

Supporting Information

Fabrication of CaCO₃ Microcubes and Mechanistic Study for Efficient Removal of Pb from Aqueous Solution

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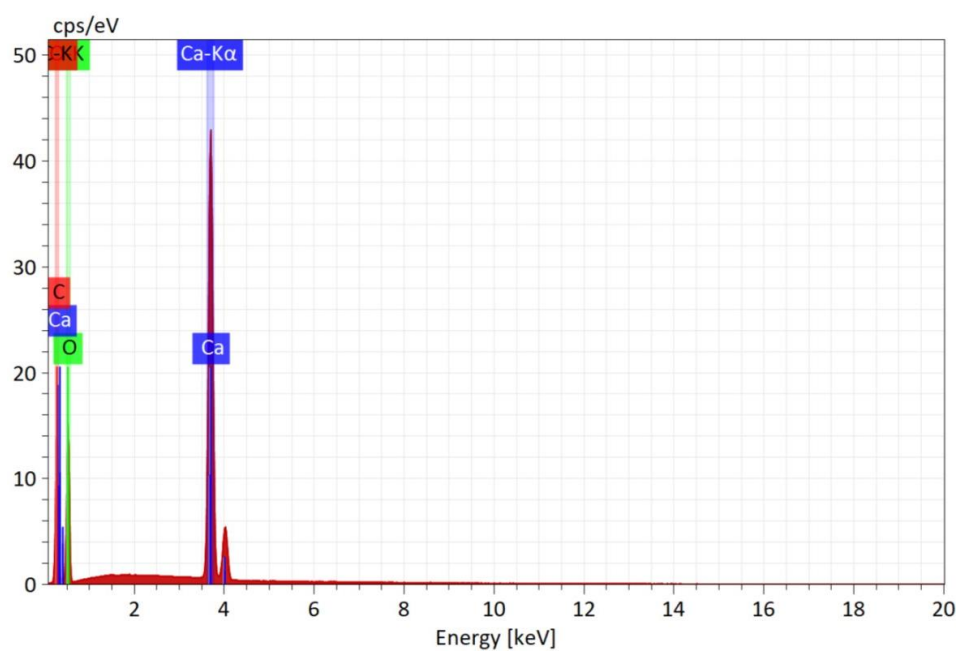
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Element	Atomic Number	Weight Percentage (%)	Atom Percentage (%)
O	8	47.91	53.49
C	6	22.37	33.27
Ca	20	29.71	13.24
		100.00	100.00

Figure S1. EDX of CaCO₃.

