Electronic Supplementary Information

For

Microphase-separated, magnetic macroporous polymers with amphiphilic swelling from emulsion templating

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1. Chemical structure

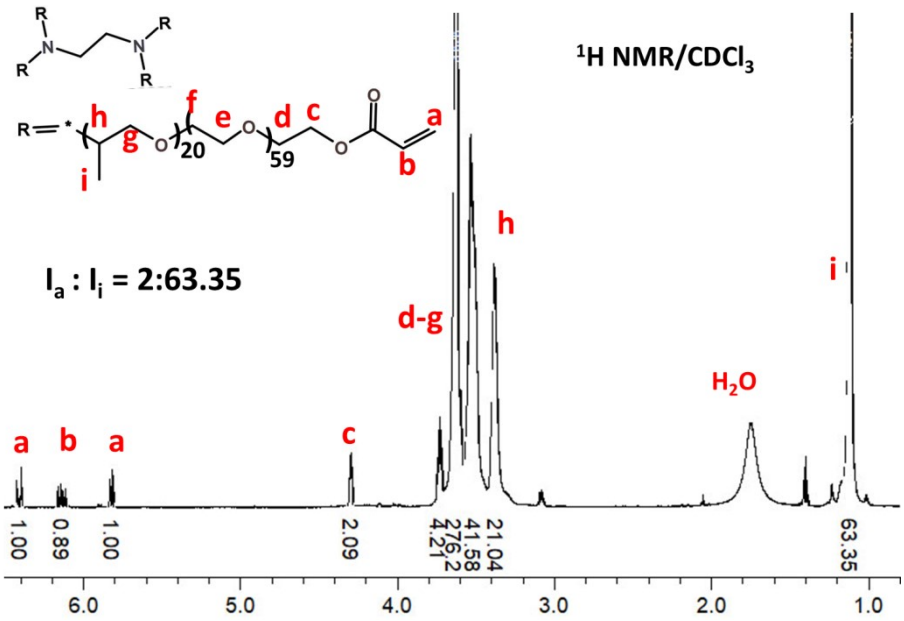

Fig. S1. ^{1}H NMR spectrum of T1107-TA in $CDCl_3$.

The ^{1}H NMR spectrum of the T1107-TA (Fig. S1) has an integral ratio of I_a (the hydrogen of the acrylate) to I_i (the methyl of PPO) at 2:63.35. The theoretical I_a:I_i from the complete reaction between acryloyl chloride and the T1107 hydroxyl end groups is 2:60, and thus the ^{1}H NMR results show that around 94 % of the hydroxyl end groups on the T1107 were endcapped with reactive acrylate groups.

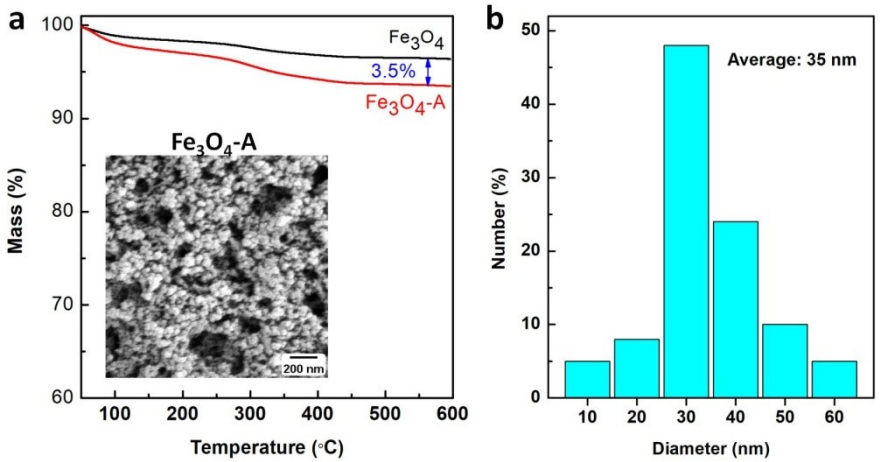

Fig. S2. (a) TGA curves of Fe_3O_4 and Fe_3O_4-A (the insert showing the morphology of Fe_3O_4-A from SEM); (b) Diameter distribution of Fe_3O_4-A from SEM micrograph.

From TGA curves in Fig. S2a, the mass loss of Fe_3O_4-A was around 7.0% after heating to 600 °C, much higher than that of the pristine Fe_3O_4 at 3.5%. The significant increase (around 3.5%) in the mass loss can be ascribed to the loss of (3-acryloyloxy)propyltrimethoxysilane.

