ADVANCED THERMAL ANALYSIS LABORATORY

OAK RIDGE NATIONAL LABORATORY
AND THE
UNIVERSITY OF TENNESSEE KNOXVILLE

Director: Bernhard Wunderlich

Mailing Address: Department of Chemistry
UNIVERSITY OF TENNESSEE
Knoxville, TN 37996**S**1600

Telephone: *at* UT: (865) 974-0652; *at* ORNL: (865) 574-8741; FAX: (865) 974-3419; *alternate*: (865) 974–3454
email: athas@utk.edu; Internet *home page*: web.utk.edu/~athas/

Table of Properties of Linear Macromolecules and Small Molecules [a]

Contents

In the table the following symbols are used: The glass transition temperature is listed as T_g; ΔC_p is the change of the heat capacity at T_g for the fully amorphous sample; T_m is the equilibrum melting temperature; ΔH_f, the heat of fusion for the 100% crystalline sample; S, H, and G are the entropy, enthalpy, and Gibbs function, respectively; S_o represents the residual entropy at absolute zero; Θ_3 and Θ_1 are the characteristic temperatures for the contributions of the skeletal vibrations to the heat capacity; N represents the number of skeletal vibrations per repeating unit (the total number of vibrations is given by the number of degrees of freedom = three times the number of atoms in the repeating unit); C_p denotes the heat capacity at constant pressure.

Footnotes

a This table includes all data collected, measured, and updated as of **November, 1994**. Please correspond with us about improvements, new data, errors, *etc*. In the column of the table labeled #, (a) represents the amorphous sample, and (c) represents the 100% crystalline sample; the mark ** represents heat capacities for semicrystalline polymers; the mark * next to the reference numbers, given in italics, indicates that an update is available only in the ATHAS data bank. The last line for each entry lists the abbreviation under which data can be retrieved in the computer version of the data bank, available in our web-site, and also listed the reference number to the last update on the given entry. At this reference, information on the source of the experimental data can be found.

b The change in the heat capacity, listed in J/(K mol), at T_g as derived from the ATHAS recommended, experimental data. A * in this column indicates that the data were derived instead from the difference between experimental, liquid C_p and **calculated**, solid C_p. The first numeral in parentheses refers to the number of small mobile beads that make up the repeating unit (like CH_2-, O-, or $CHCH_3$-). The average increase in C_p at T_g of all listed molecules per small bead is 11.5 ± 1.7 J/(K mol). The second numeral refers to large beads (like C_6H_4-). The increase in C_p of a large bead at T_g is double or triple that of a small bead.

c The melting temperature is the best available estimate of the equilibrium melting temperature, and the heat of fusion in kJ/mol of repeating unit is computed for 100% crystallinity.

d An X in this column indicates that enthalpy, entropy, and Gibbs energy are available, based on the ATHAS *recommended data*.

e Residual entropy in the glassy state at zero temperature, in J/(K mol).

f The number of skeletal vibrational modes used in the Tarasov equation with the theta temperatures of the previous two columns. Values of theta temperatures in parentheses are estimates based on data from polymers of similar backbone structure. The group vibration frequencies are usually tabulated in the listed references.

g Temperature range of the ATHAS recommended experimental heat capacity data. The computations of heat capacities of solids are based on these data and are usually carried out from 0.1 to 1,000 K, to provide sufficiently broad ranges of temperature for the addition schemes and for analysis of superheated polymers, as in laser ablation studies. For the references, see left columns.

h The PTFE has additional crystal-crystal-condis crystal transitions at 292 K and 303 K; their combined heat of transition is 850 J/mol, see Ref. 13.

i Properties of the metastable, monoclinic selenium are also analyzed and described in detail in the Refs. 3 and 39.

j The *trans*-PBUT has an additional condis state at lower temperature. The crystal-condis crystal transition is at 356 K, and the heat of transition is 7.8 kJ/mol, see Refs. 18 and 41.

k The PPX has two lower first-order transitions, leading to condis crystals at 504 K and 560 K with heats of transition of 5.0 and 1.5 kJ/mol; see Ref. 32.

l For deuterated, amorphous, solid polystyrene and ring-only deuterated polystyrene, heat capacities lead to Tarasov Θ_3 and Θ_1 temperatures of 55, 244 K and 49, 278 K, respectively. The thermodynamic functions: S, H, and G are listed in Ref. 22. For other data, see Ref. 23.

m The PDES has an additional condis state at a lower temperature. The crystal-condis crystal transition is at 206.7 K; its heat of transition is 2.72 kJ/mol. See Refs. 52 and 55.

n The POB shows a disordering transition at 616.5 K with a heat of transition of 3.8 kJ/mol. For details, see Ref. 51.

o The PON shows a disordering transition at 614.5 K with a heat of transition of 0.4 kJ/mol. For details, see Ref. 51.

p The glass transition temperature of quenched PBT is 248 K, and the change in C_p at T_g is 107 J/(K mol). Semicrystalline PBT has a T_g at 310 to 325 K, and the change in C_p at 320 K is 77 J/(K mol), in addition it shows the existence of a rigid-amorphous fraction. For details, see Ref. 53.

q The listed glass transition temperature has been assigned to relaxation processes of the *n*-alkyl/cycloalkyl side groups. The T_{gu} has been assigned to the backbone. For more details see, Ref. 29.

r Semicrystalline PPO shows the existence of a rigid-amorphous phase which governs the thermal properties from T_g to T_m. Fusion, superheating and annealing are directly affected by the rigid-amorphous phase. For details, see Ref. 42.

s Above T_g, poorly crystallized samples show a rigid-amorphous fraction that does not contribute to the increase in heat capacity at T_g. For details, see Ref. 35.

t Between T_g and T_m, the C_p of the liquid cannot be extrapolated from melt since the liquid heat capacities of the fluorinated polymers are nonlinear. For details, see Ref. 19.

u The PDMSi shows two small transitions. One is at 240 K with a heat of transition of 0.1 kJ/mol and the other at 432.5 K with a heat of transition of 0.56 kJ/mol is probably a transition from one crystal form to another. For details, see Ref. 59.

v The PDPSi shows a disordering transition from condis crystal I to condis crystal II at 338.3 K with a heat of transition of 1.4 kJ/mol. For details, see Ref. 59.

w the PDHSi shows a disordering transition at 323.2 K with a heat of transition of 14.84 kJ/mol. For details, see Ref. 59.

x Estimated glass transition temperature and change in heat capacity at T_g for PTDSi. For details, see Ref. 59.

y The PTDSI shows a disordering transition at 329 K with a heat of transition of 39.2 kJ/mol. For details see Ref. 59.

z All these paraffins and perfluoroparaffins have additional crystal-mesophase transitions. For details see Ref. 57, 62 and 66.

aa For ammonium salts the temperature listed is the isotropization temperature. TA3Br and TA3I decompose immediately after isotropization. All the tetra-*n*-alkylammonium salts have additional crystal-mesophase transitions. In addition, no heat capacities for the liquid could be measured due to decomposition. For details see Ref. 67.

ab The transition temperature listed corresponds to a change of a nematic liquid crystal to the melt. The OOBPD has several crystal-mesophase transitions below this temperature. Details in Ref. 68.

ac The glass transition and the ΔC_p in both amino acids: PLSER and PLMET, is an estimate obtained for the main chain. For details see Ref. 69.

