The L-lysine-assisted synthesis of a nano-ZSM-5 zeolite as a catalyst for oleic acid pyrolysis to BTX

Sen Fu¹, Hanxu Guo¹, Hong Yuan^{1,2,3*}

1 School of Chemistry and Chemical Engineering, North Minzu University, Yinchuan 750021, China

2 Key Laboratory for Chemical Engineering and Technology, State Ethnic Affairs Commission, North Minzu University, Yinchuan 750021, China

3 Ningxia Key Laboratory of Solar Chemical Conversion Technology, North Minzu University, Yinchuan, 750021, China

*Corresponding author: Hong Yuan, yuanhong@nun.edu.cn

Sen Fu, 1450320782@qq.com

Hanxu Guo, 1337983258@qq.com

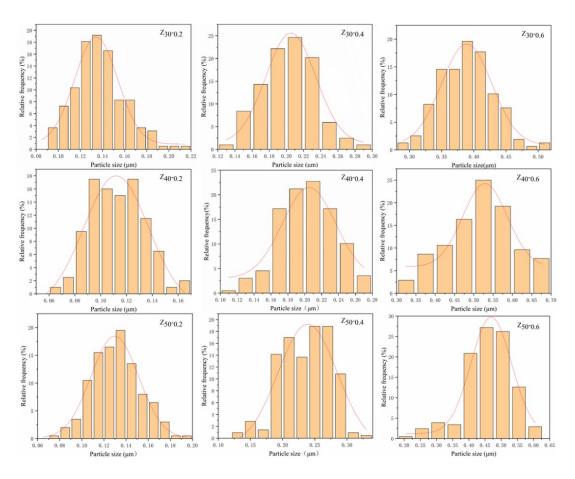
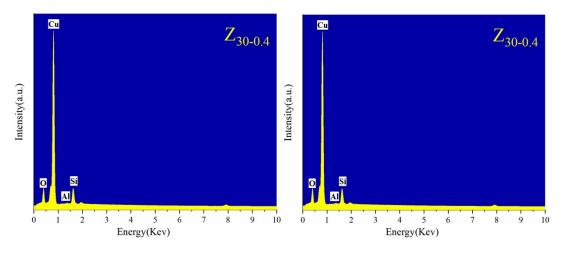


Figure S1. particle size distribution profiles of Z_{C-S} zeolites.



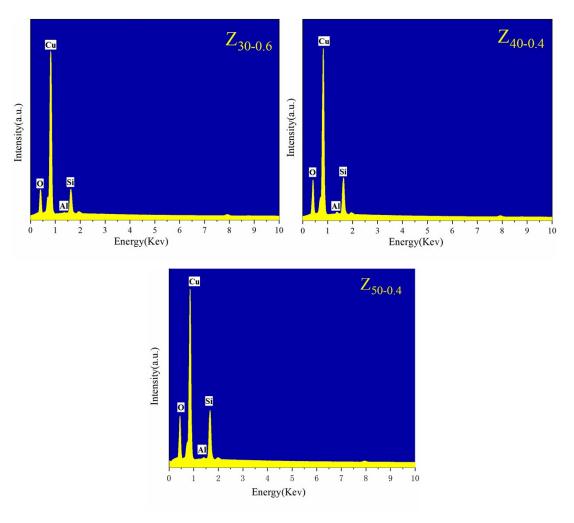


Figure S2. EDX spectra of the $Z_{\text{C-S}}$ zeolites.

sample _	EDX (At%) ^a				EA (%) ^a	EA (%) b
	О	Si	Al	total	N	N
Z _{30-0.2}	67.90	31.02	1.08	100	0	5.01
$Z_{30-0.4}$	65.48	33.04	1.12	100	0	6.69
$Z_{30-0.6}$	67.26	31.75	0.99	100	0	7.94
$Z_{40-0.4}$	66.68	32.51	0.81	100	0	6.68
$Z_{50-0.4}$	65.69	33.65	0.66	100	0	6.60

Table S1. The EDX and elemental analysis EA data of the samples.

^a calcined samples

^b as-prepared samples (uncalcined samples)

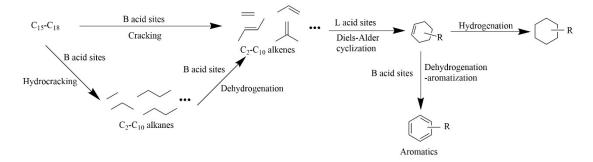


Figure S3. Catalytic pyrolysis mechanism.