Tailored N-doped porous carbon via a MOF assembly process for high-performance CO$_2$ uptake

Fanguai Gai, a,*, Dongying Zhu, a Yunhuan Wu, a Xiaogang Zhao, a* Changhai Liang, b Zhenguo Liu, d Yunling Liu c and Tonghua Wang b

a Advanced Institute of Materials Science, School of Chemistry and Biology, Changchun University of Technology, Changchun 130012, PR. China. Electronic address: gaifangyuan@dlut.edu.cn

b State Key Laboratory of Fine Chemicals, Carbon Research Laboratory, School of Chemical Engineering, Dalian University of Technology, 2 Linggong Road, Dalian, 116024, China. Electronic address: wangth@dlut.edu.cn

c College of Chemistry, Jilin University, Changchun 130012, China.

d Research Institute of Jilin Petrochemical Co. Ltd., Petro. China, Jilin 132021, China

Scheme S1. The synthesis and the yield of 3D NPC

Fig. S1 XRD of ZIF-8 and ZIF-8-PP composites
Fig. S2 (A), (B) XPS of NPC-800-4 and (C) XPS of ZIF-8-PP composites

Fig. S3 The N$_2$ adsorption and pore size distribution of NPC and ZIF-8-PP composite

Fig. S4 The CO$_2$ capture of carbon derived from ZIF-8, PP-COOH and the mixture of ZIF-8 and PP-COOH at 800 °C
Fig. S5 The TPD of NPC-700-4

Fig. S6  8 cycles of CO$_2$ adsorption−desorption on NPC-800-4 at 25 °C