

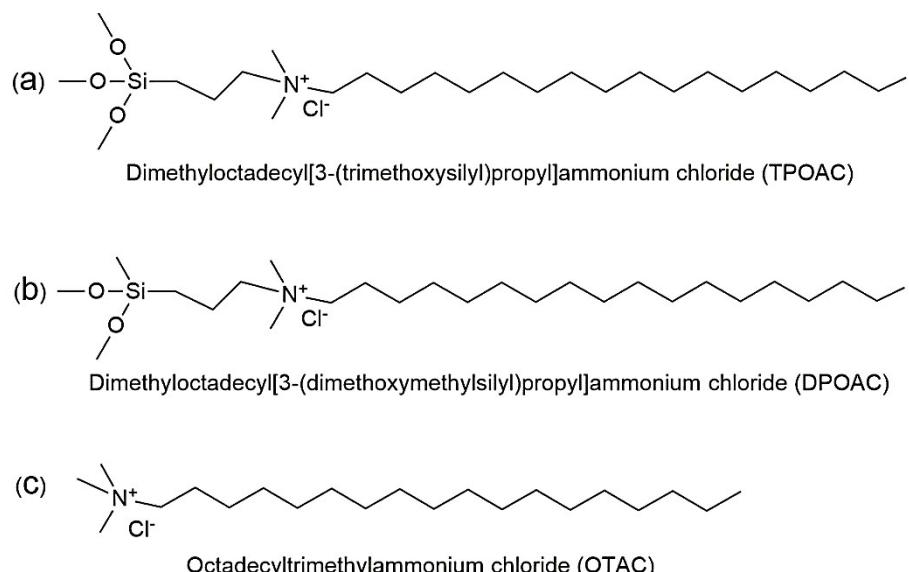
Support information

**Cooperative Structure Direction of Organosilanes and
Tetrapropylammonium Hydroxide to Generate Hierarchical ZSM-5
Zeolite with Controlled Porous Structure**

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Scheme S1 The chemical structures of (a) TPOAC; (b) DPOAC; (c) OTAC.

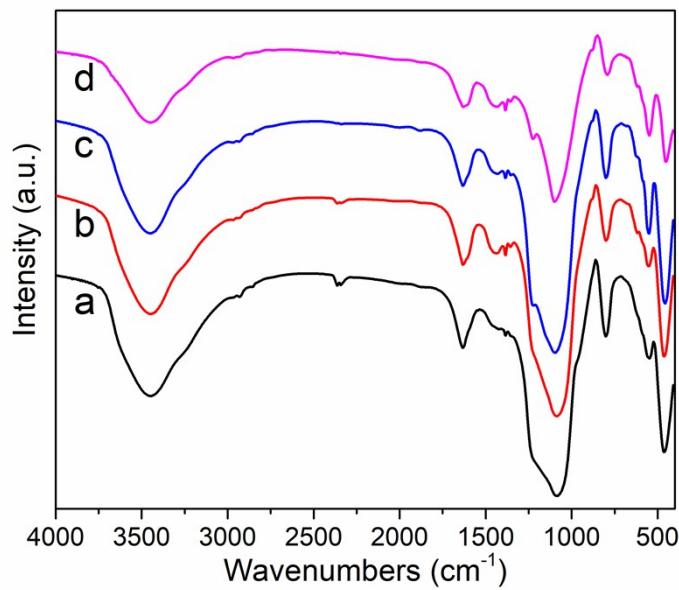


Fig. S1 The FT-IR spectra of (a) TH-ZSM-5(4.2); (b) DH-ZSM-5(4.2); (c) TH-ZSM-5(6.3); (d) conventional ZSM-5 samples.

