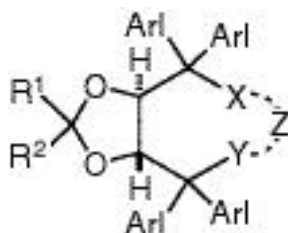


TADDOLs, their Derivatives, and Taddol Analogs: Versatile Chiral Auxiliaries

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What follows is a list that to the best of our knowledge includes all the currently known TADDOL derivatives^[467] together with references to available X-ray structural data (CSD Refcodes wherever possible) and citations of literature sources in which these derivatives are prepared, utilized, or discussed. Metal complexes have not been listed separately. References for the latter are appended to references for the corresponding free ligands. Derivatives with the configurations (*R,R*) (unlabeled) or (*S,S*) (labeled „ent“) as well as racemates („rac“) and *meso* compounds („meso“) are listed separately. A few derivatives that contain two TADDOL units could not be integrated.^[72,79,149] Moreover, there also exist a number of dendritically modified^[63,71,363,371,372,376] and solid-phase-bound TADDOL derivatives^[71,198,366-370,372,377,468,469] that could not be specified within the limits of this table. Patent literature has not been considered (roughly 60 patents have been issued related to TADDOLs and their application).

The following structure applies:



	R ¹	R ²	Arl	X•••Z•••Y	X-ray structure	References
1	(CH ₂) ₄		Ph	O-P(NMe ₂)-O		[350]
2	(CH ₂) ₄		Ph	O ₂ CCMeCH ₂	O ₂ CCMeCH ₂	[80,470]
3	(CH ₂) ₄		Ph	OH	OH	JOFSOM, LATCUE, NIYTIY, REPFIB, REPFIB01, TUBVOB, ZEDJOH [471]
4	<i>ent</i>	(CH ₂) ₄	Ph	OH	OH	TOHFEB [142,187-189,472-475]
5	<i>rac</i>	(CH ₂) ₄	Ph	OH	OH	[474]
6	(CH ₂) ₅		1-Nph	OH	OH	YONVEC [36,37,96]
7	(CH ₂) ₅		2-Nph	OH	OH	[38]
8	(CH ₂) ₅		Ph	OH	OH	NIYTUK, POWMET, REPFOH, REPFOH01, REPFOH02, SURLAS, VAXFOP, VAXFOP10, ZEDJUN [476]
9	<i>ent</i>	(CH ₂) ₅	Ph	OH	OH	[142,183,187-189,473-475,477]
10	<i>rac</i>	(CH ₂) ₅	Ph	OH	OH	[474]
11	(MeO) ₂ Si-	H	Ph	OH	OH	[39]
		-(CH ₂) ₃ SCH ₂ C ₆ H ₄				
12	1-Nph	H	Ph	OH	OH	[37,102,139]
13	1-Nph	Me	Ph	OH	OH	[83]
