]-imino]methyl]phenoxy]hexanoate					
	Sol/Smec	378.6	15.89	41.97			
	Smec/Chol	396.7	0.12	0.30			
	Chol/Liq	421.7	2.55	6.05	48.32		[362]
$C_{55}H_{80}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-tetradecyloxybenzoyloxy)benzoate					
	Sol/Smec	386.2	31.8	82.34			
	Smec/Meso	464.2	Could not be measured				
	Meso/Nem	472.2	0.10	0.21			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{55}H_{80}O_3$		cholesteryl ω-[4-(4-hexylphenylethynyl)phenoxy]octanoate					
	Sol/Sol	359.8	Not reported in paper				
	Sol/Smec	364.1	13.18	36.20			
	Smec/Smec	371.1	Not reported in paper				
	Smec/Nem	440.7	0.87	1.97			
	Nem/Liq	453.5	4.10	9.04			[245]
$C_{55}H_{81}FO_4$		cholesteryl 2-fluoro-4-(4-tetradecylbenzoyloxy)benzoate					
	Sol/Smec	372.7	37.8	101.42			
	Note: Sol/Smec transition enthalpy includes the enthalpy of a Sol/Sol transition.						
	Sol/Meso	431.7	Could not be measured				
	Meso/Liq	Decomposed prior to transition					[333]
$C_{55}H_{81}FO_5$		cholesteryl 2-fluoro-4-(4-tetradecyloxybenzoyloxy)benzoate					
	Sol/Smec	358.7	27.2	75.83			
	Smec/Meso	436.2	Could not be measured				
	Meso/Nem	445.2	0.35	0.79			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{55}H_{82}F_2O_4$		cholesteryl 4-[4′-(2,3-difluoro-4-decyloxy)biphenyloxy]hexanoate					
	Sol/Smec	335.3	36.9	110.05			
	Smec/Smec	376.8	Enthalpy not reported in paper				
	Smec/Meso	428.1	2.5	5.84			
	Meso/Liq	430.0	4.1	9.53			[132]
$C_{55}H_{85}N_3O_9$		N,N-*bis*[2-[[3,4-*bis*(pentyloxy)benzoyl]amino]ethyl]-3,4-*bis*(pentyloxy)benzamide					
	Sol/Sol	327.9	0.5	1.52			
	Sol/Gel	359.5	30.7	85.40			
	Gel/Liq	377.6	0.7	1.85	88.77		[379]
$C_{56}H_{48}Cl_2O_8$		1,3-phenylene *bis*[4-(3-chlorobenzoyloxy)] 4′-pentylbiphenyl-4-carboxylate					
	Sol/Meso	437.7	54.78	125.15			
	Meso/Meso	441.2	0.64	1.45			
	Meso/Liq	451.7	12.51	27.70	154.30		[276]
$C_{56}H_{50}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-pentylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	416.7	29.61	71.06			
	Meso/Meso	505.2	0.02	0.04			
	Meso/Liq	507.2	16.87	33.26	104.36		[26]
$C_{56}H_{50}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-pentylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	430.2	32.59	75.76			
	Meso/Meso	473.2	0.41	0.87			
	Meso/Liq	500.7	15.0	29.96	106.59		[26]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{56}H_{50}O_8$		1,3-phenylene *bis*[4-(4′-n-pentylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	448.2	36.22	80.81			
	Meso/Meso	519.2	0.41	0.79			
	Meso/Liq	530.2	18.79	35.44	117.04		[26]
$C_{56}H_{58}N_2O_8S$		(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(pentyloxy)benzoate					
	Sol/Nem	406.7	40.33	99.16			
	Nem/Liq	420.8	0.94	2.23	101.39		[234]
$C_{56}H_{58}N_4O_4$		m-terphenyl-4,4″-diyl *bis*[4-(5-octylpyrimidin-2-yl)benzoate]					
	Sol/Sol	378.2	10.2	26.97			
	Sol/Smec	451.2	32.1	71.14			
	Smec/Liq	479.2	16.5	34.43	132.54		[331]
$C_{56}H_{62}Cl_2O_6$		4-[(1E)-[3-chloro-4-decyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	391.2	18.80	48.06			
	Meso/Liq	413.6	16.18	39.12	87.18		[177]
$C_{56}H_{62}F_4O_{10}$		1,3-phenylene *bis*[4-(2-fluoro-4-undecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Meso	351.2	23.9	68.05			
	Meso/Liq	360.7	21.6	59.88	127.93	297.2	[247]
$C_{56}H_{62}F_4O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-undecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Sol	Not reported in paper					
	Sol/Meso	379.2	92.4	243.67			
	Note: Sol/Sol transition enthalpy is included in the Sol/Meso value.						
	Meso/Liq	388.7	22.1	56.86	300.53	297.2	[247]
$C_{56}H_{64}Cl_2F_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-undecyloxy-3-fluoro-phenyliminomethyl)benzoate]					
	Sol/Smec	380.2	52.8	138.87			
	Smec/Smec	389.2	Not observed by dsc				
	Smec/Liq	412.2	5.7	13.82	152.69		[415]
$C_{56}H_{64}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-decyloxybenzoyloxy)-benzoyloxy]propoxy}benzoate					
	Sol/Smec	427.2	62.16	145.51			
	Smec/Smec	474.2	0.08	0.17			
	Smec/Liq	484.2	16.91	34.92	180.60		[119]
$C_{56}H_{65}ClO_{10}$		4-chlororesorcinol *bis*[4-(4-undecyloxybenzoyloxy)benzoate]					
	Sol/Nem	361.2	66.0	182.72			
	Nem/Liq	368.2	0.6	1.63	184.35		[438]
$C_{56}H_{66}N_2O_9$		4-[4-[4-[(4-nonyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-nonyloxybenzoyl)oxy]benzoate					
	Sol/Smec	440.2	15.4	34.98			
	Smec/Liq	458.2	15.2	33.17	68.15		[289]
$C_{56}H_{66}O_8S_2$		1,3-phenylene 4-[[4-(undecyloxy)benzoyl]thio]benzoate					
	Sol/Meso	377.2	31.7	84.04			
	Meso/Liq	385.2	16.3	42.32	126.36	NA	[318]
$C_{56}H_{68}N_2O_2$		2,5-dihydro-2,5-diethyl-3,6-*bis*[4′-(*trans*-4-penylcyclohexyl)-[1,1′-biphenyl]-4-yl]pyrrolo[3,4-c]pyrrole-1,4-dione					
	Sol/Nem	517.3	37.7	72.88			
	Nem/Liq	622.6	0.2	0.32	73.20		[388]
$C_{56}H_{68}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-undecyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	387.2	20.0	51.65			
	Meso/Liq	450.2	20.0	44.42	96.07		[412]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound					
		T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{56}H_{68}O_7$		7-[4-((4-[(4-nonylphenoxy)carbonyl]phenoxy)carbonyl)phenolheptyl] 4′-heptyl-1,1′-biphenylcarboxylate					
	Sol/Sol	352.1	12.36	35.10			
	Sol/Smec	401.2	46.50	115.90			
	Smec/Liq	454.2	12.09	26.61	117.61		[228]
$C_{56}H_{74}O_4$		1,8-*bis*(4-(4′-decyloxyphenylethynyl)phenoxy)octane					
	Sol/Sol	382.2	23.0	60.18			
	Sol/Sol	410.2	40.0	97.51			
	Sol/Smec	418.2	19.0	45.43			
	Smec/Smec	434.2	11.0	25.33			
	Smec/Liq	442.2	23.0	52.01	280.46		[120]
$C_{56}H_{76}N_2O_6$		hexanedioic acid, *bis*[4-[[[4-(dodecyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Meso	418.0	35.80	85.65			
	Meso/Meso	446.2	10.17	22.79			
	Meso/Liq	495.2	23.28	47.01	155.45		[295]
$C_{56}H_{76}N_2O_6$		decanedioic acid, *bis*[4-[[[4-(decyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Meso	412.2	36.93	89.59			
	Meso/Meso	446.2	15.31	34.31			
	Meso/Smec	449.4	0.28	0.62			
	Smec/Liq	454.7	23.84	52.43	176.95		[295]
$C_{56}H_{76}N_2O_6$		hexanedioic acid, *bis*[4-[4-(dodecyloxy)benzylideneamino]phenyl] ester					
	Sol/Meso	406.5	44.70	109.96			
	Meso/Meso	442.9	9.24	20.86			
	Meso/Liq	482.7	27.5	56.97	187.79		[295]
$C_{56}H_{76}N_2O_6$		decanedioic acid, *bis*[4-[4-(decyloxy)benzylideneamino]phenyl] ester					
	Sol/Meso	397.7	40.92	102.89			
	Meso/Meso	443.3	Not observed by dsc				
	Meso/Liq	444.2	40.52	91.22	194.11		[295]
$C_{56}H_{78}N_4O_6$		*α*,*ω*-*bis*(4-dodecyloxyazobenzene-4′-carbonyloxy)hexane					
	Sol/Nem	391.1	185	473.02			
	Nem/Liq	406.0	20.1	49.51	522.53		[107]
$C_{56}H_{82}O_2$		4,4‴-dihexadecyloxy-p-quaterphenyl					
	Sol/Sol	414.0	56.30	135.99			
	Sol/Sol	444.0	4.88	10.99			
	Sol/Sol	524.0	14.67	28.00			
	Sol/Smec	533.0	2.67	5.01			
	Smec/Liq	546.0	13.65	25.00	204.99	316.0	[111]
$C_{56}H_{82}O_3$		cholesteryl *ω*-[4-(4-heptylphenylethynyl)phenoxy]octanoate					
	Sol/Smec	401.5	38.07	94.82			
	Smec/Meso	413.0	Not reported in paper				
	Meso/Nem	415.6	Not reported in paper				
	Nem/Liq	437.3	4.90	11.21			[245]
$C_{56}H_{88}O_{12}$		2,3,6,7-*tetrakis*(heptyloxy)-1,5-*bis*[2-[(tetrahydro-2*H*-pyran-2-yl)oxy]ethoxy]-9,10-anthracenedione					
	Sol/Col	353.7	38.46	108.74			
	Col/Liq	358.7	10.25	28.58	137.32		[275]
$C_{56}H_{94}N_2O_6$		2,5-*bis*(3,4,5-triheptyloxyphenyl)-1,3,4-oxadiazole					
	Sol/Col	Below ambient room temperature					
	Col/Liq	345.3	5.26	15.23			[178]
$C_{57}H_{56}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-hexadecylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	431.2	48.9	113.40			
	Smec/Smec	451.4	0.06	0.13			
	Smec/Liq	470.2	5.8	12.34	125.87		[411]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{57}H_{56}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-hexadecylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	421.7	47.0	111.45			
	Smec/Smec	433.2	0.34	0.78			
	Smec/Smec	449.4	0.17	0.38			
	Smec/Liq	468.2	5.8	12.39	125.00		[411]
$C_{57}H_{57}NO_8$		4-cyanophenyl 4-{3-[4-(4′-hexadecylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	429.2	38.4	89.47			
	Smec/Smec	458.2	0.1	0.22			
	Smec/Liq	477.7	5.8	12.14	101.83		[411]
$C_{57}H_{62}N_2O_9$		1,3-{4-[4-(4-heptyloxybenzoyloxy)benzylidene]aminophenoxy}propan-2-ol					
	Sol/Smec	453.0	19.37	42.76			
	Smec/Nem	469.8	0.27	0.57			
	Nem/Liq	553.0	1.68	3.04	46.37		[413]
$C_{57}H_{63}N_5O_5$		4-[(1E)-(4-octyloxyphenyl)azo]phenyl 3-[(E)-[[4-[[4-[(1E)-(4-decylphenyl)azo]phenoxy]carbonyl]phenyl]-methylene]amino]benzoate					
	Sol/Sol	Not reported in paper					
	Sol/Meso	442.7	54.98	124.19			
	Meso/Meso	505.2	19.26	38.12			[431]
$C_{57}H_{66}Cl_2O_6$		4-[(1E)-[3-chloro-4-decyloxyphenyl]ethenyl]benzoic acid, 2-methyl-1,3-phenylene ester					
	Sol/Meso	380.4	31.67	83.25			
	Meso/Liq	399.2	11.57	28.98	112.23		[177]
$C_{57}H_{66}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-decyloxybenzoyloxy)-benzoyloxy]butoxy}benzoate					
	Sol/Smec	393.2	45.11	114.73			
	Smec/Liq	413.2	15.12	36.59	151.32		[119]
$C_{57}H_{66}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-nonyloxybenzoyloxy)-benzoyloxy]pentyloxy}benzoate					
	Sol/Smec	421.2	62.33	147.98			
	Smec/Liq	458.7	15.86	34.58	182.56		[119]
$C_{57}H_{67}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-undecyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	435.2	42.8	98.35			
	Meso/Liq	466.2	30.8	66.07	164.42		[246]
$C_{57}H_{71}N_3O_6$		4-[3,4-*bis*(4-dodecyloxybenzoyloxy)benzylideneamino]azobenzene					
	Sol/Nem	355.2	73.0	205.52			
	Nem/Liq	394.2	0.6	1.52	207.04		[205]
$C_{57}H_{76}O_4$		1,9-*bis*[4-(4′-decyloxyphenylethynyl)phenoxy]nonane					
	Sol/Sol	381.2	21	55.09			
	Sol/Smec	397.2	45	113.29			
	Smec/Smec	401.2	13	32.40			
	Smec/Liq	410.2	12	29.25	230.03		[120]
$C_{57}H_{78}N_2O_6$		heptanedioic acid, *bis*[4-[[[4-(dodecyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Meso	428.7	11.98	27.94			
	Meso/Smec	435.9	52.41	120.23			
	Smec/Liq	455.5	18.45	40.50	188.67		[295]
$C_{57}H_{78}N_2O_8$		malonic acid, *bis*{10-[4-[(4-butoxyphenylimino)methyl]phenoxy]decyl} ester					
	Sol/Smec	379.0	49.6	130.87			
	Smec/Liq	394.4	15.4	39.05	169.92		[244, 298]
$C_{57}H_{78}N_2O_8$		1,5-[4-(2-hydroxy-4-undecyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	369.2	37.0	100.22			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	406.2	12.0	29.54	129.76		[412]
$C_{57}H_{78}N_2O_8$		1,5-[4-(2-hydroxy-4-undecyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	372.2	55.0	147.77			
	Smec/Liq	421.2	15.0	35.61	183.38		[412]
$C_{57}H_{80}N_4O_6$		*α,ω-bis*(4-dodecyloxyazobenzene-4′-carbonyloxy)heptane					
	Sol/Smec	358.2	48.1	134.28			
	Smec/Liq	378.2	23.5	62.14	196.42		[107]
$C_{57}H_{82}N_2O_8$		1,5-[4-(2-hydroxy-4-dodecyloxybenzylideneamino)benzoyloxy]pentane					
	Sol/Meso	411.2	42.0	102.14			
	Meso/Liq	411.2	17.0	41.34	143.48		[412]
	Note: Paper reported identical temperatures for the Sol/Meso and Meso/Liq transitions.						
$C_{57}H_{84}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-hexadecyloxybenzoyloxy)benzoate					
	Sol/Smec	373.5	33.7	90.23			
	Smec/Meso	468.2	Could not be measured				
	Meso/Meso	469.2	Could not be measured				
	Meso/Nem	480.2	Could not be measured				
	Nem/Liq	Decomposed prior to transition					[333]
$C_{57}H_{85}FO_4$		cholesteryl 2-fluoro-4-(4-hexadecylbenzoyloxy)benzoate					
	Sol/Smec	375.7	29.0	77.19			
	Smec/Meso	443.7	Could not be measured				
	Meso/Nem	450.7	0.05	0.11			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{57}H_{85}FO_5$		cholesteryl 2-fluoro-4-(4-hexadecyloxybenzoyloxy)benzoate					
	Sol/Smec	375.2	28.1	74.89			
	Smec/Meso	448.7	Could not be measured				
	Meso/Nem	457.2	0.24	0.52			
	Nem/Liq	Decomposed prior to transition					[333]
$C_{57}H_{86}F_2O_4$		cholesteryl 4-[4′-(2,3-difluoro-4-decyloxy)biphenyloxy]octanoate					
	Sol/Smec	375.1	41.8	111.44			
	Smec/Meso	405.6	0.6	1.48			
	Meso/Liq	415.2	4.4	10.60	123.52		[132]
$C_{57}H_{89}N_3O_6$		4-(phenylmethyl)-3,5-*bis*[3,4,5-*tris*(hexyloxy)phenyl]-4*H*-1,2,4-triazole					
	Sol/Meso	Not reported in paper					
	Meso/Liq	334.7	3.25	9.71			[259]
$C_{57}H_{90}O_6$		2,6,10-*tris*(pentyloxy)-3,7,11-*tris*(octyloxy)triphenylene					
	Sol/Col	319.2	21.61	67.70			
	Col/Liq	340.2	2.11	6.20			[261]
	Note: Col/Liq transition enthalpy was determined from cooling measurements.						