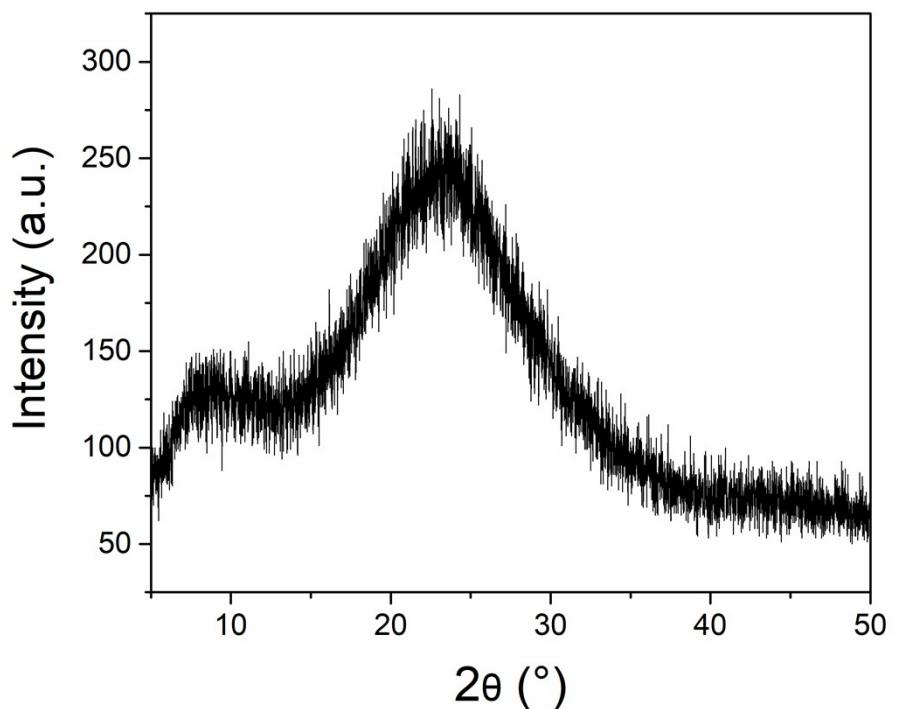


Fig. S2 The XRD patterns of TH-ZSM-5(2.1) sample.

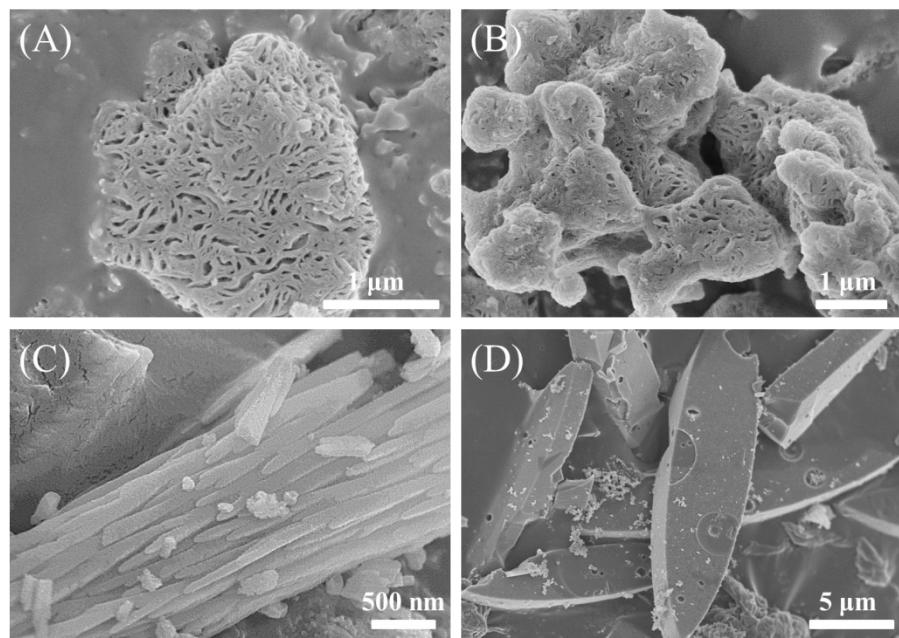


Fig. S3 The SEM images of Fe-TH-ZSM-5(4.2), Fe-DH-ZSM-5(4.2), Fe-TH-ZSM-5(6.3) and conventional Fe-ZSM-5 samples.

