

SUPPORTING INFORMATION

An Insight into Aqueous Photoinitiated Polymerization-Induced Self-Assembly (Photo-PISA) for the preparation of Diblock Copolymer Nano-Objects

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ADDITIONAL RESULTS

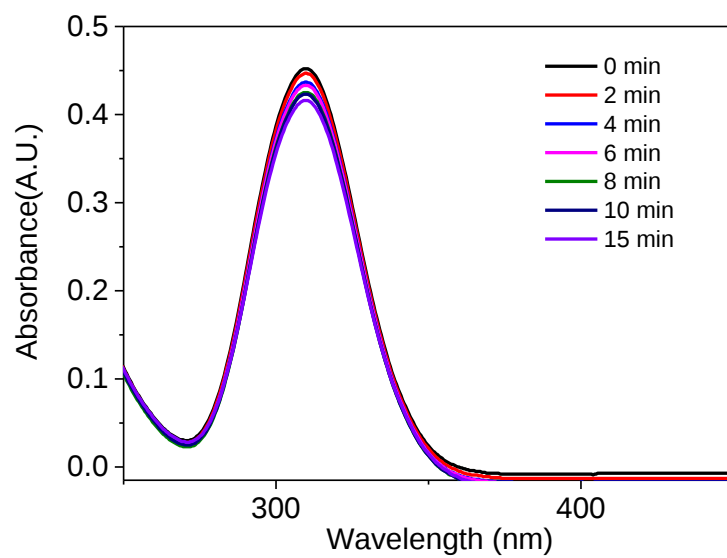


Figure S1. UV-vis absorbance spectra of PGMA₆₈-PETTC in an ethanol/water (30/70, w/w) mixture under 405 nm visible light irradiation at different times.

