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Synthesis and Characterization of Iron-incorporated hierarchical mesoporous ZSM-5 with tunable porosity and its application to selective hydroxylation of benzene to phenol

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Fig. 1: Deconvoluted UV/vis spectra of Mesoporous Fe-ZSM-5 (Fe/Al=0.18), ODAC/Si = 0.11 [MZ(0.18)-L].

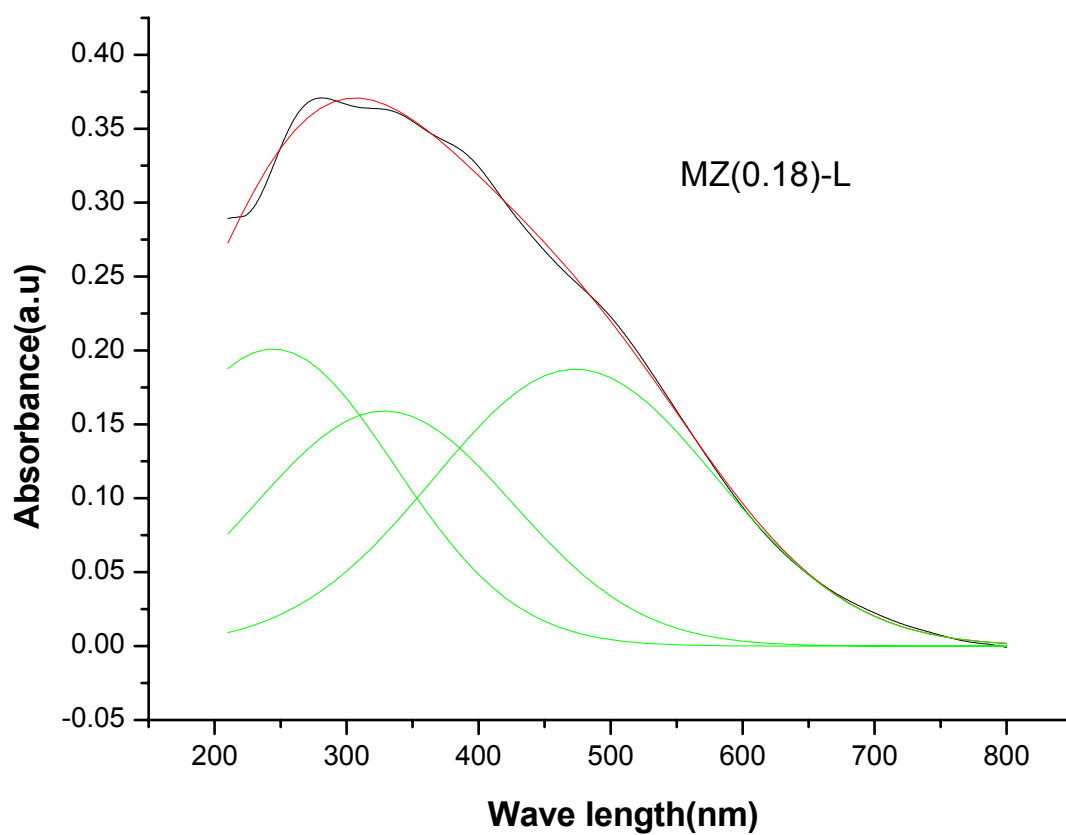


Fig. 2: Deconvoluted UV/vis spectra of Mesoporous Fe-ZSM-5 (Fe/Al=0.18), ODAC/Si = 0.036 [MZ(0.18)-S].

