Support Information

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 H₂O/SiO₂ ≈ 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, $n(CH_3OH) : n(H_2O) = 1:1$, $WHSV = 3.0$ h$^{-1}$.
Figure S9. Thermogravimetric curves of the deactivated M-ZSM-5 and C-ZSM-5.