

## Supporting Information

### Synthesis and catalytic application of FER zeolite with controllable size

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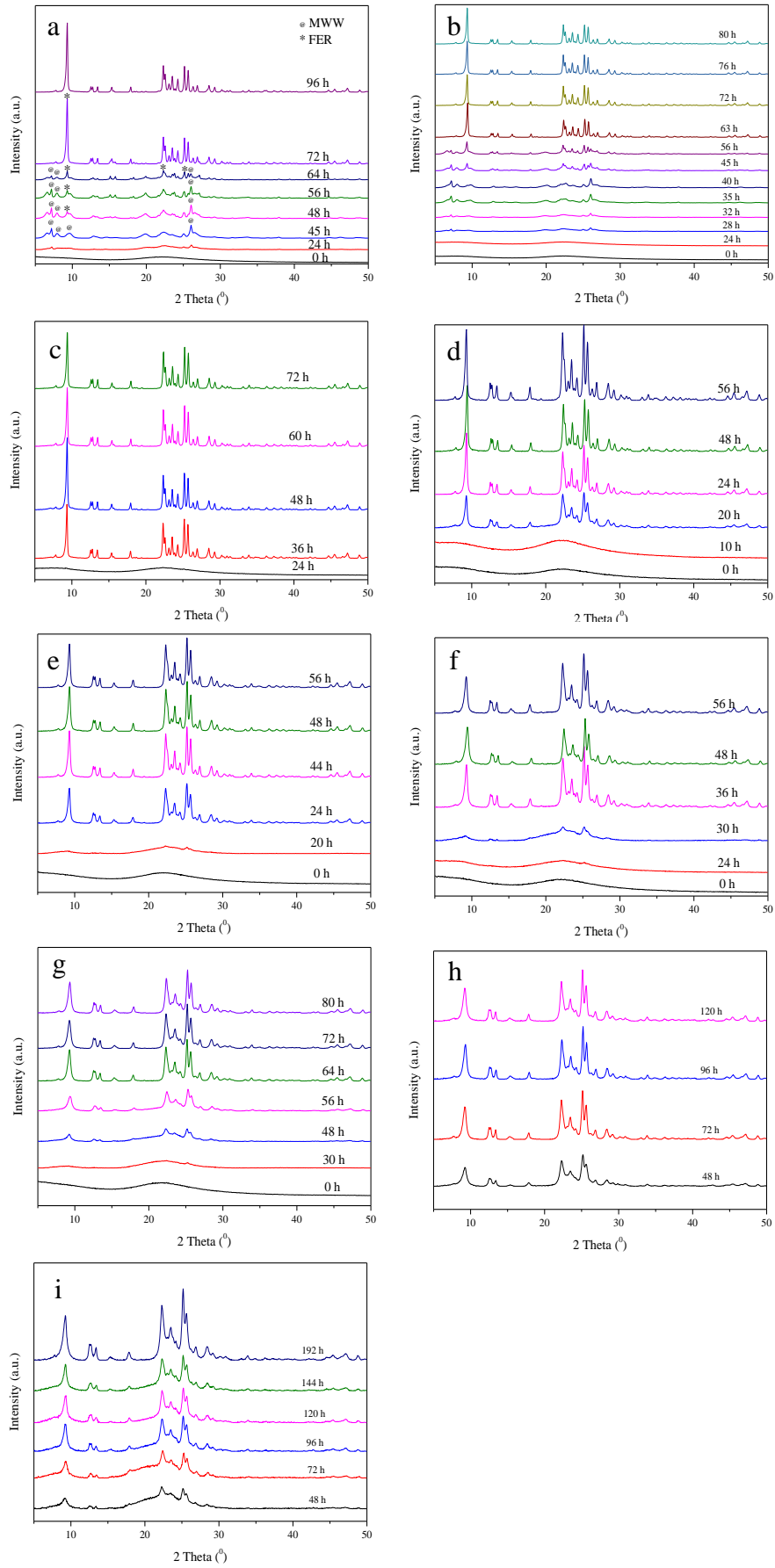


Figure S1. XRD patterns of the samples crystallized for different time in FER-x (a: FER-0, b: FER-0.001, c: FER-0.002, d: FER-0.01, e: FER-0.02, f: FER-0.05, g: FER-0.08, h: FER-0.1, i: FER-0.15)

