Supporting Information for *Acta Phys. -Chim. Sin.* doi: 10.3866/PKU.WHXB202210038

钾改性氧化铝基羰基硫水解催化剂及其失活机理

雷淦昌[1,2]，郑勇[1,2]，曹彦宁[1,2]，沈丽娟[1,3,*]，王世萍[1,2]，梁诗景[1,2]，詹瑛瑛[1,2,*]，江莉龙[1,2,*]

[1]福州大学石油化工学院，化肥催化剂国家工程研究中心，福州 350002

[2]中国福建化学工程科学与技术创新实验室，清源创新实验室，福建 泉州 302801

[3] 福建师范大学环境与资源学院、碳中和现代产业学院，福建省污染控制与资源循环利用重点实验室，福州 350007

Deactivation Mechanism of COS Hydrolysis over Potassium Modified Alumina

Ganchang Lei [1,2], Yong Zheng [1,2], Yanning Cao [1,2], Lijuan Shen [1,3,*], Shipping Wang [1,2], Shijing Liang [1,2], Yingying Zhan [1,2,*], Lilong Jiang[1,2,*]

[1] National Engineering Research Center of Chemical Fertilizer Catalyst, School of Chemical Engineering, Fuzhou University, Fuzhou 350002, China.

[2] China Fujian Innovation Laboratory of Chemical Engineering, Qingyuan Innovation Laboratory, Quanzhou 302801, Fujian Province, China.

[3] College of Environmental Science and Engineering, College of Carbon Neutral Modern Industry, Fujian Key Laboratory of Pollution Control & Resource Reuse, Fujian Normal University, Fuzhou 350007, China.

[*]Corresponding authors. Emails: syhgslj@fzu.edu.cn (L.S.); zhanyingying@fzu.edu.cn (Y.Z.); jll@fzu.edu.cn (L.J.).

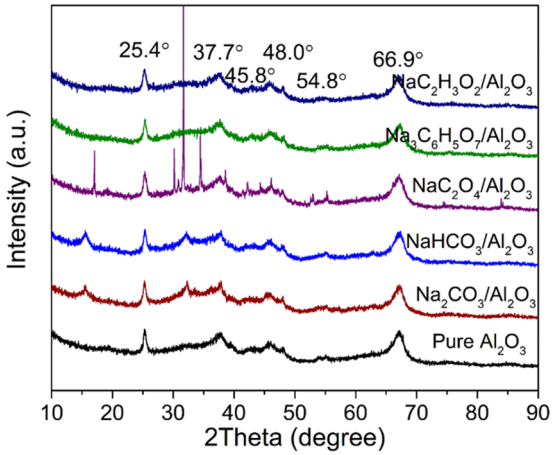

Fig. S1 (a) XRD patterns of Na-modified Al_2O_3 samples.