14	2,4,6-Me ₃ -	H	Ph	OH	OH	[35,237]
		-C ₆ H ₂				
15	2-Nph	H	Ph	OH	OH	[102]
16	3-BnO-C ₆ H ₄	H	3,5-Me ₂ -C ₆ H ₃	OH	OH	[468]
17	3-BnO-C ₆ H ₄	H	Ph	OH	OH	[468]
18	3-OH-C ₆ H ₄	H	2-Nph	OH	OH	[369]
19	3-OH-C ₆ H ₄	H	3,5-Me ₂ -C ₆ H ₃	OH	OH	[369]
20	3-OH-C ₆ H ₄	H	4-MeO-C ₆ H ₄	OH	OH	[369]
21	3-OH-C ₆ H ₄	H	Ph	OH	OH	[369]
22	4-(CH ₂ CMe-	H	Ph	OSiMe ₃	OSiMe ₃	[469]
		-CO ₂ CH ₂)C ₆ H ₄				
23	4-(CH ₂ CMe-	H	Ph	OH	OH	[71]
		-CO ₂ CH ₂)C ₆ H ₄				
24	4-(HO-	H	2-Nph	OH	OH	[39]
		-(CH ₂) ₂ C ₆ H ₄				
25	4-(HO-	H	1-Nph	OH	OH	[39]
		-(CH ₂)-C ₆ H ₄				
26	4-(HO-	H	2-Nph	OH	OH	[39]
		-(CH ₂)-C ₆ H ₄				
27	4-(HO-	H	Ph	OH	OH	[71]
		-(CH ₂)-C ₆ H ₄				
28	4-(HO-	H	Ph	OCH ₂ -(4-styryl)	OH	[41]
		-(CH ₂)-C ₆ H ₄				
29	4-(Me ₂ HSi-	H	Ph	OSiMe ₃	OSiMe ₃	[469]
		-(CH ₂) ₂ C ₆ H ₄				
30	4-(Me ₂ HSi-	H	Ph	OSiMe ₃	OSiMe ₃	[469]
		-(CH ₂) ₂ CO ₂ CH ₂)C ₆ H ₄				
31	4-(MeO ₂ C)-	H	Ph	OH	OH	[41]
		-C ₆ H ₄				
32	4-CF ₃ -C ₆ H ₄	4-sty-	Ph	OH	OH	[42]
		-ryl				
33	4-CF ₃ -C ₆ H ₄	H	4-TBDMSO-	OH	OH	[42]
			-C ₆ H ₄			
34	4-CF ₃ -C ₆ H ₄	H	Ph	OH	OH	[228]
35	4-MeO-C ₆ H ₄	H	Ph	OMe	OMe	[407,478]
36	4-MeO-C ₆ H ₄	H	Ph	OH	OH	[407,478]
37	4-OH-C ₆ H ₄	Me	4-MeO-C ₆ H ₄	OH	OH	[369]
38	4-OH-C ₆ H ₄	Me	Ph	OH	OH	[369]
39	4-OHC-C ₆ H ₄	H	Ph	OH	OH	[41]
40	4-styryl	1-Nph	Ph	OH	OH	[71]
41	4-styryl	2-Nph	Ph	OH	OH	[71]
42	4-styryl	H	Ph	OH	OH	[71]
43	4-styryl	Me	Ph	OH	OH	[71]
44	4-styryl	Ph	Ph	OH	OH	[71]
45	4-styryl-	H	Ph	OSiMe ₃	OSiMe ₃	[469]
		-CH ₂ OC ₆ H ₄				
46	4-styryl-	H	Ph	OH	OH	[71]
		-CH ₂ OC ₆ H ₄				
47	9-fluoren-	2-Nph	Ph	OH	OH	[38]
	-yliden					
48	9-fluoren	Ph	Ph	OH	OH	[37,66,83,234]
	-yliden					
49	Br-CH ₂ -C ₆ H ₄	H	1-Nph	OH	OH	[39]
50	Br-CH ₂ -C ₆ H ₄	H	2-Nph	OH	OH	[39]
51	Br-CH ₂ -C ₆ H ₄	H	Ph	OH	OH	[71]
52	Bu	Bu	Ph	OH	OH	[64]
53	CD ₃	CD ₃	2-Nph	O-SiMe ₂ -O	OH	[38]
54	CD ₃	CD ₃	2-Nph	OH	OH	[38]
55	CD ₃	CD ₃	Ph	OH	OH	[38]
56	cHex	H	Ph	OH	OH	[35]
57	<i>ent</i>	Et	Et	1-Nph	OH	[334]
58	<i>ent</i>	Et	Et	2,5-Me ₂ -C ₆ H ₃	OH	[334]
