

## **Facile synthesis of porous porphyrin-based polymers by solvent-crosslinking method**

Xiaowei Jiang<sup>a\*</sup>, Zhihong Liu<sup>a</sup>, Libo Ma<sup>a</sup>, Yu Tao<sup>a</sup> and Yali Luo<sup>b\*\*</sup>

*<sup>a</sup> Institute of Chemical and Pharmaceutical Engineering, Changzhou Vocational Institute of Engineering, Changzhou 213164, People's Republic of China*

*<sup>b</sup> State Key Laboratory of Materials-Oriented Chemical Engineering, College of Materials Science and Engineering, Nanjing Tech University, Nanjing 210009, People's Republic of China*

Tel: +86 0519 86332047; Email: 15262760662@163.com

Tel: +86 25 83172114; Email: luoyali@njtech.edu.cn

## Contents

Fig. S1 FTIR spectra of the POTPPs.

Fig. S2 Powder X-ray diffraction patterns of POTPPs

Fig. S3 Secondary electron image of POTPP-1.

Fig. S4 Secondary electron image of POTPP-2

Fig. S5 Secondary electron image of POTPP-3

Fig. S6 TGA plots of POTPPs under nitrogen atmosphere.

Fig. S7 Isothermic heats of adsorption for CO<sub>2</sub>.

Fig. S8 Isothermic heats of adsorption for CH<sub>4</sub>.

Fig. S9 Initial slope calculation of CO<sub>2</sub> and CH<sub>4</sub> uptake isotherms at 273 K for POTPP-1.

Fig. S10 Initial slope calculation of CO<sub>2</sub> and CH<sub>4</sub> uptake isotherms at 273 K for POTPP-2.

Fig. S11 Initial slope calculation of CO<sub>2</sub> and CH<sub>4</sub> uptake isotherms at 273 K for POTPP-3.

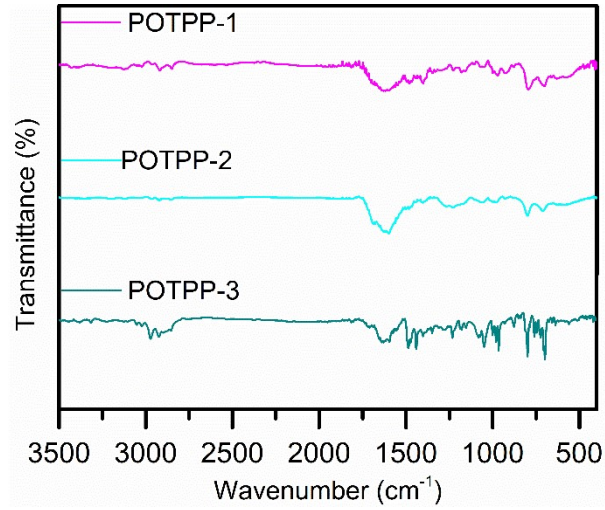


Fig. S1 FTIR spectra of the POTPPs.

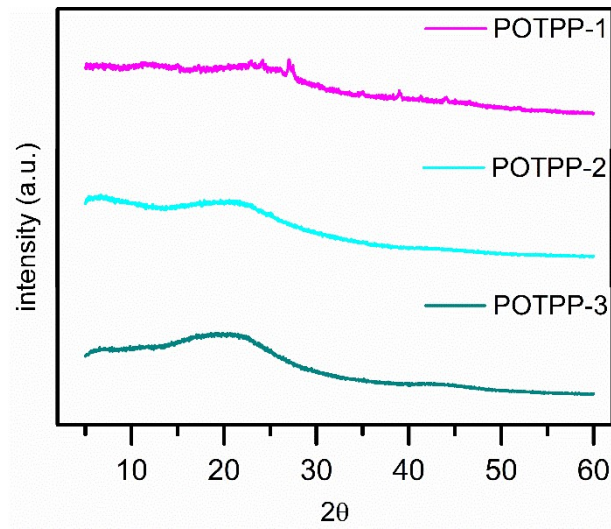


Fig. S2 Powder X-ray diffraction patterns of POTPPs

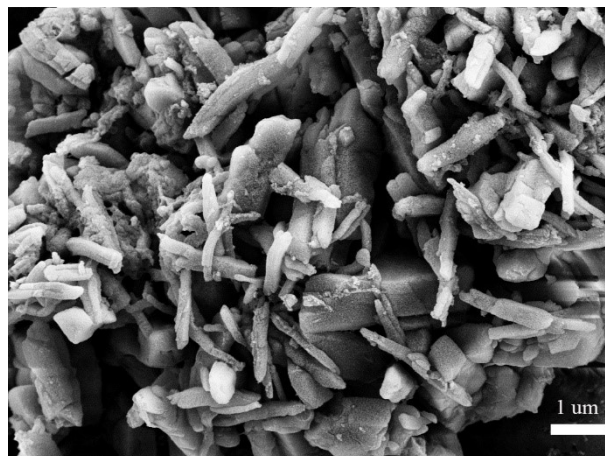


Fig. S3 Secondary electron image of POTPP-1.

