

## Supplementary Material

# Disinfectant-Assisted Preparation of Hierarchical ZSM-5 Zeolite with Excellent Catalytic Stabilities in Propane Aromatization

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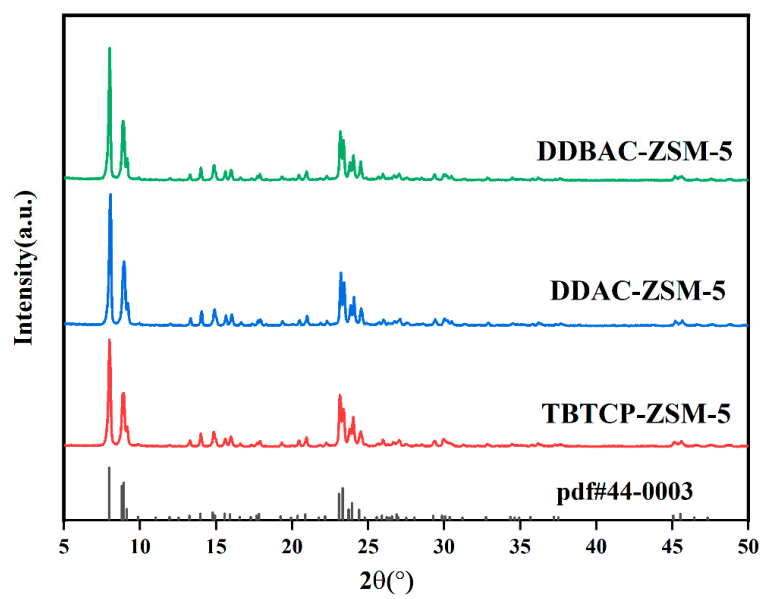


Fig. S1. XRD patterns of TBTCP-ZSM-5, DDAC-ZSM-5 and DDBAC-ZSM-5.

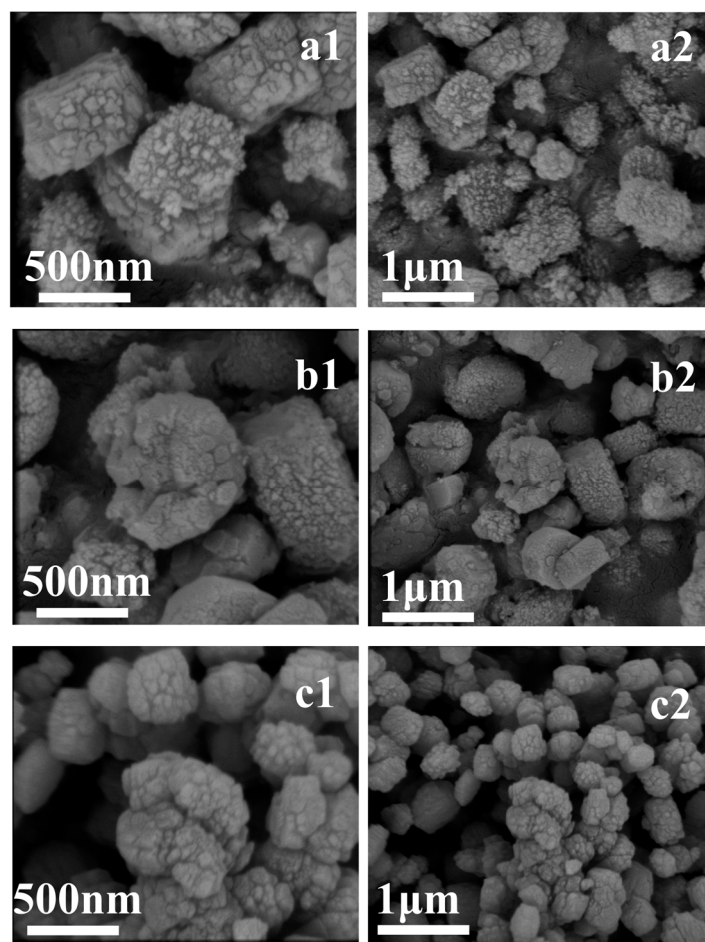


Fig. S2. SEM micrographs of TBTCP-ZSM-5(a), DDAC-ZSM-5(b) and DDBAC-ZSM-5(c).

