

Supporting Information

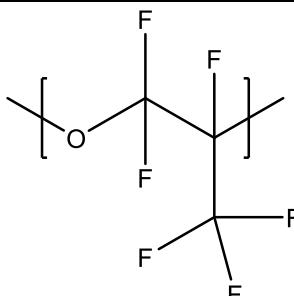
A Refractive Index Study of a Diverse Set of Polymeric Materials by QSPR with quantum-chemical and additive descriptors

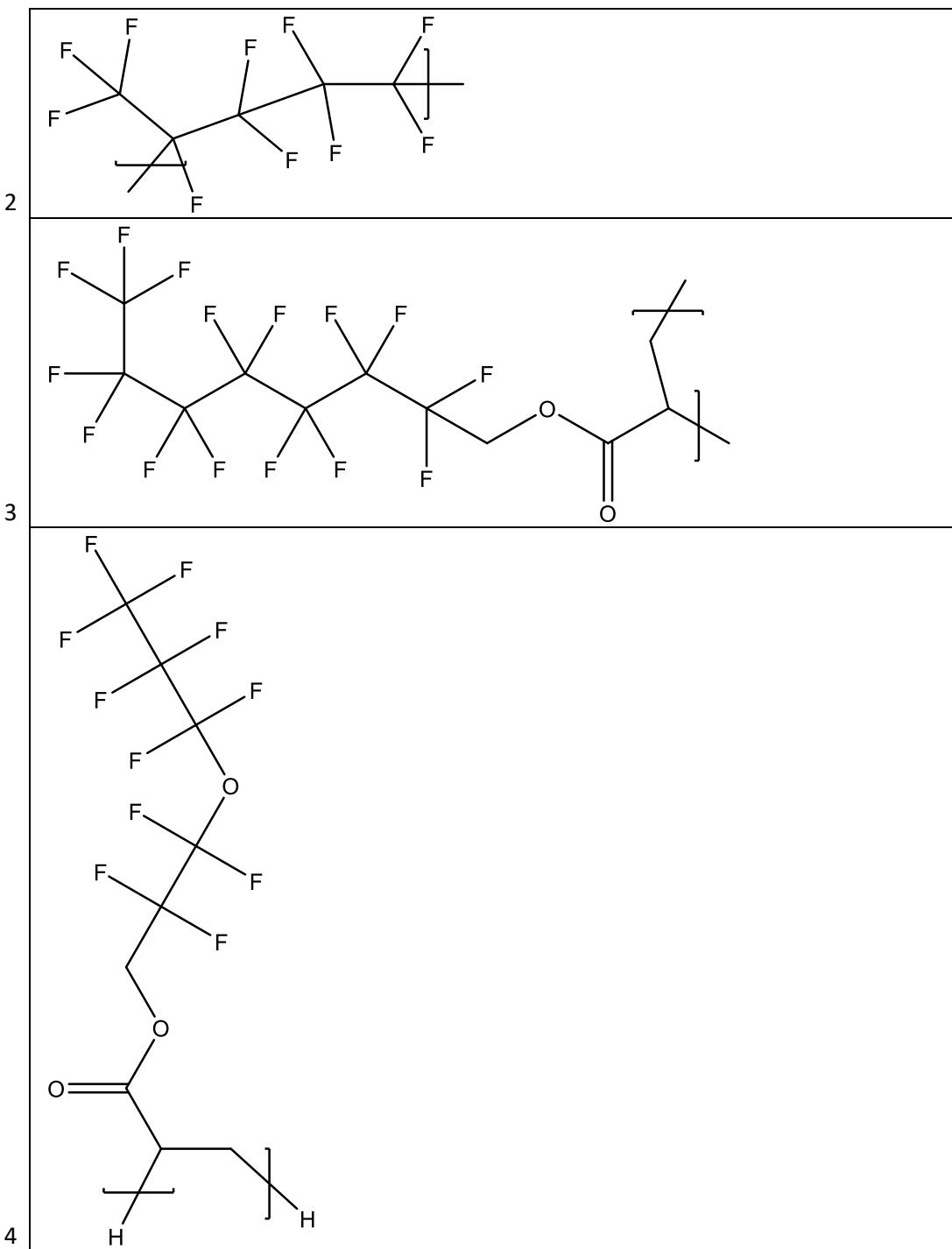
Meade E. Erickson, Marvellous Ngangong, Bakhtiyor Rasulev*

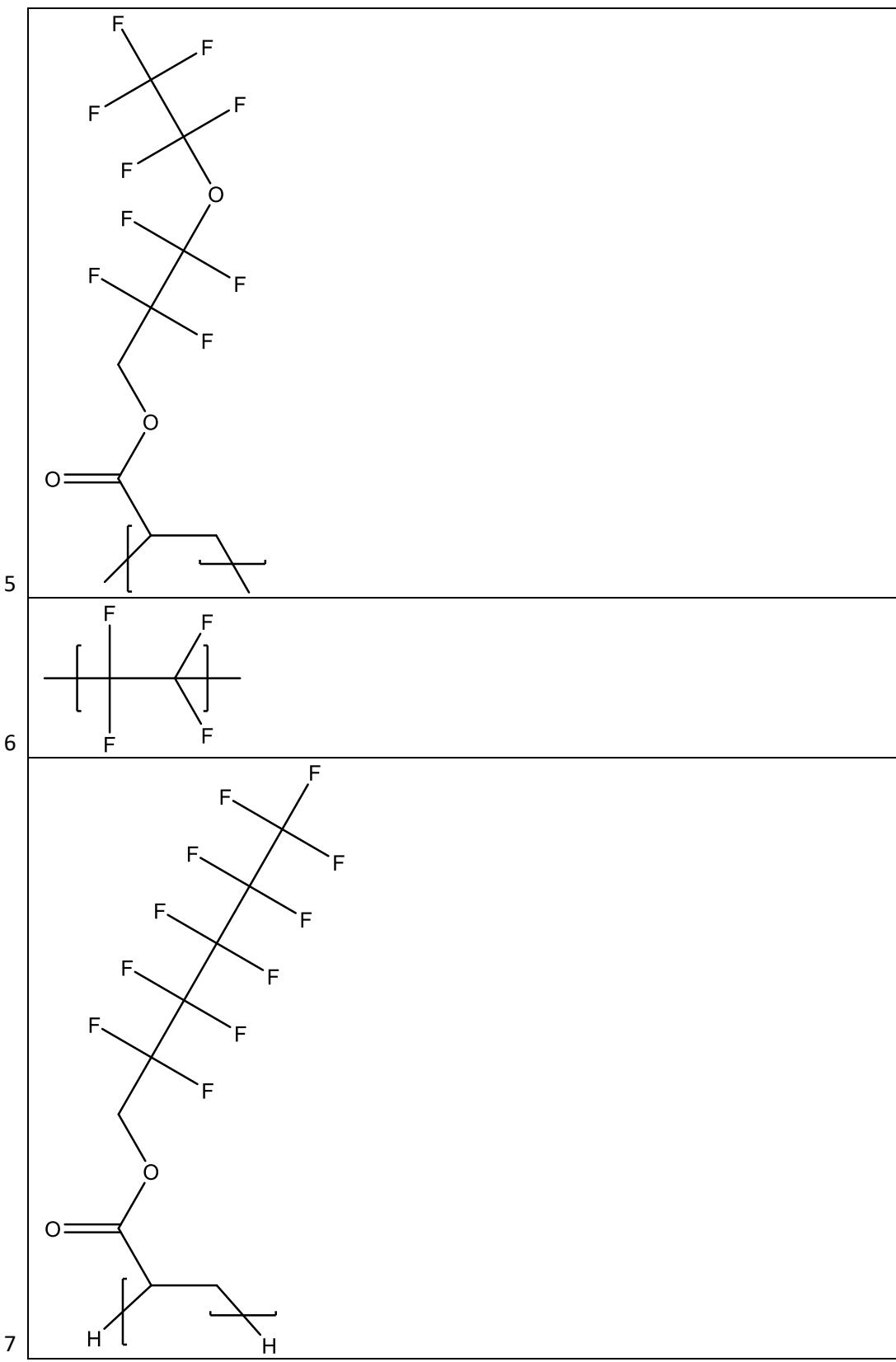
*Department of Coatings and Polymeric Materials, North Dakota State University, Fargo, ND
58108*

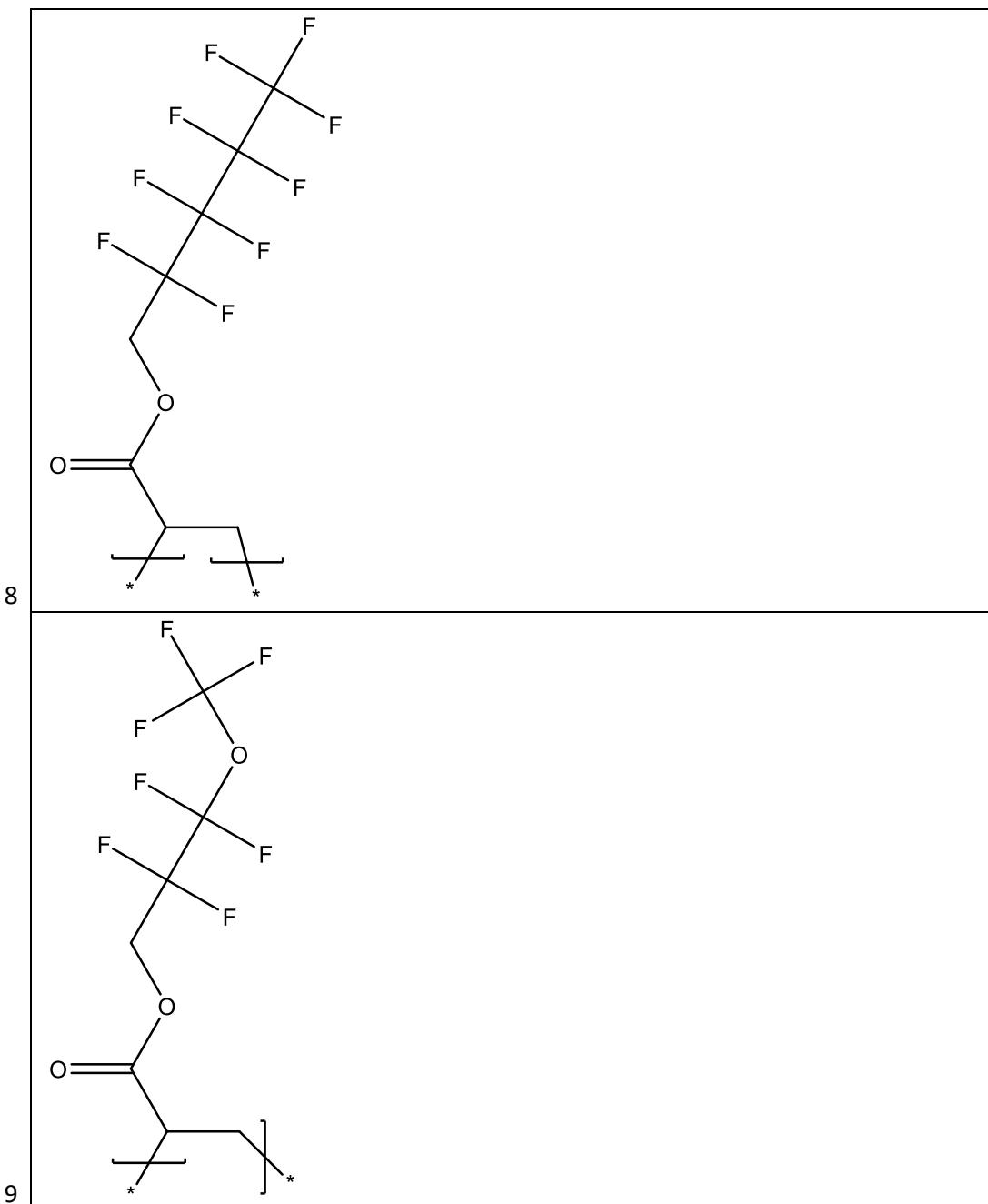
*Corresponding author: B.R. email: bakhtiyor.rasulev@ndsu.edu

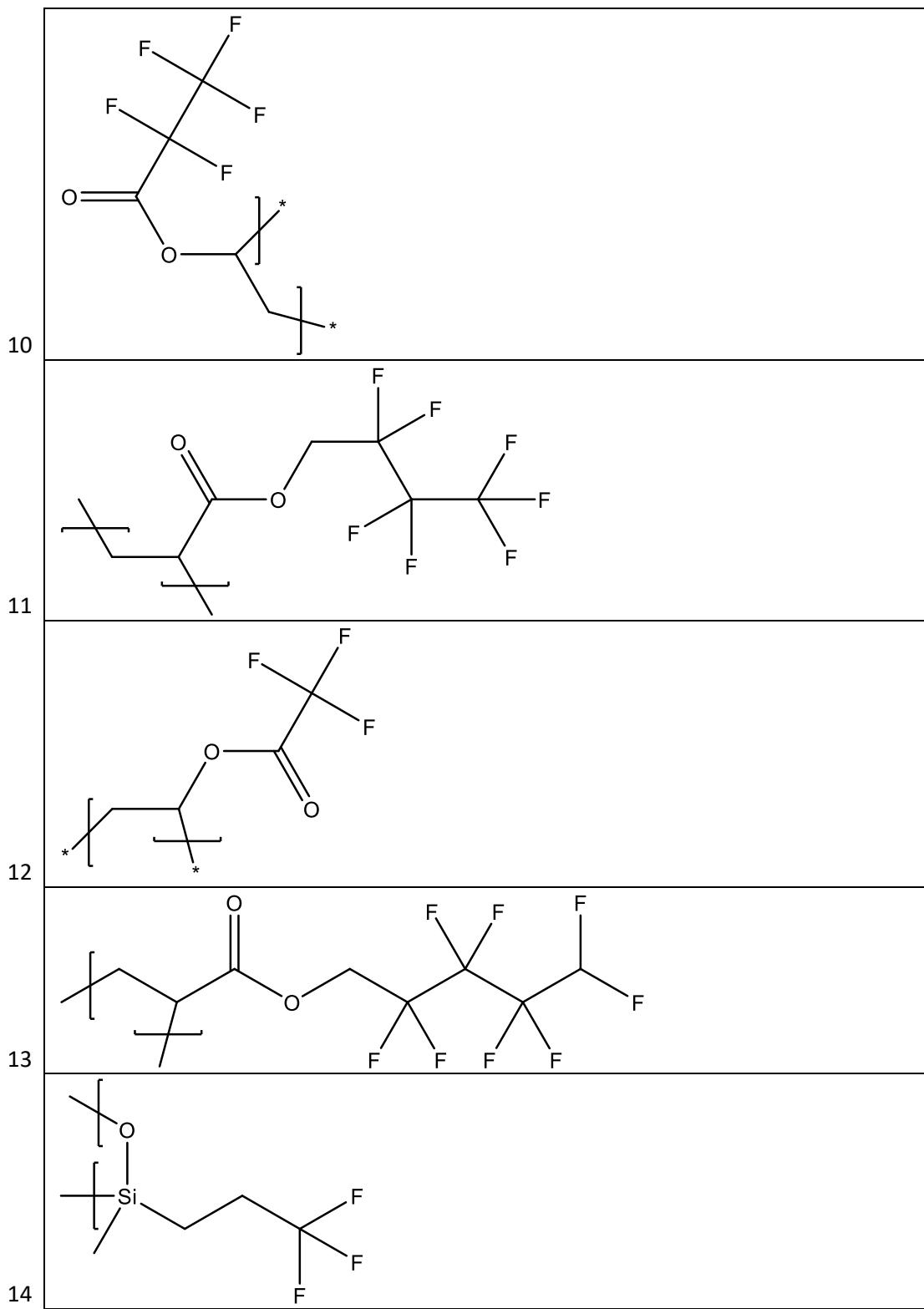
Table S1

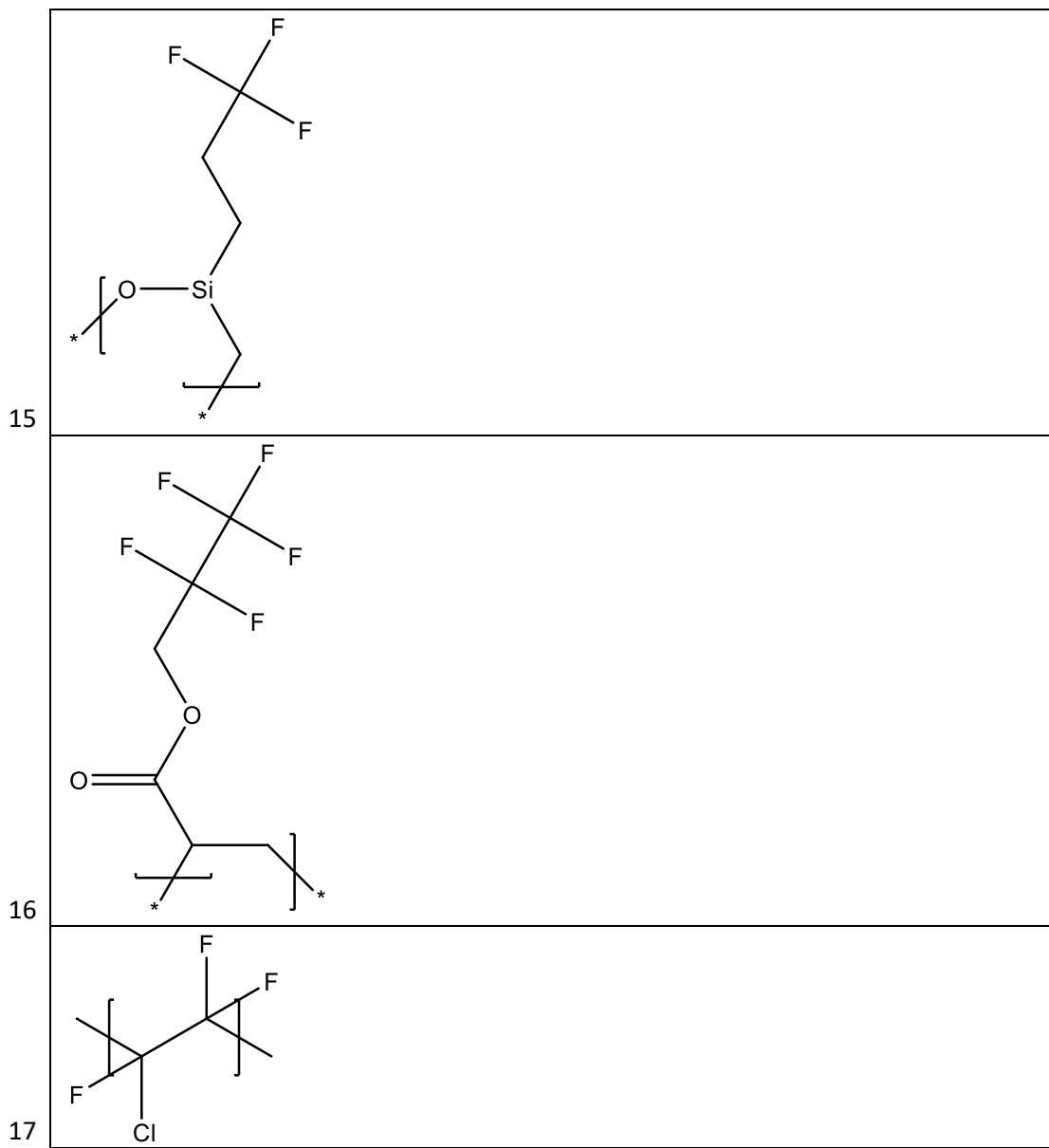
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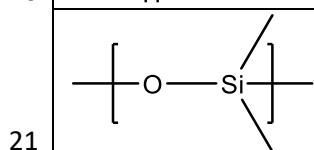
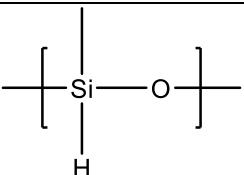
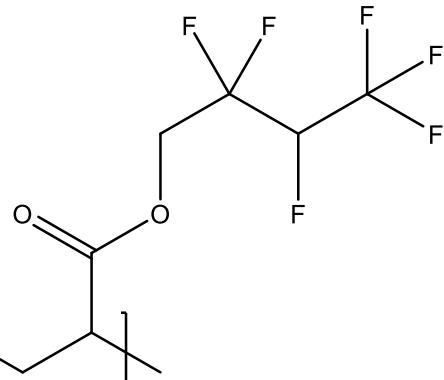
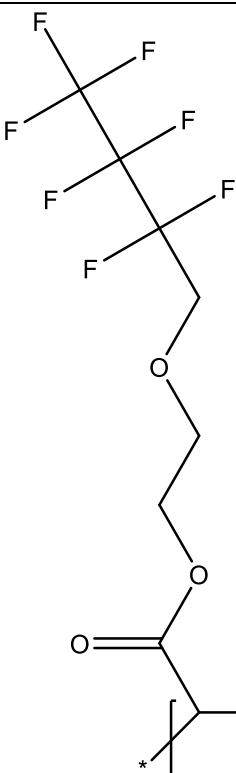


