

Electronic Supplementary Information

Mesoporous maltose/calcium oxalate hybrid material with abundant reaction sites and its efficient removal of Pb (II) from diverse water bodies

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1. Tables S1-S2

Table S1 Parameters of Ma-COM

Sample	BET surface area ($\text{m}^2 \text{g}^{-1}$)	Mean pore diameter(nm)	Pore volume ($\text{cm}^3 \text{g}^{-1}$)
Ma-COM	23.428	32.84	0.191

Table S2 Thermodynamic parameters of Pb(II) adsorption on Ma-COM

T (K)	ΔG^0 (KJ mol^{-1})	ΔH^0 (KJ mol^{-1})	ΔS^0 ($\text{J mol}^{-1} \text{K}^{-1}$)
298	-5.524		
308	-5.254		
318	-4.984	-13.570	-0.027
328	-4.714		

2. FiguresS1-S4

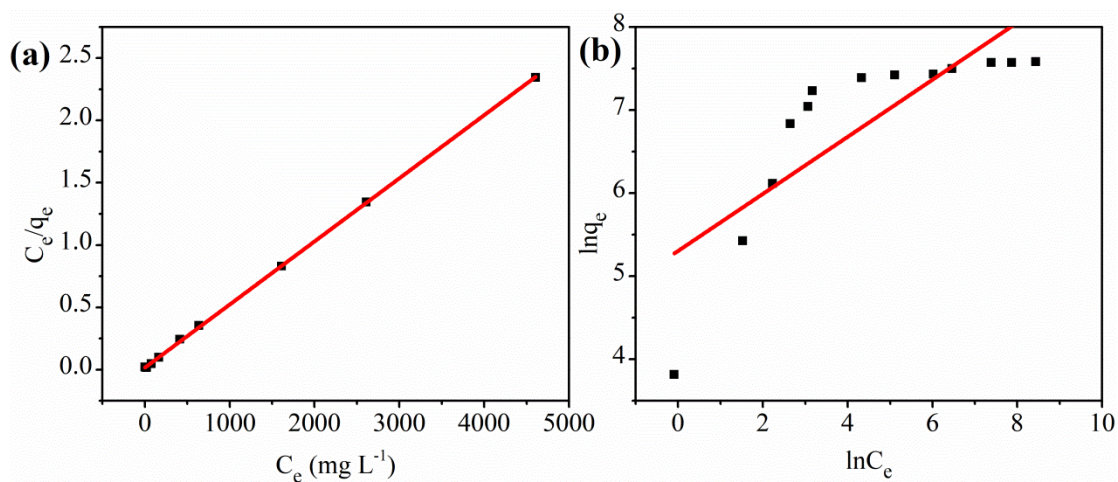


Fig.S1 Adsorption of Pb (II) on Ma-COM, (a) Langmuir model, (b) Freundlich model.