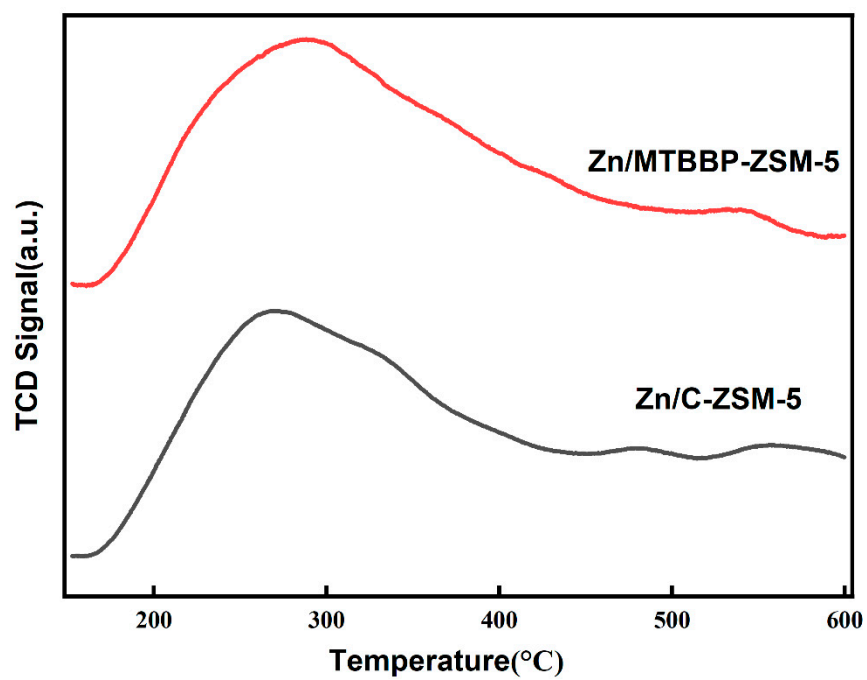


Fig. S3.  $\text{NH}_3$ -TPD desorption curves of Zn/MTBBP-ZSM-5 and Zn/C-ZSM-5.

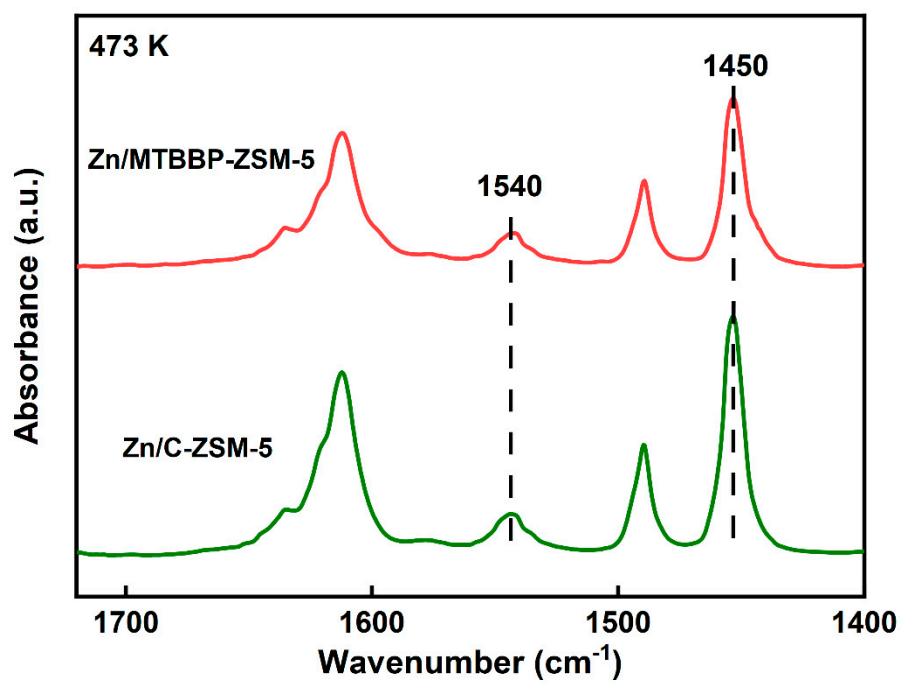


Fig. S4. Py-IR spectra of Zn/MTBBP-ZSM-5 and Zn/C-ZSM-5.

