

## 甲醇催化转化制丙烯中 HZSM-5 分子筛的尺寸效应

姚敏<sup>1,2</sup> 胡思<sup>3</sup> 王俭<sup>2</sup> 窦涛<sup>3</sup> 伍永平<sup>1,\*</sup>

(<sup>1</sup> 西安科技大学能源学院, 西安 710054; <sup>2</sup> 神华宁夏煤业集团有限责任公司, 银川 750011;

<sup>3</sup> 中国石油大学(北京), 中国石油天然气集团公司催化重点实验室, 北京 102249)

## Size Effect of HZSM-5 Zeolite on Catalytic Conversion of Methanol to Propylene

YAO Min<sup>1,2</sup> HU Si<sup>3</sup> WANG Jian<sup>2</sup> DOU Tao<sup>3</sup> WU Yong-Ping<sup>1,\*</sup>

(<sup>1</sup>*School of Energy Engineering, Xi'an University of Science and Technology, Xi'an 710054, P. R. China;*  
<sup>2</sup>*Shen Hua Ningxia Coal Industry Group Co., Ltd., Yinchuan 750011, P. R. China;* <sup>3</sup>*The Key Laboratory of Catalysis, China National Petroleum Corporation, China University of Petroleum, Beijing 102249, P. R. China*)

\*Corresponding author. wuyp@xust.edu.cn; Tel: +86-13521773017.

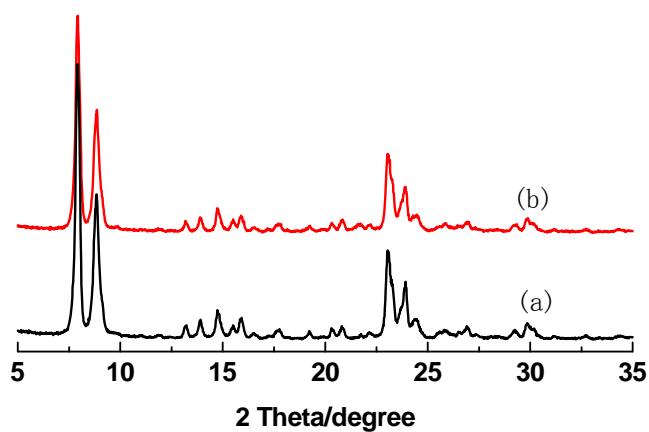


图 S1 反应前(a)、反应 20 h 后(b)S-0 样品的 XRD 数据  
 Fig.S1 XRD patterns of S-0 sample, before (a) and after 20 h reaction (b)

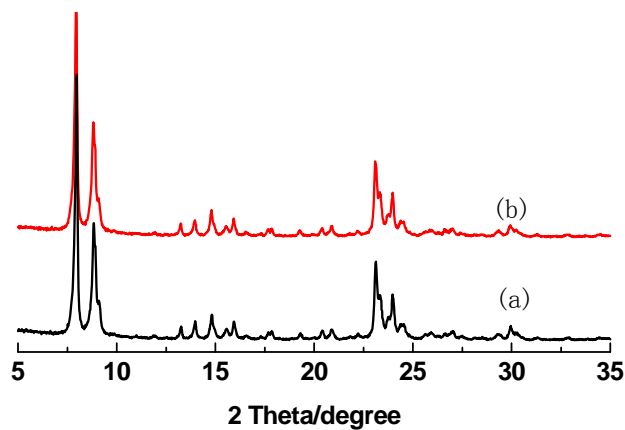


图 S2 反应前(a)、反应 20 h 后(b)S-1 样品的 XRD 数据  
 Fig.S2 XRD patterns of S-1 sample, before (a) and after 20 h reaction (b)