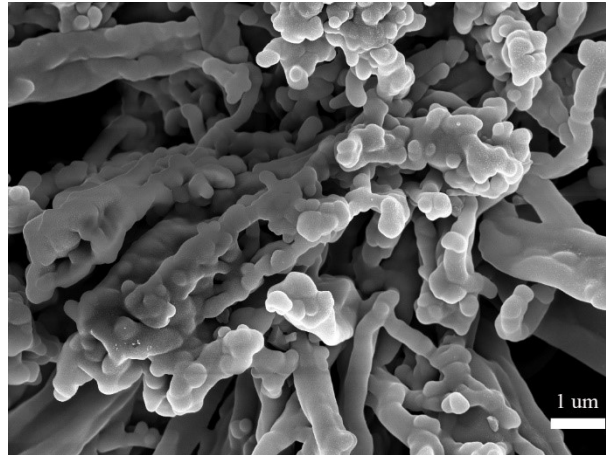


Fig. S4 Secondary electron image of POTPP-2

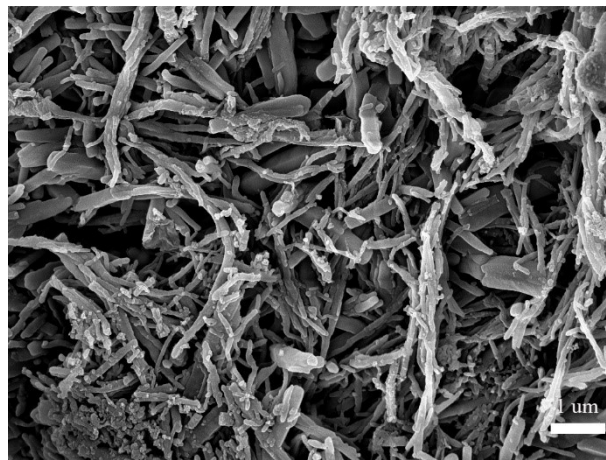


Fig. S5 Secondary electron image of POTPP-3

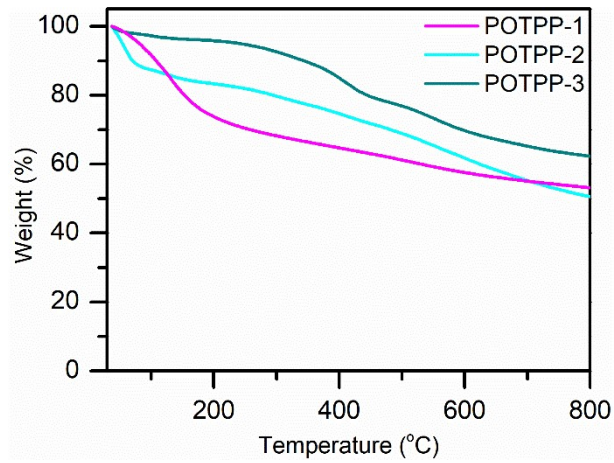


Fig. S6 TGA plots of POTPPs under nitrogen atmosphere.

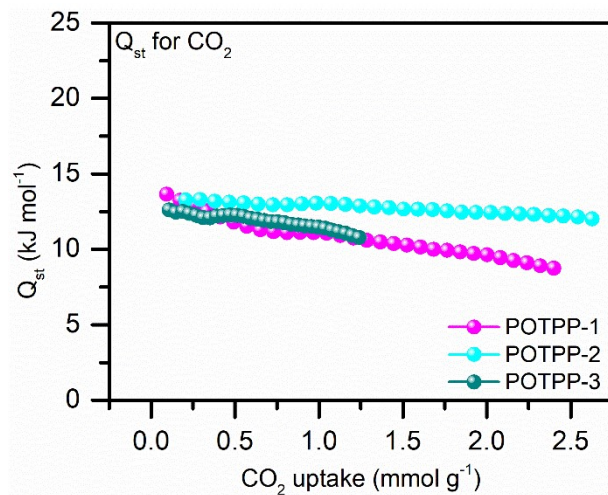


Fig. S7 Isosteric heats of adsorption for  $CO_2$ .