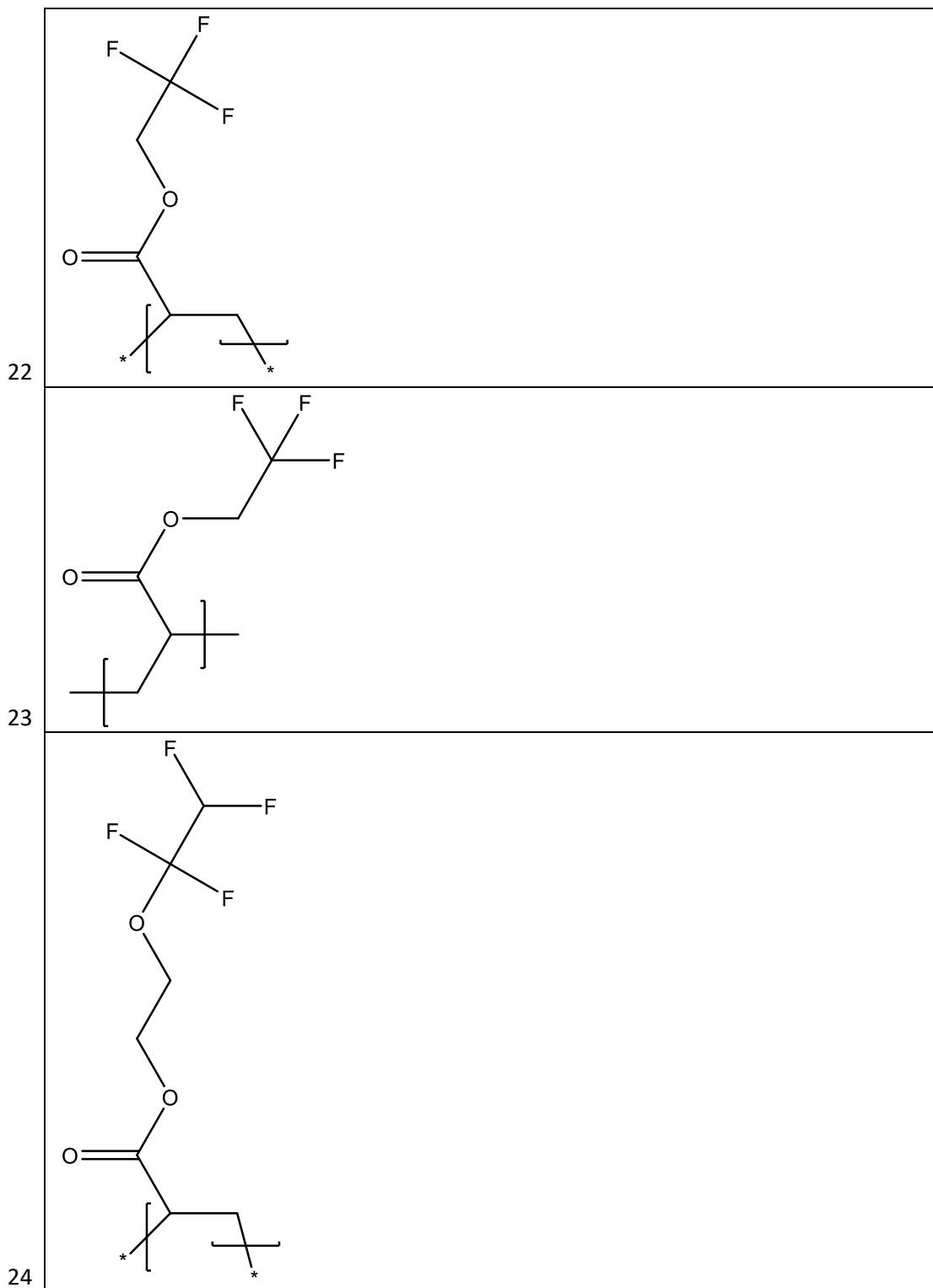


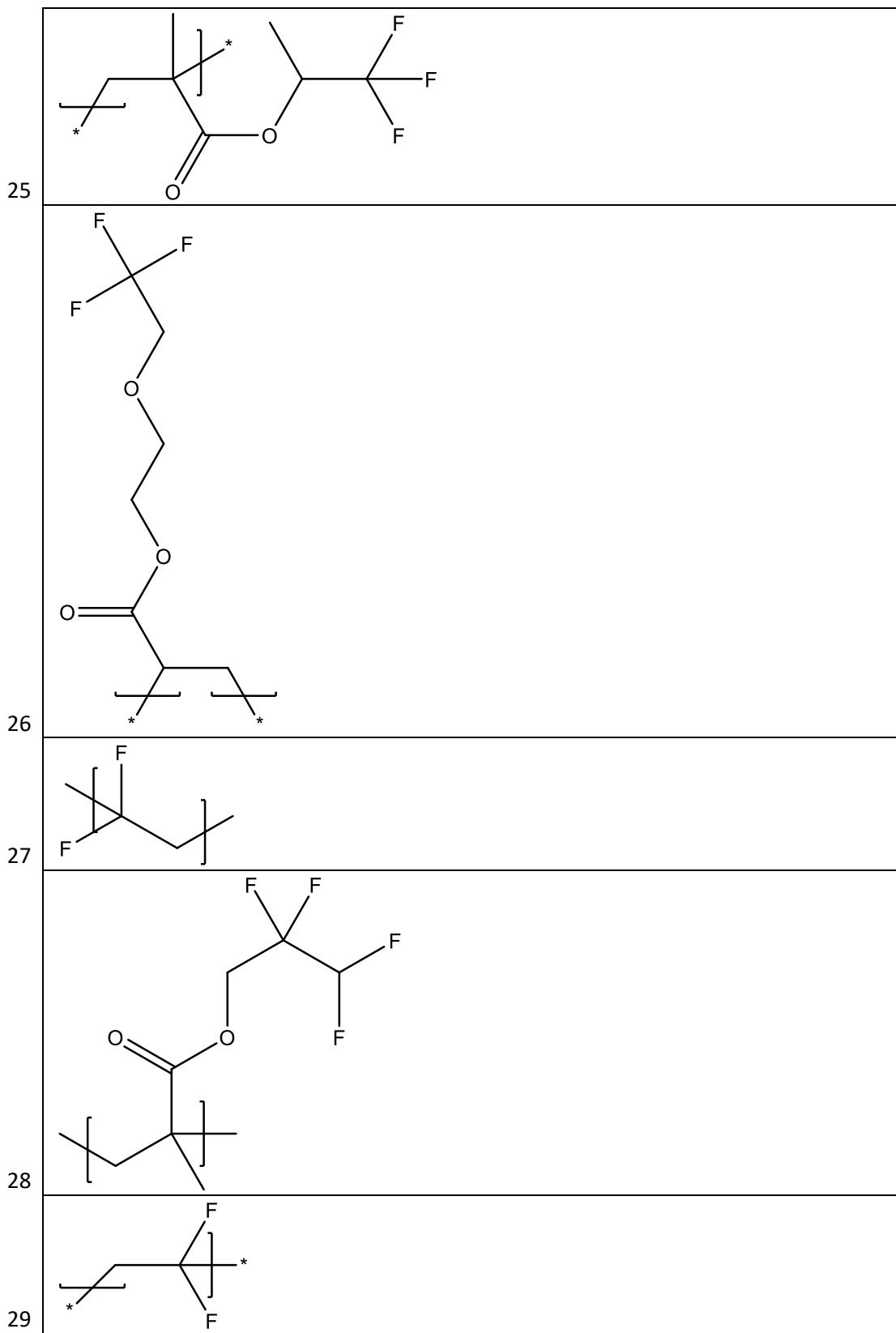


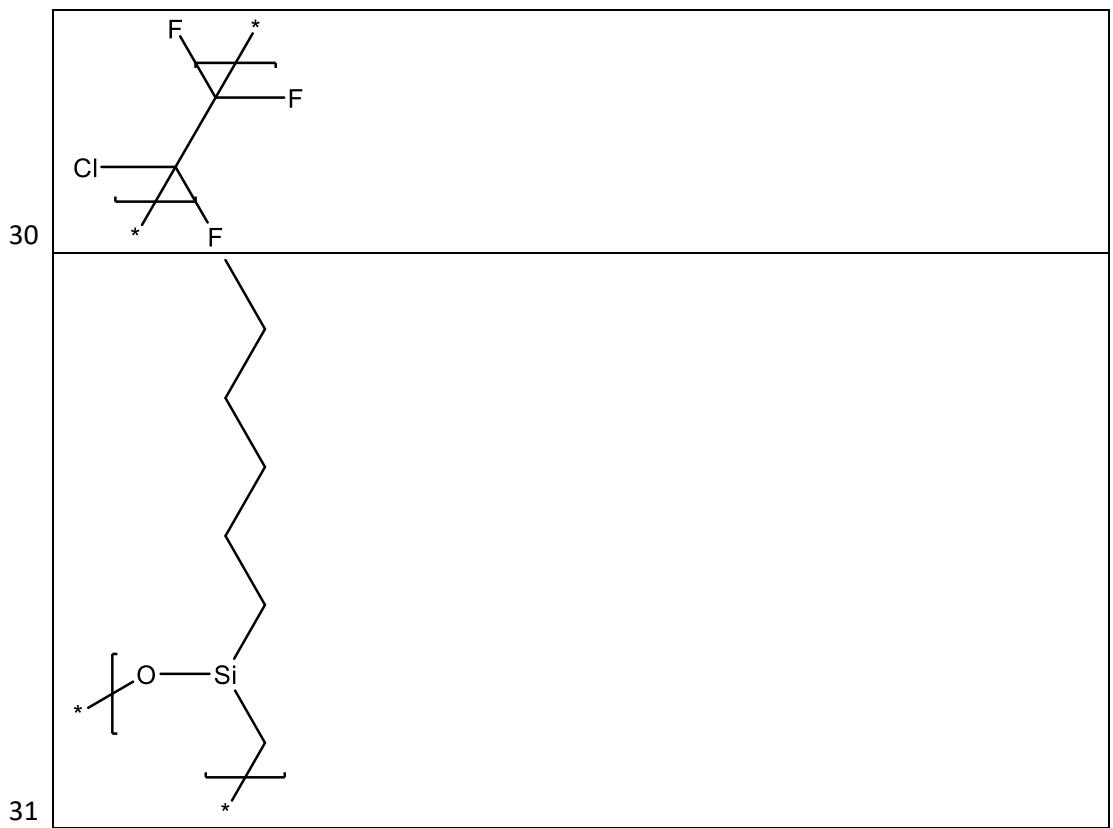


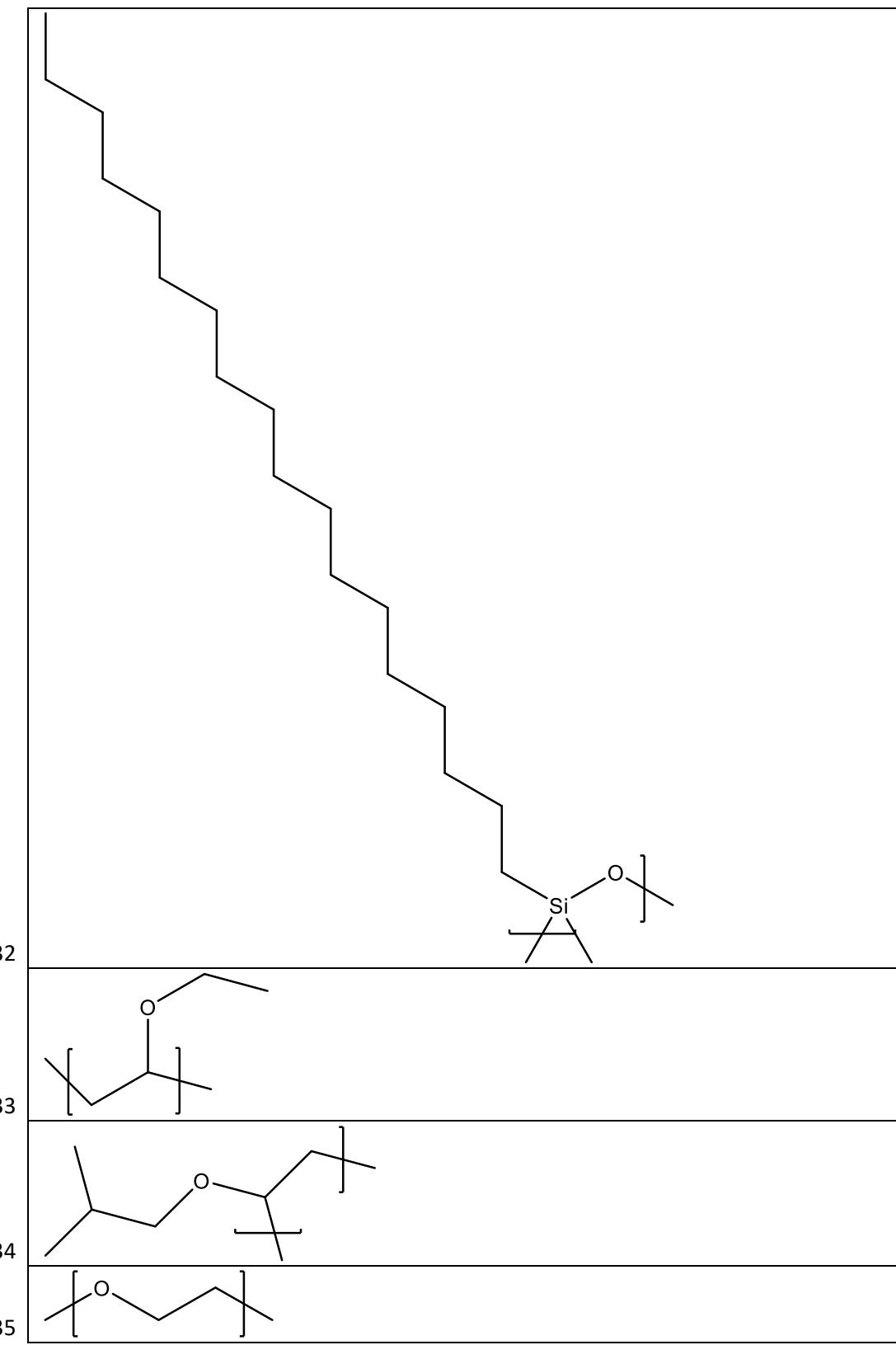


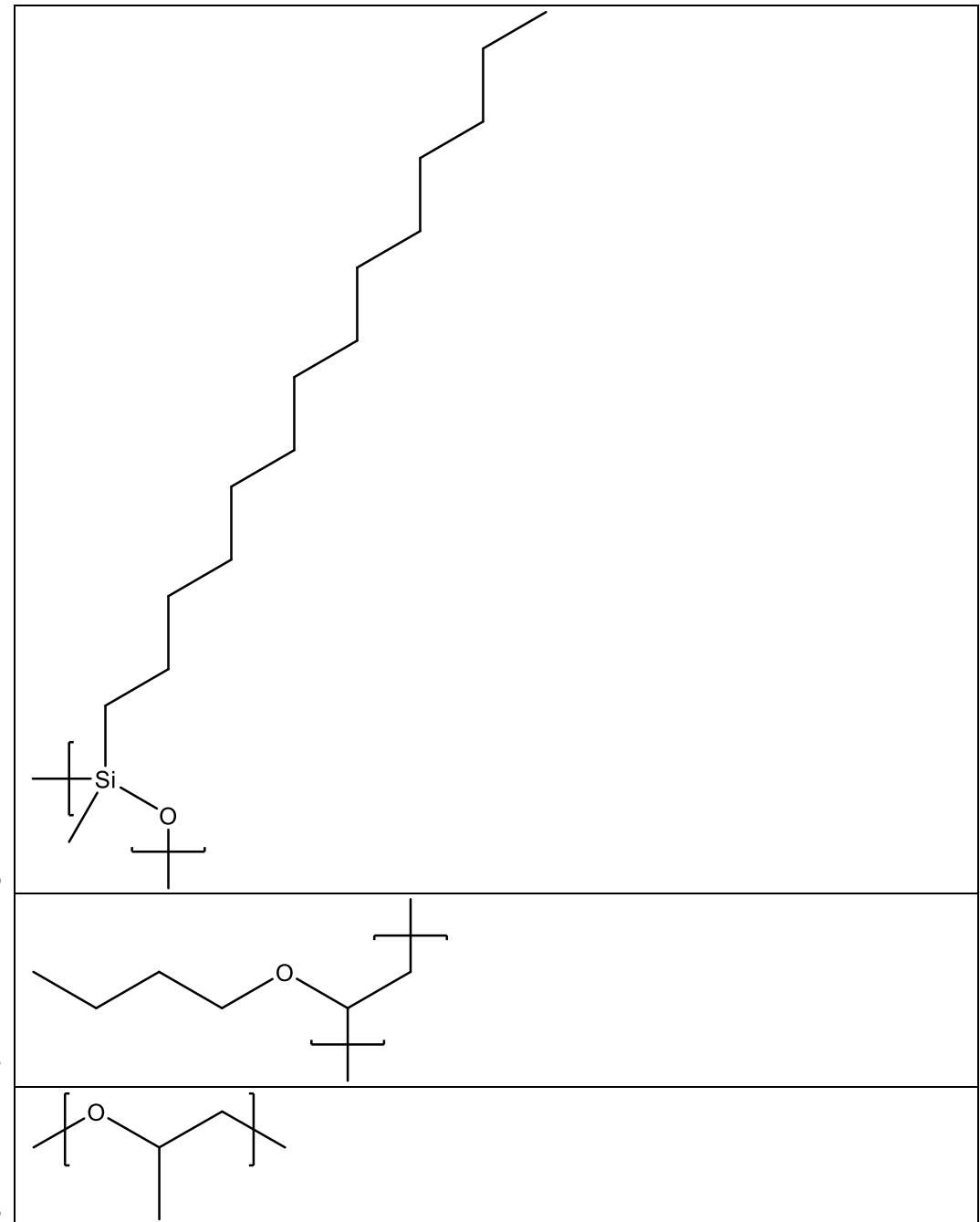


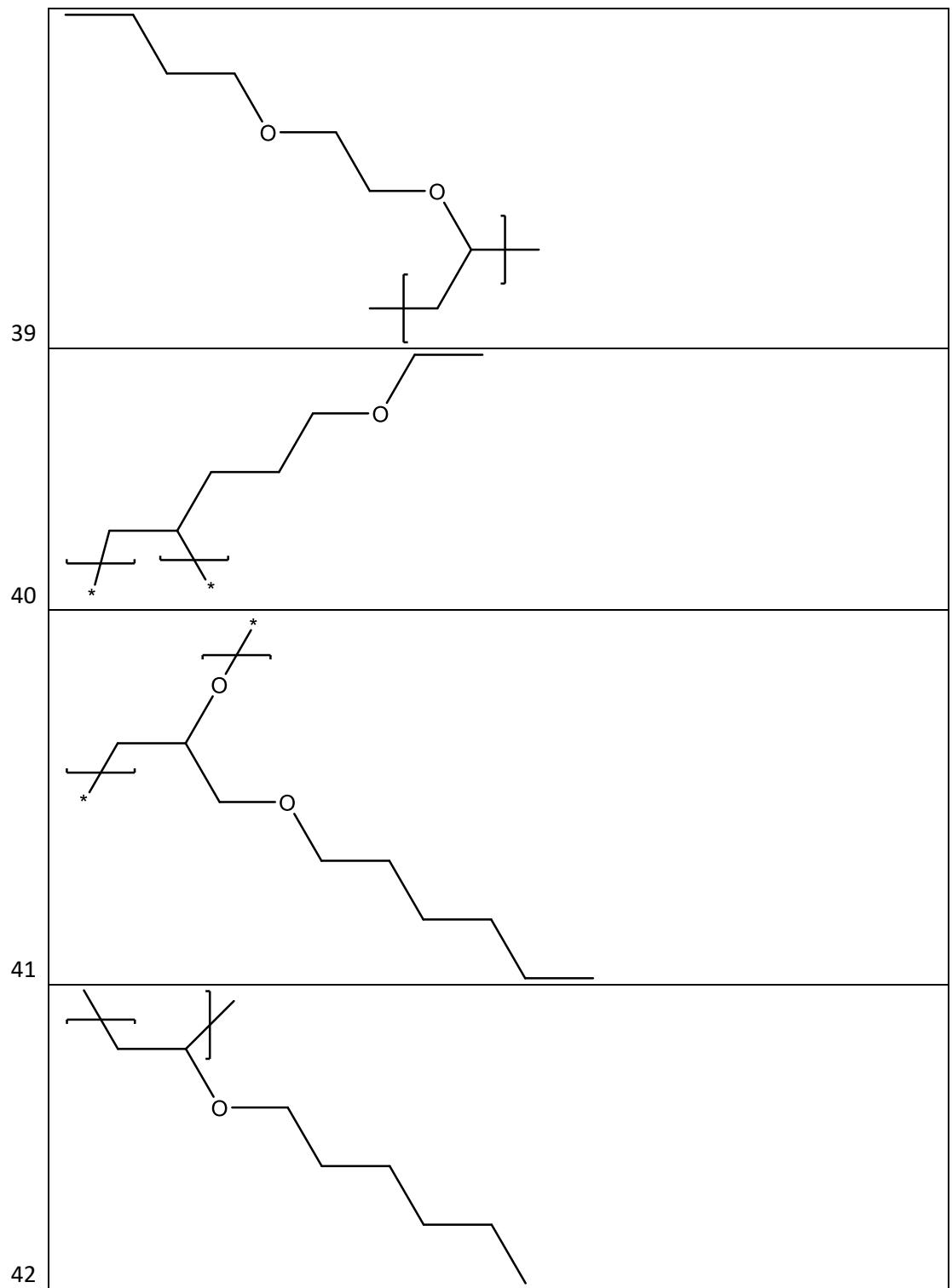


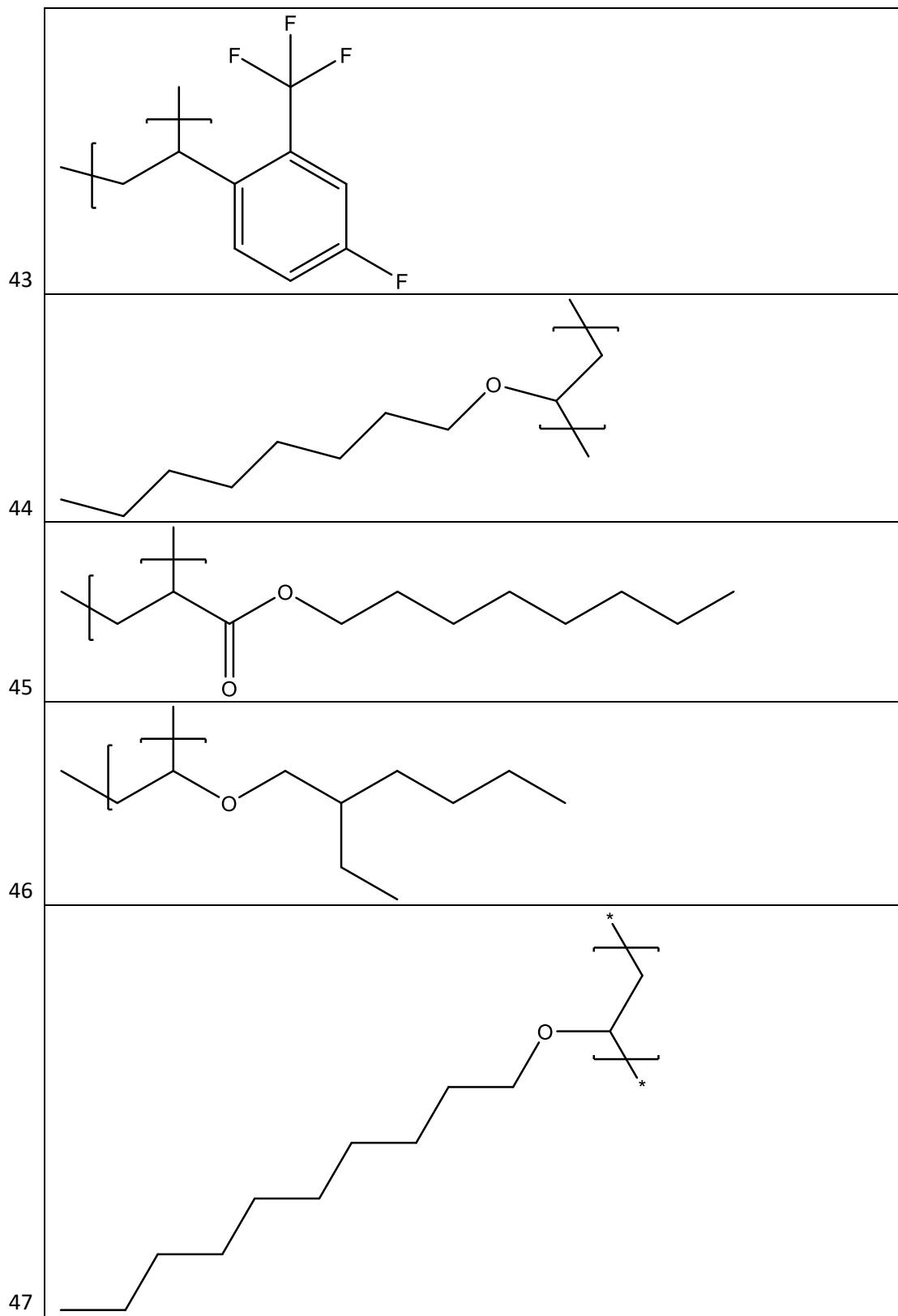


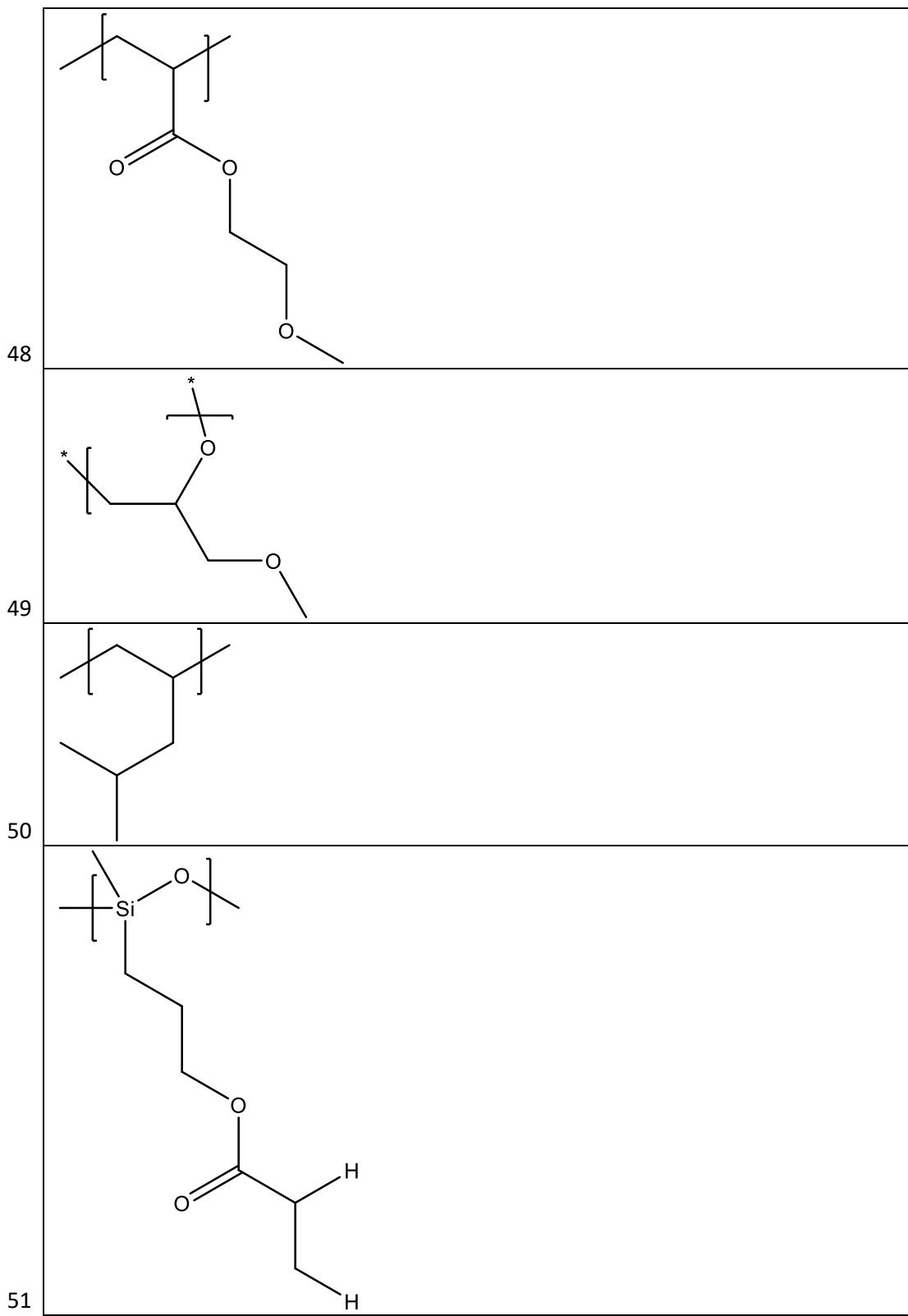


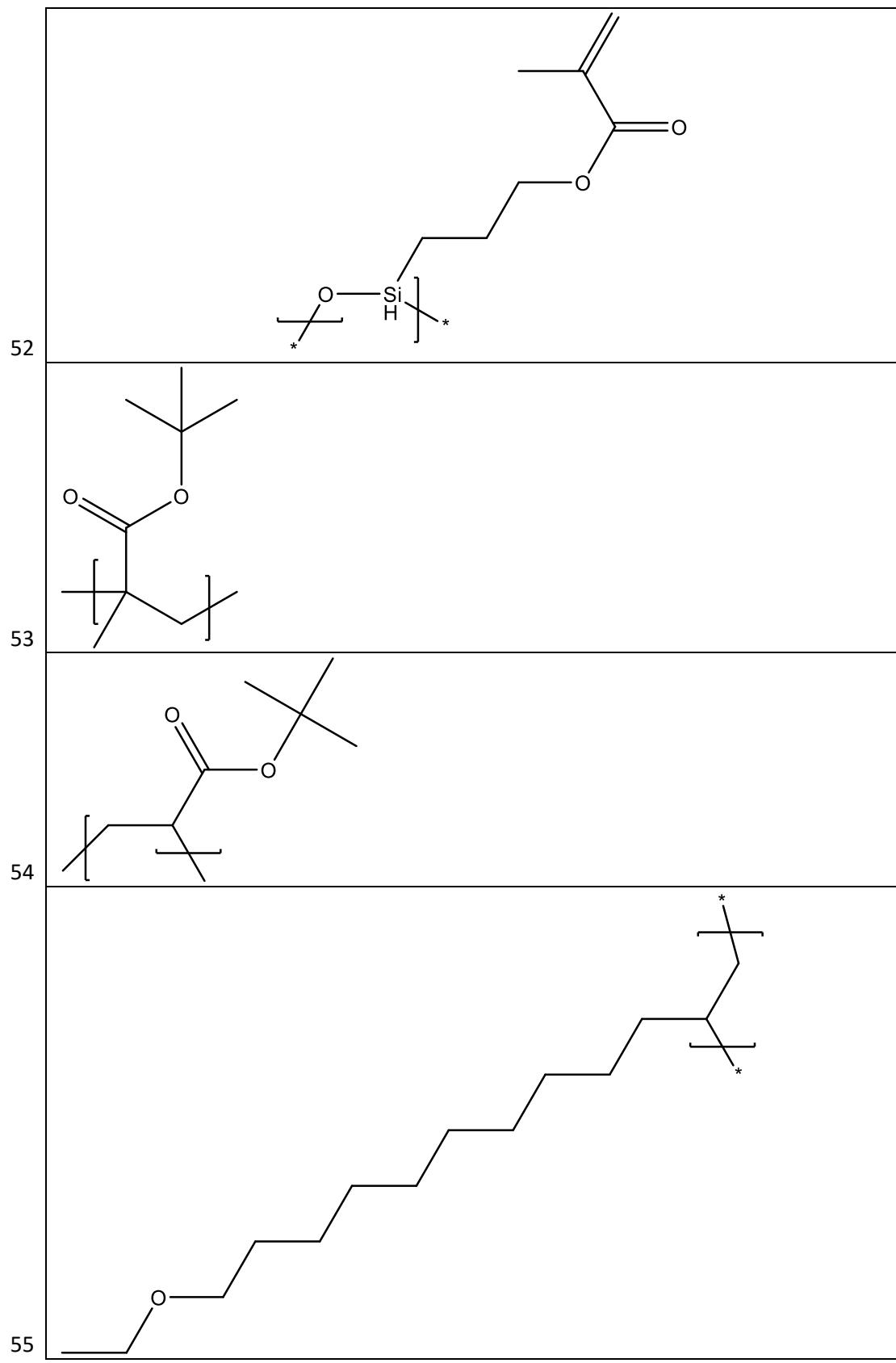


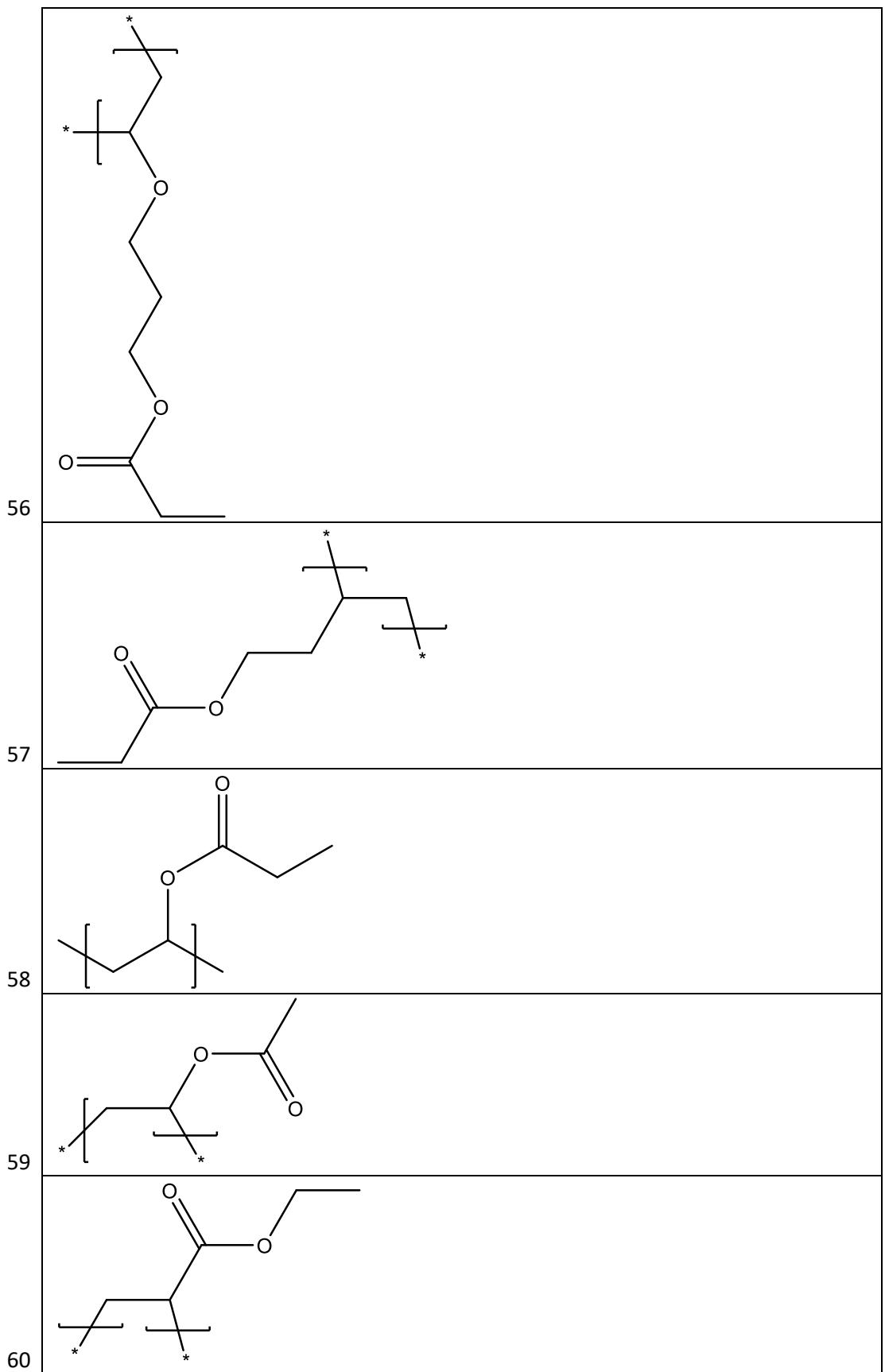


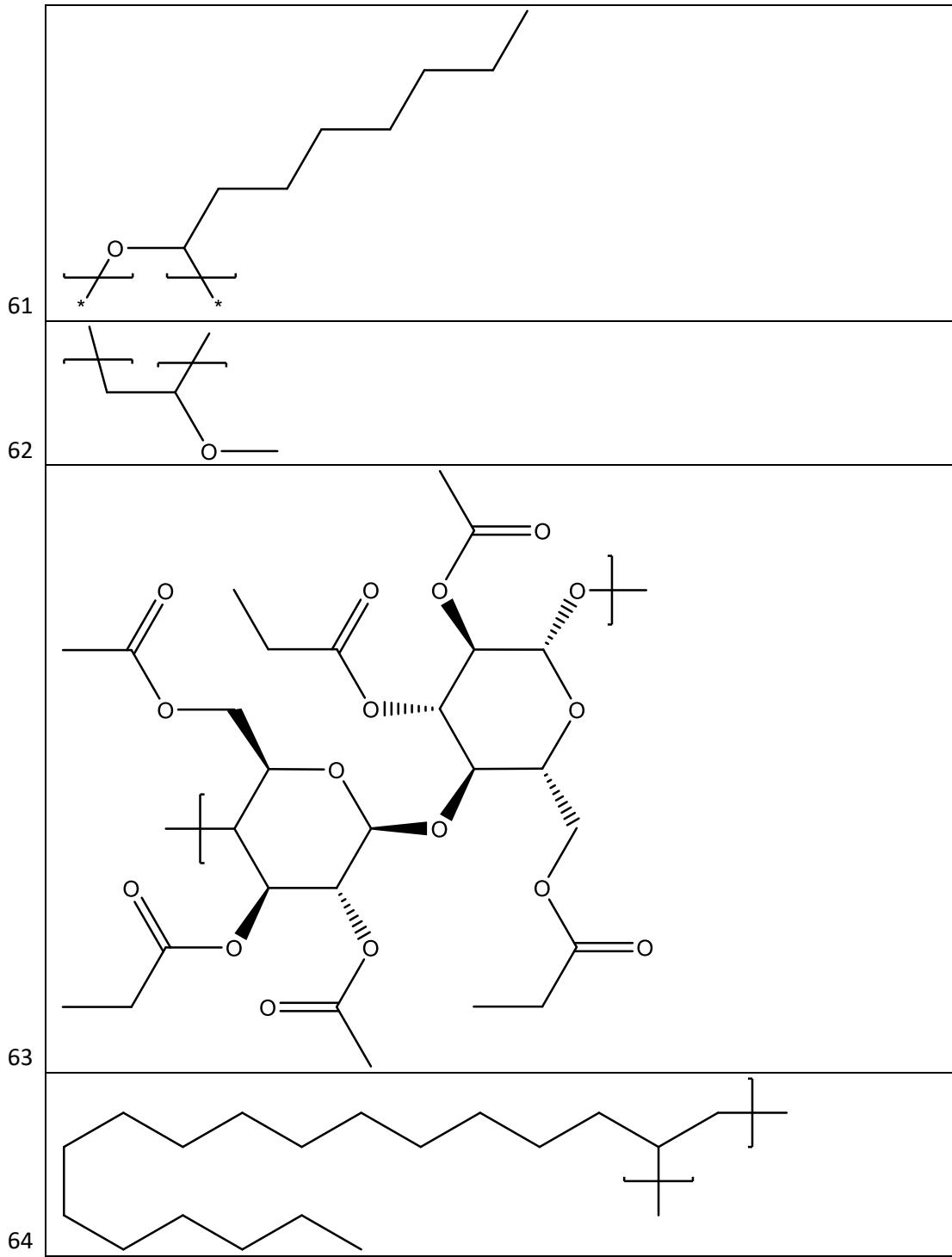


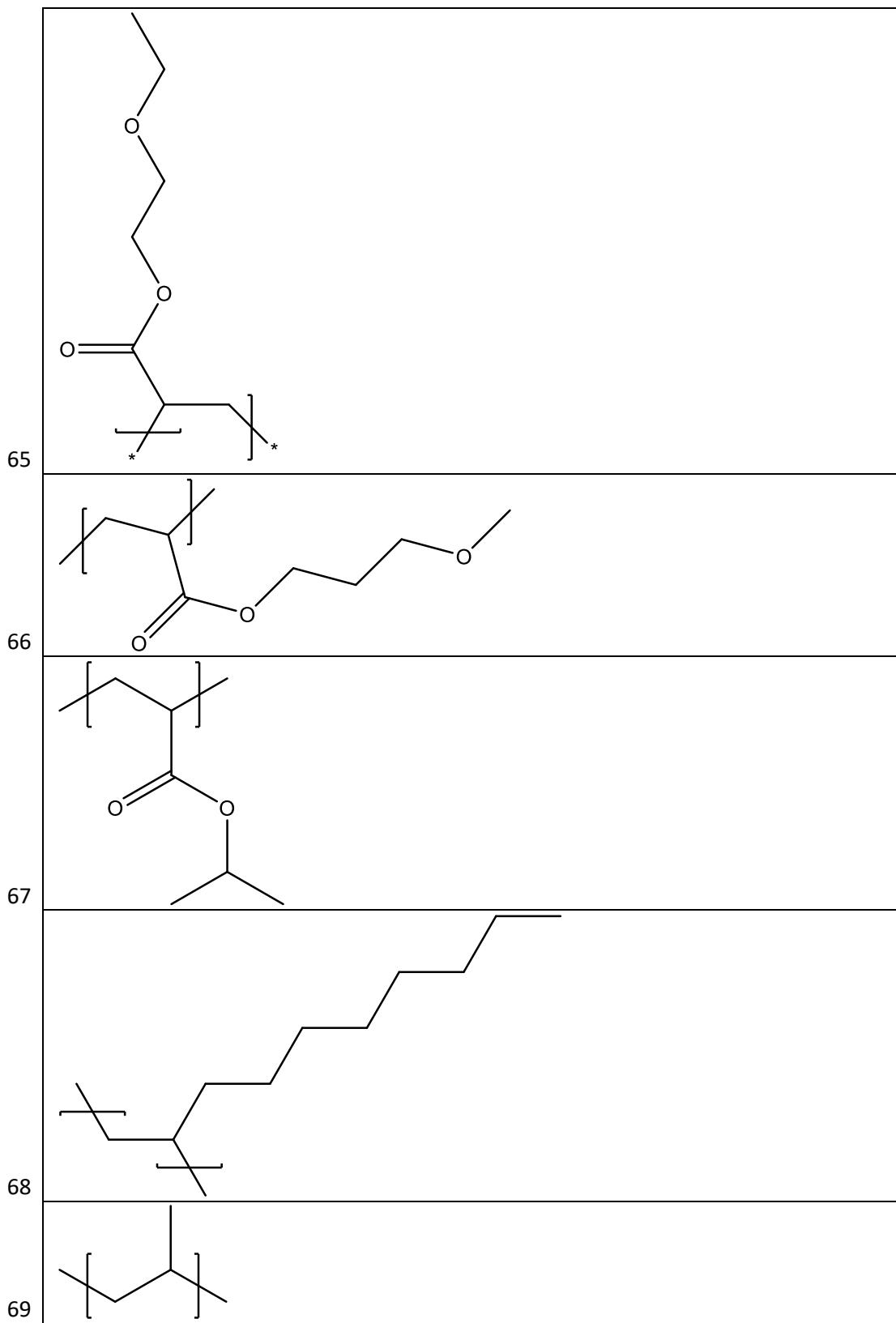


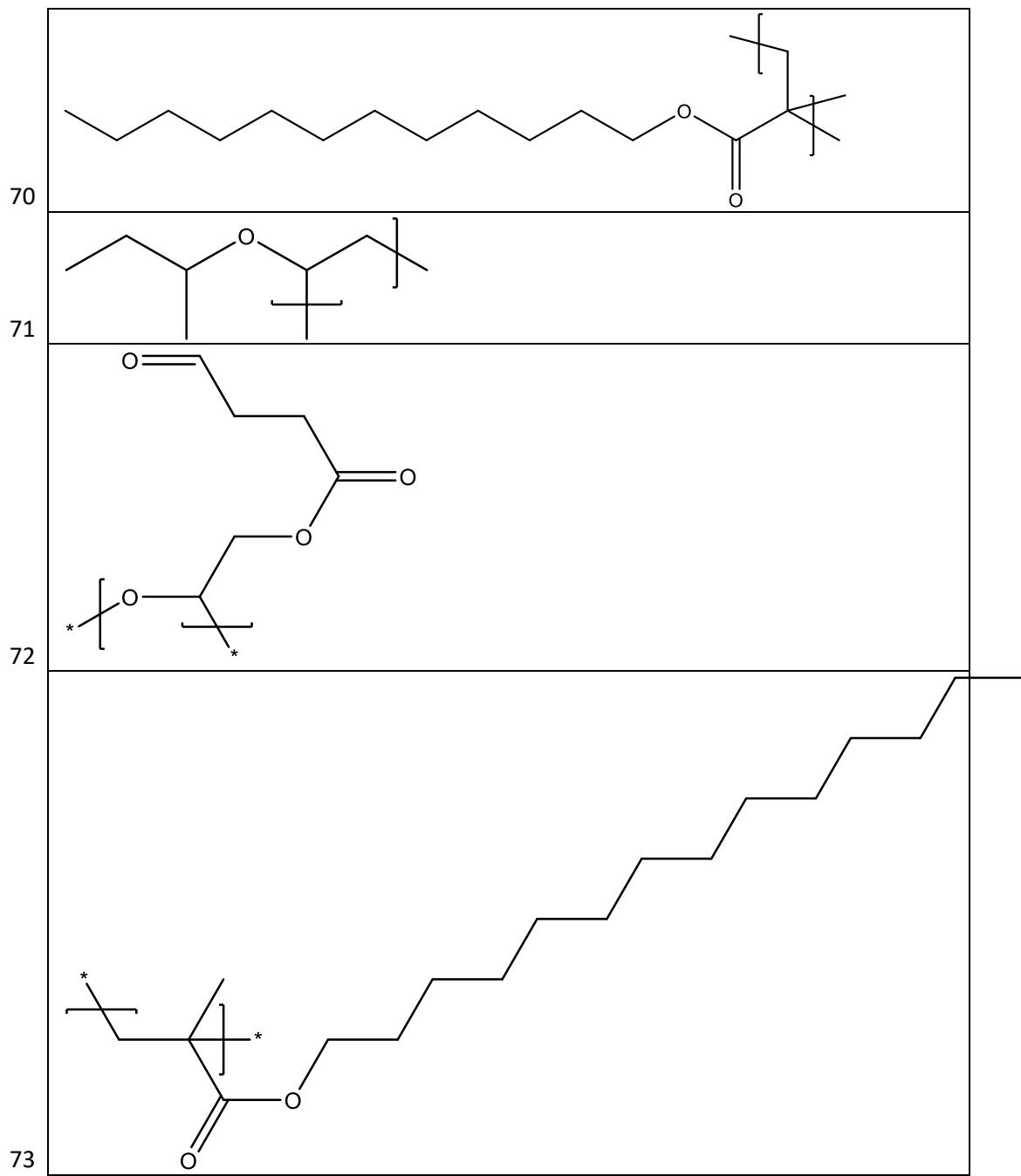


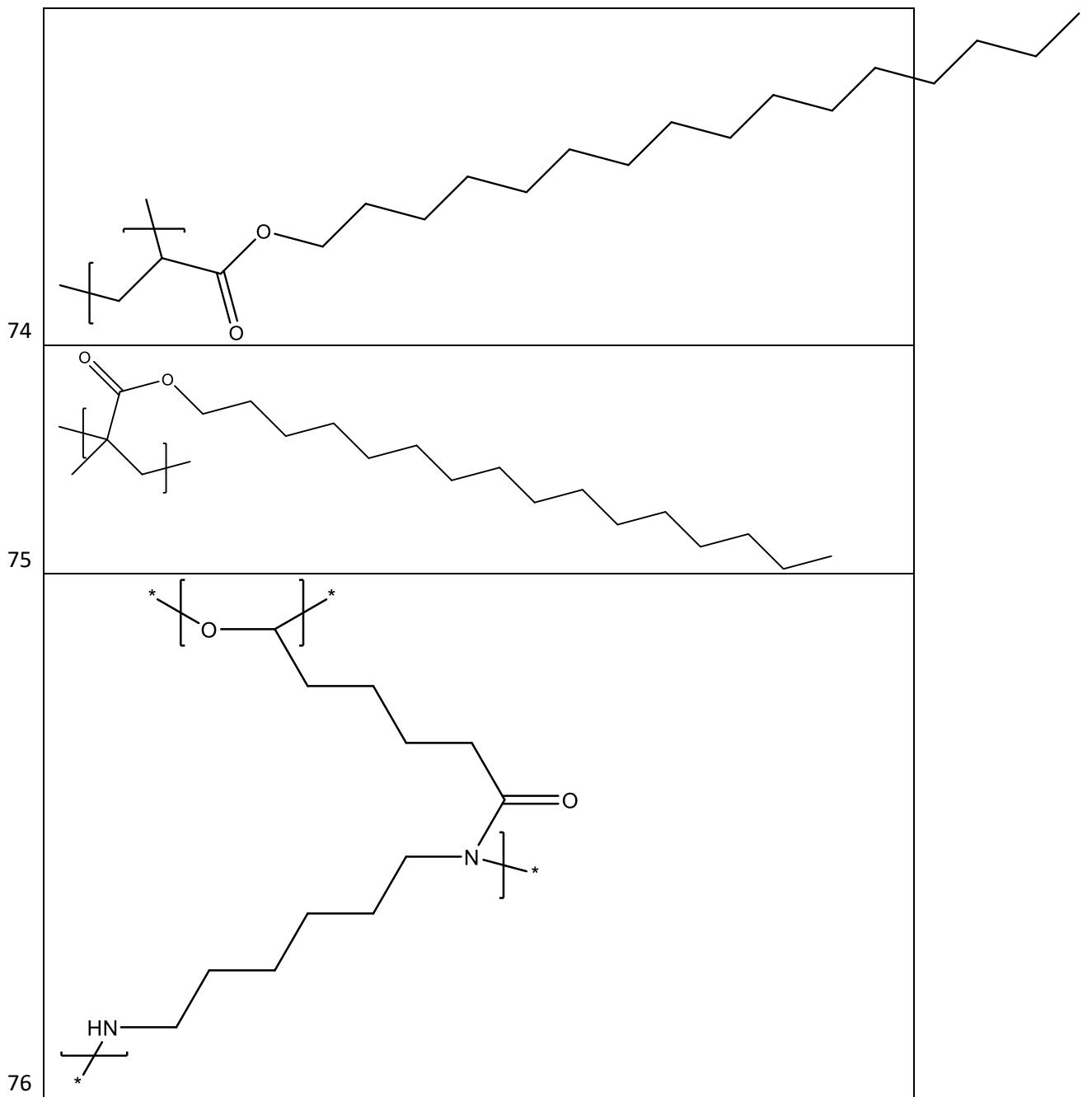


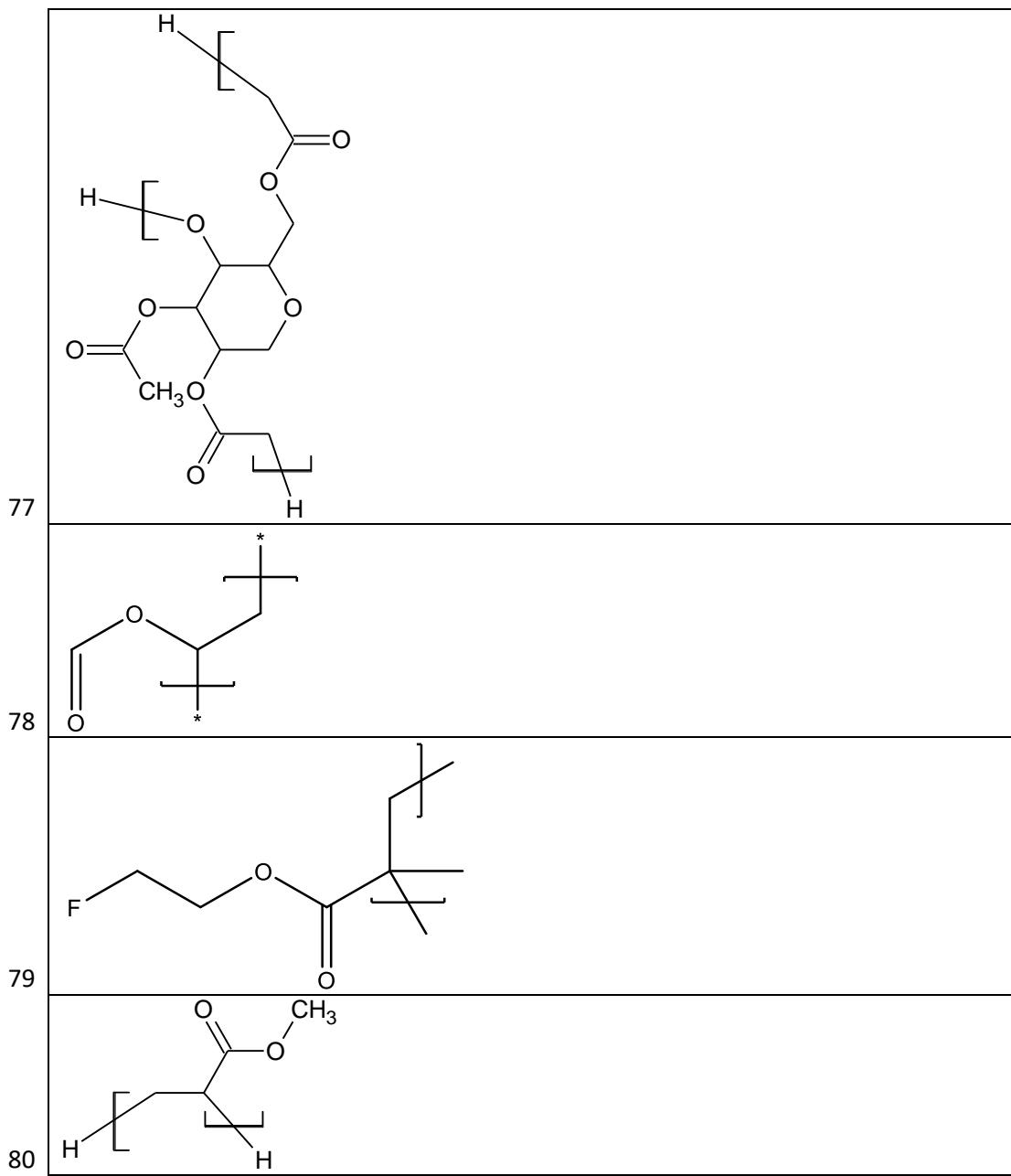