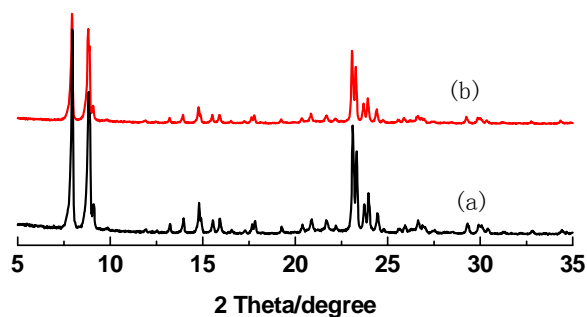
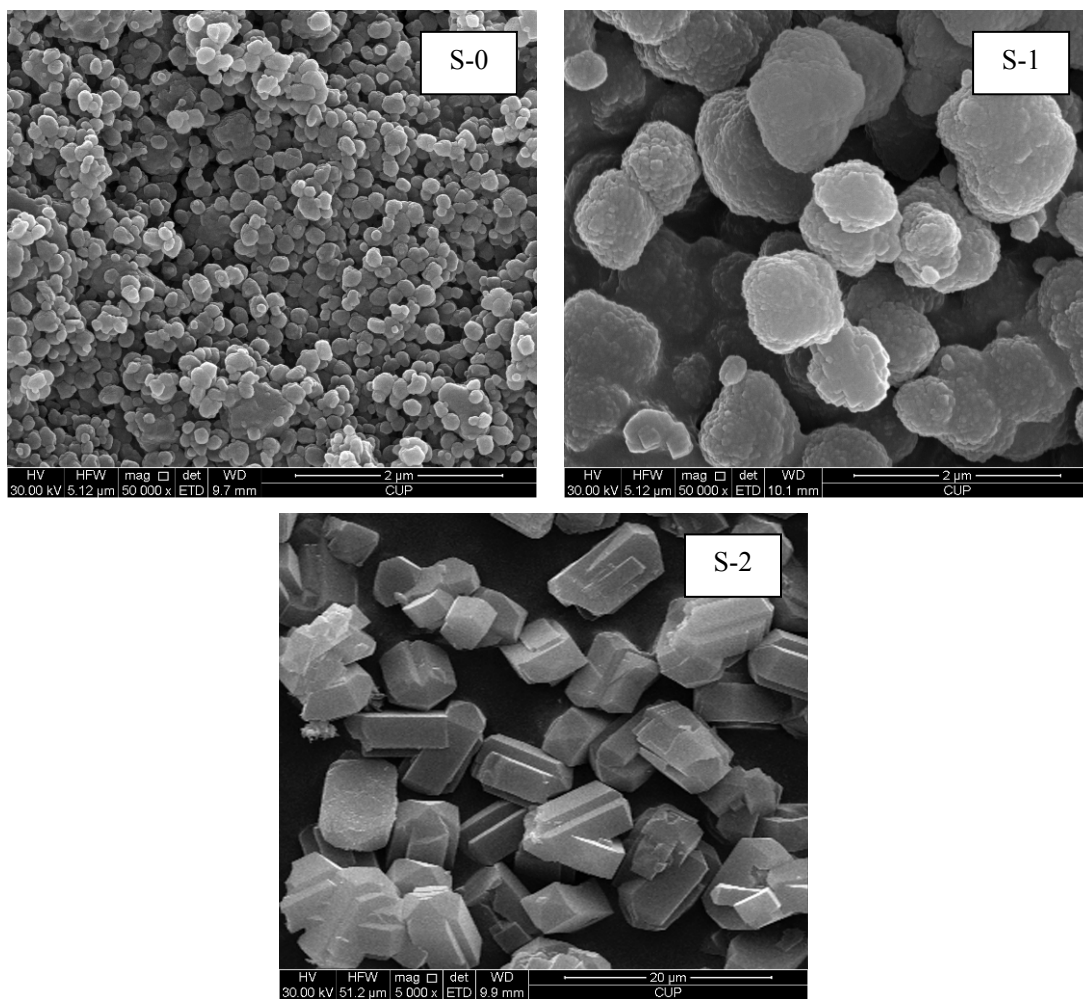


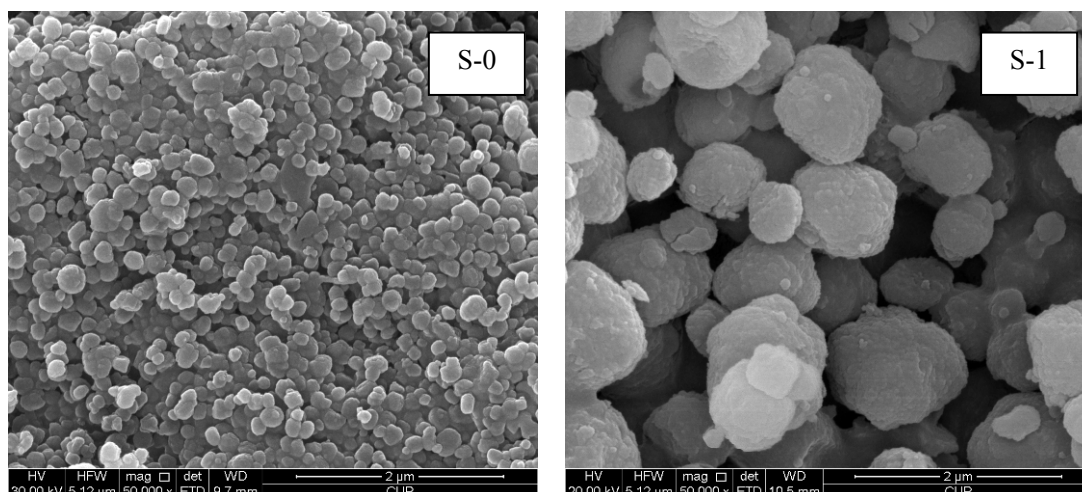
图 S3 反应前(a)、反应 20 h 后(b)S-2 样品的 XRD 数据  
 Fig.S3 XRD patterns of S-2 sample, before (a) and after 20 h reaction (b)

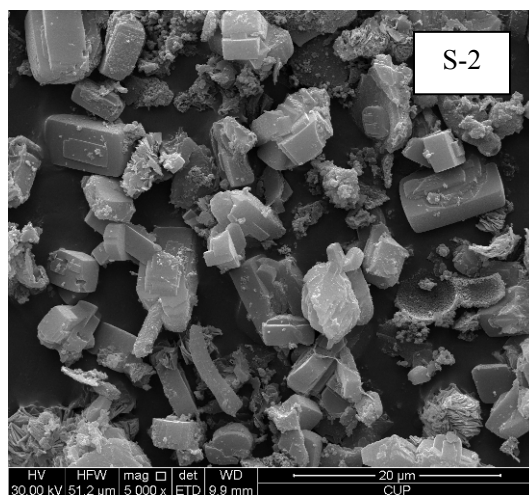


图S4 反应前HZSM-5分子筛样品的SEM图像

Fig.S4 SEM images of HZSM-5 zeolite samples before catalytic reaction

crystal size: S-0, 100-300 nm; S-1, 1-2 μm; S-2, 5-10 μm





图S5 反应20 h后HZSM-5分子筛样品的SEM图像

Fig.S5 SEM images of HZSM-5 zeolites after 20 h reaction

crystal size: S-0, 100-300 nm; S-1, 1-2 μm; S-2, 5-10 μm