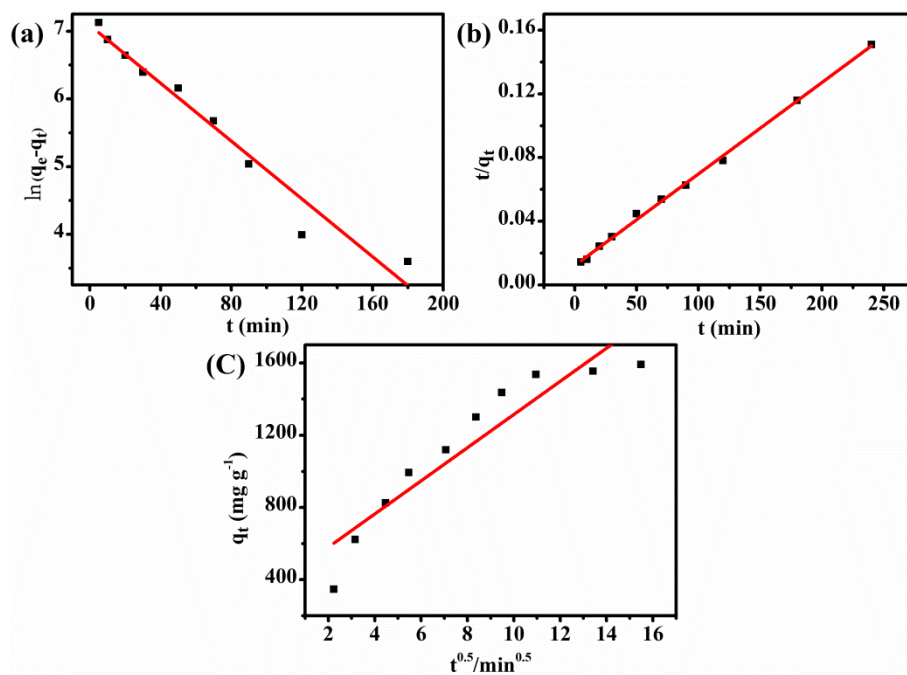


Fig. S2 Adsorption kinetics curves of Pb(II) on Ma-COM. (a) pseudo-first-order model, (b) pseudo-second-order model and (c) intraparticle diffusion model. Initial Pb(II) concentration: 500 mg L⁻¹; time:240 min; pH: 4.0; adsorbent dose: 200 mg L⁻¹; temperature: 25 °C.

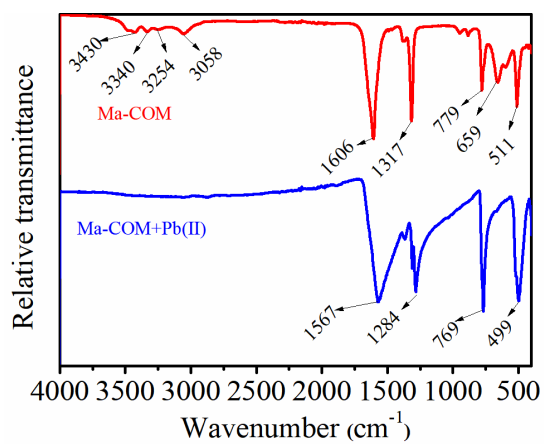


Fig. S3 FTIR spectra of Ma-COM and Pb (II) solution treated Ma-COM.

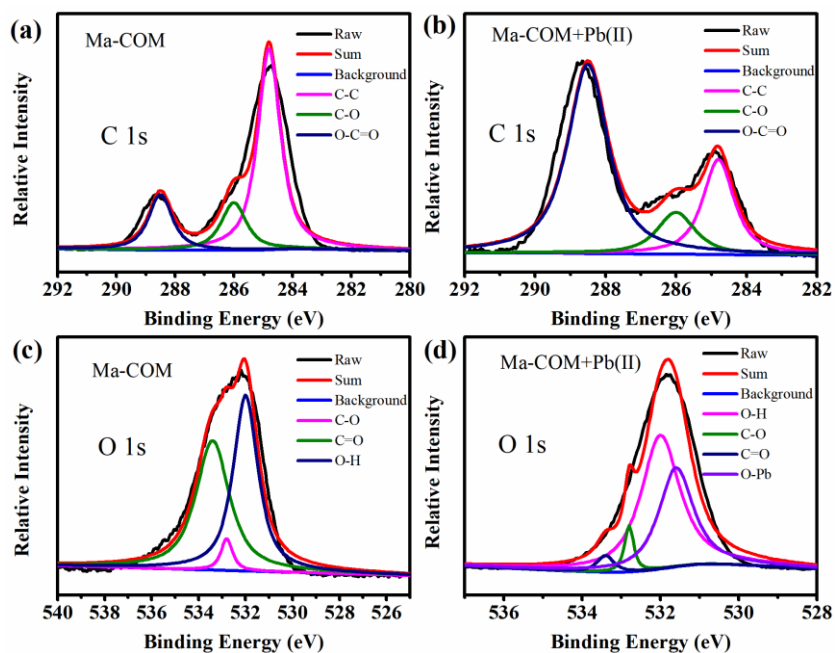


Fig. S4 XPS spectra of C 1s(a), O 1s(c) of Ma-COM before Pb(II) adsorption, and C 1s(b), O 1s(d) after Pb(II) adsorption.