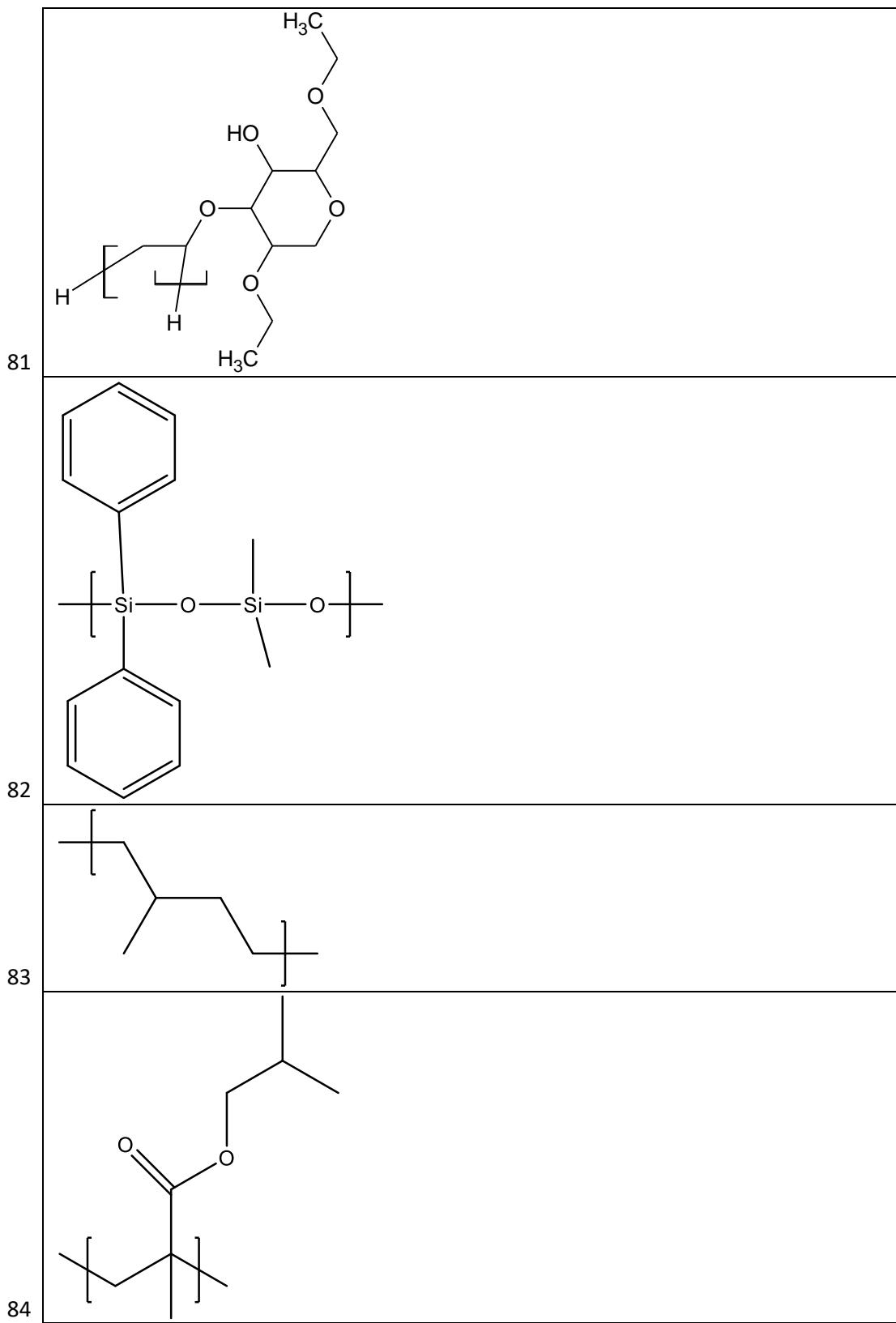


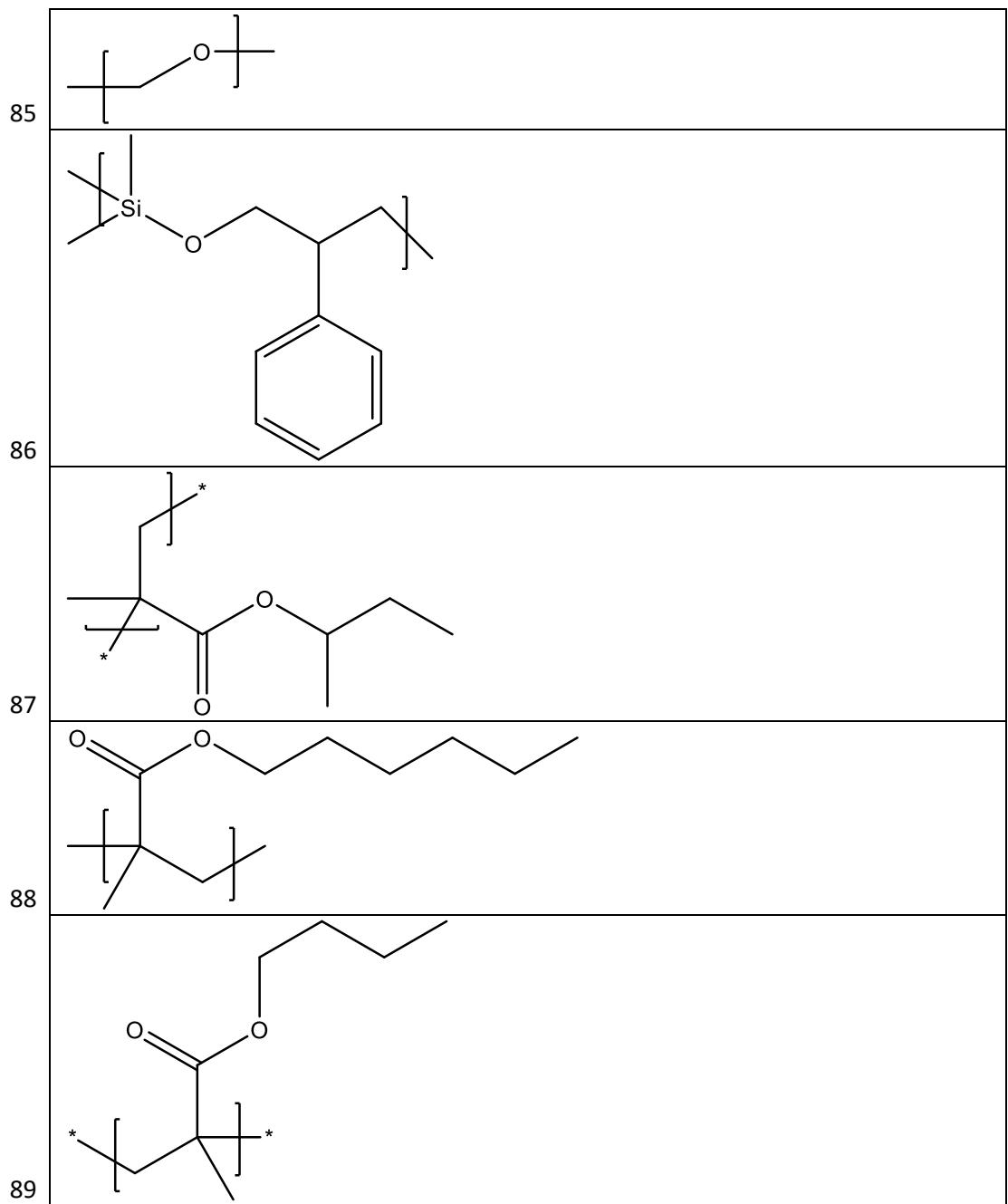


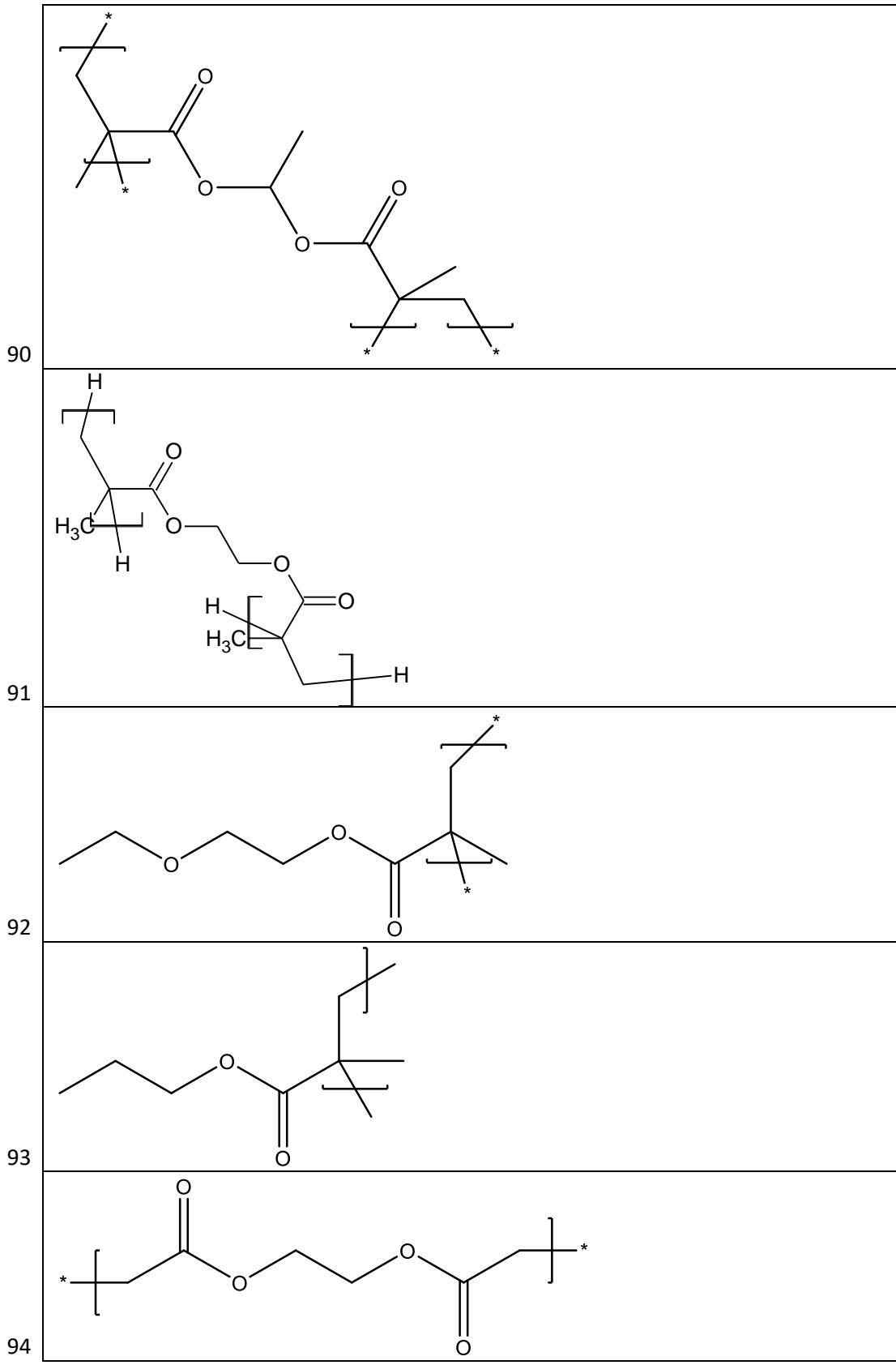


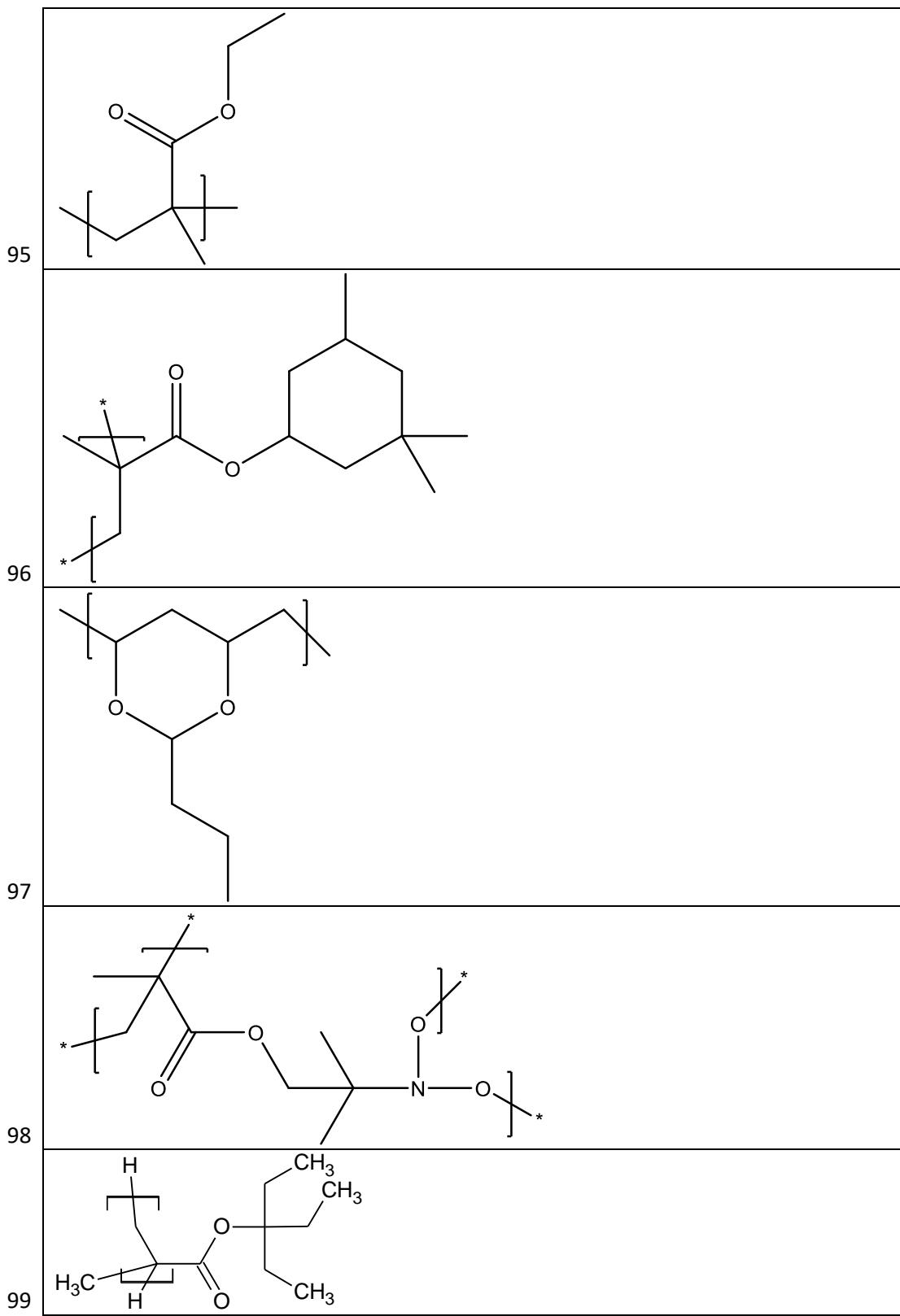


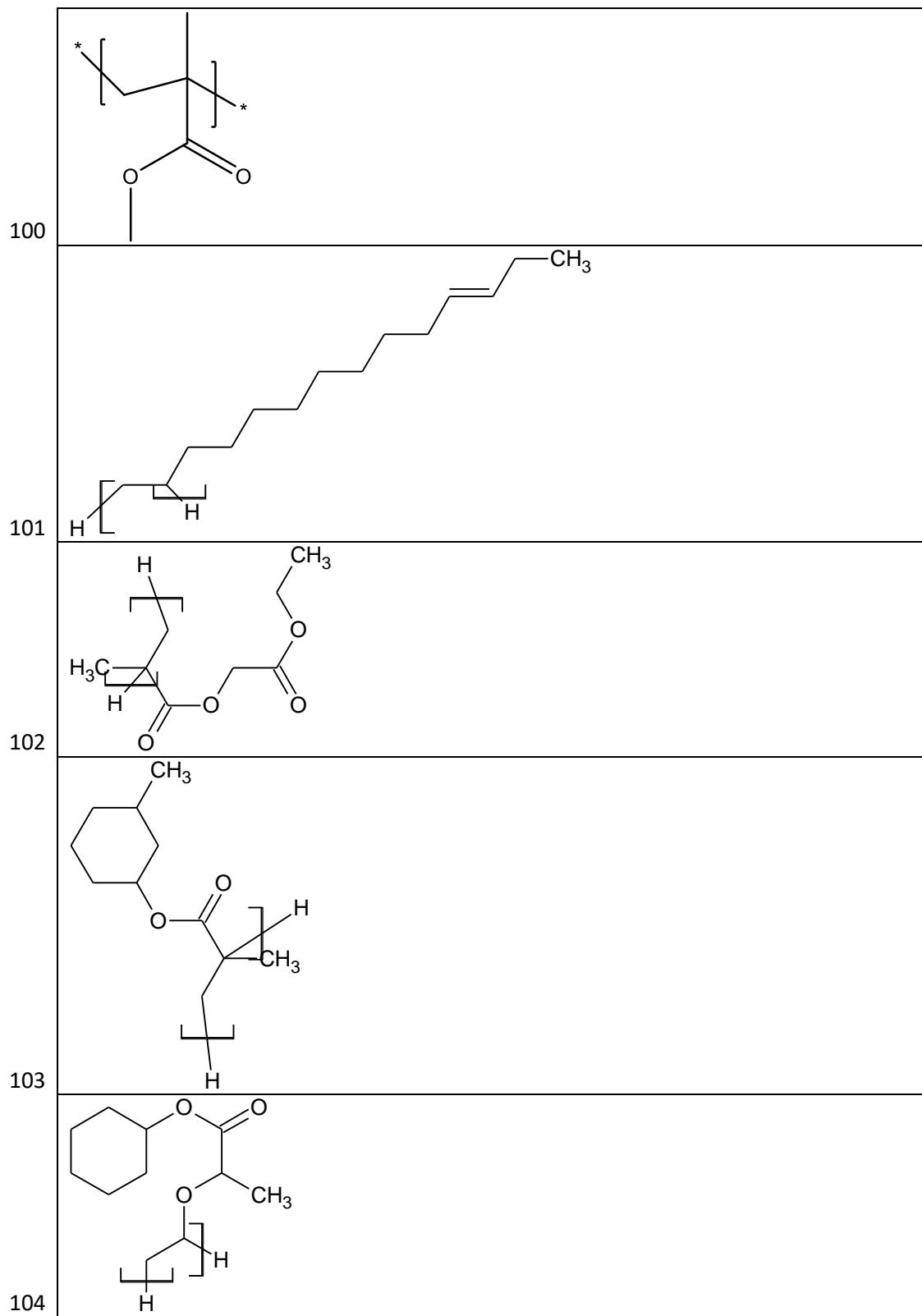


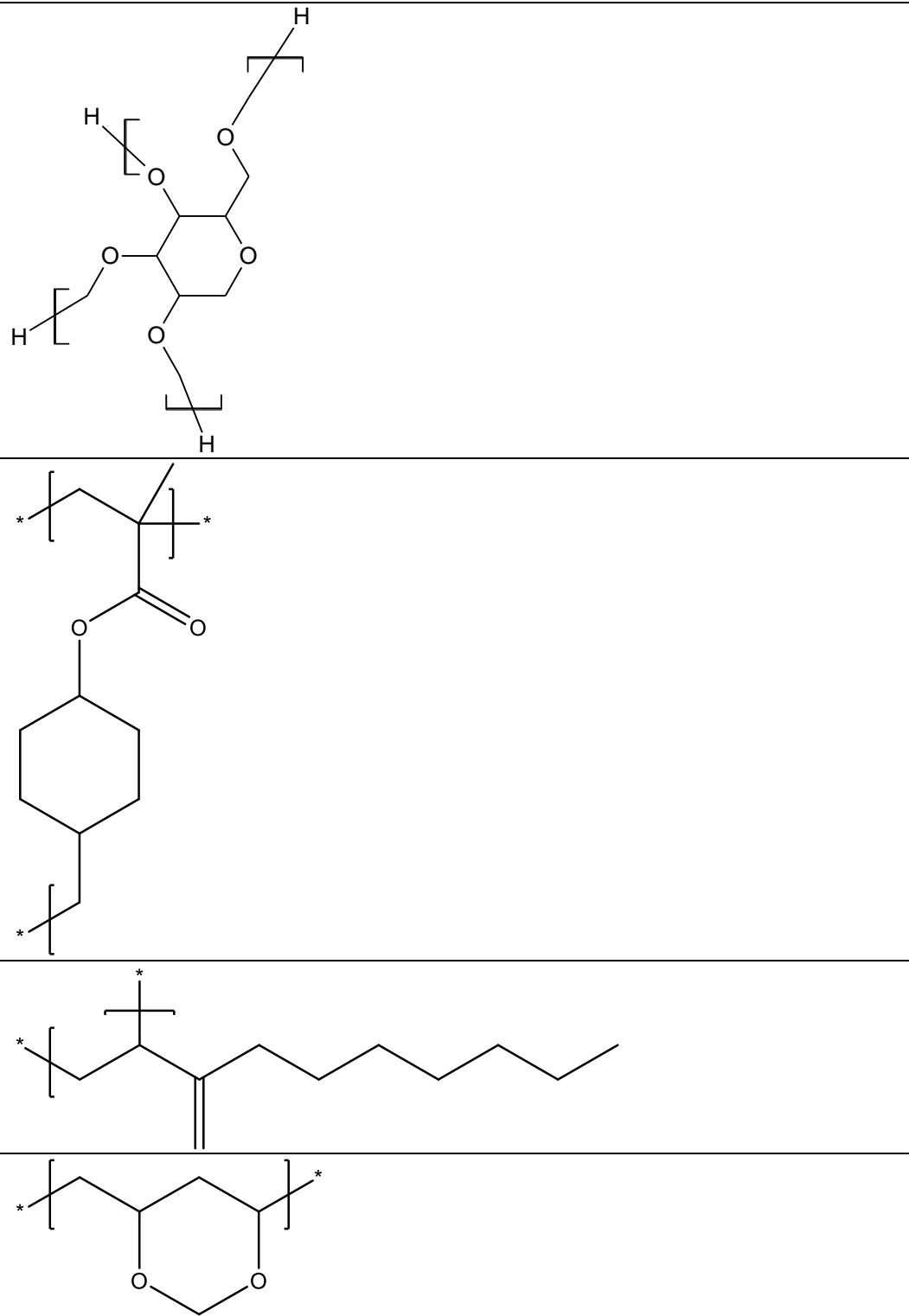


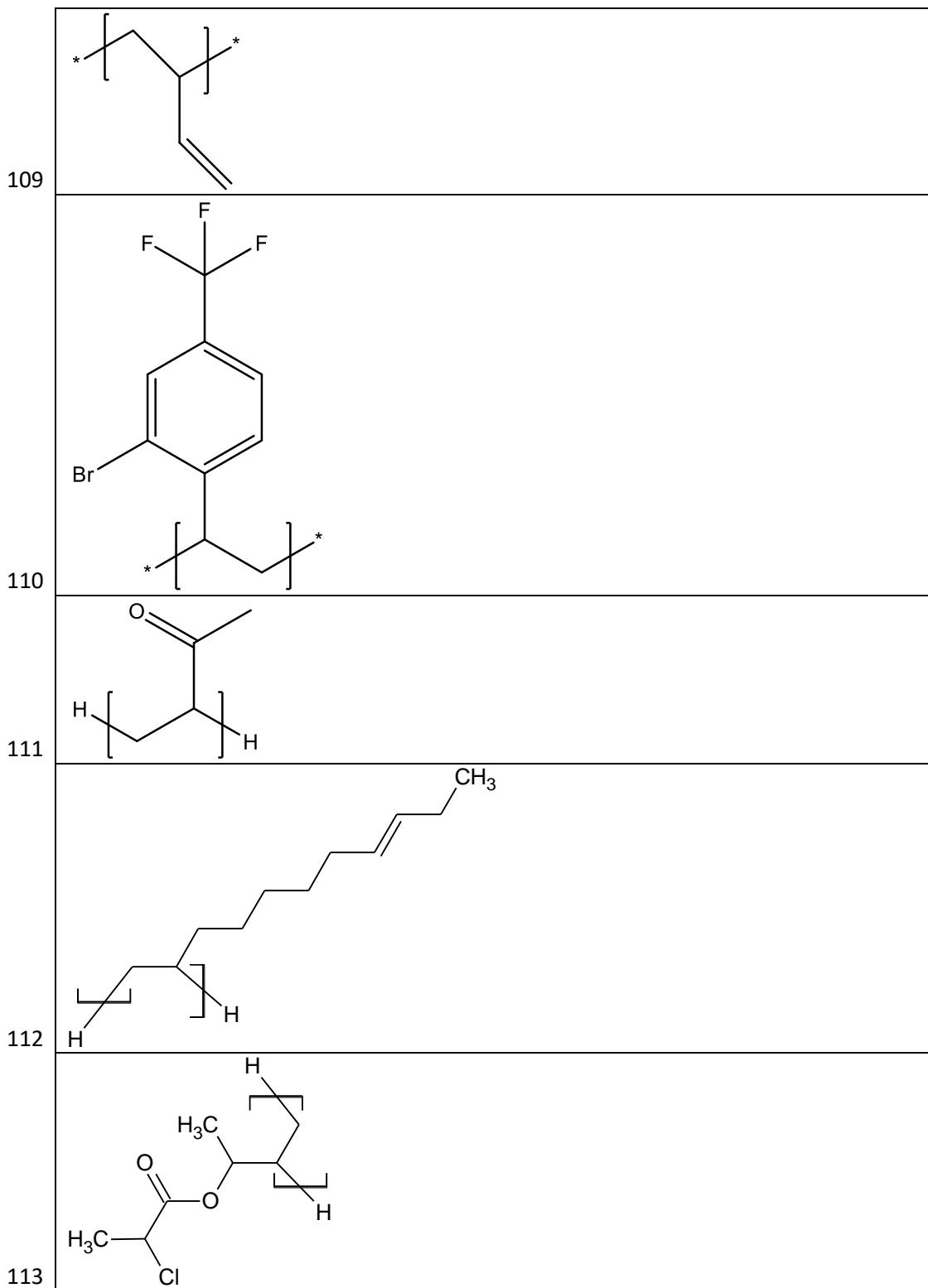


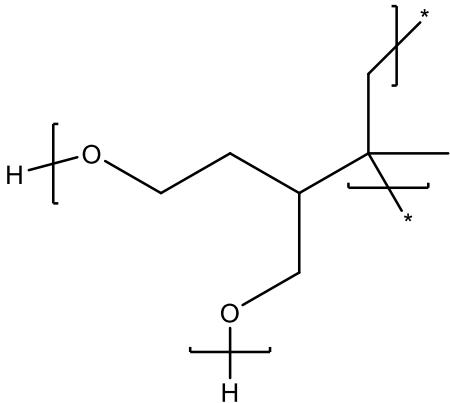




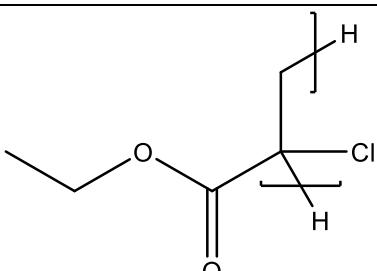




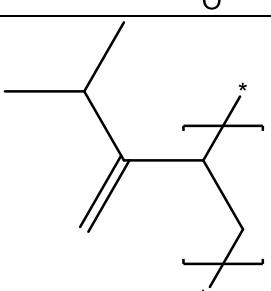




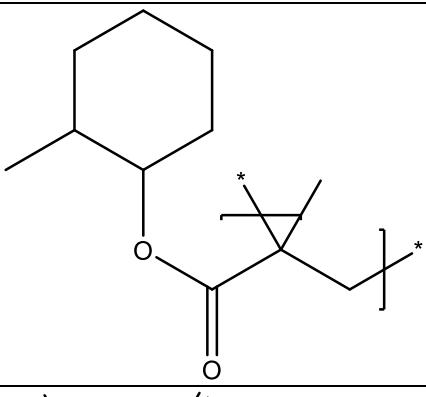
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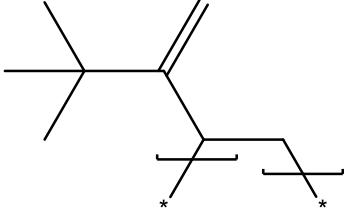
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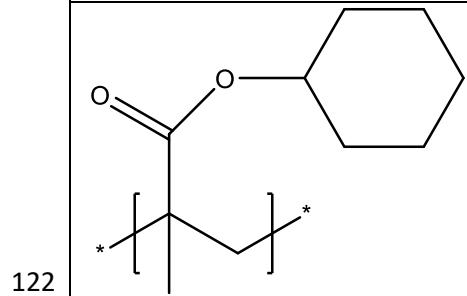