	Independent values from another reference						
	Sol/Col	Not reported in paper					
	Col/Liq	341.2	1.7	4.98			[368]
	Note: Col/Liq transition enthalpy was determined from cooling measurements.						
$C_{57}H_{104}N_2O_4$		N,N′-dihexadecanoyl-2,5,6-trimethyl-4-hexadecanoyloxy-1,3-benzenediamine					
	Sol/Meso	382.3	34.0	88.94			
	Meso/Meso	395.2	2.0	5.06			
	Meso/Liq	447.2	2.0	4.47	98.47	363.2	[193]
$C_{57}H_{105}N_3O_3$		N,N′,N″-trihexadecanoyl-2,4,6-trimethyl-1,3,5-benzenetriamine					
	Sol/Meso	393.2	28.0	71.21			
	Meso/Meso	448.2	12.0	26.77			
	Meso/Liq	601.2	9.0	14.97	112.95		[190]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{58}H_{52}Cl_2O_8$		1,3-phenylene *bis*[4-(3-chlorobenzoyloxy)] 4′-hexylbiphenyl-4-carboxylate					
	Sol/Meso	436.2	56.07	128.54			
	Meso/Liq	446.2	15.47	34.67	163.21	237.6	[276]
$C_{58}H_{52}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-hexylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	407.2	37.55	92.22			
	Meso/Liq	495.7	21.58	43.53	135.75		[26]
$C_{58}H_{52}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-hexylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	427.2	23.28	54.49			
	Meso/Liq	493.2	19.58	39.70	94.19		[26]
$C_{58}H_{54}O_8$		1,3-phenylene *bis*[4-(4′-n-hexylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	438.2	39.55	90.26			
	Meso/Liq	513.2	23.62	46.02	136.28		[26]
$C_{58}H_{54}O_8$		1,3-phenylene *bis*[4-(4′-n-pentylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	416.2	52.33	125.73			
	Meso/Liq	474.2	13.43	28.32	154.05		[26]
$C_{58}H_{54}O_8$		1,3-phenylene *bis*[4-(3-methylbenzoyloxy)] 4′-pentylbiphenyl-4-carboxylate					
	Sol/Meso	434.7	43.65	100.41			
	Meso/Liq	439.7	12.52	28.47	128.88	222	[276]
$C_{58}H_{66}F_4O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-dodecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Sol	Not reported in paper					
	Sol/Meso	372.7	92.8	248.99			
	Note: Sol/Sol transition enthalpy is included in Sol/Meso value.						
	Meso/Liq	390.7	23.1	59.12	308.11	311.4	[247]
$C_{58}H_{68}Cl_2F_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-dodecyloxy-3-fluoro-phenyliminomethyl)benzoate]					
	Sol/Smec	376.2	57.1	151.78			
	Smec/Smec	398.2	Not observed by dsc				
	Smec/Liq	412.2	6.1	14.80	166.58		[415]
$C_{58}H_{68}Cl_2O_6$		4-[(1E)-[3-chloro-4-undecyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	388.7	17.80	45.79			
	Meso/Liq	409.8	17.52	42.75	88.54		[177]
$C_{58}H_{68}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-decyloxybenzoyloxy)-benzoyloxy]pentyloxy}benzoate					
	Sol/Smec	409.2	54.43	133.02			
	Smec/Smec	415.2	0.01	0.02			
	Smec/Smec	425.2	0.04	0.09			
	Smec/Liq	457.7	15.98	34.91	168.04		[119]
$C_{58}H_{69}ClO_{10}$		bis-4-[[4-(dodecyloxy)benzoyl]oxy]benzoic acid, 4-chloro-1,3-phenylene ester					
	Sol/Liq	371.2	38.7	104.26			
	Meso/Liq	353.2	9.1	25.76			
	Nem/Liq	368.2	0.65	1.77			[300]
	Note: Authors report melting to an isotropic liquid, which was immediately followed by a spontaneous ordering to a chiral mesophase.						
$C_{58}H_{70}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-dodecyloxybenzylideneamino)benzoate]					
	Sol/Nem	363.2	41.0	112.89			
	Nem/Liq	397.2	1.6	4.03	116.92	313.4	[86]
$C_{58}H_{70}Cl_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-dodecyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	384.2	47.2	122.85			
	Smec/Nem	394.2	0.9	2.28			
	Nem/Liq	410.2	1.9	4.63	129.76		[416]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{58}H_{70}N_2O_9$		4-[4-[4-[(4-decyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-decyloxybenzoyl)oxy]benzoate					
	Sol/Smec	435.2	16.9	38.83			
	Smec/Liq	464.2	16.9	36.41	75.24		[289]
$C_{58}H_{70}N_4O_{10}$		1,3-phenylene *bis*[[4-(methylamino)phenyl]-3-nitro-4-dodecyloxybenzoate]					
	Sol/Sol	Not reported in paper					
	Sol/Meso	384.9	28.44	73.89			
	Meso/Liq	431.2	18.62	43.18			[321]
$C_{58}H_{70}O_8S_2$		1,3-phenylene 4-[[4-(dodecyloxy)benzoyl]thio]benzoate					
	Sol/Meso	382.2	38.48	100.68			
	Meso/Liq	387.2	18.6	48.04	148.72	NA	[318]
$C_{58}H_{71}ClN_2O_6$		4-chloro-1,3-phenylene *bis*[4-(4-dodecyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	388.2	16.8	43.28			
	Meso/Liq	415.2	16.5	39.74	83.02	310.8	[42]
$C_{58}H_{71}ClN_2O_6$		4-chloro-1,3-phenylene *bis*[4-(4-dodecyloxybenzylideneamino)benzoate]					
	Sol/Nem	369.2	48.0	130.01			
	Nem/Liq	374.2	0.6	1.60	131.61	310.8	[86]
$C_{58}H_{72}N_2O_6$		1,3-phenylene *bis*[4-(4-dodecyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	416.2	38.0	91.30			
	Smec/Liq	441.2	26.0	58.93	150.23	308.2	[86]
$C_{58}H_{72}N_2O_6$		isophthalydene *bis*[4-(4-dodecyloxyphenyloxycarbonyl)aniline]					
	Sol/Meso	409.2	53.5	130.74			
	Meso/Meso	418.2	38.1	91.10			
	Meso/Liq	427.2	15.4	36.05	257.89		[417]
$C_{58}H_{72}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-dodecyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	387.2	21.0	54.24			
	Meso/Liq	451.2	22.0	48.76	103.00		[412]
$C_{58}H_{74}O_7$		7-[4-((4-[(4-nonylphenoxy)carbonyl]phenoxy)carbonyl)phenolheptyl] 4′-nonyl-1,1′-biphenylcarboxylate]					
	Sol/Smec	393.5	45.53	115.71			
	Smec/Liq	455.4	17.59	38.63	54.34		[228]
$C_{58}H_{78}O_4$		1,10-*bis*(4-(4′-decyloxyphenylethynyl)phenoxy)decane					
	Sol/Sol	384.2	23	59.86			
	Sol/Sol	410.2	33	80.56			
	Sol/Smec	423.2	32	75.61			
	Smec/Liq	428.2	31	72.40	288.43		[120]
$C_{58}H_{82}N_4O_6$		α,ω-*bis*(4-dodecyloxyazobenzene-4′-carbonyloxy)octane					
	Sol/Nem	386.6	82.4	213.14			
	Nem/Liq	396.5	15.9	40.10	253.24		[107]
$C_{58}H_{86}O_2$		4,4‴-diheptadecyloxy-p-quaterphenyl					
	Sol/Sol	416.0	67.39	162.00			
	Sol/Sol	444.0	4.44	10.00			
	Sol/Smec	519.0	20.24	39.00			
	Smec/Liq	542.0	16.80	31.00	242.00	330.2	[111]
$C_{58}H_{89}NO_3$		cholest-5-en-3-ol (3β), 6-[4-[(E)-[(4-dodecylphenyl)imino]]methyl-phenoxy]hexanoate					
	Sol/Smec	336.8	24.21	71.88			
	Smec/Smec	378.0	Too small to be measured				
	Smec/Liq	447.9	11.21	25.03	96.91		[362]
$C_{58}H_{96}O_{10}$		2,3,6,7-*tetrakis*(decyloxy)-1,5-*bis*(2-hydroxyethoxy)-9,10-anthracenedione					
	Sol/Col	355.2	89.30	251.41			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Col/Col	380.9	1.33	3.49			
	Col/Liq	395.7	12.38	31.29	286.19		[275]
$C_{59}H_{60}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-octadecylbiphenyl-4-carbonyloxy)-2-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	430.7	49.9	115.86			
	Smec/Smec	452.4	0.05	0.11			
	Smec/Liq	475.2	6.60	13.89	129.86		[411]
$C_{59}H_{60}FNO_8$		4-cyanophenyl 4-{3-[4-(4′-octadecylbiphenyl-4-carbonyloxy)-3-fluorobenzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	422.2	44.5	105.40			
	Smec/Smec	439.2	0.10	0.23			
	Smec/Smec	449.7	0.12	0.27			
	Smec/Liq	472.7	6.36	13.45	119.35		[411]
$C_{59}H_{61}NO_8$		4-cyanophenyl 4-{3-[4-(4′-octadecylbiphenyl-4-carbonyloxy)benzoyloxy]benzoyloxy}benzoate					
	Sol/Smec	427.2	65.4	153.09			
	Smec/Smec	457.2	0.09	0.20			
	Smec/Liq	479.9	6.60	13.75	167.04		[411]
$C_{59}H_{66}N_2O_9$		1,3-{4-[4-(4-octyloxybenzoyloxy)benzylidene]aminophenoxy}-propan-2-ol					
	Sol/Smec	449.7	45.20	100.51			
	Smec/Nem	497.6	0.92	1.85			
	Nem/Liq	549.5	4.24	7.72	110.08		[413]
$C_{59}H_{67}N_5O_4$		4-[(1E)-(4-decylphenyl)azo]phenyl 3-[(E)-[[4-[[4-[(1E)-(4-decylphenyl)azo]phenoxy]carbonyl]phenyl]-methylene]amino]benzoate					
	Sol/Sol	Not reported in paper					
	Sol/Meso	419.7	45.1	107.58			
	Meso/Liq	489.2	17.12	35.00			[431]
$C_{59}H_{67}N_5O_5$		4-[(1E)-(4-decyloxyphenyl)azo]phenyl 3-[(E)-[[4-[[4-[(1E)-(4-decylphenyl)azo]phenoxy]carbonyl]phenyl]-methylene]amino]benzoate					
	Sol/Sol	Not reported in paper					
	Sol/Meso	445.7	58.42	131.07			
	Meso/Meso	460.2	Not reported in paper				
	Meso/Liq	503.2	21.23	42.19			[431]
$C_{59}H_{67}N_5O_6$		4-[(1E)-(4-decyloxyphenyl)azo]phenyl 3-[(E)-[[4-[[4-[(1E)-(4-decyloxyphenyl)azo]phenoxy]carbonyl]-phenyl]methylene]amino]benzoate					
	Sol/Sol	Not reported in paper					
	Sol/Meso	462.2	50.25	108.72			
	Meso/Meso	479.2	Not reported in paper				
	Meso/Liq	505.7	17.02	33.66			[431]
$C_{59}H_{68}O_8$		4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoic acid, 1,3-propanediyl ester					
	Sol/Meso	483.7	38.29	79.16			
	Meso/Liq	490.1	23.99	48.95	128.11		[304]
$C_{59}H_{70}Cl_2O_6$		4-[(1E)-[3-chloro-4-undecyloxyphenyl]ethenyl]benzoic acid, 2-methyl-1,3-phenylene ester					
	Sol/Meso	384.8	39.36	102.29			
	Meso/Liq	394.5	3.27	8.29	110.58		[177]
$C_{59}H_{70}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-decyloxybenzoyloxy)-benzoyloxy]hexyloxy}benzoate					
	Sol/Smec	386.2	44.31	114.73			
	Smec/Liq	405.2	16.17	39.91	154.64		[119]
$C_{59}H_{70}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-undecyloxybenzoyloxy)-benzoyloxy]pentyloxy}benzoate					
	Sol/Smec	395.2	62.43	157.97			
	Smec/Smec	423.2	0.07	0.17			
	Smec/Liq	454.2	15.18	33.42	191.56		[119]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{59}H_{71}N_3O_4$		4-cyano-1,3-phenylene *bis*[4-(4-dodecylyphenyliminomethyl)benzoate]					
	Sol/Meso	353.2	13.2	37.37			
	Meso/Smec	397.2	1.3	3.27			
	Smec/Liq	437.2	6.8	15.55	56.19		[252]
$C_{59}H_{71}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-dodecyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	433.2	33.6	77.56			
	Meso/Liq	465.2	33.6	72.23	149.79		[246]
$C_{59}H_{71}N_3O_6$		4-cyano-1,3-phenylene *bis*[4-(4-dodecyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	338.2	14.7	43.47			
	Meso/Smec	395.2	4.8	12.15			
	Smec/Smec	414.2	Not reported in paper				
	Smec/Liq	461.2	7.2	15.61	71.23		[252]
$C_{59}H_{82}N_2O_8$		1,5-[4-(2-hydroxy-4-dodecyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	374.2	44.0	117.58			
	Smec/Liq	407.2	13.0	31.93	149.51		[412]
$C_{59}H_{82}N_2O_8$		1,5-[4-(2-hydroxy-4-dodecyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	372.2	65.0	174.64			
	Smec/Liq	422.2	15.0	35.53	210.17		[412]
$C_{59}H_{84}N_4O_6$		*α,ω-bis*(4-dodecyloxyazobenzene-4′-carbonyloxy)nonane					
	Sol/Smec	366.3	89.9	245.43			
	Smec/Liq	382.0	30.5	79.84	325.27		[107]
$C_{59}H_{85}FO_4$		cholesteryl 2-fluoro-4-(4-octadecylbenzoyloxy)benzoate					
	Sol/Smec	373.2	30.4	81.46			
	Smec/Meso	450.2	Could not be measured				
	Meso/Nem	458.2	Not reported in paper				
	Nem/Liq	Decomposed prior to transition					[333]
$C_{59}H_{88}F_2O_5$		cholesteryl 2-fluoro-4-(3-fluoro-4-octadecyloxybenzoyloxy)benzoate					
	Sol/Smec	376.2	36.4	96.76			
	Smec/Smec	466.2	Could not be measured				
	Smec/Meso	482.7	Could not be measured				
	Meso/Nem	485.7	Could not be measured				
	Nem/Liq	Decomposed prior to transition					[333]
$C_{59}H_{89}FO_5$		cholesteryl 2-fluoro-4-(4-octadecyloxybenzoyloxy)benzoate					
	Sol/Smec	359.2	27.8	77.39			
	Smec/Meso	454.7	Not reported in paper				
	Meso/Nem	462.2	Not reported in paper				
	Nem/Liq	Decomposed prior to transition					[333]
$C_{60}H_{56}Cl_2O_8$		1,3-phenylene *bis*[4-(3-chlorobenzoyloxy)] 4′-heptylbiphenyl-4-carboxylate					
	Sol/Meso	398.2	50.19	126.04			
	Meso/Liq	444.2	17.04	38.36	164.40		[276]
$C_{60}H_{56}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-heptylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	398.2	29.71	74.61			
	Meso/Liq	488.2	22.46	46.01	120.62		[26]
$C_{60}H_{56}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-heptylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	426.7	21.08	49.40			
	Meso/Liq	488.2	20.90	42.81	92.21		[26]
$C_{60}H_{58}O_8$		1,3-phenylene *bis*[4-(4′-n-heptylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	436.7	50.56	115.78			
	Meso/Liq	508.2	23.46	46.16	161.94		[26]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{60}H_{58}O_8$		1,3-phenylene *bis*[4-(4′-n-hexylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	416.7	43.32	103.96			
	Meso/Meso	428.2	0.11	0.26			
	Meso/Liq	463.2	14.54	31.39	135.61		[26]
$C_{60}H_{58}O_8$		1,3-phenylene *bis*[4-(4′-n-pentylbiphenyl-4-carbonyloxy)-2-ethylbenzoate]					
	Sol/Meso	405.2	40.63	100.27			
	Meso/Liq	415.7	9.95	23.94	124.21		[26]
$C_{60}H_{66}N_2O_8S$		(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(hexyloxy)benzoate					
	Sol/Smec	387.1	32.37	83.62			
	Smec/Nem	394.8	7.08	17.93			
	Nem/Liq	417.6	0.96	2.30	103.85		[234]