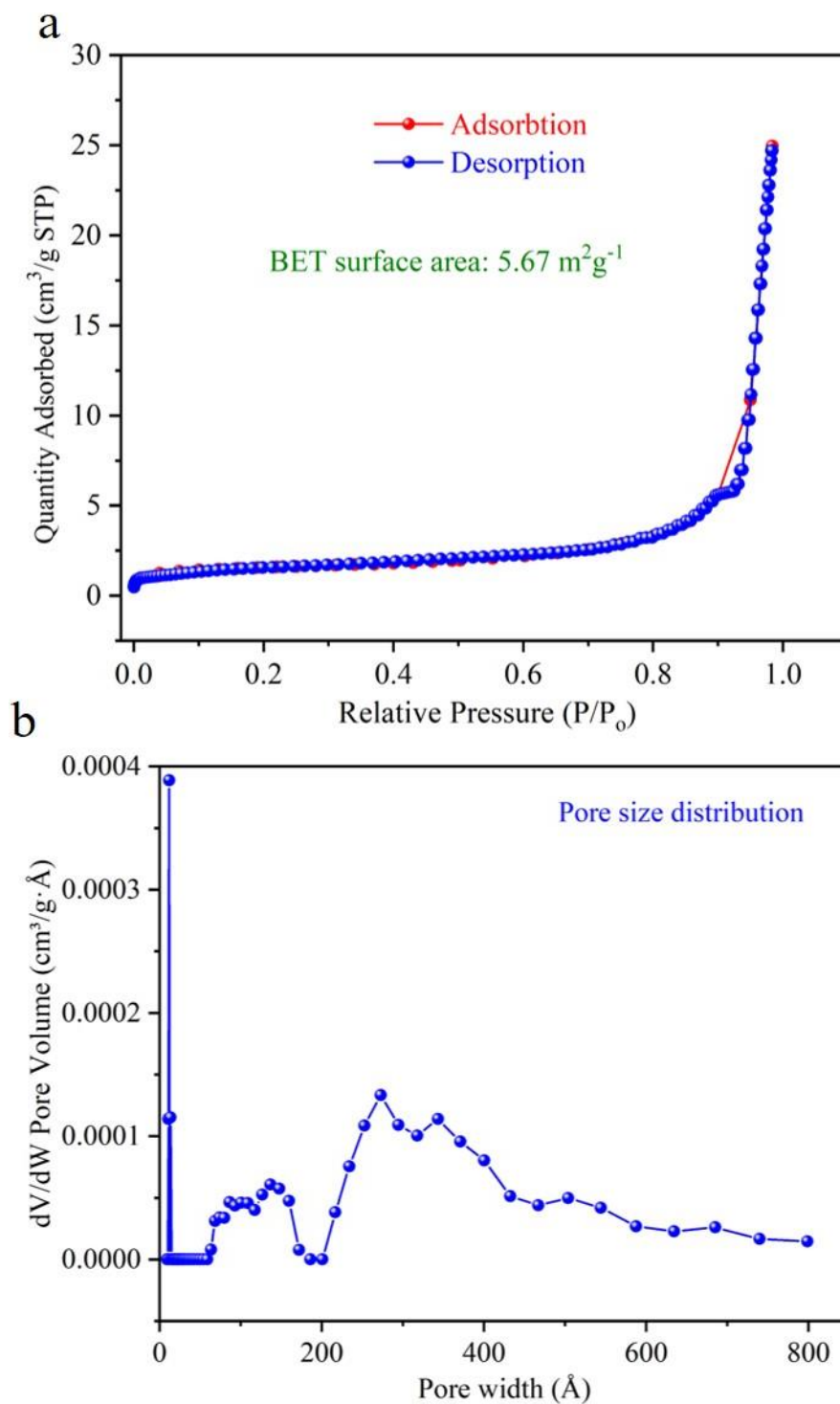


Figure S2. (a) N_2 adsorption/desorption isotherms of the CaCO_3 . (b) Pore-size distributions for the respective sample.