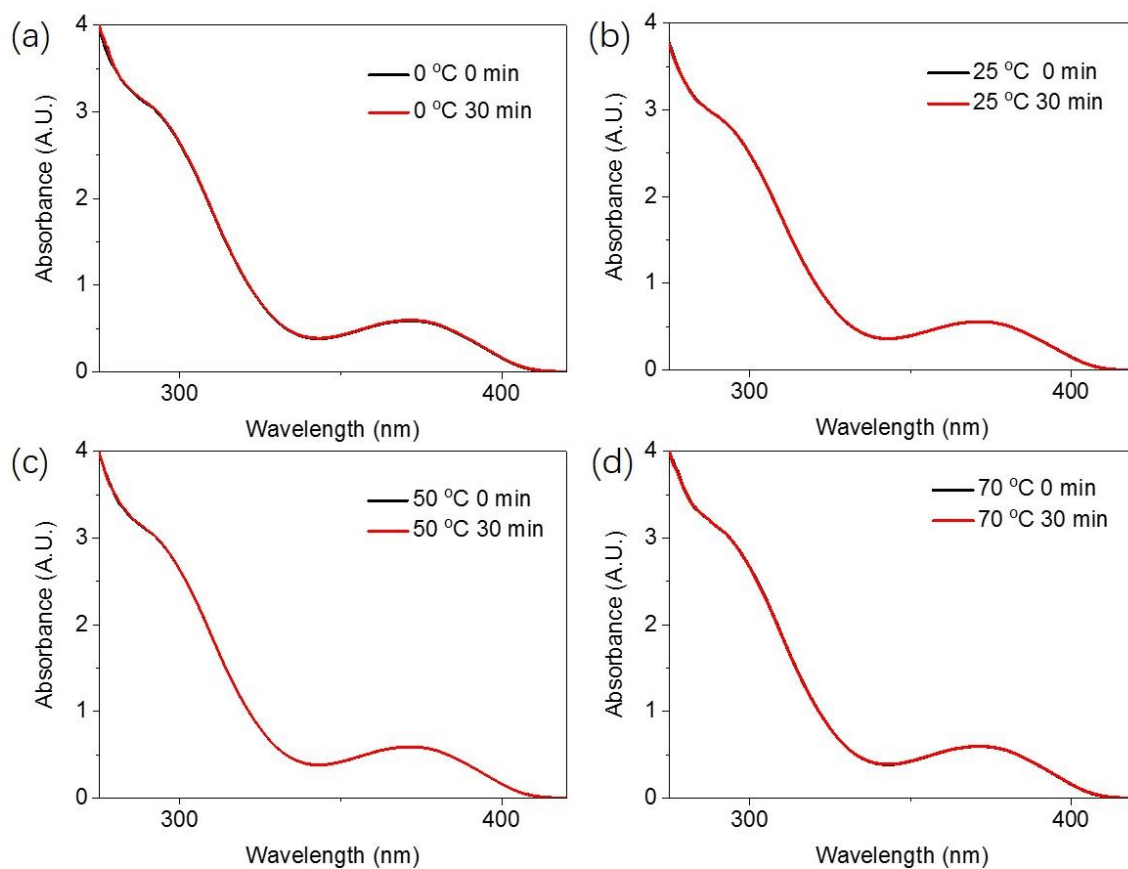


Figure S2. UV-vis absorbance spectra of SPTP in water at different temperatures: (a) 0 °C, (b) 25 °C, (c) 50 °C, (d) 70 °C.