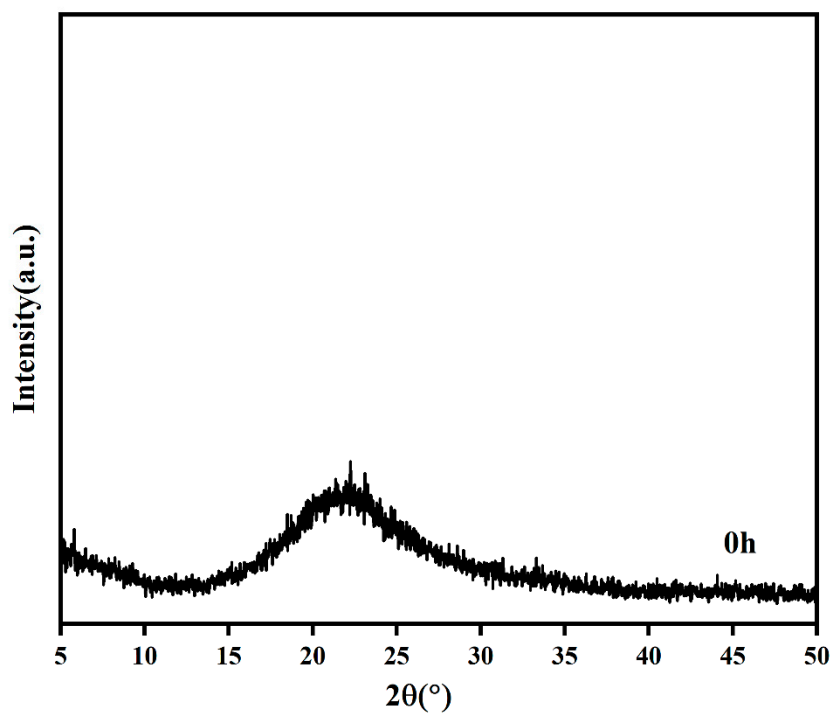


Fig. S5. XRD patterns of synthesized MTBBP-ZSM-5 within 1 hour.

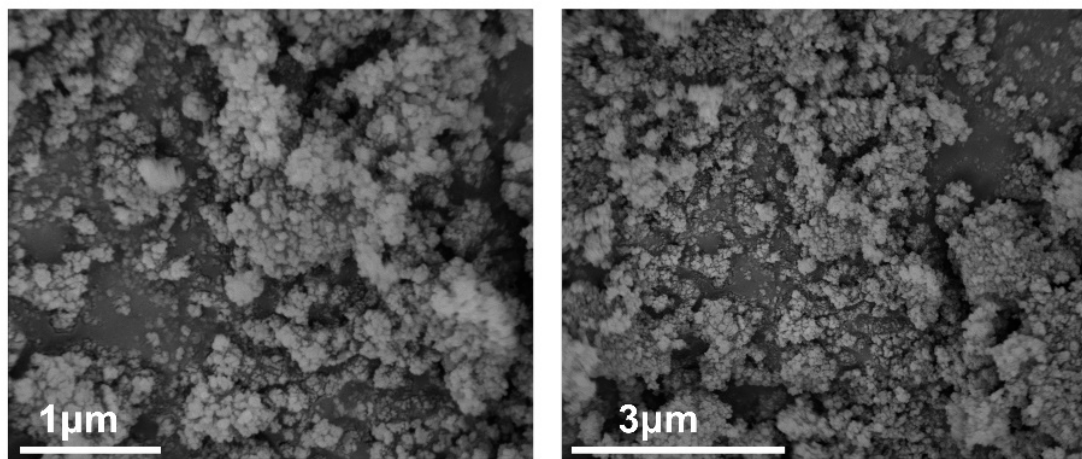


Fig. S6. SEM micrographs of synthesized MTBBP-ZSM-5 within 1 hour.



