Electronic Supplementary Information (ESI)

Synthesis of V-notched half-open polymer microspheres via a facile solvent-tuned self-assembly

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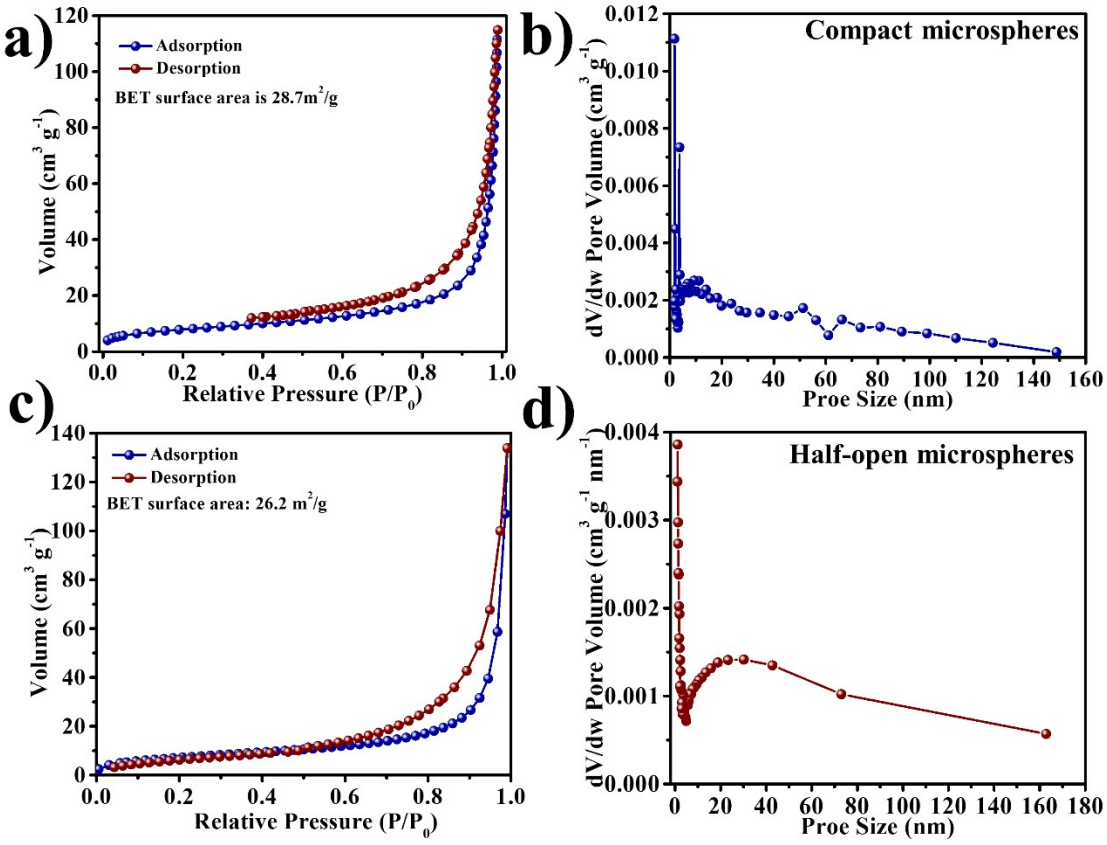

Figure S1. a,c) Nitrogen adsorption-desorption isotherm and b,d) cumulative pore volume of compact and half-open PTF microspheres, respectively.

