

Supporting Information (SI)

Effects of NH_4^+ , K^+ , and Mg^{2+} and Ca^{2+} on the Cesium Adsorption/Desorption in Binding Sites of Vermiculitized Biotite

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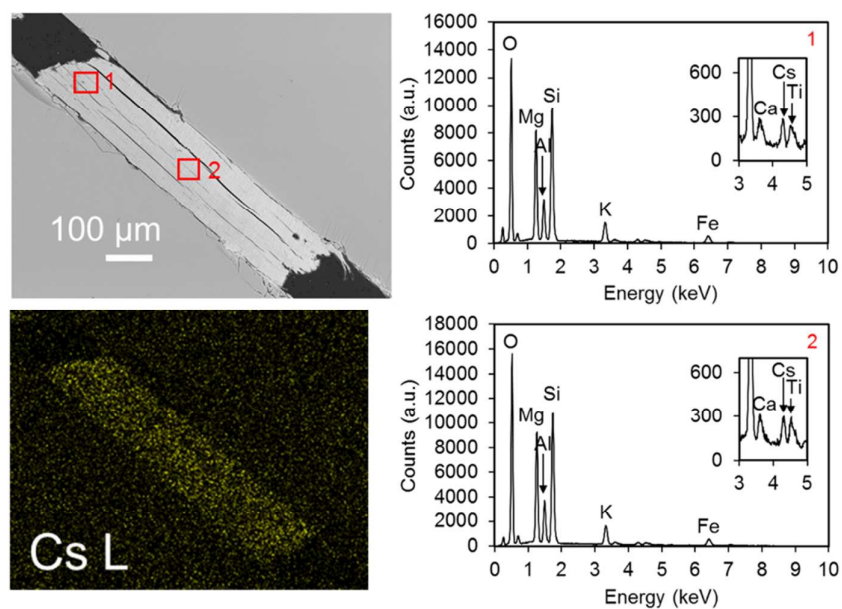


Figure S1. Back-scattered electron image (*left-up*) and Cs EDS map (*left-down*) of the cross sectional surface of Cs saturated Mg-VB, and the EDX spectrum of the area indicated by the red squares (*right*). Insets of both spectra are the same spectra enlarged in y-axis focusing on the energy range including Cs *L* line.¹

1. Yin, X.; Zhang, L.; Ochiai, A.; Utsunomiya, S.; Takahashi, H.; Ohnuki, T.; Takeshita, K., Effect of Temperature on K⁺ and Mg²⁺ Extracted Desorption of Cs from Vermiculitized Biotite. *Chem Lett* **2017**, 46.

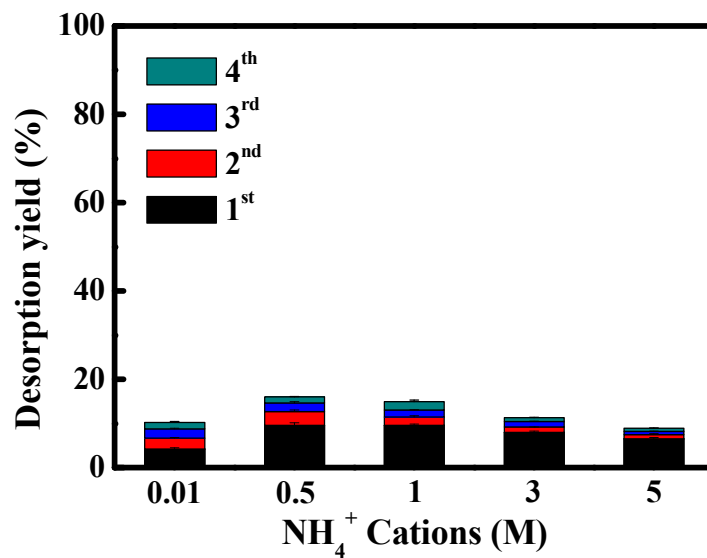


Figure S2. Continuous Cs desorption as functions of NH_4^+ ionic strength from Cs-Mg-VB (Cs: 35.77 mg/g; V/m: 10ml/0.1g)