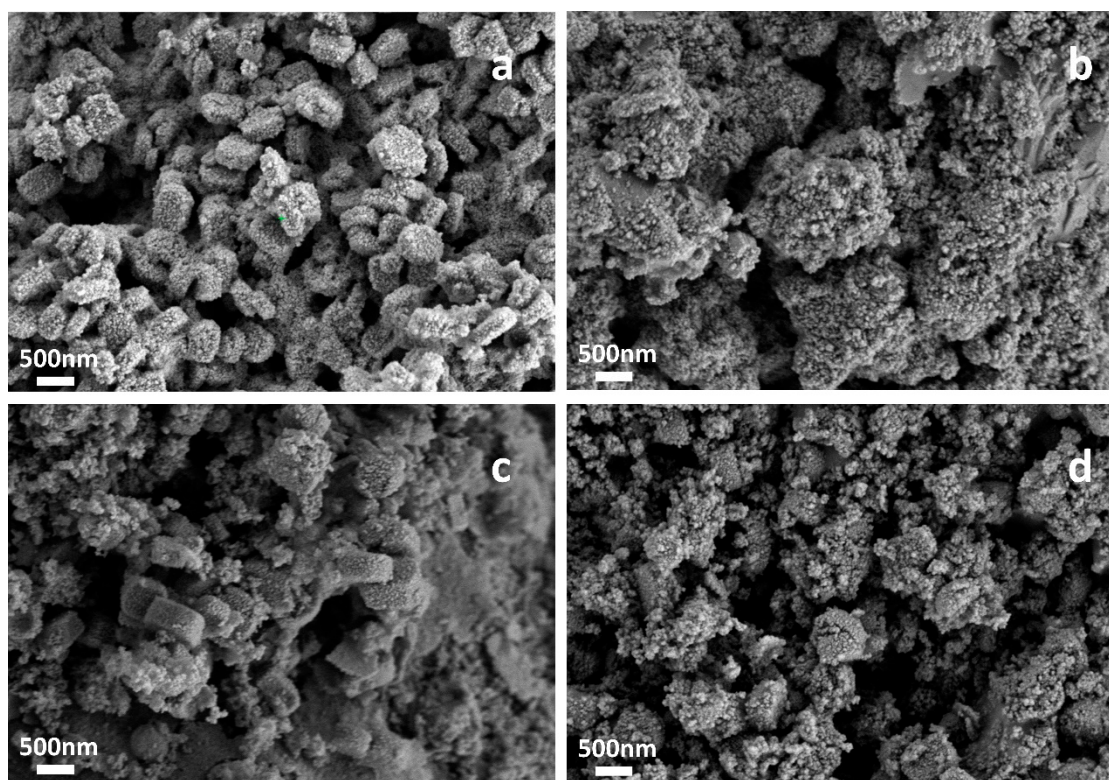


Fig. S7. SEM micrographs of MTBBP-ZSM-5(a), TBTCP-ZSM-5(b), DDAC-ZSM-5(c) and DDBAC-ZSM-5(d) synthesized with  $\text{Na}/\text{Al} = 0.5$ .

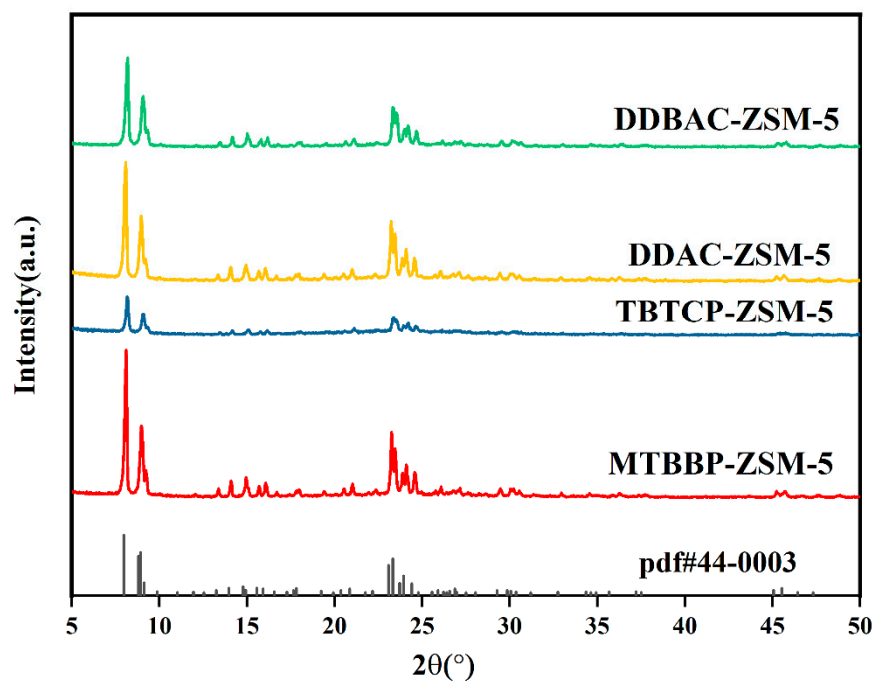


Fig. S8. XRD patterns of synthesized samples with Na/Al = 0.5.

