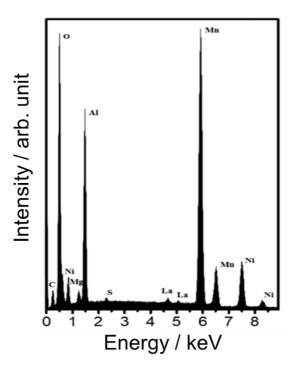
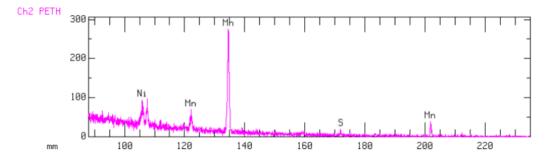
## **Supporting Information**

## $Li_{1.2}Ni_{0.2}Mn_{0.6}O_2 \ Cathode \ Materials \ Co-Doped \ with \ La3+ \ and \ S^{2-} \ for \ Use \ in \ Lithium-Ion \ Batteries$

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**Figure S1**. EDX spectrum of LNMO-0.5%La<sub>2</sub>O<sub>2</sub>S. Signals of Mg, C, and Al were assigned to the background signal of the sample holder.



**Figure S2.** EPMA spectrum of LNMO-0.5%La<sub>2</sub>O<sub>2</sub>S.

Table S1. Chemical composition evaluated from the EDX results for the LNMO- $0.5\%La_2O_2S$ 

| Element | At%  |
|---------|------|
| Mn K    | 26.8 |
| Ni K    | 8.78 |
| La L    | 0.17 |
| ОК      | 64.2 |
| S K     | ≈0.1 |

Table S2. Chemical composition evaluated from the EPMA results for LNMO-0.5%La<sub>2</sub>O<sub>2</sub>S

| Element | EPMA results (At%) |
|---------|--------------------|
| La      | 0.22               |
| 0       | 66.24              |
| Mn      | 25.22              |
| S       | 0.12               |
| Ni      | 8.19               |