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
1. Poly(alkene)s										
Polyethylene [poly(methylene)]										
(c)	-	-	414.6	4.11	X	0	519	158	2	0.1-410
(a)	237	10.5(1)	-	-	X	3.0	519	80	2	0.1-600
PE	*37*	*37*	*38*	*38*	*1**	*1**	*25*	*25*	*25*	*1,29*
Polypropylene										
(c)	-	-	460.7	8.70	X	0	714	91	7	10.0-460
(a)	270	19.2(2)*	-	-	X	5.2	633	78	7	10.0-600
PP	*49*	*15**	*4,10*	*50*	*4,15**	*50**	*15*	*15*	*15*	*4,29*
Poly-1-butene										
(c)	-	-	411.2	7.00	X	0	618	93	9	10-249**
(a)	249	23.1(2)	-	-	X	6.4	618	(80)	9	249-630
PB	*2*	*2*	*2*	*2,10*	*57*	*57*	*17*	*17*	*17*	*2*
Poly-1-pentene										
(c)	--	-	403.2	6.30	X	0	580	(93)	11	200-233**
(a)	233	27.0(2)	-	-	X	(0.9)	580	(80)	11	233-470
PPEN	*2*	*2*	*2,10*	*2,10*	*57*	*57*	*17*	*17*	*17*	*2*
Poly-1-hexene										
(a)	223	25.1(2)	-	-	X	?	563	86	13	20-290
PHEX	*2*	*2*			*57*		*17*	*17*	*17*	*2*
Polycyclopentene										
(a)	173	28.9(4)	-	-	X	?	582	88	10	10-320
PCPEN	*2*	*2*			*57*	*45*	*45*	*45*	*2*	
Poly(4-methyl-1-pentene)										
(c)	-	-	523.2	9.96	X	0	660	(93)	14	80-303**
(a)	303	30.1(1+1)	-	-	?	?	660	?	14	303-540
P4M1P	*2*	*57*	*2,10*	*10*	*57*		*16**	*16**	*16*	*2,57*
Polyisobutylene										
(c)	-	-	317	12.0	X	0	850	?	10	?
(a)	200	21.3(2)	-	-	X	?	850	103	10	15-380
PIBUT	*2*	*2*	*2*	*2*	*2**		*17*	*17*	*17*	*2*
Poly(1-butenylene), *cis*										
(c)	-	-	284.7	9.20	X	0	589	87	8	30-171**
(a)	171	27.2(3)*	-	-	X	17.5	589	?	8	171-350
PBUT cis	*18*	*18**	*2,10*	*2,10*	*18**	*18**	*18*	*18*	*18*	*2,29*

#	T_g	ΔC_p.[b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N[f]	C_p [g]
Poly(1-butenylene), *trans*										
(c)	---	-	437	3.73[j]	X	0	599	95	8	30-190**
(a)	190	28.0(3)*	-	-	X	16.2	599	?	8	190-500
PBUT trans	*18*	*18**	*2,41*	*2,41*	*18**	*18**	*18*	*18*	*18*	*2,29*
Poly-1,4-(2-methyl-butadiene), *cis*										
(c)	-	-	301.2	4.35	?	0	647	(120)	11	?
(a)	200	30.9(3)	-	-	X	?	647	58	11	2-360
PMB cis	*2*	*2*	*2,10*	*2,10*	*2**		*45*	*45*	*45*	*2*
Poly(2-methyl-1,3-pentadiene)										
(a)	278	34.3(?)	-	-	?	?	?	?	?	230-320
PMP	*29*	*29*								*29*

2. Poly(vinyl)s and Related Polymers

Poly(vinyl alcohol)										
(c)	-	-	538	7.11	X	0	495	119	4	60-300**
(a)	358	?(2)	-	-	?	?	495	?	4	?
PVA	*2*		*10*	*10*	*57*		*45*	*45*	*45*	*2*
Poly(vinyl acetate)										
(a)	304	40.7(?)	-	-	X	?	600	(86)	11	80-370
PVAC	*2*	*45**			*57*		*45**	*45*	*45*	*2,45*
Poly(vinyl fluoride)										
(c)	-	-	503.2	7.54	X	0	440	105	4	80-314**
(a)	314	17.0(2)*	-	-	X	9.4	440	?	4	480-530[t]
PVF	*2*	*19**	*2*	*2*	*19**	*19**	*20*	*20*	*20*	*2,29*
Poly(vinylidene fluoride)										
(c)	-	-	483.2	6.70	X	0	346	66	4	5-212**
(a)	212	21.2(2)*	-	-	X	5.1	346	?	4	450-580[t]
PVF2	*19*	*19**	*2,10*	*2,10*	*19**	*19**	*20*	*20*	*20*	*2,29*
Polytrifluoroethylene										
(c)	-	-	495.2	5.44	X	0	315	56	4	25-280**
(a)	280	13.8(2)*	-	-	X	13	315	?	4	480-600[t]
PTRIF	*19*	*19**	*19*	*19*	*19**	*19**	*20*	*20*	*20*	*2,29*
Polytetrafluoroethylene										
(c)	-	-	605	4.10[h]	X	0	250	54	2	0.3-280
(a)	200	9.4(1)	-	-	X	3.3	250	?	2	180-700
PTFE	*12*	*12*	*13*	*13*	*13**	*13**	*13*	*13*	*13*	*13,29*

#	T_g	ΔC_p.[b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N[f]	C_p [g]
Poly(vinyl chloride)										
(c)	-	-	546.0	11.0	X	0	354	(90)	4	?
(a)	354	19.4(2)	-	-	X	2.4	354	45	4	5-380
PVC	*2*	*2*	*2*	*2*	*19**	*19**	*21*	*21**	*21*	*2*
Poly(vinylidene chloride)										
(c)	-	-	463	?	X	0	308	119	4	60-255**
(a)	255	?(2)	-	?		?	308	?	4	?
PVC2	*2*		*2*		*57*		*21*	*21*	*21*	*2*
Poly(chlorotrifluoroethylene)										
(c)	-	-	493	5.02	X	0	215	42	4	1-325**
(a)	325	?(2)	-	-	?	?	215	?	4	?
PCTFE	*2*		*2*	*2*	*19**		*21*	*21*	*21*	*2*
Poly(vinyl benzoate)										
(a)	347	69.5(?)	-	-	X	?	541	(50)	10	190-500
PVB	*2*	*2*			*57*		*45*	*45*	*45*	*2*
Poly(vinyl-*p*-ethyl benzoate)										
(a)	330	56.9(?)	-	-	X	?	411	(50)	15	190-500
PVEB	*2*	*2*			*57*		*45*	*45*	*45*	*2*
Poly(vinyl-*p*-iso-propyl benzoate)										
(a)	335	66.6(?)	-	-	X	?	567	(50)	18	190-500
PVIPB	*2*	*2*			*57*		*45*	*45*	*45*	*2*
Poly(vinyl-*p*-tert-butyl benzoate)										
(a)	394	60.4(?)	-	-	X	?	512	(50)	21	190-500
PVTBB	*2*	*2*			*57*		*45*	*45*	*45*	*2*
Polystyrene										
(c)[l]	-	-	516.2	10.0	X	0	284	110	6	?
(a)	373	30.8(1+1)	-	-	X	4.4	284	48	6	0.1-600
PS	*5*	*5*	*5,10*	*5,10*	*22**	*23**	*23*	*23*	*23*	*5,29*
Poly(*p*-fluorostyrene)										
(a)	384	33.3(1+1)	-	-	X	?	284	(48)	6	130-384
PFS	*29*	*29*			*22**		*23*	*23*	*23*	*29*
Poly(*p*-chlorostyrene)										
(a)	406	31.1(1+1)	-	-	X	?	284	(48)	6	300-550
PCS	*29*	*29*			*22**		*23*	*23*	*23*	*29*
Poly(*p*-bromostyrene)										
(a)	410	31.6(1+1)	-	-	X	?	284	(48)	6	300-550
PBS	*29*	*29*			*22**		*23*	*23*	*23*	*29*

