

Table S1. Representative Concentrations of Na(I), K(I), Ca(II) and Fe(III) in kinetic, equilibrium and pH studies

Type of study	Na(I) (ppb)	K(I) (ppb)	Ca(II) (ppb)	Fe (III) (ppb)
<i>Equilibrium studies</i> : Initial Concentration:100 ppb	2056.564	1804.56	1014.03	306.29
<i>Kinetic studies</i> : 2 hour study	1378.76	1108.34	892.63	331.88
<i>pH studies</i> : 2.07	1785.78	1679.34	1599.10	3092.04

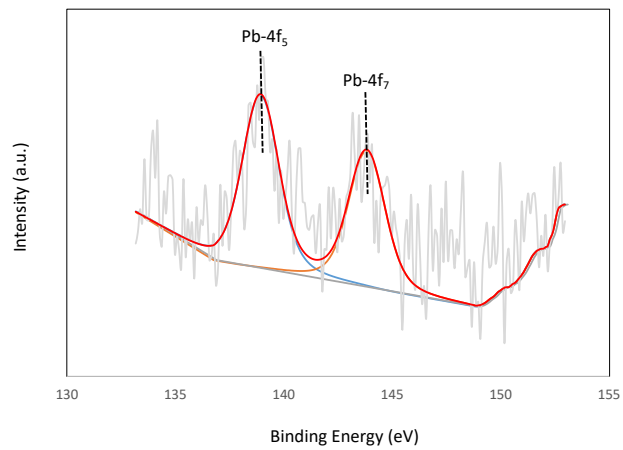


Figure S1. XPS Pb-4f peak deconvolution results of MC-Fe-S2 after competitive adsorption

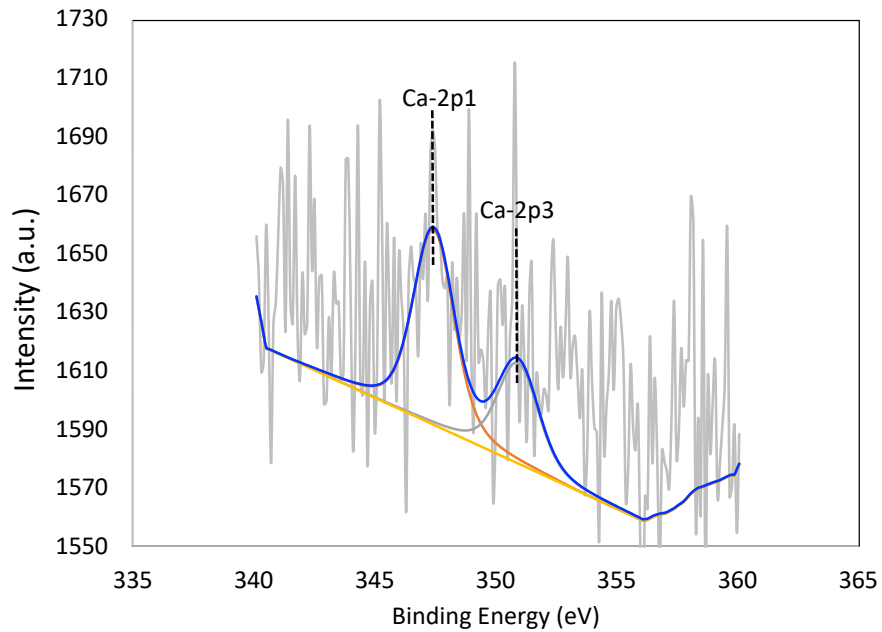


Figure S2. XPS Ca-2p peak deconvolution results of MC-Fe-S2 after competitive adsorption