59	Et	Et	2-Nph	OH	OH	[69,299]
60	<i>ent</i>	Et	Et	3,4-(MeO) ₂ -C ₆ H ₃	OH	[334]
61	Et	Et	Et	3,5-(CF ₃) ₂ -C ₆ H ₃	OH	[69,299]
62	Et	Et	Et	3,5-Cl ₂ -C ₆ H ₃	OH	[69,299]
63	Et	Et	Et	3,5-Me ₂ -C ₆ H ₃	OH	[37,69,298,299,335,336]
64	<i>ent</i>	Et	Et	3,5-Me ₂ -C ₆ H ₃	OH	[332-334]
65	<i>ent</i>	Et	Et	3,5- <i>t</i> Bu ₂ -C ₆ H ₃	OH	[334]
66	Et	Et	Et	6-MeO-2-Nph	OH	[69,299]
67	<i>ent</i>	Et	Et	9-phenanthryl	OH	[333,334,479]
68	Et	Et	Ph	OH	OH	[37,69,163,299,480]
69	<i>ent</i>	Et	Et	Ph	OH	[334]
70	Et	Et	Ph	O ₂ CCMeCH ₂	O ₂ CCMeCH ₂	[80,470]
71	EtO	H	Ph	OMe	OMe	ROLWIY [409]
72	H	H	1-Nph	OH	OH	[37]

73	H	H	2-MeO-C ₆ H ₄	OH	OH	POPJIN	[68]
74	H	H	4-MeO-C ₆ H ₄	OH	OH		[68]
75	H	H	4-NMe ₂ -C ₆ H ₄	OH	OH		[37,70,102]
76	H	H	Ph	OH	OH		[35,36,234]
77	Hex	Me	Ph	OH	OH		[64]
78	Me	H	Ph	OH	OH		[102]
79	Me	Me	1-Nph	OH	OH		[36,37,70,71,83,139,257,271,272,278,281,283,286,302,332,334,481]
80	<i>ent</i>	Me	Me	1-Nph	OH		[333,482]
81		Me	Me	2,5-Me ₂ -C ₆ H ₃	OH		[272]
82		Me	Me	2-Furyl	OH		[234,37]
83		Me	Me	2-Me-C ₆ H ₄	OH	PONYAS, ZIFWOA ZADMAS	[131,134,156,480,483]
84		Me	Me	2-Me-C ₆ H ₄		O-P(NMe ₂)-O	[350]
85		Me	Me	2-MeO-C ₆ H ₄	OH		[37,68,484]
86		Me	Me	2-Nph	Cl		[76]
87		Me	Me	2-Nph	Cl		[76]
88		Me	Me	2-Nph		O-SiMe ₂ -O	[38,83]
89		Me	Me	2-Nph		O-PPh-O	[74,87]
90		Me	Me	2-Nph		O-P(4-Me-C ₆ H ₄)-O	[87]
91		Me	Me	2-Nph		O-P(2,4,6-Me ₃ -C ₆ H ₂)-O	[87]
92		Me	Me	2-Nph		O-P(2-Nph)-O	[87]
93		Me	Me	2-Nph		O-P(OCMe ₂ (4- <i>i</i> Pr-oxazoliny)))-O	[92]
94		Me	Me	2-Nph	OH		[485]
95	<i>ent</i>	Me	Me	2-Nph	OH	YONVAY	[36,37,270,482,486]
96		Me	Me	2-Nph	OH		[76]
97		Me	Me	2-Nph	OMe		[76]
98		Me	Me	2-Nph (d ⁷)	OMe	O-SiMe ₂ -O	[38]
99		Me	Me	2-Nph (d ⁷)	OH		[38]
100		Me	Me	3,5-(CF ₃) ₂ -C ₆ H ₄	OH		[37,139]
101		Me	Me	3,5-F ₂ -C ₆ H ₃	OH	TIYCEJ EABHOE	[98,487]
102	<i>rac</i>	Me	Me	3,5-F ₂ -C ₆ H ₃	OH		[98,487]
103		Me	Me	3,5-Me ₂ -C ₆ H ₃		O-B(CMeCH ₂)-O	[413]
104		Me	Me	3,5-Me ₂ -C ₆ H ₃		O-B(CPhCH ₂)-O	[413]
105		Me	Me	3,5-Me ₂ -C ₆ H ₃	OH		[37,45,272,273,302,308,310,488]