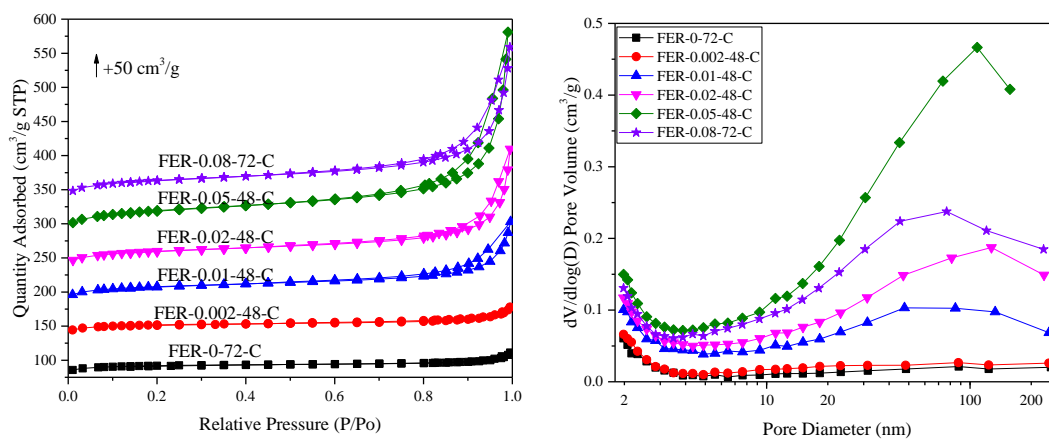


Figure S2. N<sub>2</sub> adsorption/desorption isotherms and pore size distributions of FER-x-t-C

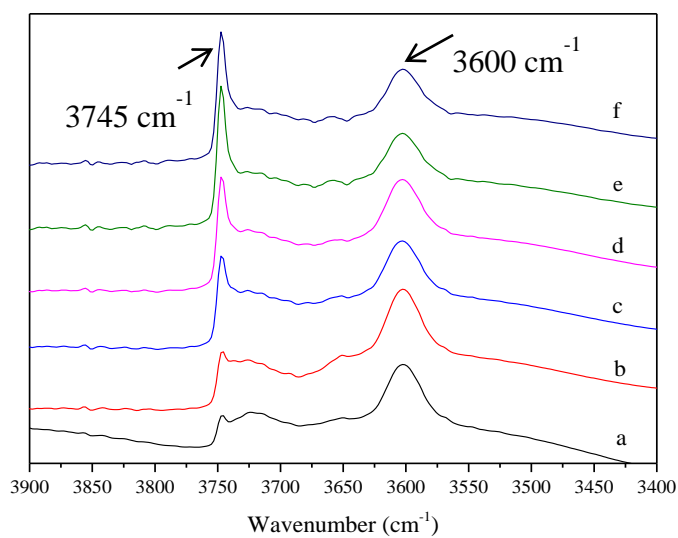


Figure S3. IR spectra of H-FER-x-t (a: H-FER-0-72, b: H-FER-0.002-48, c: H-FER-0.01-48, d: H-FER-0.02-48, e: H-FER-0.05-48, f: H-FER-0.08-72)

