

Support Informantion

**F-assisted Synthesis of Hierarchical ZSM-5 Zeolite for Methanol to
Propylene Reaction: *b*-Oriented Thinner Dimensional Morphology**

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Supplementary Figures

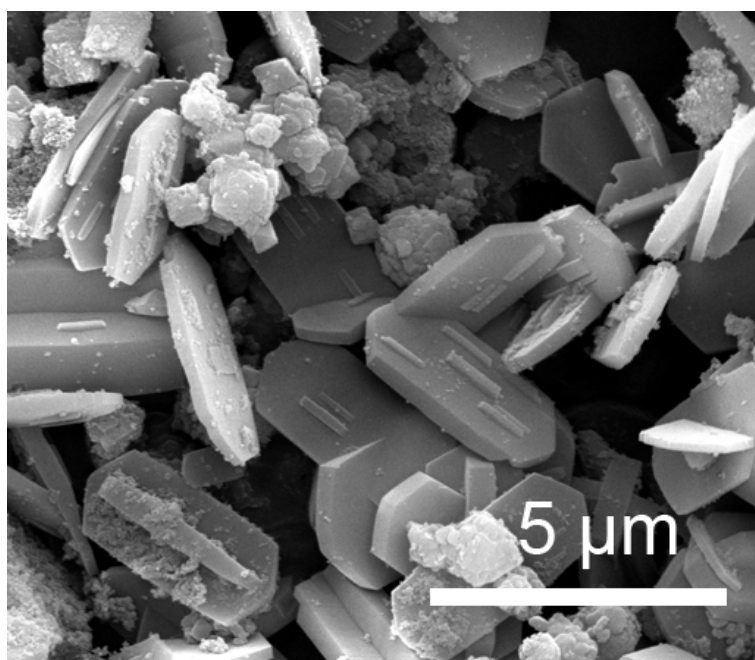


Figure S1. SEM images of ZSM-5 zeolite synthesized in F medium with $\text{H}_2\text{O}/\text{SiO}_2 = 20$.

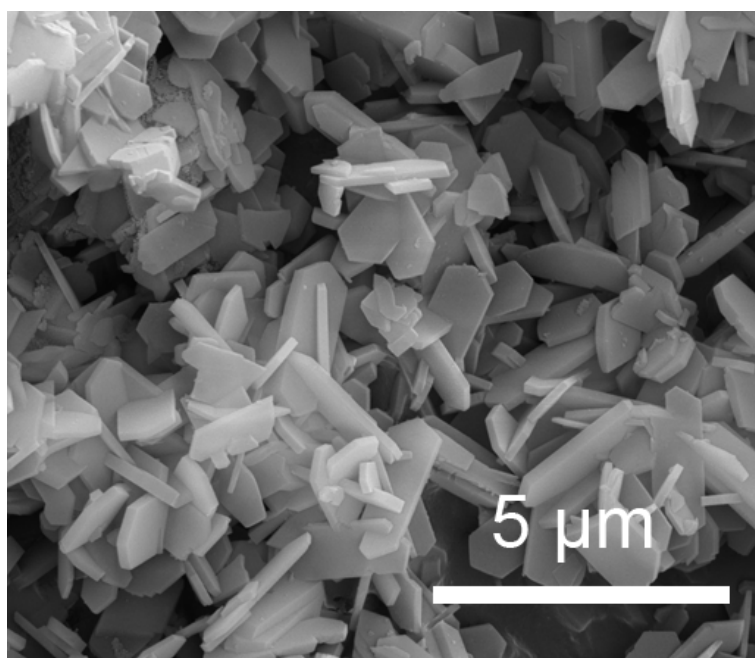


Figure S2. SEM of ZSM-5 zeolite synthesized in F medium at 453 K.