$C_{60}H_{70}O_8$		4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoic acid, 1-methyl-1,3-propanediyl ester					
	Sol/Sol	440.0	29.87	67.89			
	Sol/Meso	453.3	7.17	15.82			
	Meso/Smec	469.9	4.41	9.39			
	Smec/Liq	475.4	27.85	58.58	151.7		[304]
$C_{60}H_{72}Br_2O_6$		4-[(1E)-[3-bromo-4-dodecyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	391.5	19.41	49.58			
	Meso/Liq	404.5	16.36	40.44	90.02		[177]
$C_{60}H_{72}Cl_2O_6$		4-[(1E)-[3-chloro-4-dodecyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	389.6	18.15	46.59			
	Meso/Liq	417.6	17.47	41.83	88.42		[177]
$C_{60}H_{72}ClNO_8$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]phenyl 4-{(E)-2-[3-chloro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	386.8	12.80	33.09			
	Meso/Liq	420.1	17.0	40.39	73.5	331.1	[253]
$C_{60}H_{72}FNO_8$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]phenyl 4-{(E)-2-[3-fluoro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	400.9	24.2	60.38			
	Meso/Liq	430.5	18.68	43.39	103.8	314.9	[253]
$C_{60}H_{72}INO_8$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]phenyl 4-{(E)-2-[3-iodo-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	386.3	5.73	14.83			
	Meso/Liq	408.0	14.96	36.66	51.5	317.7	[253]
$C_{60}H_{72}N_2O_{10}$		4-[(1E)-[3-nitro-4-dodecyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	415.0	27.47	66.19			
	Meso/Meso	423.0	1.30	3.07			
	Meso/Liq	423.8	14.72	34.73	103.99		[177]
$C_{60}H_{72}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-decyloxybenzoyloxy)-benzoyloxy]heptyloxy}benzoate					
	Sol/Smec	416.7	64.09	153.80			
	Smec/Liq	432.2	15.45	35.75	189.55		[119]
$C_{60}H_{72}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-dodecyloxybenzoyloxy)-benzoyloxy]pentyloxy}benzoate					
	Sol/Smec	393.2	51.98	132.20			
	Smec/Smec	436.2	0.10	0.23			
	Smec/Liq	456.2	15.78	34.59	167.02		[119]
$C_{60}H_{74}N_2O_9$		4-[4-[4-[(4-undecyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-undecyloxybenzoyl)oxy]benzoate					
	Sol/Smec	434.2	17.9	41.23			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Smec/Liq	467.2	18.2	38.96	80.19		[289]
$C_{60}H_{74}O_6$		4-[(1E)-[4-dodecyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	456.1	10.07	22.08			
	Meso/Liq	473.2		Decomposed prior to transition			[177]
$C_{60}H_{74}O_8S_2$		1,3-phenylene 4-[[4-(tridecyloxy)benzoyl]thio]benzoate					
	Sol/Meso	382.2	43.6	114.08			
	Meso/Liq	389.2	19.8	50.87	164.95	NA	[318]
$C_{60}H_{82}N_2O_4$		N,N′-dioctadecyl-3,4,9,10-perylene*bis*carboxamide					
	Sol/Sol	384.2	16.4	42.69			
	Sol/Sol	414.2	18.4	44.42			
	Sol/Meso	453.2	15.5	34.20			
	Meso/Meso	489.2	0.9	1.84			
	Meso/Liq	585.2	30.7	52.46	175.61		[263]
$C_{60}H_{84}N_2O_6$		decanedioic acid, *bis*[4-[[[4-(dodecyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Meso	408.7	43.49	106.41			
	Meso/Meso	443.2	15.05	33.96			
	Meso/Liq	454.2	27.12	59.71	200.08		[295]
$C_{60}H_{84}N_2O_6$		decanedioic acid, *bis*[4-[4-(dodecyloxy)benzylideneamino]phenyl] ester					
	Sol/Meso	397.2	45.98	115.76			
	Meso/Meso	441.5	10.99	24.89			
	Meso/Liq	445.9	28.70	64.36	205.01		[295]
$C_{60}H_{84}N_6O_6$		*hexakis*(hexyloxy)diquinoxalino[2,3-a:2′,3′-c]phenazine					
	Sol/Sol	398.1	15.51	38.96			
	Sol/Meso	460.3	1.32	2.87			
	Meso/Liq	503.5	0.52	1.03	42.86		[209]
$C_{60}H_{87}N_9O_3$		2,4-*bis*[4-hexadecyloxy-4′-aminoazobenzene]-6-methoxy-1,3,5-triazine					
	Sol/Smec	419.0	79.49	189.71			
	Smec/Liq	471.1	11.30	23.99	213.70		[187]
$C_{60}H_{90}O_2$		4,4‴-dioctadecyloxy-p-quaterphenyl					
	Sol/Sol	404.0	29.90	74.01			
	Sol/Sol	464.0	4.18	9.01			
	Sol/Smec	525.0	17.33	33.01			
	Smec/Liq	542.0	14.09	26.00	142.03	344.4	[111]
$C_{60}H_{96}O_6$		2,6,10-*tris*(pentyloxy)-3,7,11-*tris*(nonyloxy)triphenylene					
	Sol/Col	317.2	61.27	193.16			
	Col/Liq	332.2	3.15	9.48	202.64		[261]
	Independent values from another reference						
	Sol/Col	Not reported in paper					
	Col/Liq	332.2	3.2	9.63			[368]
$C_{60}H_{96}O_{12}$		2,3,6,7-*tetrakis*(octyloxy)-1,5-*bis*[2-[(tetrahydro-2*H*-pyran-2-yl)oxy]ethoxy]-9,10-anthracenedione					
	Sol/Col	337.2	34.48	102.25			
	Col/Liq	349.2	9.99	28.61	130.86		[275]
$C_{60}H_{98}O_4$		dicholesteryl adipate					
	Sol/Chol	468.7	29.29	62.49			
	Chol/Liq	498.7	3.64	7.30	69.79	223.0	[155, 310]
$C_{60}H_{100}O_8$		1,5-diheptyloxy-2,3,6,7-tetraoctyloxy-9,10-anthraquinone					
	Sol/Meso	264.6	13.1	49.51			
	Meso/Col	318.0	2.8	8.81			
	Col/Liq	366.6	11.8	32.19	90.51		[395]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{60}H_{102}O_{12}$		benzene hexa-n-nonanoate					
	Sol/Sol	248.3	19.4	78.13			
	Sol/Sol	278.3	4.9	17.60			
	Sol/Liq	353.1	69.2	195.98	291.71	405	[129]
	Note: Calorimeter could only be used in the heating mode; authors did state that liquid crystalline phases were formed upon cooling.						
$C_{60}H_{104}N_2O_{10}$		N,N′-dinonanoyl-2,3,5,6-*tetrakis*(nonanoyloxy)-1,4-benzenediamine					
	Sol/Disc	350.2	50.0	142.78			
	Disc/Liq	473.2	36.0	76.08	218.86		[188]
$C_{61}H_{70}N_2O_9$		1,3-{4-[4-(4-nonyloxybenzoyloxy)benzylidene]aminophenoxy}propan-2-ol					
	Sol/Smec	442.0	41.76	94.48			
	Smec/Nem	508.9	1.18	2.32			
	Nem/Liq	540.6	3.98	7.36	104.16		[413]
$C_{61}H_{72}O_8$		4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoic acid, 1,5-pentanediyl ester					
	Sol/Smec	444.1	36.21	81.54			
	Smec/Smec	449.5	3.36	7.48			
	Smec/Liq	471.8	24.64	52.27	141.2		[304]
$C_{61}H_{72}O_8$		4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoic acid, 1,3-dimethyl-1,3-propanediyl ester					
	Sol/Smec	446.6	33.13	74.18			
	Smec/Smec	453.4	4.20	9.26			
	Smec/Liq	468.7	33.04	70.49	153.9		[304]
$C_{61}H_{72}O_8$		4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoic acid, 1-methyl-1,4-butanediyl ester					
	Sol/Smec	443.3	20.53	46.31			
	Smec/Smec	462.1	0.28	0.61			
	Smec/Liq	470.3	23.52	50.01	96.93		[304]
$C_{61}H_{74}ClFO_6$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-chlorophenyl]-1-ethenyl}benzoyl]oxy]-2-methylphenyl 4-{(E)-2-[3-fluoro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	408.3	0.96	2.3			
	Meso/Liq	415.2	16.83	40.5	42.9	314.0	[253]
$C_{61}H_{74}ClNO_8$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]-2-methylphenyl 4-{(E)-2-[3-chloro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	394.9	15.44	39.1			
	Meso/Meso	401.0	0.89	2.2			
	Meso/Liq	410.7	11.02	26.8	68.1	315.1	[253]
$C_{61}H_{74}INO_8$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]-2-methylphenyl 4-{(E)-2-[3-iodo-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	362.4	34.07	94.02			
	Meso/Meso	386.1	1.07	2.78			
	Meso/Liq	398.8	9.24	23.20	120	318.3	[253]
$C_{61}H_{74}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-decyloxybenzoyloxy)-benzoyloxy]octyloxy}benzoate					
	Sol/Smec	376.2	42.54	113.08			
	Smec/Liq	397.2	15.52	39.07	152.15		[119]
$C_{61}H_{74}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-tridecyloxybenzoyloxy)-benzoyloxy]pentyloxy}benzoate					
	Sol/Smec	390.2	55.80	143.00			
	Smec/Smec	437.2	0.20	0.05			
	Smec/Smec	454.2	15.60	34.35	177.40		[119]
$C_{61}H_{75}ClINO_6$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-iodophenyl]-1-ethenyl}benzoyl]oxy]-5-methylpyridyl-2-methyl 4-{(E)-2-[3-chloro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Meso	391.8	8.0	20.42			
	Meso/Liq	405.9	35.01	86.25	106.7		[253]
$C_{61}H_{75}ClN_2O_8$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]-5-methylpyridyl-2-methyl 4-{(E)-2-[3-chloro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	391.2	2.00	5.10			
	Meso/Meso	411.6	2.30	5.58			
	Meso/Liq	416.9	21.77	52.21	62.9		[253]
$C_{61}H_{82}F_3N_7O_{11}$		*bis*{2-[3,4-*bis*(hexyloxy)phenyl]ethyl} N-{N^{10}-[(trifluoroacetyl)pteroyl]-L-glutamate					
	Sol/Smec	Not reported in paper					
	Smec/Liq	511.2	37.0	72.38			[317]
$C_{61}H_{86}N_2O_8$		1,5-[4-(2-hydroxy-4-tetradecyloxybenzylideneamino)benzoyloxy]pentane					
	Sol/Meso	406.2	42.0	103.40			
	Meso/Liq	409.2	17.0	41.54	144.94		[412]
$C_{61}H_{106}N_4O_7$		3,4,5-trihexadecyloxybenzaldehyde-2′,4′-dinitrophenyl hydrazone					
	Sol/Meso	379.2	65.3	172.20			
	Meso/Liq	407.2	5.1	12.52	184.72		[13]
$C_{62}H_{58}O_7$		11-[*pentakis*(4-methoxyphenylethynyl)phenoxy]undecan-1-ol					
	Sol/Disc	405.2	37.0	91.31			
	Disc/Liq	519.2	0.2	0.39	91.70		[414]
$C_{62}H_{60}Cl_2O_8$		1,3-phenylene *bis*[4-(3-chlorobenzoyloxy)] 4′-octylbiphenyl-4-carboxylate					
	Sol/Meso	404.7	35.04	86.58			
	Meso/Liq	438.7	16.74	38.16	124.74		[276]
$C_{62}H_{60}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-octylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	397.7	29.78	74.88			
	Meso/Liq	478.2	22.57	47.20	122.08	266.8	[26]
$C_{62}H_{60}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-octylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	429.7	56.74	132.05			
	Meso/Liq	482.2	22.12	45.87	177.92	266.8	[26]
$C_{62}H_{62}O_8$		1,3-phenylene *bis*[4-(4′-n-octylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	426.7	36.14	84.70			
	Meso/Liq	499.2	23.81	47.70	132.40	296.6	[26]
$C_{62}H_{62}O_8$		1,3-phenylene *bis*[4-(4′-n-heptylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	391.7	30.91	78.91			
	Meso/Meso	448.2	0.12	0.27			
	Meso/Liq	455.2	15.63	34.34	113.52	283.6	[26]
$C_{62}H_{62}O_8$		1,3-phenylene *bis*[4-(4′-n-hexylbiphenyl-4-carbonyloxy)-2-ethylbenzoate]					
	Sol/Meso	402.2	32.55	80.93			
	Meso/Liq	406.2	10.20	25.11	106.04		[26]
$C_{62}H_{62}O_8$		1,3-phenylene *bis*[4-(3-methylbenzoyloxy)] 4′-heptylbiphenyl-4-carboxylate					
	Sol/Meso	419.2	46.2	110.21			
	Meso/Liq	420.7	12.4	29.47	139.68		[276]
$C_{62}H_{62}O_8$		m-terphenyl-4,4″-diyl *bis*[4-(4-octylbenzoyloxy)benzoate]					
	Sol/Sol	446.2	11.3	25.32			
	Sol/Meso	453.2	36.9	81.42			
	Meso/Liq	480.2	20.7	43.11	149.85		[331]
$C_{62}H_{62}O_{10}$		m-terphenyl-4,4″-diyl *bis*[4-(4-octyloxybenzoyloxy)benzoate]					
	Sol/Meso	433.2	20.6	47.55			
	Meso/Liq	499.2	22.8	45.67	93.22		[331]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{62}H_{74}F_4O_{10}$		1,3-phenylene *bis*[4-(2-fluoro-4-tetradecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Meso	360.2	69.1	191.84			
	Meso/Liq	370.7	22.7	61.24	253.08	339.8	[247]
$C_{62}H_{74}F_4O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-tetradecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Sol	Not reported in paper					
	Sol/Meso	376.2	104.5	277.78			
	Note: Sol/Sol transition enthalpy is included in Sol/Meso value.						
	Meso/Liq	393.7	24.2	61.47	277.8	339.8	[247]
$C_{62}H_{74}O_8$		4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoic acid, 1,4-dimethyl-1,4-butanediyl ester					
	Sol/Smec	451.3	29.84	66.12			
	Smec/Liq	460.6	19.13	41.53	107.65		[304]
$C_{62}H_{76}ClNO_8$		3-{[[(4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxo]methyl}benzyl 4-{(E)-2-[3-chloro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Smec	381.9	68.83	180.2			
	Smec/Liq	415.3	12.67	30.5	210.7	324.1	[253]
$C_{62}H_{76}Cl_2O_6$		3-{[[(4-{(E)-2-[4-(dodecyloxy)-3-chlorophenyl]-1-ethenyl}benzoyl]oxo]methyl}benzyl 4-{(E)-2-[3-chloro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Smec	382.6	68.10	178.0			
	Smec/Liq	392.3	8.69	22.14	200.1	323	[253]
$C_{62}H_{76}F_2O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-tetradecyloxybenzoyloxy)benzoate]					
	Sol/Meso	397.2	97.9	246.48			
	Meso/Liq	401.7	23.3	58.00	304.48		[301]
	Note: Sol/Meso transition enthalpy includes the enthalpy of a Sol/Sol transition.						
$C_{62}H_{76}N_2O_{10}$		3-{[[(4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxo]methyl}benzyl 4-{(E)-2-[3-nitro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Smec	396.1	53.93	136.1			
	Smec/Liq	425.9	14.62	34.32	170.5	326	[253]
$C_{62}H_{76}O_8S$		2,5-thiophenediyl*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(heptyloxy)benzoate					
	Sol/Nem	410.8	69.88	170.11			
	Nem/Liq	417.3	1.11	2.66	172.77		[234]
$C_{62}H_{76}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-decyloxybenzoyloxy)-benzoyloxy]nonyloxy}benzoate					
	Sol/Smec	416.2	70.94	170.45			
	Smec/Liq	416.2	13.84	33.25	203.70		[119]
	Note: Paper reports that both transitions occur at 416.2 K; transition enthalpies were calculated from published transition entropies.						