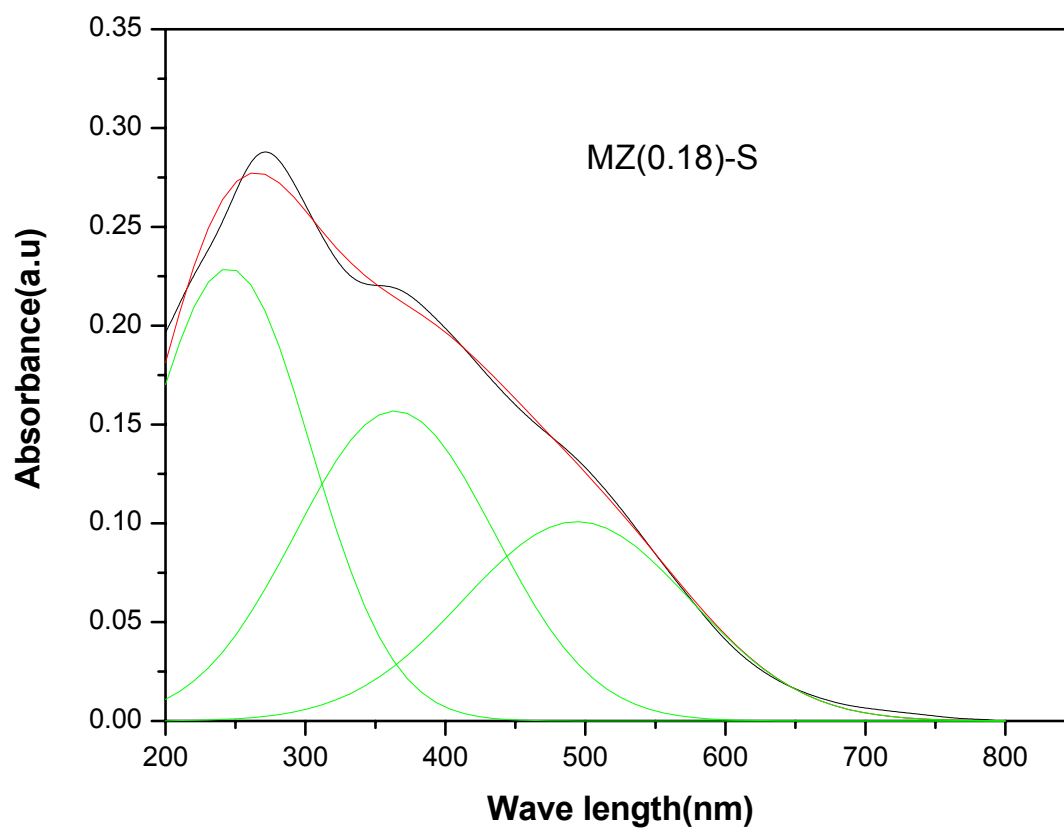


Fig. 3: Deconvoluted UV/vis spectra of Mesoporous Fe-ZSM-5 (Fe/Al=0.38), ODAC/Si = 0.036 [MZ(0.38)-S].

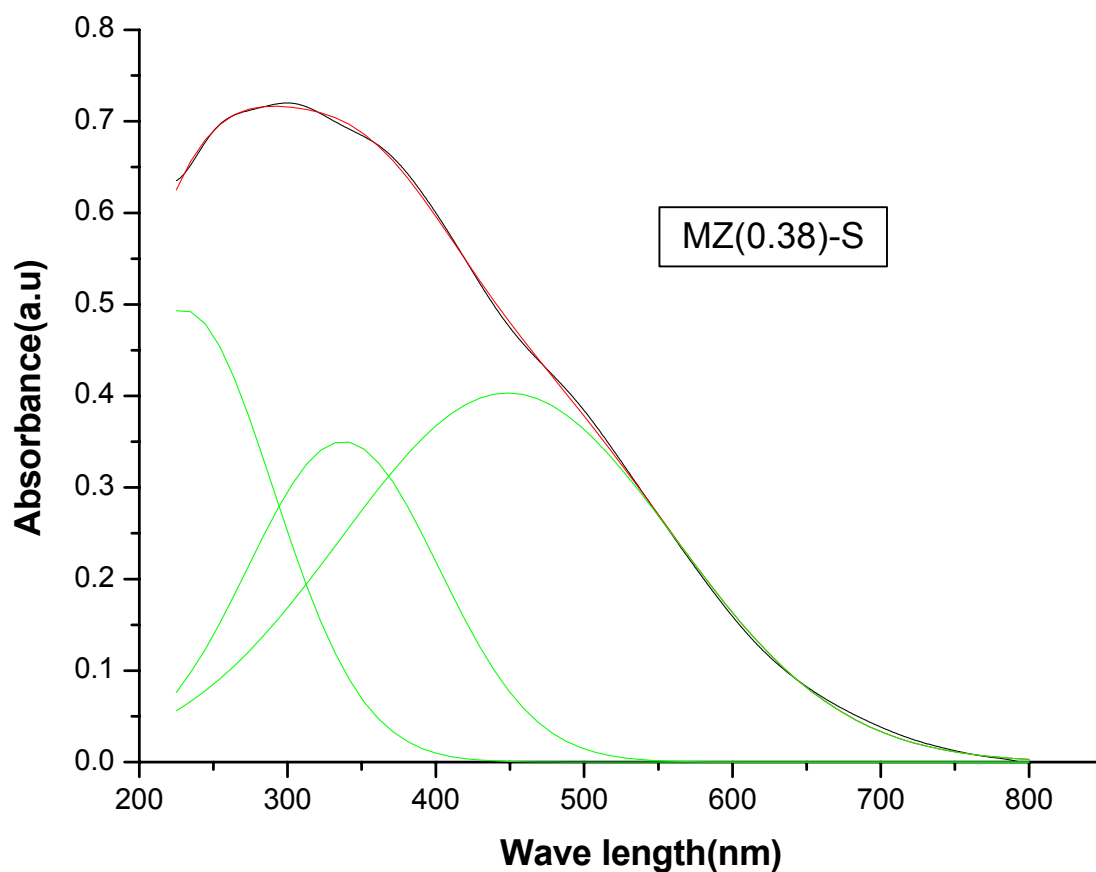


Table 1: Acidic properties of mesoporous Fe-ZSM-5 and microporous H-ZSM-5 catalysts.

	g _{Fe} (wt%)	Acidity(mmol NH ₃ /g _{cat})	
		S	W
MZ-L	0.03	0.29	0.14
MZ(0.18)-L	0.93	0.27	0.12
MZ-S	0.03	0.17	0.20
MZ(0.18)-S	0.90	0.18	0.22
H-ZSM-5	0.02	0.32	0.08