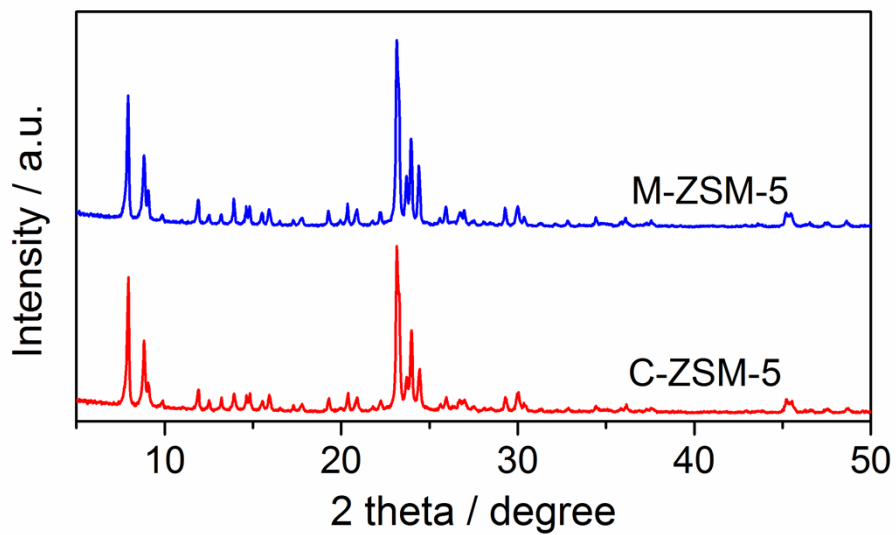


Figure S3. XRD patterns of ZSM-5 zeolites which synthesized in F^- and OH^- medium (M-ZSM-5 and C-ZSM-5).

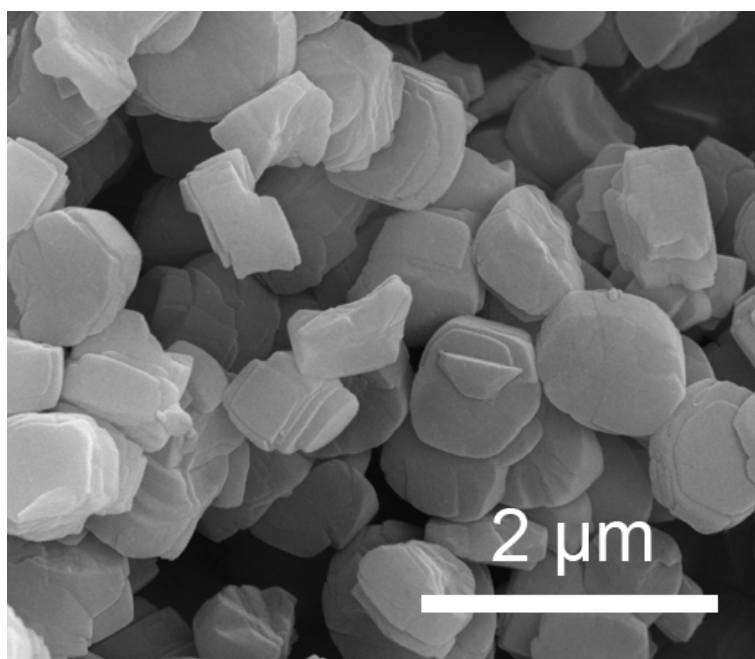


Figure S4. SEM images of ZSM-5 zeolite synthesized in OH^- medium.

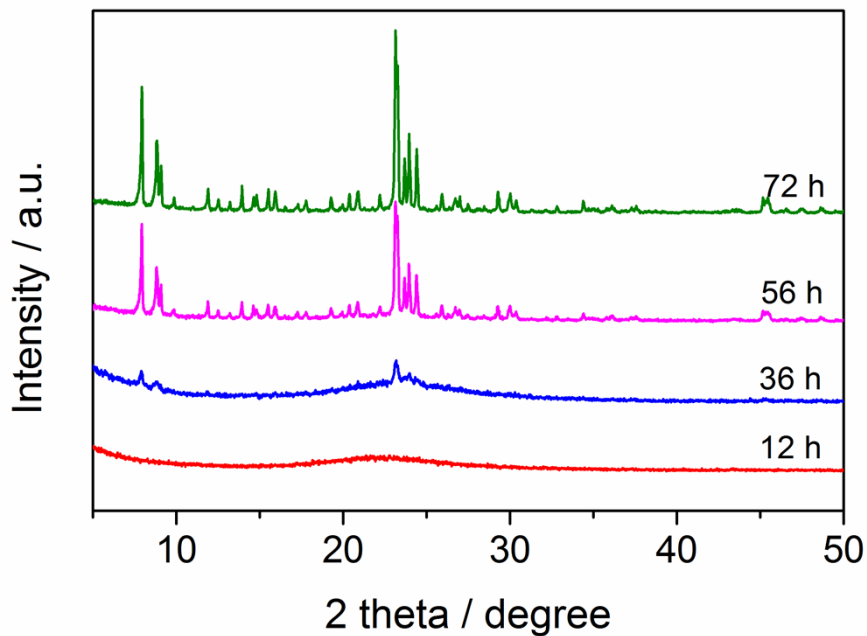


Figure S5. XRD patterns of M-ZSM-5 obtained at different crystallization times.