$C_{62}H_{76}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-tetradecyloxybenzoyloxy)-benzoyloxy]pentyloxy}benzoate					
	Sol/Smec	388.2	60.68	156.31			
	Smec/Smec	441.2	0.15	0.34			
	Smec/Liq	453.2	16.20	35.75	192.40		[119]
$C_{62}H_{77}NO_9$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]-2-methylphenyl 4-{(E)-2-[3-methoxy-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	371.4	19.78	53.25			
	Meso/Meso	379.4	0.88	2.32			
	Meso/Liq	390.8	10.08	25.80	81.4	321.1	[253]
$C_{62}H_{78}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-tetradecyloxybenzylideneamino)benzoate]					
	Sol/Nem	372.2	51.0	137.02			
	Nem/Liq	393.2	1.6	4.07	141.09		[86]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{62}H_{78}Cl_2N_2O_6$		4,6-dichloro-1,3-phenylene *bis*[4-(4-tetradecyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	367.2	33.5	91.23			
	Smec/Liq	390.2	6.1	15.63	106.86		[416]
$C_{62}H_{78}N_2O_9$		4-[4-[4-[(4-dodecyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-dodecyloxybenzoyl)oxy]benzoate					
	Sol/Smec	438.2	16.6	37.88			
	Smec/Liq	474.2	17.9	37.75	75.63		[289]
$C_{62}H_{78}O_8S_2$		1,3-phenylene 4-[[4-(tetradecyloxy)benzoyl]thio]benzoate					
	Sol/Meso	384.2	43.3	112.71			
	Meso/Liq	391.2	20.8	53.17	165.88	NA	[318]
$C_{62}H_{80}N_2O_6$		1,3-phenylene *bis*[4-(4-tetradecyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	415.2	41	98.75			
	Smec/Liq	440.2	27	61.34	160.09		[86]
$C_{62}H_{80}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-tetradecyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	385.2	21.0	54.52			
	Meso/Liq	448.2	23.0	51.32	105.84		[412]
$C_{62}H_{84}O_7$		2,4,7-*tris*(dodecyloxy)phenanthro[3,4-c]phenanthrene-9,12,13,16-tetraone					
	Sol/Meso	Not reported in paper					
	Meso/Liq	493.0	56.36	114.32			[420]
$C_{62}H_{86}O_4$		1,6-*bis*(4-(4′-tetradecyloxyphenylethynyl)phenoxy)hexane					
	Sol/Sol	395.2	56.0	141.70			
	Sol/Sol	410.2	19.0	46.32			
	Sol/Smec	419.2	17.0	40.55			
	Smec/Smec	435.2	9.0	20.68			
	Smec/Liq	453.2	23.0	50.75	300.00	328.4	[120]
$C_{62}H_{102}N_2O_4$		N,N′-ditetradecanoyl-2,4-*bis*(tetradecanoyloxy)-1,3-benzenediamine					
	Sol/Disc	374.2	41.0	109.57			
	Disc/Liq	387.2	13.0	33.57	143.14	414.4	[189]
$C_{62}H_{104}O_8$		1,2,3,5,6,7-hexaoctyloxy-9,10-anthraquinone					
	Sol/Meso	279.9	21.2	75.74			
	Meso/Meso	295.4	0.9	3.05			
	Meso/Col	308.4	1.2	3.89			
	Col/Liq	370.1	13.2	35.67	118.35		[395]
$C_{62}H_{106}N_2O_6$		2,5-*bis*(3,4,5-trioctyloxyphenyl)-1,3,4-oxadiazole					
	Sol/Col	Below ambient room temperature					
	Col/Liq	343.7	5.97	17.37			[178]
$C_{63}H_{59}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-octylbiphenyl-4′-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	415.2	24.6	59.25			
	Meso/Liq	420.2	20.9	49.74	108.99		[130]
$C_{63}H_{62}F_2O_8$		4′-octyl-[1,1′-biphenyl]-4-carboxylic acid, (2-methyl-1,3-phenylene)*bis*[oxycarbonyl(3-fluoro-4,1-phenylene)] ester					
	Sol/Meso	441.2	28.5	64.60			
	Sol/Meso	481.2	Decomposed				[168]
$C_{63}H_{65}NO_{10}$		pyridine-2,6-diyl*bis*(1,4-phenylene) *bis*[4-(4-nonylbenzoyloxy)benzoate]					
	Sol/Meso	452.2	25.5	56.39			
	Meso/Liq	519.2	22.9	44.11	100.50		[331]
$C_{63}H_{74}N_2O_9$		1,3-{4-[4-(4-decyloxybenzoyloxy)benzylidene]aminophenoxy}propan-2-ol					
	Sol/Smec	442.7	48.43	109.40			
	Smec/Nem	518.0	1.90	3.67			
	Nem/Liq	532.7	5.06	9.50	122.57		[413]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{63}H_{78}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-pentadecyloxybenzoyloxy)-benzoyloxy]pentyloxy}benzoate					
	Sol/Smec	386.2	60.36	156.29			
	Smec/Smec	444.2	0.18	0.41			
	Smec/Liq	453.2	16.24	35.83	192.53		[119]
$C_{63}H_{79}ClN_2O_8$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]-5-methylpyridyl-2-methyl 4-{(E)-2-[3-chloro-4-(tetradecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	389.6	1.85	4.74			
	Meso/Meso	411.8	2.87	6.98			
	Meso/Liq	418.8	22.17	52.9	64.7	342.2	[253]
$C_{63}H_{79}N_3O_6$		4-cyano-1,3-phenylene *bis*[4-(4-tetradecylphenyliminomethyl)benzoate]					
	Sol/Meso	363.2	19.5	53.69			
	Meso/Smec	401.2	1.8	4.49			
	Smec/Smec	415.2	Not reported in paper				
	Smec/Liq	439.2	7.6	17.30			[252]
$C_{63}H_{79}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-tetradecyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	429.2	43.8	102.05			
	Meso/Liq	463.2	33.9	73.19	175.24		[246]
$C_{63}H_{80}O_9$		1-{6-[3,6,7,10,11-*pentakis*(pentyloxy)triphenylen-2-yloxy]hexyloxy}-9,10-anthraquinone					
	Sol/Meso	316.0	22.7	71.84			
	Meso/Liq	340.0	2.83	8.32	80.16		[7]
$C_{63}H_{81}N_3O_3$		N,N′,N″-tri-1-dodecynyl-N,N′,N″-triphenyl-1,3,5-benzene-tricarboxamide					
	Sol/Meso	369.2	4.5	12.19			
	Meso/Liq	498.2	Decomposed				[241]
$C_{63}H_{88}O_4$		1,7-*bis*(4-(4′-tetradecyloxyphenylethynyl)phenoxy)heptane					
	Sol/Smec	396.2	90.0	227.16			
	Smec/Smec	400.2	13.0	32.48			
	Smec/Liq	418.2	18.0	43.04	302.68	335.5	[120]
$C_{63}H_{90}N_2O_8$		1,5-[4-(2-hydroxy-4-hexadecyloxybenzylideneamino)benzoyloxy]pentane					
	Sol/Meso	404.2	41.0	101.43			
	Meso/Liq	408.2	16.0	39.20	140.63		[412]
$C_{63}H_{90}N_2O_8$		1,5-[4-(2-hydroxy-4-tetradecyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	382.2	56.0	146.52			
	Smec/Liq	408.2	13.0	31.85	178.37		[412]
$C_{63}H_{90}N_2O_8$		1,5-[4-(2-hydroxy-4-tetradecyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	374.2	105.0	280.60			
	Smec/Liq	422.2	15.0	35.53	316.13		[412]
$C_{63}H_{101}N_3O_6$		4-(phenylmethyl)-3,5-*bis*[3,4,5-*tris*(heptyloxy)phenyl]-4H-1,2,4-triazole					
	Sol/Meso	Not reported in paper					
	Meso/Liq	341.7	2.22	6.50			[259]
$C_{63}H_{116}N_2O_4$		N,N′-dioctadecanoyl-2,5,6-trimethyl-4-octadecanoyloxy-1,3-benzenediamine					
	Sol/Meso	377.2	80	212.09			
	Meso/Liq	438.2	1.0	2.28	214.37	405.8	[193]
$C_{64}H_{64}Cl_2O_8$		1,3-phenylene *bis*[4-(3-chlorobenzoyloxy)] 4′-nonylbiphenyl-4-carboxylate					
	Sol/Meso	406.7	46.72	114.88			
	Meso/Liq	436.7	17.21	39.41	154.29		[276]
$C_{64}H_{64}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-nonylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	383.2	28.21	73.62			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	469.7	21.49	47.75	121.37		[26]
$C_{64}H_{64}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-nonylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	429.2	57.54	134.06			
	Meso/Meso	476.7	22.21	46.59	180.65		[26]
$C_{64}H_{65}NO_{12}$		2′-nitro-m-terphenyl-4,4″-diyl *bis*[4-(4-nonyloxybenzoyloxy)benzoate]					
	Sol/Sol	381.2	4.0	10.49			
	Sol/Meso	422.2	21.2	50.21			
	Meso/Nem	470.2	10.5	22.33			
	Nem/Liq	490.2	0.4	0.82	83.85		[331]
$C_{64}H_{66}O_8$		1,3-phenylene *bis*[4-(4′-nonylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	414.2	50.98	123.08			
	Meso/Liq	492.2	24.24	49.25	172.33		[26]
$C_{64}H_{66}O_8$		1,3-phenylene *bis*[4-(4′-n-octylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	377.2	27.96	74.13			
	Meso/Liq	445.2	18.67	41.94	116.07		[26]
$C_{64}H_{66}O_8$		1,3-phenylene *bis*[4-(4′-n-heptylbiphenyl-4-carbonyloxy)-2-ethylbenzoate]					
	Sol/Meso	386.2	30.05	77.81			
	Meso/Liq	401.7	11.41	28.40	106.21		[26]
$C_{64}H_{66}O_{10}$		m-terphenyl-4,4″-diyl *bis*[4-(4-nonyloxybenzoyloxy)benzoate]					
	Sol/Meso	434.2	27.3	62.87			
	Meso/Liq	492.2	25.1	51.00	113.87		[331]
$C_{64}H_{74}N_2O_8S$		(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(heptyloxy)benzoate					
	Sol/Smec	400.3	46.46	115.51			
	Smec/Liq	402.2	Shoulder of preceding peak				[234]
$C_{64}H_{80}INO_8$		3-[[4-{(E)-2-[4-(dodecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]phenyl 4-{(E)-2-[3-iodo-4-(hexadecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	369.7	5.47	14.8			
	Meso/Meso	402.9	2.57	6.4			
	Meso/Liq	409.8	8.38	20.4	41.6	346.1	[253]
$C_{64}H_{80}O_{12}$		(R)-4-[4-(1-methylheptyloxycarbonyl)phenyloxycarbonyl]phenyl 4-{5-[4-(4-hexadecyloxybenzoyloxy)-benzoyloxy]pentyloxy}benzoate					
	Sol/Smec	386.2	60.36	156.29			
	Smec/Smec	444.2	0.21	0.47			
	Smec/Liq	453.2	16.58	36.58	193.34		[119]
$C_{64}H_{82}O_8S_2$		1,3-phenylene 4-[[4-(pentadecyloxy)benzoyl]thio]benzoate					
	Sol/Meso	386.2	38.3	99.17			
	Meso/Liq	391.2	16.7	42.69	141.86	NA	[318]
$C_{64}H_{90}O_4$		1,8-*bis*(4-(4′-tetradecyloxyphenylethynyl)phenoxy)octane					
	Sol/Sol	398.2	37	92.92			
	Sol/Smec	408.2	66	161.69			
	Smec/Smec	429.2	13	30.29			
	Smec/Liq	437.2	28	64.04	349.94	342.6	[120]
$C_{64}H_{92}N_2O_6$		hexanedioic acid, *bis*[4-[[[4-(hexadecyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Meso	413.4	52.59	127.21			
	Meso/Meso	435.9	11.0	25.24			
	Meso/Liq	485.9	27.15	55.88	208.33		[295]
$C_{64}H_{92}N_2O_6$		hexanedioic acid, *bis*[4-[4-(hexadecyloxy)benzylideneamino]phenyl] ester					
	Sol/Meso	403.5	59.45	147.34			
	Meso/Meso	431.2	8.41	19.50			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	476.2	28.55	59.95	226.79		[295]
$C_{64}H_{104}O_{12}$		2,3,6,7-*tetrakis*(nonyloxy)-1,5-*bis*[2-[(tetrahydro-2*H*-pyran-2-yl)oxy]ethoxy]-9,10-anthracenedione					
	Sol/Col	331.7	57.72	174.01			
	Col/Liq	343.2	8.86	25.82	199.83		[275]
$C_{64}H_{106}O_4$		dicholesteryl sebacate					
	Sol/Liq	452.25	44.35	98.07			
	Liq/Chol	448.95	3.68	8.20	106.27	251.4	[155, 310]
$C_{64}H_{108}O_8$		1,5-dinonyloxy-2,3,6,7-tetraoctyloxy-9,10-anthraquinone					
	Sol/Col	327.1	113.8	347.91			
	Col/Liq	369.8	11.4	30.83	378.74		[395]
$C_{65}H_{63}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-nonylbiphenyl-4′-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	413.7	45.6	110.22			
	Meso/Liq	419.2	21.8	52.00	162.22		[130]
$C_{65}H_{63}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-nonylbiphenyl-4′-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	409.7	30.2	73.71			
	Meso/Liq	410.7	23.4	56.98	130.69		[130]
$C_{65}H_{66}F_2O_8$		4′-nonyl-[1,1′-biphenyl]-4-carboxylic acid, (2-methyl-1,3-phenylene)*bis*[oxycarbonyl (3-fluoro-4,1-phenylene)] ester					
	Sol/Meso	423.2	29.1	68.76			
	Meso/Liq	470.2	Decomposed				[168]
$C_{65}H_{82}ClNO_8$		3-[[4-{(E)-2-[4-(tetradecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxy]-2-methylphenyl 4-{(E)-2-[3-chloro-4-(tetradecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Meso	389.7	22.97	58.95			
	Meso/Meso	400.9	1.04	2.59			
	Meso/Liq	414.5	9.46	22.82	84.4	343.5	[253]
$C_{65}H_{92}O_4$		1,9-*bis*(4-(4′-tetradecyloxyphenylethynyl)phenoxy)nonane					
	Sol/Smec	394.2	98	248.60			
	Smec/Smec	404.2	17	42.06			
	Smec/Liq	411.2	22	53.50	344.16	349.7	[120]
$C_{65}H_{94}N_2O_6$		heptanedioic acid, *bis*[4-[[[4-(hexadecyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Meso	422.7	20.42	48.31			
	Meso/Smec	429.4	51.66	120.31			
	Smec/Liq	451.7	20.19	44.70	213.32	401.3	[295]
$C_{66}H_{68}Cl_2O_8$		1,3-phenylene *bis*[4-(3-chlorobenzoyloxy)] 4′-decylbiphenyl-4-carboxylate					
	Sol/Meso	405.2	20.20	49.85			
	Meso/Liq	429.7	16.05	37.35	87.20		[276]
$C_{66}H_{68}F_2O_8$		1,3-phenylene *bis*[4-(3-fluorobenzoyloxy)] 4′-decylbiphenyl-4-carboxylate					
	Sol/Meso	384.2	29.23	76.08			
	Meso/Liq	464.2	22.90	49.33	125.41		[276]
$C_{66}H_{68}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-decylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	384.2	29.23	76.08			
	Meso/Liq	464.2	22.9	49.33	125.41		[26]
$C_{66}H_{68}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-decylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	414.7	27.96	67.42			
	Meso/Liq	470.2	22.70	48.28	115.70		[26]
$C_{66}H_{70}O_8$		1,3-phenylene *bis*[4-(4′-n-decylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	432.2	42.87	99.19			
	Meso/Liq	484.2	23.76	49.07	148.26		[26]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{66}H_{70}O_8$		1,3-phenylene *bis*[4-(4′-n-nonylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	374.2	24.83	66.35			
	Meso/Liq	440.7	19.87	45.09	111.44		[26]
$C_{66}H_{70}O_8$		1,3-phenylene *bis*[4-(4′-n-octylbiphenyl-4-carbonyloxy)-2-ethylbenzoate]					
	Sol/Meso	372.2	27.55	74.02			
	Meso/Liq	391.7	11.29	28.82	102.84		[26]
$C_{66}H_{72}N_2O_6$		1,3-phenylene*bis*[(E)-methylidynenitrilo-4,1-phenylene] 4′-(decyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Meso	471.7	31.6	66.99			
	Meso/Liq	541.2	33.5	61.90	128.89		[299]
$C_{66}H_{78}O_{10}$		(S,S)-4,4′-*bis*{5-{[4″-(1-methylheptyloxycarbonyl)-1″,1‴biphenyl-4‴-yl]oxycarbonyl}pentyloxy}biphenyl					
	Sol/Smec	392.2	30.09	76.72			
	Smec/Smec	395.6	1.81	4.58			
	Smec/Liq	441.0	24.25	54.99	136.29		[287]
$C_{66}H_{82}F_4O_{10}$		1,3-phenylene *bis*[4-(2-fluoro-4-hexadecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Meso	366.7	81.8	223.07			
	Meso/Liq	374.2	24.0	64.14	287.21	368.2	[247]
$C_{66}H_{82}F_4O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-hexadecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Sol	Not reported in paper					
	Sol/Meso	378.2	109.6	289.79			
	Note: Sol/Sol transition enthalpy is included in Sol/Meso value.						
	Meso/Liq	395.2	24.6	62.25	352.04	368.2	[247]
$C_{66}H_{82}O_8$		4-[[[4′-(octyloxy)[1,1′-biphenyl]-4-yl]oxy]methyl]benzoic acid, 1,10-decanediyl ester					
	Sol/Sol	426.0	2.31	5.42			
	Sol/Smec	446.5	5.72	12.81			
	Smec/Liq	465.8	31.91	68.51	86.74		[304]
$C_{66}H_{84}ClNO_8$		3-{[[(4-{(E)-2-[4-(tetradecyloxy)-3-nitrophenyl]-1-ethenyl}benzoyl]oxo]methyl}benzyl 4-{(E)-2-[3-chloro-4-(dodecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Smec	382.6	65.42	171.0			
	Smec/Liq	418.2	12.75	30.48	201.5	352.9	[253]
$C_{66}H_{84}Cl_2O_6$		4-[(1E)-[3-chloro-4-pentadecyloxyphenyl]ethenyl]benzoic acid, 1,3-phenylene ester					
	Sol/Meso	380.3	17.33	45.57			
	Meso/Liq	410.8	16.92	41.19	86.76		[177]
$C_{66}H_{84}F_2O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-hexadecyloxybenzoyloxy)benzoate]					
	Sol/Meso	394.2	104.9	266.11			
	Meso/Liq	402.2	24.3	60.42	326.53	364.8	[301]
	Note: Sol/Meso transition enthalpy includes the enthalpy of a Sol/Sol transition.						
