

SUPPLEMENTARY MATERIALS

Monolith	S_{BET} [m ² /g]	V_{meso} [cm ³ /g]	d_{meso} [nm]	V_{total} [cm ³ /g]	d_{macro} [μm]
M	322	1.07	2.5/20	4.1	20-60
Zr-M	319	1.02	2.5/20.5	4.1	20-60
NH ₂ /Zr-M	307	1.08	2.6/21	4.1	20-60

Table S1. Structural parameters of materials.

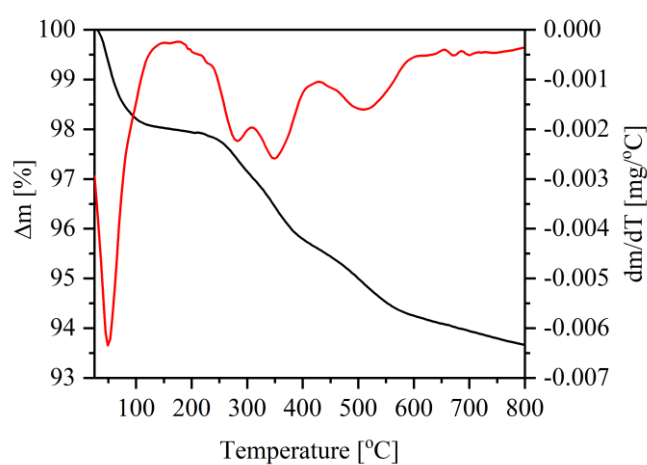


Figure S1. TG and DTG curves for NH₂/Zr-M sample.

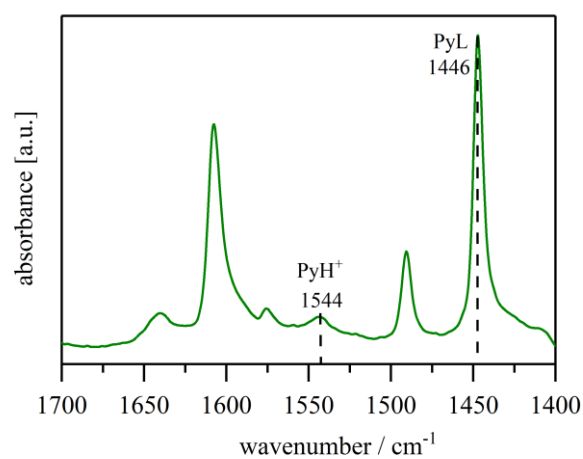


Figure S2. FTIR spectrum of NH₂/Zr-M monolith after pyridine adsorption at 150 °C.

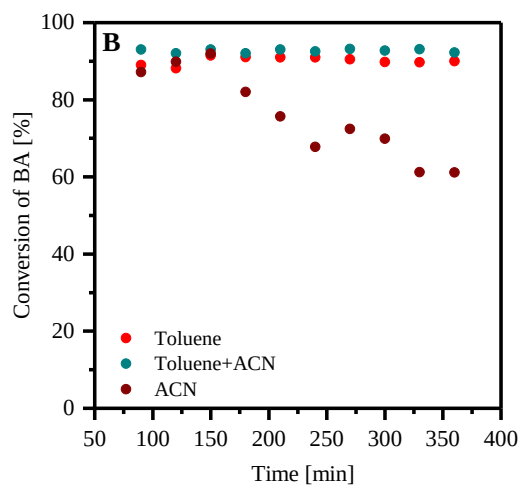


Figure S3. Conversion of benzaldehyde vs. time in Knoevenagel reaction performed in NH_2/M microreactors with toluene, ACN and mixture of both solvents (4/1 v/v).

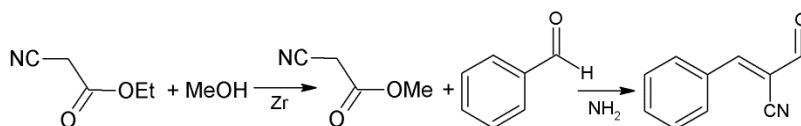


Figure S4. Reaction pathway of by-product synthesis.

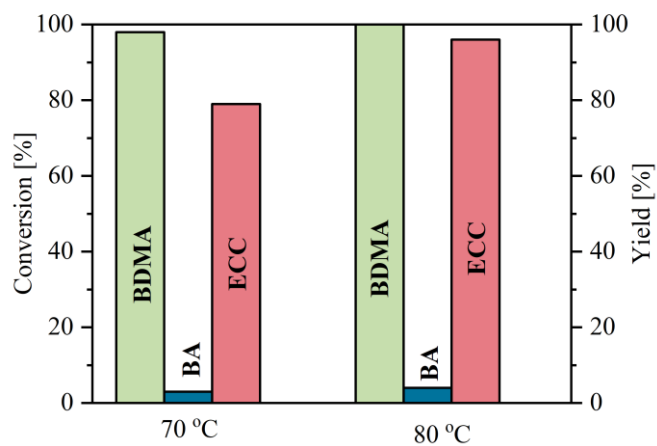


Figure S5. Influence of temperature on conversion and yield for $\text{M}_{\text{H}_2\text{O}}\text{-NH}_2/\text{Zr-M}$ system.