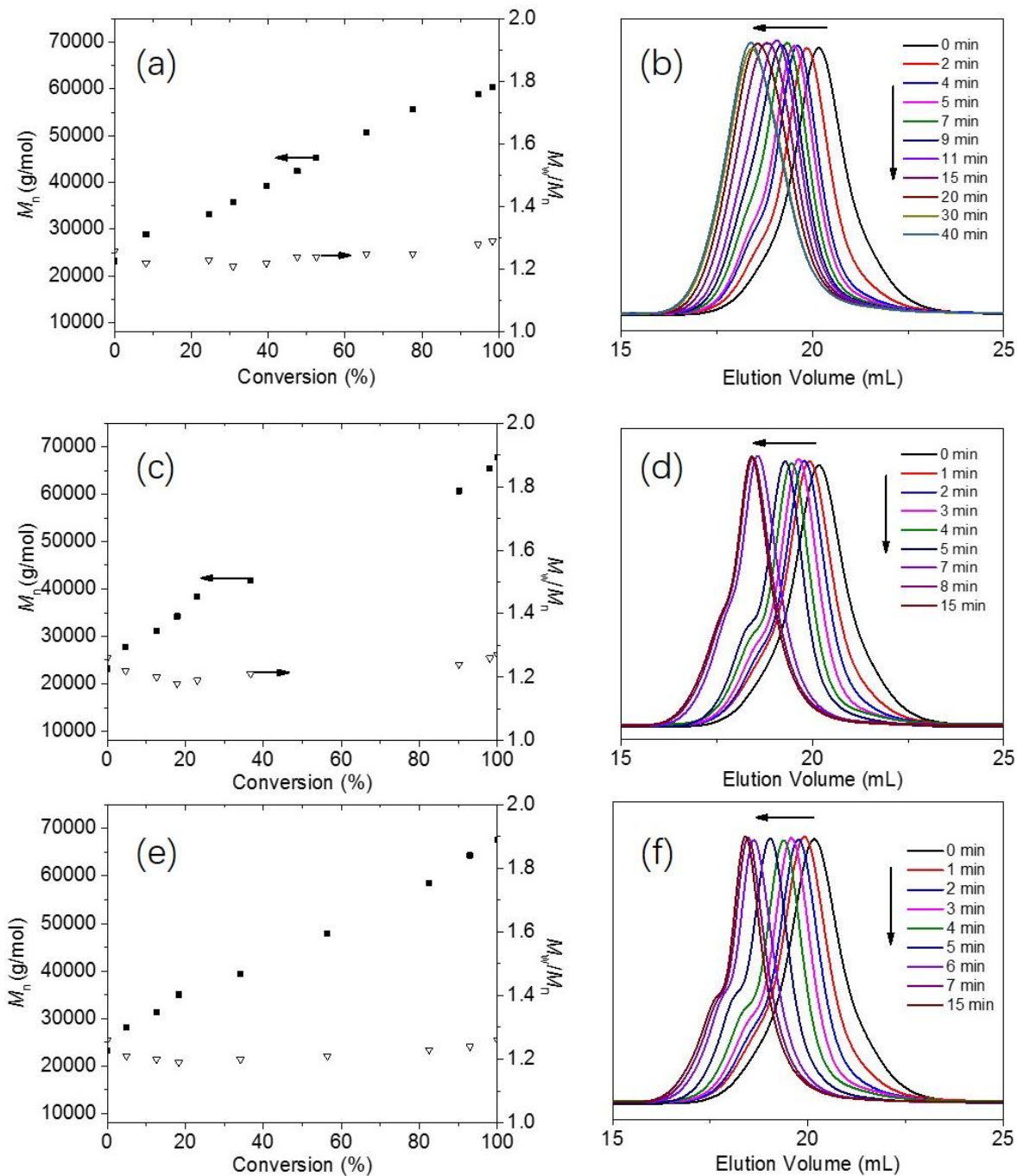


Figure S3. GPC traces recorded of PGMA₆₈-PPHMA_n diblock copolymers obtained from the kinetic study of photo-PISA of HPMA at different temperatures (10% w/w, target DP of 200): (a) 0 °C, (c) 50 °C, (e) 70 °C; evolution of M_n and M_w/M_n with monomer conversion for photo-PISA of HPMA at different temperatures (10% w/w, target DP of 200): (b) 0 °C, (d) 50 °C, (f) 70 °C.

