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Table 7: Measurement of C_T for methyl methacrylate dimer (**1**)

Temp. (°C)	[T]/[M] ($\times 10^3$)	[I] ^a ($M \times 10^3$)	$\bar{M}_n$ ^b	$\bar{M}_w/\bar{M}_n$ ^b	- Slope ^c ($\times 10^4$)	Conv. (%)	C_T ^{d,e}	C_T ^f
45	0	2.5	515630	1.97 ₀	2.1020	9.0	0.01 ₁	0.012 ₄
45	0	1.9	554830	1.75 ₈	4.7166	12.3	(0.01 ₂)	
45	9.12	1.9	354450	1.75 ₇	2.0732	9.4		
45	19.99	2.5	249880	1.72 ₀	3.2407	9.5		
45	20.26	1.9	229940	1.88 ₂	4.6592	10.3		
45	29.22	1.9	206970	1.73 ₆	5.6206	9.5		
60	0	6.4	428530	1.81 ₉	2.6005	5.9	0.007 ₈	0.012 ₅
60	7.95	6.4	324060	1.80 ₁	3.5094	4.5	(0.01 ₅)	
60	18.45	6.4	263760	1.66 ₃	4.7144	4.3		
60	28.31	6.4	81400	3.50 ₈ ^g	6.1607	4.7		
60	0	0.63	1020470 ^h	1.47 ₅ ^h	0.75795 ^h	5.9	0.01 ₁	0.012 ₇
60	10.85	0.63	356680	1.97 ₉	2.8279	5.8	(0.01 ₁)	
60	21.33	0.63	244500	1.93 ₇	4.2382	4.3		
60	37.18	0.63	175120	2.09 ₅	6.1799	5.5		
80	0	2.5	208930	1.90 ₇	5.0795	11.7	0.01 ₄	0.015 ₇
80	7.90	2.5	163960	1.94 ₃	6.3175	10.4	(0.01 ₇)	
80	15.06	2.5	146570	1.87 ₅	7.4739	9.5		
80	19.94	2.5	131520	1.80 ₀	8.1920	8.1		
100	0	3.0	857160	1.85 ₅	1.3477	(2.2) ⁱ	0.01 ₈	0.018 ₂
100	5.57	3.0	448250	1.77 ₀	2.5516	9.0	(0.01 ₈)	
100	11.61	3.0	325860	1.83 ₄	3.4053	10.3		
100	17.71	3.0	225680	1.92 ₀	4.6649	10.1		

^a Initiators: 2,2'-azobis(2,4-dimethylpentanenitrile) at 45°C, AIBN at 60 and 80°C, *tert*-butyl peroxybenzoate at 100°C.

^b Determined by GPC, calibrated with PMMA standards. Estimated error in $\bar{M}_n$ is $\pm 5\%$

^c Value of $-\ln P_i/di$ (see text).

^d From traditional Mayo analysis.

^e Numbers in parentheses are based on weight average molecular weights and an assumed polydispersity of 2.0.²⁴

^f From $\ln$ chain length distribution method.

^g Broad distribution due to low molecular weight tail.

^h Large portion of molecular weight distribution exceeds exclusion limit of GPC columns. Data point not included in transfer constant determination.

ⁱ Estimated conversion low due to difficulty in obtaining representative sample from highly viscous mixture. Conversion probably $\geq 10\%$.

Table 8: Measurement of C_T for methyl methacrylate trimer (2)

Temp. (°C)	[T]/[M] ($\times 10^3$)	[I] ^a ($M \times 10^3$)	$\bar{M}_n$ ^b	$\bar{M}_w/\bar{M}_n$ ^b	- Slope ^c ($\times 10^4$)	Conv. (%)	C_T ^{d,e}	C_T ^f
45	0	2.5	542540	1.94 ₆	2.0507	11.3	0.14 ₀	0.16 ₈
45	4.77	2.5	105940	1.80 ₀	10.464	12.4	(0.16 ₈)	
45	9.83	2.5	64540	1.66 ₃	18.803	11.6		
45	13.61	2.5	46940	1.71 ₃	24.942	11.3		
60	0	6.4	415600	1.87 ₄	2.6163	6.5	0.20 ₁	0.18 ₉
60	0	6.4	404020	2.18 ₉	2.4934	6.6	(0.18 ₉)	
60	3.82	6.4	103850	1.84 ₇	10.403	6.8		
60	5.06	6.4	95460	1.78 ₆	11.906	4.9		
60	13.18	6.4	45000	1.78 ₆	26.839	5.3		
60	15.73	6.4	32760	1.81 ₄	33.277	7.4		
60	22.91	6.4	19470	2.24 ₁	45.333	4.9		
80	0	2.4	182430	2.20 ₁	5.5084	10.6	0.17 ₃	0.18 ₈
80	6.04	2.4	60750	2.06 ₁	16.670	11.4	(0.18 ₃)	
80	8.27	2.4	56240	2.07 ₅	29.185	15.0		
80	12.41	2.4	36370	1.93 ₂	19.498	15.9		
100	0	3.0	699580	1.90 ₇	1.5099	12.2	0.15 ₇	0.18 ₇
100	4.74	3.0	109270	1.69 ₆	10.876	9.6	(0.18 ₇)	
100	9.33	3.0	63460	1.63 ₁	19.345	10.7		
100	15.06	3.0	39670	1.69 ₆	29.671	10.3		

^a Initiators: 2,2'-azobis(2,4-dimethylpentanenitrile) at 45°C, AIBN at 60 and 80°C, *tert*-butyl peroxybenzoate at 100°C.

