## **Supporting information**

## Stellerite seeded facile synthesis of zeolite heulandite with

## exceptional aqueous Cd<sup>2+</sup> capture performance

Yunzheng Wang<sup>a</sup>, Pu Bai<sup>a</sup>, Zhuwei Jin<sup>a</sup>, Yan Li<sup>a</sup>, Yaorui Li<sup>a,d</sup>, Wei Shi<sup>b</sup>, Xue Zhou<sup>c</sup>, Jun Xu<sup>c</sup>, Wenfu Yan<sup>\*a</sup>, and Ruren Xu<sup>a</sup>

<sup>a</sup>State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, College of Chemistry, Jilin University, Changchun 130012, P. R. China. Email: yanw@jlu.edu.cn

<sup>b</sup>Key Laboratory of Advanced Energy Materials Chemistry (Ministry of Education), Nankai University, Tianjin 300071, P. R. China

<sup>c</sup>State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan 430071, P. R. China.

<sup>*d*</sup>College of Nuclear Science and Technology, Harbin Engineering University, 145 Nantong Street, Harbin 150001, P.R. China

\* Corresponding author: yanw@jlu.edu.cn

## **Characterization of zeolite materials**



Fig. S1 XRD pattern of (A) natural stellerite, (B) natural clinoptilolite and synthetic clinoptilolite. The simulated patterns are also included



Fig. S2 TG curves of stellerite, N-Cli, S-Cli and S-Heu

Table S1 Elemental analysis of N-Cli, S-Cli, and S-Heu

Components (%)	N-Cli <sup>a</sup>	Stibite <sup>a</sup>	S-Cli <sup>b</sup>	S-Heu <sup>b</sup>
SiO <sub>2</sub>	68.1	63.8	63.9	60.9
$AI_2O_3$	12.3	15.8	11.8	14.0
Na <sub>2</sub> O	5.2	0.3	3.4	9.36
K <sub>2</sub> O	1.2	0.3	6.6	-
CaO	0.9	10.0	-	-
MgO	0.6	0.2	-	-
H <sub>2</sub> O <sup>c</sup>	12.2	12.3	14.5	16.0
Si/Al	4.7	3.4	4.6	3.7

<sup>a</sup> determined by XRF. <sup>b</sup> determined by ICP-OES. <sup>c</sup> determined by TG