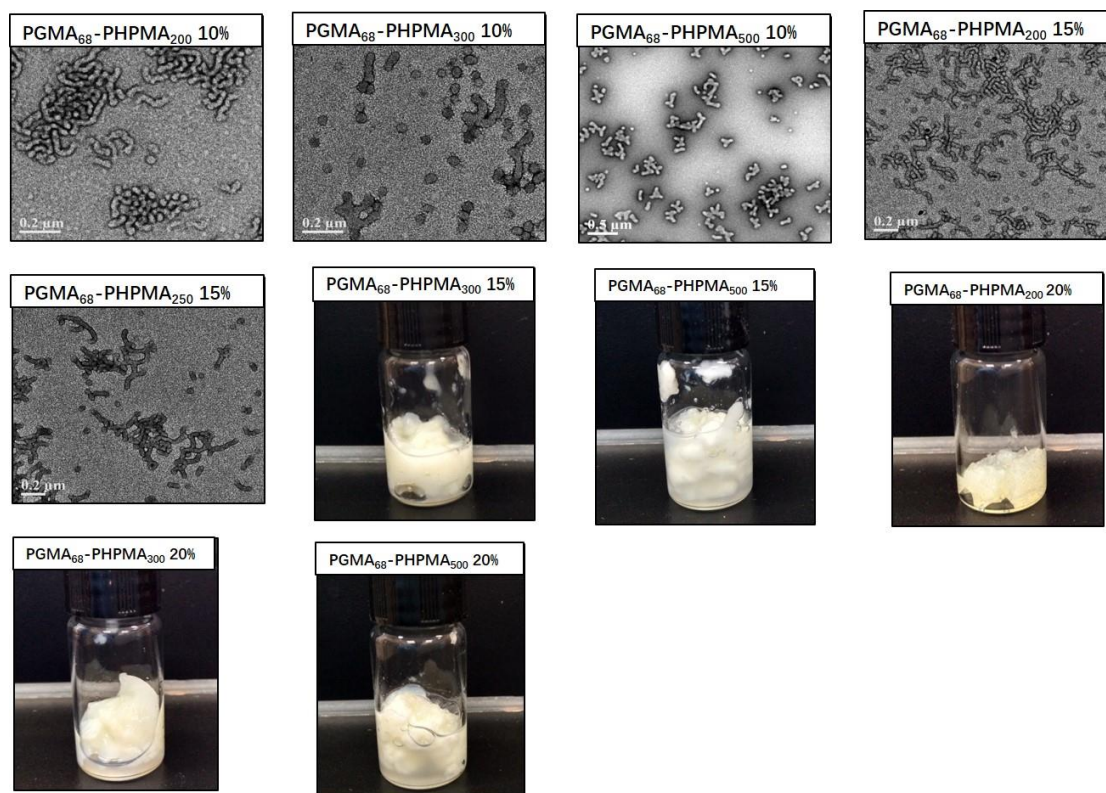


Figure S4. TEM images and optical images of PGMA₆₈-PHPMA_n diblock copolymers prepared via aqueous photo-PISA of HPMa at 0 °C.