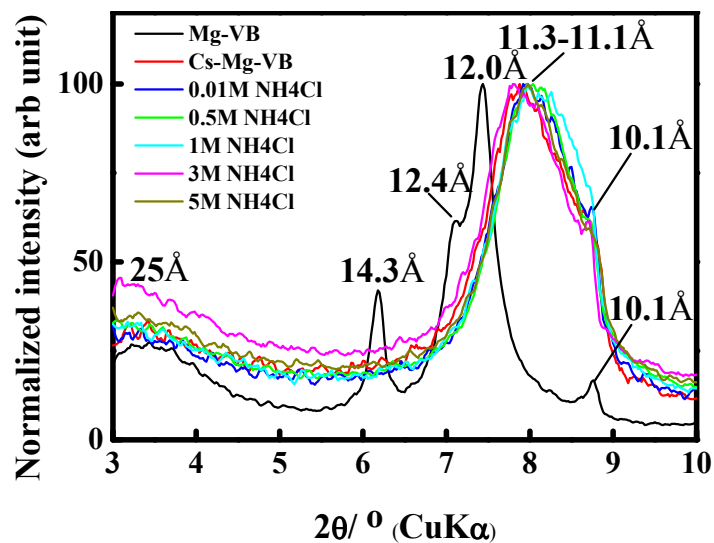


Figure S3. Typical XRD patterns of Cs depleted Cs-Mg-VB after batch desorption with various ionic strength of Mg^{2+} , with d spacing values in Å. Blue: 0.01M; Green: 0.1M; Cyan: 1M; Magenta: 3M.

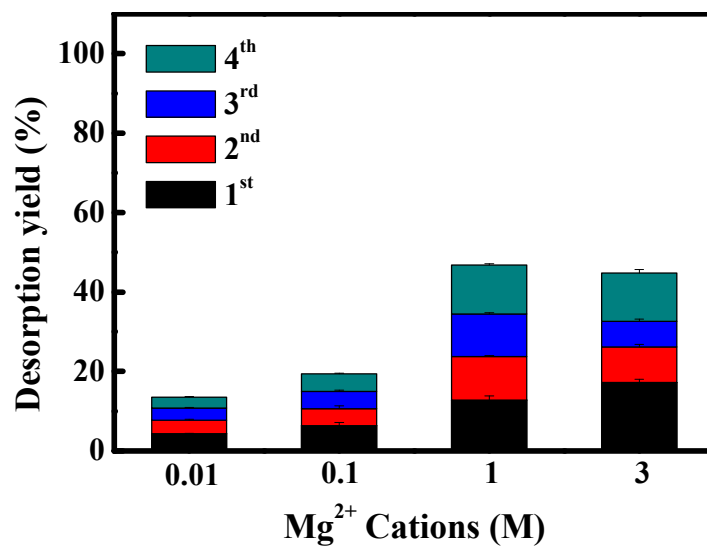


Figure S4. Continuous Cs desorption as functions of Mg^{2+} ionic strength from Cs-Mg-VB (Cs: 35.77 mg/g; V/m: 10ml/0.1g)