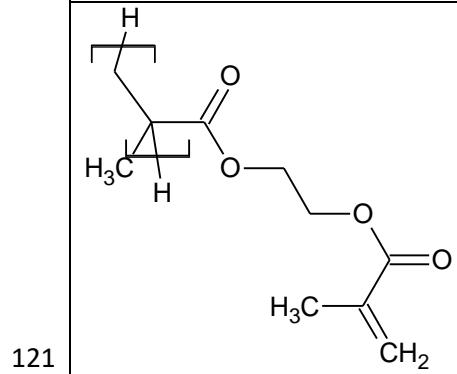
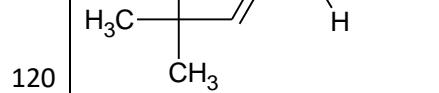
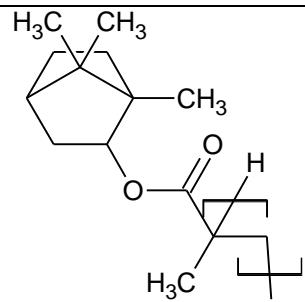
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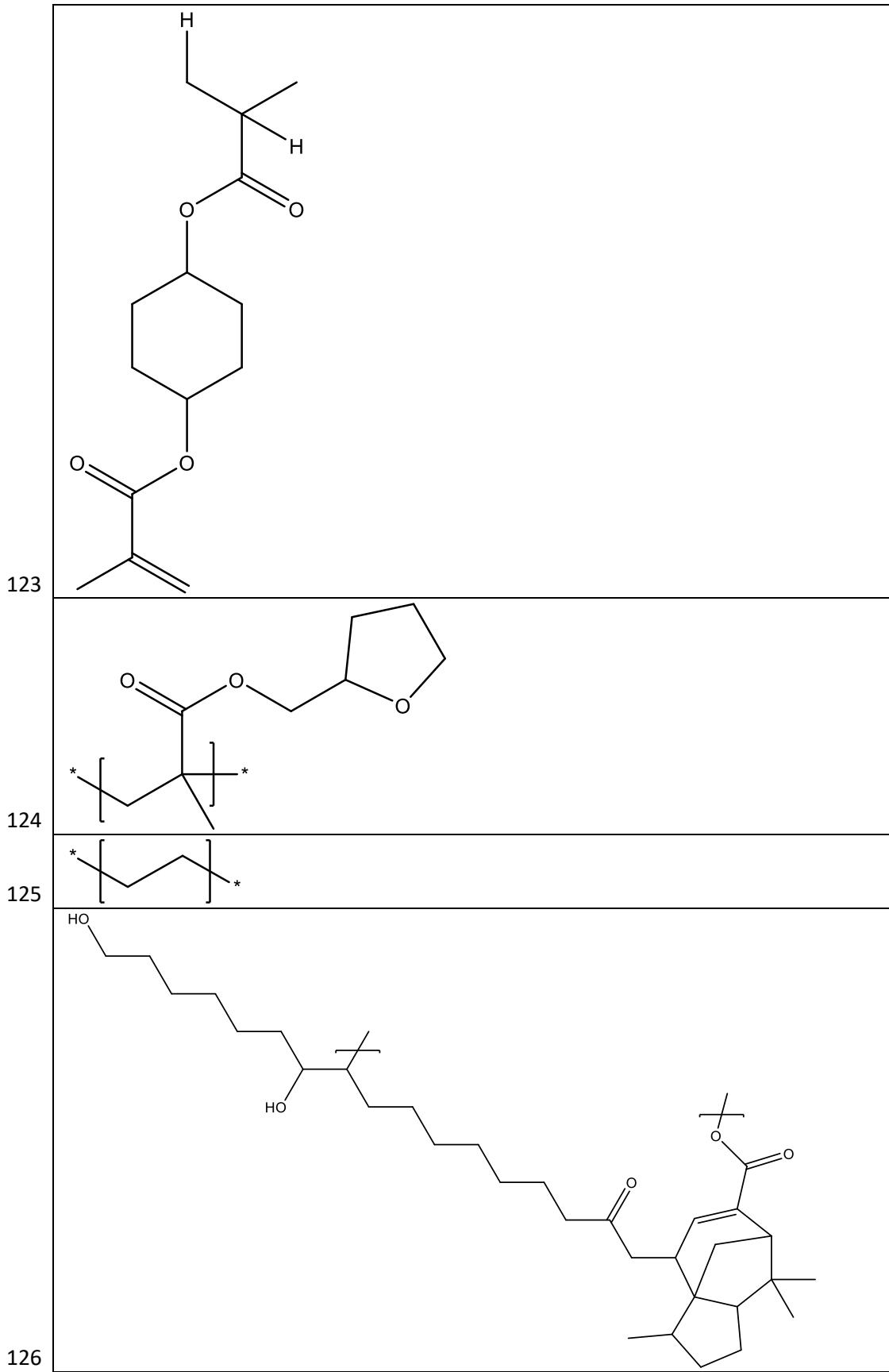


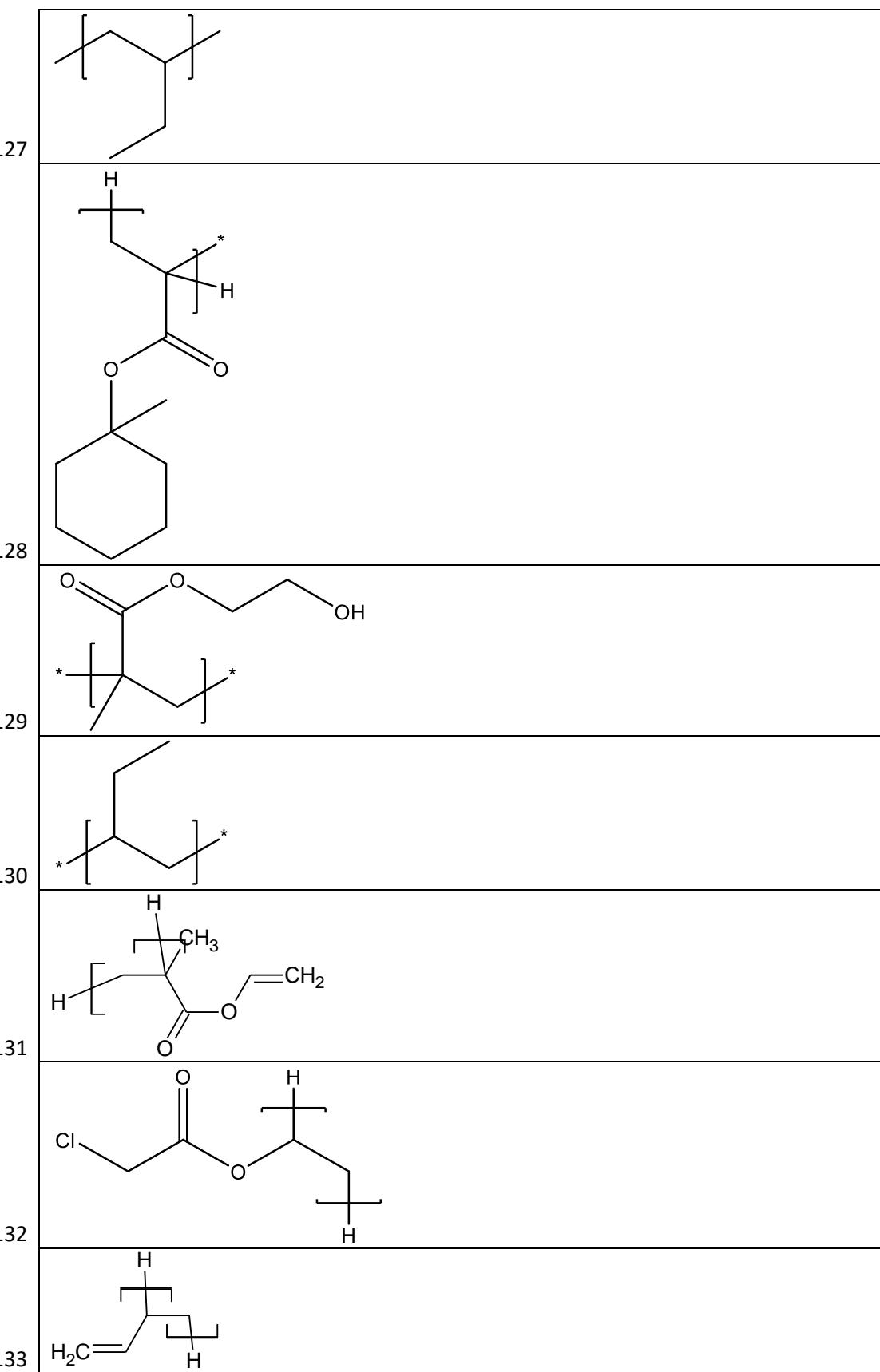
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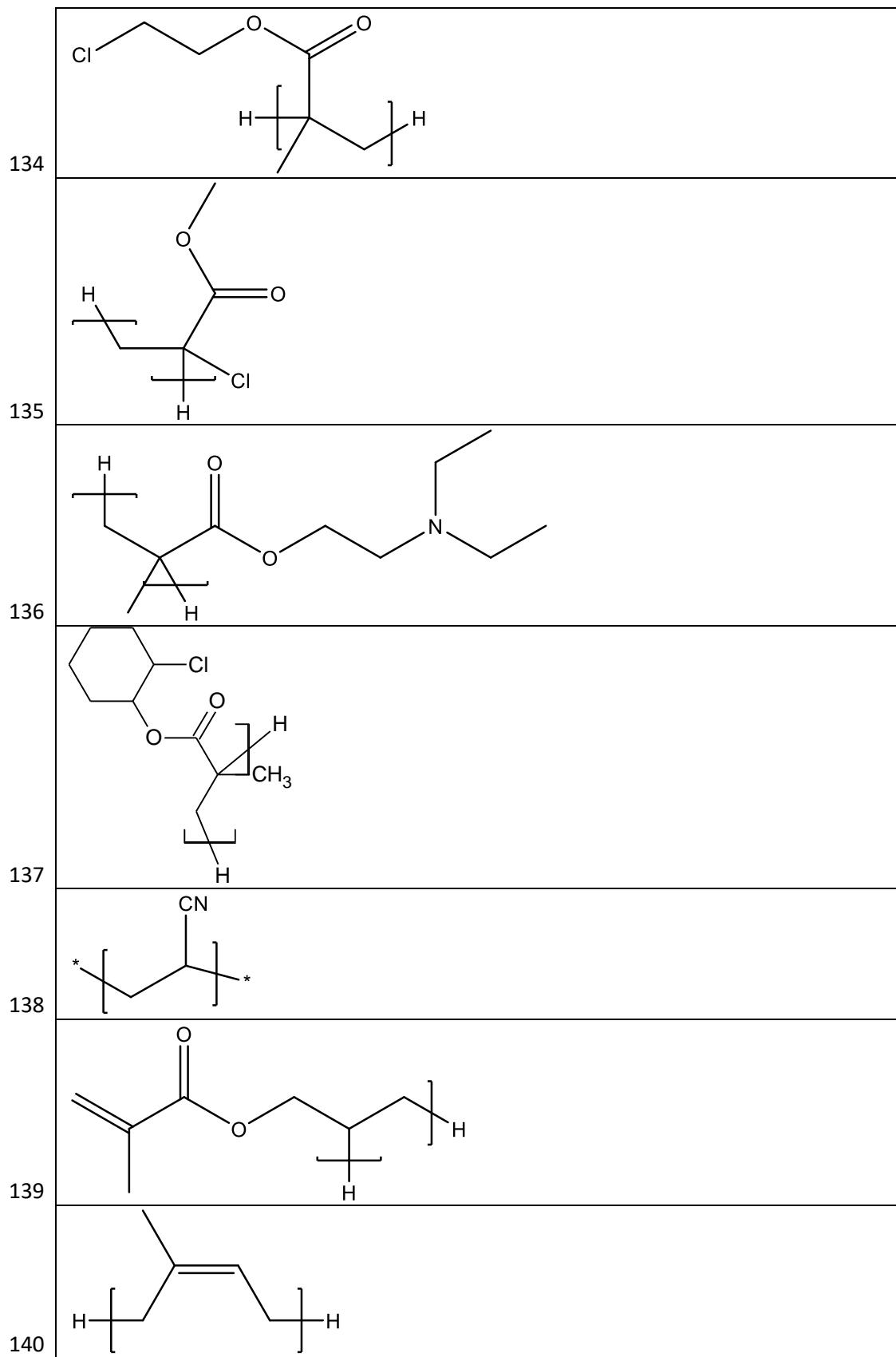


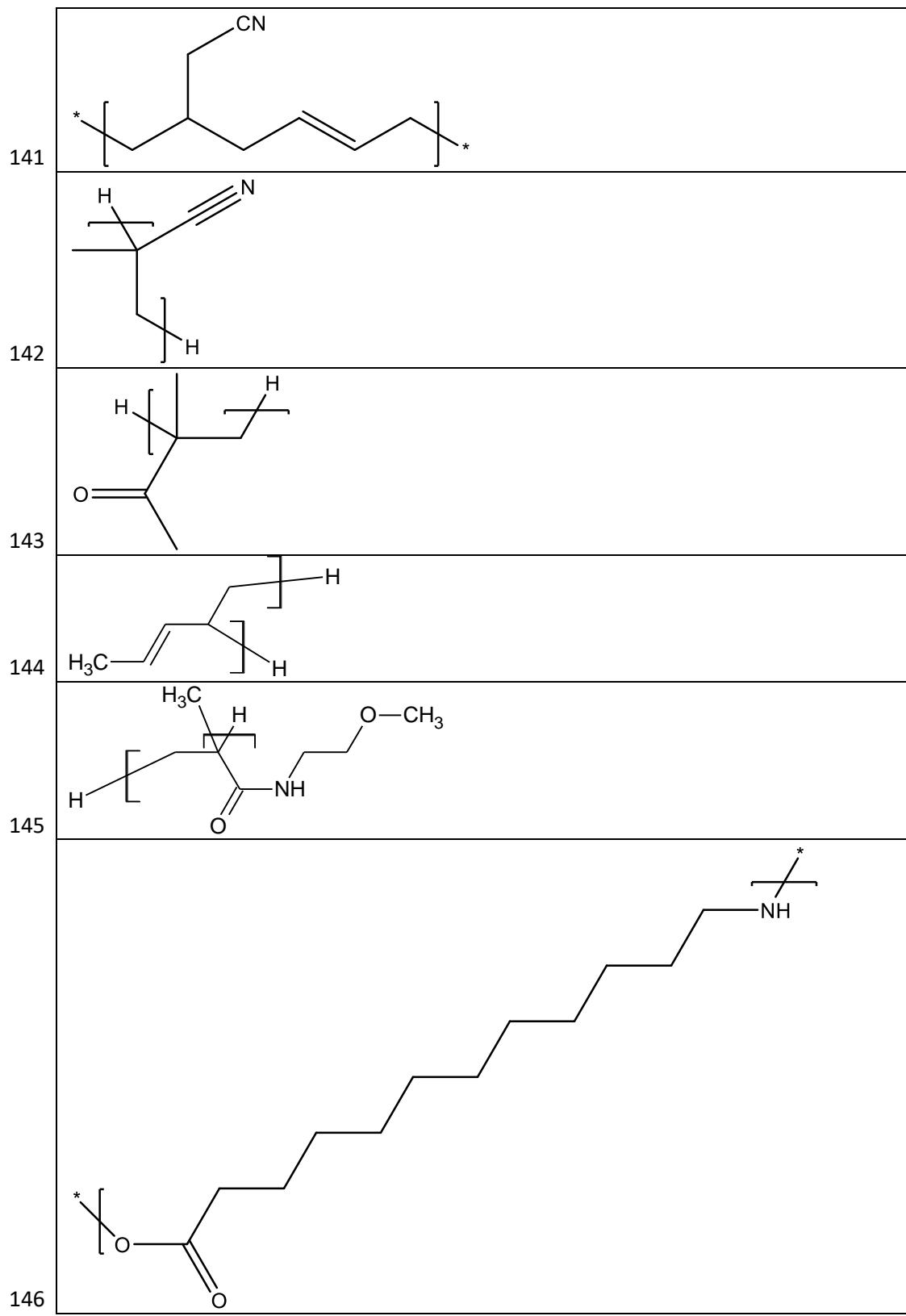
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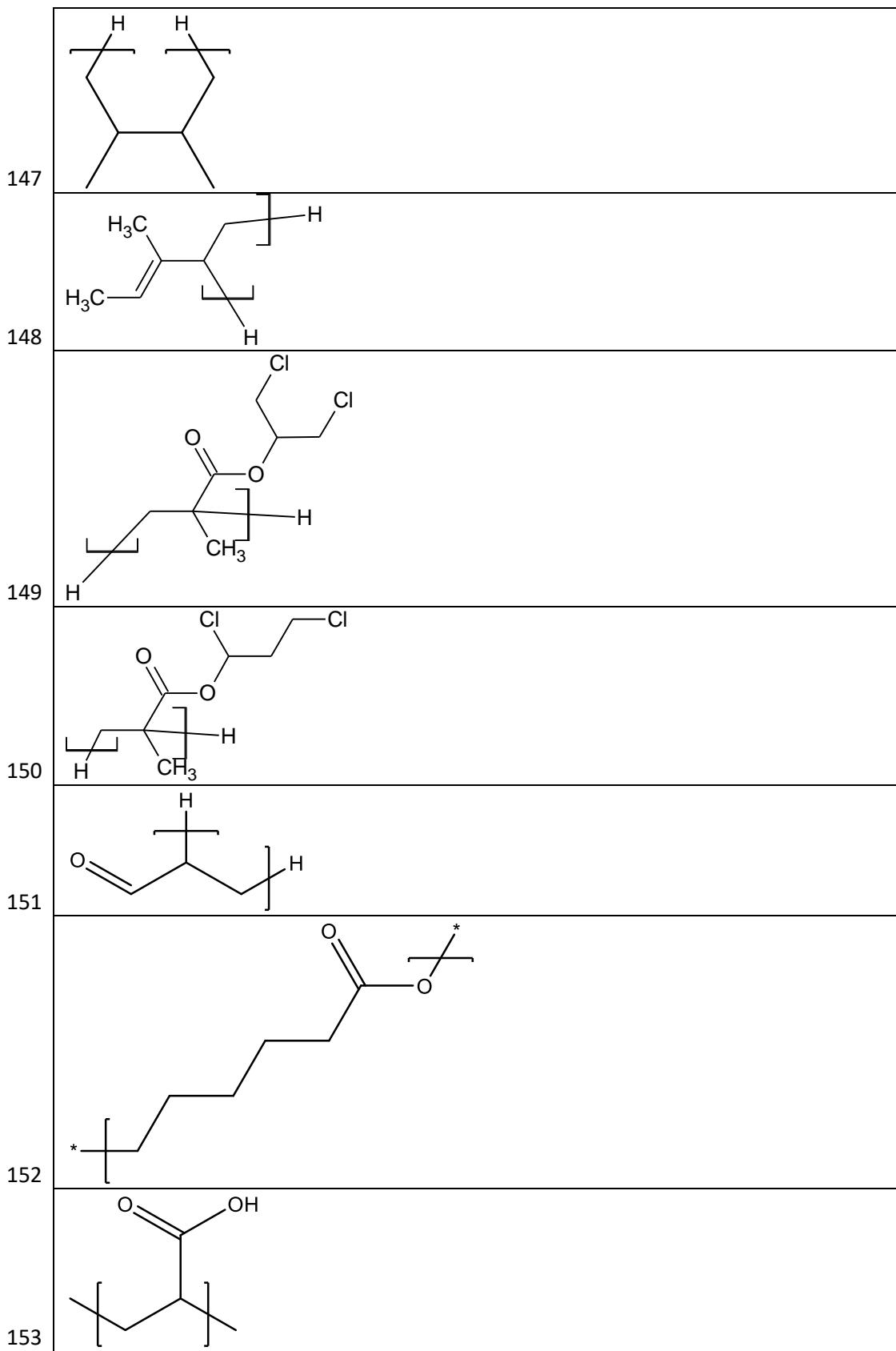


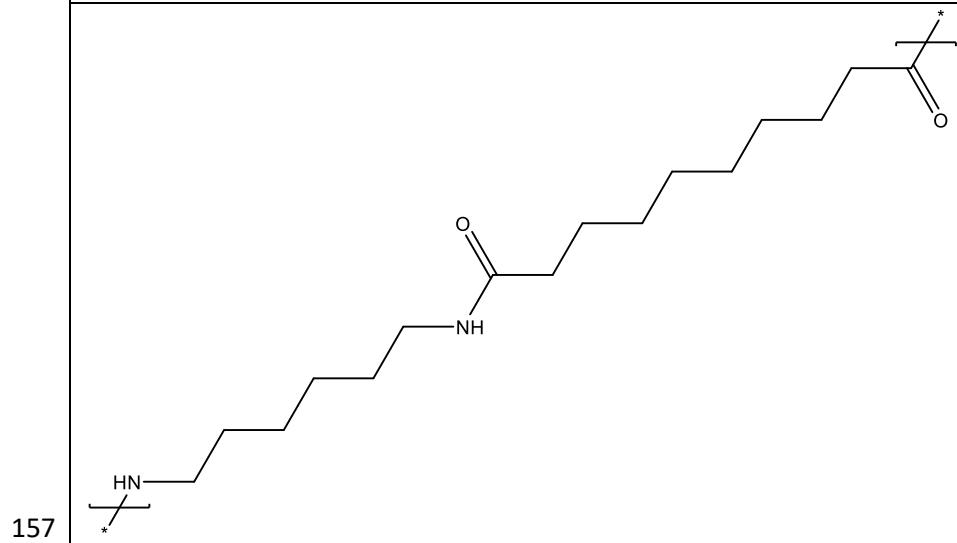
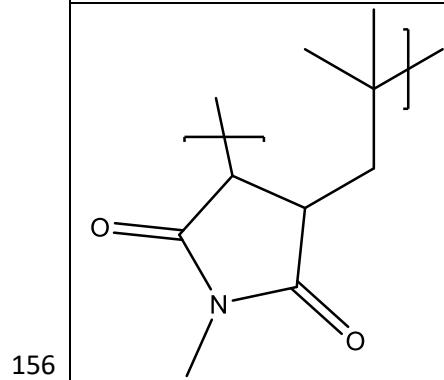
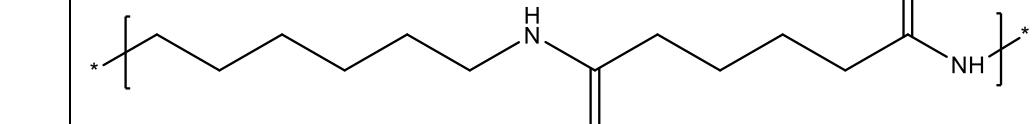
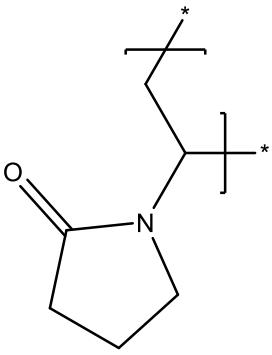


