PVC/PAN-Immobilized H_2TiO_3 Adsorbent: A Tailored Titanium-Based Lithium-Ion Sieve for High-Performance Lithium Recovery

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Keywords: lithium, adsorption, ion-sieve, PVC/PAN, granulation, geothermal water

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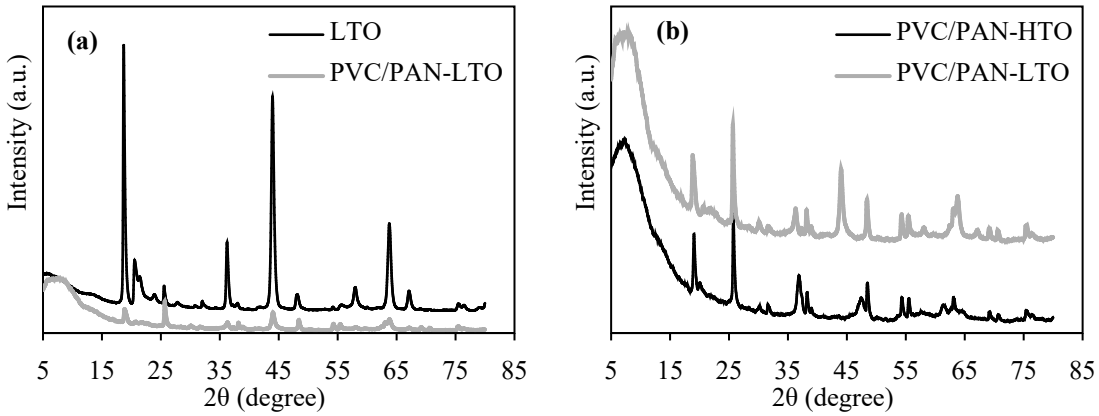

Figure S1. Comparison of XRD patterns of **(a)** LTO and PVC/PAN-LTO and **(b)** PVC/PAN-LTO and PVC/PAN-HTO.