$C_{66}H_{84}N_2O_{10}$		3-{[[4-{(E)-2-[4-(tetradecylxoy)-3-nitrophenyl]-1-ethyenyl}benzoyl]oxy]methyl}benzyl 4-{(E)-[2-nitro-4-(tetradecyloxy)phenyl]-1-ethenyl}benzoate					
	Sol/Smec	385.8	24.37	63.16			
	Smec/Liq	431.4	15.11	35.02	98.1	354.4	[253]
$C_{66}H_{84}O_8S$		2,5-thiophenediyl*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(octyloxy)benzoate					
	Sol/Nem	390.8	73.14	187.15			
	Nem/Liq	406.4	1.22	3.00	190.15		[234]
$C_{66}H_{86}Cl_2N_2O_6$		4,5-dichloro-1,3-phenylene *bis*[4-(4-hexadecyloxybenzylideneamino)benzoate]					
	Sol/Nem	372.2	57	153.14			
	Nem/Liq	388.2	1.5	3.86	157.00		[86]
$C_{66}H_{86}N_4O_{10}$		1,3-phenylene *bis*[[4-(methylamino)phenyl]-3-nitro-4-hexadecyloxybenzoate]					
	Sol/Meso	383.7	68.48	178.47			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	433.7	17.06	39.33	217.80		[321]
$C_{66}H_{86}O_8S_2$		1,3-phenylene 4-[[4-(hexadecyloxy)benzoyl]thio]benzoate					
	Sol/Meso	381.2	44.0	115.42			
	Meso/Liq	392.2	16.0	40.80	156.22	NA	[318]
$C_{66}H_{88}N_2O_6$		1,3-phenylene *bis*[4-(4-hexadecyloxyphenyliminomethyl)benzoate]					
	Sol/Smec	409.2	41	100.20			
	Smec/Liq	436.2	28	64.19	164.39		[86]
$C_{66}H_{88}N_2O_8$		1,3-*bis*[4-(2-hydroxy-4-hexadecyloxybenzylideneamino)benzoyloxy]benzene					
	Sol/Meso	386.2	76.0	196.79			
	Meso/Liq	445.2	23.0	51.66	248.45		[412]
	Note: Sol/Meso transition enthalpy for this compound is significantly larger than values for the other compounds in this series.						
$C_{66}H_{94}O_4$		1,10-*bis*(4-(4′-tetradecyloxyphenylethynyl)phenoxy)decane					
	Sol/Sol	399.2	39	97.70			
	Sol/Smec	411.2	72	175.10			
	Smec/Liq	427.2	44	103.00	375.80	356.8	[120]
$C_{66}H_{98}O_6$		2,5,6,9,12,13-hexaheptyloxydibenzo[fg,op]naphthacene					
	Sol/Col	416.6	86.2	206.91			
	Col/Liq	452.9	2.8	6.18	213.09		[6]
$C_{66}H_{112}O_8$		1,5-didecyloxy-2,3,6,7-tetraoctyloxy-9,10-anthraquinone					
	Sol/Col	321.7	106.3	330.43			
	Col/Liq	368.5	11.7	31.75	362.18		[395]
$C_{66}H_{114}O_{12}$		benzene hexa-n-decanoate					
	Sol/Sol	330.8	75.7	209.75			
	Sol/Liq	360.9	91.8	254.36	464.11	447.6	[129]
$C_{66}H_{116}N_2O_{10}$		N,N′-didecanoyl-2,3,5,6-*tetrakis*(decanoyloxy)-1,4-benzenediamine					
	Sol/Disc	350.2	62.0	177.04			
	Disc/Liq	472.2	33.0	69.89	246.93	429	[188]
$C_{67}H_{67}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-decylbiphenyl-4′-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	398.2	31.2	78.35			
	Meso/Liq	421.2	25.2	59.83	138.18		[130]
$C_{67}H_{67}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-decylbiphenyl-4′-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	403.7	33.7	83.48			
	Meso/Liq	414.2	25.0	60.36	143.84	298	[130]
$C_{67}H_{68}O$		hexadecyl *pentakis*[4-methylphenylethynyl]phenyl ether					
	Sol/Meso	435.5	55.7	127.90			
	Meso/Liq	465.7	0.2	0.43	128.33		[88]
$C_{67}H_{70}F_2O_8$		4′-decyl-[1,1′-biphenyl]-4-carboxylic acid, (2-methyl-1,3-phenylene)*bis*[oxycarbonyl (3-fluoro-4,1-phenylene)] ester					
	Sol/Meso	421.0	38.4	91.21			
	Note: Sol/Meso enthalpy includes other Sol/Sol transitions.						
	Meso/Liq	467.4	Decomposed				[168]
$C_{67}H_{86}Cl_2O_6$		4-[(1E)-[3-chloro-4-pentadecyloxyphenyl]ethenyl]benzoic acid, 2-methyl-1,3-phenylene ester					
	Sol/Meso	374.9	55.88	149.05			
	Meso/Liq	395.9	13.65	34.48	183.53		[177]
$C_{67}H_{86}F_2O_8$		2-fluoro-4-[(4-hexadecylbenzoyloxy]benzoic acid, 2-methyl-1,3-phenylene) ester					
	Sol/Meso	377.7	33.6	88.96			
	Meso/Liq	379.2	24.5	64.61	153.57	351.8	[168]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{67}H_{87}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-hexadecyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	425.2	52.5	123.47			
	Meso/Liq	461.2	34.7	75.24	198.71	353.2	[246]
$C_{67}H_{89}N_5O_7S_2$		1,2-*bis*-5-[4-(5-undecyl-1,3,4-thiadiazol-2-yl)phenoxy]pentanoyloxy]-6-[4′-cyanobiphenyl-4-yloxy]hexane					
	Sol/Smec	327.2	57.3	175.12			
	Smec/Liq	376.2	17.4	46.25	221.37		[99]
$C_{67}H_{98}N_2O_8$		1,5-[4-(2-hydroxy-4-hexadecyloxybenzylideneamino)benzoyloxy]-2,2-dimethylpentane					
	Sol/Smec	385.2	78.0	202.49			
	Smec/Liq	408.2	14.0	34.30	236.79		[412]
$C_{67}H_{98}N_2O_8$		1,5-[4-(2-hydroxy-4-hexadecyloxybenzylideneamino)benzoyloxy]-3,3-dimethylpentane					
	Sol/Smec	377.2	125.0	331.39			
	Smec/Liq	421.2	17.0	40.36	371.75		[412]
$C_{68}H_{72}Cl_2O_8$		1,3-phenylene *bis*[4-(3-chlorobenzoyloxy)] 4′-undecylbiphenyl-4-carboxylate					
	Sol/Meso	401.2	15.91	39.66			
	Meso/Liq	426.2	15.36	36.04	75.70		[276]
$C_{68}H_{72}F_2O_8$		1,3-phenylene *bis*[4-(3-fluorobenzoyloxy)] 4′-undecylbiphenyl-4-carboxylate					
	Sol/Meso	387.2	31.78	82.08			
	Meso/Liq	467.2	22.96	49.14	131.22		[276]
$C_{68}H_{72}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-undecylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	387.2	31.78	82.08			
	Meso/Liq	467.2	22.96	49.14	131.22		[26]
$C_{68}H_{72}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-undecylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	415.2	35.86	86.37			
	Meso/Liq	464.2	22.13	47.67	134.04		[26]
$C_{68}H_{74}O_8$		1,3-phenylene *bis*[4-(4′-n-undecylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	424.2	41.42	97.64			
	Meso/Liq	482.2	24.45	50.71	148.35		[26]
$C_{68}H_{74}O_8$		1,3-phenylene *bis*[4-(4′-n-decylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	392.7	39.59	100.81			
	Meso/Liq	435.2	19.89	45.70	146.51		[26]
$C_{68}H_{74}O_8$		1,3-phenylene *bis*[4-(4′-n-nonylbiphenyl-4-carbonyloxy)-2-ethylbenzoate]					
	Sol/Meso	375.7	36.70	97.68			
	Meso/Liq	385.7	12.34	31.99	129.67		[26]
$C_{68}H_{90}O_9$		1-{6-[3,6,7,10,11-*pentakis*(hexyloxy)triphenylen-2-yloxy]-hexyloxy}-9,10-anthraquinone					
	Sol/Meso	325.0	14.6	44.92			
	Meso/Liq	334.0	0.70	2.10	47.02		[7]
$C_{68}H_{82}N_2O_8S$		(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(octyloxy)benzoate					
	Sol/Smec	404.4	39.89	98.64			
	Smec/Liq	408.5	6.92	16.94	115.58		[234]
$C_{68}H_{100}N_2O_6$		decanedioic acid, *bis*[4-[[[4-(hexadecyloxy)phenyl]imino]methyl]phenyl] ester					
	Sol/Meso	406.0	58.77	144.75			
	Meso/Meso	436.0	14.60	33.49			
	Meso/Liq	450.5	30.55	67.81	246.05		[295]
$C_{68}H_{100}N_2O_6$		decanedioic acid, *bis*[4-[4-(hexadecyloxy)benzylideneamino]phenyl] ester					
	Sol/Meso	397.0	66.04	166.35			
	Meso/Meso	431.9	10.93	25.31			
	Meso/Liq	443.2	32.62	73.60	265.26		[295]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{68}H_{106}O_6$		cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[butanoate]					
	Sol/Nem	412.2	16.3	39.54			
	Nem/Liq	452.2	3.3	7.30	46.84		[152]
$C_{68}H_{112}O_{12}$		2,3,6,7-*tetrakis*(decyloxy)-1,5-*bis*[2-[(tetrahydro-2*H*-pyran-2-yl)oxy]ethoxy]-9,10-anthracenedione					
	Sol/Col	325.2	56.61	174.08			
	Col/Liq	335.7	7.84	23.35	197.43		[275]
$C_{68}H_{116}O_8$		1,5-diundecyloxy-2,3,6,7-tetraoctyloxy-9,10-anthraquinone					
	Sol/Col	295.4	29.9	101.22			
	Col/Liq	365.1	12.5	34.24	135.46		[395]
$C_{69}H_{71}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-undecylbiphenyl-4′-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	401.2	28.1	70.04			
	Meso/Liq	424.2	25.7	60.58	130.62		[130]
$C_{69}H_{71}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-undecylbiphenyl-4′-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	411.2	38.5	93.63			
	Meso/Liq	417.7	26.6	63.68	157.31		[130]
$C_{69}H_{74}F_2O_8$		4′-undecyl-[1,1′-biphenyl]-4-carboxylic acid, (2-methyl-1,3-phenylene)*bis*[oxycarbonyl (3-fluoro-4,1-phenylene)] ester					
	Sol/Meso	420.8	43.5	103.37			
	Note: Sol/Meso enthalpy includes other Sol/Sol transitions.						
	Meso/Liq	465.2	Decomposed				[168]
$C_{69}H_{93}N_3O_3$		N,N′,N″-tridodecyl-2,4,6-*tris*(phenylethynyl)-1,3,5-benzenetricarboxamide					
	Sol/Meso	414.2	9.0	21.73			
	Meso/Liq	498.2	Decomposed				[241]
$C_{69}H_{93}N_5O_7S_2$		1,2-*bis*-5-[4-(5-undecyl-1,3,4-thiadiazol-2-yl)phenoxy]pentanoyloxy]-6-[4′-cyanobiphenyl-4-yloxy]octane					
	Sol/Smec	337.2	57.2	163.63			
	Smec/Liq	383.2	20.4	53.24	216.87		[99]
$C_{69}H_{102}N_2O_6$		malonic acid, *bis*{10-[4-[(4-decylphenylimino)methyl]phenoxy]decyl} ester					
	Sol/Sol	338.8	38.8	114.52			
	Sol/Smec	361.6	13.5	37.33			
	Smec/Liq	365.0	13.3	36.44	188.29		[244]
$C_{69}H_{102}N_2O_8$		malonic acid, *bis*{10-[4-[(4-decyloxyphenylimino)methyl]phenoxy]decyl} ester					
	Sol/Smec	381.3	94.8	248.62			
	Smec/Liq	389.7	13.1	33.62	282.24		[244]
$C_{69}H_{113}N_3O_6$		4-(phenylmethyl)-3,5-*bis*[3,4,5-*tris*(octyloxy)phenyl-4H-1,2,4-triazole					
	Sol/Meso	Not reported in paper					
	Meso/Liq	342.3	4.18	12.21			[259]
$C_{70}H_{76}Cl_2O_8$		1,3-phenylene *bis*[4-(3-chlorobenzoyloxy)] 4′-dodecylbiphenyl-4-carboxylate					
	Sol/Meso	404.2	15.15	37.48			
	Meso/Liq	421.2	14.34	34.05	71.53		[276]
$C_{70}H_{76}F_2O_8$		1,3-phenylene *bis*[4-(3-fluorobenzoyloxy)] 4′-dodecylbiphenyl-4-carboxylate					
	Sol/Meso	380.2	50.36	132.46			
	Meso/Liq	467.7	22.46	48.02	180.48		[276]
$C_{70}H_{76}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-dodecylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	380.2	50.36	132.46			
	Meso/Liq	467.7	22.46	48.02	180.48		[26]
$C_{70}H_{76}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-dodecylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	419.2	40.04	95.52			
	Meso/Liq	458.7	22.07	48.11	143.63		[26]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{70}H_{78}O_8$		1,3-phenylene *bis*[4-(4′-n-dodecylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	394.2	209.0	530.19			
	Meso/Liq	531.4	26.98	50.77	580.96		[26]
$C_{70}H_{78}O_8$		1,3-phenylene *bis*[4-(4′-n-undecylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	385.7	40.53	105.08			
	Meso/Liq	430.2	21.58	50.16	155.24		[26]
$C_{70}H_{78}O_8$		1,3-phenylene *bis*[4-(4′-n-decylbiphenyl-4-carbonyloxy)-2-ethylbenzoate]					
	Sol/Meso	377.5	36.03	95.44			
	Meso/Liq	379.2	12.75	33.62	129.06		[26]
$C_{70}H_{80}N_2O_6$		1,3-phenylene *bis*[(E)-methylidynenitrilo-4,1-phenylene] 4′-(dodecyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Meso	403.2	15.1	37.45			
	Meso/Meso	469.7	41.8	88.99			
	Meso/Liq	535.7	27.2	50.77	177.21		[299]
$C_{70}H_{86}O_{10}$		(S,S)-4,4′-*bis*{5-{[4″-(1-methylheptyloxycarbonyl)-1″,1‴-biphenyl-4‴-yl]oxycarbonyl}heptyloxy}biphenyl					
	Sol/Smec	374.7	26.83	71.60			
	Smec/Smec	399.7	4.27	10.68			
	Smec/Liq	414.6	26.37	63.60	145.88		[287]
$C_{70}H_{86}O_{10}$		(R.R)-4,4′-*bis*{5-{[4″-(1-methylheptyloxycarbonyl)-1″,1‴-biphenyl-4‴-yl]oxycarbonyl}heptyloxy} biphenyl					
	Sol/Smec	374.2	25.92	69.27			
	Smec/Smec	399.7	3.96	9.91			
	Smec/Liq	414.4	25.47	61.51	140.69		[287]
$C_{70}H_{90}F_4O_{10}$		1,3-phenylene *bis*[4-(2-fluoro-4-octadecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Meso	370.2	93.8	253.38			
	Meso/Liq	375.7	26.1	69.47	322.85	396.6	[247]
$C_{70}H_{90}F_4O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-octadecyloxybenzyoyloxy)-2-fluorobenzoate]					
	Sol/Sol	Not reported in paper					
	Sol/Meso	380.2	131.7	346.40			
	Note: Sol/Sol transition enthalpy is included in Sol/Meso value.						
	Meso/Liq	395.2	25.2	63.77	410.17	396.6	[247]
$C_{70}H_{92}F_2O_{10}$		1,3-phenylene *bis*[4-(3-fluoro-4-octadecyloxybenzoyloxy)benzoate]					
	Sol/Meso	391.2	125.7	321.32			
	Meso/Liq	401.7	24.5	60.99	382.31		[301]
	Note: Sol/Meso transition enthalpy includes the enthalpy from a Sol/Sol transition.						