^b Determined by GPC, calibrated with PMMA standards. Estimated error in $\bar{M}_n$ is $\pm 5\%$

^c Value of $-\frac{d(\ln P_i)}{di}$ (see text).

^d From traditional Mayo analysis.

^e Numbers in parentheses are based on weight average molecular weights and an assumed polydispersity of 2.0.²⁴

^f From ln chain length distribution method.

Table 9: Measurement of C_T for methyl methacrylate tetramer (3)

Temp. (°C)	[T]/[M] ($\times 10^3$)	[I] ^a ($M \times 10^3$)	$\bar{M}_n^b$	$\bar{M}_w/\bar{M}_n^b$	- Slope ^c ($\times 10^4$)	Conv. (%)	$C_T^{d,e}$	C_T^f
45	0	1.9	600240	1.72 ₃	1.9624	12.2	0.22 ₀	0.26 ₀
45	2.73	1.9	121000	1.80 ₂	9.2567	8.6	(0.25 ₈)	
45	5.65	1.9	68410	1.81 ₉	16.543	11.8		
45	8.80	1.9	47380	1.70 ₁	24.903	12.6		
60	0	6.3	413450	1.98 ₂	2.4637	6.0	0.34 ₄	0.31 ₄
60	2.68	6.3	102920	1.97 ₉	9.5153	7.2	(0.30 ₈)	
60	5.28	6.3	63750	1.85 ₀	17.000	6.9		
60	9.25	6.3	28940	2.23 ₀	31.467	6.2		
70	0	5.2	263920	1.97 ₇	4.1046	10.1	0.20 ₄	0.27 ₂
70	2.70	5.2	99810	1.69 ₀	12.421	9.6	(0.27 ₀)	
70	5.78	5.2	61430	1.64 ₃	20.650	10.0		
70	8.67	5.2	46440	1.57 ₅	27.720	9.8		
80	0	2.4	270000	1.62 ₈	4.6632	13.8	0.24 ₆	0.26 ₄
80	2.58	2.4	99190	1.69 ₂	12.433	13.3	(0.28 ₄)	
80	4.93	2.4	60180	1.70 ₆	18.040	13.5		
80	7.25	2.4	46980	1.71 ₂	25.278	12.5		
100	0	3.0	793540	1.73 ₉	1.5244	25.1	0.25 ₉	0.28 ₁
100	2.73	3.0	115020	1.89 ₄	9.2476	12.9	(0.28 ₁)	
100	5.57	3.0	61540	1.90 ₃	17.230	14.0		
100	8.40	3.0	43500	1.83 ₃	25.161	13.7		

^a Initiators: 2,2'-azobis(2,4-dimethylpentanenitrile) at 45°C, AIBN at 60,70 and 80°C, *tert*-butyl peroxybenzoate at 100°C.

^b Determined by GPC, calibrated with PMMA standards. Estimated error in $\bar{M}_n$ is $\pm 5\%$

^c Value of $-\frac{d(\ln P_i)}{di}$ (see text).

^d From traditional Mayo analysis.

^e Numbers in parentheses are based on weight average molecular weights and an assumed polydispersity of 2.0.²⁴

^f From ln chain length distribution method.

Table 10: Measurement of C_T for fractionated methyl methacrylate macromonomer ($\bar{M}_n$ 2400)

Temp. (°C)	[T]/[M] ($\times 10^3$)	[I] ^a ($M \times 10^3$)	$\bar{M}_n$ ^b	$\bar{M}_w/\bar{M}_n$ ^b	- Slope ^c ($\times 10^4$)	Conv. (%)	C_T ^{d,e}	C_T ^f
45	0.00	1.9	515280	1.85 ₁	2.1832	11.4	0.14 ₆	0.18 ₅
45	0.884	1.9	298500	1.80 ₉	3.6690	13.5	(0.18 ₁)	
45	1.76	1.9	215820	1.73 ₈	5.2154	14.1		
45	2.74	1.9	167660	1.69 ₂	6.9470	14.5		
60	0.00	6.5	380480	2.18 ₁	2.5244	5.5	0.13 ₉	0.20 ₇
60	1.08	6.5	217890	1.93 ₇	4.7915	6.1	(0.20 ₁)	
60	2.06	6.5	184400	1.69 ₅	6.4861	12.3		
60	3.52	6.5	130420	1.60 ₃	9.8836	10.0		
80	0.00	2.3	257750	1.87 ₉	4.2920	11.8	0.15 ₇	0.21 ₈
80	0.840	2.3	169870	1.91 ₁	5.9655	11.7	(0.22 ₅)	
80	1.74	2.3	144230	1.67 ₅	8.2356	13.0		
80	2.69	2.3	121190	1.62 ₄	10.299	16.1		
100	0.00	3.4	757860	1.59 ₇	1.4463	11.3	0.20 ₁	0.24 ₈
100	0.638	3.4	350340	1.83 ₁	3.2244	9.1 ₈	(0.24 ₇)	
100	1.17	3.4	253070	1.71 ₉	4.7127	11.6 ₈		
100	1.92	3.4	182760	1.72 ₅	6.5353	14.8 ₈		

^a Initiators: 2,2'-azobis(2,4-dimethylpentanenitrile) at 45°C, AIBN at 60 and 80°C, *tert*-butyl peroxybenzoate at 100°C.

^b Determined by GPC, calibrated with PMMA standards. Estimated error in $\bar{M}_n$ is $\pm 5\%$

^c Value of $-d(\ln P_i)/di$ (see text).

^d From traditional Mayo analysis.

^e Numbers in parentheses are based on weight average molecular weights and an assumed polydispersity of 2.0.²⁴

^f From $\ln$ chain length distribution method.

^g Uncorrected for macromonomer content.