Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

Self-Assembled Nanoflower-like $FeSe_2/MoSe_2$ Heterojunction Anode with Enhanced Kinetics for Superior-Performance Na-Ion Half/Full Batteries

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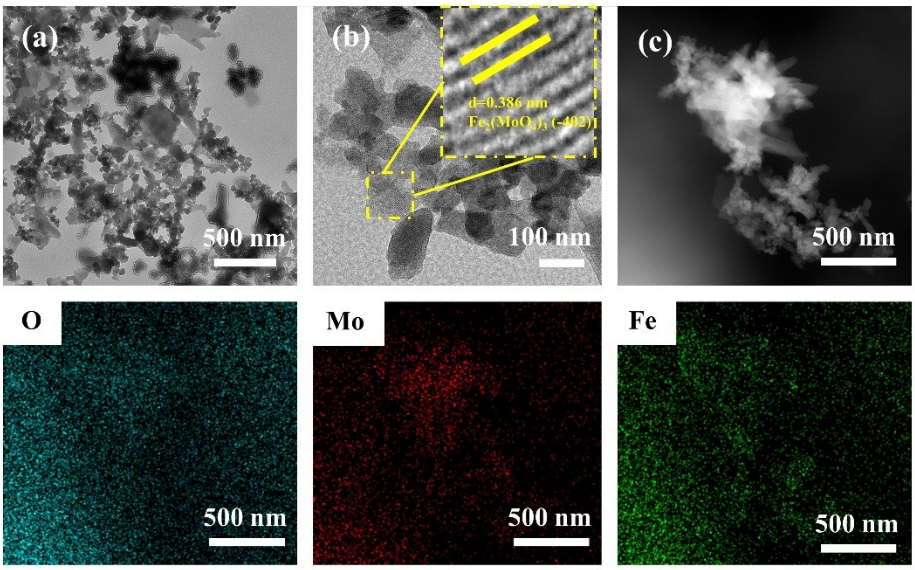

Fig. S1 (a-c) TEM, HETEM images and corresponding elemental mappings of FMO nanofragments.

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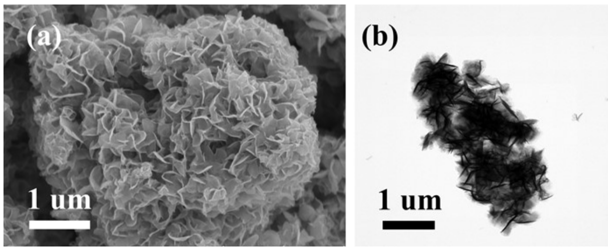
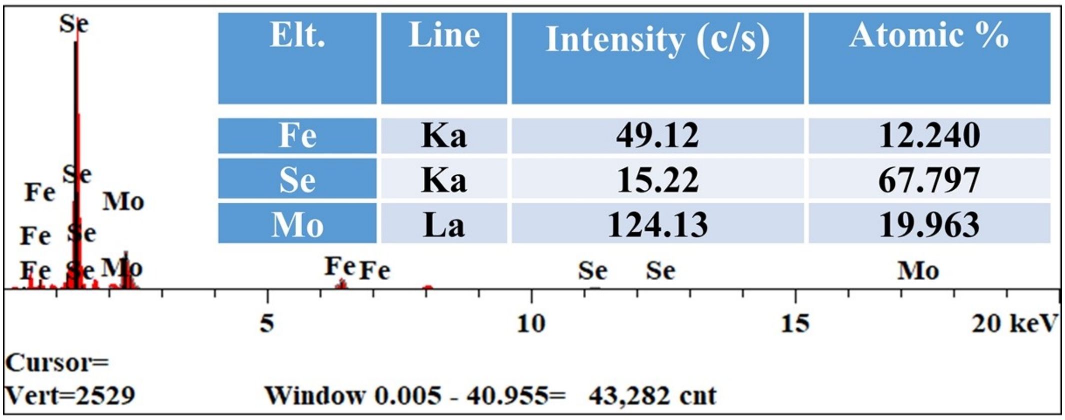


Fig. S2 (a-b) The large scale SEM and TEM images of FMSe heterojunction.



Elt.	Line	Intensity (c/s)	Atomic %
Fe	Ka	49.12	12.240
Se	Ka	15.22	67.797
Mo	La	124.13	19.963

Fig. S3 EDS spectrum of FMSe heterojunction.

