

Design of hierarchically structured cubic Fe-based catalysts with controllable assembly architectures for gasoline fuel synthesis

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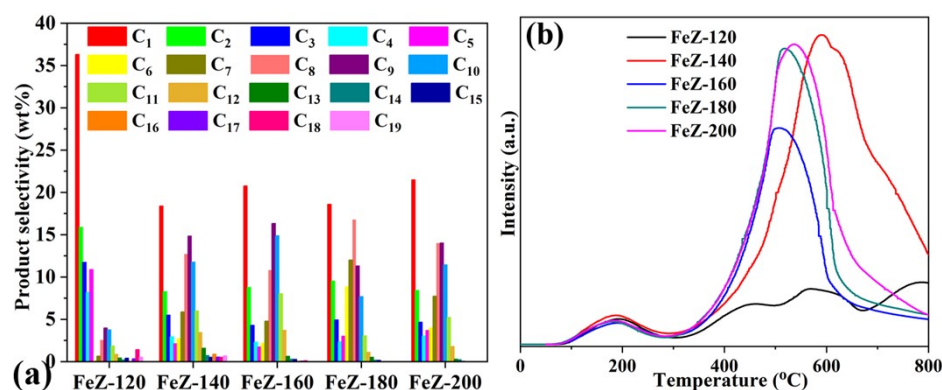


Fig. S1 (a) Product distribution over different catalysts, (b) CO-TPD profiles of the reduced catalysts.

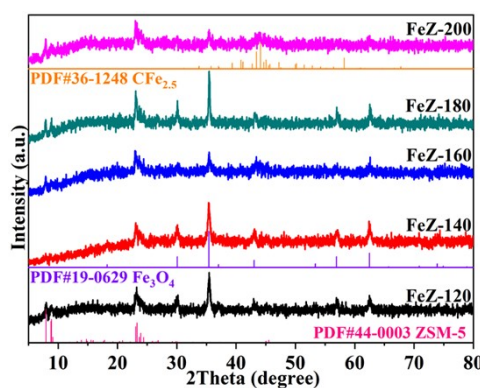


Fig. S2 XRD patterns of the used catalysts after FTS reaction.

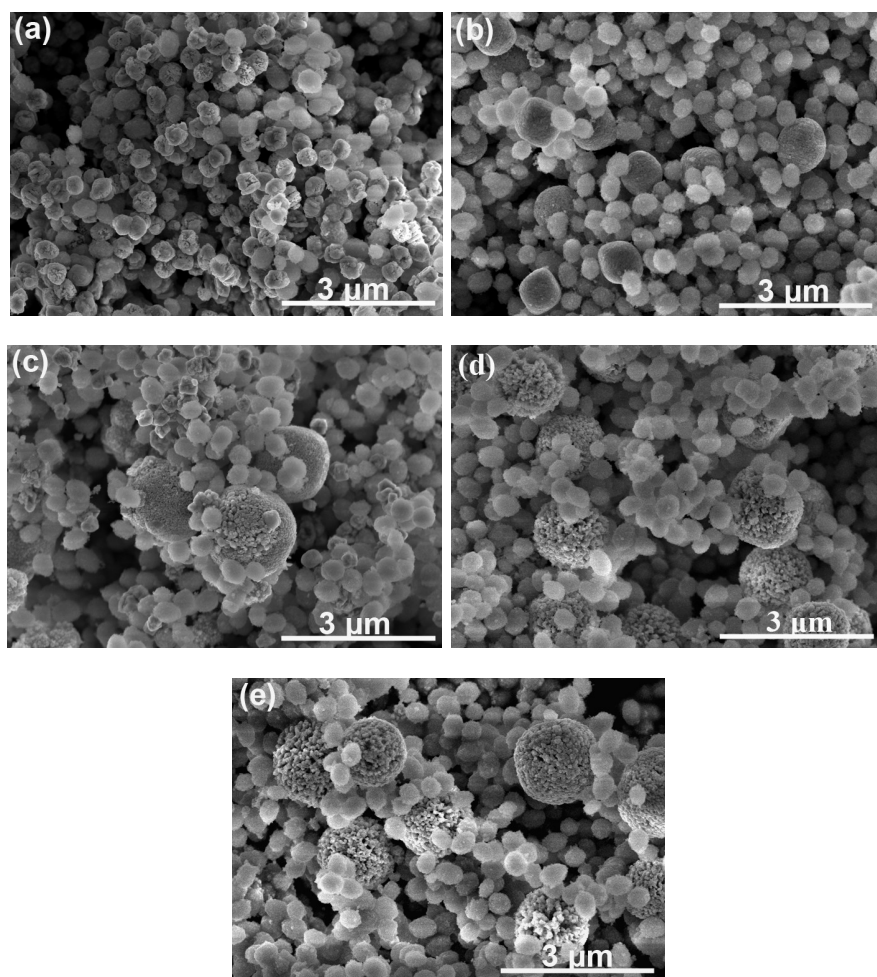


Fig. S3 SEM images of the used catalysts after FTS reaction: (a) Fe-120, (b) Fe-140, (c) Fe-160, (d) Fe-180, (e) Fe-200.

Table S1 Comparison of catalytic performance

Catalytic performance	disc-like FedZ-10	Fe_2O_3 @H-ZSM-5 DSHSs	FeNa@Si- c+HZSM-5	FeZ-180
CO conversion (%)	43.7	79.0	49.8	93.6
C_5 - C_{11} (wt%)	55.1	64.0	62.5	62.9
C_{5+} selectivity (wt%)	56.8	64.3		64.6
Reference	24	26	25	this work

Table S2 Textural properties of the fresh-prepared catalysts

Catalyst	BET surface area	average pore diameter
	(m ² g ⁻¹)	(nm)
Fe-120	32.1	7.52
Fe-140	220.7	3.46
Fe-160	19.2	3.51
Fe-180	5.71	3.88
Fe-200	7.42	3.88