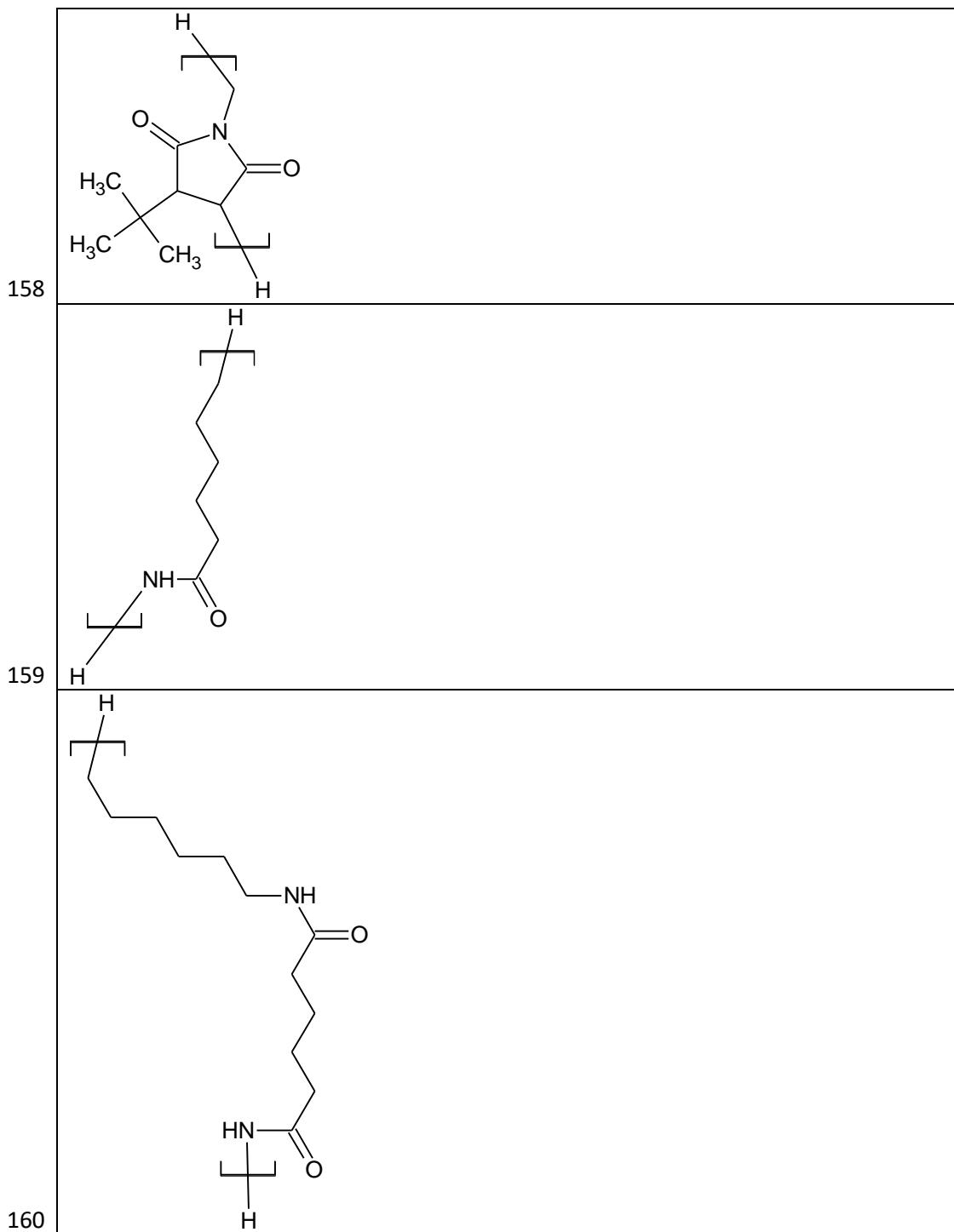


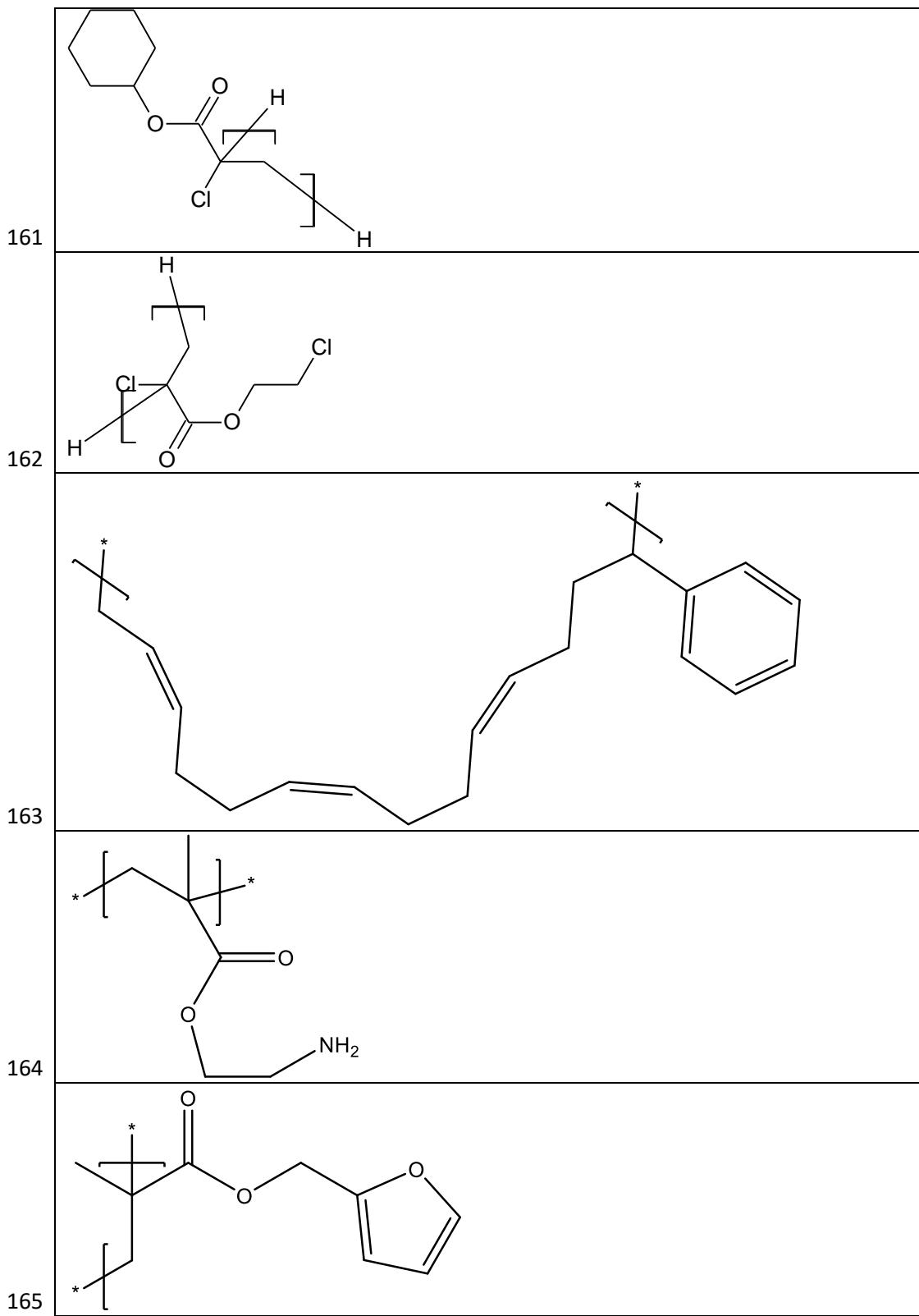


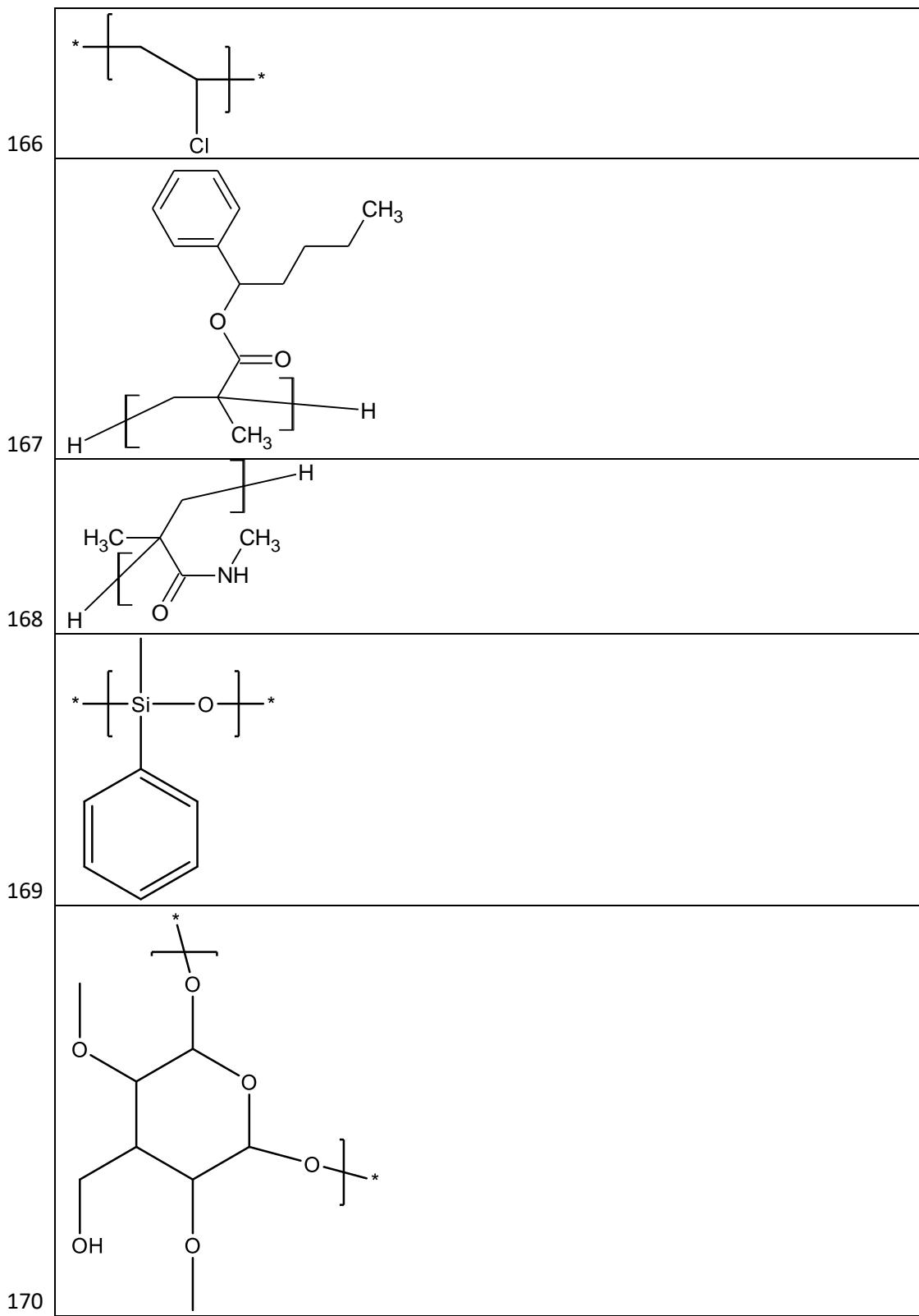


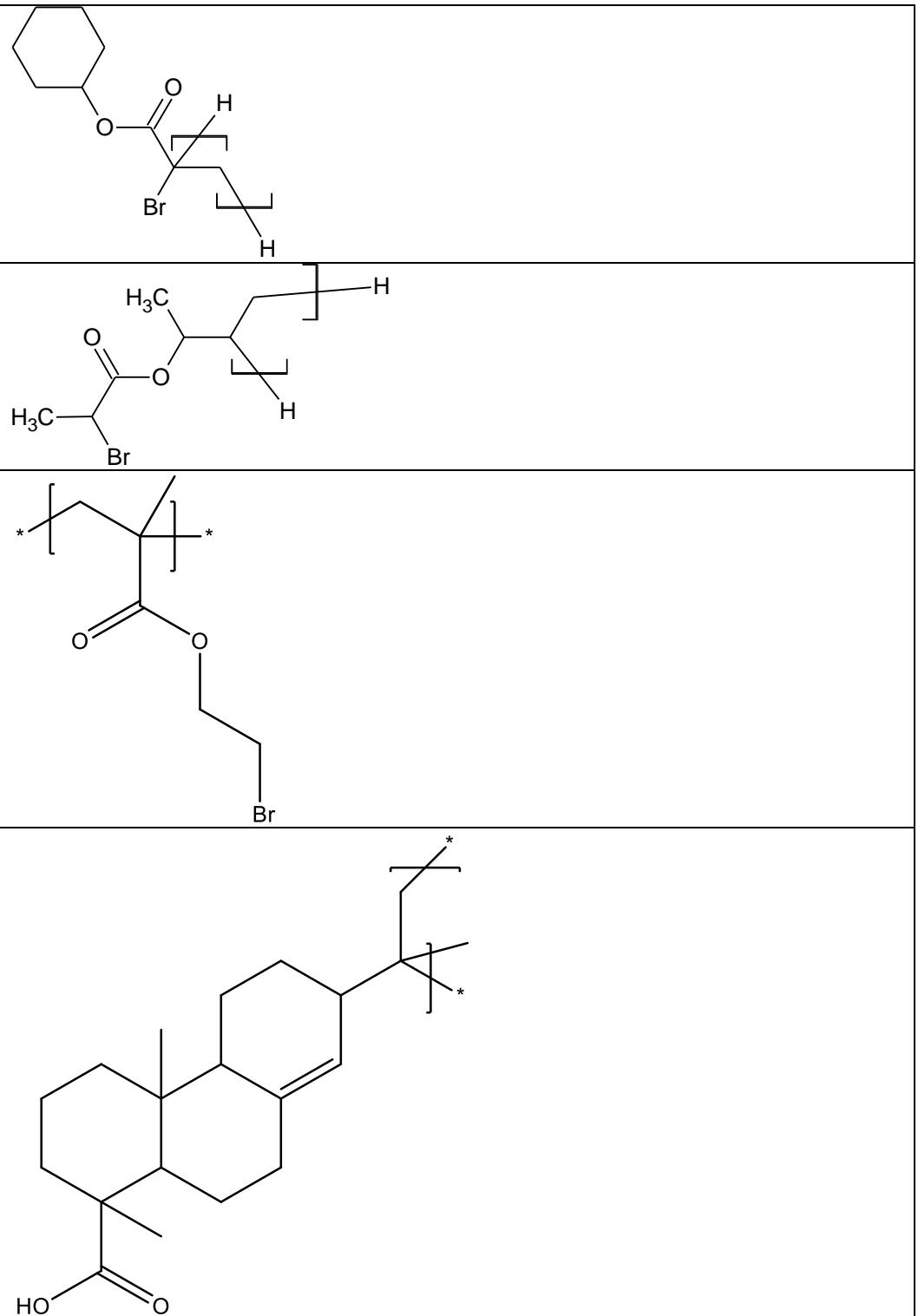


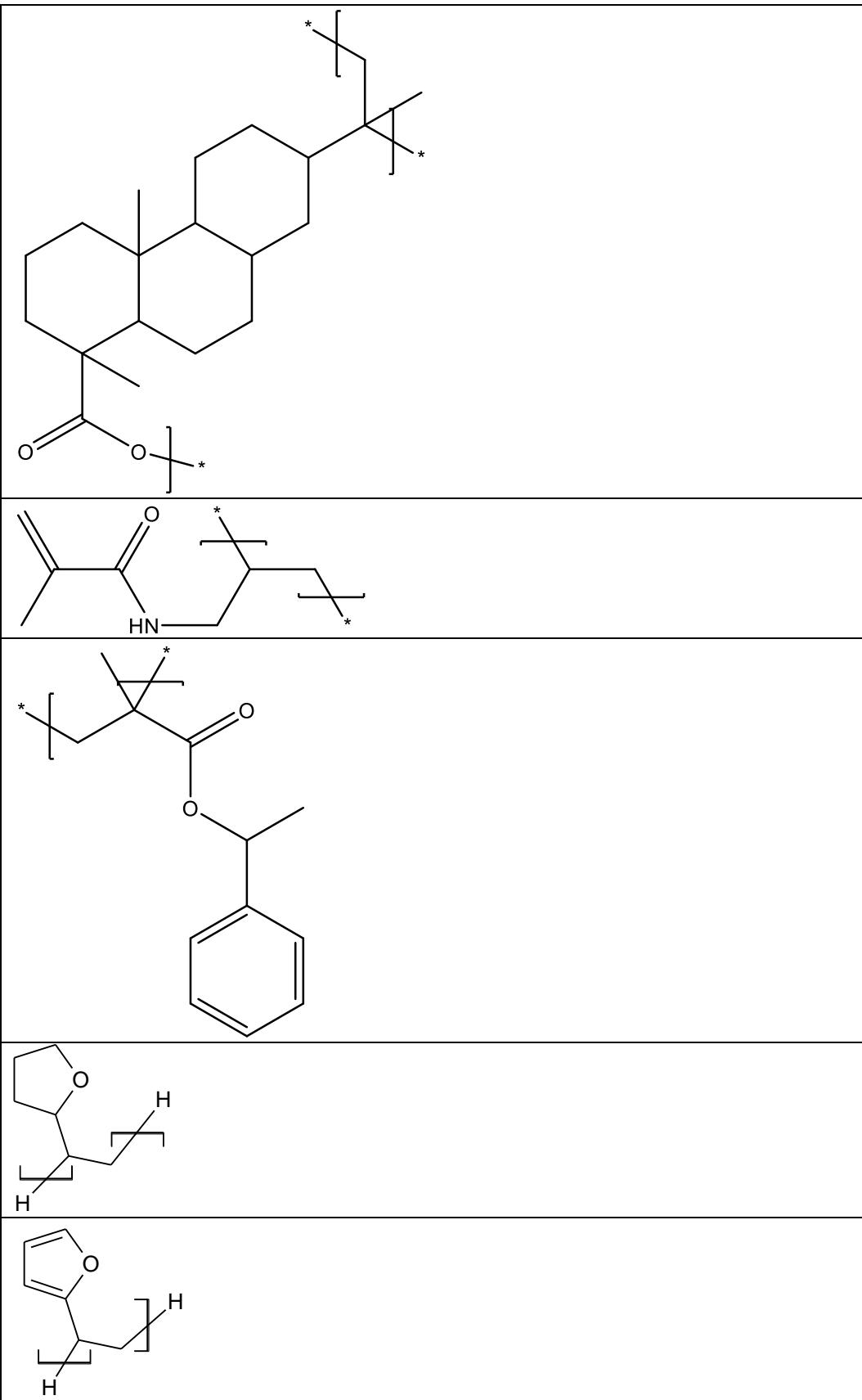


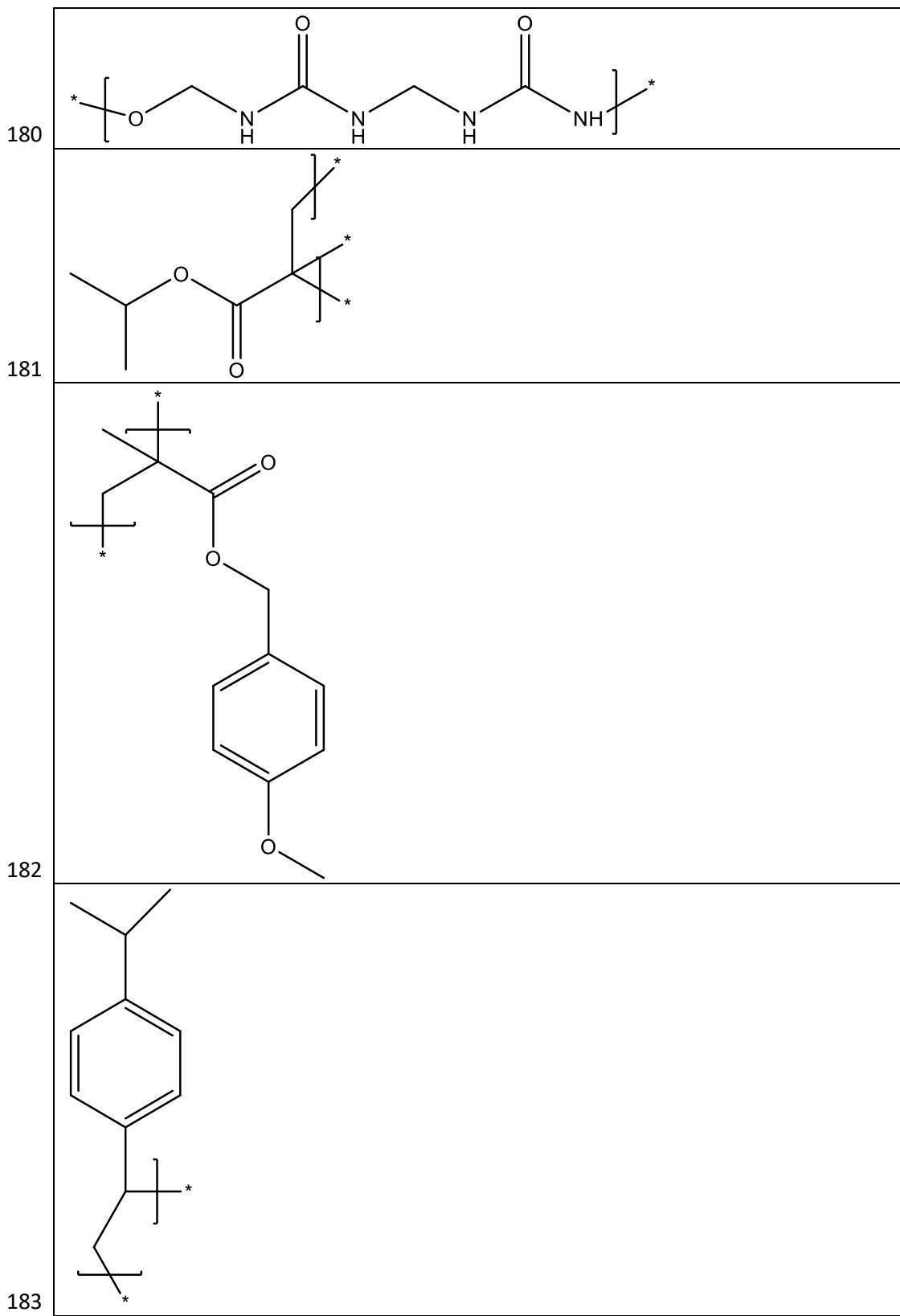


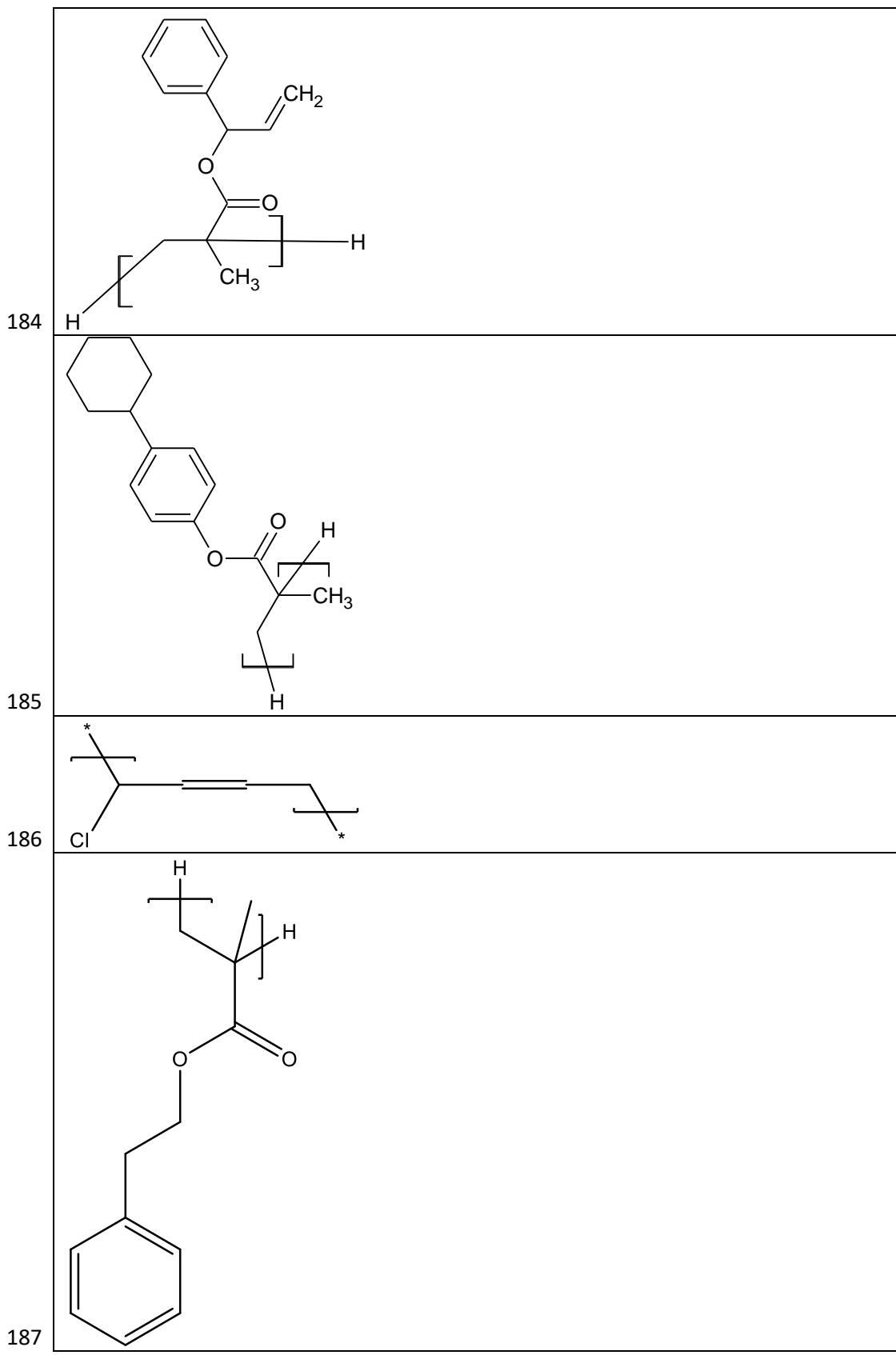


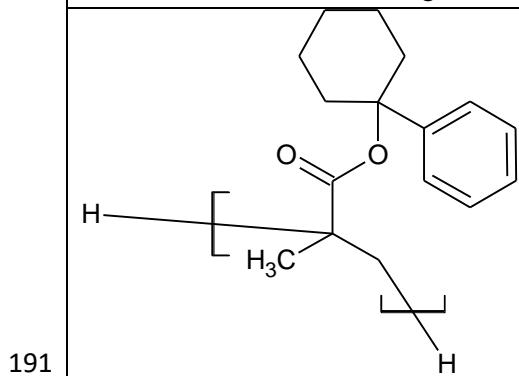
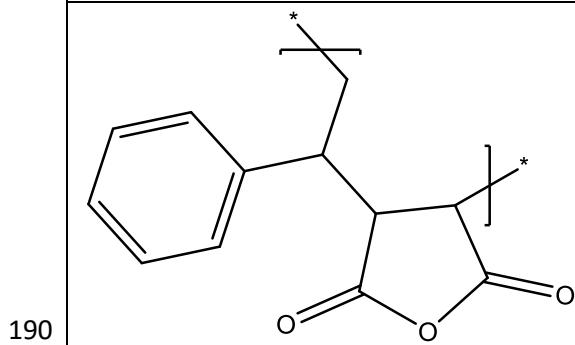
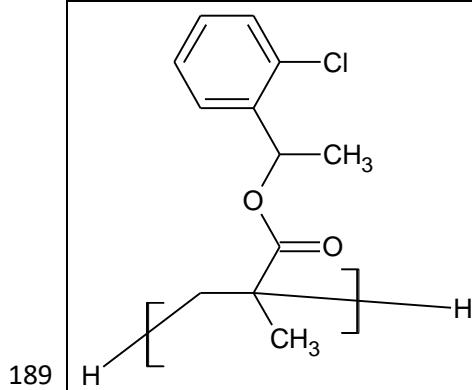
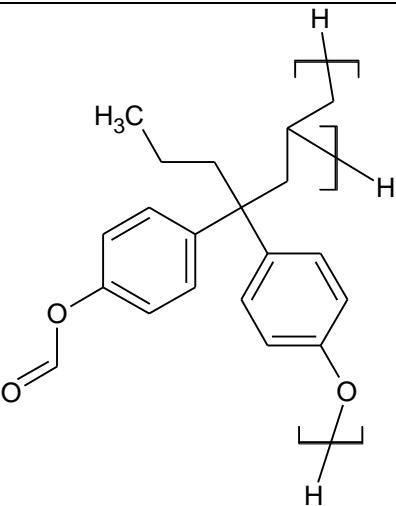


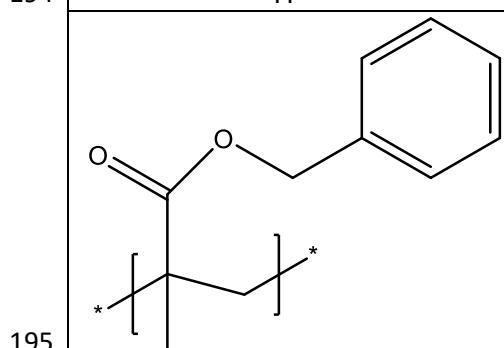
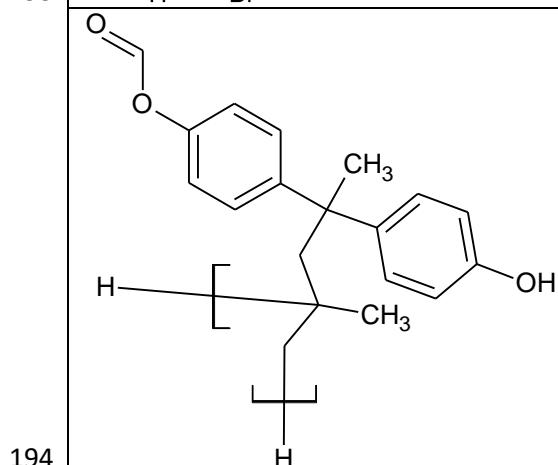
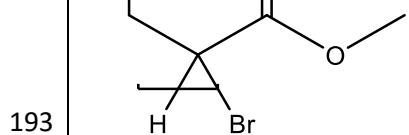
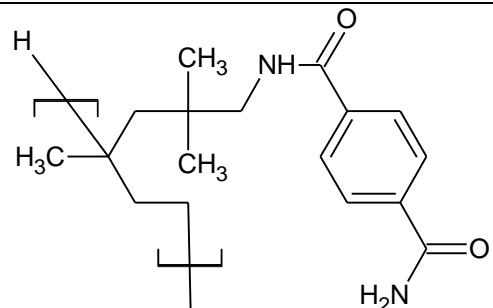