#	T_g	ΔC_p.[b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N[f]	C_p [g]
Poly(*p*-iodostyrene)										
(a)	424	37.9(1+1)	-	-	X	?	284	(48)	6	300-550
PIS	*29*	*29*			*22**		*23*	*23*	*23*	*29*
Poly(*p*-methylstyrene)										
(a)	380	34.6(1+1)	-	-	X	?	284	(48)	6	300-500
PMS	*29*	*29*			*22**		*23*	*23*	*23*	*29*
Poly(α-methylstyrene)										
(a)	441	25.3(1+1)	-	-	X	?	450	48	9	1.4-490
PAMS	*5*	*5*			*22**		*23*	*23*	*23*	*5*

3. Aliphatic Poly(oxide)s

Poly(oxymethylene)										
(c)	-	-	457.2	9.79	X	0	232	117	2	0.1-390
(a)	190	28.2(2)*	-	-	X	3.4	232	?	2	190-600
POM	*24*	*24**	*10*	*10*	*6,24**	*24**	*25*	*25*	*25*	*6,29*
Poly(oxyethylene)										
(c)	-	-	342	8.66	X	0	353	114	4	10-342
(a)	206	38.2(3)*	-	-	X	8.1	353	?	4	206-450
POE	*24*	*24**	*10*	*10*	*6,24**	*24**	*25*	*25*	*25*	*6,29*
Poly(oxymethyleneoxyethylene)										
(c)	-	-	328	16.7	X	0	317	114	6	10-328**
(a)	209	62.1(5)*	-	-	X	27	317	?	6	209-390
POMOE	*6*	*24**	*6*	*6*	*6,57*	*57*	*25*	*25*	*25*	*6*
Poly(oxytrimethylene)										
(c)	-	-	308	9.44	X	0	433	100	6	1.0-308
(a)	195	46.8(4)*	-	-	X	7.8	433	40	6	1.0-330
PO3M	*6*	*24**	*6*	*6*	*6,57*	*24**	*25*	*25*	*25*	*6*
Poly(oxytetramethylene)										
(c)	-	-	330	14.4	X	0	436	90	8	5-189**
(a)	189	57.0(5)*	-	-	X	17	436	?	8	189-340
PO4M	*6*	*24**	*6*	*6*	*57**	*57**	*25*	*25*	*25*	*6*
Poly(oxyoctamethylene)										
(c)	-	-	347	29.3	X	0	480	137	16	14-255**
(a)	255	83.1(9)*	-	-	X	63	480	?	16	350-360
PO8M	*6*	*24**	*6*	*6*	*57*	*57*	*25*	*25*	*25*	*6*

#	T_g	ΔC_p.[b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N[f]	C_p [g]
Poly(oxymethyleneoxytetramethylene)										
(c)	-	-	296	14.3	X	0	392	122	10	10-296
(a)	189	83.8(7)*	-	-	X	15	392	?	10	189-360
POMO4M	*6*	*24**	*6*	*6*	*6,57*	*57*	*25*	*25*	*2,56*	
Poly(oxypropylene)										
(c)	-	-	348	8.40	X	0	494	112	7	80-198**
(a)	198	32.1(3)*	-	-	X	9.4	494	?	7	198-370
POPR	*6*	*57*	*6*	*6*	*57*	*57*	*45*	*45*	*45*	*6*
Poly[oxy-2,2'-bis-(chloromethyl)-trimethylene]										
(c)	-	-	463	32	X	0	463	?	12	10-390**
(a)	278	17.8(?)	-	-	?	?	463	44	12	?
POCMM	*6*	*6*	*6*	*6*	*57*		*45*	*45*	*45*	*6*

4. Poly(acrylate)s and (methacrylate)s

Poly(methyl acrylate)										
(a)	279	42.3(?)	-	-	X	?	552	86	11	10-500
PMA	*7*	*7*			*57*		*17*	*17*	*17*	*7*
Poly(ethyl acrylate)										
(a)	249	45.6(?)	-	-	X	?	543	89	13	90-500
PEA	*7*	*7*			*57*		*17*	*17*	*17*	*7*
Poly(*n*-butyl acrylate)										
(a)	218	45.4(?)	-	-	X	?	518	88	17	80-440
PBA	*7*	*7*			*57*		*17*	*17*	*17*	*7*
Poly(isobutyl acrylate)										
(a)	249	36.6(?)	-	-	X	?	(524)	(90)	18	230-500
PIBA	*7*	*7*			*57*		*45**	*45*	*45*	*7*
Poly(octadecyl acrylate)										
(a)	?	?(?)	-	-	?	?	520	84	45	130-500
PODA							*17*	*17*	*17*	*7*
Poly(methacrylic acid)										
(a)	501	?(?)	-	-	X	?	653	107	11	60-300
PMAA	*7*				*57*		*17*	*17*	*17*	*7*
Poly(methyl methacrylate)										
(c)	-	-	450	9.60	X	0	680	(140)	14	?
(a)	378	32.7(?)	-	-	X	7.1	680	67	14	0.2-550
PMMA	*7*	*17*	*26*	*26*	*17**	*57*	*17*	*17*	*17*	*17,29*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly(ethyl methacrylate)										
(a)	338	31.7(?)	-	-	X	?	622	(60)	16	80-380
PEMA	*7*	*7*			*57*		*17*	*17*	*17*	*7*
Poly(*n*-butyl methacrylate)										
(a)	293	27.9(?)	-	-	X	?	559	58	20	80-440
PBMA	*7*	*7*			*57*		*17*	*17*	*17*	*7*
Poly(isobutyl methacrylate)										
(a)	326	39.0(?)	-	-	X	?	595	(60)	21	230-400
PIBMA	*7*	*7*			*57*		*45*	*45*	*45*	*45*
Polyacrylonitrile										
(a)	378	?(?)	-	-	X	?	980	62	6	60-370
PAN	*7*				*7,57*		*17**	*17*	*17*	*7*
Poly(p-methacryloyloxybenzoic acid)										
(a)	316	60.0(?)	-	-	?	?	631	89	18	10-310
PMAB	*29*	*29*					*57*	*57*	*57*	*29*

