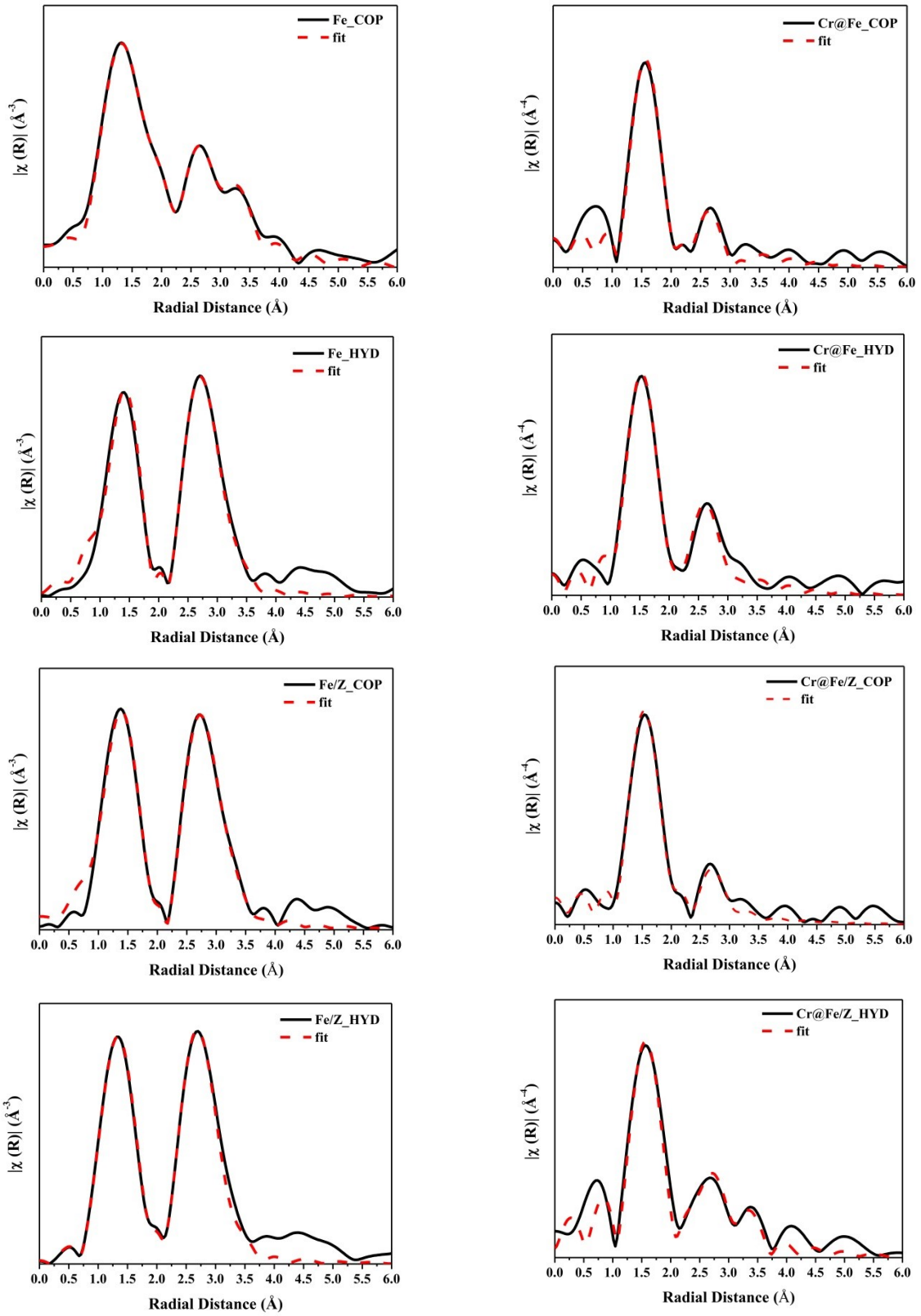


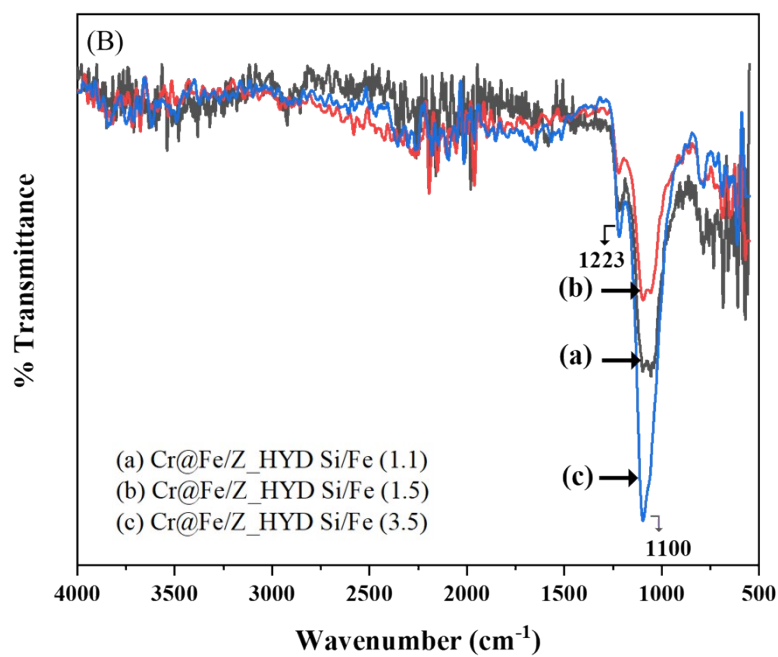
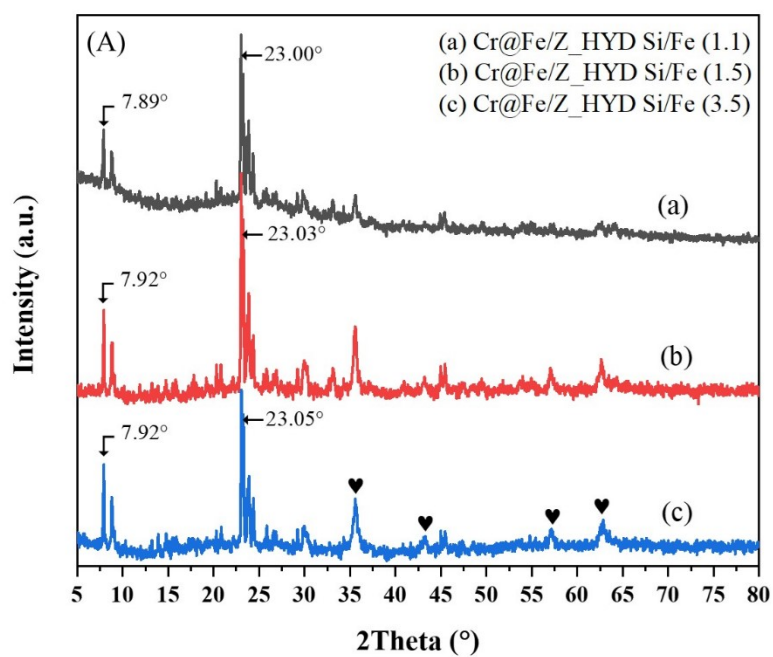
Supplementary materials

S1 XPS analysis of all adsorbents before and after Cr⁶⁺ adsorption

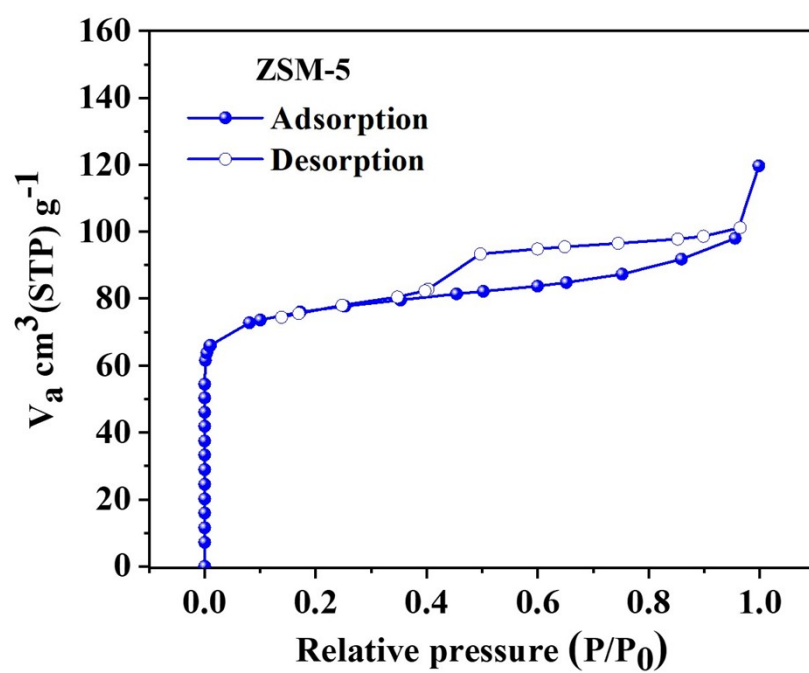
Sample	Fe _{2p}			O _{1s}		
	2p _{3/2}	satellite	2p _{1/2}	Fe-O _{lattice}	Fe-OH _{lattice}	Fe-OH _{ads}
Fe_COP	712.3	720.1	725.9	530.8		532.7
Fe_HYD	711.0	718.4	724.6	530.5		532.5
Fe/Z_COP	711.2	718.7	724.5	530.7		532.9
Fe/Z_HYD	711.3	718.9	724.9	530.8		533.2
Cr@Fe_COP	710.3	717.6	725.9	529.6	531.8	534.0
Cr@Fe_HYD	710.3	718.0	723.9	529.8	531.6	533.4
Cr@Fe/Z_COP	710.5	718.2	723.7	529.8	531.3	533.2
Cr@Fe/Z_HYD	711.9	721.3	725.4	529.4	531.7	534.1



S2 Fe K-edge EXAFS spectra of (a) adsorbents before adsorbed Cr(VI) and (b) after adsorbed Cr(VI)



S3 XRD patterns (A) and FT-IR spectra (B) of the Cr@Fe/ZSM-5_HYD with varying Fe loading



S4 N₂-adsorption desorption of bare ZSM-5 without Fe addition