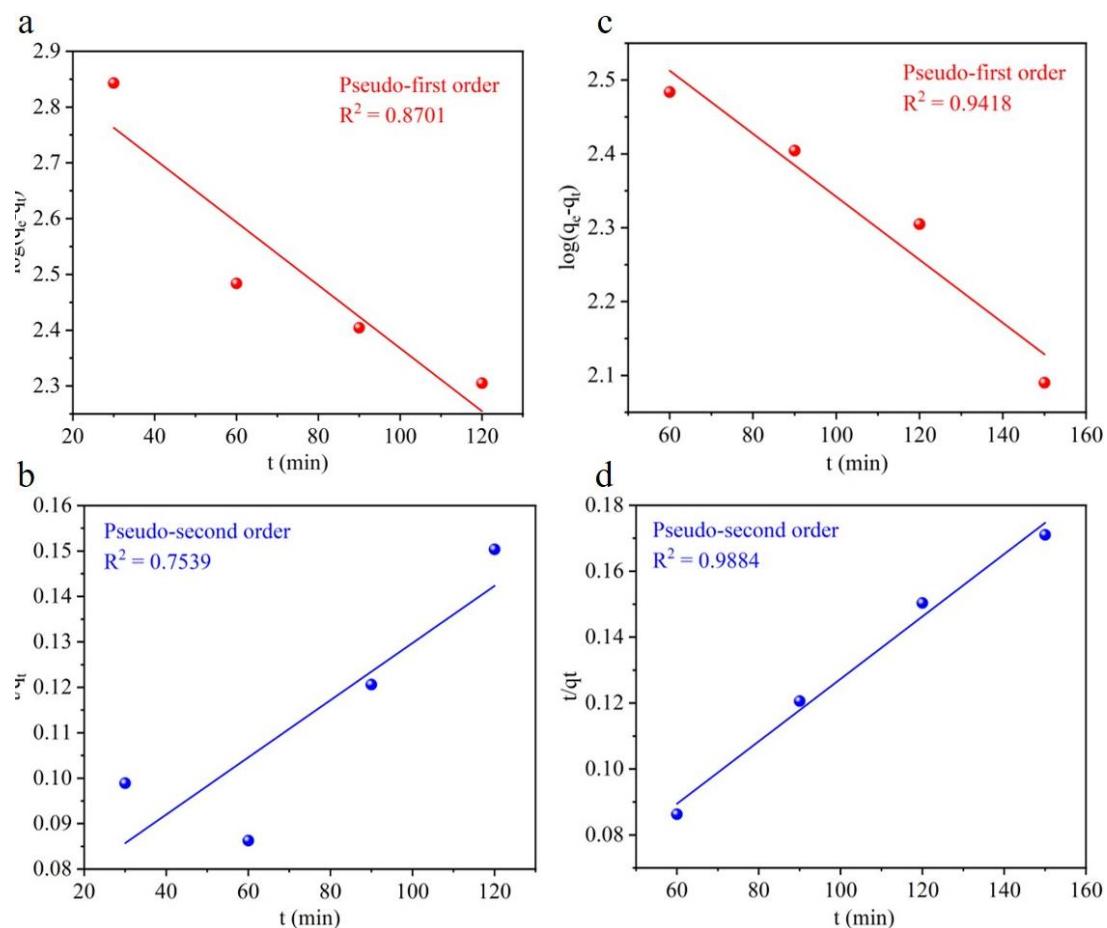


Figure S3. Adsorption kinetics modeled with the pseudo-first order equation and pseudo-second order equation at different stages.

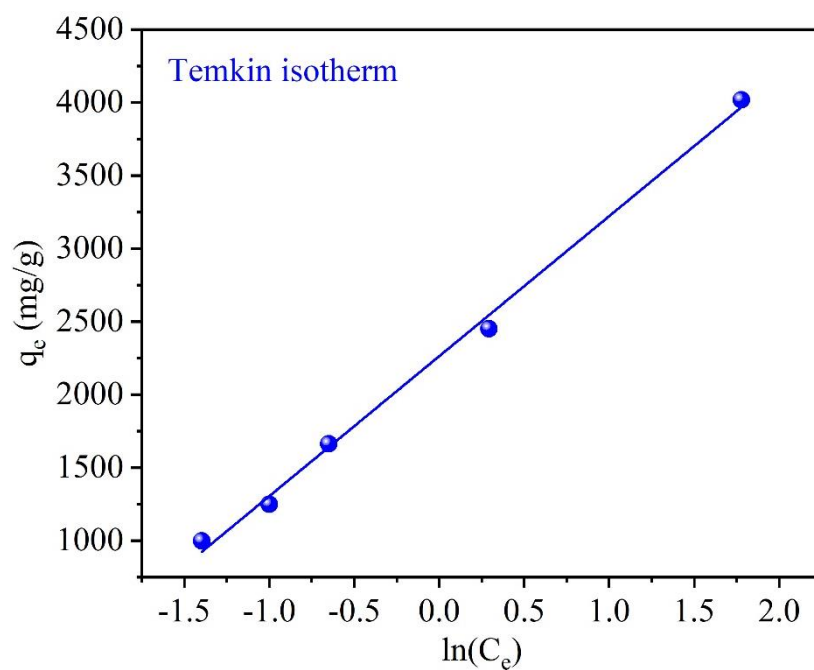


Figure S4. Temkin isotherm model applied to adsorption of Pb(II) by CaCO₃.