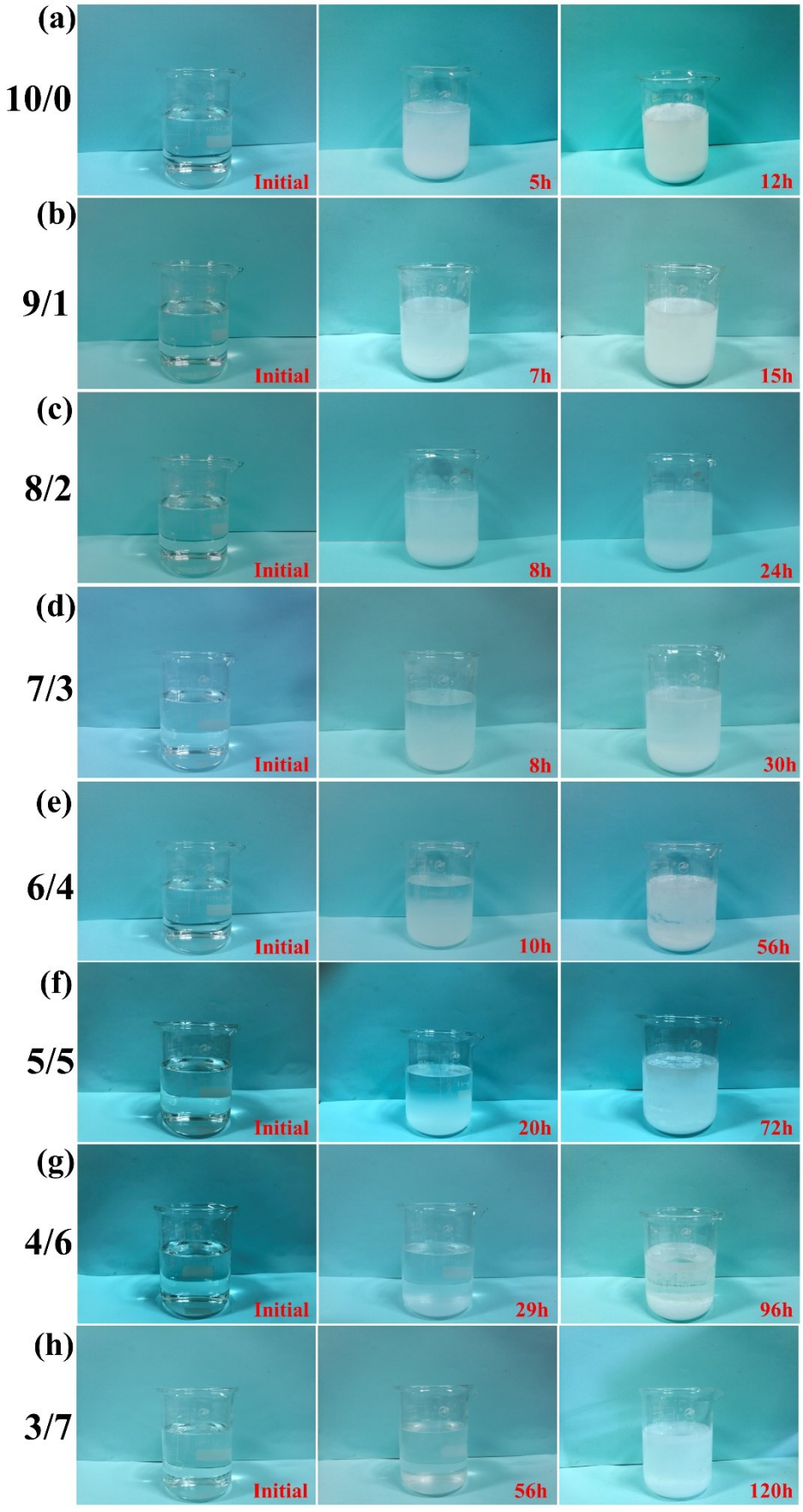

Figure S2. Digital images of the PTF resin obtained in mixed solvents of water and

ethanol at different volume ratios of a) 10/0, b) 9/1, c) 8/2, d) 7/3, e) 6/4, f) 5/5, g) 4/6, h) 3/7, respectively.