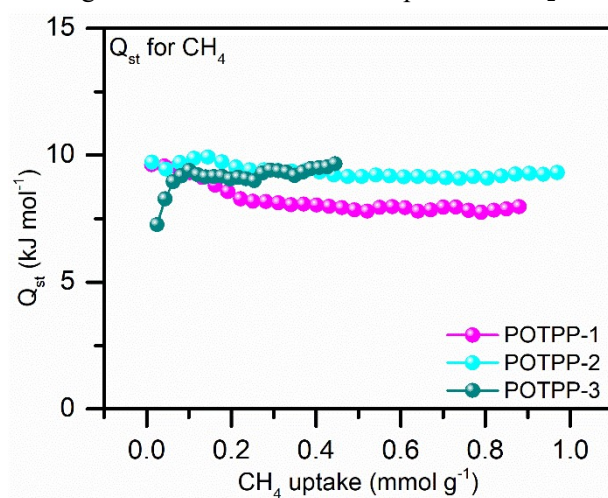


Fig. S8 Isosteric heats of adsorption for  $CH_4$ .

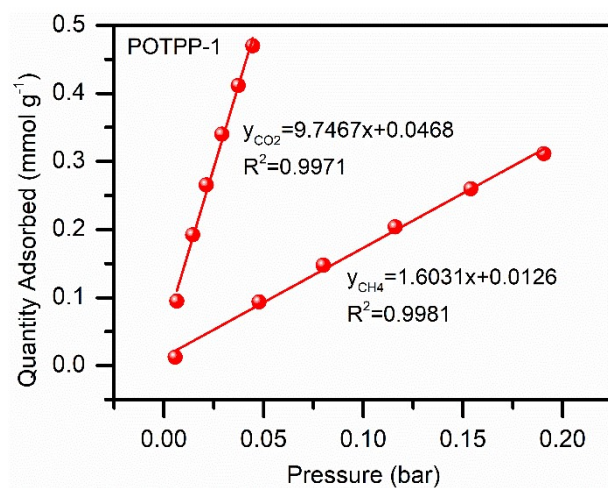


Fig. S9 Initial slope calculation of  $CO_2$  and  $CH_4$  uptake isotherms at 273 K for POTPP-1.

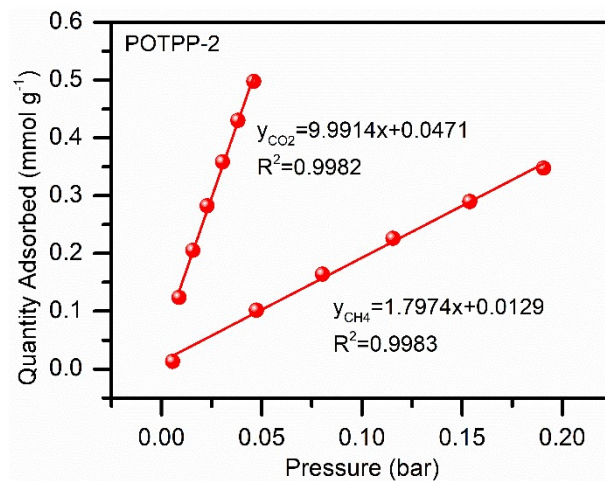


Fig. S10 Initial slope calculation of  $\text{CO}_2$  and  $\text{CH}_4$  uptake isotherms at 273 K for POTPP-2.

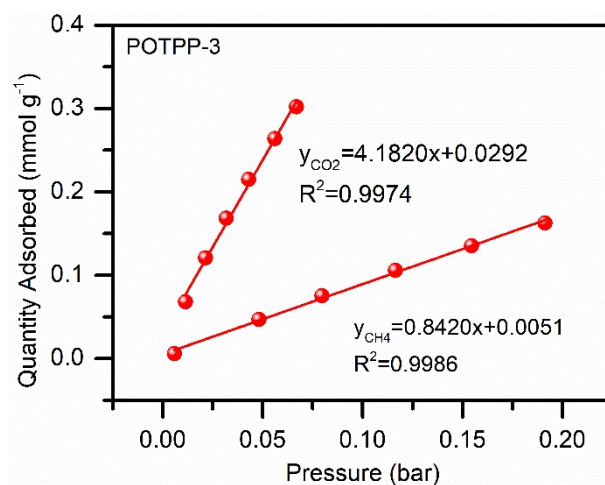


Fig. S11 Initial slope calculation of  $\text{CO}_2$  and  $\text{CH}_4$  uptake isotherms at 273 K for POTPP-3.