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Electronic Supplementary Information (ESI)

NiS_2 Nanoparticles by NaCl Assisted Less-liquid Reaction System for Magnesium Ion Battery Cathode

Zijie Guo, Wutao Wei*, Juan Shi, Pengpeng Wang, Zisen Ye and Liwei Mi*

[a.] Henan Key Laboratory of Functional Salt Materials, Center for Advanced Materials Research, Zhongyuan University of Technology, Zhengzhou, 450007, Henan, PR China. E-mail: mlwzzu@163.com

*Corresponding author

Email address: 506952644@qq.com (W. T. Wei) mlwzzu@163.com (L. W. Mi)

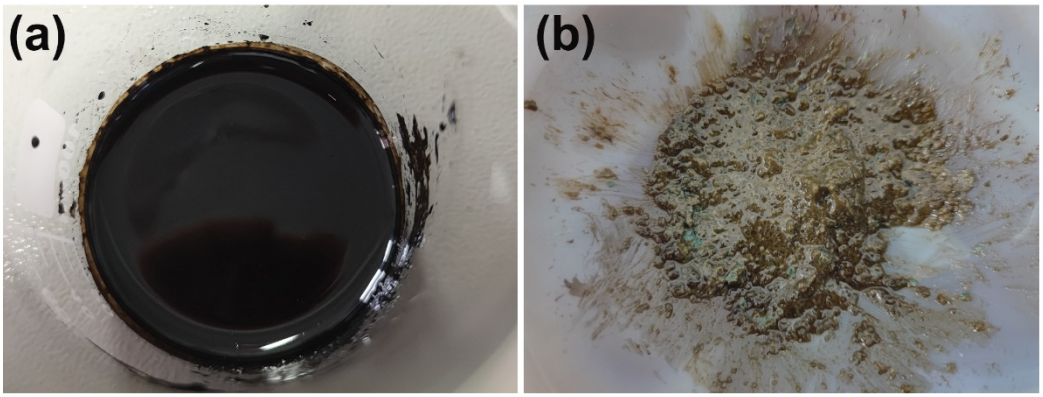

Fig. S1 (a) Grinding state of NaCl, $Na_2S_2O_3{\cdot}5H_2O$ and $Ni(NO_3)_2{\cdot}6H_2O$ at room temperature; (b) The grinding state of $Na_2S_2O_3{\cdot}5H_2O$ and $Ni(NO_3)_2{\cdot}6H_2O$ without NaCl at room temperature.

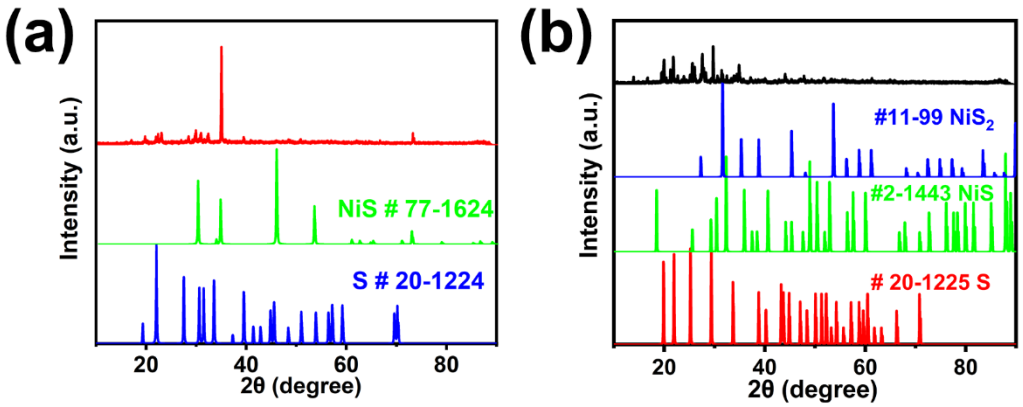

Fig. S2 (a) XRD of NaCl, $Na_2S_2O_3{\cdot}5H_2O$ and $Ni(NO_3)_2{\cdot}6H_2O$ in an open system at 60 °C; (b) XRD of $Na_2S_2O_3{\cdot}5H_2O$ and $Ni(NO_3)_2{\cdot}6H_2O$ in an open system at 60 °C without NaCl.

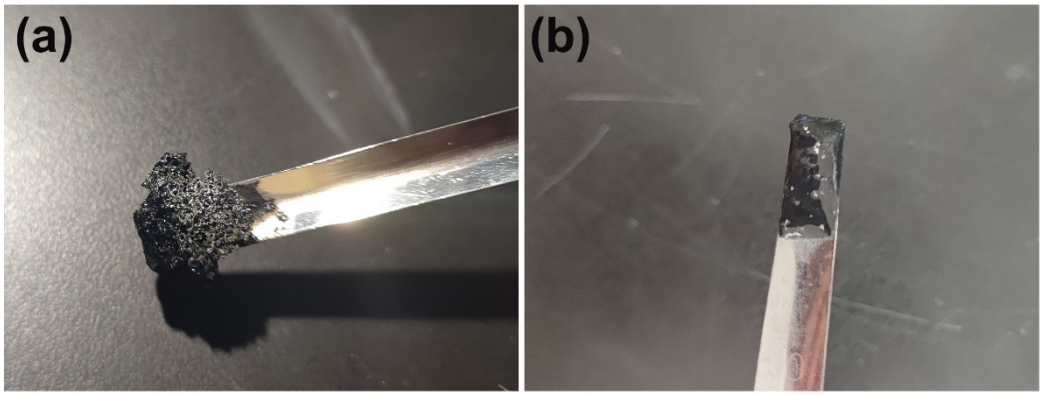

Fig. S3 (a) Photo of NiS_2 material in the reactor after 12 h of reaction at 180 °C; (b) NiS_2/NiS photo of the material in the reactor after 12 h of reaction at 180 °C.

