

Supplementary material:

A feasible One-Step Synthesis of Hierarchical Zeolite Beta with Uniform Nanocrystals via CTAB

Weimin Zhang¹, Weixing Ming¹, Sufang Hu¹, Bo Qin², Jinghong Ma^{1,*} and Ruifeng Li¹

¹ College of Chemistry and Chemical Engineering, Taiyuan University of Technology, Taiyuan 030024, China

² Dalian Research Institute of Petroleum & Petrochemicals, SINOPEC, Dalian 116045, China

* Correspondence: majinghong@tyut.edu.cn; Tel.: +86-351-6111353

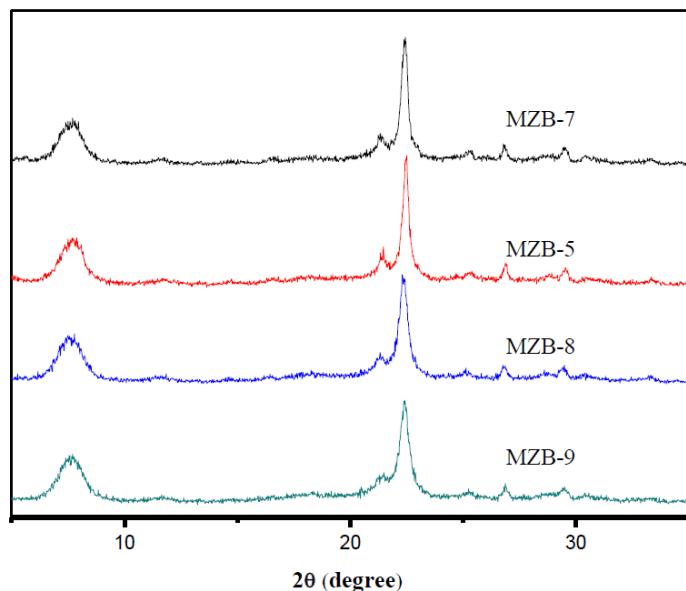


Figure S1. XRD patterns of as-synthesized zeolite Beta samples with different H₂O amount.

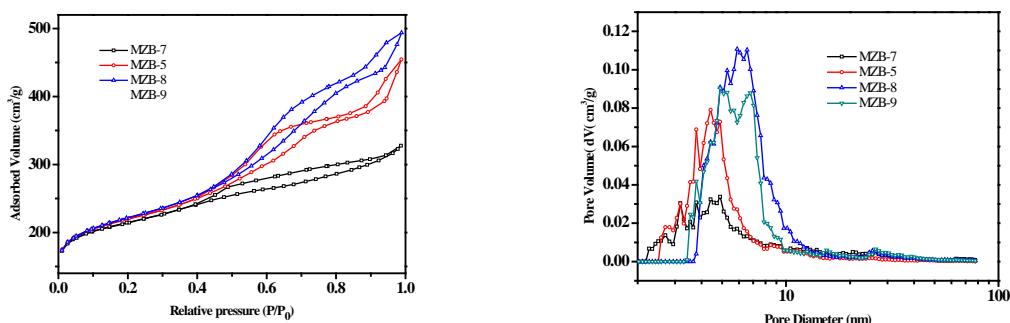


Figure S2. N₂ adsorption-desorption isotherms of synthesized zeolite Beta samples with different H₂O amount (left) and pore distribution (right).