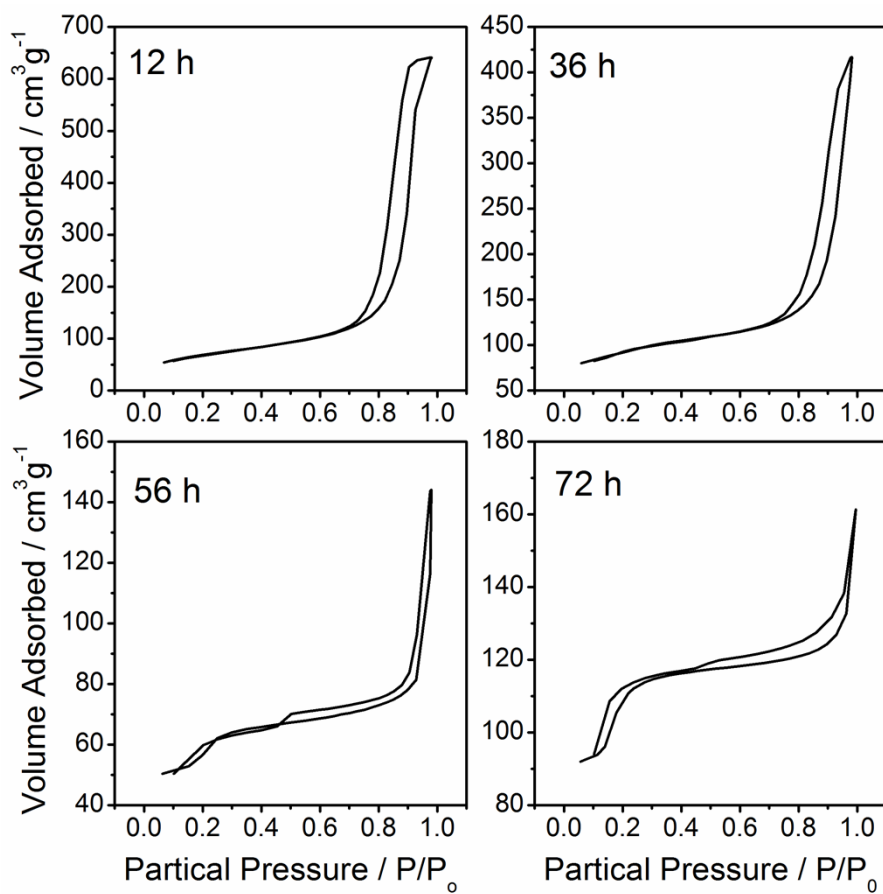


Figure S6. N_2 adsorption/desorption isotherms of M-ZSM-5 obtained at different crystallization times.

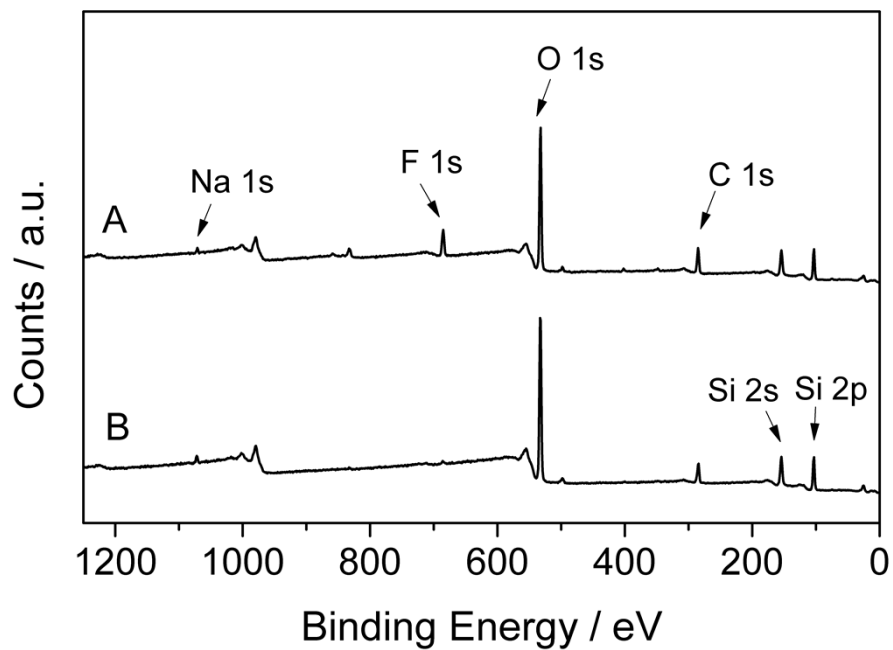


Figure S7. XPS spectra of the M-ZSM-5 sample (A: as-synthesized; B: after calcined).