106	<i>ent</i>	Me	Me	3,5-Me ₂ -C ₆ H ₃	OH		[37,332,334]
107		Me	Me	4-Br-C ₆ H ₄	OH		[252]
108		Me	Me	4-CF ₃ -C ₆ H ₄	OH	EABJIA	[98,487]
109	<i>rac</i>	Me	Me	4-CF ₃ -C ₆ H ₄	OH		[98,487]
110		Me	Me	4-Cl-C ₆ H ₄	OH	EABHIY	[98,487]
111	<i>rac</i>	Me	Me	4-Cl-C ₆ H ₄	OH	EABJEW	[98,487]
112		Me	Me	4-F-C ₆ H ₄	OH	EABGUJ, EABHEU	[98,487]
113	<i>rac</i>	Me	Me	4-F-C ₆ H ₄	OH	EABJAS	[98,487]
114		Me	Me	4-HO-C ₆ H ₄	OH		[63,371,376]
115		Me	Me	4-Me-C ₆ H ₄	OH		[37,98,131,487]
116	<i>rac</i>	Me	Me	4-Me-C ₆ H ₄	OH	EABGOD, EABHUK	[98,487]
117		Me	Me	4-Me ₂ N-C ₆ H ₄	OH		[252]
118		Me	Me	4-Me ₃ -C ₆ H ₄	OH		[37]
119		Me	Me	4-MeO-C ₆ H ₄	OH		[33,36,37,68,484]
120		Me	Me	4-Ph-C ₆ H ₄	OH		[36,83,273,308,345]
121		Me	Me	4-TBDMMSO-C ₆ H ₄	OH		[63,371,376]
122		Me	Me	6-HO-2-C ₁₀ H ₆	OH		[83]
123		Me	Me	9-phenanthryl	OH		[83]
124		Me	Me	Bn	OH		[44]
125		Me	Me	C ₆ F ₅	OH		[234]
126		Me	Me	cHex	OH	YONVOM	[37,44,112]
127		Me	Me	Ph/1-Nph	OH		[44]
128		Me	Me	Ph/3,5-Me ₂ -C ₆ H ₃	OH		[45]
129		Me	Me	Ph/4-F-C ₆ H ₄	OH		[45]
130		Me	Me	Ph/H	OH		[44]
131		Me	Me	Ph/Me	OH	YIHKAB	[44]
132	<i>rac</i>	Me	Me	Ph/Me	OH		[44]
133		Me	Me	Ph/4-styryl	OH		[71]
134		Me	Me	Ph	4-NHMe-C ₆ H ₄		[72]
135		Me	Me	Ph	4-NHPh-C ₆ H ₄	4-NHPh-C ₆ H ₄	[72]
136		Me	Me	Ph	4-NHPh-C ₆ H ₄	OH	[72]
137		Me	Me	Ph		CHSH-O	[79]
138		Me	Me	Ph	Cl	Cl	NICBUW [74,75]
139		Me	Me	Ph	Cl	NHCOCF ₃	[76]
140		Me	Me	Ph	Cl	NHSO ₂ CF ₃	[76]
141		Me	Me	Ph	Cl	NMe ₂	HOLXUB [72,75]
142		Me	Me	Ph	Cl	OBn	[76]
143		Me	Me	Ph	Cl	OC ₆ H ₄ -(4- <i>t</i> Bu)	[76]
144		Me	Me	Ph	Cl	OH	[72,74,75]
145		Me	Me	Ph	Cl	<i>Oi</i> Pr	[76]
146		Me	Me	Ph	Cl	OMe	[76]
147		Me	Me	Ph	F	F	[72]
148		Me	Me	Ph	F	OH	HOLYAI [72]
149		Me	Me	Ph	H	NMe ₂	[72]
150		Me	Me	Ph		N=C(NH ₂)-S	NICBAC [75]
151		Me	Me	Ph	N ₃	N ₃	NIBZIH [74,75]
152		Me	Me	Ph	N ₃	OH	[74]
153		Me	Me	Ph	N=CH-(2-OH-3,5- <i>t</i> Bu ₂ -C ₆ H ₂)	N=CH-(2-OH-3,5- <i>t</i> Bu ₂ -C ₆ H ₂)	[72]
154		Me	Me	Ph	N=CH-(2-OH-3,5- <i>t</i> Bu ₂ -C ₆ H ₂)	OH	[75]