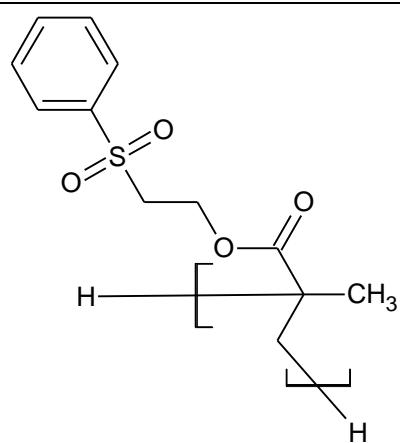




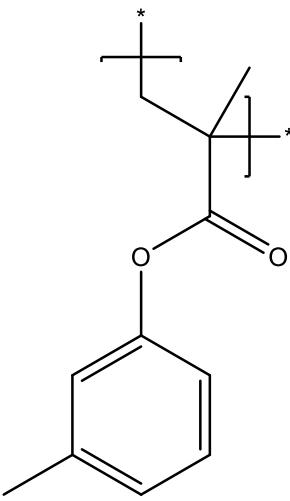




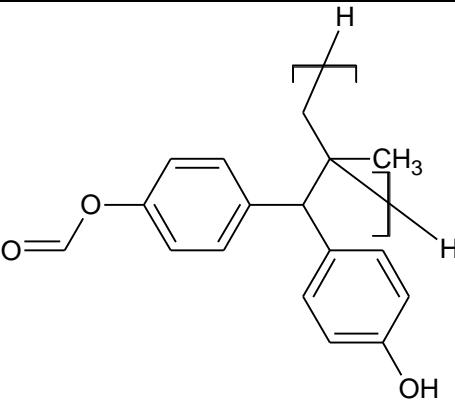




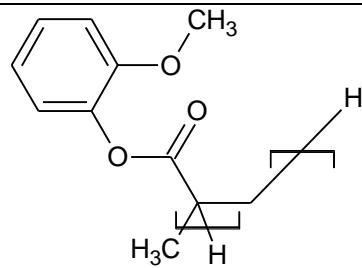
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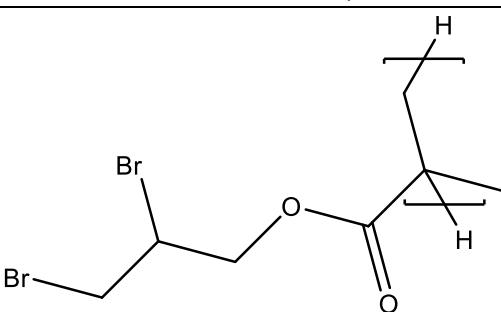
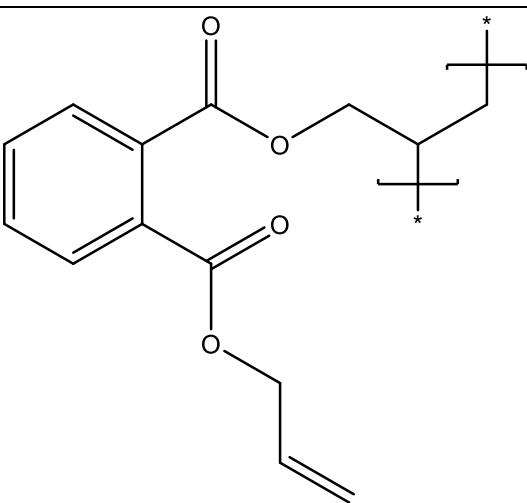
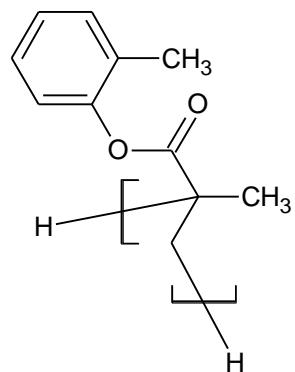
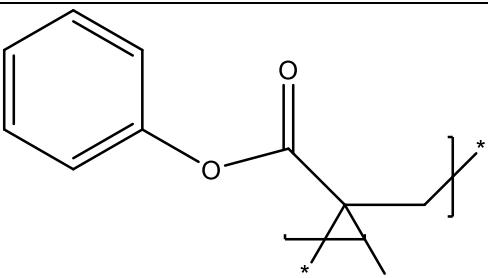
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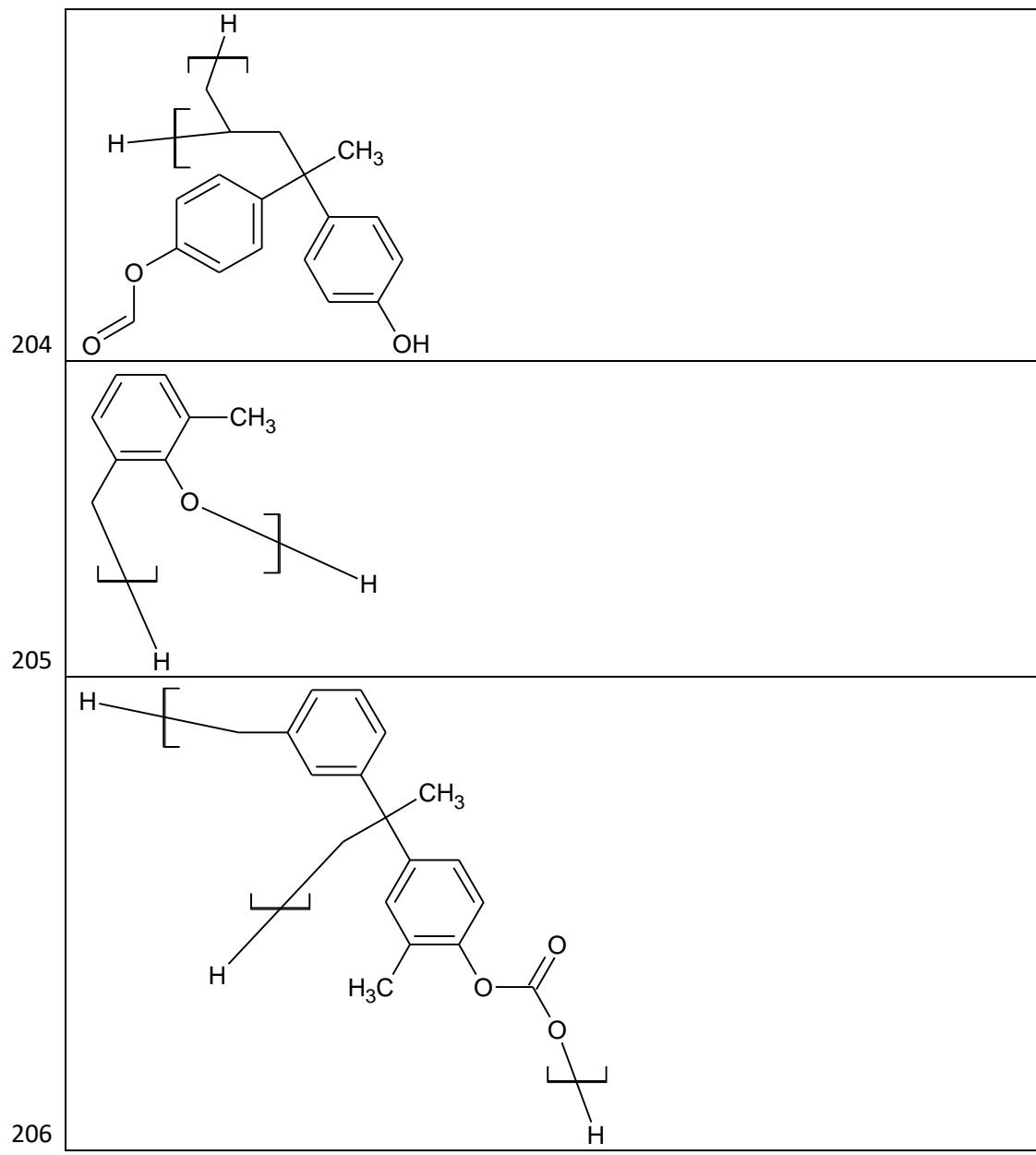


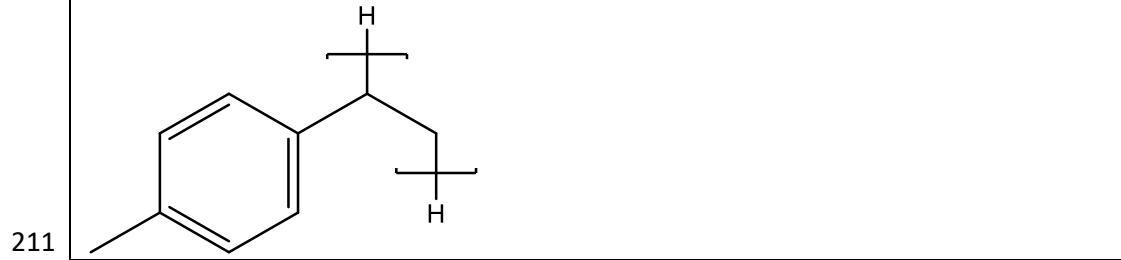
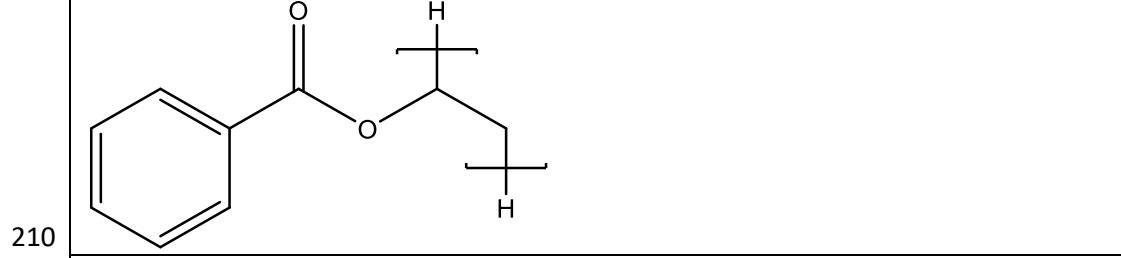
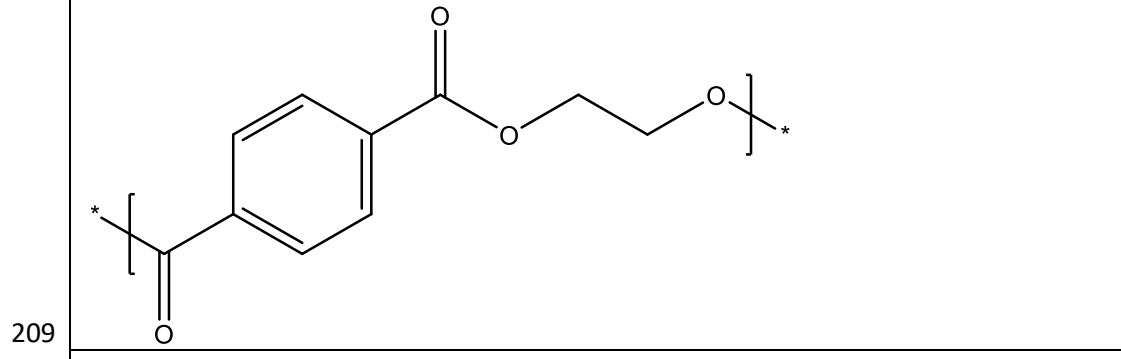
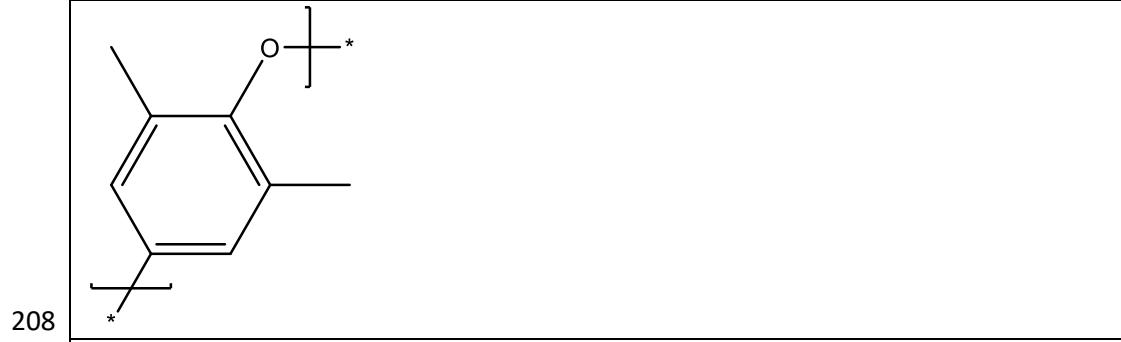
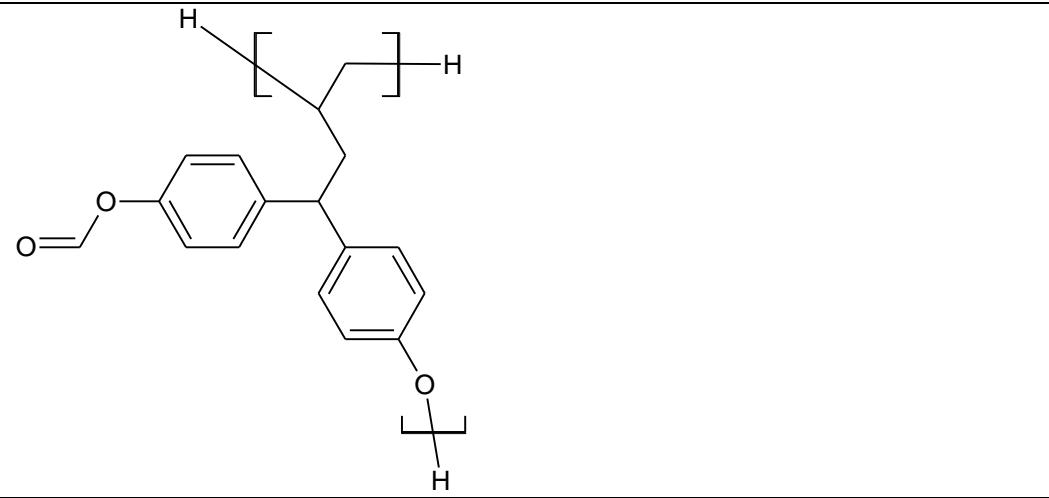
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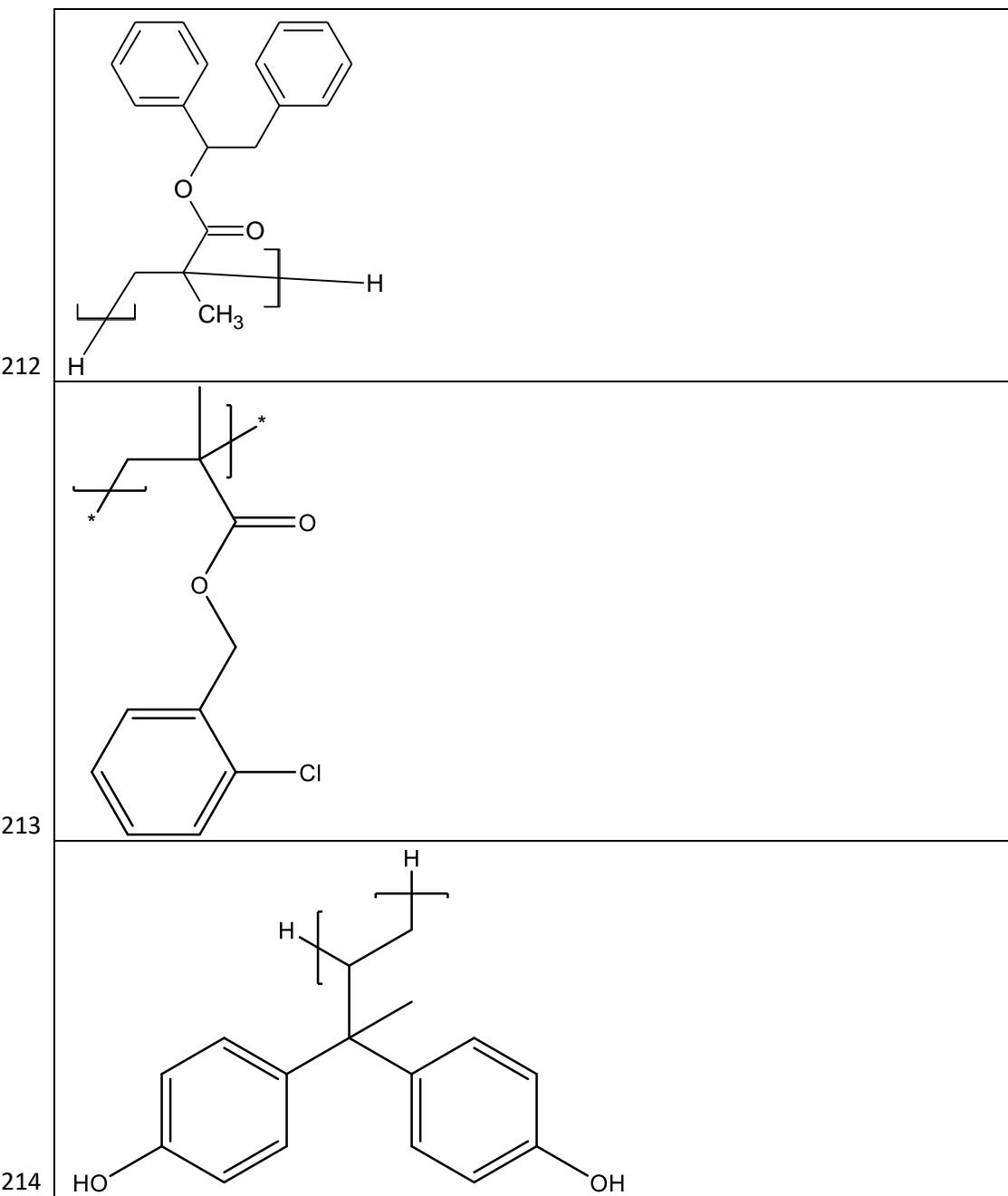


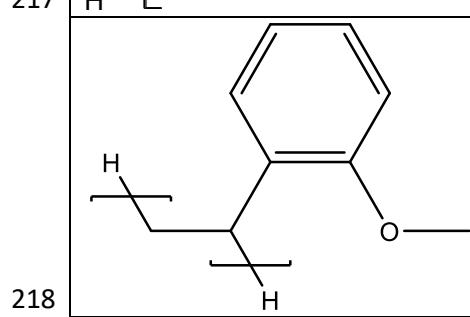
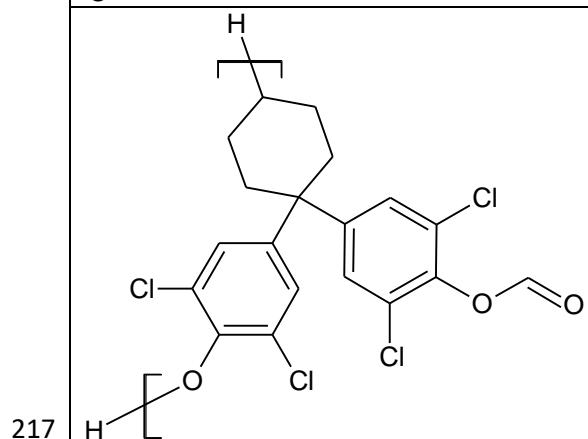
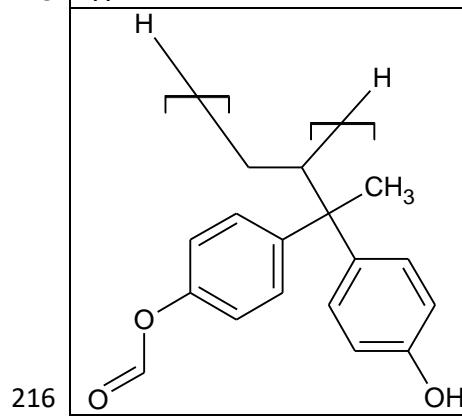
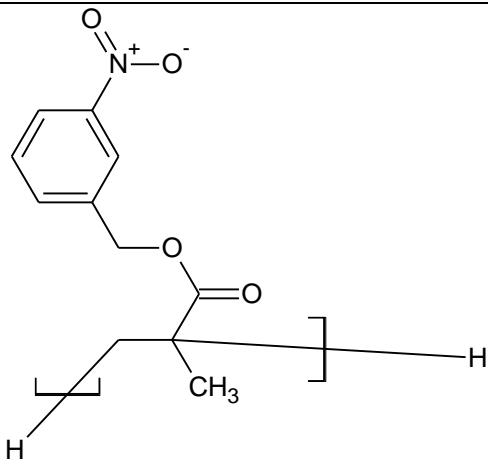
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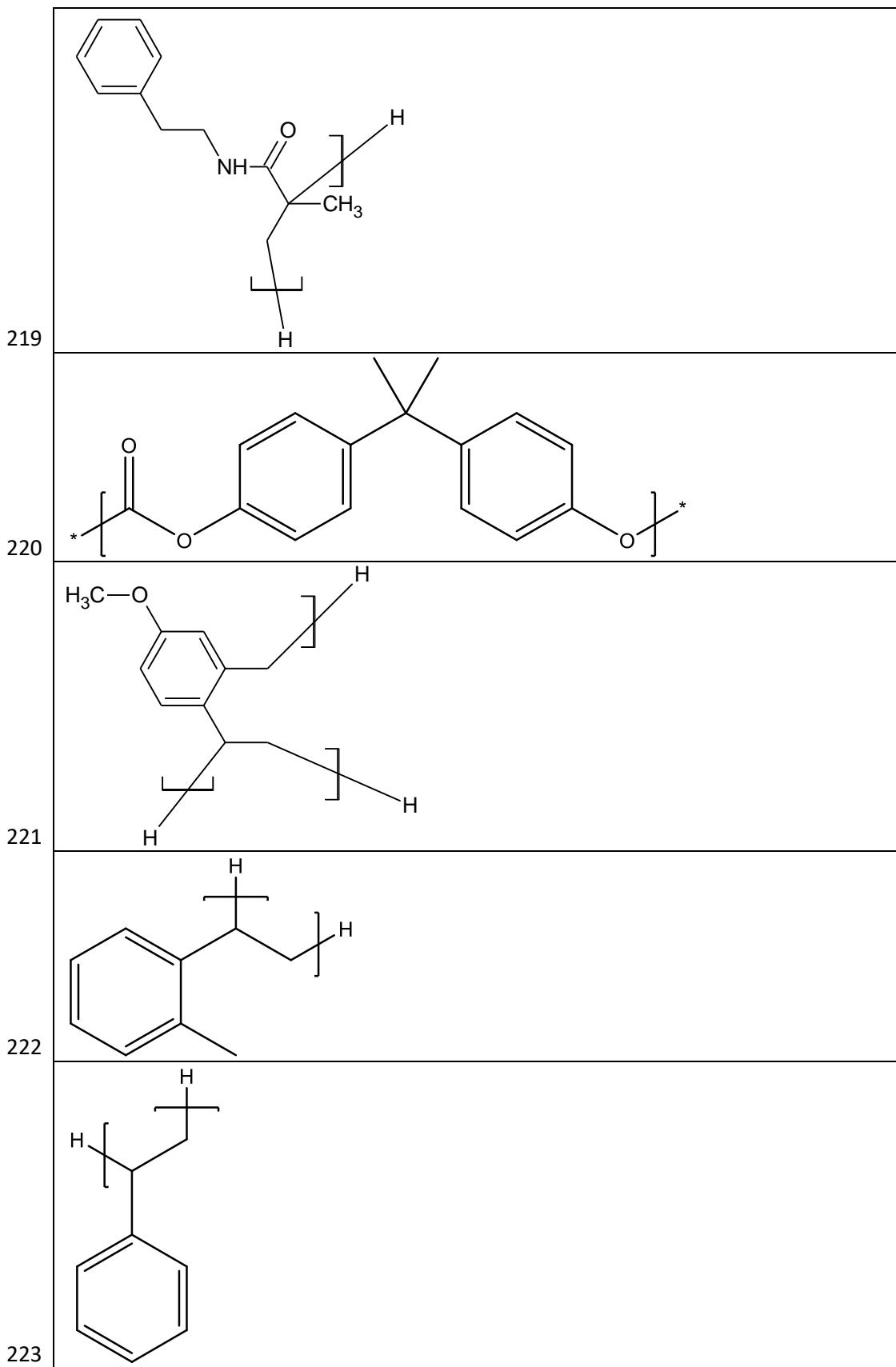


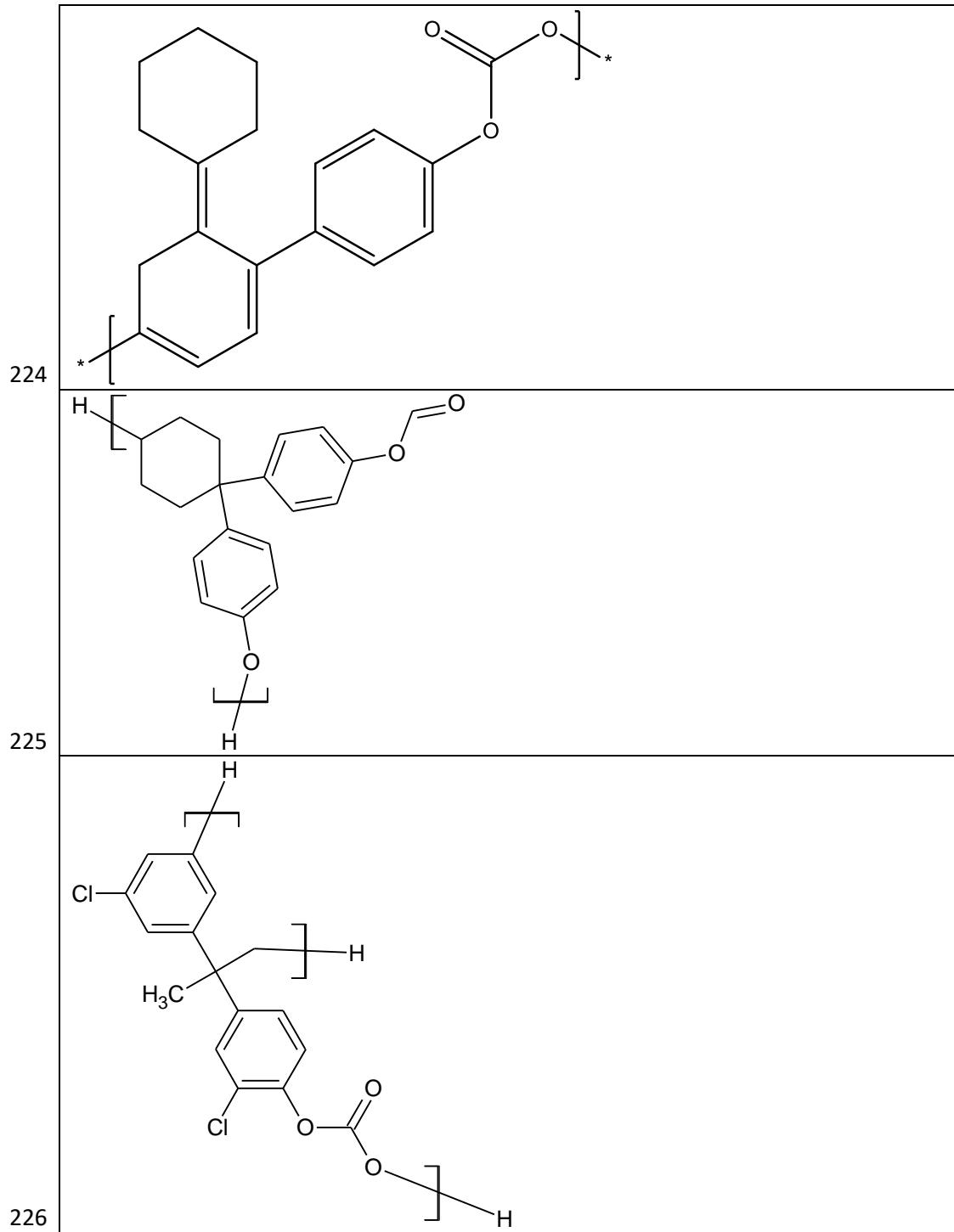


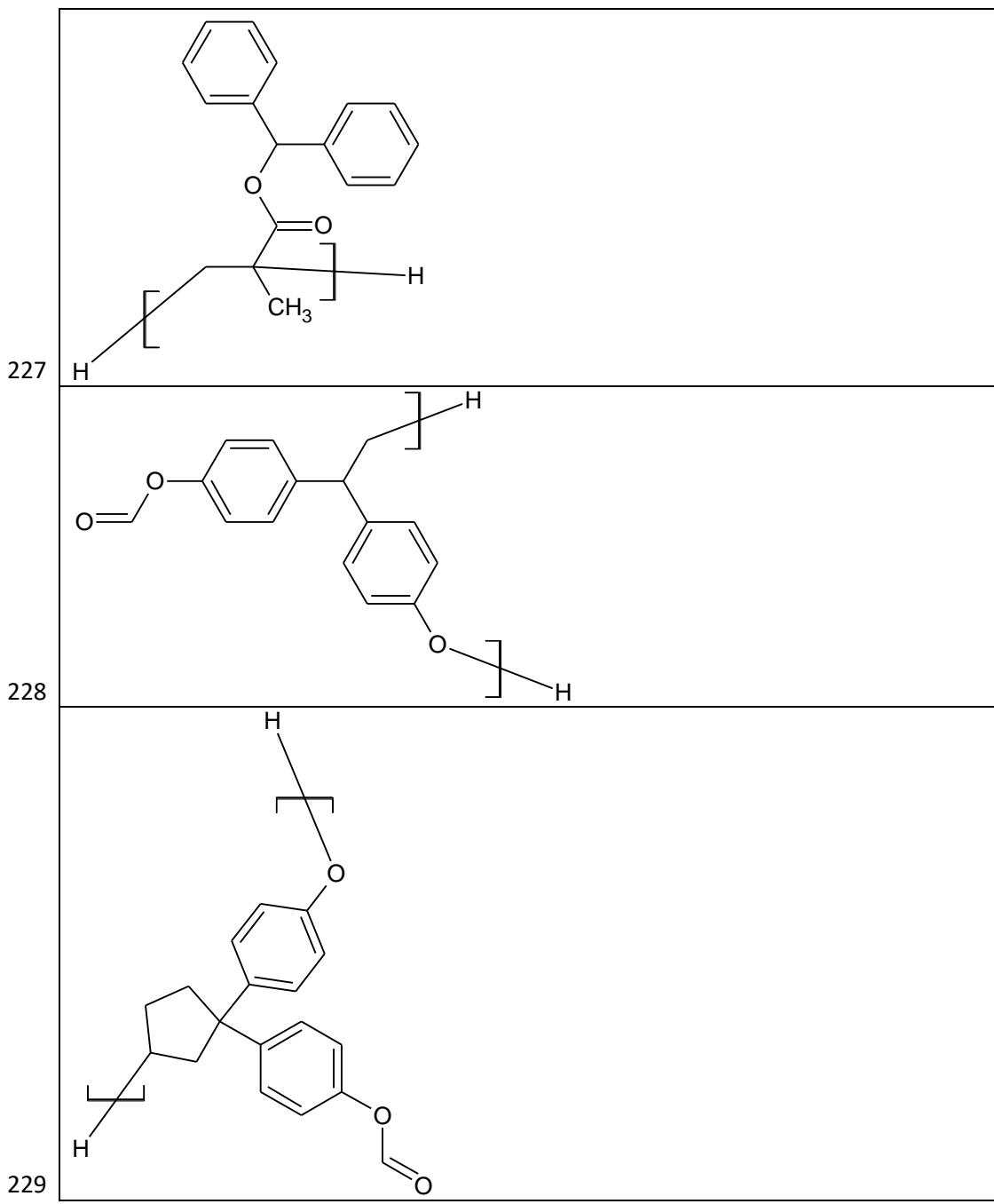


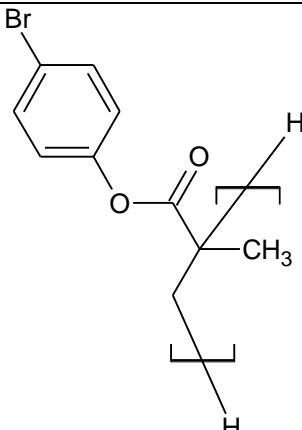




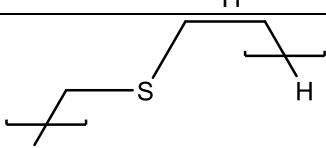




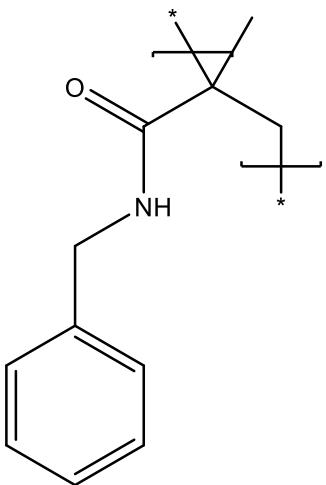




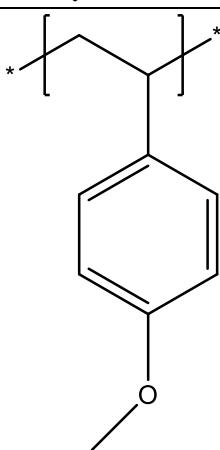
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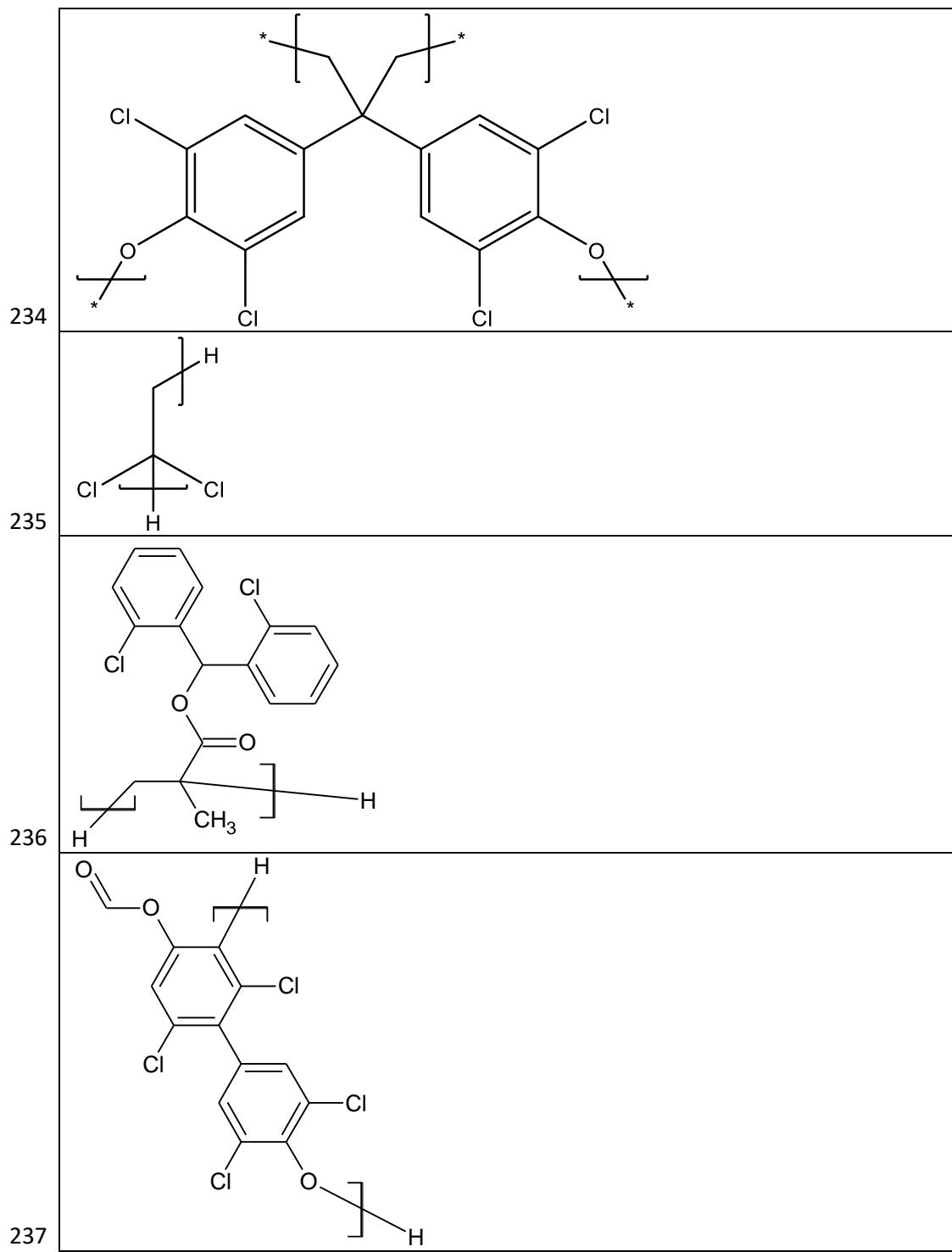
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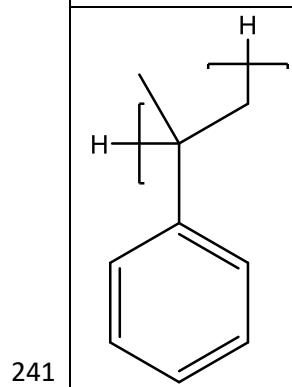
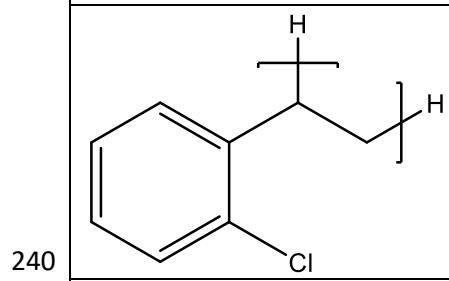
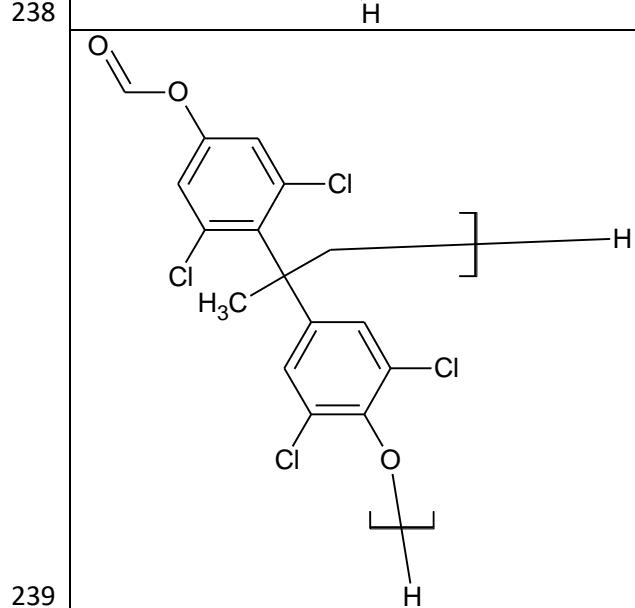
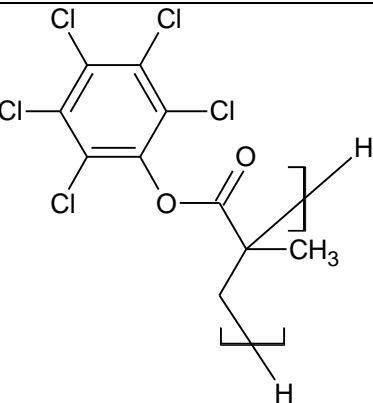