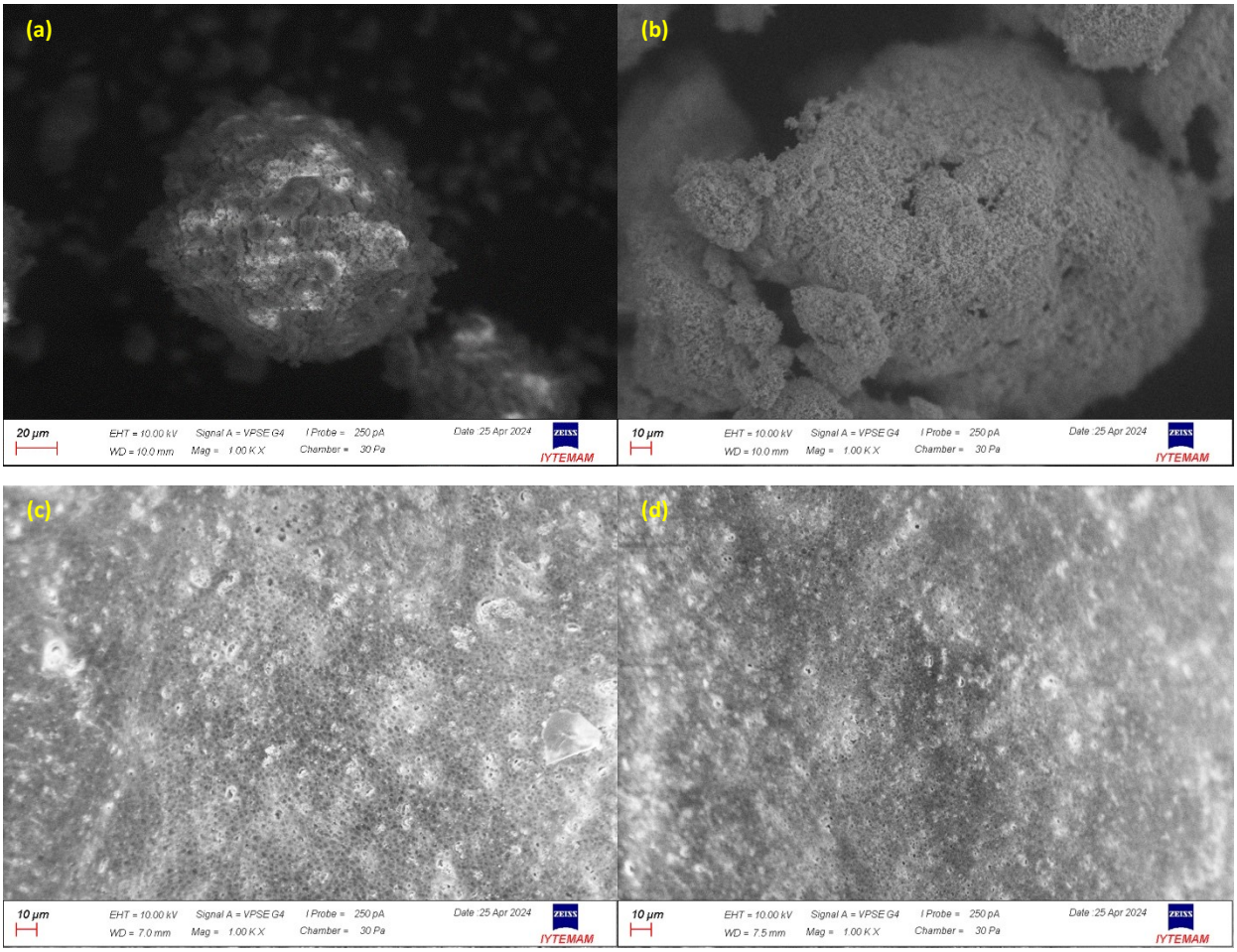

Figure S2. SEM images of **(a)** PVC/PAN, **(b)** LTO, **(c)** PVC/PAN-LTO, and **(d)** PVC/PAN-HTO at 1000x magnification.

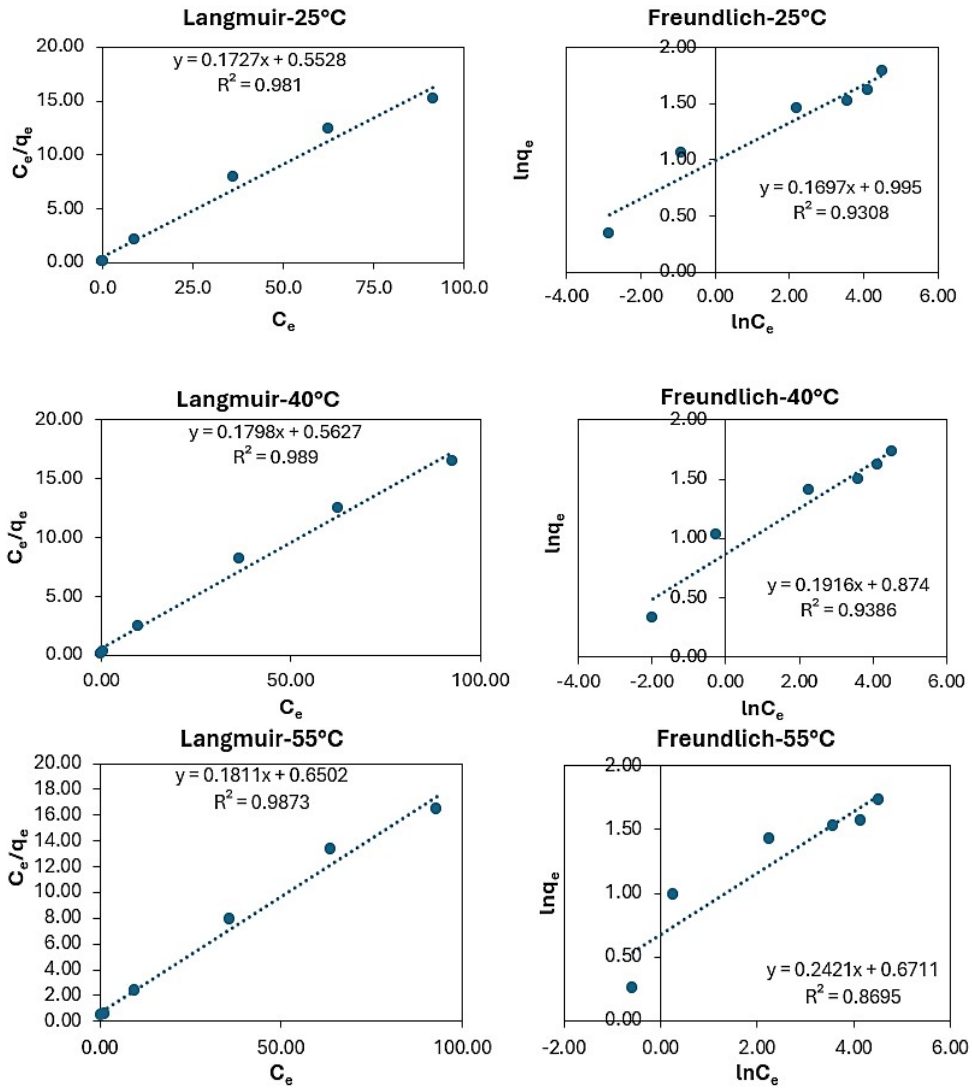

Figure S3. Linear Langmuir and Freundlich isotherm model plots at various temperatures

