

## Supporting information

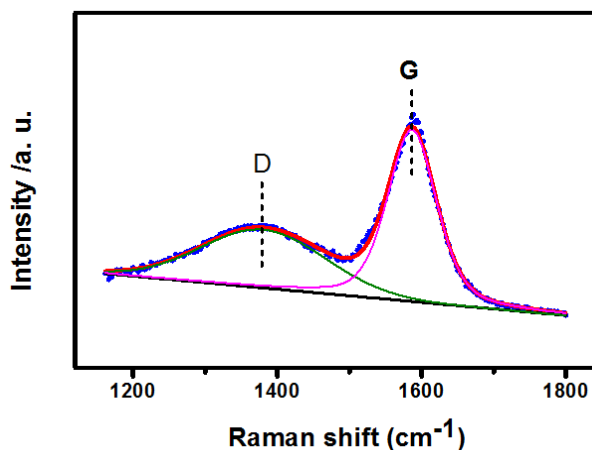
### Superior Sodium/Lithium Intercalation and Depressed Moisture Sensitivity of Hierarchical Sandwich-type Nanostructure for Graphene-sulfate Composite: A Case Study on $\text{Na}_2\text{Fe}(\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}$

Yu Meng<sup>1</sup>, Sen Zhang<sup>1,\*</sup>, Chao Deng<sup>2,\*</sup>

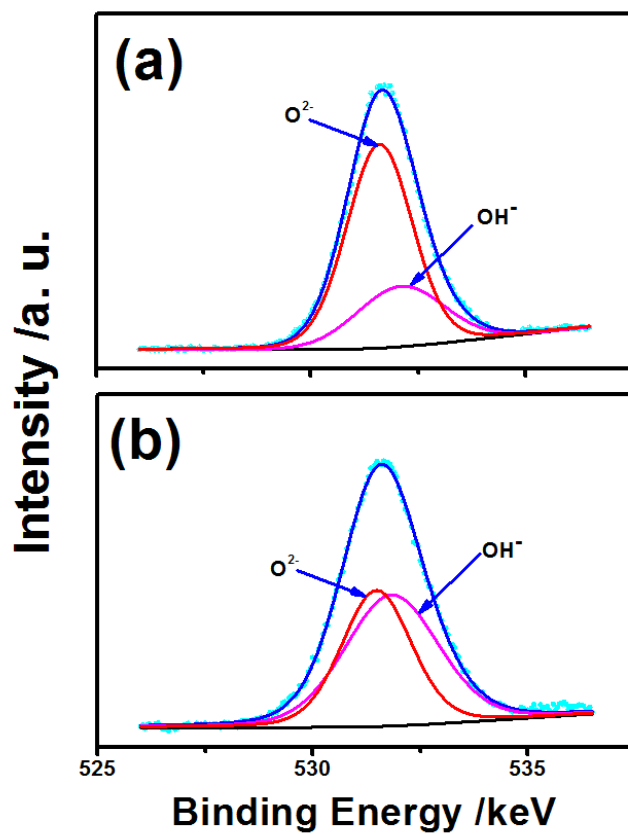
<sup>1</sup> Key Laboratory of Superlight Material and Surface Technology, Ministry of Education, College of Material Science and Chemical Engineering, Harbin Engineering University, Harbin 150001, Heilongjiang, China

<sup>2</sup>Key Laboratory for Photonic and Electronic Bandgap Materials, Ministry of Education, College of Chemistry and Chemical Engineering, Harbin Normal University, Harbin 150025, Heilongjiang, China

**S1:** Raman spectroscopy of the hierarchical graphene- $\text{Na}_2\text{Fe}(\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}$  composite.



**S2:** O1s XPS spectra of the  $\text{Na}_2\text{Fe}(\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}$  just prepared (a) and after 72 hours air exposure (b). The peak at  $\sim 532$  eV corresponds to the hydroxyl groups in the crystal.



**S3:** *Ex-situ* XRD patterns of the electrode before (a) and after 1 (b), 3 (c), 5 (d) and 10 (e) cycles in lithium intercalation system (left figure). The peaks between 25.5° and 28° in the rectangle are enlarged in right figure.