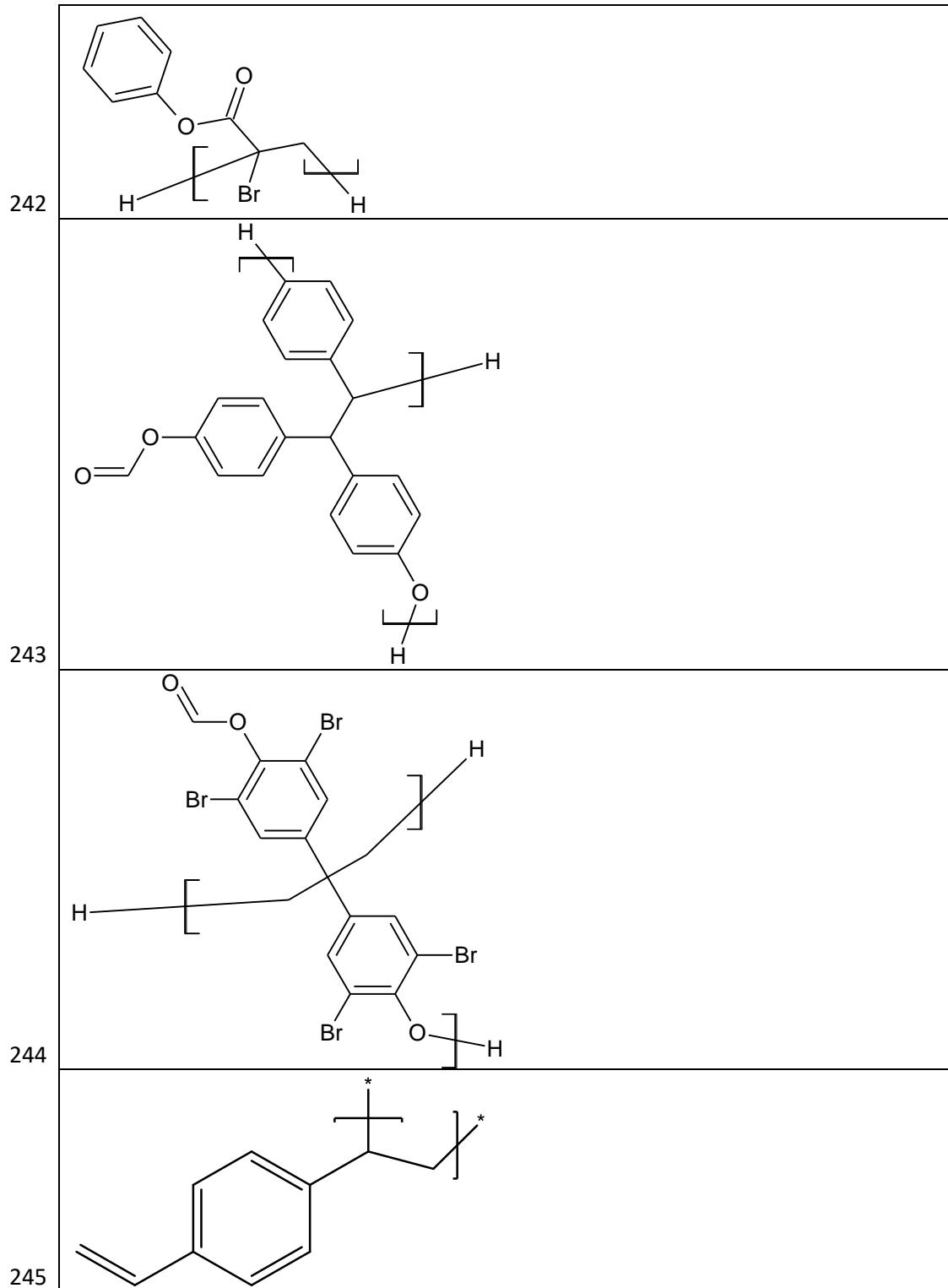
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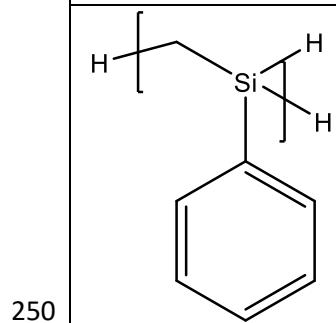
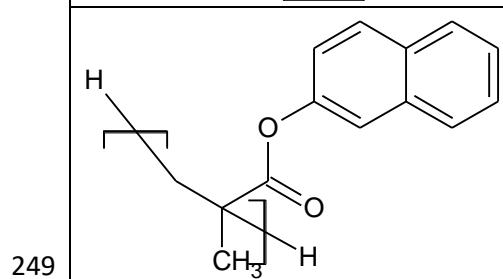
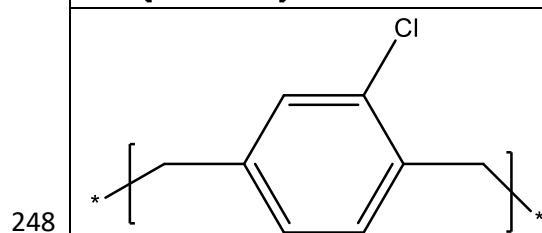
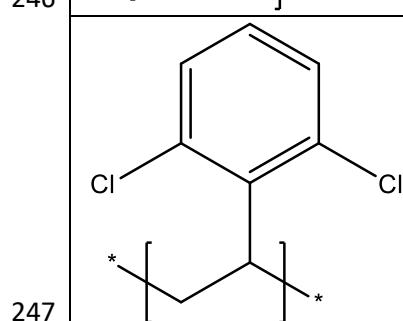
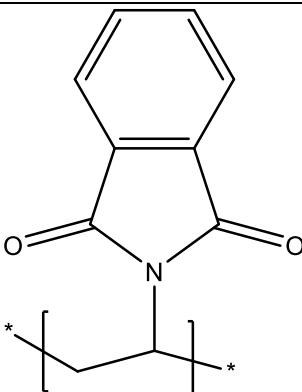


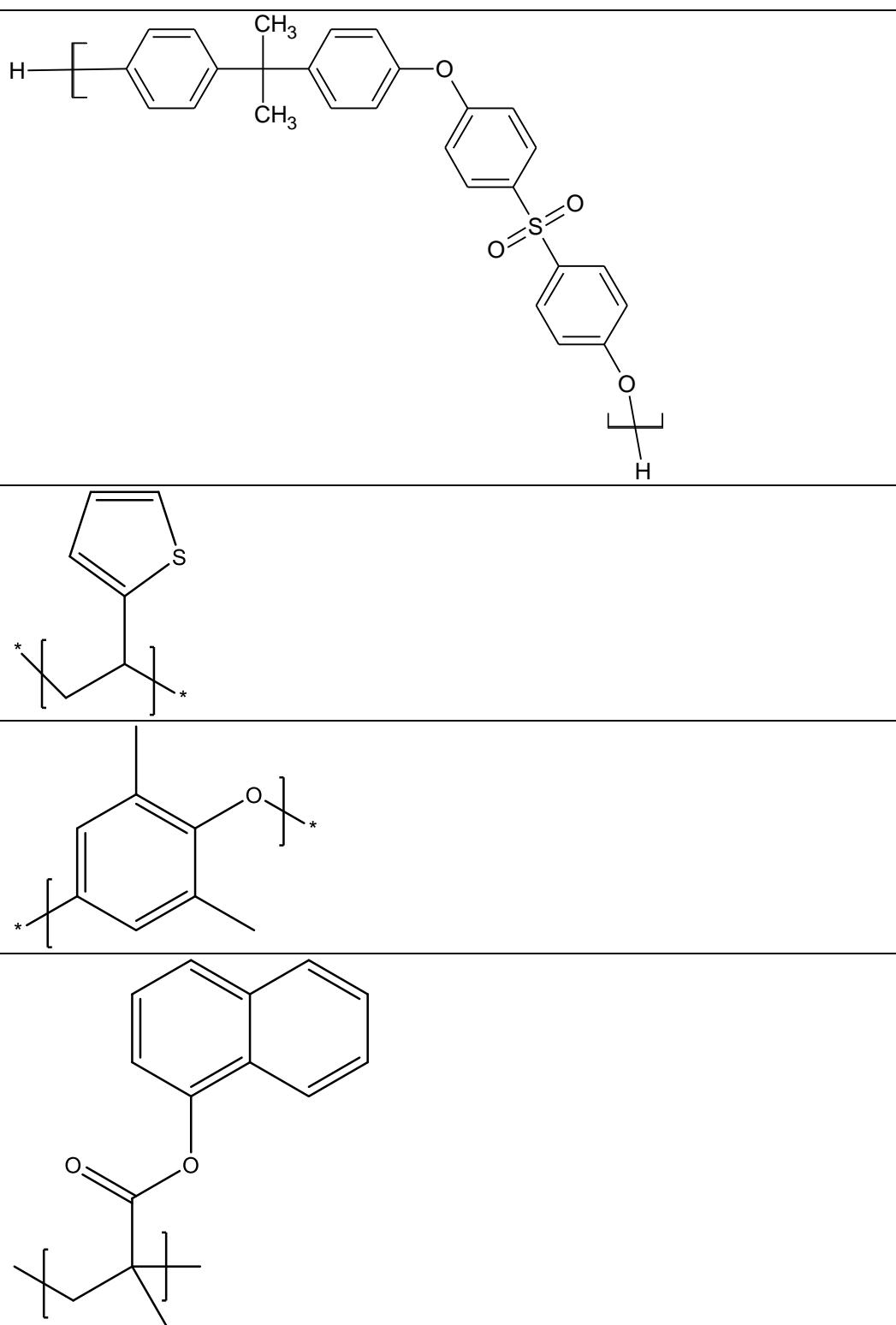
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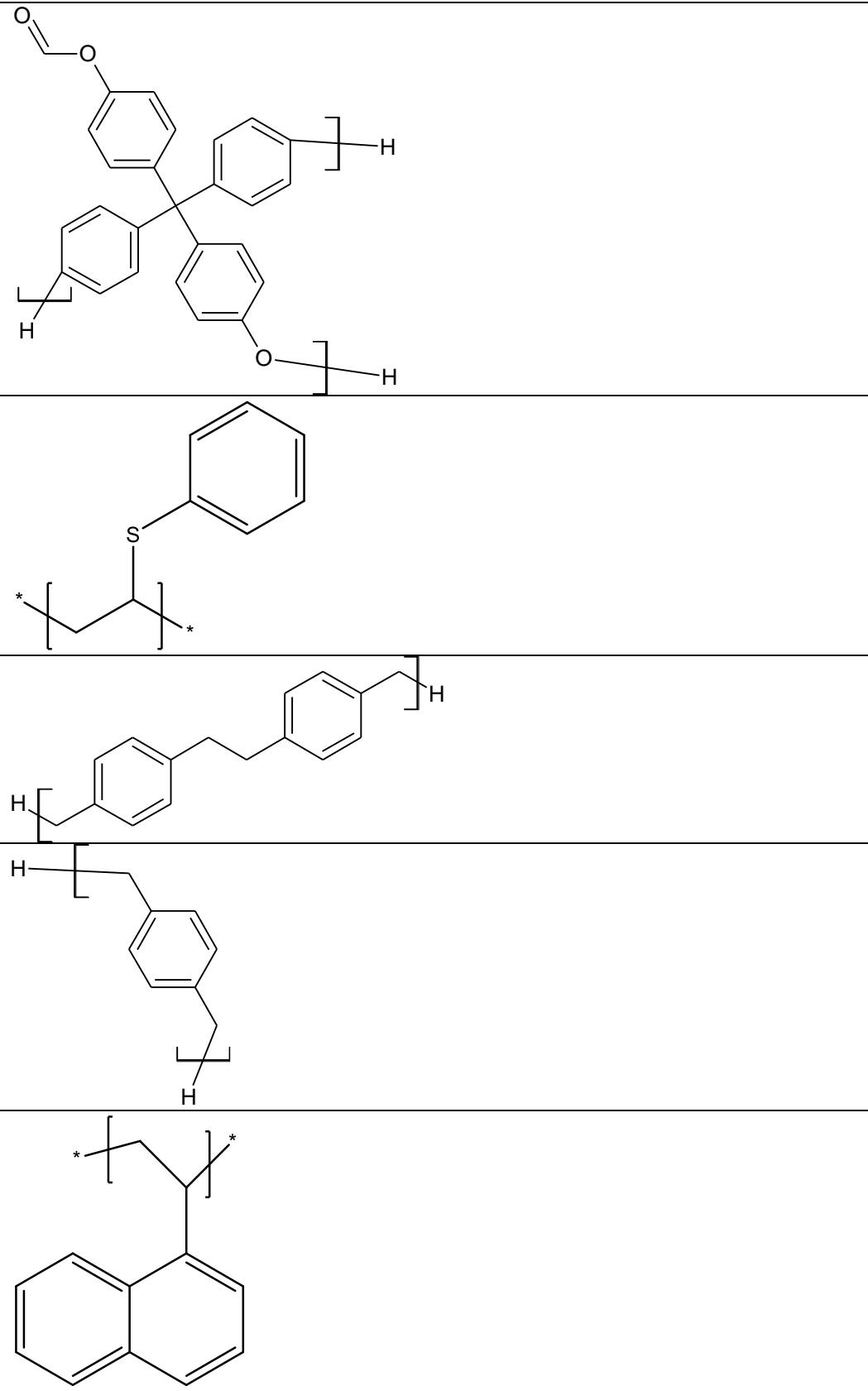












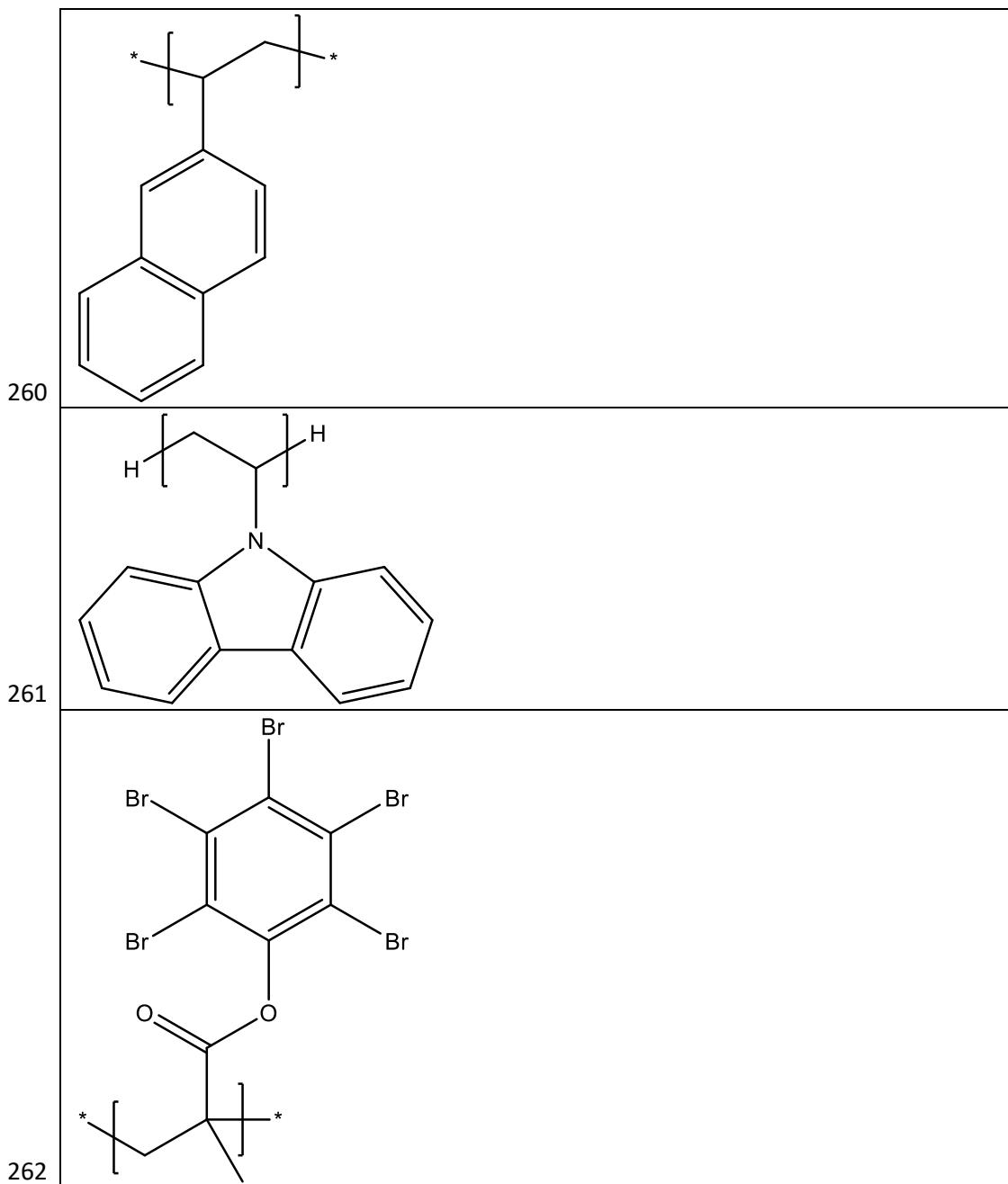


Table S2 - Number, polymer name, Smiles notation of end-capped monomer, the experimental refractive indices before and after log transformation, predicted log transformation from 4 variable model, and which set each molecule was a part of.

#	Polymer Name <i>Smiles END-CAPPED</i>	Exp. RI	Exp. Log RI	Pred. Log RI	Set
1	Poly(hexafluoropropylene oxide) <i>OC(F)(F)[C@H](F)C(F)(F)F</i>	1.31	0.117	0.115	Training
2	Poly(tetrafluoroethylene-co-hexafluoropropylene) <i>C(C(C(F)C(F)(F)F)(F)F)(F)F</i>	1.34	0.126	0.112	Training
3	Poly (pentadecafluoroctyl acrylate) <i>C(CC)(O)OCC(C(C(C(C(C(F)F)(F)F)(F)F)(F)F)(F)F)(F)F</i>	1.34	0.127	0.130	Training
4	Poly(tetrafluoro-3-(heptafluoropropoxy)propyl acrylate) <i>C(=O)(C[CH2])OC(C(COC(C(C(F)F)(F)F)(F)F)(F)F)(F)F</i>	1.35	0.129	0.127	Training
5	Poly(tetrafluoro-3-(pentafluoroethoxy)propyl acrylate) <i>C(=O)(CC)OC(C(COC(C(F)(F)F)(F)F)(F)F)(F)F</i>	1.35	0.130	0.129	Prediction
6	Poly(tetrafluoroethylene) <i>C(C(F)F)(F)F</i>	1.35	0.130	0.119	Training
7	Poly(undecafluorohexyl acrylate) <i>C(=O)(CC)OC(C(C(C(C(F)F)(F)F)(F)F)(F)F)(F)F</i>	1.36	0.132	0.131	Training
8	Poly(nonafluoropentyl acrylate) <i>C(=O)(CC)OC(C(C(C(C(F)F)(F)F)(F)F)(F)F)(F)F</i>	1.36	0.134	0.134	Training
9	Poly(tetrafluoro-3-(trifluoromethoxy)propyl acrylate) <i>CCC(=O)OCC(F)(C(F)(F)OC(F)(F)F)F</i>	1.36	0.134	0.133	Prediction
10	Poly(pentafluorovinyl propionate) <i>C(=O)(CC)OC(C(CF)(F)F)(F)F</i>	1.36	0.135	0.145	Training
11	Poly(heptafluorobutyl acrylate) <i>C(=O)(CC)OC(C(C(CF)(F)F)(F)F)(F)F</i>	1.37	0.136	0.139	Training
12	Poly(trifluorovinyl acetate) <i>C(C(OC(=O)C)F)(F)F</i>	1.38	0.138	0.145	Training
13	Poly(octafluoropentyl acrylate) <i>C(=O)(CC)OC(C(C(C(C(F)F)(F)F)(F)F)(F)F)F</i>	1.38	0.140	0.135	Prediction
14	Poly(methyl 3,3,3-trifluoropropyl siloxane) <i>[SiH](O)(CCC(F)(F)F)C</i>	1.38	0.141	0.148	Training
15	Poly(chlorotrifluoroethylene) <i>C(C(F)Cl)(F)F</i>	1.39	0.143	0.155	Training
16	Poly(2-(heptafluorobutoxy)ethyl acrylate) <i>C(=O)(CC)OCCOC(C(C(CF)(F)F)(F)F)(F)F</i>	1.39	0.143	0.144	Training

17	Poly(2,2,3,4,4,4-hexafluorobutyl acrylate) $C(=O)(CC)OCC(C(C(F)(F)F)F)(F)F$	1.39	0.144	0.144	Prediction
18	Poly(methyl hydro siloxane) $C[SiH2]O$	1.40	0.145	0.161	Training
19	Poly(methacrylic acid), sodium salt $C(=O)(C(C)C)O$	1.43	0.155	0.172	Training
20	Poly(dimethyl siloxane) $[SiH](O)(C)C$	1.40	0.147	0.158	Training
21	Poly(trifluoroethyl acrylate) $C(=O)(CC)OC(CF)(F)F$	1.41	0.148	0.152	Training
22	Poly(2,2,2-trifluoroethyl acrylate) $C(=O)(CC)OCC(F)(F)F$	1.41	0.149	0.151	Prediction
23	Poly(2-(1,1,2,2-tetrafluoroethoxy)ethyl acrylate) $C(=O)(CC)OCCOC(C(F)F)(F)F$	1.41	0.150	0.150	Training
24	Poly(trifluoroisopropyl methacrylate) $C(=O)(CC)OC(C(F)F)(C)F$	1.42	0.152	0.153	Training
25	Poly(2,2,2-trifluoro-1 -methylethyl methacrylate) $C(=O)(CC)OC(C(F)(F)F)C$	1.42	0.152	0.152	Training
26	Poly(2-trifluoroethoxyethyl acrylate) $C(=O)(CC)OCCOC(CF)(F)F$	1.42	0.152	0.156	Prediction
27	Poly(vinylidene fluoride) $C(C)(F)F$	1.42	0.152	0.136	Training
28	Poly(2,2,3,3-tetrafluoropropyl methacrylate) $C(=O)(CC)OCC(C(F)F)(F)F$	1.42	0.152	0.151	Training
29	Poly(methyl hexyl siloxane) $[SiH](O)(CCCCCCC)C$	1.44	0.159	0.171	Prediction
30	Poly(methyl octadecyl siloxane) $[SiH](O)(CCCCCCCCCC)C$	1.44	0.159	0.171	Training
31	Poly(vinyl isobutyl ether) $O(CC(C)C)CC$	1.45	0.162	0.167	Training
32	Poly[oxy(methyl n-hexadecylsilylene)] $[SiH](CCCCCCCCCCCCCCCC)(C)O$	1.45	0.162	0.171	Prediction
33	Poly(ethylene oxide) $C(C)O$	1.45	0.163	0.164	Training
34	Poly(vinyl ethyl ester) $O(C(=O)C)CC$	1.45	0.163	0.164	Training
35	Poly(methyl tetradecyl siloxane) $[SiH](O)(CCCCCCCCCCCC)C$	1.46	0.163	0.171	Training

36	Poly(ethylene glycol mono-methyl ether) <chem>C(CO)OC</chem>	1.46	0.163	0.163	Prediction
37	Poly(oxyethylene) <chem>C(CO)O</chem>	1.46	0.163	0.176	Training
38	Poly(vinyl butyl ether) <chem>O(CCCC)CC</chem>	1.46	0.163	0.170	Training
39	Poly(propylene oxide) <chem>CC(C)O</chem>	1.46	0.163	0.158	Training
40	Poly(3-butoxypropylene oxide) <chem>CC(COCCCC)O</chem>	1.46	0.164	0.169	Prediction
41	Poly(methyl vinyl ether) <chem>O(CC)C</chem>	1.47	0.167	0.166	Training
42	Poly(vinyl pentyl ether) <chem>O(CCCCC)CC</chem>	1.46	0.164	0.173	Training
43	Poly(3-hexaoxypropylene oxide) <chem>CC(COCCCCCC)O</chem>	1.46	0.164	0.171	Training
44	Poly(hexyl vinyl ether) <chem>O(CC)CCCCCC</chem>	1.46	0.164	0.172	Training
45	Poly(4-fluoro-2-trifluoromethylstyrene) <chem>CCc1cc(cc1F)C(F)(F)F</chem>	1.46	0.164	0.178	Prediction
46	Poly(octyl vinyl ether) <chem>O(CC)CCCCCC</chem>	1.46	0.165	0.173	Training
47	Poly(vinyl n-octyl acrylate) <chem>CCC(=O)OC(CCCCCC)CC</chem>	1.46	0.165	0.174	Training
48	Poly(vinyl 2-ethylhexyl ether) <chem>O(CC(CCCC)CC)CC</chem>	1.46	0.165	0.173	Training
49	Poly(vinyl decyl ether) <chem>O(CCCCCC)CC</chem>	1.46	0.165	0.173	Prediction
50	Poly(2-methoxyethyl acrylate) <chem>C(=O)(CC)OCCOC</chem>	1.46	0.165	0.168	Training
51	Poly(3-methoxypropylene oxide) <chem>CC(COC)O</chem>	1.46	0.165	0.160	Training
52	Poly(4-methyl-1-pentene) <chem>CCCC(C)C</chem>	1.46	0.165	0.168	Training
53	Poly(acryloxypropyl methyl siloxane) <chem>[SiH](O)(C)CCCOC(=O)C=C</chem>	1.46	0.165	0.172	Prediction
54	Poly(ethyl vinyl ether) <chem>CCOCC</chem>	1.45	0.161	0.165	Training

55	Poly(t-butyl methacrylate) <chem>C(=O)(C(C)C)OC(C)(C)C</chem>	1.46	0.165	0.161	Training
56	Poly(vinyl dodecyl ether) <chem>O(CCCCCCCCCCC)CC</chem>	1.46	0.166	0.174	Training
57	Poly(3-ethoxypropyl acrylate) <chem>C(=O)(CC)OCCCOC</chem>	1.47	0.166	0.170	Training
58	Poly(vinyl propionate) <chem>C(=O)(CC)OCC</chem>	1.47	0.166	0.171	Prediction
59	Polyoxoctamethylene <chem>C(CCCCCC)O</chem>	1.47	0.167	0.177	Training
60	Cellulose acetate propionate <chem>O1[C@H]1C[C@H]([C@H]([C@@H]1O[C@H]1[C@H]([C@H]([C@H]([C@H]([C@@H](O/C@H)1COC(=O)CC)O)OC(=O)CC)OC(=O)CC)OC(=O)CC)OC(=O)CC</chem>	1.47	0.167	0.173	Training
61	Poly(1-octadecene) <chem>CCCCCCCCCCCCCCCCCCC</chem>	1.47	0.168	0.176	Prediction
62	Poly(2-ethoxyethyl acrylate) <chem>C(=O)(CC)OCCOCC</chem>	1.47	0.168	0.170	Training
63	Poly(3-methoxypropyl acrylate) <chem>C(=O)(CC)OCCCOC</chem>	1.47	0.168	0.171	Training
64	Poly(isopropyl acrylate) <chem>C(=O)(CC)OC(C)C</chem>	1.47	0.168	0.167	Training
65	Poly(1-decene) <chem>CCCCCCCCCCC</chem>	1.47	0.168	0.177	Prediction
66	Poly(propylene) <chem>CCC</chem>	1.47	0.168	0.165	Training
67	Poly(dodecyl methacrylate) <chem>C(=O)(C(C)C)OCCCCCCCCCCCC</chem>	1.47	0.168	0.173	Training
68	Poly(vinyl sec-butyl ether) (isotactic) <chem>O(C(CC)C)CC</chem>	1.47	0.168	0.169	Training
69	Poly(oxyethyleneoxysuccinoyl) (poly(ethylene succinate)) <chem>C(=O)(CCC=O)OC(O)C</chem>	1.47	0.169	0.178	Prediction
70	Poly(tetradecyl acrylate) <chem>C(=O)(CC)OCCCCCCCCCCCC</chem>	1.47	0.169	0.175	Training
71	Poly(tetradecyl methacrylate) <chem>C(=O)(C(C)C)OCCCCCCCCCCCC</chem>	1.47	0.169	0.173	Training
72	Poly(hexadecyl acrylate) <chem>C(=O)(CC)OCCCCCCCCCCCCCC</chem>	1.48	0.169	0.175	Training
73	Poly(hexadecyl methacrylate) <chem>C(=O)(C(C)C)OCCCCCCCCCCCCCC</chem>	1.48	0.169	0.173	Prediction