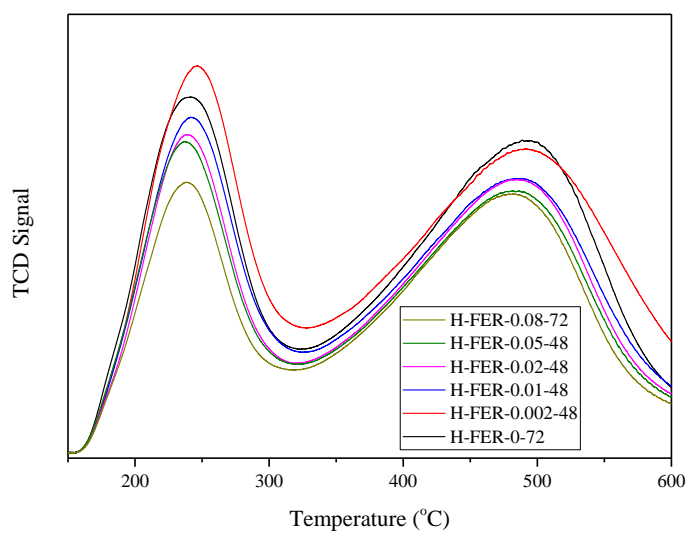


Figure S4. NH<sub>3</sub>-TPD patterns of H-FER-x-t

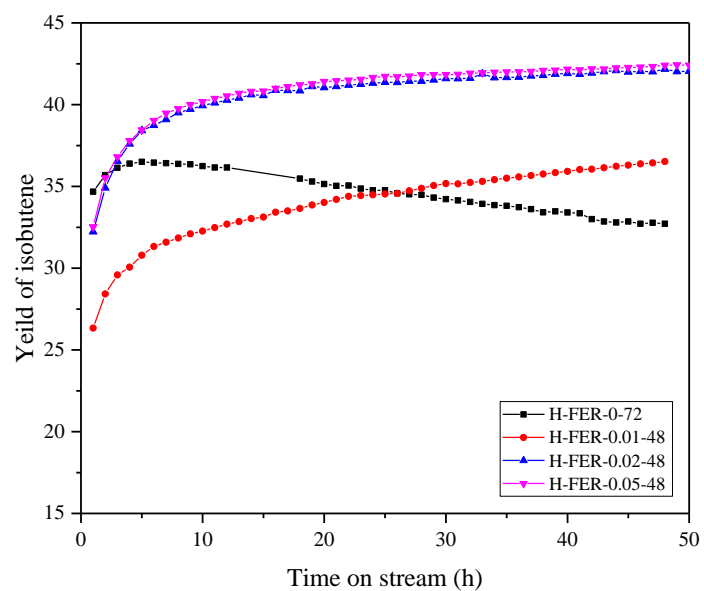


Figure S5. Isobutene yield for 1-butene skeletal isomerization over H-FER-x-t

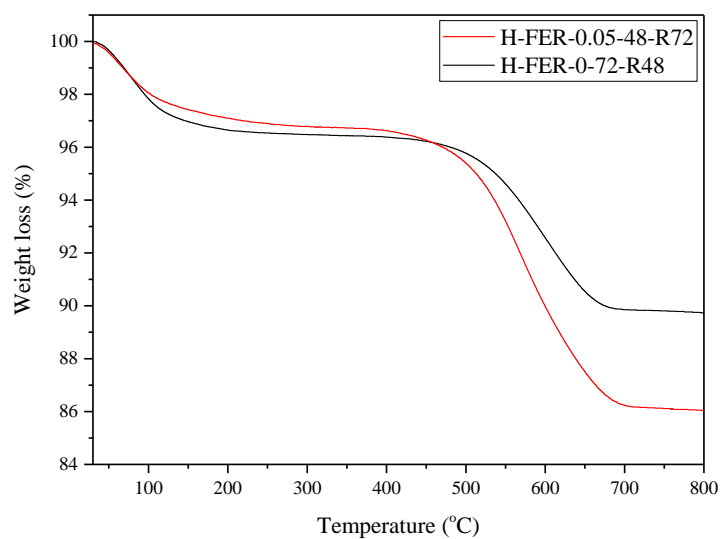


Figure S6. TG curves of H-FER-0-72 reacted for 48 h (H-FER-0-72-R48) and H-FER-0.05-48 reacted for 72 h (H-FER-0.05-48-R72)