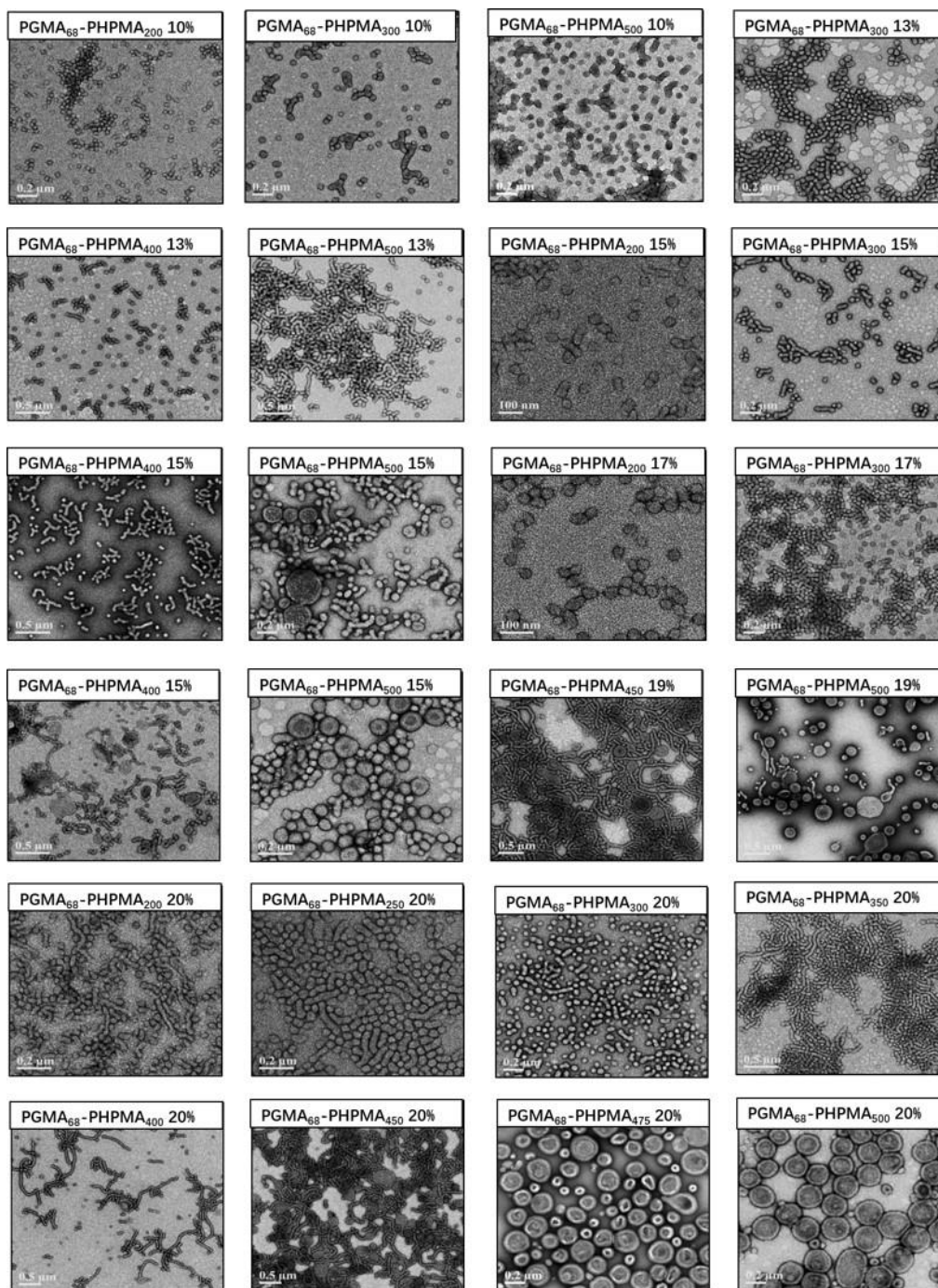


Figure S5. TEM images of PGMA₆₈-PHPMA_n diblock copolymers prepared via aqueous photo-PISA of HPMA at 25 °C.

