Electronic Supplementary Material (ESI) for Green Chemistry.

Supporting Information

The cooperation of porphyrin-based porous polymer and thermal-responsive ionic liquid for efficient CO_2 cycloaddition reaction

Jian Chen,[a,b] Mingmei Zhong,[a,b] Lin Tao,[a,b] Lina Liu,[a,b] Sanjeevi Jayakumar,[a,c] Chunzhi Li,[a,b] He Li*[a] and Qihua Yang*[a]

[a] State Key Laboratory of Catalysis, *iChEM*, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, 457 Zhongshan Road, Dalian 116023, China

[b] University of Chinese Academy of Sciences, Beijing 100049, China

[c] International College University of Chinese Academy of Sciences Beijing, 100049, China

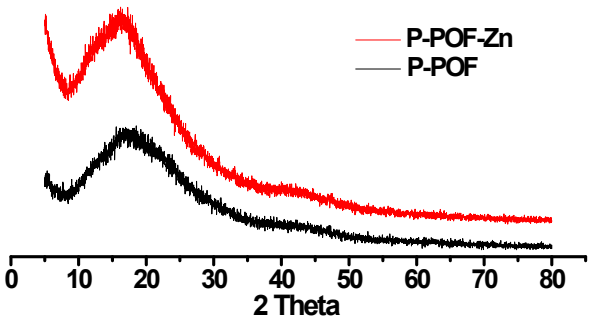

Fig. S1. PXRD curves of P-POF and P-POF-Zn.

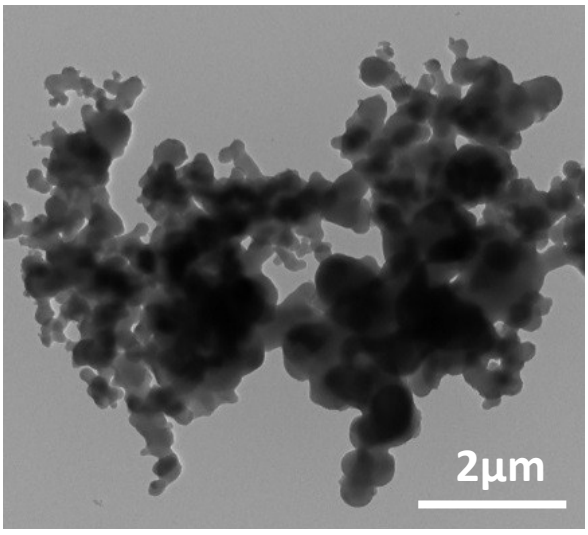

Fig. S2. TEM of P-POF-Zn.

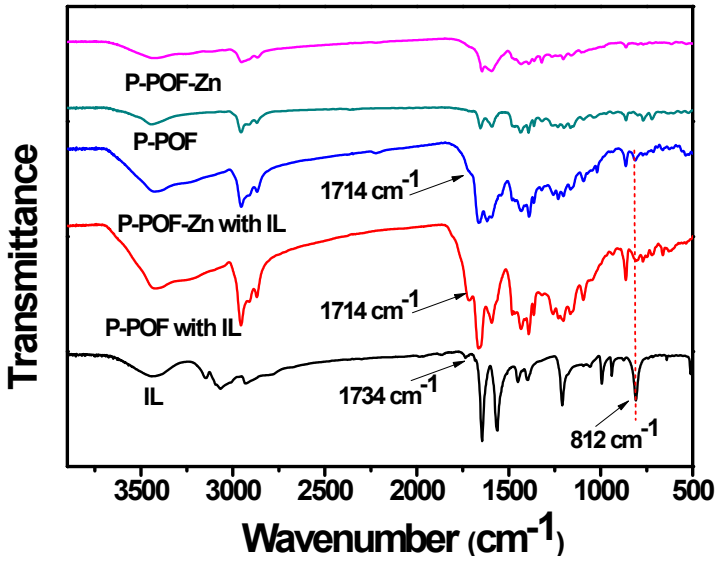

Fig. S3. Comparison of the FT-IR spectra for P-POF and P-POF-Zn before and after the absorption of [CPeDMAPy]Br.

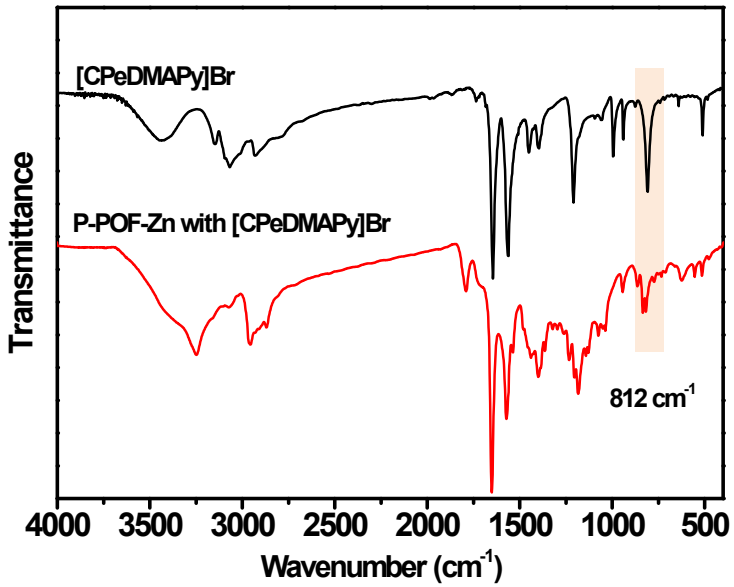

Fig. S4. FT-IR spectra of [CPeDMAPy]Br and the recovered sample of P-POF-Zn with [CPeDMAPy]Br after the cycloaddition reaction.

Table S2. Physical and chemical properties of P-POF-Zn.

Sample	BET Surface Area (m^2/g)[a]	Total pore volume (cm^3/g)[b]	Micropore volume(cm^3/g)	Pore size (nm)	Zn content (wt/%)[c]
P-POF-Zn (fresh)	639.3	0.40	0.15	1.27 0.67 0.5	4.96%
P-POF-Zn with [CPeDMAPy]Br (after run 1)	19.9	0.03	-	-	NA
P-POF-Zn (washed [CPeDMAPy]Br after run 1)	615	0.35	0.19	1.27 0.64	NA

[a] The specific surface area is calculated from the nitrogen adsorption isotherm by using the BET method.

[b] Total pore volume was measured at a P/P_0 of 0.99, micropore volume was obtained by using the t-plot method.

[c] Measured by using ICP analysis.