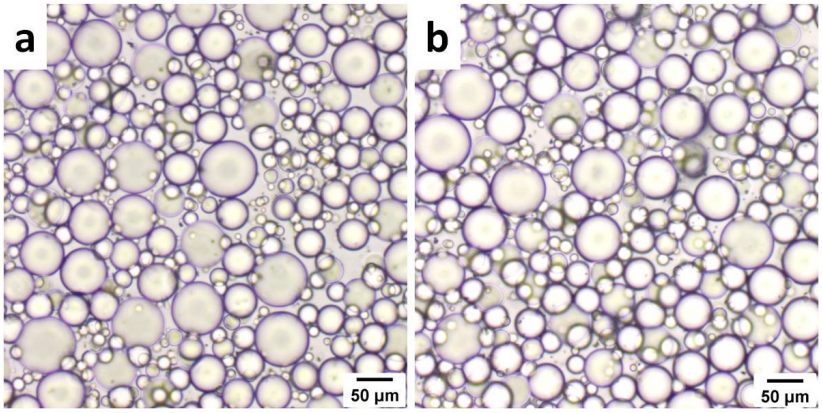

Fig. S3. Optical micrographs of (a) as-prepared HIPE (mPT-2) and (b) the HIPE after storage for a week.

Table S1. HIPE recipes

	Control 1	Control 2
External, aqueous phase, wt. %		
T1107	1.00	1.00
Fe_3O_4-A	4.00	0.00
Acrylamide	2.00	2.00
H_2O	13.00	17.00
APS	0.05	0.05
Total	20.05	20.05
Internal, organic phase, wt.%		
Toluene	79.90	79.90
TEMED (adding after HIPE formation)		
	0.05	0.05
Appearance after polymerization	Flow-free, monolithic	Viscous emulsion

To verify the reactivity of the Fe_3O_4-A, two control HIPEs (recipes in Table S1) were prepared and then were polymerized, with procedures the same as that for mPT-*X* preparation. Results found monolithic gel was formed form Control 1 but not from Control 2, indicating the Fe_3O_4-A serving as crosslinker.

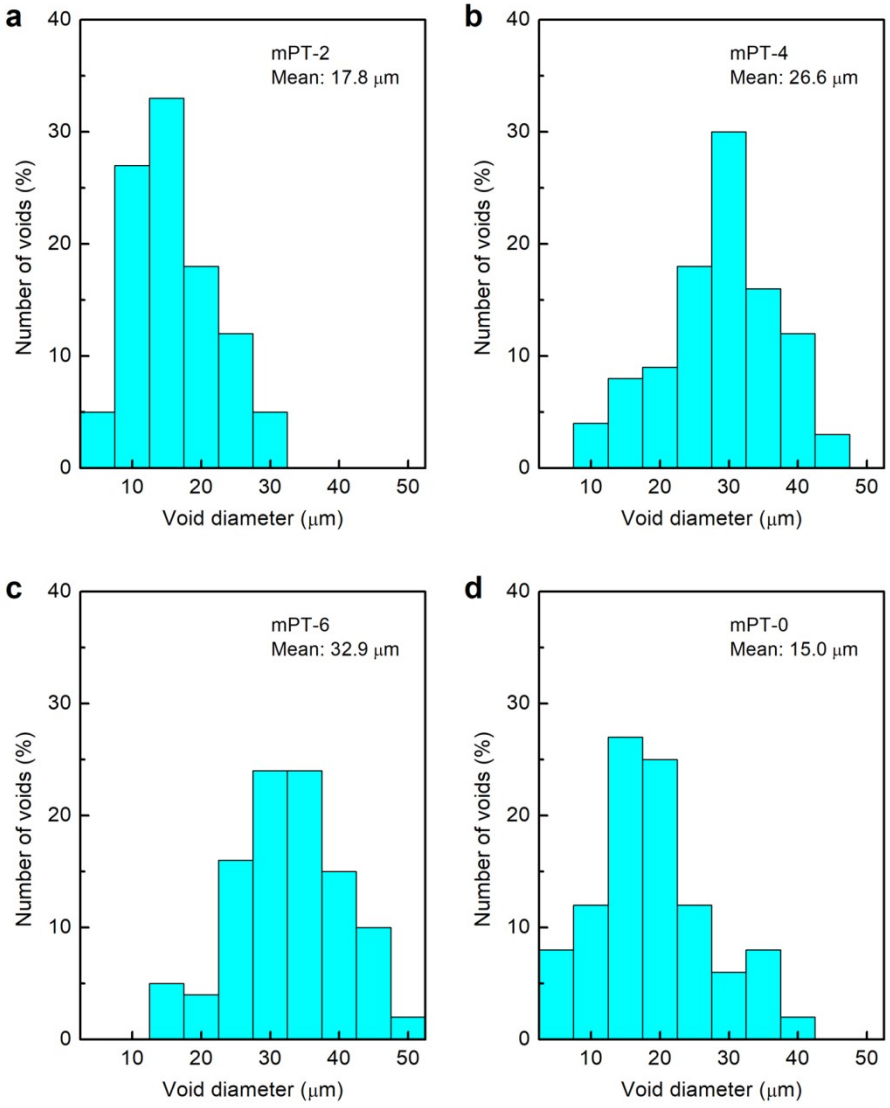

Fig. S4. Void diameter distributions of the mPT-*X*s and PT-0.

Movie S1: Moving a dry mPT-4 disc using a magnetic bar from the outside of a centrifuging tube.