$C_{70}H_{92}O_8S$		2,5-thiophenediyl*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(decyloxy)benzoate					
	Sol/Smec	385.2	62.11	161.24			
	Smec/Nem	388.0	6.92	17.84			
	Nem/Liq	399.1	1.09	2.73	181.81		[234]
$C_{70}H_{94}N_2O_9$		4-[4-[4-[(4-hexadecyloxybenzoyl)oxy]benzoyl]-1-piperazinyl]phenyl 4-[(4-hexadecyloxybenzoyl)oxy]-benzoate					
	Sol/Smec	415.2	17.0	40.94			
	Smec/Liq	466.2	18.8	40.33	81.27		[289]
$C_{70}H_{94}N_4O_{10}$		1,3-phenylene *bis*[[4-(methylamino)phenyl]-3-nitro-4-octadecyloxybenzoate]					
	Sol/Meso	376.7	21.72	57.66			
	Meso/Liq	431.9	15.1	34.96	92.62		[321]
$C_{70}H_{110}O_6$		cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[pentanoate]					
	Sol/Nem	403.2	24.9	61.76			
	Nem/Liq	418.2	0.3	0.72	52.48		[152]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{70}H_{111}BrN_2O_6$		4-(4-bromophenyl)-2,6-*bis*(3,4,5-trioctyloxyphenyl)pyrimidine					
	Sol/Sol	270.2	10.09	37.34			
	Sol/Col	282.6	1.34	4.74			
	Col/Liq	417.6	7.60	18.20	60.28		[439]
$C_{70}H_{111}ClN_2O_6$		4-(4-chlorophenyl)-2,6-*bis*(3,4,5-trioctyloxyphenyl)pyrimidine					
	Sol/Sol	274.9	17.44	63.44			
	Sol/Col	287.1	7.61	26.51			
	Col/Liq	414.1	7.28	17.58	107.53		[439]
$C_{70}H_{111}FN_2O_6$		4-(4-fluorophenyl)-2,6-*bis*(3,4,5-trioctyloxyphenyl)pyrimidine					
	Sol/Sol	283.2	24.96	88.14			
	Sol/Col	294.6	1.43	4.85			
	Col/Liq	401.4	6.21	15.47	108.46		[439]
$C_{70}H_{111}IN_2O_6$		4-(4-iodophenyl)-2,6-*bis*(3,4,5-trioctyloxyphenyl)pyrimidine					
	Sol/Col	280.5	17.70	63.10			
	Col/Liq	411.2	7.09	17.24	80.34		[439]
$C_{70}H_{118}N_2O_6$		N,N′-dihexadecanoyl-2,4-*bis*(hexadecanoyloxy)-1,3-benzenediamine					
	Sol/Disc	376.2	60.0	159.49			
	Disc/Liq	387.2	16.0	41.32	200.81	594.5	[189]
$C_{71}H_{71}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4′-dodecylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	404.2	44.6	110.34			
	Meso/Liq	425.7	26.6	62.49	172.83	326.4	[28, 130]
$C_{71}H_{75}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-dodecylbiphenyl-4′-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	407.7	36.7	90.02			
	Meso/Liq	419.2	26.7	63.69	153.71		[130]
$C_{71}H_{78}F_2O_8$		4′-dodecyl-[1,1′-biphenyl]-4-carboxylic acid, (2-methyl-1,3-phenylene)*bis*[oxycarbonyl (3-fluoro-4,1-phenylene)] ester					
	Sol/Meso	409.2	43.3	105.82			
	Note: Sol/Meso enthalpy includes other Sol/Sol transitions.						
	Meso/Liq	466.2	Decomposed				[168]
$C_{71}H_{94}F_2O_8$		2-fluoro-4-[(4-octadecylbenzoyloxy)benzoic acid, 2-methyl-1,3-phenylene] ester					
	Sol/Meso	380.2	91.9	241.71			
	Note: Sol/Meso enthalpy includes other Sol/Sol transitions.						
	Meso/Liq	381.2	26.1	68.47	310.18	380.2	[168]
$C_{71}H_{95}N_3O_6$		2-cyano-1,3-phenylene *bis*[4-(4-octadecyloxyphenyliminomethyl)benzoate]					
	Sol/Meso	419.7	58.5	139.39			
	Meso/Liq	458.7	35.3	76.96	216.35	381.6	[246]
$C_{71}H_{96}O_{10}S_3$		(+) 3-(dodecylthio)propanoic acid, 9,12,13,16-tetrahydro-9,12,13,16-tetraoxophenanthro[3,4-c]-phenanthrene-2,4,7-triyl ester					
	Sol/Meso	Not reported in paper					
	Meso/Liq	446.3	18.69	41.88			[420]
$C_{71}H_{96}O_{10}S_3$		(-) 3-(dodecylthio)propanoic acid, 9,12,13,16-tetrahydro-9,12,13,16-tetraoxophenanthro[3,4-c]-phenanthrene-2,4,7-triyl ester					
	Sol/Meso	Not reported in paper					
	Meso/Liq	422.8	9.8	23.18			[420]
$C_{71}H_{96}O_{10}S_3$		(±) 3-(dodecylthio)propanoic acid, 9,12,13,16-tetrahydro-9,12,13,16-tetraoxophenanthro[3,4-c]-phenanthrene-2,4,7-triyl ester					
	Sol/Meso	Not reported in paper					
	Meso/Liq	434.4	12.81	29.49			[420]
$C_{71}H_{112}F_3N_3O_8S$		4-(4-trifluoromethanesulphonylaminophenyl)-2,6-*bis*(3,4,5-trioctyloxyphenyl)pyrimidine					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition	Compound	T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Col	303.2	8.07	26.62			
	Col/Liq	421.6	6.30	14.94	41.56		[439]
$C_{71}H_{114}N_2O_6$	4-(4-methylphenyl)-2,6-*bis*(3,4,5-trioctyloxyphenyl)pyrimidine						
	Sol/Col	270.3	15.38	56.90			
	Col/Liq	378.1	5.60	14.81	71.71		[439]
$C_{71}H_{114}N_2O_7$	4-(4-methoxyphenyl)-2,6-*bis*(3,4,5-trioctyloxyphenyl)pyrimidine						
	Sol/Col	309.6	49.92	161.24			
	Col/Liq	377.7	5.04	13.34	174.58		[439]
$C_{72}H_{82}O_8$	1,3-phenylene *bis*[4-(4′-n-dodecylbiphenyl-4-carbonyloxy)-2-methylbenzoate]						
	Sol/Meso	388.2	61.96	159.61			
	Note: A Sol/Sol transition enthalpy is included in Sol/Meso value.						
	Meso/Liq	427.7	23.10	54.01	213.62		[26]
$C_{72}H_{90}N_2O_8S$	(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(nonyloxy)benzoate						
	Sol/Smec	392.5	35.27	89.86			
	Smec/Liq	404.1	5.50	13.61	103.47		[234]
$C_{72}H_{94}N_4O_{10}$	*bis*[(S)-2-methylbutyl] 3,3′-[m-phenylene-*bis*(iminocarbonyloxyundecamethyleneoxy-p-phenylenemethylidynenitrilo-p-phenylene)] *bis*[2-propenoate]						
	Sol/Smec	357.2	51.8	145.02			
	Smec/Liq	378.2	5.0	13.22	158.24		[206]
	Note: Transition enthalpies were determined from a cooling curve.						
$C_{72}H_{99}N_3O_3$	2,4,6-tri-1-dodecynyl-N,N′,N″-*tris*[(2S)-2-phenylpropyl]-1,3,5-benzenetricarboxamide						
	Sol/Meso	383.2	69.0	180.06			
	Meso/Liq	480.2	15.2	31.65	211.71		[241]
$C_{72}H_{114}O_6$	cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[hexanoate]						
	Sol/Nem	418.2	23.1	55.24			
	Nem/Liq	453.2	3.2	7.06	62.30		[152]
$C_{72}H_{116}N_2O_6$	4-(4-ethylphenyl)-2,6-*bis*(3,4,5-trioctyloxyphenyl)pyrimidine						
	Sol/Col	285.7	32.37	113.30			
	Col/Liq	374.7	5.71	15.24	128.54		[439]
$C_{72}H_{128}N_2O_{10}$	N,N′-diundecanoyl-2,3,5,6-*tetrakis*(undecanoyloxy)-1,4-benzenediamine						
	Sol/Disc	354.2	65.0	183.51			
	Disc/Liq	471.2	31.0	65.79	249.30	465.8	[188]
$C_{73}H_{96}N_4O_{10}$	*bis*[(S)-2-methylbutyl] 3,3′-[4-methyl-1,3-phenylene-*bis*(iminocarbonyloxyundecamethyleneoxy-p-phenylenemethylidynenitrilo-p-phenylene)] *bis*[2-propenoate]						
	Sol/Smec	327.2	39.2	119.80			
	Smec/Smec	338.2	Not reported in paper				
	Smec/Liq	372.2	4.9	13.16			[206]
	Note: Transition enthalpies were determined from a cooling curve.						
$C_{74}H_{84}F_2O_8$	1,3-phenylene *bis*[4-(4′-n-tetradecylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]						
	Sol/Meso	376.2	72.55	192.85			
	Meso/Liq	469.2	27.67	58.97	251.82		[26]
$C_{74}H_{84}F_2O_8$	1,3-phenylene *bis*[4-(4′-n-tetradecylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]						
	Sol/Meso	415.2	47.36	114.07			
	Meso/Liq	456.2	23.76	52.08	166.15		[26]
$C_{74}H_{86}O_8$	1,3-phenylene *bis*[4-(4′-n-tetradecylbiphenyl-4-carbonyloxy)benzoate]						
	Sol/Meso	391.2	45.05	115.16			
	Meso/Liq	481.7	27.67	66.09	181.25		[26]
$C_{74}H_{98}F_4O_{10}$	1,3-phenylene *bis*[4-(3-fluoro-4-eicosyloxybenzyoyloxy)-2-fluorobenzoate]						

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Sol	Not reported in paper					
	Sol/Meso	381.2	120.9	317.16			
	Note: Sol/Sol transition enthalpy is included in Sol/Meso value.						
	Meso/Liq	394.2	26.0	65.96	383.12	425.0	[247]
$C_{74}H_{100}O_8S$		2,5-thiophenediyl*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(dodecyloxy)benzoate					
	Sol/Nem	390.1	87.66	224.71			
	Nem/Liq	393.7	1.26	3.20	227.91		[234]
$C_{74}H_{100}I_2O_6$		3-{[[4-{(E)-2-[4-(hexadecylxoy)-3-iodophenyl]-1-ethyenyl}benzoyl]oxy]methyl}benzyl 4-{(E)-[2-iodo-4-(hexadecyloxy)-phenyl]-1-ethenyl}benzoate					
	Sol/Smec	338.7	87.49	258.3			
	Smec/Liq	356.4	5.35	15.0	273.3	386.2	[253]
$C_{74}H_{108}O_8$		2,4,5,7-*tetrakis*(dodecyloxy)phenanthro[3,4-c]phenanthrene-9,12, 13,16-tetraone					
	Sol/Meso	Not reported in paper					
	Meso/Liq	509.2	45.0	88.37			[420]
$C_{74}H_{118}O_6$		cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[heptanoate]					
	Sol/Nem	406.2	31.4	77.30			
	Nem/Liq	421.2	0.4	0.95	78.25		[152]
$C_{74}H_{130}N_{2O6}$		2,5-*bis*[3,4,5-*tris*(decyloxyphenyl)]-1,3,4-oxadiazole					
	Sol/Col	Below ambient room temperature					
	Col/Liq	337.0	5.53	16.41			[178]
$C_{74}H_{130}O_9$		3,4,5-*tris*(decyloxy)benzoic acid anhydride					
	Sol/Col	262.2	19.3	73.61			
	Col/Liq	326.8	8.2	25.09	98.70		[366]
$C_{75}H_{79}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4′-tetradecylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	395.7	35.9	90.73			
	Meso/Liq	427.2	27.4	64.14	154.87		[28, 130]
$C_{75}H_{83}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-tetradecylbiphenyl-4′-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	404.2	148.0	366.16			
	Meso/Liq	413.2	28.5	68.97	435.13		[130]
$C_{75}H_{88}F_2O_8$		4′-tetradecyl-[1,1′-biphenyl]-4-carboxylic acid, (2-methyl-1,3-phenylene)*bis*[oxycarbonyl (3-fluoro-4,1-phenylene)] ester					
	Sol/Meso	409.0	48.6	118.83			
	Note: Sol/Meso enthalpy includes other Sol/Sol transitions.						
	Meso/Liq	467.7	Decomposed				[168]
$C_{76}H_{86}N_4O_8$		5,10,15,20-*tetrakis*(4-hydroxyphenyl)porphyrin					
	Sol/Col	363.8	15.27	41.97			
	Col/Liq	407.1	12.77	31.37	73.34		[285]
$C_{76}H_{86}O_8$		1,3-phenylene *bis*[4-(4′-n-tetradecylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	376.2	28.63	76.10			
	Meso/Liq	429.7	24.18	56.27	132.37		[26]
$C_{76}H_{90}O_8$		1,3-phenylene *bis*[4-(3-methylbenzoyloxy)] 4′-dodecylbiphenyl-4-carboxylate					
	Sol/Meso	387.2	56.38	145.61			
	Meso/Liq	401.7	16.27	40.50	186.11		[276]
$C_{76}H_{98}N_2O_8S$		(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(decyloxy)benzoate					
	Sol/Smec	373.7	50.88	136.15			
	Smec/Col	396.6	2.95	7.44			
	Col/Liq	404.6	3.95	9.76	153.35		[234]
$C_{76}H_{106}N_2O_4$		2,5,2′,5′-*tetrakis*(4-decyloxyphenyl)azobenzene					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	451.2	73.3	162.46			
	Smec/Liq	510.2	18.1	35.48	197.94		[122]
$C_{76}H_{122}O_6$		cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[octanoate]					
	Sol/Nem	401.2	19.2	47.86			
	Nem/Liq	434.2	3.8	8.75	56.61		[152]
$C_{78}H_{92}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-hexadecylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	373.2	85.09	228.00			
	Meso/Liq	468.7	29.03	61.94	289.94		[26]
$C_{78}H_{92}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-hexadecylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	409.2	49.15	120.11			
	Meso/Liq	455.2	21.27	46.73	166.84		[26]
$C_{78}H_{94}O_8$		1,3-phenylene *bis*[4-(4′-n-hexadecylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	390.7	43.78	112.06			
	Meso/Liq	479.7	28.72	59.87	171.93		[26]
$C_{78}H_{96}N_2O_6$		1,3-phenylene*bis*[(E)-methylidynenitrilo-4,1-phenylene] 4′-(hexadecyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Meso	415.7	14.9	35.84			
	Meso/Meso	465.7	46.3	99.42			
	Meso/Liq	524.7	30.2	57.56	192.82		[299]
$C_{78}H_{102}O_{12}$		hexa(4-pentyloxyphenoxymethyl)benzene					
	Sol/Sol	270.1	14.9	55.16			
	Sol/Meso	337.7	14.3	42.34			
	Meso/Liq	369.5	24.6	66.58	164.08		[136]
$C_{78}H_{106}O_7$		2,5-*bis*-(4-decyloxyphenyl)benzoic acid anhydride					
	Sol/Smec	417.2	49.5	118.65			
	Smec/Liq	445.2	26.3	59.07	177.72		[122]
$C_{78}H_{108}N_2O_6$		N,N′-*bis*-(4,4″-didecyloxy-p-terphenyl-2′-carbonyl)hydrazine					
	Sol/Smec	414.2	22.5	54.32			
	Smec/Liq	432.2	12.0	27.76	82.08		[122]
$C_{78}H_{110}O_9$		1-{6-[3,6,7,10,11-*pentakis*(octyloxy)triphenylen-2-yloxy]hexyloxy}-9,10-anthraquinone					
	Sol/Meso	313.0	30.4	97.12			
	Meso/Liq	326.0	3.04	9.33	106.45		[7]
$C_{78}H_{120}O_{12}$		4,7-dimethyloctanoic acid, 2,3,6,7,10,11-triphenylenehexyl ester					
	Sol/Meso	Not reported in paper					
	Meso/Liq	385.3	4.8	12.46			[324]
$C_{78}H_{120}O_{18}$		*octakis*(octanoyloxy)-9,10-anthraquinone					
	Sol/Meso	358.7	90.2	251.46			
	Meso/Liq	423.2	22.6	53.40	304.86	482.1	[89]
$C_{78}H_{126}O_6$		cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[nonanoate]					
	Sol/Nem	386.2	36.7	95.03			
	Nem/Liq	404.2	1.6	3.96	98.99		[152]
$C_{78}H_{140}N_2O_{10}$		N,N′-didodecanoyl-2,3,5,6-*tetrakis*(dodecanoyloxy)-1,4-benzenediamine					
	Sol/Disc	362.2	82.0	226.39			
	Disc/Liq	470.2	28.0	59.55	285.94		[188]
$C_{79}H_{87}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4′-hexadecylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	390.2	47.5	121.73			
	Meso/Liq	428.2	29.1	67.96	189.69		[28,130]
$C_{79}H_{91}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-hexadecylbiphenyl-4′-carbonyloxy)-2-fluorobenzoate]					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Meso	397.2	58.6	147.53			
	Note: Sol/Sol transition enthalpy is included in the Sol/Meso value.						