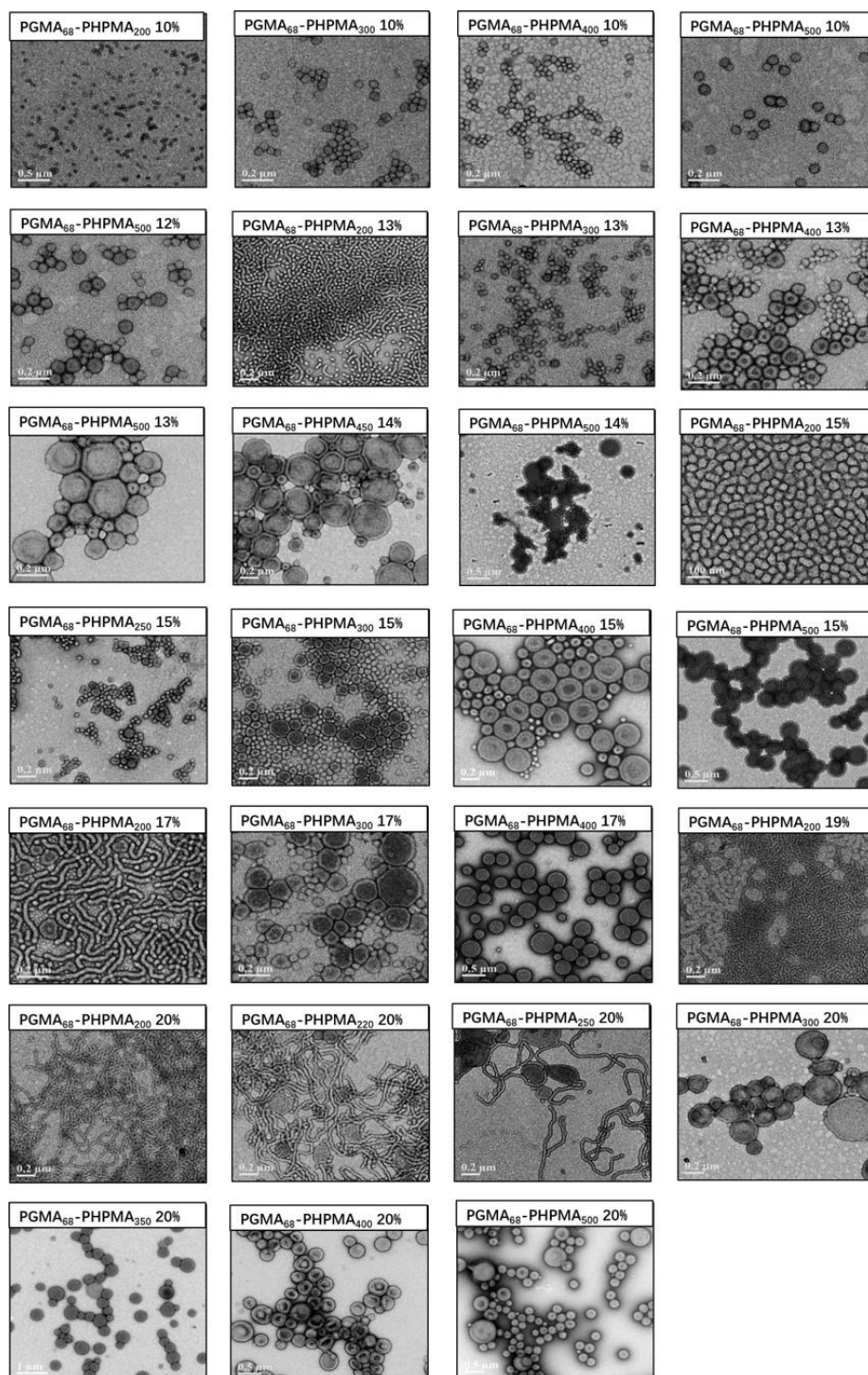


Figure S6. TEM images of PGMA₆₈-PHPMA_n diblock copolymers prepared via aqueous photo-PISA of HPMa at 70 °C.

Table S1. Summary of GPC data for a series of PGMA₆₈-HPMA_n diblock copolymers prepared via aqueous photo-PISA at 0 °C.

Composition	Reaction Temperature (°C)	Monomer concentration	M_n (g/mol)	M_w/M_n	Morphology
PGMA ₆₈ -HPMA ₂₀₀	0	10%	63200	1.26	S, W
PGMA ₆₈ -HPMA ₃₀₀	0	10%	68700	1.39	S, W
PGMA ₆₈ -HPMA ₅₀₀	0	10%	88600	1.55	S, W
PGMA ₆₈ -HPMA ₂₀₀	0	15%	62000	1.31	S, W
PGMA ₆₈ -HPMA ₂₅₀	0	15%	67300	1.38	S, W
PGMA ₆₈ -HPMA ₃₀₀	0	15%	79000	1.43	Precipitation
PGMA ₆₈ -HPMA ₅₀₀	0	15%	109600	1.64	Precipitation
PGMA ₆₈ -HPMA ₂₀₀	0	20%	62800	1.32	Precipitation
PGMA ₆₈ -HPMA ₃₀₀	0	20%	80000	1.46	Precipitation
PGMA ₆₈ -HPMA ₅₀₀	0	20%	113100	1.65	Precipitation

Table S2. Summary of GPC data for a series of PGMA₆₈-HPMA_n diblock copolymers prepared via aqueous photo-PISA at 25 °C.

Composition	Reaction Temperature (°C)	Monomer concentration (w/w)	M_n (g/mol)	M_w/M_n	Morphology
PGMA ₆₈ -HPMA ₂₀₀	25	10%	65600	1.28	S
PGMA ₆₈ -HPMA ₃₀₀	25	10%	85300	1.41	S
PGMA ₆₈ -HPMA ₄₀₀	25	10%	103700	1.50	S
PGMA ₆₈ -HPMA ₅₀₀	25	10%	116000	1.57	S
PGMA ₆₈ -HPMA ₂₀₀	25	15%	63700	1.32	S
PGMA ₆₈ -HPMA ₃₀₀	25	15%	83200	1.39	S, W
PGMA ₆₈ -HPMA ₄₀₀	25	15%	100400	1.49	S, W
PGMA ₆₈ -HPMA ₅₀₀	25	15%	123800	1.59	V, W, S
PGMA ₆₈ -HPMA ₂₀₀	25	20%	64300	1.32	S, W
PGMA ₆₈ -HPMA ₃₀₀	25	20%	79200	1.43	S, W
PGMA ₆₈ -HPMA ₄₀₀	25	20%	103500	1.47	W, S

Table S3. Summary of GPC data for a series of PGMA₆₈-PHPMA_n diblock copolymers prepared via aqueous photo-PISA at 70 °C.