5. Aliphatic Poly(ester)s

Polyglycolide										
(c)	-	-	501	9.74	X	0	521	98	6	10-318**
(a)	318	31.8(2)	-	-	X	7.6	521	?	6	318-550
PGL	*8*	*57*	*28*	*57*	*46*	*46*	*27*	*27*	*27*	*8,29*
Poly(ethylene oxalate)										
(c)	-	-	450	23	?	0	533	?	12	?
(a)	306	56.2(4)	-	-	X	?	533	89	12	10-360
PEOL	*44*	*29*	*44*	*44*	*46*		*27*	*27*	*27*	*29*
Poly(β-propiolactone)										
(c)	-	-	366	10.9	X	0	522	85	8	10-249**
(a)	249	42.9(3)	-	-	X	15.2	522	?	8	249-400
PPL	*28*	*57*	*28*	*57*	*46*	*46*	*27*	*27*	*27*	*29*
Poly(γ-butyrolactone)										
(c)	-	-	337.5	14.0	X	0	474	96	10	10-214**
(a)	214	52.0(4)	-	-	X	20.6	474	?	10	214-350
PBL	*28*	*57*	*28*	*57*	*46*	*46*	*27*	*27*	*27*	*29*
Poly(δ-valerolactone)										
(c)	-	-	331	18.8	X	0	502	101	12	10-207**
(a)	207	60.9(5)	-	-	X	32	502	?	12	207-350
PVL	*28*	*57*	*28*	*57*	*46*	*46*	*27*	*27*	*27*	*29*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly(ϵ-caprolactone)										
(c)	-	-	342.2	17.9	X	0	491	101	14	10-209**
(a)	209	67.4(6)	-	-	X	23	491	?	14	209-350
PCL	*8*	*57*	*28*	*57*	*46*	*46*	*27*	*27*	*27*	*8,29*
Polyundecanolactone										
(c)	-	-	365	39.5	X	0	528	105	24	10-227**
(a)	227	102.7(11)	-	-	X	68	528	?	24	227-400
PUDL	*28*	*57*	*28*	*57*	*46*	*46*	*27*	*27*	*27*	*29*
Polytridecanolactone										
(c)	-	-	368	50.6	X	0	519	112	28	10-229**
(a)	229	115.8(13)	-	-	X	92	519	?	28	229-370
PTDL	*28*	*57*	*28*	*57*	*46*	*46*	*27*	*27*	*27*	*29*
Polypentadecanolactone										
(c)	-	-	370.5	63.4	X	0	525	114	32	10-251**
(a)	251	124(15)	-	-	X	128	525	?	32	251-370
PPDL	*28*	*57*	*28*	*57*	*46*	*46*	*27*	*27*	*27*	*29*
Poly(pivalolactone)										
(c)	-	-	513.0	14.8	X	0	585	(98)	14	150-267**
(a)	267	37.6(3)	-	-	X	16.5	585	?	14	267-550
PPVL	*61*	*61*	*61*	*61*	*61*	*61*	*61*	*61*	*61*	*61*
Poly(trimethylene succinate)										
(c)	-	-	?	?	?	0	495	(141)	18	?
(a)	240	93(7)	-	-	?	?	495	?	18	320-360
PTMS	*46*	*46*					*46*	*46*	*46*	*46*
Poly(trimethylene adipate)										
(c)	-	-	?	?	?	0	(514)	(141)	22	?
(a)	?	?	-	-	?	?	(514)	?	22	320-360
PTMA							*46*	*46*	*46*	*46*
Poly(butylene adipate)										
(c)	-	-	328.8	?	X	0	514	(108)	24	80-199**
(a)	199	140.0(?)	-	-	?	?	514	?	24	199-450
PBAD	*29*	*29*	*29*		*57*		*27*	*27*	*27*	*29*
Poly(ethylene sebacate)										
(c)	-	-	356.2	31.9	X	0	514	(158)	28	120-245**
(a)	245	127.0(12)	-	-	X	(26)	514	(80)	28	245-410
PES	*29*	*57*	*10*	*10*	*46*	*46*	*27*	*27**	*27*	*8,29*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly(hexamethylene sebacate)										
(c)	-	-	?	?	?	0	(519)	(158)	36	?
(a)	?	?	-	-	?	(?)	(519)	(80)	36	340-400
PHMS							*46*	*46*	*46*	*46*

6. Poly(itaconate)s

Poly(dimethyl itaconate)										
(a)	377	54.2(?)	-	-	X	?	557	(67)	20	110-450
PDMI	*29*	*29*			*57*		*57*	*57*	*57*	*29*
Poly(di-*n*-propyl itaconate)										
(a)	304	57.8(?)	-	-	X	?	428	(67)	28	110-410
PDPI	*29*	*29*			*57*		*57*	*57*	*57*	*29*
Poly(di-*n*-heptyl itaconate)										
(a)	172[q]	45.6(?)	-	-	X	?	582	(67)	44	110-170
PDHI	*29*	*29*			*57*		*57*	*57*	*57*	*29*
Poly(di-*n*-octyl itaconate)										
(a)	178[q]	99.1(?)	-	-	X	?	518	(67)	48	110-170
PDOI	*29*	*29*			*57*		*57*	*57*	*57*	*29*
Poly(di-*n*-nonyl itaconate)										
(a)	187[q]	183.4(?)	-	-	X	?	589	(67)	52	110-180
PDNI	*29*	*29*			*57*		*57*	*57*	*57*	*29*
Poly(dicyclooctyl itaconate)										
(a)	390[q]	67.5(?)	-	-	?	?	?	?	?	110-440
PDCYOI	*29*	*29*								*29*

7. Aliphatic Poly(amide)s

Nylon 6										
(c)	-	-	533	26.0	X	0	544	(67)	14	70-313**
(a)	313	53.7(6)*	-	-	X	37	544	?	14	313-600
NYLON6	*8*	*11*	*10*	*10*	*11*	*11*	*11*	*11*	*11*	*8*
Nylon 11										
(c)	-	-	493	44.7	X	0	420	(67)	24	230-316**
(a)	316	68.4(11)*	-	-	X	78	420	?	24	316-550
NYLON11	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*
Nylon 12										
(c)	-	-	500	48.4	X	0	455	(67)	26	230-314**
(a)	314	74.3(12)*	-	-	X	82	455	?	26	314-540
NYLON12	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*

