Supplementary Information for

CO$_2$-in-PEG emulsion-templating synthesis of poly(acrylamide)s with controllable porosity and their use as efficient catalyst supports

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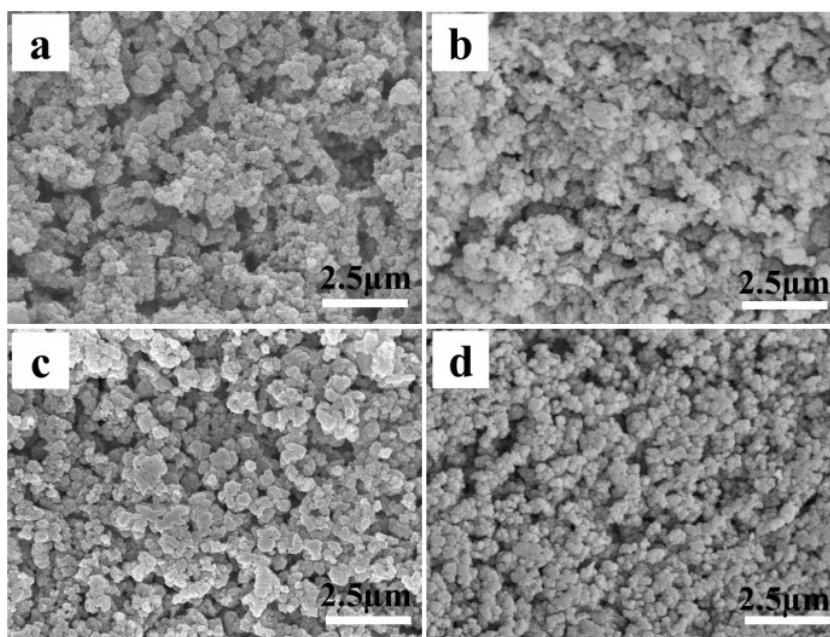
Fig. S1. SEM images of polymer synthesized in CO_2-in-PEG emulsion at 8.0 MPa (a), 10.0 MPa (b), 12.0 MPa (c) and 14.0 MPa (d).
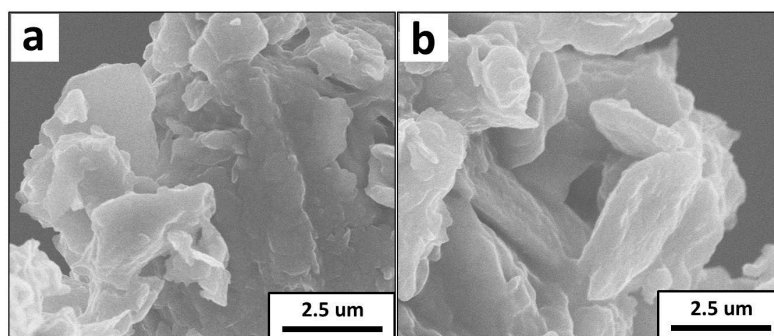

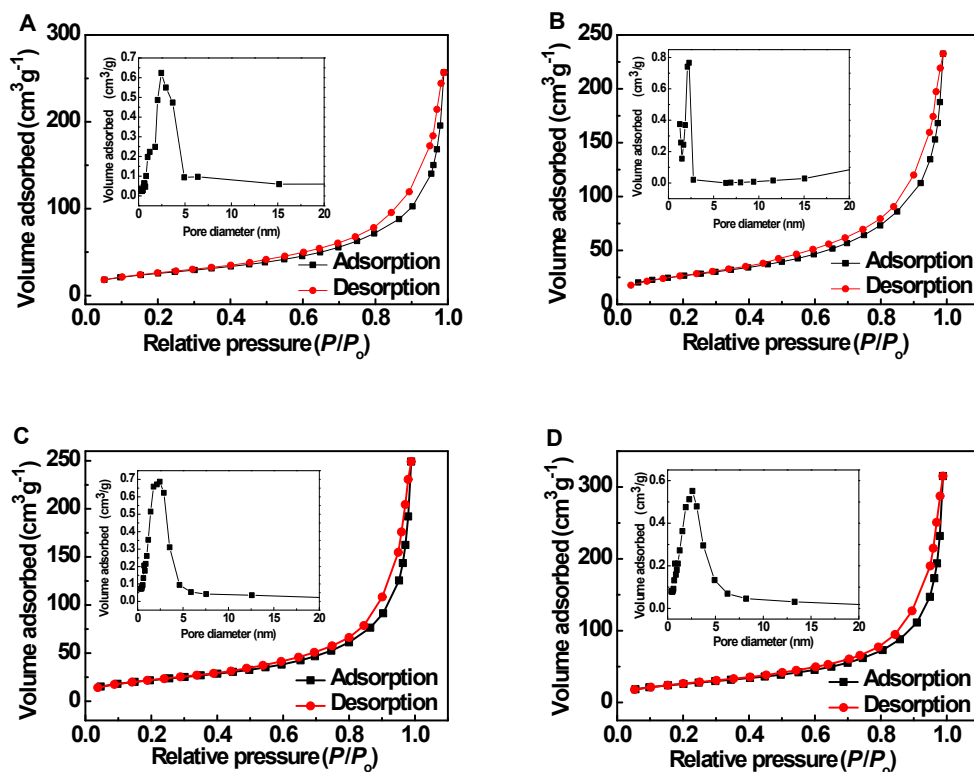Fig. S2. SEM images of polymer synthesized in PEG alone (a) or the system of PEG and P104 (b) in the absence of CO_2.

Fig. S3. Mesoporous size distribution of the PAM synthesized at 8 MPa (A), 10 MPa (B), 12 MPa (C) and 14 MPa (D). The inset graphics were the pore size distribution calculated using BJH model.

Table S1 Effect of pressure on the porosity, the total macropore volume (Vpore), median macropore diameter (Dmacro), BET surface area (SBET), total pore volume (Vt) and mesopore diameter (Dmeso) of PAM synthesized in CO_2-in-PEG emulsion.

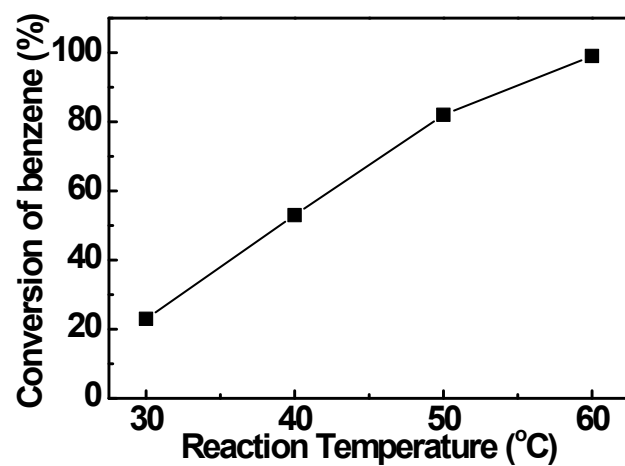| Pressure /MPa	Porosity /%	V_{pore} /cm^{-3}g^{-1}	S_{BET} /m^{2}g^{-1}	V_t /cm^{-3}g^{-1}	D_{meso} /nm
8.0	73.3	2.5	74.3	0.29	2.16
10.0	79.9	2.5	83.6	0.33	2.28
12.0	78.1	2.8	90.4	0.41	2.41
14.0	79.6	2.9	94.3	0.48	2.49

Fig. S4. Effect of reaction temperature on the conversion of benzene over Ru/PAM. Reaction conditions: benzene 1.1 mL; benzene/Ru (mol/mol) = 5000; reaction time 2.5 h.