

Supporting Information

Fast Assembly of Metal Organic Framework UiO-66 in Acid-Base Tunable Deep Eutectic Solvent for the Acetalization of Benzaldehyde and Methanol

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Table S1. pH for the aqueous solutions (0.01 mol/L) of MIm-PTSA mixtures with different molar ratios (20 °C) and corresponding melting point.

entry	MIm:pTSA	pH	melting point (°C)
1	1:0	10.13	142-143
2	3:1	7.41	39
3	4:3	6.91	9
4	1:2	1.82	16
5	0:1	1.32	103

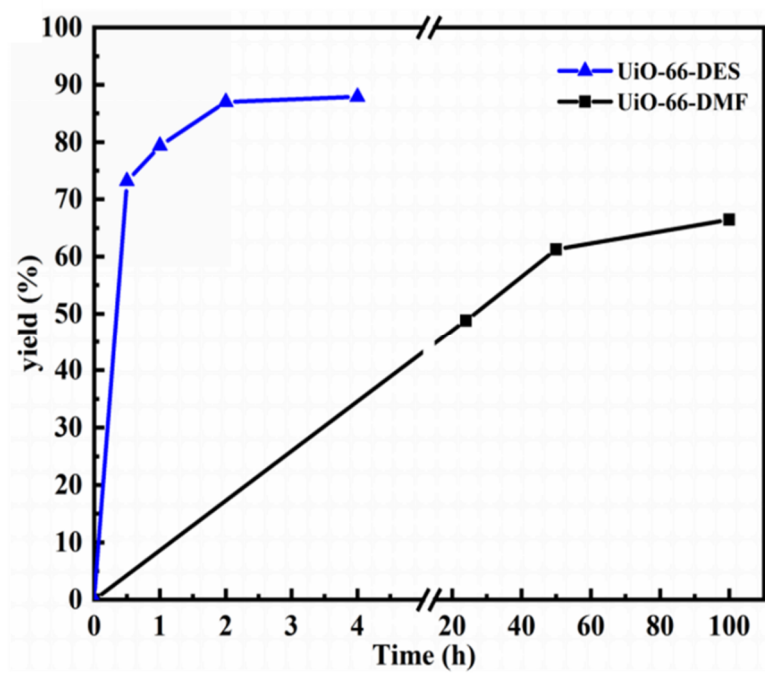


Figure S1. Formation rate of UiO-66 in DES and DMF.

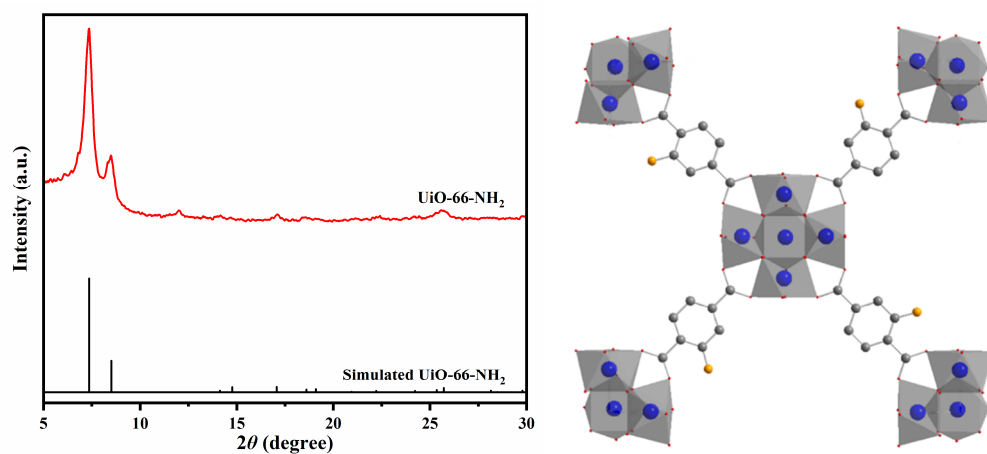


Figure S2. XRD patterns of simulated and synthesized UiO-66-NH₂, and the crystal structure of UiO-66-NH₂.

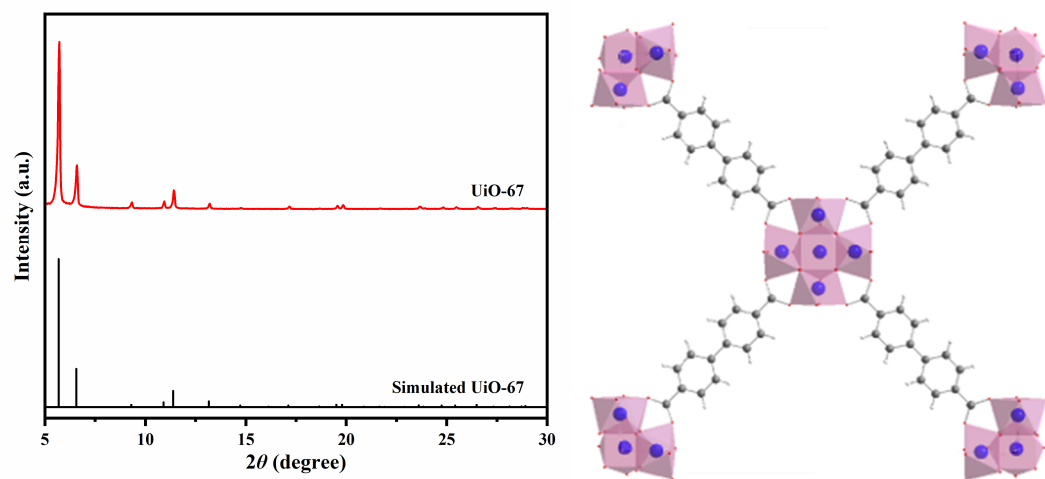


Figure S3. XRD patterns of simulated and synthesized UiO-67, and the crystal structure of UiO-67.