155		Me	Me	Ph	N=CH-(2-OH-3- <i>t</i> Bu-5-Me-C ₆ H ₄)	N=CH-(2-OH-3- <i>t</i> Bu-5-Me-C ₆ H ₄)	[72]
156		Me	Me	Ph	N=CH-(2-OH-C ₆ H ₄)	N=CH-(2-OH-C ₆ H ₄)	[72]
157		Me	Me	Ph	N=CH-(2-OH-C ₆ H ₄)	OH	[75]
158		Me	Me	Ph	N=CHNMe ₂	OH	[489] [76]
159		Me	Me	Ph	NCS	NCS	[74,75]
160		Me	Me	Ph		NH-CO-NH	[38]
161		Me	Me	Ph		NH-CS-NH	[38]
162		Me	Me	Ph		NH-SO ₂ -NH	[38]
163		Me	Me	Ph	NH ₂	NH ₂	NICBIK [72,74,75,77,348]

164	Me	Me	Ph	NH ₂	NHSO ₂ CF ₃		[38]
165	Me	Me	Ph	NH ₂	NHSOCF ₃	[491]	[38]
166	Me	Me	Ph	NH ₂	OH		[74,75]
167	Me	Me	Ph	NH ₂	OSiMe ₃		[75]
168	Me	Me	Ph	NHBn	OH		[74]
169	Me	Me	Ph	NHCH ₂ NiPr ₂	NHSOCF ₃	[491]	[38]
170	Me	Me	Ph	NHCHO	NHCHO		[77]
171	Me	Me	Ph	NHCOCF ₃	NHCOCF ₃		[74,492]
172	Me	Me	Ph	NHCOCF ₃	OH		[76]
173	Me	Me	Ph	NHCOCF ₃	SH		[76]
174	Me	Me	Ph	NHEt	OH		[75]
175	Me	Me	Ph	NHEt	OSiMe ₃		[75]
176	Me	Me	Ph	NHMe	NHMe	NICBOQ	[74,75,77,228]
177	Me	Me	Ph	NHMe	NMe ₂		[74,77]
178	Me	Me	Ph	NHMe	OH		[74,75]
179	Me	Me	Ph	NHPh	NHPh	[490]	[38]
180	Me	Me	Ph	NHPh	OH	HOLYOW	[72]
181	Me	Me	Ph	NHSO ₂ CF ₃	OH		[75]
182	Me	Me	Ph	NHSO ₂ CF ₃	OSiMe ₃		[75]
183	Me	Me	Ph	NMe-CO-NMe			[38]
184	Me	Me	Ph	NMe ₂	NMe ₂		[74]
185	Me	Me	Ph	NMe ₂	OH		[74,75]
186	Me	Me	Ph	NMe ₂	SH	[489]	[75,94,351]
187	Me	Me	Ph	NMe ₂	SMe		[76]
188	Me	Me	Ph	NMe ₂	SPh		[72]
189 ent	Me	Me	Ph	O-Al(OHNBn)-O			[274]
190 ent	Me	Me	Ph	O-B(OHNBn)-O			[274]
191	Me	Me	Ph	O-CH ₂ C(CH ₂)CH ₂ -O			[82]
192	Me	Me	Ph	O-CH ₂ -CO-CH ₂ -O			[82]
193	Me	Me	Ph	(OCH ₂ CH ₂) ₃ -O		HOLYEM	[72]
194	Me	Me	Ph	O-PO(N-morpholinyl)-O			[89]
195	Me	Me	Ph	O-PO(N-piperidinyl)-O			[89]
196	Me	Me	Ph	O-PO(NAllyl ₂)-O			[89]
197	Me	Me	Ph	O-PO(NBu ₂)-O			[89]
198	Me	Me	Ph	O-PO(NEt ₂)-O			[89]
199	Me	Me	Ph	O-PO(NiPr ₂)-O			[89]
200	Me	Me	Ph	O-P(2,4,6-Me ₃ -C ₆ H ₂)-O			[87]
201	Me	Me	Ph	O-P(4-Me-C ₆ H ₄)-O			[87]
202	Me	Me	Ph	O-P(N-morpholinyl)-O			[89,350]
203	Me	Me	Ph	O-P(N-piperidinyl)-O			[350]
204	Me	Me	Ph	O-P(2-Nph)-O			[87]
205	Me	Me	Ph	O-PMe-O			[74,87]
206	Me	Me	Ph	O-P(N(CHMePh) ₂)-O			[86]
207 ent	Me	Me	Ph	O-P(N(CHMePh) ₂)-O			[86]