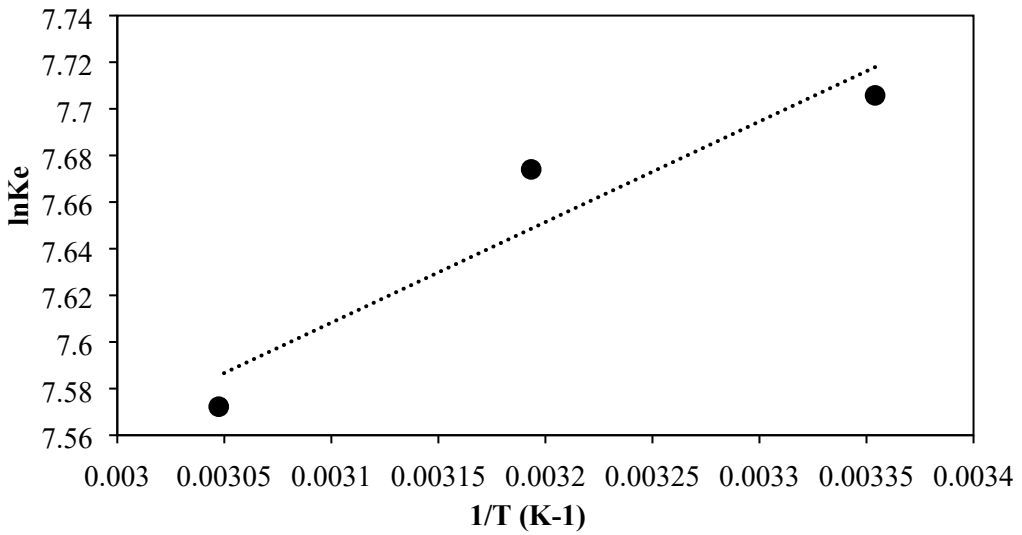

Figure S4. lnK_e vs. 1/T plot for thermodynamic parameter determination from van't Hoff equation.

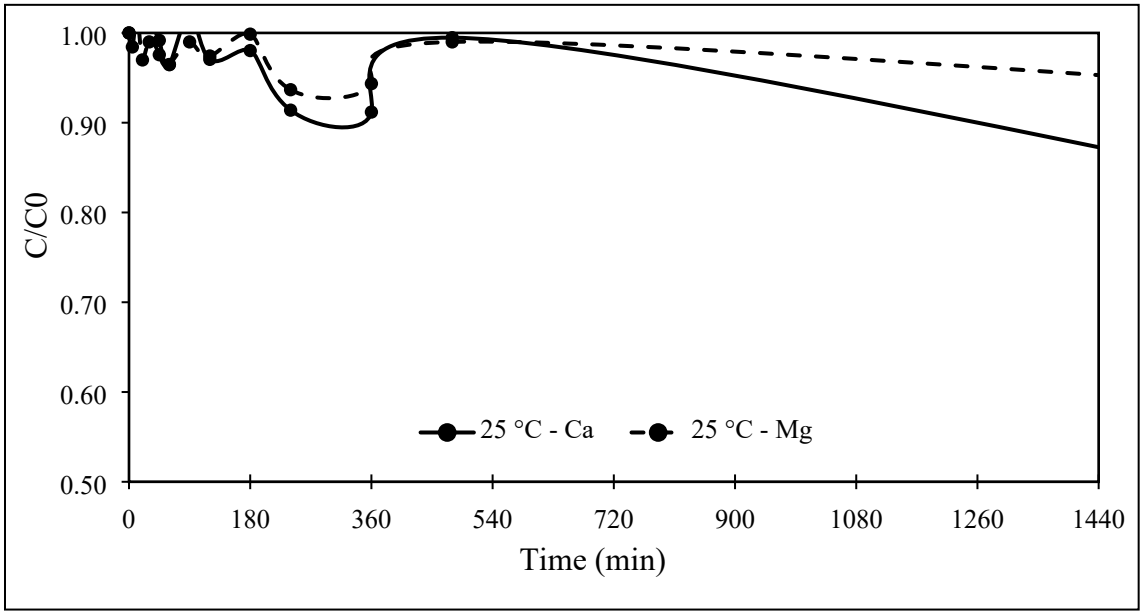

Figure S5. Effect contact time on competitor ions removal using PVC/PAN-HTO from geothermal water (adsorbent dose = 4 g/L, T=25°C)