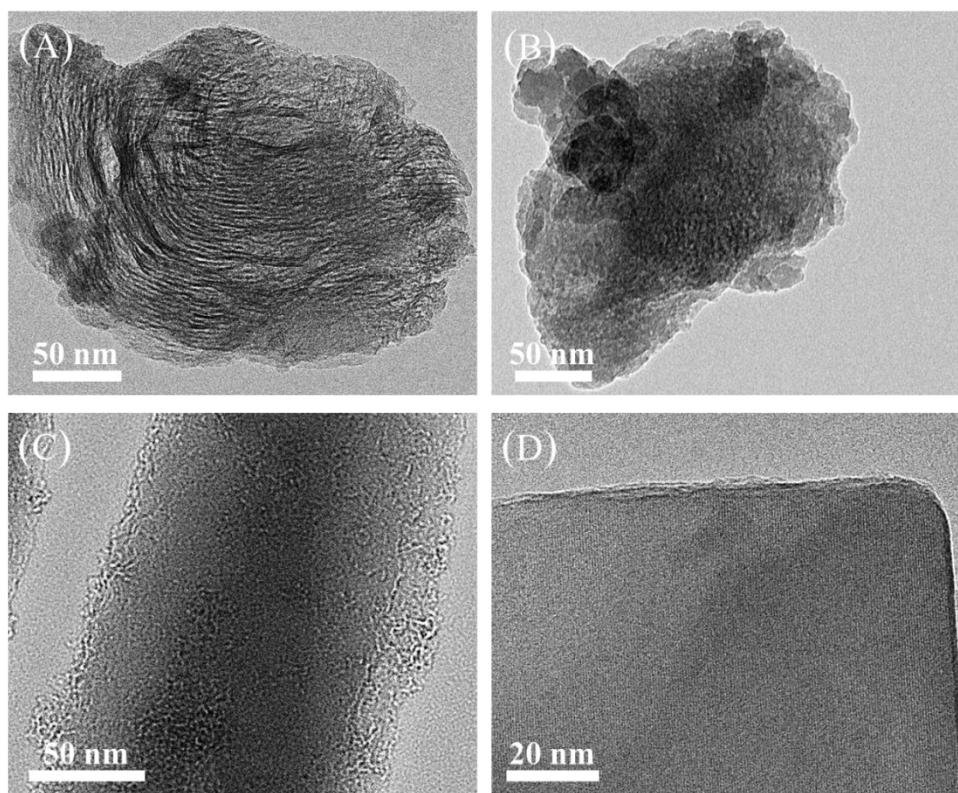


Fig. S4 The TEM images of Fe-TH-ZSM-5(4.2), Fe-DH-ZSM-5(4.2), Fe-TH-ZSM-5(6.3) and conventional Fe-ZSM-5 samples.