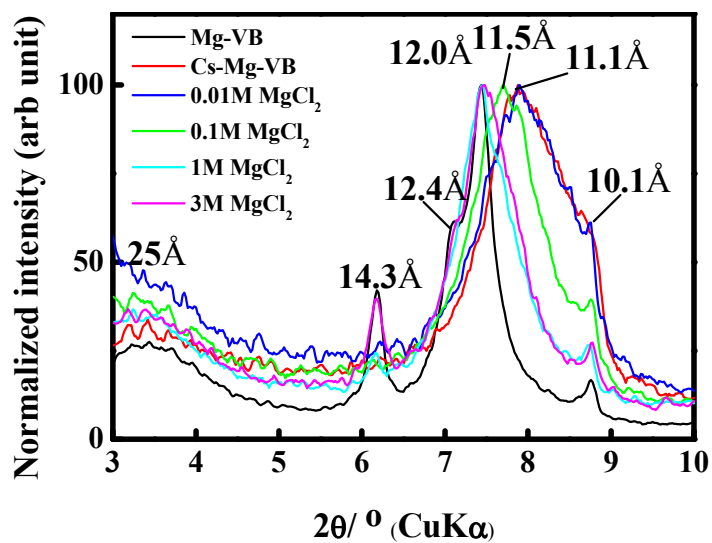


Figure S5. Typical XRD patterns of Cs depleted Cs-Mg-VB after batch desorption with various ionic strength of Mg^{2+} , with d spacing values in Å. Blue: 0.01M; Green: 0.1M; Cyan: 1M; Magenta: 3M.

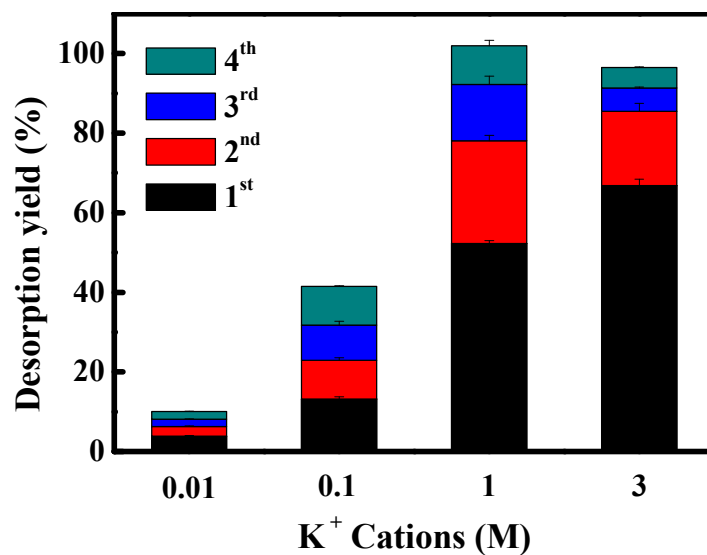


Figure S6. Continuous Cs desorption as functions of K⁺ ionic strength from Cs-Mg-VB (Cs: 35.77 mg/g; V/m: 10ml/0.1g)

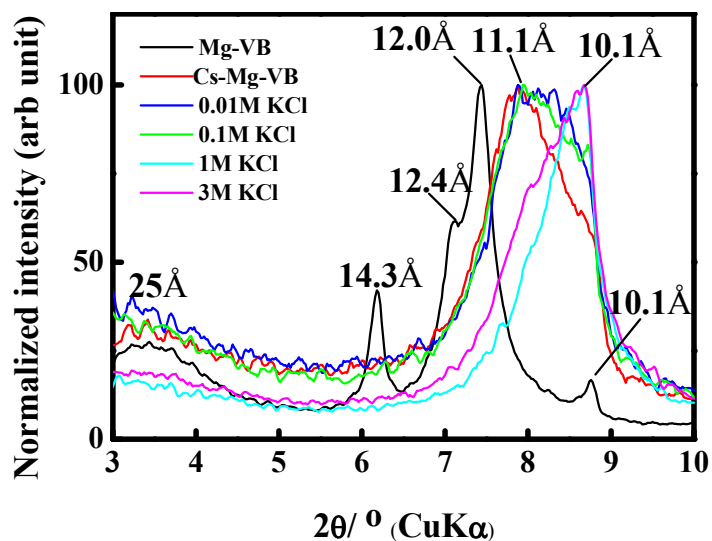


Figure S7 Typical XRD patterns of Cs depleted Cs-Mg-VB after batch desorption with various ionic strength of K⁺, with d spacing values in Å. Blue: 0.01M; Green: 0.1M; Cyan: 1M; Magenta: 3M.