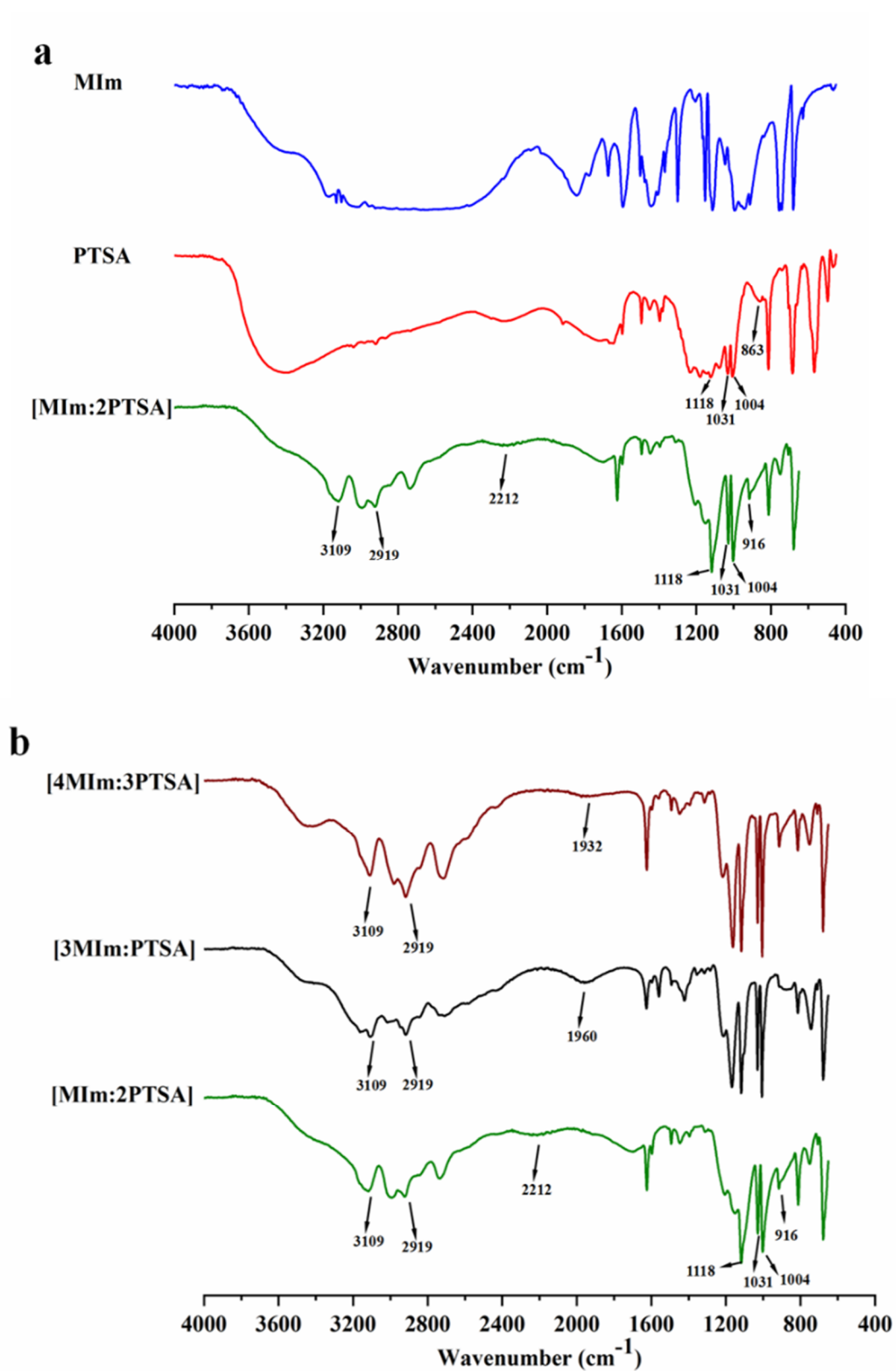


Figure S4. (a) FT-IR spectra of MIm, PTSA, and [MIm:2PTSA]; (b) FT-IR spectra of [4MIm:3PTSA], [3MIm:PTSA], and [MIm:2PTSA].

Table S2. The catalytic performance of UiO-66-DES in the acetalization of furfural and 5-hydroxymethylfurfural with methanol.

entry	Reactant	Time (h)	Conversion (%)
1	furfural	1	78.4
2	5-hydroxymethylfurfural	1	93.1