

## The novel composite of $\text{ZnMoO}_4/\text{Ni}(\text{OH})_2$ as an electrode material for enhanced performance of energy storage applications

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### Supporting Information

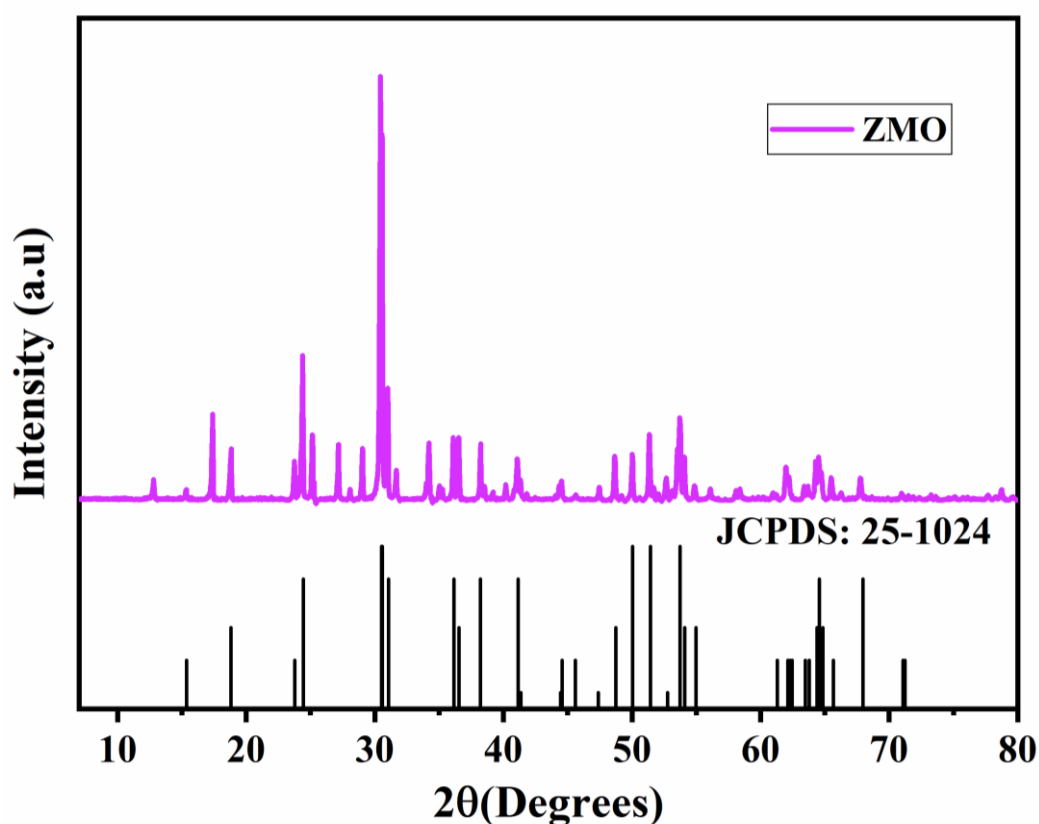


Fig. s1 XRD spectra of ZMO

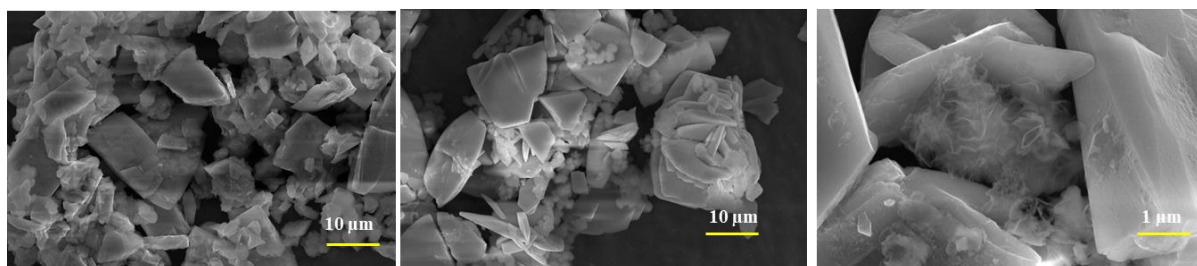
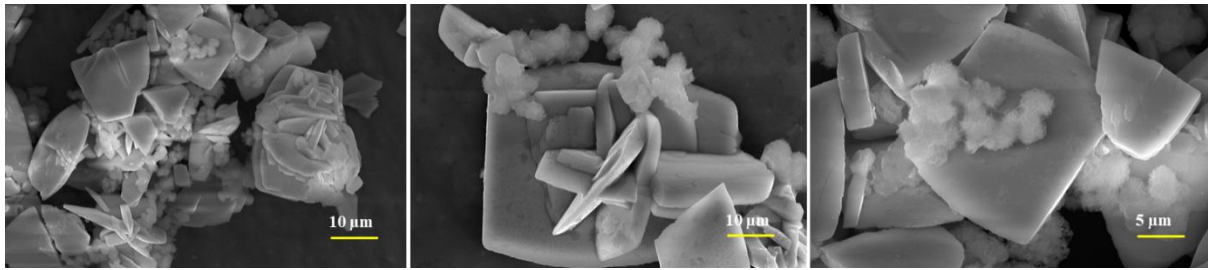
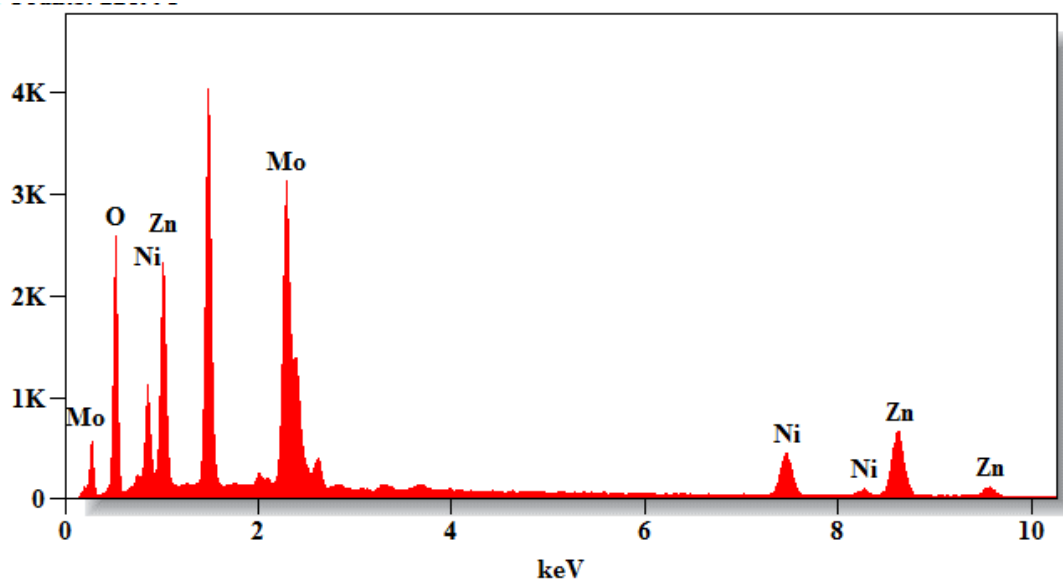