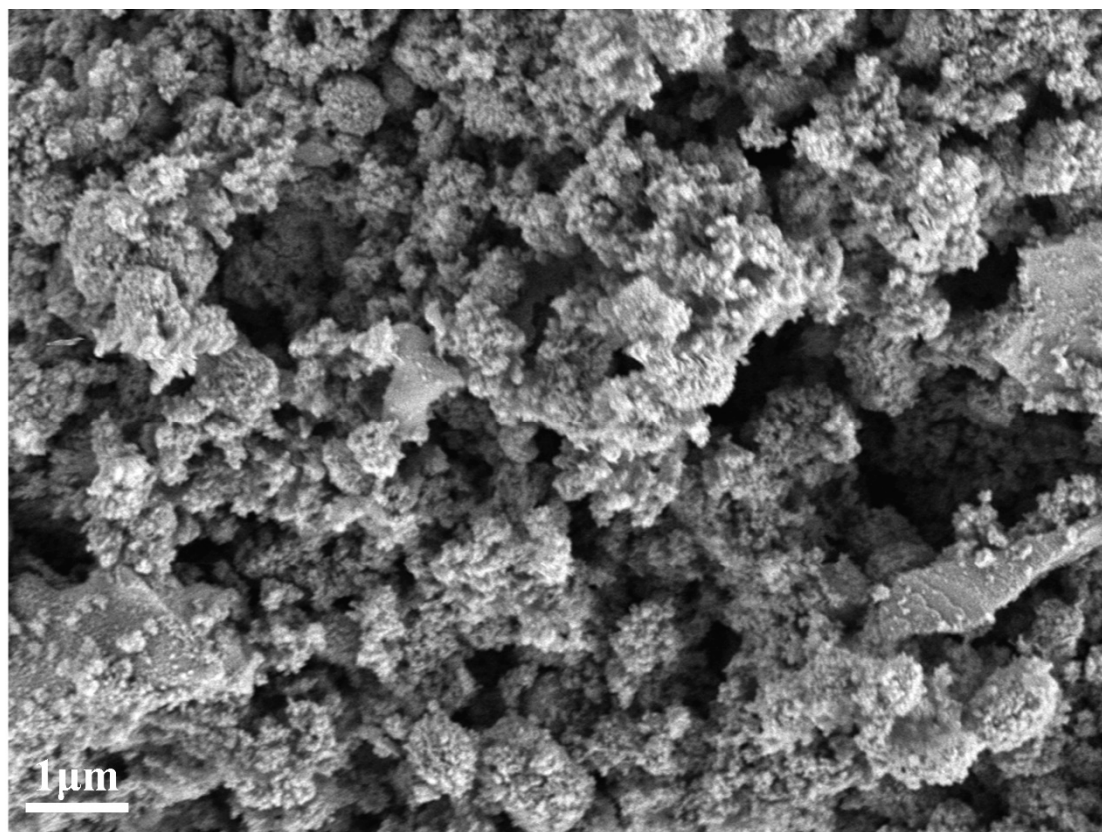


Fig. S9. SEM micrograph of MTBBP-ZSM-5 synthesized with  $\text{Na/Al} = 0$ .

Table S1. Textural properties of the synthesized samples derived from N<sub>2</sub> adsorption-desorption isotherms.

Sample	S <sub>BET</sub> (m <sup>2</sup> ·g <sup>-1</sup> )	S <sub>ext</sub> (m <sup>2</sup> ·g <sup>-1</sup> )	S <sub>micro</sub> (m <sup>2</sup> ·g <sup>-1</sup> )	V <sub>total</sub> (cm <sup>3</sup> ·g <sup>-1</sup> )	V <sub>micro</sub> (cm <sup>3</sup> ·g <sup>-1</sup> )	V <sub>meso</sub> (cm <sup>3</sup> ·g <sup>-1</sup> )
MTBBP	373	195	178	0.40	0.11	0.29
TBTCP-ZSM-5	313	137	176	0.22	0.13	0.09
DDAC-ZSM-5	317	144	173	0.22	0.09	0.13
DDBAC-ZSM-5	326	141	185	0.21	0.10	0.11