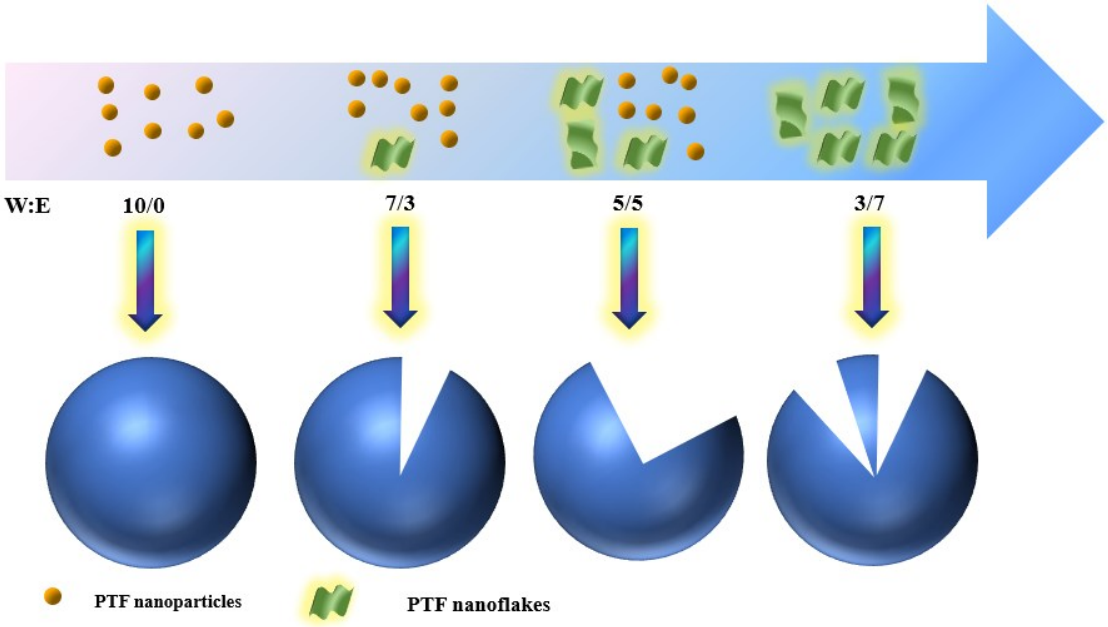

Figure S3. Schematic illustration of PTF microspheres prepared in mixed solvents at different ratios of water (W) and ethanol (E).