#	T_g	ΔC_p.[b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N[f]	C_p [g]
Nylon 6,6 α										
(c)	-	-	574	57.8	X	0	614	84	28	0.3-323**
(a)	323	115.5(12)*	-	-	X	77	614	?	28	323-600
NYLON6,6	*8*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*8*
Nylon 6,9										
(c)	-	-	500	69	X	0	579	(84)	34	230-331**
(a)	331	109.5(15)*	-	-	X	114	579	?	34	331-590
NYLON6,9	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*
Nylon 6,10										
(c)	-	-	506	71.7	X	0	543	(84)	36	230-323**
(a)	323	118.0(16)*	-	-	X	120	543	?	36	323-590
NYLON6,10	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*
Nylon 6,12										
(c)	-	-	520	80.1	X	0	533	(84)	40	230-319**
(a)	319	141.4(18)*	-	-	X	124	533	?	40	319-600
NYLON6,12	*8*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*11*	*8,11*
Polymethacrylamide										
(c)	-	-	590	?	?	0	523	?	10	?
(a)	?	?	-	-	X	?	523	(193)	10	60-300
PMAM			*11*		*11*		*11*	*11*	*11*	*7*

8. Poly(amino acid)s

Polyglycine I										
(c)	-	-	?	?	X	0	(750)	(81)	6	150-370**
PGLYI					*57*		*58*	*58*	*58*	*8*
Polyglycine II										
(c)	-	-	?	?	X	0	750	81	6	1.4-390**
PGLYII					*57*		*58*	*58*	*58*	*8,58*
Poly(*L*-alanine)										
(c)	-	-	?	?	X	0	634	58	9	1.6-390**
PLALA					*57*		*58*	*58*	*58*	*8,58*
Poly(*L*-valine)										
(c)	-	-	?	?	X	0	664	65	14	2.0-390**
PLVAL					*57*		*58*	*58*	*58*	*8,58*
Poly(*L*-serine)										
(c)	-	-	?	?	X	0	685	(68)	10	220-390**
(a)	(400)[ac]	(30.0)[ac]	-	-	X	?	685	?	10	?
PLSER	*69*	*69*			*57*		*58*	*58*	*58*	*58*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly(*L*-leucine)										
(c)	-	-	?	?	X	0	625	(68)	16	220-390**
PLLEU					*57*		*58*	*58*	*58*	*58*
Poly(L-aspartic acid) Sodium salt										
(c)	-	-	?	?	X	0	597	(68)	14	220-390**
PLASPNa					*57*		*58*	*58*	*58*	*58*
Poly(*L*-glutamic acid) Sodium salt										
(c)	-	-	?	?	X	0	907	(68)	16	220-390**
PLGLUNa					*57*		*58*	*58*	*58*	*58*
Poly(*L*-phenylalanine)										
(c)	-	-	?	?	X	0	610	(68)	11	220-390**
PLPHEA					*57*		*58*	*58*	*58*	*58*
Poly(*L*-tyrosine)										
(c)	-	-	?	?	X	0	729	(68)	13	220-390**
PLTYR					*57*		*58*	*58*	*58*	*58*
Poly(*L*-asparagine)										
(c)	-	-	?	?	X	0	569	(68)	12	220-390**
PLASN					*57*		*58*	*58*	*58*	*58*
Poly(*L*-tryptophan)										
(c)	-	-	?	?	X	0	793	(68)	13	220-390**
PLTRP					57		58	58	58	58
Poly(*L*-proline)										
(c)	-	-	?	?	X	0	691	(68)	11	220-390**
PLPRO					*57*		*58*	*58*	*58*	*58*
Poly(*L*-lysine) Hydrogen bromide										
(c)	-	-	?	?	X	0	636	(68)	20	220-390**
PLLYSHBr					*57*		*58*	*58*	*58*	*58*
Poly(*L*-methionine)										
(c)	-	-	?	?	X	0	691	(68)	15	220-390**
(a)	(400)[ac]	(61.0)[ac]	-	-	X	?	691	?	15	?
PLMET	*69*	*69*			*57*		*58*	*58*	*58*	*58*
Poly(*L*-histidine)										
(c)	-	-	?	?	X	0	808	(68)	13	220-390**
PLHIS					*57*		*58*	*58*	*58*	*58*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly(*L*-histidine) Hydrogen chloride										
(c)	-	-	?	?	X	0	745	(68)	16	220-390**
PLHISHCl					*57*		*58*	*58*	*58*	*58*
Poly(*L*-arginine) Hydrogen chloride										
(c)	-	-	?	?	X	0	610	(68)	23	220-390**
PLARGHCl					*57*		*58*	*58*	*58*	*58*