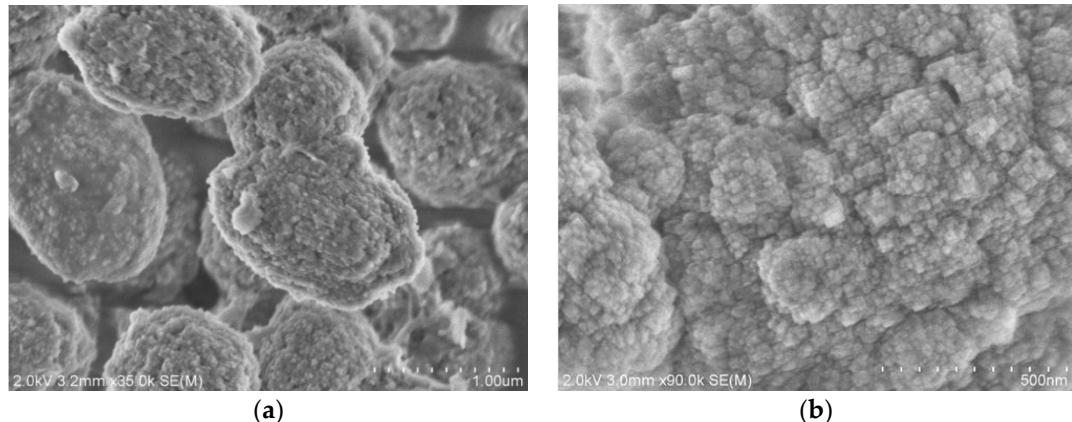


Figure S3. SEM images of synthesized zeolite Beta samples MZB-5 (a) and MZB-9 (b) with different H₂O amount.

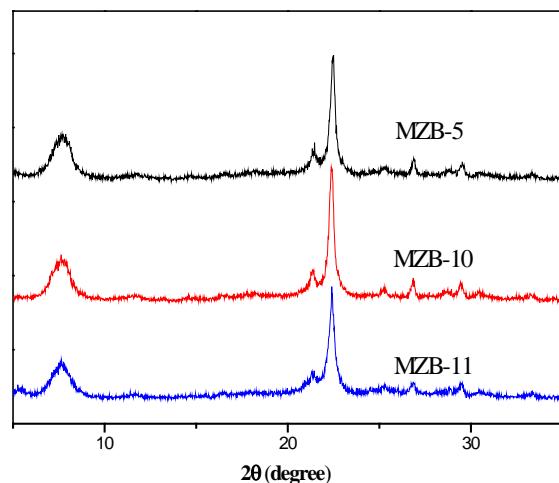


Figure S4. XRD patterns of synthesized zeolite Beta samples with different pre-crystallization time.

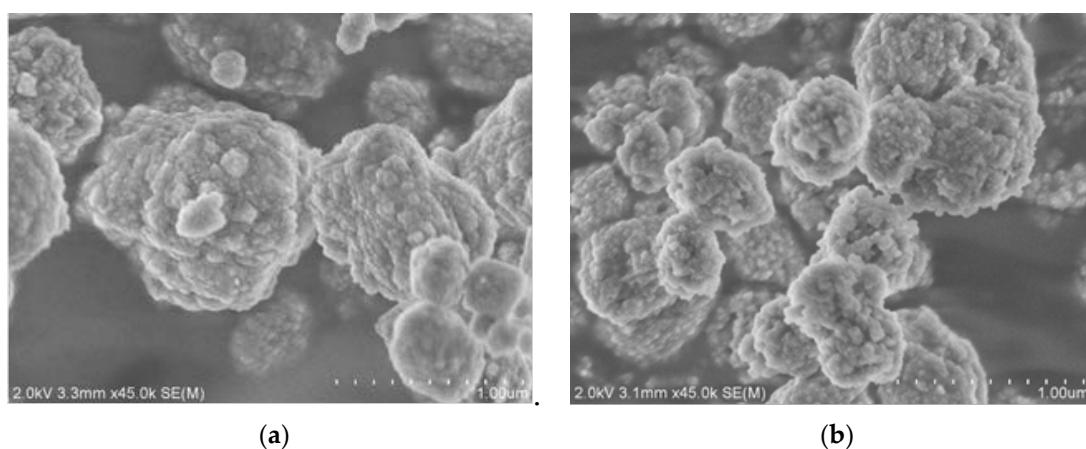


Figure S5. SEM images of synthesized zeolite Beta samples MZB-10 (a) and MZB-11(b) with different pre-crystallization time.