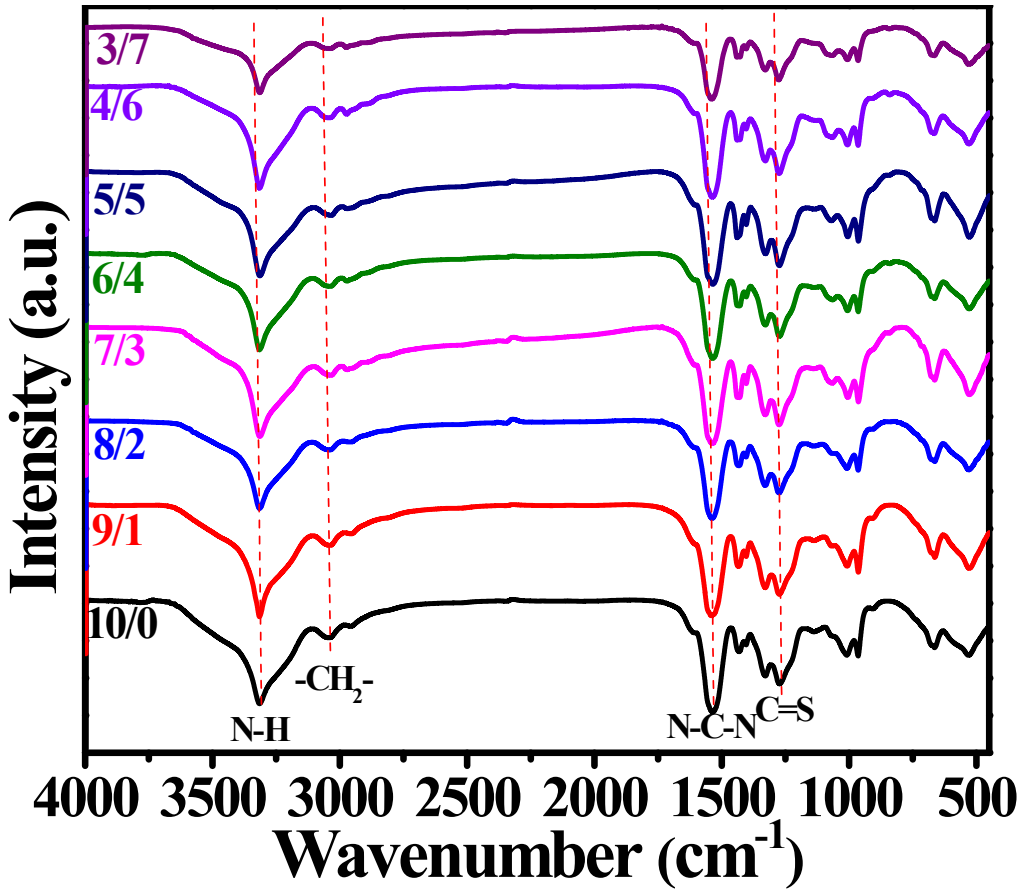

Figure S4. FTIR spectra of PTF resin obtained in mixed solvents of water and ethanol at different volume ratios of 10/0, 9/1, 8/2, 7/3, 6/4, 5/5, 4/6 and 3/7, respectively.

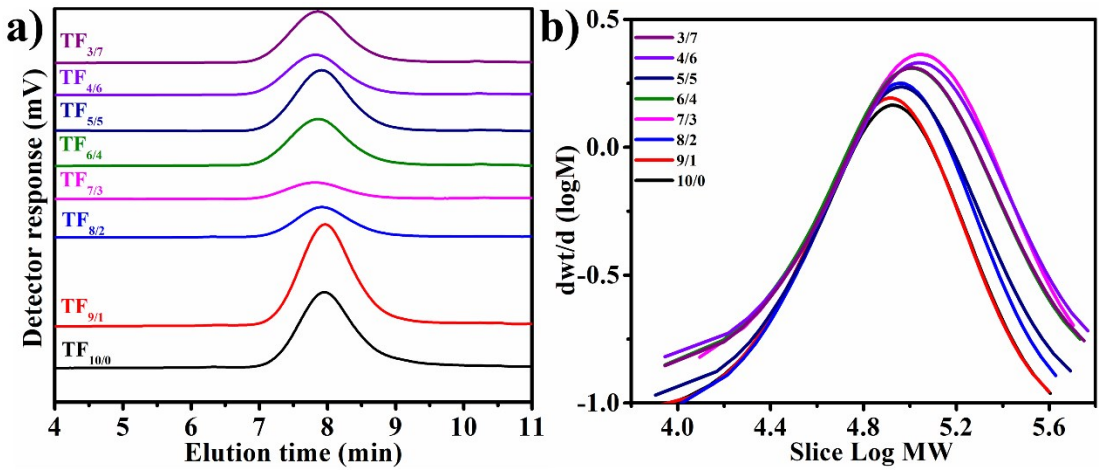

Figure S5. a) GPC chromatograms and b) molecular weight distribution of PTF resin

obtained in mixed solvents of water and ethanol at different volume ratios of 10/0, 9/1, 8/2, 7/3, 6/4, 5/5, 4/6 and 3/7, respectively.