208	Me	Me	Ph	O-P(NAllyl ₂)-O			[89]
209	Me	Me	Ph	O-P(NBn ₂)-O			[350]
210	Me	Me	Ph	O-P(NBu ₂)-O			[89]
211	Me	Me	Ph	O-P(NcHex ₂)-O			[89]
212	Me	Me	Ph	O-P(NEt ₂)-O			[89]
213	Me	Me	Ph	O-P(NiPr ₂)-O			[86,89,346,350]
214	Me	Me	Ph	O-P(NMe ₂)-O		FAZQAY	[86,89,350,357]
215	Me	Me	Ph	O-P(O(2-(1-Nph)-cHex))-O			[347]
216 ent	Me	Me	Ph	O-P(O(2-(1-Nph)-cHex))-O			[347]
217	Me	Me	Ph	O-P(O(2-(2-Nph)-cHex))-O			[347]
218 ent	Me	Me	Ph	O-P(O(2-(2-Nph)-cHex))-O			[347]
219	Me	Me	Ph	O-P(O(2-Ph-cHex))-O			[86,493]
220 ent	Me	Me	Ph	O-P(O(2-Ph-cHex))-O			[347]
221	Me	Me	Ph	O-P(OCH ₂ CH ₂ NMe ₂)-O			[86]
222	Me	Me	Ph	O-P(O-menthyl)-O			[86,494]
223	Me	Me	Ph	O-P(O-cHex)-O			[86]
224	Me	Me	Ph	O-P(OCMe ₂ (4- <i>i</i> Pr-oxazoliny))-O		BAQFUU	[92]
225	Me	Me	Ph	O-P(OCMe ₂ (4-Ph-oxazoliny))-O			[92]
226	Me	Me	Ph	O-P(OCMe ₂ (4- <i>t</i> Bu-oxazoliny))-O			[349,495]
227	Me	Me	Ph	O-POH-O			[89]
228	Me	Me	Ph	O-POMe-O			[74,86,87]
229	Me	Me	Ph	O-POPh-O			[74,86,87,496]
230	Me	Me	Ph	O-P <i>Or</i> Bu-O			[86]
231	Me	Me	Ph	O-PPh-O		SUMDOT	[74,87]
232	Me	Me	Ph	O-SO-O			[74]
233	Me	Me	Ph	O-SiMe ₂ -O		[497]	[83]
234	Me	Me	Ph	O-SiMeOH-O			[84]
235	Me	Me	Ph	O-CH ₂ -S			[79,76]
236	Me	Me	Ph	O-CHMe-S			[76]
237	Me	Me	Ph	O-CHPh-S			[76]
238	Me	Me	Ph	O-CMe ₂ -S		PEJCOW	[79]
239	Me	Me	Ph	O-CH ₂ -S(O)			[79]
240	Me	Me	Ph	O-CH ₂ -S(O) ₂			[79]
241	Me	Me	Ph	O ₂ CCF ₃	OH	[491]	[89]
242	Me	Me	Ph	O ₂ CCMeCH ₂	O ₂ CCMeCH ₂		[80,81,197,198,277,470]
243	Me	Me	Ph	OAc	OH		[75]
244	Me	Me	Ph	OAc	OH		[89]
245	Me	Me	Ph	O-B(CH=CH-Pentyl)-O			[411]
246	Me	Me	Ph	O-B(2-Pentyl-cyclopropyl)-O			[411]
247	Me	Me	Ph	OBn	OH	[489]	[76]
248	Me	Me	Ph	OBn	SH		[76]
249	Me	Me	Ph	OC ₆ H ₄ -(4- <i>t</i> Bu)	OC ₆ H ₄ -(4- <i>t</i> Bu)		[76]
250	Me	Me	Ph	OC ₆ H ₄ -(4- <i>t</i> Bu)	OH		[72]
251	Me	Me	Ph	OC ₆ H ₄ -(4- <i>t</i> Bu)	SH	[489]	[76]
252	Me	Me	Ph	OH	OH	JUCHIY, JUPWAS, KODWEF, KODWIJ, KOGJAR, KOMSAG, LATCOY, NAHGIM, NUYBOY, POPROB, RAZSUG, RIBCIO, RIBCOU, SEWVUL, SEWVUL01, SEWWAS01, SEWWIA, SEWWOG, SEWWUM, VUDGAC, YUGJAL	[498]