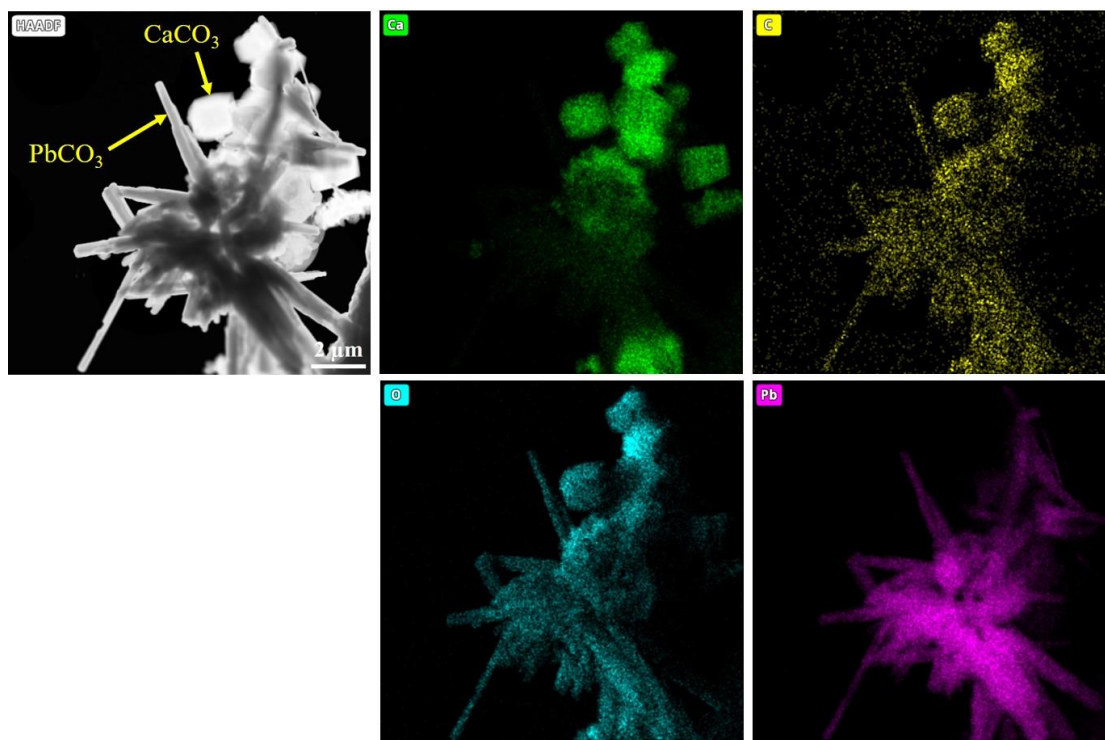
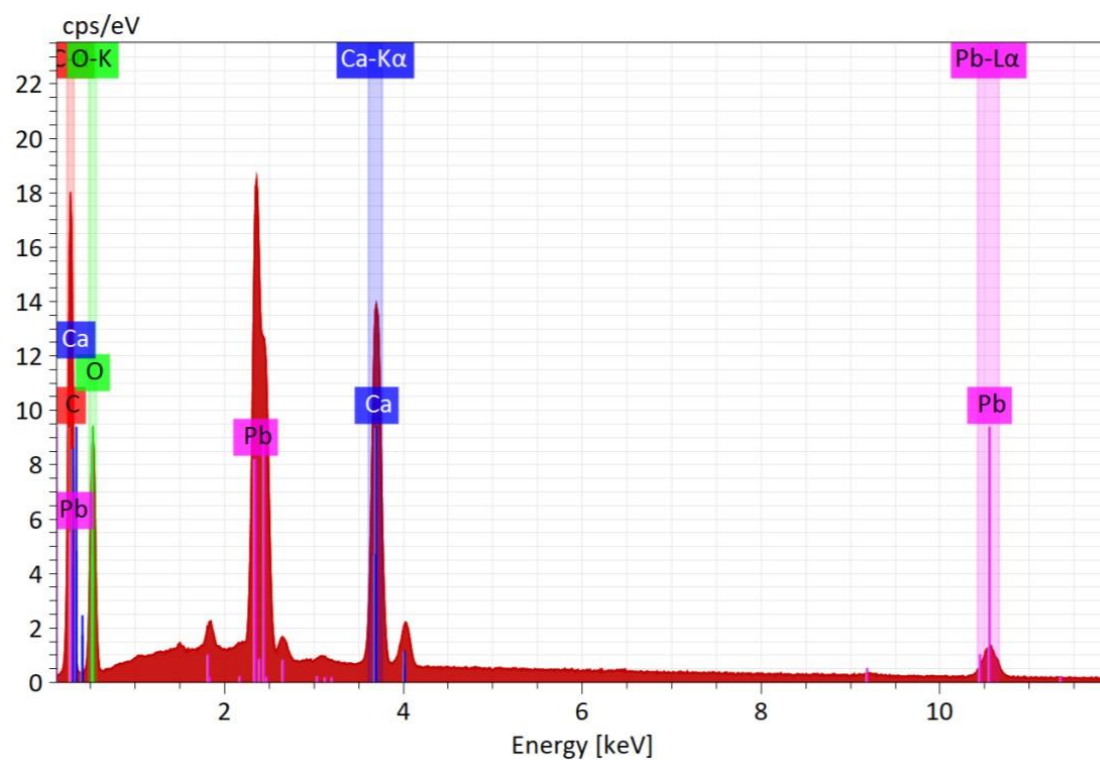