9. (Phenyl)ene Containing Polymers

Poly(*p*-phenylene)										
(c)	-	-	>1000	?	X	0	544	(54)	3	80-300**
(a)	?	?(0+1)	-	-	?	?	544	(40)	3	?
PPP			*30*		*57*		*30*	*30*	*30*	*29*
Poly(thio-1,4-phenylene)										
(c)	-	-	593	8.65	X	0	566	(54)	5	220-363**
(a)	363	29.2(0+1)	-	-	X	(4.2)	566	(40)	5	363-600
PTP	*31*	*31*	*31*	*31*	*47**	*47**	*30*	*30**	*30*	*31,29*
Poly(*p*-xylylene)										
(c)	-	-	700	10.0 [k]	X	0	562	(54)	7	220-410**
(a)	286	37.6(1+1)*	-	-	?	?	562	(40)	7	(286-410)
PPX	*32*	*32*	*32*	*32*	*57*		*30*	*30*	*30*	*32,29*
Poly(oxy-1,4-phenylene)										
(c)	-	-	535	7.82	X	0	555	(54)	5	300-358**
(a)	358	21.4(0+1)	-	-	X	(10)	555	(40)	5	358-620
POP	*6*	*6*	*6*	*6*	*47**	*47**	*30*	*30*	*30*	*6*
Poly(oxy-2,6-dimethyl-1,4-phenylene)										
(c)	-	-	580	5.95	X	0	564	(54)	5	80-482**
(a)	482 [r]	31.9(1+1)	-	-	X	(7.5)	564	(40)	5	482-570
PPO	*6*	*6*	*42*	*42*	*47*	*47*	*30*	*30*	*30*	*6,30*
Poly(oxy-3-bromo-2,6-dimethyl-1,4-phenylene)										
(a)	559	18(?)	-	-	?	?	(564)	(40)	5	310-559
PPBO	*29*	*29*					*57*	*57*	*57*	*29*
Poly(oxy-2,6-diphenyl-1,4-phenylene)										
(c)	-	-	753	12.2	?	0	?	?	?	180-493**
(a)	493	76.6(?)	-	-	?	?	?	?	?	493-820
PDPPO	*6*	*6*	*6*	*6*						*6*
Poly[oxy-2,6-*bis*(1-methylethyl)-1,4-phenylene]										
(c)	426	17.6(?)		?	?	0	793	(54)	21	270-426**
PPPRO	*29*	*29*					*57*	*57*	*57*	*29*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly(ethylene terephthalate)										
(c)	-	-	553	26.9	X	0	586	54	15	1.0-10
(a)	342	77.8(4+1)	-	-	X	22	586	44	15	1.0-590
PET	*8*	*8*	*10,43*	*10*	*8,57*	*33**	*30*	*30**	*30*	*8,29*
Poly(butylene terephthalate)										
(c)	-	-	518.2	32.0	X	0	542	(54)	19	150-310**
(a)	248[p]	107(6+1)	-	-	X	(10)	542	(40)	19	248-570
PBT	*53*	*53*	*53*	*53*	*53**	*53**	*53*	*53*	*53*	*53,29*
Poly(4-hydroxybenzoic acid)										
(c)	-	-	-	-[n]	X	0	823	(54)	7	170-434**
(a)	434	33.2(1+1)	-	-	X	?	823	(25)	7	-
PHBA	*29*	*51**		*51*	*56*		*56*	*56*	*56*	*29*
Poly(2,6-hydroxynaphthoic acid)										
(c)	-	-	-	-[o]	X	0	640	(54)	9	170-399**
(a)	399	46.5(1+1)	-	-	X	?	640	(27)	9	399-650
PHNA	*29*	*56*		*51*	*56*		*56*	*56*	*56*	*29*
Poly(ethylene-2,6-naphthalene dicarboxylate)										
(c)	-	-	610	25.0	X	0	600	(54)	17	220-390**
(a)	390	81.6(4+1)	-	-	X	(10)	600	(30)	17	390-600
PEN	*48*	*47,29*	*48*	*48*	*47**	*47**	*57*	*57*	*57*	*48,29*
Poly(4,4'-iso-propylidene diphenylene carbonate)										
(c)	-	-	608.2	33.6	X	0	569	(54)	14	?
(a)	424	48.8(2+2)	-	-	X	25	569	40	14	0.4-750
PC	*33*	*9,33*	*34*	*9*	*9,57*	*33**	*30*	*30*	*30*	*9,29*
Poly(oxy-1,4-phenylene-oxy-1,4-phenylene-carbonyl-1,4-phenylene)										
(c)	-	-	668.2	37.4	X	0	560	(54)	15	130-419**
(a)	419[s]	78.1(1+3)	-	-	X	(17)	560	(40)	15	419-680
PEEK	*33*	*33,35*	*36*	*36*	*33**	*33**	*30*	*30*	*30*	*33,29*
Poly[oxyethylene-oxy-(1,3-phenylene)-(4,4'-oxy-diphthalimide)-1,4-phenylene]										
(c)	-	-	613	72.5	X	0	580	(54)	34	230-450**
(a)	450	172.7	-	-	X	73	580	(40)	34	450-600
ODPA1	60	60*	60	60	57*	57*	60	60	60	60
Poly[dioxyethylene-oxy-(1,3-phenylene)-(4,4'-oxy-diphthalimide)-1,4-phenylene]										
(c)	-	-	577	80.2	X	0	590	(54)	40	230-418**
(a)	418	204.7	-	-	X	86	590	(40)	40	418-600
ODPA2	*60*	*60**	*60*	*60*	*57**	*57**	*60*	*60*	*60*	*60*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly[trioxyethylene-oxy-(1,3-phenylene)-(4,4'-oxy-diphthalimide)-1,4-phenylene]										
(c)	-	-	541	88.0	X	0	(600)	(54)	46	230-385**
(a)	385	246.8	-	-	X	97	(600)	(40)	46	385-580
ODPA3	*60*	*60**	*60*	*60*	*57**	*57**	*60*	*60*	*60*	*60*
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxytetramethylene]										
(c)	-	-	470	46.5	X	0	574	(54)	25	230-298**
(a)	298	142.8	-	-	X	61	(574)	(40)	25	298-470
MBPE4	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxypentamethylene]										
(c)	-	-	385	29.7	X	0	576	(54)	27	120-289**
(a)	289	151.7	-	-	X	44	(576)	(40)	27	289-400
MBPE5	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxyhexamethylene]										
(c)	-	-	461	41.9	X	0	578	(54)	29	230-291**
(a)	291	165.6	-	-	X	41	(578)	(40)	29	291-470
MBPE6	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxyheptamethylene]										
(c)	-	-	372	29.7	X	0	580	(54)	31	230-277**
(a)	277	173.5	-	-	X	39	(580)	(40)	31	277-410
MBPE7	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxyoctamethylene]										
(c)	-	-	407	34.8	X	0	581	(54)	33	230-261**
(a)	261	202.7	-	-	X	19	(581)	(40)	33	261-470
MBPE8	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxynonamethylene]										
(c)	-	-	376	37.8	X	0	583	(54)	35	120-272**
(a)	272	200.6	-	-	X	48	(583)	(40)	35	272-400
MBPE9	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxydecamethylene]										
(c)	-	-	405	61	X	0	584	(54)	37	230-269**
(a)	269	214.7	-	-	X	89	(584)	(40)	37	269-410
MBPE10	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxyundecamethylene]										
(c)	-	-	385	61	X	0	586	(54)	39	230-277**
(a)	277	215.8	-	-	X	112	(586)	(40)	39	277-400
MBPE11	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly[oxy-1,4(3-methylphenylene)ethylene-1,4-phenyleneoxydodecamethylene]										
(c)	-	-	402	63	X	0	587	(54)	41	230-272**
(a)	272	231.4	-	-	X	91	(587)	(40)	41	272-410
MBPE12	*65*	*65*	*65*	*65*	*65,57*	*65*	*65*	*65*	*65*	*65*

10. Poly(silylene)s

Poly(dimethylsilylene)										
(c)	-	-	?	-[u]	X	0	342	(68)	8	160-490**
(a)	?	?	-	-	X	?	342	?	8	?
PDMSi					*57*		*59*	*59*	*59*	*59*
Poly(dipentylsilylene)										
(c)	-	-	?	-[v]	X	0	320	(68)	24	160-490**
(a)	227	71.3	-	-	X	?	320	?	24	?
PDPSi	*59*	*59*			*57*		*59*	*59*	*59*	*59*
Poly(dihexylsilylene)										
(c)	-	-	?	-[w]	X	0	413	(68)	28	160-500**
(a)	221	97.3	-	-	X	?	413	?	28	?
PDHSi	*59*	*59*			*57*		*59*	*59*	*59*	*59*
Poly(ditetradecylsilylene)										
(c)	-	-	?	-[y]	X	0	593	(68)	60	160-500**
(a)	(250)[x]	(250)[x]	-	-	X	?	593	?	60	?
PTDSi	*59*	*59*			*57*		*59*	*59*	*59*	*59*

11. Poly(siloxane)s

Poly(dimethyl siloxane)										
(c)	-	-	219	2.75	X	0	509	68	10	8-146**
(a)	146	27.7(2)	-	-	X	3.5	509	?	10	146-340
PDMS	*9*	*9*	*52*	*52*	*55,57*	*55*	*55*	*55*	*55*	*9,52*
Poly(diethyl siloxane)										
(c)	-	-	282.7	1.84[m]	X	0	480	87	14	10-135**
(a)	135	30.2(2)	-	-	X	8.4	480	?	14	135-360
PDES	*52*	*29*	*55*	*55*	*55,57*	*55*	*55*	*55*	*55*	*29*