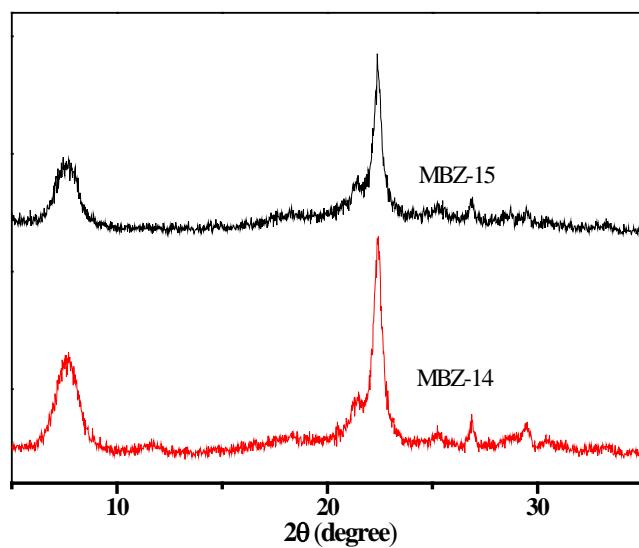


Figure S6. XRD patterns of synthesized zeolite Beta samples with alcohol.

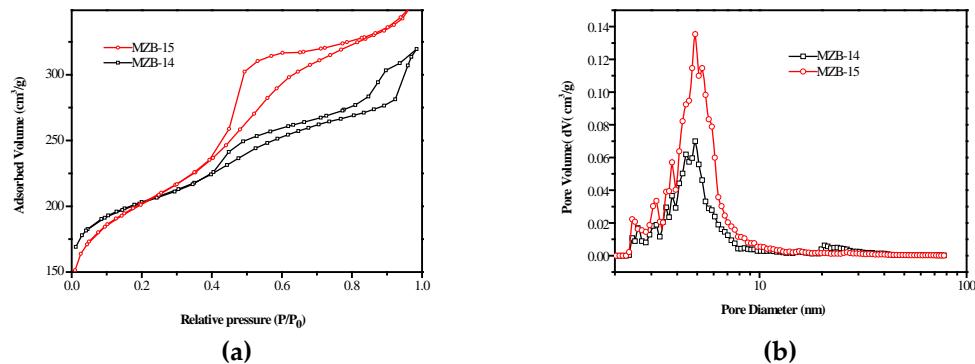


Figure S7. N_2 adsorption-desorption isotherms of synthesized zeolite Beta samples with alcohol (left) and pore distribution (right).

Table S1 Pore structure parameters of hierarchical Beta zeolites with 10L autoclave.

Samples	S_{BET} (m^2/g)	S_{MIC} (m^2/g)	S_{EXT} (m^2/g)	V_{MIC} (cm^3/g)	V_{MESO} (cm^3/g)	V_{pore} (cm^3/g)	HF
MZB-4 (M)	756	496	260	0.20	0.36	0.56	0.12
MZB-15(M)	715	394	321	0.16	0.53	0.69	0.10

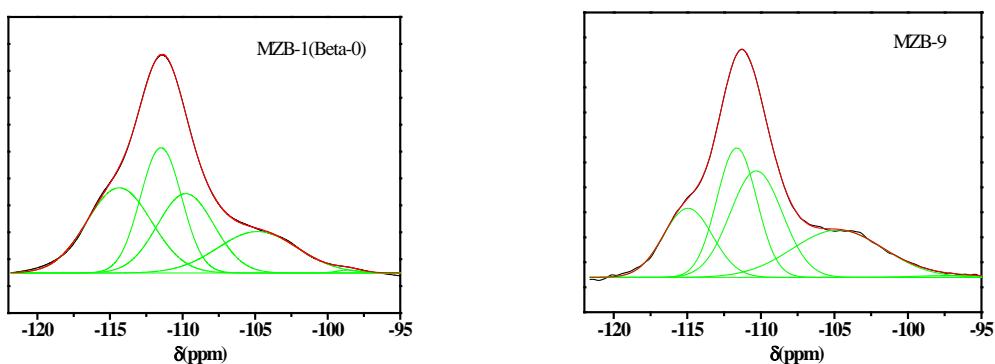


Figure S8. ^{29}Si MAS NMR spectra of microzeolite Beta MZB-1 and hierarchical zeolite Beta MZB-9.