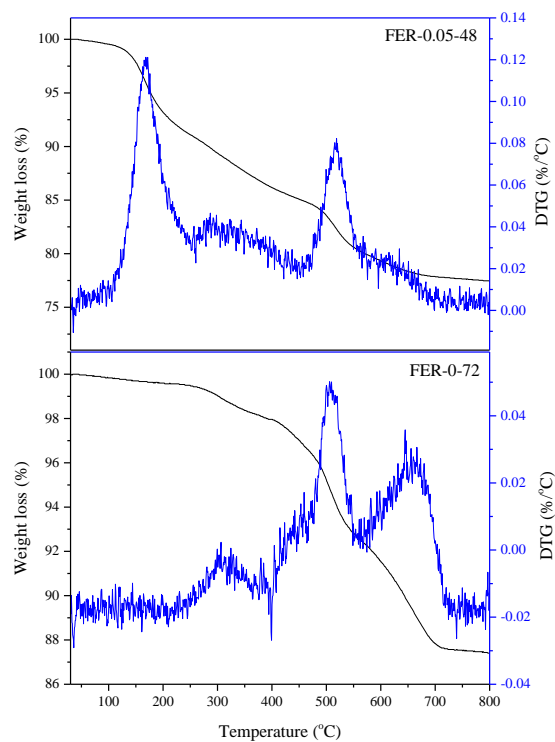


Figure S7. TG and DTG curves of FER-0-72 and FER-0.05-48

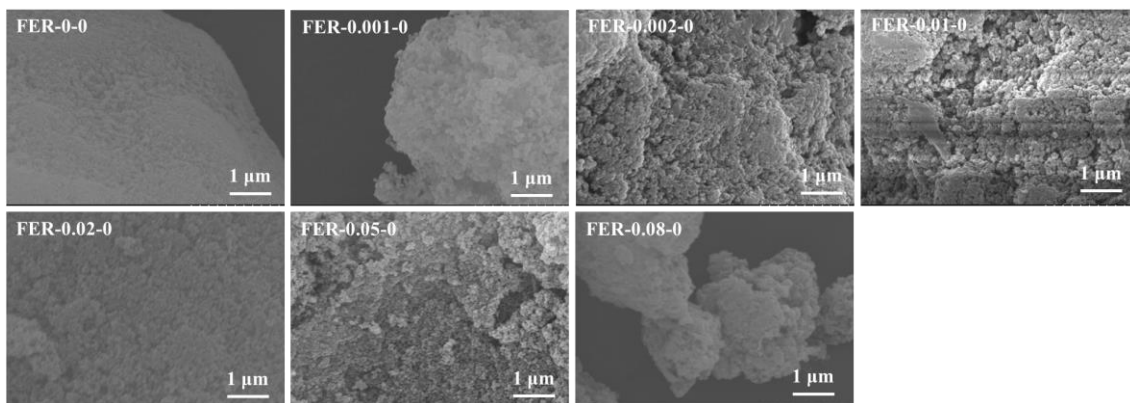


Figure S8. SEM images of FER-x-0 (the samples only pretreated for 24 h under 110 °C)

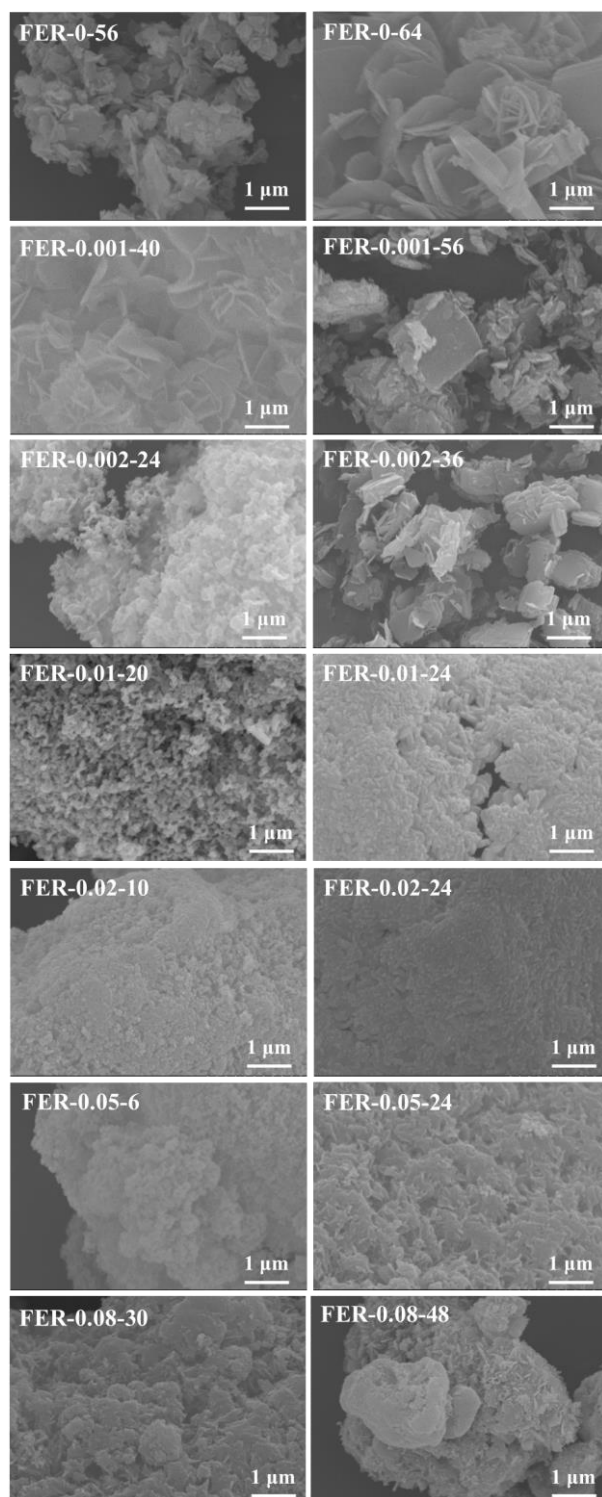


Figure S9. SEM images of crystallization process of FER-x-t