

**Oxidative desulfurization catalyzed by a novel ZrP/MCM-41 catalyst with the
high performance**

Panpan Zhang^b, Lihua Kang^{a,b}, Mingyuan Zhu^{a,*} and Bin Dai^b

^aCollege of Chemistry and Chemical Engineering of Yantai University, Yantai,
Shandong 264004, PR China.

^bSchool of Chemistry and Chemical Engineering of Shihezi University, Shihezi,
Xinjiang 832000, PR China.

*Corresponding author at: College of Chemistry and Chemical Engineering of Yantai
University, Yantai, Shandong 264004, PR China.

E-mail address: zhuminyuan@shzu.edu.cn.

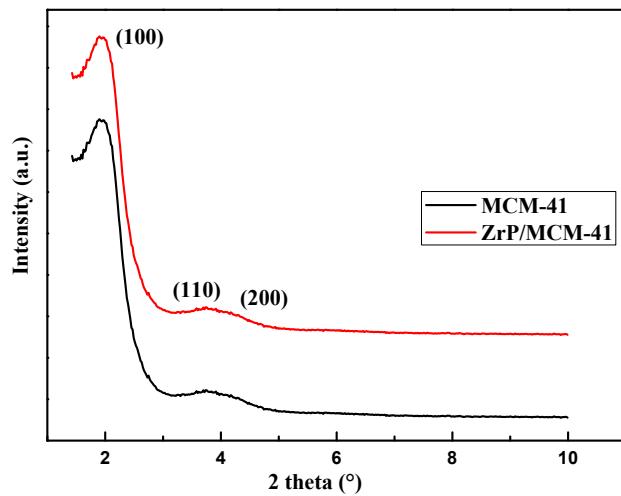


Fig. S1 The small-angle XRD patterns of MCM-41 and ZrP/MCM-41.

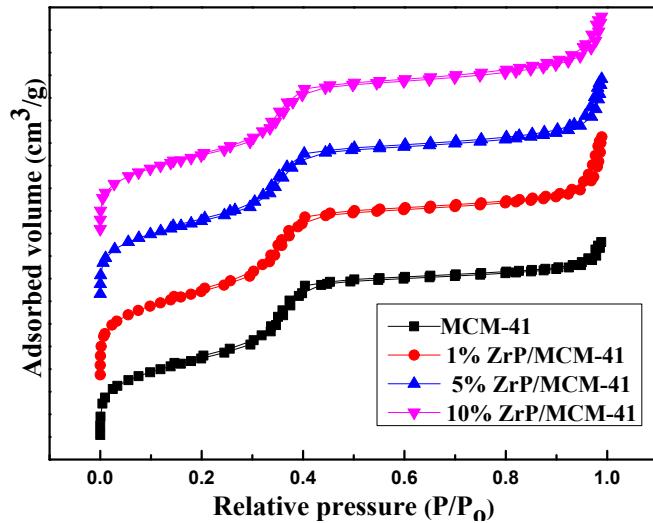


Fig. S2 N₂ adsorption-desorption isotherms of MCM-41 and ZrP/MCM-41 with different loading.

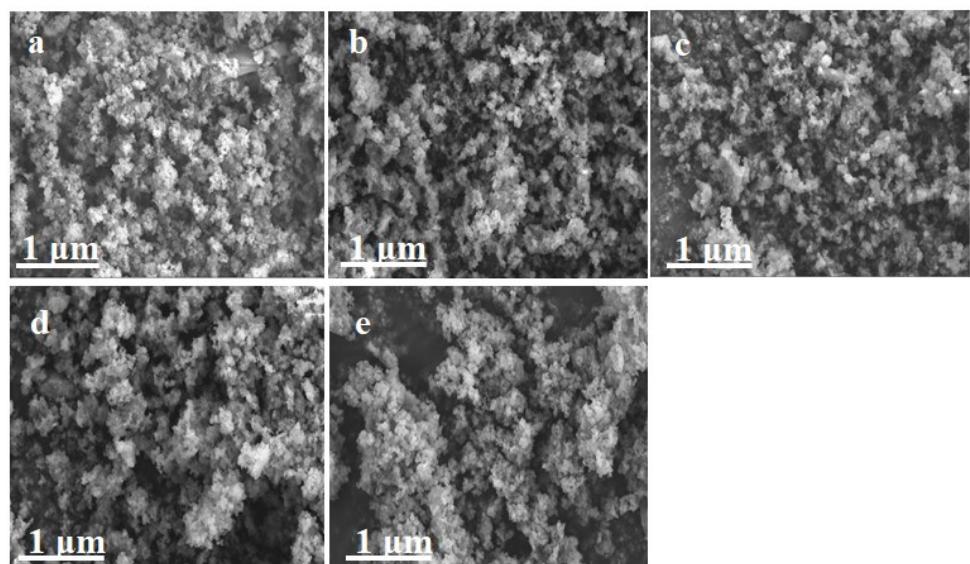


Fig. S3 SEM images of (a) MCM-41, (b) 1% ZrP/MCM-41, (c) 3% ZrP/MCM-41, (d) 5% ZrP/MCM-41 and (e) 10% ZrP/MCM-41.