Electronic Supplementary Material (ESI) for Polymer Chemistry.

Polymerization-induced self-assembly of random bottlebrush copolymers

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Table S1 Molecular characterization of the P(PEGMA$_x$-*co*-HEMA$_y$) copolymers.

Entry[a]	Molar feed ratio (CPADB/PEGMA/HEMA)	DP_{PEGMA}[b]	DP_{HEMA}[b]	$M_{n,\,NMR}$/kDa[b]	$M_{n,\,SEC}$/kDa[c]	$Đ$[d]
G_{26}-H_{31}	1/31.3/31.3	26	31	29.0	21.7	1.45
G_{73}-H_{74}	1/62.5/62.5	73	74	79.0	35.8	1.72
G_{141}-H_{142}	1/125/125	141	142	153	63.7	1.73

[a] G_x-H_y stands for P(PEGMA$_x$-*co*-HEMA$_y$).

[b] Calculated according to ^{1}H NMR.

[c] Determined by SEC.

[d] $Đ = M_w/M_n$.

Table S2 Molecular characterization of the P[PEGMA$_x$-*co*-(HEMA-*g*-TTC)$_y$] copolymers.

Entry[a]	Grafting efficiency of TTC/%	$M_{n,\,NMR}$/kDa[b]	$M_{n,\,SEC}$/kDa[c]	$Đ$[d]
G_{26}-(H-T)$_{31}$	80.6	38.0	28.9	1.62
G_{73}-(H-T)$_{74}$	79.7	100	56.5	1.46
G_{141}-(H-T)$_{142}$	83.1	196	94.4	1.43

[a] G_x-(H-T)$_y$ stands for P[PEGMA$_x$-*co*-(HEMA-*g*-TTC)$_y$].

[b] Calculated according to ^{1}H NMR.

[c] Determined by SEC.

[d] $Đ = M_w/M_n$.

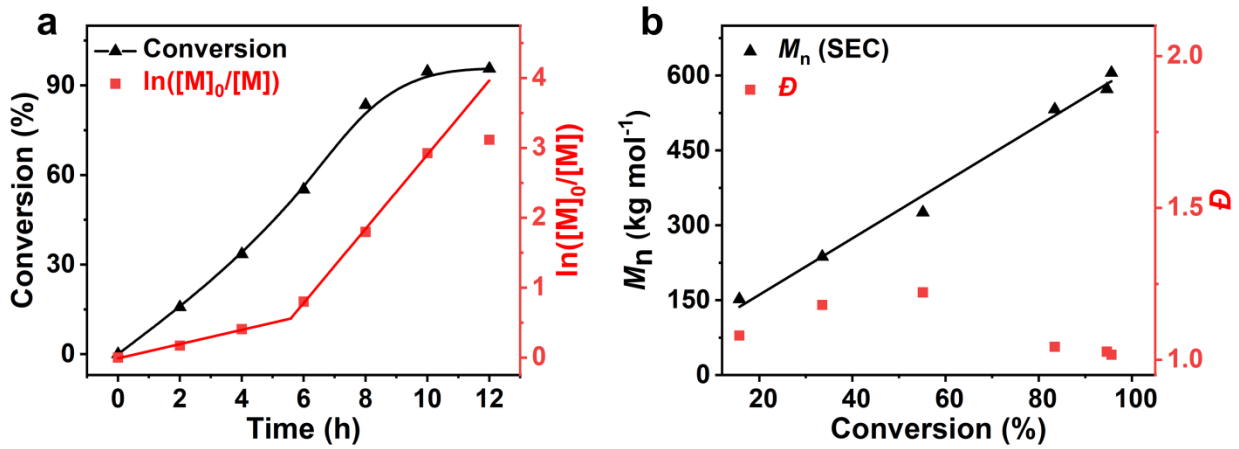

Fig. S1 Kinetic study for the RAFT dispersion polymerization of styrene in ethanol/water (m/m = 4/1) at a solid content of 20 wt% with G_{26}-(H-T)$_{31}$ as the macro-CTA. [AIBN]/[TTC of G_{26}-(H-T)$_{31}$]/[St] = 0.2/1/75. (a) The evolution of monomer conversion and ln([M]$_0$/[M]) along with the polymerization time. (b) Evolution of the M_n and $Đ$ versus the monomer conversion.

Table S3 Molecular characterization of the P[PEGMA$_x$-*co*-(HEMA-*g*-PS$_z$)$_y$] copolymers.

Entry[a]	Molar feed ratio (St/TTC)	Monomer conversion[b]/%	DP_{PS}[b]	$M_{n,\,NMR}$[b]/kDa
G_{26}-H_{31}-S_{55}	50	98.5	55	181
G_{26}-H_{31}-S_{89}	75	99.3	89	270
G_{26}-H_{31}-S_{100}	100	98.2	100	298
G_{26}-H_{31}-S_{231}	200	99.9	231	639
G_{73}-H_{74}-S_{33}	25	99.9	33	303
G_{73}-H_{74}-S_{48}	50	98.3	48	395
G_{73}-H_{74}-S_{98}	100	97.4	98	702
G_{73}-H_{74}-S_{165}	200	97.2	165	1110
G_{141}-H_{142}-S_{35}	25	99.9	35	626
G_{141}-H_{142}-S_{52}	50	98.3	52	835
G_{141}-H_{142}-S_{67}	75	99.9	67	1020
G_{141}-H_{142}-S_{94}	100	97.4	94	1350

[a] G_x-H_y-S_z stands for P[PEGMA$_x$-*co*-(HEMA-*g*-PS$_z$)$_y$].

[b] Calculated according to ^{1}H NMR.