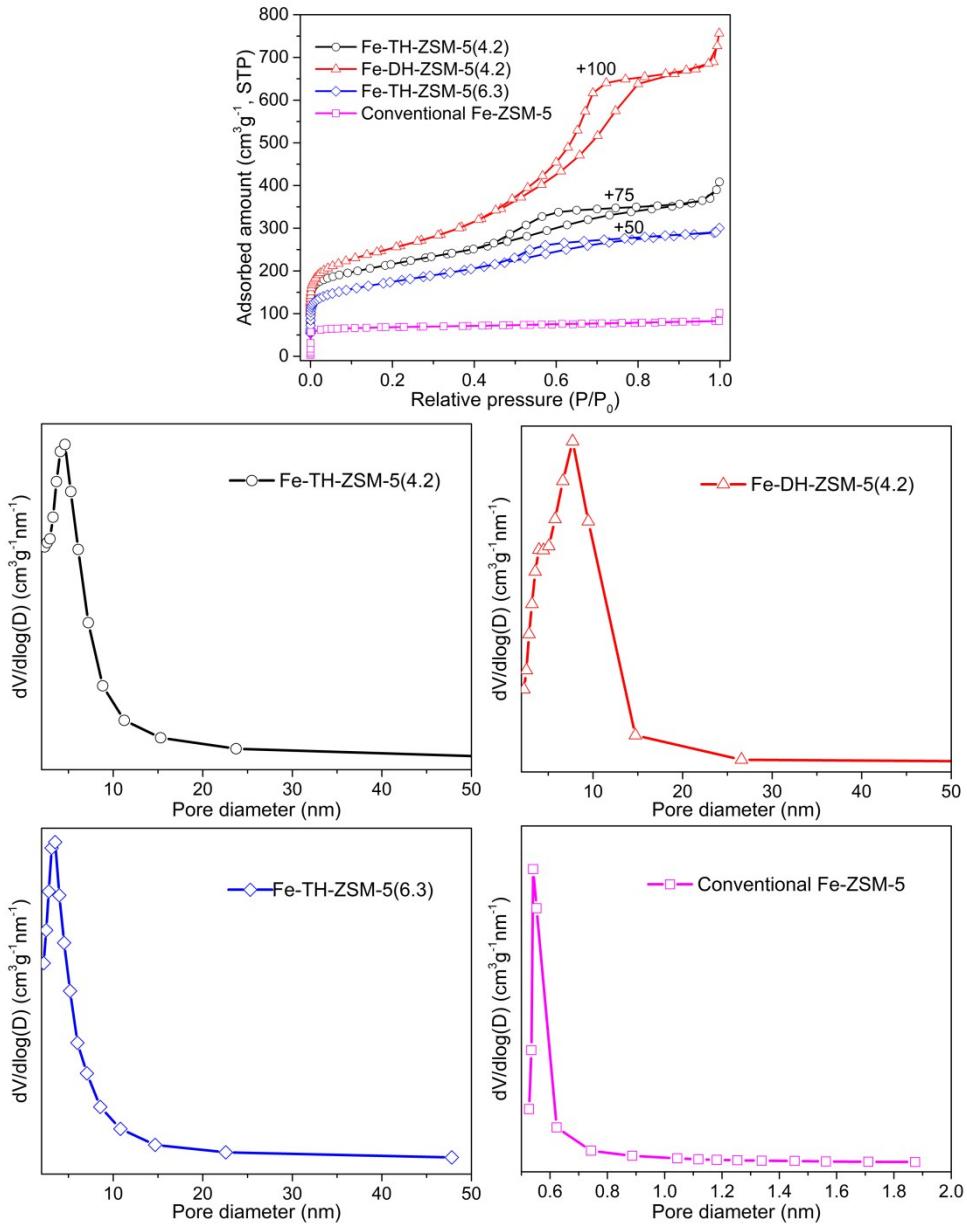


Fig. S5 The N_2 adsorption-desorption isotherms and pore size distributions of Fe-TH-ZSM-5(4.2), Fe-DH-ZSM-5(4.2), Fe-TH-ZSM-5(6.3) and conventional Fe-ZSM-5 samples.

Table S1 Textural properties of Fe-TH-ZSM-5(4.2), Fe-DH-ZSM-5(4.2), Fe-TH-ZSM-5(6.3) and conventional Fe-ZSM-5 samples.

Samples	Si/Al ^a	Fe	S _{BET}	S _{micro}	V _{micro} ^c	V _{meso} ^d
		content ^b	[m ² /g]	[m ² /g]	[cm ³ /g]	[cm ³ /g]
Fe-TH-ZSM-5(4.2)	26	0.64	431	61	0.031	0.24
Fe-DH-ZSM-5(4.2)	22	0.63	513	92	0.05	0.28
Fe-TH-ZSM-5(6.3)	24	0.65	423	117	0.06	0.19
conventional Fe-ZSM-5	27	0.63	234	197	0.09	0.02

^a Measured by ICP-OES.

^b Fe content in mass (%).

^c Determined by t-plot method.

^d Pore volume in the range of 2-50 nm.

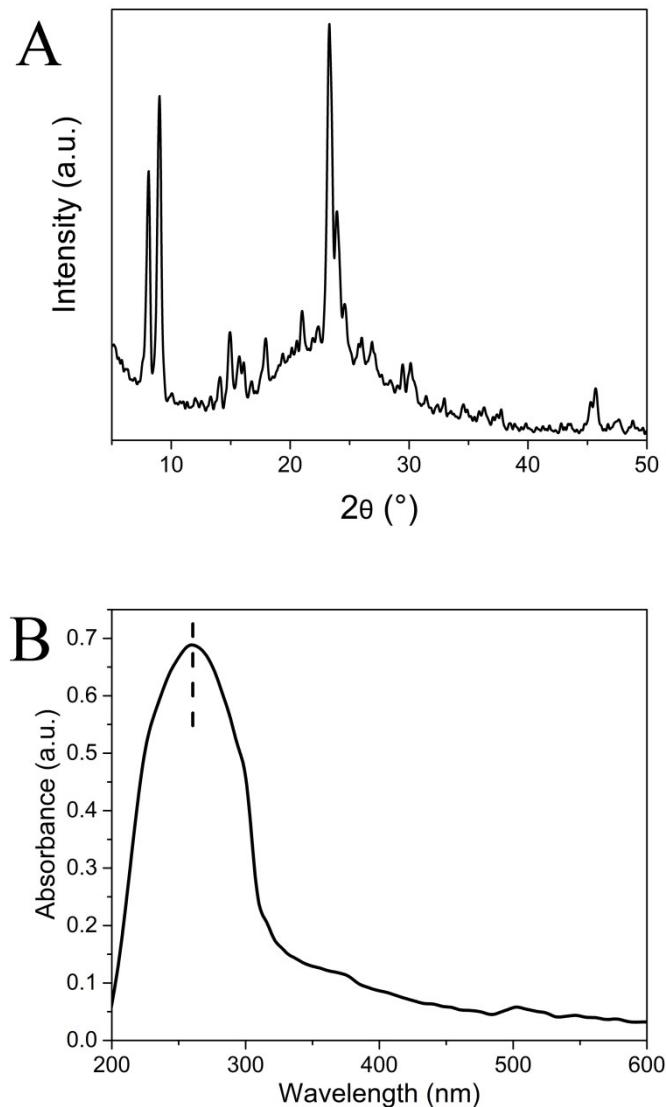


Fig. S6 (A) XRD pattern and (B) UV–Vis spectrum of r-Fe-TH-ZSM-5(4.2). Where r-Fe-TH-ZSM-5(4.2) is the sample collected after the reaction ran five cycles.