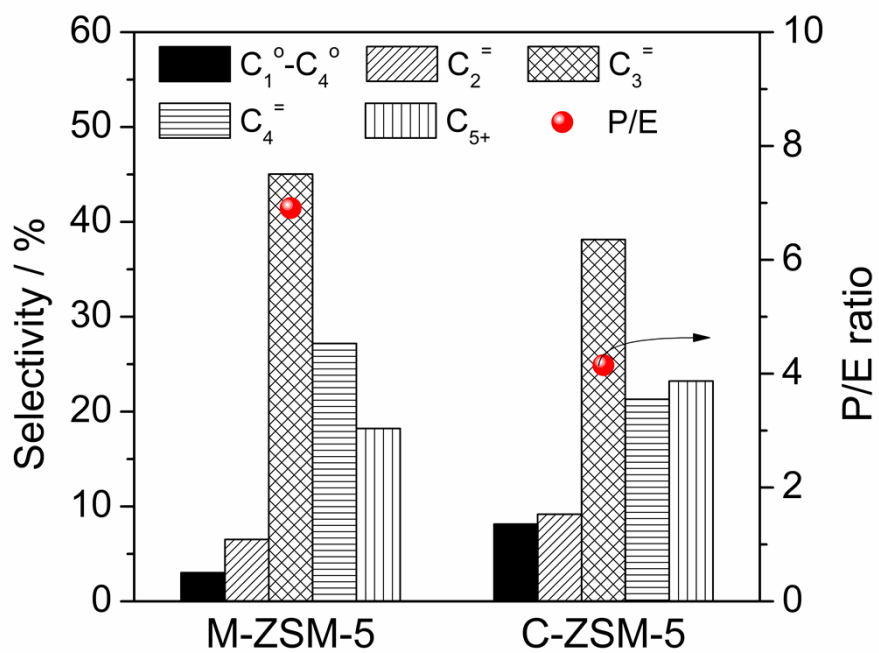


Figure S8. Products distribution at steady stage in MTP conversion over M-ZSM-5 and C-ZSM-5 catalysts. Reaction condition: $T = 743$ K, $P = 0.1$ MPa, $n(\text{CH}_3\text{OH}) : n(\text{H}_2\text{O}) = 1:1$, $WHSV = 3.0$ h⁻¹.

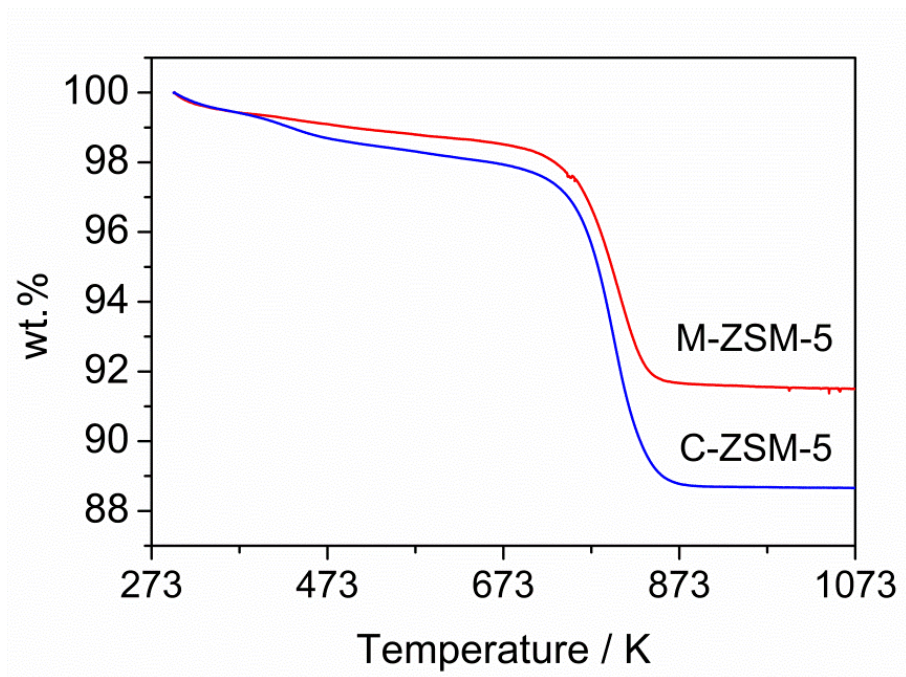


Figure S9. Thermogravimetric curves of the deactivated M-ZSM-5 and C-ZSM-5.