12. Aliphatic and Aromatic Poly(sulfone)s

Poly(1-propene sulfone)										
(c)	?	?	?	?	X	?	685	89	13	20-300**
P1PS					*57*		*54*	*54*	*54*	*9*
Poly(1-butene sulfone)										
(c)	?	?	?	?	X	?	669	89	15	100-300**
P1BS					*57*		*54*	*54*	*54*	*9*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Poly(1-hexene sulfone)										
(c)	?	?	?	?	X	?	587	95	19	20-300**
P1HS					*57*		*54*	*54*	*54*	*9*
Poly(1,4-phenylene-sulfonyl)										
(a)	493	12.3(0+1)	-	-	X	?	495	(46)	9	150-620
PAS	*54*	*54*			*57*	*54*	*54*	*54*	*54*	
Poly(oxy-1,4-phenylene-sulfonyl-1,4-phenylene)										
(a)	497	39.1(0+2)	-	-	X	?	800	(46)	14	150-620
PPES	*54*	*54*			*57*		*54*	*54*	*54*	*54*
Poly[oxy-1,4-phenylene-sulfonyl-1,4-phenylene-oxy-1,4-phenylene-(1-methylidene)-1,4-phenylene]										
(a)	458	126.6(0+5)	-	-	X	?	778	46	30	10-620
PBISP	*54*	*54*			*57*		*54*	*54*	*54*	*54*
13. (Inorganic) Polymers										
Selenium										
(c)	-	-	494.2	6.20	X	0	350	98	3	0.1-500[i]
(a)	303	13.3(1)	-	-	X	3.6	343	54	3	0.1-1000
SE	*3*	*3*	*40*	*40*	*3*	*3*	*14*	*14*	*14*	*3*
14. (Paraffin)s and Perfluoroparaffins										
Propane										
(c)	-	-	85.5	3.52	X	0	360	128	9	15-80
(a)	-	-	-	-	X	?	360	(128)	9	90-230
C3			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Butane										
(c)	-	-	134.9[z]	4.66	X	0	402	120	11	15-100
(a)	-	-	-	-	X	?	402	(120)	11	140-270
C4			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Pentane										
(c)	-	-	143.5	8.39	X	0	438	97	13	10-140
(a	-	-	-	-	X	?	438	(97)	13	150-300
C5			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Hexane										
(c)	-	-	177.8	13.0	X	0	449	109	15	10-170
(a)	-	-	-	-	X	?	449	(109)	15	180-300
C6			*57*	*57*	*57*		*62*	*62*	*62*	*57*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Heptane										
(c)	-	-	182.6	14.0	X	0	449	115	17	10-180
(a)	-	-	-	-	X	?	449	(115)	17	190-370
C7			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Octane										
(c)	-	-	216.4	20.7	X	0	465	121	19	10-210
(a)	-	-	-	-	X	?	465	(121)	19	220-300
C8			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Nonane										
(c)	-	-	219.7[z]	15.5	X	0	474	119	21	10-210
(a)	-	-	-	-	X	?	474	(119)	21	220-320
C9			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Decane										
(c)	-	-	243.5	28.7	X	0	481	126	23	10-240
(a)	-	-	-	-	X	?	481	(126)	23	250-320
C10			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Undecane										
(c)	-	-	247.6[z]	22.2	X	0	489	122	25	10-230
(a)	-	-	-	-	X	?	489	(122)	25	250-310
C11			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Dodecane										
(c)	-	-	263.6	36.8	X	0	494	128	27	10-260
(a)	-	-	-	-	X	?	494	(128)	25	270-320
C12			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Tridecane										
(c)	-	-	267.8[z]	28.5	X	0	498	125	29	10-250
(a)	-	-	-	-	X	?	498	(125)	29	270-310
C13			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Tetradecane										
(c)	-	-	279.0	45.1	X	0	501	130	31	10-270
(a)	-	-	-	-	X	?	501	(130)	31	280-300
C14			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Pentadecane										
(c)	-	-	283.1[z]	34.6	X	0	504	128	33	10-270
(a)	-	-	-	-	X	?	504	(128)	33	290-310
C15			*57*	*57*	*57*		*62*	*62*	*62*	*57*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	SHG [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Hexadecane										
(c)	-	-	291.3	53.4	X	0	507	132	35	10-290
(a)	-	-	-	-	X	?	507	(132)	35	300-320
C16			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Heptadecane										
(c)	-	-	295.1[z]	40.2	X	0	506	131	37	10-280
(a)	-	-	-	-	X	?	506	(131)	37	300-390
C17			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Octadecane										
(c)	-	-	301.3	61.7	X	0	512	134	39	10-300
(a)	-	-	-	-	X	?	512	(134)	39	310-380
C18			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Eicosane										
(c)	-	-	309.8[z]	69.9	X	0	510	135	43	100-270
(a)	-	-	-	-	X	?	510	(135)	43	?
C20			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Tetracosane										
(c)	-	-	323.8[z]	54.9	X	0	513	137	51	80-290
(a)	-	-	-	-	X	?	513	(137)	51	?
C24			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Pentacosane										
(c)	-	-	326.7[z]	57.7	X	0	514	135	53	100-280
(a)	-	-	-	-	X	?	514	(135)	53	?
C25			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Hexacosane										
(c)	-	-	329.5[z]	59.5	X	0	513	138	55	10-320
(a)	-	-	-	-	X	?	513	(138)	55	330-360
C26			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Dotriacontane										
(c)	-	-	342.5[z]	?	X	0	516	140	67	80-300
(a)	-	-	-	-	X	?	516	(140)	67	?
C32			*57*		*57*		*62*	*62*	*62*	*57*
Tritriacontane										
(c)	-	-	344.3[z]	?	X	0	516	138	69	100-300
(a)	-	-	-	-	X	?	516	(138)	69	?
C33			*57*		*57*		*62*	*62*	*62*	*57*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Hexatriacontane										
(c)	-	-	349.1[z]	88.8	X	0	513	(141)	75	130-340
(a)	-	-	-	-	X	?	513	(141)	75	360-430
C36			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Tetratetracontane										
(c)	-	-	359.6[z]	140.1	X	0	511	(142)	91	130-350
(a)	-	-	-	-	X	?	511	(142)	91	370-430
C44			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Pentacontane										
(c)	-	-	365.3	158.1	X	0	513	(143)	103	130-360
(a)	-	-	-	-	X	?	513	(143)	103	380-430
C50			*57*	*57*	*57*		*62*	*62*	*62*	*57*
Buckministerfullerene										
(c)	-	-	>1000	?	X	0	?	?	6	120-560
(a)	-	-	-	-	X	?	?	?	6	?
C60B			*57*		*57*				*64*	*64*
Perfluoropropane										
(c)	-	-	125.4[z]	3.8	X	0	148	60	9	20-125.4
(a)	-	-	-	-	X	?	148	(60)	9	125.4-230
FC3			*66*	*66*	*57*		*66*	*66*	*66*	*66*
Perfluoroheptane										
(c)	-	-	221.8[z]	28.0	X	0	210	40	17	20-221.8
(a)	-	-	-	-	X	?	210	(40)	17	221.8-310
FC7			*66*	*66*	*57*		*66*	*66*	*66*	*66*
Perfluorododecane										
(c)	-	-	347.9[z]	68.8	X	0	227	48	27	5-347.5
(a)	-	-	-	-	X	?	227	(48)	27	347.5-380
FC12			*66*	*66*	*57*		*66*	*66*	*66*	*66*
Perfluorotetradecane										
(c)	-	-	376.2[z]	83.0	X	0	230	47	31	5-377.4
(a)	-	-	-	-	X	?	230	(47)	31	377.4-410
FC14			*66*	*66*	*57*		*66*	*66*	*66*	*66*
Perfluorohexadecane										
(c)	-	-	400.1[z]	93.3	X	0	232	48	35	5-400
(a)	-	-	-	-	X	?	232	(48)	35	400-440
FC16			*66*	*66*	*57*		*66*	*66*	*66*	*66*