	Meso/Liq	422.2	28.7	67.98	215.51		[130]
$C_{79}H_{94}F_2O_8$		4′-hexadecyl-[1,1′-biphenyl]-4-carboxylic acid, (2-methyl-1,3-phenylene)*bis*[oxycarbonyl (3-fluoro-4,1-phenylene)] ester					
	Sol/Meso	405.2	56.8	140.18			
	Note: Sol/Meso enthalpy includes other Sol/Sol transitions.						
	Meso/Liq	467.2	Decomposed				[168]
$C_{79}H_{110}O_7$		*bis*-[(4,4″-didecyloxy-p-terphenyl-2′-yl)methyl]carbonate					
	Sol/Smec	378.2	84.2	222.63			
	Smec/Liq	389.2	15.9	40.85	263.48		[122]
$C_{80}H_{94}O_8$		1,3-phenylene *bis*[4-(4′-n-hexadecylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	376.7	74.06	199.60			
	Note: Sol/Sol transition enthalpy is included in the above value.						
	Meso/Liq	429.2	25.03	58.32	257.92		[26]
$C_{80}H_{106}N_2O_8S$		(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(undecyloxy)benzoate					
	Sol/Col	379.4	59.99	158.12			
	Col/Liq	410.7	5.29	12.88	171.00		[234]
$C_{80}H_{120}O_4$		2,3,5,6,8,9,11,12-octaheptyltetraoxy[8]circulene					
	Sol/Meso	466.2	28.0	60.06			
	Meso/Liq	493.2	30.0	60.83	120.89		[262]
$C_{80}H_{130}O_6$		cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[decanoate]					
	Sol/Nem	380.2	27.3	71.80			
	Nem/Liq	415.2	3.4	8.19	79.99		[152]
$C_{81}H_{122}F_3N_7O_{11}$		*bis*{2-[3,4-*bis*(undecyloxy)phenyl]ethyl} N-{N^{10}-[(trifluoroacetyl)pteroyl]-L-glutamate					
	Sol/Smec	260.2	10.0	38.43			
	Smec/Liq	508.2	34.0	66.90	105.33		[317]
$C_{81}H_{137}N_3O_6$		4-(phenylmethyl)-3,5-*bis*[3,4,5-*tris*(decyloxy)phenyl-4H-1,2,4-triazole					
	Sol/Meso	Not reported in paper					
	Sol/Meso	335.9	3.61	10.75			[259]
$C_{82}H_{100}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-octadecylbiphenyl-4-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	377.2	73.96	196.08			
	Meso/Liq	467.7	29.92	63.97	260.05		[26]
$C_{82}H_{100}F_2O_8$		1,3-phenylene *bis*[4-(4′-n-octadecyllbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	408.2	57.35	140.49			
	Meso/Liq	453.7	24.20	53.34	193.83		[26]
$C_{82}H_{96}O_3$		11-{*pentakis*[(4-pentylphenyl)ethynyl]phenoxy}undecanoic acid					
	Sol/Meso	356.4	43.5	122.05			
	Meso/Liq	364.4	0.2	0.55	122.60		[19]
$C_{82}H_{98}O_2$		11-{*pentakis*[(4-pentylphenyl)ethynyl]phenoxy}undecan-1-ol					
	Sol/Meso	339.6	25.8	75.97			
	Meso/Liq	367.6	0.2	0.54	76.51		[19]
$C_{82}H_{98}O_8$		1,3-phenylene *bis*[4-(4′-n-octadecylbiphenyl-4-carbonyloxy)benzoate]					
	Sol/Meso	390.2	48.05	123.14			
	Meso/Liq	477.2	28.47	59.66	182.80		[26]
$C_{82}H_{104}N_2O_6$		1,3-phenylene*bis*[(E)-methylidynenitrilo-4,1-phenylene] 4′-(octadecyloxy)[1,1′-biphenyl]-4-carboxylate					
	Sol/Meso	425.2	13.9	32.69			
	Meso/Meso	463.2	44.8	96.72			

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Meso/Liq	518.7	31.8	61.31	190.72		[299]
$C_{82}H_{114}N_2O_8S$		4-[[5-[4-[[3,4-*bis*(dodecyloxy)benzoyl]oxy]phenyl]-3,4-dicyano-2-thienyl]ethynyl]phenyl, 3,4-*bis* (dodecyloxy)benzoate					
	Sol/Col	385.9	54.5	141.23			
	Col/Liq	394.7	4.4	11.15	155.38		[373]
$C_{82}H_{118}O_7$		1,9-*bis*(4,4″-didecyloxy-p-terphenyl-2′-yl)-2,5,8-trioxanonane					
	Sol/Smec	347.2	72.8	209.68			
	Smec/Liq	363.2	8.0	22.03	231.71		[122]
$C_{82}H_{134}O_6$		cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[undecanoate]					
	Sol/Nem	383.2	29.2	76.20			
	Nem/Liq	395.2	0.2	0.51	76.71		[152]
$C_{82}H_{136}N_2O_6$		2,4-*bis*(3′,4′,5′-tridecyloxyphenyl)-6-phenylpyrimidine					
	Sol/Col	318.9	36.0	112.89			
	Col/Liq	356.1	2.70	7.58	120.47		[30]
$C_{83}H_{95}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4′-octadecylbiphenyl-4-carbonyloxy)-3-fluorobenzoate]					
	Sol/Meso	385.2	38.4	99.69			
	Meso/Liq	427.7	29.2	68.27	167.96		[28, 130]
$C_{83}H_{99}F_2NO_8$		2-cyano-1,3-phenylene *bis*[4-(4-octadecylbiphenyl-4′-carbonyloxy)-2-fluorobenzoate]					
	Sol/Meso	396.2	59.4	149.92			
	Note: Sol/Sol transition enthalpy is included in the Sol/Meso value.						
	Meso/Liq	422.7	30.2	71.45	221.37		[130]
$C_{83}H_{102}F_2O_8$		4′-octadecyl-[1,1′-biphenyl]-4-carboxylic acid, (2-methyl-1,3-phenylene)*bis*[oxycarbonyl (3-fluoro-4,1-phenylene)] ester					
	Sol/Meso	400.7	44.0	109.81			
	Meso/Liq	465.7	Decomposed				[168]
$C_{83}H_{120}O_9$		1-{6-[3,6,7,10,11-*pentakis*(nonyloxy)triphenylen-2-yloxy]hexyloxy}-9,10-anthraquinone					
	Sol/Sol	294.0	1.11	3.78			
	Sol/Meso	304.0	0.26	0.86			
	Meso/Liq	317.0	21.3	67.19	71.83		[7]
$C_{84}H_{100}O_3$		11-{*pentakis*[(4-pentylphenyl)ethynyl]phenoxy}undecanoic acid, ethyl ester					
	Sol/Meso	329.8	51.6	156.46			
	Meso/Liq	342.2	0.3	0.88	157.34		[19]
$C_{84}H_{102}N_4O_8$		5,10,15,20-*tetrakis*(4-octanoyloxyphenyl)porphyrin					
	Sol/Col	297.2	20.59	69.27			
	Col/Col	321.6	15.46	48.07			
	Col/Liq	397.9	12.15	30.54	147.88		[285]
$C_{84}H_{106}O_8$		1,3-phenylene *bis*[4-(4′-n-octadecylbiphenyl-4-carbonyloxy)-2-methylbenzoate]					
	Sol/Meso	376.2	84.40	224.35			
	Meso/Liq	428.2	24.18	56.47	280.82		[26]
$C_{84}H_{114}N_2O_8S$		(3,4-dicyano-2,5-thiophenediyl)*bis*(2,1-ethynediyl-4,1-phenylene) 3,4-*bis*(heptyloxy)benzoate					
	Sol/Col	376.0	89.29	237.47			
	Col/Liq	411.2	2.79	6.79	244.26		[234]
$C_{84}H_{114}O_{12}$		hexa(4-hexyloxyphenoxymethyl)benzene					
	Sol/Sol	271.4	0.4	1.47			
	Sol/Sol	287.1	1.2	4.18			
	Sol/Meso	349.8	20.2	57.75			
	Meso/Liq	356.5	20.4	57.22	120.62		[136]
$C_{84}H_{122}O_8$		1,12-*bis*(4,4″-didecyloxy-p-terphenyl-2′-yl)-2,5,8,11-tetraoxadodecane					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Smec	343.2	73.4	213.87			
	Smec/Liq	353.2	7.9	22.37	236.24		[122]
$C_{84}H_{138}O_6$		cholest-5-en-3-ol (3β), 4,4′-[1,4-phenylene*bis*(oxy)]*bis*[dodecanoate]					
	Sol/Nem	378.2	11.2	29.61			
	Nem/Liq	407.2	3.0	7.37	36.98		[152]
$C_{86}H_{136}O_{18}$		*octakis*(nonanoyloxy)-9,10-anthraquinone					
	Sol/Meso	359.7	85.4	237.42			
	Meso/Liq	421.2	21.6	57.11	294.53	538.9	[89]
$C_{86}H_{154}N_2O_6$		2,5-*bis*[3,4,5-*tris*(dodecyloxyphenyl)]-1,3,4-oxadiazole					
	Sol/Col	305.1	36.7	120.29			
	Col/Liq	332.5	5.60	16.84	137.13	590.5	[178]
$C_{88}H_{130}O_9$		1-{6-[3,6,7,10,11-*pentakis*(decloxy)triphenylen-2-yloxy]hexyloxy}-9,10-anthraquinone					
	Sol/Sol	310.0	4.01	12.94			
	Sol/Meso	322.0	13.7	42.55			
	Meso/Liq	336.0	0.50	1.49	56.98		[7]
$C_{88}H_{136}O_4$		2,3,5,6,8,9,11,12-octaoctyltetraoxy[8]circulene					
	Sol/Meso	433.2	27.0	62.33			
	Meso/Liq	456.2	16.0	35.07	97.40		[262]
$C_{88}H_{138}O_6$		2,3,6,7,11,12-*hexakis*(decyloxy)-10,13-dimethylbenzo[b]triphenylene					
	Sol/Col	308.2	63.94	207.46			
	Col/Liq	361.2	1.24	3.43	210.89		[349]
$C_{90}H_{126}O_{12}$		hexa(4-heptyloxyphenoxymethyl)benzene					
	Sol/Sol	207.2	5.0	24.13			
	Sol/Sol	259.5	12.2	47.01			
	Sol/Meso	340.0	29.8	87.65			
	Meso/Liq	344.4	17.1	49.65	208.44		[136]
$C_{90}H_{134}N_2O_7$		*bis*{10-[4-(4-butylphenyliminomethynyl)phenoxy]decyl} 2-[6-(cholesteryloxy)hexyl]malonate					
	Sol/Meso	357.4	66.2	185.23			
	Meso/Liq	391.8	10.4	26.54	211.77		[77]
$C_{90}H_{134}N_2O_9$		*bis*{10-[4-(4-butoxyphenyliminomethynyl)phenoxy]decyl} 2-[6-(cholesteryloxy)hexyl]malonate					
	Sol/Meso	399.4	103.4	258.89			
	Meso/Liq	421.4	18.1	42.95	301.84		[77]
$C_{90}H_{164}N_2O_{10}$		N,N′-ditetradecanoyl-2,3,5,6-*tetrakis*(tetradecanoyloxy)-1,4-benzenediamine					
	Sol/Disc	365.2	103.0	282.04			
	Disc/Liq	462.2	22.0	47.60	329.64		[188]
$C_{92}H_{118}N_4O_8$		5,10,15,20-*tetrakis*(4-decanoyloxyphenyl)porphyrin					
	Sol/Col	299.2	36.00	120.32			
	Col/Liq	407.7	12.98	31.84	152.16		[285]
$C_{92}H_{126}N_4O_2Si$		dihydroxo[5,10,15,20-*tetrakis*(4-dodecylphenyl)porphinato]silicon (IV)					
	Sol/Meso	357.2	11	30.80			
	Meso/Liq	484.2	36	74.35	105.15	NA	[332]
$C_{92}H_{156}N_2O_7$		2,4-*bis*(3′,4′-didecyloxyphenyl)-6-(3′,4′,5′-tridecyloxyphenyl)pyrimidine					
	Sol/Col	332.9	32.5	97.63			
	Col/Liq	378.2	4.96	13.11	110.74	1159	[30]
$C_{92}H_{156}N_2O_7$		2,4- *bis*(3′,4′,5′-tridecyloxyphenyl)-6-(4′-decyloxyphenyl)pyrimidine					
	Sol/Col	329.7	49.0	148.62			
	Col/Liq	387.2	3.70	9.56	158.18	1159	[30]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{93}H_{146}F_3N_7O_{11}$		*bis*{2-[3,4-*bis*(tetradecyloxy)phenyl]ethyl} N-{N^{10}-[(trifluoroacetyl)pteroyl]-L-glutamate					
	Sol/Meso	Not reported in paper					
	Meso/Meso	309.2	40.0	129.39			
	Meso/Meso	499.2	9.0	18.03			
	Meso/Liq	505.2	9.0	17.81			[317]
$C_{93}H_{161}N_3O_6$		4-(phenylmethyl)-3,5-*bis*[3,4,5-*tris*(dodecyloxy)phenyl]-4H-1,2,4-triazole					
	Sol/Meso	Not reported in paper					
	Meso/Liq	340.3	5.21	15.31			[259]
$C_{94}H_{152}O_{18}$		*octakis*(decanoyloxy)-9,10-anthraquinone					
	Sol/Meso	371.9	146.2	393.12			
	Meso/Liq	420.4	19.9	47.34	440.46	595.7	[89]
$C_{95}H_{132}O_{11}$		4-[3′,4′,5′-tri(4-dodecyloxybenzyloxy)]-benzoyloxy-4‴-(4-dodecyloxybenzoyloxy)biphenyl					
	Sol/Nem	356.4	69.04	193.71			
	Nem/Liq	365.7	0.41	1.12	194.83		[219]
$C_{96}H_{152}O_4$		2,3,5,6,8,9,11,12-octanonyltetraoxy[8]circulene					
	Sol/Meso	421.2	38.0	90.22			
	Meso/Liq	442.2	14.0	31.66	121.88		[262]
$C_{97}H_{140}O_{12}$		2,2′,3,3′,6,6′,7,7′-*octakis*(heptyloxy)-12,12′(13*H*,13′*H*)-spiro[11*H*-triphenyleno[2,3-b][1,4]dioxepin]					
	Sol/Col	343.2	16.6	48.37			
	Col/Liq	376.2	1.7	4.52	52.89		[367]
$C_{98}H_{178}N_2O_6$		2,5-*bis*[3,4,5-*tris*(tetradecyloxyphenyl)]-1,3,4-oxadiazole					
	Sol/Col	307.1	53.0	172.58			
	Col/Liq	331.8	6.38	19.23	191.81	575.7	[178]
$C_{102}H_{158}N_2O_7$		*bis*{10-[4-(4-decylphenyliminomethynyl)phenoxy]decyl} 2-[6-(cholesteryloxy)hexyl]malonate					
	Sol/Meso	355.7	80.4	226.03			
	Meso/Liq	383.7	19.0	49.52	275.55		[77]
$C_{102}H_{158}N_2O_9$		*bis*{10-[4-(4-decyloxyphenyliminomethynyl)phenoxy]decyl} 2-[6-(cholesteryloxy)hexyl]malonate					
	Sol/Meso	382.5	89.8	234.77			
	Meso/Liq	401.6	18.5	46.07	280.84		[77]
$C_{102}H_{168}O_{18}$		*octakis*(undecanoyloxy)-9,10-anthraquinone					
	Sol/Meso	375.2	149.5	398.45			
	Meso/Liq	416.6	19.6	47.05	445.50	652.5	[89]
$C_{102}H_{176}N_2O_8$		2,4-*bis*(3′,4′,5′-tridecyloxyphenyl)-6-(3′,4′-didecyloxyphenyl)pyrimidine					
	Sol/Chol	309.4	26.2	84.68			
	Chol/Liq	404.6	5.03	12.43	97.11	1325	[30]
$C_{102}H_{166}N_2O_{10}$		N,N′-dihexadecanoyl-2,3,5,6-*tetrakis*(hexadecanoyloxy)-1,4-benzenediamine					
	Sol/Disc	367.2	115.0	313.18			
	Disc/Liq	463.2	18.0	38.86	352.04	690.8	[188]
$C_{103}H_{124}O_5$		ethyl 102-hydroxy-17,80-dioxaoctacyclo-[85.2.2.27,10.213,16.243,46.251,54.281,84.12,6]dohecta-2,4,6(102),8,9,13,15,43,51,53,81,83,87,89,90,92,94,96,98,100-heneicosaene-11,41,47,49,55,85-hexayne-4-carboxylate					
	Sol/Sol	407.2	Not reported in paper				
	Sol/Nem	415.2	Not reported in paper				
	Nem/Liq	434.2	0.20	0.46			[327]
$C_{103}H_{281}N_3O_9$		N,N-*bis*[2-[[3,4-*bis*(tridecyloxy)benzoyl]amino]ethyl]-3,4-*bis*(tridecyloxy)benzamide					
	Sol/Sol	318.6	40.1	125.86			
	Note: Sol/Sol transition was observed only on the first heating cycle.						