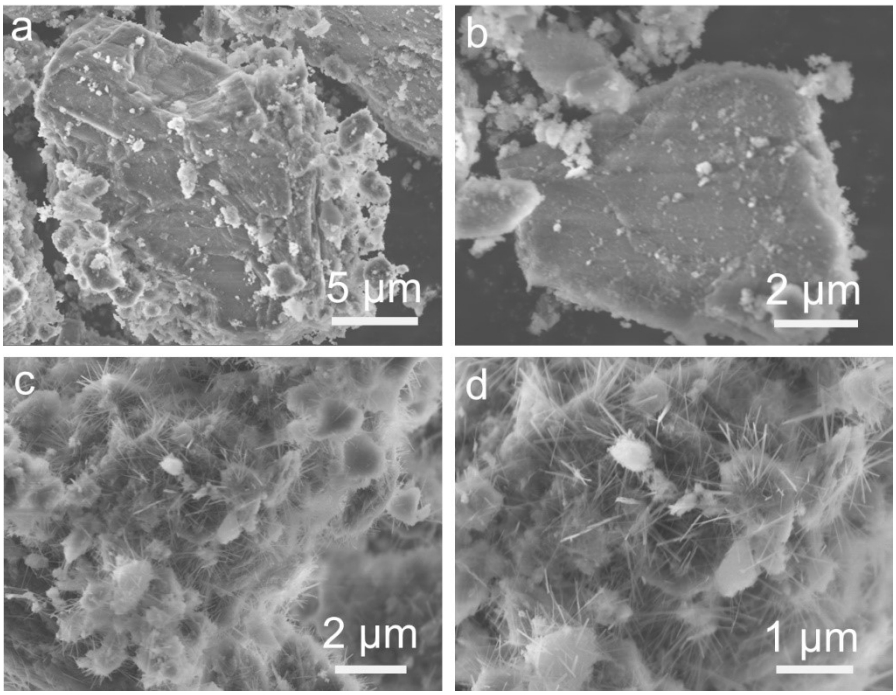

Fig. S2 SEM images of (a, b) Al_2O_3 and (c, d) K_2CO_3/Al_2O_3 catalyst.

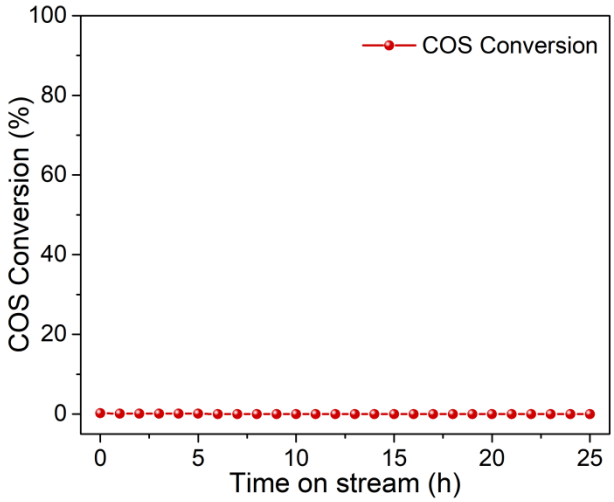

Fig. S3 Cyclic stability of blank sample at 70 °C.

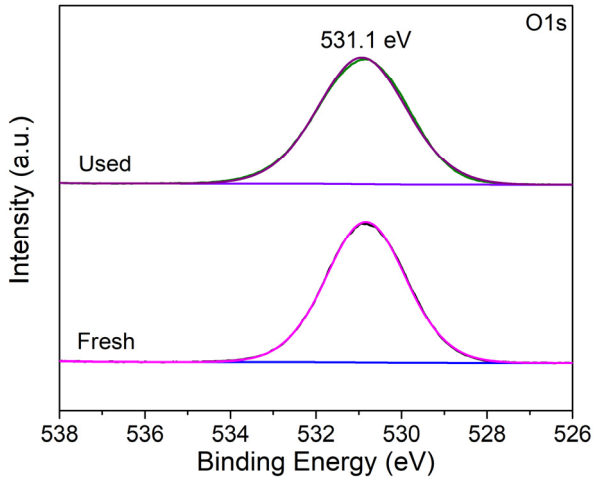

Fig. S4 XPS O 1*s* spectra of fresh and used K_2CO_3/Al_2O_3.

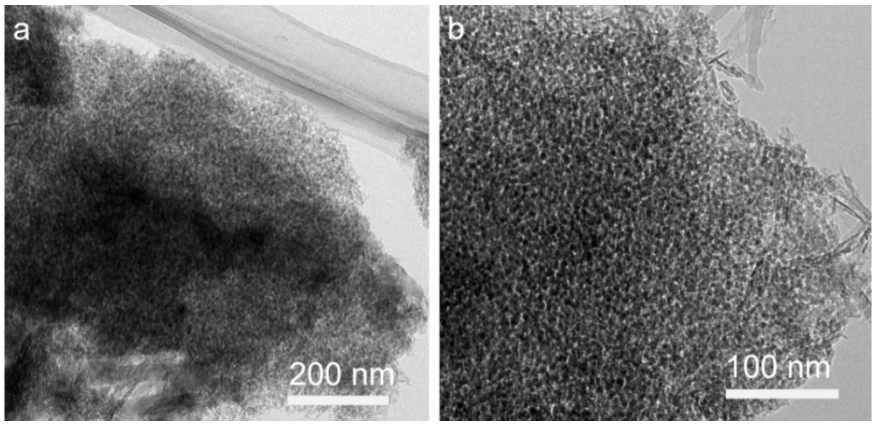

Fig. S5 TEM image of used K_2CO_3/Al_2O_3.