253 ent	Me	Me	Ph	OH	OH		[36,131,139,149-151,160,187-189, 270,329,332,334,474,482,486, 499-502]

254	<i>rac</i>	Me	Me	Ph	OH	OH	SEWWAS	[66,98,415,474,487]
255	<i>meso</i>	Me	Me	Ph	OH	OH	SADDUW, SADFAE, SADFEL, SEWWEW	[66,98,415]
256		Me	Me	Ph	OH	OMe		[75,76]
257		Me	Me	Ph	OH	OSiMe ₃		[88]
258		Me	Me	Ph	OH	S(O)Me		[79]
259		Me	Me	Ph	OH	SH	CUPQEJ	[76,79,94,351]
260		Me	Me	Ph	OH	SMe		[503]
261		Me	Me	Ph	O <i>i</i> Pr	OH		[489]
262		Me	Me	Ph	O <i>i</i> Pr	SH		[76]
263		Me	Me	Ph	OMe	OMe	JUPWEW	[75,102]
264		Me	Me	Ph	OMe	SH		[489]
265		Me	Me	Ph	OOH	OH		[76,94]
266		Me	Me	Ph	OPPh ₂	OPPh ₂	ZOCJUW	[489]
267		Me	Me	Ph	OMe	POPh ₂		[78]
268		Me	Me	Ph	OMe	PO(OMe) ₂		[76]
269		Me	Me	Ph		S-S	NIBZON	[75]
270		Me	Me	Ph		S-SnPh ₂ -S		[489]
271		Me	Me	Ph		S-S(O)	NICBEG	[76]
272		Me	Me	Ph		S-S(O) ₂		[75]
273		Me	Me	Ph	SH	NHSO ₂ CF ₃		[75]
274		Me	Me	Ph	SH	SH		[489]
275		Me	Me	Ph		NH		[76]
276		Me	Me	Ph		NMe		[74]
277		Me	Me	Ph		S		[38]
278		Me	Me	fluorenylidene	OH	OH		[489]
279		Me	Me	[4-Ph ₃ P] ⁺ -C ₆ H ₄	OH	OH		[497]
280		Ph	H	1-Nph	OH	OH		[40]
281		Ph	H	3,5-Me ₂ -C ₆ H ₃	OH	OH		[252]
282		Ph	H	Ph	OH	OH	JUPVOF	[43]
283		Ph	Me	2-Nph	OH	OH		[468]
284		Ph	Me	3,5-Me ₂ -C ₆ H ₃	OH	OH		[35,37,70,112,113,139,165, 230,272,283,285,286,371]
285	<i>ent</i>	Ph	Me	Ph		O-Al(OH <i>Bn</i>)-O		[105]
286	<i>ent</i>	Ph	Me	Ph		O-B(OH <i>Bn</i>)-O		[274]
287		Ph	Me	Ph	OH	OH	YONVIG	[274]
288	<i>ent</i>	Ph	Me	Ph	OH	OH		[504]
289		Ph	Ph	1-Nph	OH	OH		[37,239,317,338,500,505]
290		Ph	Ph	3,5-Me ₂ -C ₆ H ₃	OH	OH		[38]
291		Ph	Ph	Ph	Cl	OH		[468]
292		Ph	Ph	Ph	NMe ₂	OH		[76]
293		Ph	Ph	Ph	OH	OH	POPJOT, VUSLEA	[489]
294		Ph	Ph	Ph	OH	OH		[76]
295		<i>t</i> Bu	H	1-Nph	OH	OH		[37,66-68,71,83,112,113,139, 228,234,272,283,285,286,506]
296		<i>t</i> Bu	H	2-Nph	OH	OH		[76]
297		<i>t</i> Bu	H	Ph	OH	OH	JUPVIZ	[36,37]
								[25,35-37,112,139,218,228, 234,237,278,345,507,508]

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