Fig. s2 SEM images of Z/N-1 composite

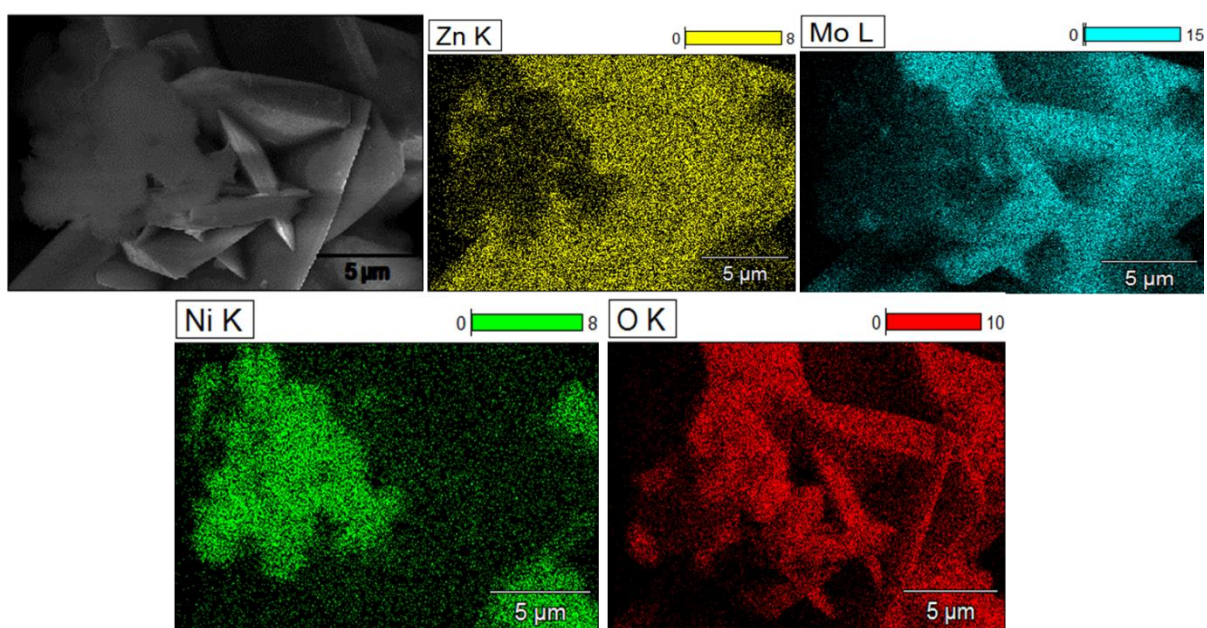


**Fig. s3 SEM images of Z/N-3 composite**



| <i>Element</i> | <i>Net Counts</i> | <i>Weight %</i> | <i>Atom %</i> | <i>Atom % Error</i> | <i>Formula</i> |
|----------------|-------------------|-----------------|---------------|---------------------|----------------|
| <i>O</i>       | 13610             | 33.86           | 70.65         | ± 0.76              | O              |
| <i>Ni</i>      | 6983              | 9.87            | 5.61          | ± 0.18              | Ni             |
| <i>Zn</i>      | 11130             | 25.56           | 13.05         | ± 0.31              | Zn             |
| <i>Mo</i>      | 46967             | 30.71           | 10.69         | ± 0.11              | Mo             |
| <i>Total</i>   |                   | 100.00          | 100.00        |                     |                |

**Fig. s4 EDAX spectrum of Z/N-2 composite**



**Fig. s5 Elemental mapping of Z/N-2 composite**

**Table. s1  $R_s$ ,  $R_{ct}$  and ESR values of the prepared electrode materials**

| Electrode | $R_s$ ( $\Omega$ ) | $R_{ct}$ ( $\Omega$ ) | ESR ( $\Omega$ ) |
|-----------|--------------------|-----------------------|------------------|
| ZMO       | 2.26               | 72.5                  | 74.76            |
| NOH       | 1.87               | 20.44                 | 22.31            |
| Z/N-1     | 1.68               | 11.92                 | 13.6             |
| Z/N-2     | 1.4                | 4.86                  | 6.73             |
| Z/N-3     | 2.2                | 20.44                 | 22.64            |

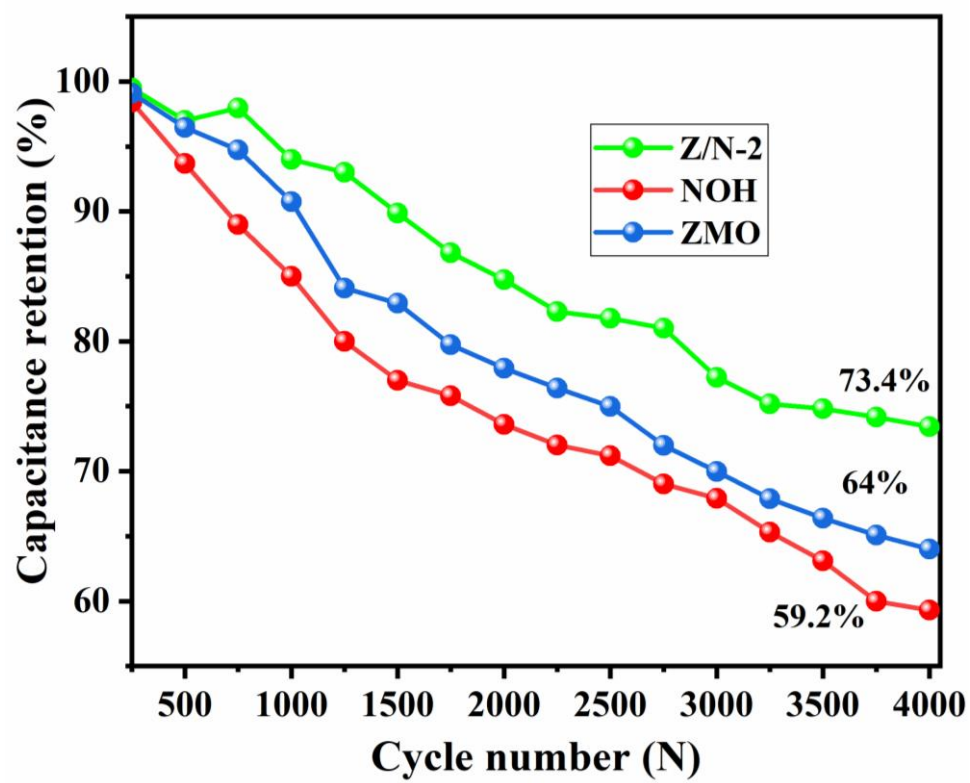


Fig. s6 Cycling stability of ZMO, NOH and Z/N-2 composite