	Sol/Gel	354.6	55.8	157.36			
	Gel/Liq	373.3	1.3	3.48	286.70		[379]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{104}H_{168}O_4$		2,3,5,6,8,9,11,12-octadecyltetraoxy[8]circulene					
	Sol/Meso	406.2	53.0	130.48			
	Meso/Liq	438.2	26.0	59.33	189.81		[262]
$C_{105}H_{124}F_6O_{11}$		ethyl 3,4,5-*tris*[[6-[[2″,3″-difluoro-4″-(octyloxy)[1,1′,4′,1″-terphenyl]-4-yl]oxy]hexyl]oxy]benzoate					
	Sol/Sol	356.2	5.5	15.44			
	Sol/Smec	396.2	35.0	88.34			
	Smec/Smec	438.2	0.3	0.68			
	Smec/Liq	478.2	18.0	37.64	142.10		[419]
$C_{105}H_{156}O_{12}$		2,2′,3,3′,6,6′,7,7′-*octakis*(octyloxy)-12,12′(13*H*,13′*H*)-spiro[11*H*-triphenyleno[2,3-b][1,4]dioxepin]					
	Sol/Col	338.2	21.6	63.87			
	Col/Liq	382.2	2.0	5.23	69.10		[367]
$C_{108}H_{132}O_{12}$		2,3,6,7,10,11-*hexakis*(4-octyloxybenzoyloxy)triphenylene					
	Sol/Meso	423.2	21	49.62			
	Meso/Meso	440.2	6.0	13.63			
	Meso/Liq	511.2	0.5	0.98	64.23	538.2	[81]
$C_{108}H_{162}N_2O_{10}$		N,N-di(3,4,5-tridodecyloxyphenyl)perylene-3,4:9,10-tetracarboxylic acid bisimide					
	Sol/Meso	Not reported in paper					
	Meso/Liq	646.2	8.9	13.77			[329]
$C_{109}H_{178}F_3N_7O_{11}$		*bis*{2-[3,4-*bis*(octadecyloxy)phenyl]ethyl} N-{N^{10}-(trifluoroacetyl)pteroyl]-L-glutamate					
	Sol/Meso	Not reported in paper					
	Meso/Meso	335.2	81.0	241.65			
	Meso/Meso	480.2	5.0	10.41			
	Meso/Liq	496.2	8.0	16.12	268.18		[317]
$C_{109}H_{193}N_3O_9$		N,N-*bis*[2-[[3,4-*bis*(tetradecyloxy)benzoyl]amino]ethyl]-3,4-*bis*(tetradecyloxy)benzamide					
	Sol/Sol	323.6	36.2	111.87			
	Sol/Gel	359.4	50.9	141.62			
	Gel/Liq	379.0	0.9	2.37	255.86		[379]
$C_{110}H_{84}O_{18}$		*octakis*(dodecanoyloxy)-9,10-anthraquinone					
	Sol/Meso	376.2	164.2	436.47			
	Meso/Liq	413.2	18.3	44.29	480.76	709.3	[89]
$C_{110}H_{146}FeO_{10}$		*bis*{4-[4′-(3″,4″,5″-*tris*(octyloxy)phenylcarbonyloxy)biphenyloxycarbonyl]phenyl} ferrocene-1,1′-dicarboxylate					
	Sol/Cube	436.1	69.4	159.14			
	Cube/Liq	446.1	7.2	16.14	175.28	NA	[308]
$C_{110}H_{202}N_2O_6$		2,5-*bis*[3,4,5-*tris*(hexadecyloxyphenyl)]-1,3,4-oxadiazole					
	Sol/Chol	324.6	79.5	244.92			
	Chol/Liq	327.3	3.73	11.40	256.32	760.9	[178]
$C_{112}H_{196}N_2O_9$		2,4,6-*tris*(3′,4′,5′-tridecyloxyphenyl)pyrimidine					
	Sol/Chol	335.3	15.6	46.53			
	Chol/Liq	413.7	6.52	15.76	62.29	1491	[30]
$C_{113}H_{84}F_{104}O_{16}$		2,2-*bis*[[[3,4-*bis*[(5,5,6,6,7,7,8,8,9,9,10,10,10-tridecafluorodecyl)oxy]benzoyl]oxy]methyl]-1,3-propanediyl 3,4-*bis*[(5,5,6,6,7,7,8,8,9,9,10,10,10-tridecafluorodecyl)oxy]benzoate					
	Sol/Col	361.2	86.5	239.48			
	Col/Liq	404.2	5.6	13.85	253.33		[324]
$C_{113}H_{116}F_{72}O_{16}$		2,2-*bis*[[[3,4-*bis*[(7,7,8,8,9,9,10,10,10-nonafluorodecyl)oxy]benzoyl]oxy]methyl]-1,3-propanediyl 3,4-*bis*[(7,7,8,8,9,9,10,10,10-nonafluorodecyl)oxy]benzoate					
	Sol/Meso	Not observed					
	Col/Liq	373.2	4.1	10.99			[330]
	Note: Authors report that a crystalline phase has yet to be observed.						

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{113}H_{136}F_{52}O_{16}$		2,2-*bis*[[[3-(decyloxy)-4-[(5,5,6,6,7,7,8,8,9,9,10,10,10-tridecafluorodecyl)oxy]benzoyl]oxy]methyl]-1,3-propanediyl 3-(decyloxy)-4-[(5,5,6,6,7,7,8,8,9,9,10,10,10-tridecafluorodecyl)oxy]benzoate					
	Sol/Meso	Not observed					
	Meso/Liq	381.2	5.6	14.69			[330]
	Note: Authors report that a crystalline phase has not yet been observed.						
$C_{113}H_{172}O_{12}$		2,2′,3,3′,6,6′,7,7′-*octakis*(nonyloxy)-12,12′(13*H*,13′*H*)-spiro[11*H*-triphenyleno[2,3-b][1,4]dioxepin]					
	Sol/Col	333.2	19.1	57.32			
	Col/Liq	394.2	5.2	13.19	70.51		[367]
$C_{114}H_{150}$		*hexakis*[[4-(4-methylnonyl)phenyl]ethynyl]benzene					
	Sol/Disc	279.3	18.1	64.80			
	Disc/Liq	342.5	0.3	0.88	65.68		[354]
$C_{115}H_{205}N_3O_9$		N,N-*bis*[2-[[3,4-*bis*(pentadecyloxy)benzoyl]amino]ethyl]-3,4-*bis*(pentadecyloxy)benzamide					
	Sol/Sol	327.4	50.2	153.33			
	Sol/Gel	357.3	45.5	127.34			
	Gel/Liq	380.6	1.0	2.63	283.30		[379]
$C_{117}H_{195}N_3O_7$		2,4,5-*tris*(decyloxy)benzoic acid, 2,4,6-trinitro-1,3,5-benzenetriyl ester					
	Sol/Col	320.1	55.7	174.01			
	Col/Liq	366.7	9.0	24.54	198.55		[366]
$C_{118}H_{100}O_{18}$		*octakis*(tridecanoyloxy)-9,10-anthraquinone					
	Sol/Meso	375.2	163.8	436.57			
	Meso/Liq	411.2	16.7	40.61	477.18	766.1	[89]
$C_{120}H_{144}N_9O_{12}P_3$		2,2,4,4,6,6-*hexakis*[4-(E)-[[4-(heptyloxy)phenyl]imino]methylphenoxy]-2,2,4,4,6,6-hexahydro-1,3,5,2,4,6-triaazatriphosphocine					
	Sol/Smec	460.0	74.0	160.87			
	Smec/Smec	482.0	1.0	2.07			
	Smec/Smec	499.0	0.5	1.00			
	Smec/Liq	512.0	18.0	35.16	199.10		[361]
$C_{120}H_{150}N_3O_{16}P_3$		2,2,4,4,6,6-*hexakis*[4-(4′-(octyloxy)biphenoxy]-2,2,4,4,6,6-hexahydro-1,3,5,2,4,6-triazatriphosphocine					
	Sol/Smec	440.0	79.0	179.55			
	Smec/Liq	457.0	15.0	32.82	212.37		[361]
$C_{121}H_{188}O_{12}$		2,2′,3,3′,6,6′,7,7′-*octakis*(decyloxy)-12,12′(13*H*,13′*H*)-spiro[11*H*-triphenyleno[2,3-b][1,4]dioxepin]					
	Sol/Col	329.2	30.0	91.13			
	Col/Liq	379.2	2.3	6.07	97.20		[367]
$C_{121}H_{217}N_3O_9$		N,N-*bis*[2-[[3,4-*bis*(hexadecyloxy)benzoyl]amino]ethyl]-3,4-*bis*(hexadecyloxy)benzamide					
	Sol/Sol	316.2	21.2	67.05			
	Sol/Gel	358.5	58.0	161.79			
	Gel/Liq	380.1	1.0	2.63	231.47		[379]
$C_{122}H_{170}FeO_{10}$		*bis*{4-[4′-(3″,4″,5″-*tris*(decloxy)phenylcarbonyloxy)biphenyloxycarbonyl]phenyl}ferrocene-1,1′-dicarboxylate					
	Sol/Cube	399.7	128.7	322.0			
	Cube/Liq	447.8	4.4	9.83	331.82	NA	[308]
$C_{126}H_{116}O_{18}$		*octakis*(tetradecanoyloxy)-9,10-anthraquinone					
	Sol/Meso	377.2	61.6	163.31			
	Meso/Meso	383.2	188	490.61			
	Meso/Liq	409.1	14	34.22	688.14	822.8	[89]
$C_{128}H_{186}N_2O_{12}$		N,N-di(3,4,5-tridodecyloxyphenyl)-1,7-di(4-*tert*-butylphenoxy)perylene-3,4:9,10-tetracarboxylic acid bisimide					
	Sol/Meso	Not reported in paper					
	Meso/Liq	556.2	6.2	11.15			[323]

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula	Transition	Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
$C_{134}H_{132}O_{18}$		*octakis*(pentadecanoyloxy)-9,10-anthraquinone					
	Sol/Meso	375.7	50.5	134.42			
	Meso/Meso	382.7	198	517.38			
	Meso/Liq	405.5	13	32.06	683.86	879.7	[89]
$C_{134}H_{194}FeO_{10}$		*bis*{4-[4′-(3″,4″,5″-*tris*(dodecyloxy)phenylcarbonyloxy)biphenyloxycarbonyl]phenyl}ferrocene-1,1′-dicarboxylate					
	Sol/Col	390.3	98.9	253.39			
	Col/Liq	445.5	1.6	3.59	256.98	NA	[308]
$C_{135}H_{237}N_3O_{12}$		1,3,5-*tris*(3,4,5-tridodecyloxybenzoylamino)benzene					
	Sol/Meso	301.2	107.0	355.24			
	Meso/Liq	437.2	53.0	121.23	476.47		[423]
$C_{138}H_{186}S_6$		*hexakis*[4-(5′dodecyl-2′-thienyl)phenyl]benzene					
	Sol/Sol	302.4	Not reported in paper				
	Sol/Meso	308.9	58.19	118.38			
	Note: Sol/Sol transition enthalpy is included in the Sol/Meso value.						
	Meso/Liq	428.7	41.14	95.96	214.34		[315]
$C_{141}H_{132}N_6O_{18}$		7-[(4′-cyano[1,1′-biphenyl]-4-yl)oxy]heptanoic acid 10,15-dihydro-5*H*-tribenzo[a,d,g]cyclononene-2,3,7,8,12,13-hexyl ester					
	Sol/Sol	338.2	18.8	55.59			
	Sol/Smec	385.2	7.0	18.17			
	Smec/Liq	396.2	8.2	20.70	94.46		[359]
$C_{142}H_{148}O_{18}$		*octakis*(hexadecanoyloxy)-9,10-anthraquinone					
	Sol/Meso	376.9	57.7	153.09			
	Meso/Meso	386.2	236.7	612.89			
	Meso/Liq	404.3	13	32.15	798.13	936.5	[89]
$C_{146}H_{218}FeO_{10}$		*bis*{4-[4′-(3″,4″,5″-*tris*(tetradecyloxy)phenylcarbonyloxy)biphenyloxycarbonyl]phenyl}ferrocene-1,1′-dicarboxylate					
	Sol/Col	385.8	82.9	212.29			
	Col/Liq	443.9	1.8	4.05	216.34	NA	[308]
$C_{146}H_{242}O_{12}$		2,3,6,7,10-*pentakis*(decyloxy)-11-[[10-[[3,6,7,10,11-*pentakis*[[(3R)-3,7-dimethyloctyl]oxy]-2-triphenylenyl]-oxy]decyl]oxy]triphenyl					
	Sol/Meso	307.2	21.4	69.66			
	Meso/Liq	318.2	3.9	12.26	81.92		[328]
	Note: The above values were determined from the first heating cycle. On subsequent heating cycles the authors observed only a Meso/Liq phase transition at 314.2 K, with an enthalpy of transition of 8.5 kJ·mol^{-1} . The authors reported the mesophase failed to crystallize.						
$C_{148}H_{210}N_2O_{14}$		N,N-di(3,4,5-tridodecyloxyphenyl)-1,6,7,12-tetra(4-*tert*-butylphenoxy)perylene-3,4:9,10-tetracarboxylic acid bisimide					
	Sol/Meso	Not reported in paper					
	Meso/Liq	619.2	15.0	24.22			[329]
$C_{158}H_{242}FeO_{10}$		*bis*{4-[4′-(3″,4″,5″-*tris*(hexadecyloxy)phenylcarbonyloxy)biphenyloxycarbonyl]phenyl}ferrocene-1,1′-dicarboxylate					
	Sol/Col	393.6	110.0	279.47			
	Col/Liq	445.1	1.4	3.15	282.62	NA	[308]
$C_{160}H_{192}N_{12}O_{16}P_4$		2,2,4,4,6,6,8,8-*octakis*[4-(E)-[[4-(heptyloxy)phenyl]imino]methylphenoxy]-2,2,4,4,6,6,8,8-octhydro-1,3,5,7,2,4,6,8-tetraazatetraphosphocine					
	Sol/Smec	428.0	77.0	179.91			
	Smec/Liq	430.0	28.0	65.12	245.03		[361]
$C_{164}H_{292}N_2O_{14}$		N,N-di(3,4,5-tridodecyloxyphenyl)-1,6,7,12-tetra(4-(1,1,3,3-tetramethylbutyl)phenoxy)perylene-3,4:9,10-tetracarboxylic acid *bis*imide					

TABLE 11. The solid-liquid phase change properties of liquid crystals—Continued

Molecular Formula / Transition		Compound T (K)	ΔH_{pce} (kJ·mol^{-1})	ΔS_{pce}	$\Delta_0^{T_{fus}} S_{tpce}$ (exp) (J·K^{-1}·mol^{-1})	$\Delta_0^{T_{fus}} S_{tpce}$ (estimated)	Ref.
	Sol/Meso	Not reported in paper					
	Meso/Liq	556.2	23.9	42.97			[329]
$C_{165}H_{176}F_6O_{17}$		3,4,5-*tris*[[6-[[2″,3″-difluoro-4″-(octyloxy)[1,1′,4′,1″-terphenyl]-4-yl]oxy]hexyl]oxy]benzoic acid, 11-[*pentakis*[(4-methoxyphenyl)ethynyl]phenoxy]undecyl ester					
	Sol/Sol	356.2	10.5	29.48			
	Sol/Smec	388.2	31.0	79.86			
	Smec/Smec	407.2	17.0	41.75			
	Smec/Nem	408.2	0.2	0.49			
	Nem/Liq	432.2	1.5	3.47	155.05		[419]
$C_{165}H_{180}N_6O_{18}$		4-[(4′-cyano[1,1′-biphenyl]-4-yl)oxy]undecanoic acid 10,15-dihydro-5*H*-tribenzo[a,d,g]cyclononene-2,3,7,8,12,13-hexyl ester					
	Sol/Smec	368.2	58.3	158.34			
	Smec/Liq	389.2	21.3	54.73	213.07		[359]
$C_{170}H_{266}FeO_{10}$		*bis*{4-[4′-(3″,4″,5″-*tris*(octadecyloxy)phenylcarbonyloxy)biphenyloxycarbonyl]phenyl}ferrocene-1,1′-dicarboxylate					
	Sol/Col	394.1	120.4	305.51			
	Col/Liq	446.1	1.6	3.59	309.10	NA	[308]
$C_{194}H_{324}O_{12}$		*tetrakis*[4-(3,4,5-*tris*dodecyloxyphenyl)phenyl]ethane					
	Sol/Col	322.2	131.2	407.20			
	Col/Liq	338.2	10.5	31.05	438.25		[377]
$C_{240}H_{280}N_8O_{32}$		4,6,10,12,16,18,22,24-*octakis*{2-{11[(4′-cyano-1,1′-biphenyl-4-yl)oxy]undecanoyloxy}ethoxy}-2,8,14,10-tetramethylcalix[4]arene					
	Sol/Nem	Not reported in paper					
	Nem/Liq	349.2	20.0	57.27			[307]

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8. References

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