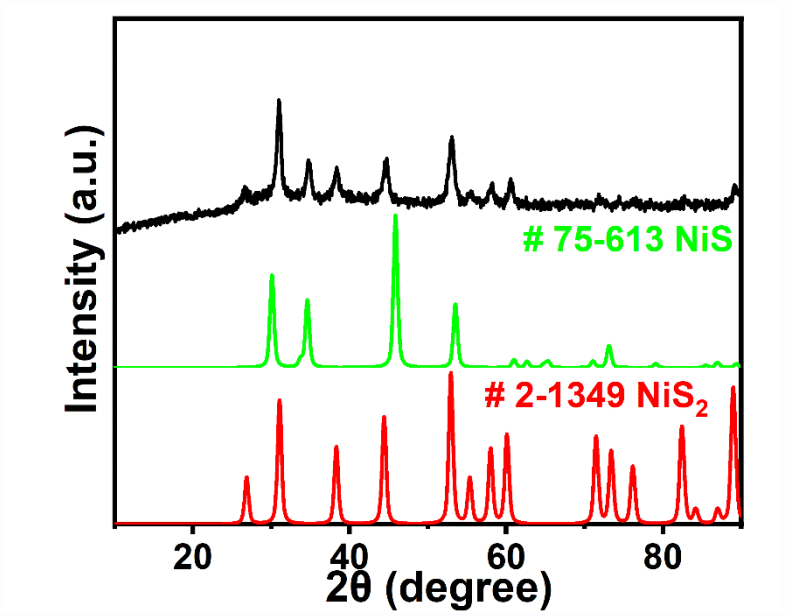

Fig. S4 XRD patterns of samples prepared in the absence of NaCl.

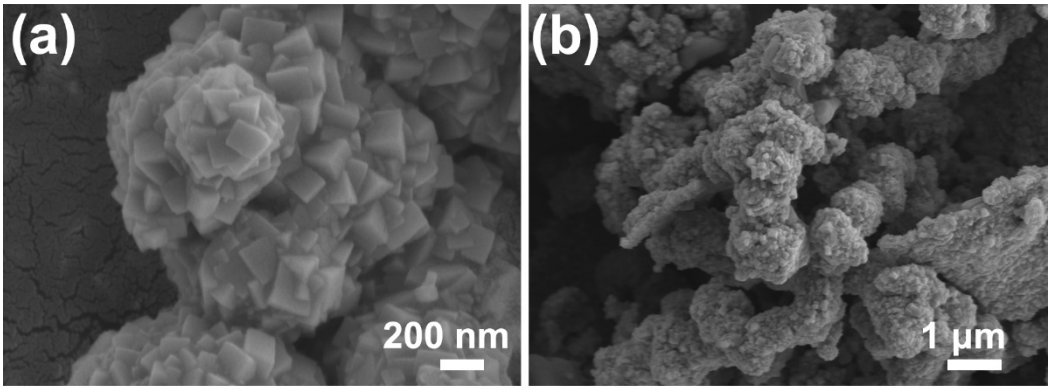

Fig. S5 SEM of NiS_2/NiS at different magnifications.

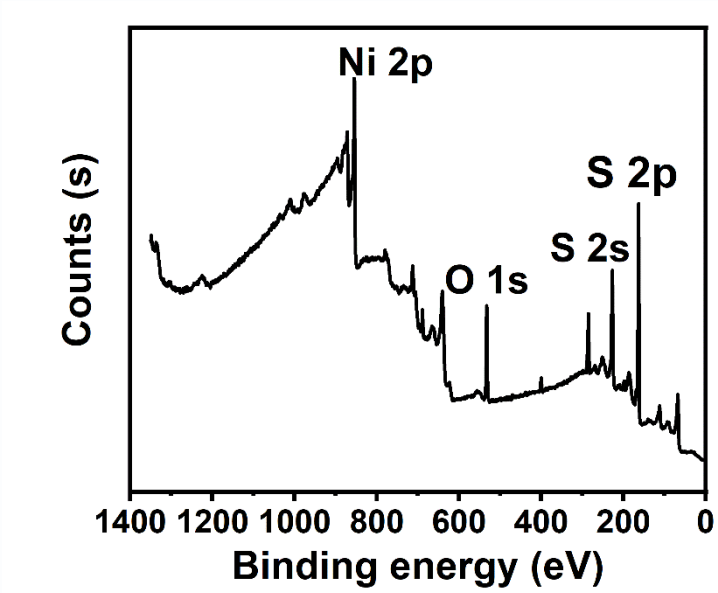

Fig. S6 XPS survey spectra of NiS_2-1.