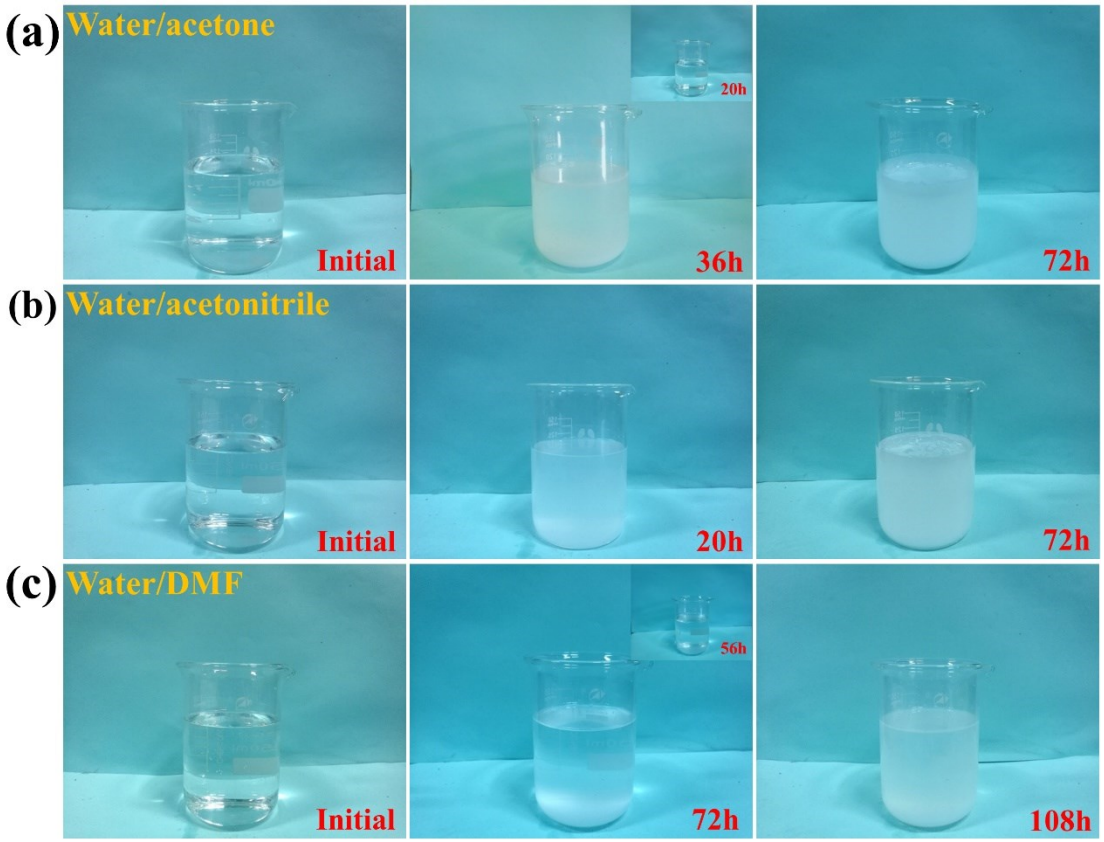

Figure S6. Digital images of the PTF resin obtained in mixed solvents of water and a) acetone, b) acetonitrile and c) DMF at the volume ratio of 5:5.

Table. 1 GPC data summary of a series of thiourea formaldehyde resins.

Sample	Mn	M_W	Mp	Mz	M_{z+1}	Polydispersity
$TF_{10/0}$	55741	101333	84557	164421	240316	1.82
$TF_{9/1}$	56202	100253	82911	161846	237936	1.78
$TF_{8/2}$	66625	111647	90845	174811	247082	1.68
$TF_{7/3}$	79655	136573	111230	213745	295546	1.71
$TF_{6/4}$	71768	131247	101668	219459	324487	1.83
$TF_{5/5}$	66199	118343	91821	197411	296760	1.79
$TF_{4/6}$	76855	141803	110160	237584	350946	1.85
$TF_{3/7}$	73012	134222	102701	226701	338940	1.84

M n = number-average molecular weight [g mol^{-1} , Daltons];

M_w = weight-average molecular weight [g mol^{-1}];
M_p = peak molecular weight [g mol^{-1}];
M_z = z-average molecular weight [g mol^{-1}];
M_{z+1} = (z+1)-average molecular weight [g mol^{-1}];
PDI = M_w / M_n = polydispersity Index−relative spread in molecular weights.