Figure S5. HAADF image and corresponding elemental mapping of Pb(II) adsorbate CaCO₃.



Element	Atomic Number	Weight Percentage (%)	Atom Percentage (%)
C	6	25.38	50.15
O	8	24.11	35.77
Ca	20	17.36	10.28
Pb	82	33.15	3.80
		100.00	100.00

Figure S6. EDX of CaCO₃ after Pb(II) adsorption.

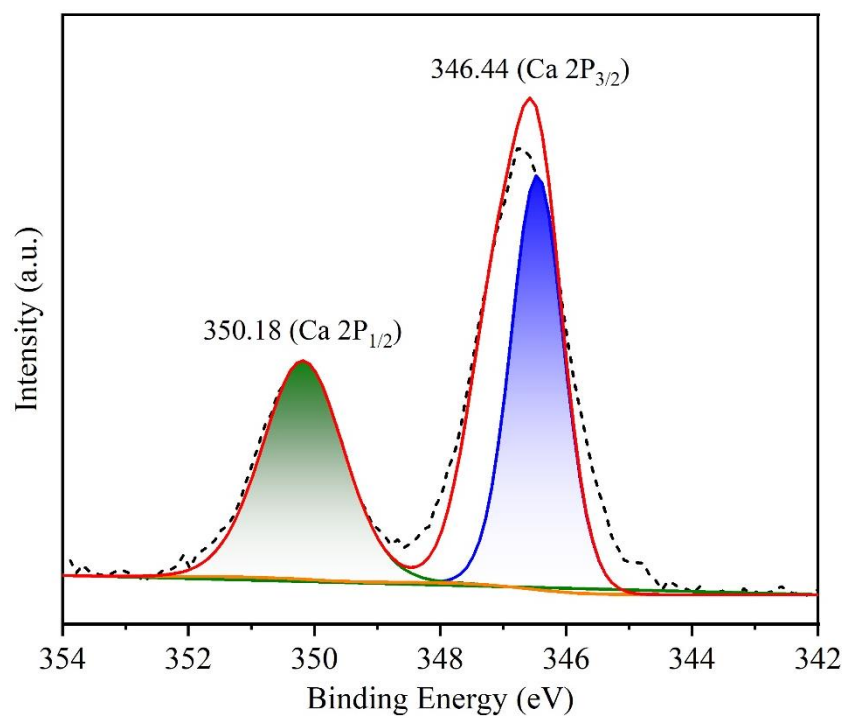


Figure S7. High-resolution spectrum of Ca 2P_{3/2} after Pb(II) adsorption.