Composition	Reaction Temperature (°C)	Monomer concentration	M_n (g/mol)	M_w/M_n	Morphology
PGMA ₆₈ -HPMA ₂₀₀	70	10%	66500	1.24	S
PGMA ₆₈ -HPMA ₃₀₀	70	10%	82300	1.33	S
PGMA ₆₈ -HPMA ₄₀₀	70	10%	106900	1.36	S
PGMA ₆₈ -HPMA ₅₀₀	70	10%	119000	1.49	S
PGMA ₆₈ -HPMA ₂₀₀	70	15%	69200	1.29	S, W
PGMA ₆₈ -HPMA ₃₀₀	70	15%	86600	1.33	V, S
PGMA ₆₈ -HPMA ₄₀₀	70	15%	105700	1.43	V, S
PGMA ₆₈ -HPMA ₅₀₀	70	15%	123100	1.54	V
PGMA ₆₈ -HPMA ₂₀₀	70	20%	67400	1.26	W
PGMA ₆₈ -HPMA ₃₀₀	70	20%	87500	1.35	V
PGMA ₆₈ -HPMA ₄₀₀	70	20%	100000	1.48	V
PGMA ₆₈ -HPMA ₅₀₀	70	20%	118600	1.44	V

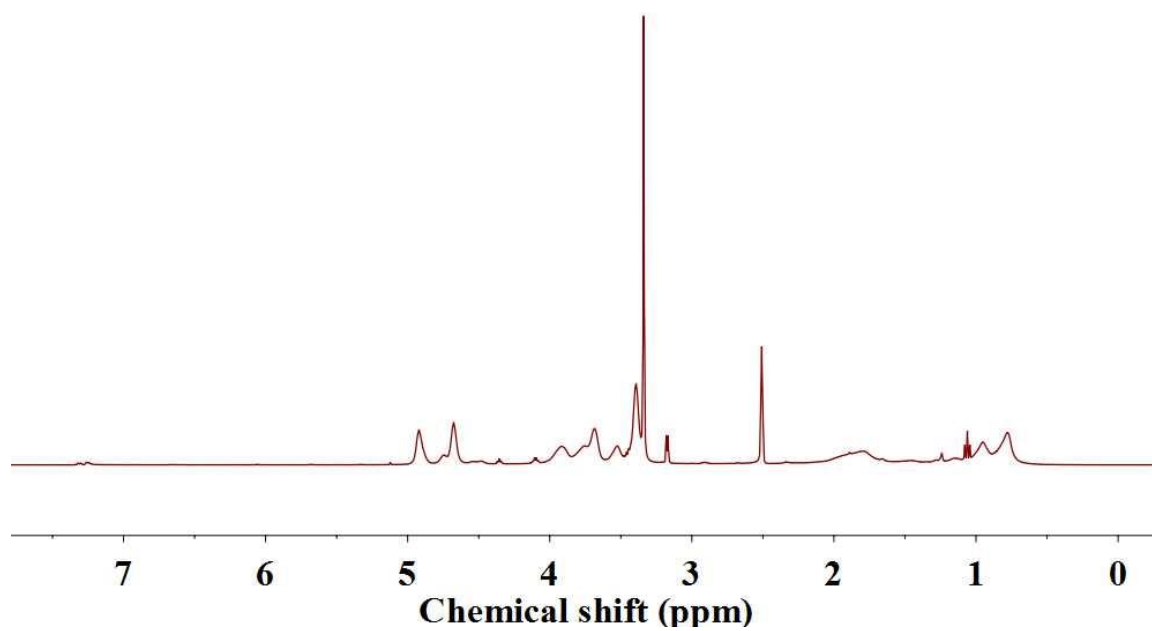


Figure S7. ^1H NMR spectrum of PGMA₆₈-PETTC in DMSO-*d*₆.