74	Poly(vinyl formate) <chem>C(OC=O)C</chem>	1.48	0.169	0.170	Training
75	Ethylene/vinyl acetate copolymer-40% vinyl acetate <chem>CCCCOC(=O)C</chem>	1.48	0.169	0.169	Training
76	Poly(ethylene) <chem>CC</chem>	1.51	0.179	0.172	Training
77	Poly(2-fluoroethyl methacrylate) <chem>C(=O)(C(C)C)OCCF</chem>	1.48	0.169	0.167	Training
78	Poly(octyl methyl silane) <chem>/SiH2/(C)CCCCCCCC</chem>	1.48	0.170	0.174	Prediction
79	Poly(methyl acrylate) <chem>C(=O)(OC)CC</chem>	1.48	0.170	0.173	Training
80	Poly(dicyanopropyl siloxane) <chem>/SiH/(CCCC#N)(CCCC#N)O</chem>	1.48	0.170	0.174	Training
81	Poly(dimethylsiloxane-co-alpha-methyl styrene) <chem>c1ccccc1C(C/SiH)(O/Si](C)(C)C)C</chem>	1.48	0.170	0.176	Training
82	Poly(ethylene-co-propylene) (EPR-rubber) <chem>CC(CC)C</chem>	1.48	0.170	0.170	Prediction
83	Poly(isobutyl methacrylate) <chem>C(=O)(C(C)C)OCC(C)C</chem>	1.48	0.170	0.168	Training
84	Poly(oxymethylene) <chem>CO</chem>	1.48	0.170	0.166	Training
85	Poly(sec-butyl methacrylate) <chem>C(=O)(C(C)C)OC(CC)C</chem>	1.48	0.170	0.169	Training
86	Poly(hexyl methacrylate) <chem>C(=O)(C(C)C)OCCCCCC</chem>	1.48	0.171	0.172	Training
87	Poly(butyl methacrylate) <chem>C(=O)(CC)OCCCC</chem>	1.48	0.171	0.174	Training
88	Poly(ethylidene dimethacrylate) <chem>C(C)(OC(=O)C(=C)C)OC(=O)CC</chem>	1.48	0.171	0.171	Training
89	Poly(2-ethoxyethyl methacrylate) <chem>C(=O)(C(C)C)OCCOCC</chem>	1.48	0.171	0.168	Prediction
90	Poly(ethylene maleate) <chem>C(=O)(C(CC(=O)O)CC)O</chem>	1.48	0.171	0.178	Training
91	Poly(propyl methacrylate) <chem>C(=O)(C(C)C)OCCC</chem>	1.48	0.171	0.171	Training
92	Poly(3,3,5-trimethylcyclohexyl methacrylate) <chem>C(=O)(C(C)C)OC1CC(CC(C1)C)C</chem>	1.49	0.172	0.173	Training

93	Poly(ethyl methacrylate) <chem>C(=O)(C(C)C)OCC</chem>	1.49	0.172	0.168	Prediction
94	Poly(vinyl butyral) <chem>CI(OC(OC(CI)CC)CCC)C</chem>	1.49	0.172	0.177	Training
95	Poly(2-nitro-2-methylpropyl methacrylate) <chem>C(=O)(C(C)C)OCC(C)(C)[N+](=O)[O-]</chem>	1.49	0.172	0.166	Training
96	Poly(dimethylsiloxane-co-diphenylsiloxane) <chem>c1ccccc1[Si](O[Si](O[Si](c1ccccc1)O)c1ccccc1)(C)C)(O)c1ccccc1</chem>	1.48	0.170	0.190	Prediction
97	Poly(1,1-diethylpropyl methacrylate) <chem>C(=O)(C(C)C)OC(CC)(CC)CC</chem>	1.49	0.173	0.173	Training
98	Poly(methyl methacrylate) <chem>C(=O)(C(C)C)OC</chem>	1.49	0.173	0.169	Prediction
99	Poly(2-decyl-1,3-butadiene) <chem>C=C(CC)CCCCCCCCCC</chem>	1.49	0.173	0.179	Training
100	Poly(2-decyl-1,4-butadiene) <chem>C(CC)C(=C)CCCCCCCCCC</chem>	1.49	0.173	0.177	Training
101	Poly(mercaptopropyl methyl siloxane) <chem>/Si@@H](O[SiH3])(C)CCCS</chem>	1.49	0.173	0.173	Training
102	Poly(ethyl glycolate methacrylate) <chem>C(=O)(COC(=O)C(C)C)OCC</chem>	1.49	0.173	0.168	Prediction
103	Poly(3-methylcyclohexyl methacrylate) <chem>C(=O)(C(C)C)OC1CC(CCC1)C</chem>	1.49	0.175	0.179	Training
104	Poly(cyclohexyl alpha-ethoxyacrylate) <chem>CC(C=O)OC1CCCCC1)OCC</chem>	1.50	0.175	0.179	Training
105	Poly(1-butene) <chem>CCCC</chem>	1.51	0.179	0.176	Training
106	Poly(4-methylcyclohexyl methacrylate) <chem>C(=O)(C(C)C)OC1CCC(CC1)C</chem>	1.50	0.175	0.181	Training
107	Poly(decamethylene glycol dimethacrylate) <chem>C(OOCOCOCOCOCOCOCOC(=O)C(C)C)OC(=O)C(=C)C</chem>	1.50	0.176	0.159	Prediction
108	Poly (1,2-butadiene) <chem>CCC=C</chem>	1.50	0.176	0.187	Training
109	Poly(2-bromo-4-trifluoromethyl styrene) <chem>CCc1c(cc(cc1)C(F)(F)F)Br</chem>	1.50	0.176	0.192	Training
110	Poly(2-heptyl-1,3-butadiene) <chem>C=C(CC)CCCCCCC</chem>	1.50	0.176	0.179	Training
111	Poly(2-heptyl-1,4-butadiene) <chem>CCCC(=C)CCCCCC</chem>	1.50	0.176	0.179	Prediction

112	Poly(sec-butyl alpha-chloroacrylate) <chem>C(=O)(C(C)Cl)OC(CC)C</chem>	1.50	0.176	0.179	Training
113	Poly(vinyl formal) <chem>C1COCOC1C</chem>	1.50	0.176	0.182	Training
114	Poly(vinyl methyl ketone) <chem>C(=O)(C)CC</chem>	1.50	0.176	0.175	Training
115	Poly(2-isopropyl-1,4-butadiene) <chem>C/C(=C/C)/C(C)C</chem>	1.50	0.177	0.178	Prediction
116	Poly(ethyl alpha-chloroacrylate) <chem>C(=O)(C(C)Cl)OCC</chem>	1.50	0.177	0.181	Training
117	Poly(2-isopropyl-1,3-butadiene) <chem>C=C(CC)C(C)C</chem>	1.50	0.177	0.178	Training
118	Poly(2-methylcyclohexyl methacrylate) <chem>C(=O)(C([CH])C)OC1C(CCCCC1)C</chem>	1.50	0.177	0.181	Training
119	Poly(1,1-dimethylethylene) <chem>C(C)(C)C</chem>	1.51	0.178	0.158	Prediction
120	Poly(2-tert-butyl-1,3-butadiene) <chem>C=C(CC)C(C)(C)C</chem>	1.51	0.178	0.172	Training
121	Poly(bornyl methacrylate) <chem>C(=O)(C(C)C)OC1CC2CCC1(C2(C)C)C</chem>	1.51	0.178	0.183	Training
122	Poly(2-t-butyl-1,4-butadiene) <chem>C/C(=C/C)/C(C)(C)C</chem>	1.51	0.178	0.172	Training
123	Poly(ethylene glycol dimethacrylate) <chem>C(=O)(OCCOC(=O)C(=C)C)C(=C)C</chem>	1.51	0.178	0.176	Prediction
124	Poly(cyclohexyl methacrylate) <chem>C(=O)(C(C)C)OC1CCCC1</chem>	1.51	0.178	0.182	Training
125	Poly(cyclohexanediol-1,4-dimethacrylate) <chem>C1(CCC(CCl)(/C=C(/C(=O)O)\C)O)(O)CC(C(=O)O)OC</chem>	1.51	0.178	0.181	Training
126	Poly(acrylic acid) <chem>C(=O)(CC)O</chem>	1.53	0.185	0.177	Training
127	Gutta percha b <chem>C/C(=C/CC/C(=C/C)/C)C</chem>	1.51	0.179	0.179	Training
128	Poly(tetrahydrofurfuryl methacrylate) <chem>C(=O)(C(C)C)OCC1CCCO1</chem>	1.51	0.179	0.179	Prediction
129	Natural rubber <chem>C/C(=C/C)/C</chem>	1.52	0.182	0.178	Training
130	Polyacetal <chem>CC(OCC)OCC</chem>	1.51	0.179	0.161	Training

131	Shellac <chem>C1(CCC2C31CC(C2(C)C)C(=CC3CC(=O)CCCCCCCCC(O)CCCCCCO)C(=O)O)C</chem>	1.51	0.179	0.183	Prediction
132	Poly(1-methylcyclohexyl methacrylate) <chem>C(=O)(C(C)C)OC1(CCCCC1)C</chem>	1.51	0.179	0.178	Training
133	Poly(2-hydroxyethyl methacrylate) <chem>C(=O)(C(C)C)OCCO</chem>	1.51	0.180	0.171	Training
134	Poly(vinyl methacrylate) <chem>CC(C)C(=O)OC=C</chem>	1.51	0.180	0.174	Training
135	Poly(vinyl chloroacetate) <chem>C(=O)(CCl)OCC</chem>	1.51	0.180	0.186	Prediction
136	Poly(N-butyl methacrylamide) <chem>C(=O)(C(C)C)NCCCC</chem>	1.51	0.180	0.171	Training
137	Terpene resin <chem>C1CC(CC=C1)C(C)C</chem>	1.51	0.180	0.187	Training
138	Poly(2-chloroethyl methacrylate) <chem>C(=O)(C(C)C)OCCC</chem>	1.52	0.181	0.182	Training
139	Poly(methyl alpha-chloroacrylate) <chem>C(=O)(C(C)Cl)OC</chem>	1.52	0.181	0.184	Prediction
140	Poly(2-diethylaminoethyl methacrylate) <chem>C(=O)(C(C)C)OCCN(CC)CC</chem>	1.52	0.181	0.168	Training
141	Poly(2-chlorocyclohexyl methacrylate) <chem>C(=O)(C(C)C)OC1C(Cl)CCCC1</chem>	1.52	0.181	0.188	Training
142	Poly(acrylonitrile) <chem>C(#N)CC</chem>	1.52	0.181	0.190	Training
143	Poly(allyl methacrylate) <chem>C(=O)(C(=C)C)OCCC</chem>	1.52	0.182	0.177	Prediction
144	Poly(butadiene-co-acrylonitrile) <chem>C(#N)C(C)C/C=C/C</chem>	1.52	0.182	0.188	Training
145	Poly(methacrylonitrile) <chem>C(#N)C(C)C</chem>	1.52	0.182	0.181	Training
146	Poly(methyl isopropenyl ketone) <chem>C(=O)(C(C)C)C</chem>	1.52	0.182	0.170	Prediction
147	Poly((N-2-methoxyethyl)methacrylamide) <chem>C(=O)(C(C)C)NCCOC</chem>	1.52	0.183	0.166	Training
148	Poly(2,3-dimethylbutadiene) [methyl rubber] <chem>C/C=C(/CC/C(=C(/C)C)/C)/C/C</chem>	1.53	0.183	0.177	Training
149	Poly(ω -dodecanamide), Nylon 12 <chem>C(=O)CCCCCCCCCCCCN</chem>	1.53	0.183	0.178	Training

150	Poly(1,3-dichloropropyl methacrylate) <chem>C(=O)(C(C)C)OC(CCCl)Cl</chem>	1.53	0.184	0.184	Prediction
151	Poly(2-chloro-1-(chloromethyl)ethyl methacrylate) <chem>C(=O)(C(C)C)OC(CCl)CCl</chem>	1.53	0.184	0.188	Training
152	Poly(acrolein) <chem>C(=O)C=C</chem>	1.53	0.184	0.198	Training
153	Poly(N-methyl-methacrylamide) <chem>C(=O)(C(C)C)NC</chem>	1.54	0.188	0.170	Training
154	Nylon 6 [Poly(caprolactam)] <chem>NCCCCCC=O</chem>	1.53	0.185	0.181	Prediction
155	Poly(1-vinyl-2-pyrrolidone) <chem>NI(C(=O)CCC1)CC</chem>	1.53	0.185	0.186	Training
156	Poly(hexamethylene sebacamide) <chem>NCCCCCCNC(=O)CCCCCCCCC(=O)NCCCCCCNC(=O)</chem> <chem>CCCCCCCCC(=O)NCCCCCCNC(=O)CCCCCCCCC=O</chem>	1.53	0.185	0.174	Training
157	Poly(imino adipoylimino hexamethylene) (nylon 6,6) <chem>C(=O)CCCCC(=O)NCCCCCCN</chem>	1.53	0.185	0.177	Training
158	Poly(N-methylmaleimide-alt-isobutene) <chem>CC(C1C(=O)N(C(=O)C1)C)(C)C</chem>	1.53	0.185	0.177	Prediction
159	Poly(cyclohexyl alpha-chloroacrylate) <chem>C(=O)(C(C)Cl)OC1CCCCC1</chem>	1.53	0.185	0.190	Training
160	Poly(2-chloroethyl alpha-chloroacrylate) <chem>C(=O)(C(C)Cl)OCCCl</chem>	1.53	0.186	0.191	Training
161	Poly(methyl phenyl siloxane) <chem>[SiH](O)(c1ccccc1)C</chem>	1.54	0.188	0.191	Training
162	Poly(butadiene-co-styrene) <chem>C/C=C/CCCc1ccccc1</chem>	1.54	0.186	0.202	Training
163	Poly(2-aminoethyl methacrylate) <chem>C(=O)(C(C)C)OCCN</chem>	1.54	0.187	0.170	Prediction
164	Poly(furfuryl methacrylate) <chem>C(=O)(C(C)C)OCc1ccco1</chem>	1.54	0.187	0.188	Training
165	Poly(butylmercaptyl methacrylate) <chem>CC(C(=O)OCCCCS)C</chem>	1.54	0.187	0.182	Training
166	Poly(vinyl chloride) <chem>C(C)Cl</chem>	1.54	0.187	0.190	Training
167	Poly(1-phenyl-n-amyl methacrylate) <chem>C(=O)(C(C)C)OC(CCCC)c1ccccc1</chem>	1.54	0.187	0.190	Prediction
168	Poly(cyclohexyl alpha-bromoacrylate)	1.54	0.188	0.197	Training

	$C(=O)(C(C)Br)OC1CCCCC1$				
169	Poly(sec-butyl alpha-bromoacrylate) $C(=O)(C(C)Br)OC(CC)C$	1.54	0.188	0.188	Prediction
170	Poly(2-bromoethyl methacrylate) $C(=O)(C(C)C)OCCBr$	1.54	0.188	0.192	Training
171	Poly(dihydroabietic acid) $C(=O)([C@@]1([C@H]2[C@@]1([C@H]3CCC(C(C)C)CC3=CC2)(CCC1)C)O$	1.54	0.189	0.189	Training
172	Poly(abietic acid) $C(=O)([C@@]1([C@H]2[C@@]1([C@H]3CCC(=CC3=CC2)C(C)C)(CCC1)C)O$	1.55	0.189	0.191	Training
173	Poly(ethylmercaptyl methacrylate) $CC(C(=O)OCCS)C$	1.55	0.189	0.184	Prediction
174	Poly(N-allyl methacrylamide) $C(=O)(CC)NCC$	1.55	0.190	0.172	Training
175	Poly(1-phenylethyl methacrylate) $C(=O)(C(C)C)OC(C)c1ccccc1$	1.55	0.190	0.191	Training
176	Poly(2-vinyltetrahydrofuran) $O1C(CCC1)CC$	1.55	0.190	0.189	Training
177	Poly(methyl m-chlorophenylethyl siloxane) $[SiH](O)(CCc1cc(ccc1)Cl)C$	1.55	0.190	0.186	Prediction
178	Poly(vinylfuran) $o1c(ccc1)CC$	1.55	0.190	0.203	Training
179	Poly[oxy(methyl m-chlorophenylethylsilylene)] $[SiH](C(C)c1cc(ccc1)Cl)(C)O$	1.55	0.190	0.186	Training
180	Urea-formaldehyde resin $N(C(=O)N)CO$	1.55	0.190	Not Predicted	Not Included
181	Poly(isopropyl methacrylate) $C(=O)(C(C)C)OC(C)C$	1.55	0.191	Not Predicted	Not Included
182	Poly(p-methoxybenzyl methacrylate) $C(=O)(C(C)C)OCc1ccc(cc1)OC$	1.55	0.191	0.189	Training
183	Poly(p-isopropyl styrene) $CCc1ccc(cc1)C(C)C$	1.55	0.191	0.196	Prediction
184	Poly(p,p-xylylenyl dimethacrylate) $c1(ccc(cc1)COC(=O)C(C)C)COC(=O)C(C)C$	1.56	0.192	0.184	Training
185	Poly(cyclohexyl methyl silane) $[SiH2](C)C1CCCCC1$	1.56	0.192	0.188	Training
186	Poly(1-phenylallyl methacrylate) $C(=O)(CC)OC(C)c1ccccc1$	1.56	0.192	0.195	Training
187	Poly(p-cyclohexylphenyl methacrylate) $C(=O)(C(C)C)Oc1ccc(cc1)C1CCCCC1$	1.56	0.192	0.194	Prediction

188	Poly(chloroprene) <chem>C(=C\ C)(\ Cl)/C</chem>	1.56	0.193	0.193	Training
189	Poly(2-phenylethyl methacrylate) <chem>C(=O)(C(C)C)OCCc1ccccc1</chem>	1.56	0.193	0.192	Training
190	Poly(methyl m-chlorophenyl siloxane) <chem>[SiH](O[SiH3])(c1cccc(c1)Cl)C</chem>	1.56	0.193	0.182	Training
191	Poly [4,4-heptane bis(4-phenyl)carbonate] <chem>OC(=O)OCCCCCCCOC1ccce(cc1)c1ccc(cc1)OC(=O)O</chem>	1.56	0.193	0.185	Prediction
192	Poly(oxycarbonyloxy-1,4-phenylene-1-propylbutylidene-1,4-phenylene) <chem>c1(c(ccc1)C(CC)CCC)c1cc(cc1)OC(=O)O</chem>	1.56	0.193	0.196	Training
193	Poly(1-(o-chlorophenyl)ethyl methacrylate) <chem>C(=O)(C(C)C)OC(C)c1c(ccc1)Cl</chem>	1.56	0.194	0.193	Training
194	Poly(styrene-co-maleic anhydride) <chem>CC(C)C(=O)OC(=O)C1c1ccccc1</chem>	1.56	0.194	0.203	Training
195	Styrene/maleic anhydride copolymer <chem>Cl(=O)OC(=O)CC1CCc1ccccc1</chem>	1.56	0.194	0.203	Prediction
196	Poly(1-phenylcyclohexyl methacrylate) <chem>C(=O)(C(C)C)OC1(CCCCC1)c1ccccc1</chem>	1.56	0.194	0.195	Training
197	Poly(2,2,2'-trimethylhexamethylene terephthalamide) <chem>C(=O)c1ccc(cc1)C(=O)NCC(CC(CCN)C)(C)C</chem>	1.57	0.195	0.185	Training
198	Poly(methyl α -bromoacrylate) <chem>C(=O)(C(C)Br)OC</chem>	1.57	0.195	0.195	Training
199	Poly(oxycarbonyloxy-1,4-phenylene-1,3-dimethylbutylidene-1,4-phenylene) <chem>c1(c(ccc1)C(CC(C)C)C)c1cc(cc1)OC(=O)O</chem>	1.57	0.195	0.195	Prediction
200	Poly(benzyl methacrylate) <chem>C(=O)(C(C)C)OCc1ccccc1</chem>	1.57	0.195	0.195	Training
201	Poly(2-(phenylsulfonyl)ethyl methacrylate) <chem>C(=O)(C(C)C)OCCS(=O)(=O)c1ccccc1</chem>	1.57	0.195	0.185	Training
202	Poly(m-cresyl methacrylate) <chem>c1(cc(ccc1)C)OC(=O)C(C)C</chem>	1.57	0.195	0.190	Training
203	Poly(oxycarbonyloxy-1,4-phenyleneisobutylidene-1,4-phenylene) <chem>c1(c(ccc1)CC(C)C)c1cc(cc1)OC=O</chem>	1.57	0.196	0.201	Prediction
204	Poly[1,1-(2-methyl propane) bis(4-phenyl)carbonate] <chem>O(C(=O)Oc1ccccc1)c1ccc(cc1)C(C(C)C)c1cccc(OC(=O)Oc2ccccc2)c1</chem>	1.57	0.196	0.200	Training
205	Poly(o-methoxyphenol methacrylate) <chem>c1(c(ccc1)OC)OC(=O)C(C)C</chem>	1.57	0.196	0.189	Training
206	Poly(phenyl methacrylate) <chem>C(=O)(C(C)C)Oc1ccccc1</chem>	1.57	0.196	0.195	Training

207	Poly(o-cresyl methacrylate) <chem>c1(c(ccc1)C)OC(=O)C(C)C</chem>	1.57	0.196	0.192	Prediction
208	Poly(diallyl phthalate) <chem>C(=O)(c1c(C=O)OCCC)cccc1OCCC</chem>	1.57	0.196	0.190	Training
209	Poly(2,3-dibromopropyl methacrylate) <chem>C(=O)(C(C)C)OCC(CBr)Br</chem>	1.57	0.197	0.198	Training
210	Poly(oxycarbonyloxy-1,4-phenylene-1-methyl-butylidene-1,4-phylene) <chem>c1(c(ccc1)C(CCC)C)c1ccc(cc1)OC(=O)O</chem>	1.57	0.197	0.198	Training
211	Poly(2,6-dimethyl-p-phenylene oxide) <chem>c1c(c(c(cc1)C)O)C</chem>	1.58	0.197	0.203	Prediction
212	Poly(ethylene terephthalate) <chem>C(=O)(c1ccc(C(=O)O)cc1)OCC</chem>	1.58	0.197	0.197	Training
213	Poly(vinyl benzoate) <chem>C(=O)(c1ccccc1)OCC</chem>	1.58	0.198	0.200	Training
214	Poly(4-methylstyrene) <chem>CCc1ccc(cc1)C</chem>	1.58	0.198	0.202	Training
215	Poly(oxycarbonyloxy-1,4-phenylenebutylidene-1,4-phenylene) <chem>c1(c(ccc1)CCCC)c1ccc(cc1)OC=O</chem>	1.58	0.198	0.204	Prediction
216	Poly(1,2-diphenylethyl methacrylate) <chem>C(=O)(C(C)C)OC(Cc1ccccc1)c1ccccc1</chem>	1.58	0.199	0.200	Training
217	Poly(o-chlorobenzyl methacrylate) <chem>C(=O)(C(C)C)OCc1c(ccc1)Cl</chem>	1.58	0.199	0.197	Training
218	Poly(Bisphenol B carbonate) <chem>c1cc(ccc1O)C(C)(CC)c1ccc(cc1)OC=O</chem>	1.58	0.199	0.201	Training
219	Poly(oxyoctaerythritolxyphthaloyl) <chem>C(=O)c1c(C=O)c(c(cc1)O)OCC(CO)(CO)CO</chem>	1.58	0.200	0.193	Prediction
220	Poly(m-nitrobenzyl methacrylate) <chem>C(=O)(C(C)C)OCc1ccccc1[N+](=O)[O-]</chem>	1.58	0.200	0.190	Training
221	Poly(2-methoxystyrene) <chem>CCc1c(ccc1)OC</chem>	1.59	0.200	0.200	Training
222	Poly(oxycarbonyloxy-1,4-phenyleneisopropylidene-1,4-phenylene) <chem>c1(cccc1)C(C)(C)c1ccc(cc1)OC(=O)O</chem>	1.59	0.200	0.201	Training
223	Poly(N-(2-phenylethyl)methacrylamide) <chem>C(=O)(C(C)C)NCCc1ccccc1</chem>	1.59	0.200	0.192	Prediction
224	Bisphenol-A polycarbonate <chem>c1cc(ccc1O)C(C)(C)c1ccc(cc1)OC=O</chem>	1.59	0.200	0.201	Training
225	Poly(Bisphenol A carbonate), PC <chem>Oc1ccc(cc1)C(C)(C)c1ccc(cc1)OC(=O)O</chem>	1.59	0.200	0.199	Training

226	Poly(4-methoxy-2-methylstyrene) <i>CCc1c(cc(cc1)OC)C</i>	1.59	0.201	0.195	Training
227	Poly(2-methylstyrene) <i>CCc1c(cccc1)C</i>	1.59	0.201	0.203	Prediction
228	Polystyrene <i>CCc1cccc1</i>	1.59	0.201	0.211	Training
229	Poly(oxycarbonyloxy-1,4-phenylene cyclohexylidene-1,4-phenylene) <i>c1(cccc1)C1(CCCCC1)c1cc(c1)OC(=O)O</i>	1.59	0.201	0.205	Training
230	Poly(diphenylmethyl methacrylate) <i>C(=O)(C(C)C)OC(c1cccc1)c1cccc1</i>	1.59	0.202	0.203	Training
231	Poly(oxycarbonyloxy-1,4-phenylene ethylidene-1,4-phenylene) <i>c1(cccc1)C(C)c1cc(c1)OC(=O)O</i>	1.59	0.202	0.205	Prediction
232	Poly(2,5-dimethyl-1,4-phenylene ethylene) <i>C(C)c1cc(cc1)C</i>	1.60	0.203	0.199	Training
233	Poly(4-bromophenyl methacrylate) <i>C(=O)(C(C)C)Oc1ccc(cc1)Br</i>	1.60	0.203	0.205	Training
234	Poly(propylene sulfide) <i>CCCS</i>	1.60	0.203	0.195	Training
235	Poly(N-benzyl methacrylamide) <i>C(=O)(C(C)C)NCc1cccc1</i>	1.60	0.203	0.195	Prediction
236	Poly(4-methoxystyrene) <i>CCc1ccc(cc1)OC</i>	1.60	0.203	0.200	Training
237	Poly(2,6,3',5'-tetrachloro bisphenol A carbonate) <i>Oc1cc(c(c(c1)Cl)C(C)(C)c1cc(c(c(c1)Cl)OC(=O)O)Cl)Cl</i>	1.60	0.204	0.204	Training
238	Hard Rubber (32% S) <i>C=C(C)C(CC)SC(C(=C)C)CC</i>	1.60	0.204	0.185	Training
239	Poly(vinylidene chloride) <i>C(=C)(Cl)Cl</i>	1.60	0.204	0.202	Prediction
240	Poly(o-chlorodiphenylmethyl methacrylate) <i>C(=O)(C(=C)C)OC(c1c(cccc1)Cl)c1cccc1</i>	1.60	0.205	0.207	Training
241	Poly(oxycarbonyloxy-1,4-(2,6-dichloro)phenylene-isopropylidene-1,4-(2,6-dichloro)phenylene) <i>c1(cc(c(c(c1)Cl)Cl)C(C)(C)c1cc(c(c(c1)Cl)OC(=O)O)Cl)Cl</i>	1.61	0.206	0.206	Training
242	Poly(oxycarbonyloxybis(1,4-(3,5-dichlorophenylene))) <i>c1(c2c(cc2Cl)OC(=O)O)Cl)cc(cc(c1)Cl)Cl</i>	1.61	0.206	0.212	Training
243	Poly(2-chlorostyrene) <i>C=Cc1c(cccc1)Cl</i>	1.61	0.207	0.218	Prediction
244	Poly(alpha-methylstyrene) <i>CC(c1cccc1)C</i>	1.61	0.207	0.202	Training

245	Poly(phenyl alpha-bromoacrylate) <chem>C(=O)(C(C)Br)Oc1ccccc1</chem>	1.61	0.207	0.208	Training
246	Poly(p-divinylbenzene) <chem>c1(ccc(cc1)CC)CC</chem>	1.62	0.208	0.202	Training
247	Poly(N-vinyl phthalimide) <chem>Cl(=O)c2c(C(=O)N1CC)cccc2</chem>	1.62	0.210	0.206	Prediction
248	Poly(2,6-dichlorostyrene) <chem>CCc1c(cccc1Cl)Cl</chem>	1.62	0.211	0.212	Training
249	Poly(chloro-p-xylylene) <chem>c1cc(c(cc1C)Cl)C</chem>	1.63	0.212	0.208	Training
250	Poly(beta-naphthyl methacrylate) <chem>C(=O)(C(C)C)Oc1cc2c(cc1)cccc2</chem>	1.63	0.212	0.203	Training
251	Poly(alpha-naphthyl carbonyl methacrylate) <chem>C(=O)(C(Cc1cccc2ccccc2)C)O</chem>	1.63	0.212	0.207	Prediction
252	Poly(phenyl methyl silane) <chem>[SiH2](C)c1ccccc1</chem>	1.63	0.212	0.196	Training
253	Poly(sulfone) <chem>Oc1ccc(cc1)C(C)(C)c1cc(cc1)Oc1ccc(cc1)S(=O)(=O)c1ccccc1</chem>	1.63	0.213	0.203	Training
254	Poly(2-vinylthiophene) <chem>c1(cccs1)CC</chem>	1.64	0.214	0.219	Training
255	Poly (2,6-diphenyl-1,4-phenylene oxide) <chem>c1(c(cc(cc1c1ccccc1)O)c1ccccc1)C</chem>	1.64	0.215	0.216	Prediction
256	Poly[oxy(2,6-diphenyl-1,4-phenylene)] <chem>c1c(c(c(cc1)c1ccccc1)O)c1ccccc1</chem>	1.64	0.215	0.219	Training
257	Poly(alpha-naphthyl methacrylate) <chem>C(=O)(C(C)C)Oc1cccc2ccccc2</chem>	1.64	0.215	0.204	Training
258	Poly(p-phenylene ether-sulphone) <chem>c1cc(ccc1)Oc1cc(cc1)S(=O)=O</chem>	1.65	0.217	0.201	Training
259	Poly(oxycarbonyloxy-1,4-phenylenediphenyl-methylene-1,4-phenylene) <chem>c1(c(cccc1)C(c1ccccc1)c1ccccc1)c1ccc(cc1)OC(=O)O</chem>	1.65	0.219	0.213	Prediction
260	Poly(styrene sulfide) <chem>C(c1ccccc1)CS</chem>	1.66	0.219	0.211	Training
261	Poly(vinyl phenyl sulfide) <chem>S(c1ccccc1)CC</chem>	1.66	0.219	0.214	Training
262	Poly(p-xylylene) <chem>Cc1ccc(cc1)C</chem>	1.67	0.222	0.206	Training
263	Poly(p-xylylene) <chem>c1(cccc(c1Cc1ccccc1)Cc1ccccc1</chem>	1.67	0.222	0.214	Prediction

264	Poly(2-vinylnaphthalene) c1c(ccc2ccccc12)CC	1.68	0.226	0.217	Training
265	Poly(vinylnaphthalene) c1(cccc2ccccc12)CC	1.68	0.226	0.217	Training
266	Poly(N-vinyl carbazole) n1(c2ccccc2c2ccccc12)CC	1.68	0.226	0.215	Training
267	Naphthalene-formaldehyde rubber c1c(c2c(cc1)cccc2)CO	1.70	0.229	0.220	Prediction
268	Poly(sulfides) (Thiokol) CCS(=S)S=S	1.65	0.217	0.225	Training
269	Poly(pentabromophenyl methacrylate) C(=O)(C(C)C)Oc1c(c(c(c(c1Br)Br)Br)Br)Br	1.71	0.233	Not Predicted	Not Included