#	T_g	ΔC_p.[b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N[f]	C_p [g]
Perfluoroeicosane										
(c)	-	-	438.1[z]	109.7	X	0	235	(49)	43	120-428.9
(a)	-	-	-	-	X	?	235	(49)	43	428.9-470
FC20			*66*	*66*	*57*		*66*	*66*	*66*	*66*
Perfluorotetracosane										
(c)	-	-	463.5[z]	136.8	X	0	240	(50)	51	120-461.7
(a)	-	-	-	-	X	?	240	(50)	51	461.7-500
FC24			*66*	*66*	*57*		*66*	*66*	*66*	*66*

15. Tetra Alkylammonium (Salt)s

Tetra-*n*-propylammonium bromide										
(c)	-	-	553.0[aa]	-	X	0	596	(130)	34	130-370
TA3Br			*67*		*57*		*67*	*67*	*67*	*67*
Tetra-*n*-butylammonium bromide										
(c)	-	-	393.9[aa]	14.8	X	0	633	(130)	42	130-350
TA4Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-pentylammonium bromide										
(c)	-	-	374.0[aa]	36.5	X	0	567	(130)	50	130-350
TA5Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-hexylammonium bromide										
(c)	-	-	374.9[aa]	16.0	X	0	(689)	(130)	58	130-240
TA6Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-heptylammonium bromide										
(c)	-	-	366.5[aa]	36.4	X	0	615	(100)	66	130-340
TA7Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-octylammonium bromide										
(c)	-	-	374.1[aa]	44.1	X	0	595	(170)	74	130-310
TA8Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-decylammonium bromide										
(c)	-	-	363.4[aa]	37.3	X	0	597	(130)	90	130-330
TA10Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-dodecylammonium bromide										
(c)	-	-	362.6[aa]	75.0	X	0	602	(170)	106	130-340
TA12Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-hexadecylammonium bromide										
(c)	-	-	377.7[aa]	95.1	X	0	(588)	(130)	138	130-350
TA16Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
Tetra-*n*-octadecylammonium bromide										
(c)	-	-	379.9[aa]	124.8	X	0	551	(100)	154	130-350
TA18Br			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-propylammonium iodide										
(c)	-	-	554[aa]	-	X	0	630	(130)	34	130-210
TA3I			*67*		*57*		*67*	*67*	*67*	*67*
Tetra-*n*-butylammonium iodide										
(c)	-	-	420.6[aa]	8.96	X	0	623	(130)	42	130-360
TA4I			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-pentylammonium iodide										
(c)	-	-	412.1[aa]	38.7	X	0	604	(100)	50	130-390
TA5I			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-hexylammonium iodide										
(c)	-	-	378.7[aa]	16.6	X	0	(589)	(130)	58	130-330
TA6I			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-heptylammonium iodide										
(c)	-	-	398.7[aa]	39.0	X	0	644	(170)	66	130-350
TA7I			*67*	*67*	*57*		*67*	*67*	*67*	*67*
Tetra-*n*-dodecylammonium iodide										
(c)	-	-	388.7[aa]	47.5	X	0	647	(170)	106	130-320
TA12I			*67*	*67*	*57*		*67*	*67*	*67*	*67*

16. Other (Small) Molecules

N,N'-*bis*(4-n-octyloxybenzal)-1,4-phenylenediamine										
(c)	-	-	505.4[ab]	2.3	X	0	593	(80)	55	130-260
(a)	-	-	-	-	X	?	(593)	(80)	55	530-550
OOBPD			*68*	*68*	*57*		*68*	*65*	*68*	*68*
4,4'(2,2'-propylidene)diphenol										
(c)	-	-	434.7	30.9	X	0	293	(54)	14	140-313
(a)	313	161.3	-	-	X	23.1	293	(40)	14	313-470
BPA	*63*	*63*	*63*	*63*	*63,57*	*57*	*63*	*63*	*63*	*63*
2,2'-propylidene-*bis*-(1,2-epoxy-3-phenoxypropane)										
(c)	-	-	322.5	27.1	X	0	552	(54)	34	140-254
(a)	254	173.8	-	-	X	52.6	552	(40)	34	254-410
EPA	*63*	*63*	*63*	*63*	*63,57*	*57*	*63*	*63*	*63*	*63*

#	T_g	ΔC_p [b]	T_m	ΔH_f [c]	*SHG* [d]	S_o [e]	Θ_1	Θ_3	N [f]	C_p [g]
2,2'-propylidene-*bis*-(1,2-epoxy-2-phenoxyethane)										
(c)	-	-	320.3	20.0	X	0	523	(54)	30	140-258
(a)	258	179.0	-	-	X	20.2	523	(40)	30	258-370
EPB	*63*	*63*	*63*	*63*	*63,57*	*57*	*63*	*63*	*63*	*63*
Methylene-*bis*-(1,2-epoxy-2-phenoxyethane)										
(c)	-	-	-	-	X	0	742	(54)	24	140-252
(a)	252	218.8	-	-	X	?	742	(40)	24	252-370
EPC	*63*	*63*			*63,57*		*63*	*63*	*63*	*63*
[2,2',6,6'-tetramethyl-1,1'(2-oxy-1,2-epoxyethane)]4,4'-biphenyl										
(c)	-	-	382.1	19.9	X	0	639	(54)	34	140-267
(a)	267	236.7	-	-	X	?	639	(40)	34	267-430
EPD	*63*	*63*	*63*	*63*	*63,57*		*63*	*63*	*63*	*63*
Prepreg of 2,2'-propylidene-*bis*-(1,2-epoxy-3-phenoxypropane) polymerized with 0.2 moles of 1,2-epoxy-3-phenoxypropane-(1-methylidene)-1,4-phenylene-oxy(2-propanol)										
(c)	-	-	-	-	X	0	743	(54)	39.2	140-260
(a)	260	213.9	-	-	X	?	743	(40)	39.2	260-290
EPE	*63*	*63*			*63,57*		*63*	*63*	*63*	*63*

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