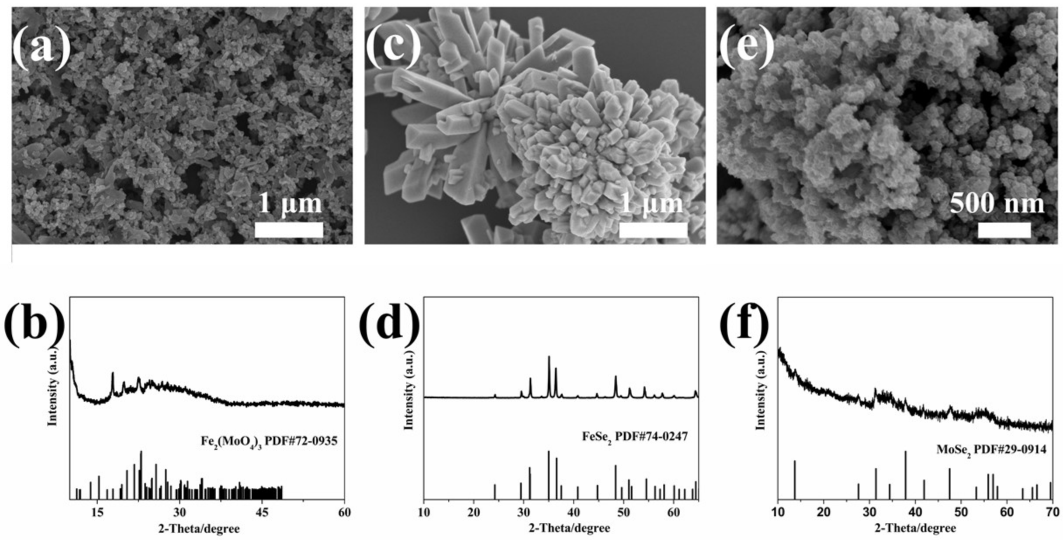


Fig. S4 (a, b) SEM image and XRD pattern of the FMO nanofragments. (c, d) SEM image and XRD pattern of $FeSe_2$. (e, f) SEM image and XRD pattern of$MoSe_2$.

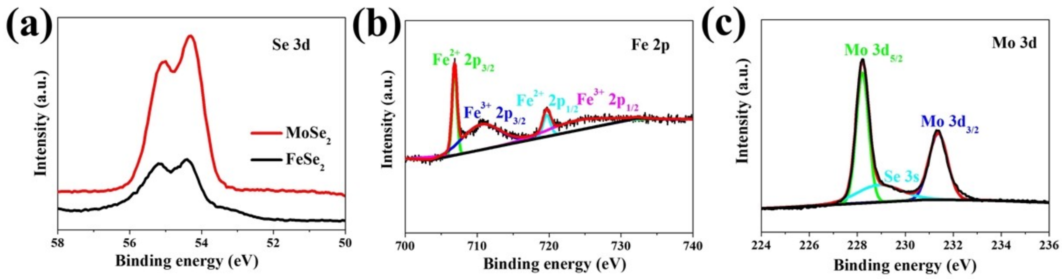


Fig. S5 XPS high-resolution scans of (a) Se 3d in $FeSe_2$ and $MoSe_2$, (b) Fe 2p in $FeSe_2$, (c) Mo 3d in $MoSe_2$.

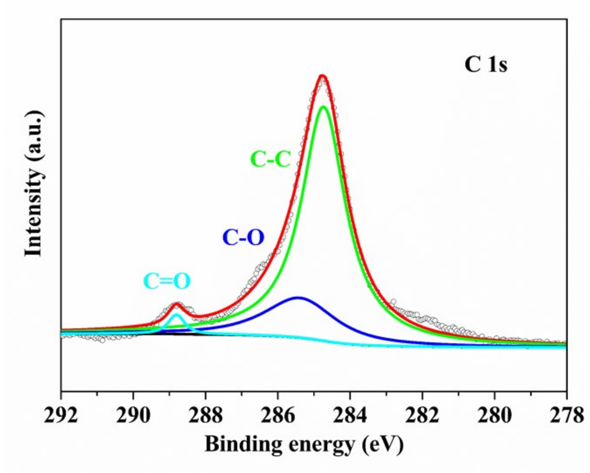


Fig. S6 C 1s XPS spectrum.

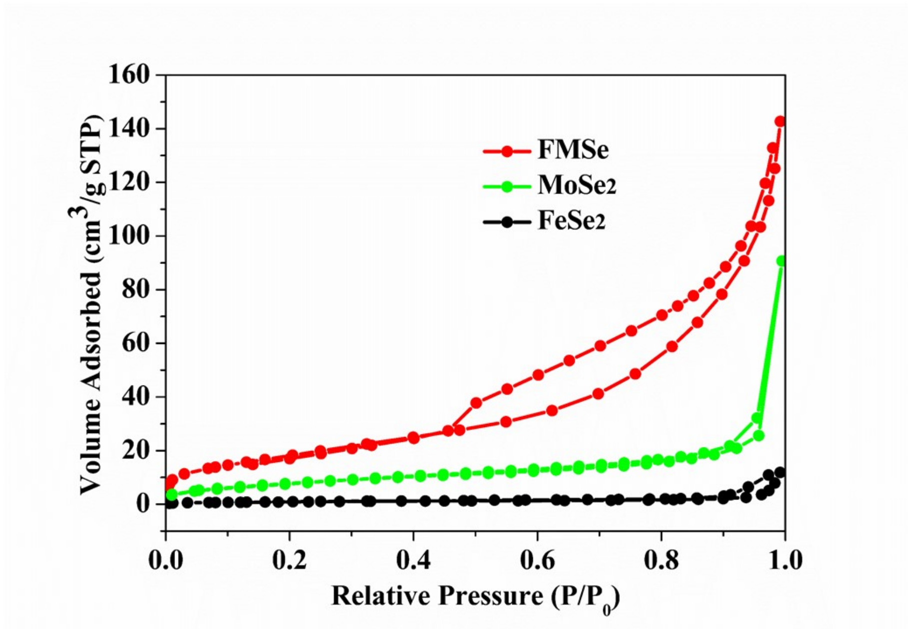


Fig. S7 Nitrogen adsorption/desorption isotherm of FMSe, $FeSe_2$ and $MoSe_2$.

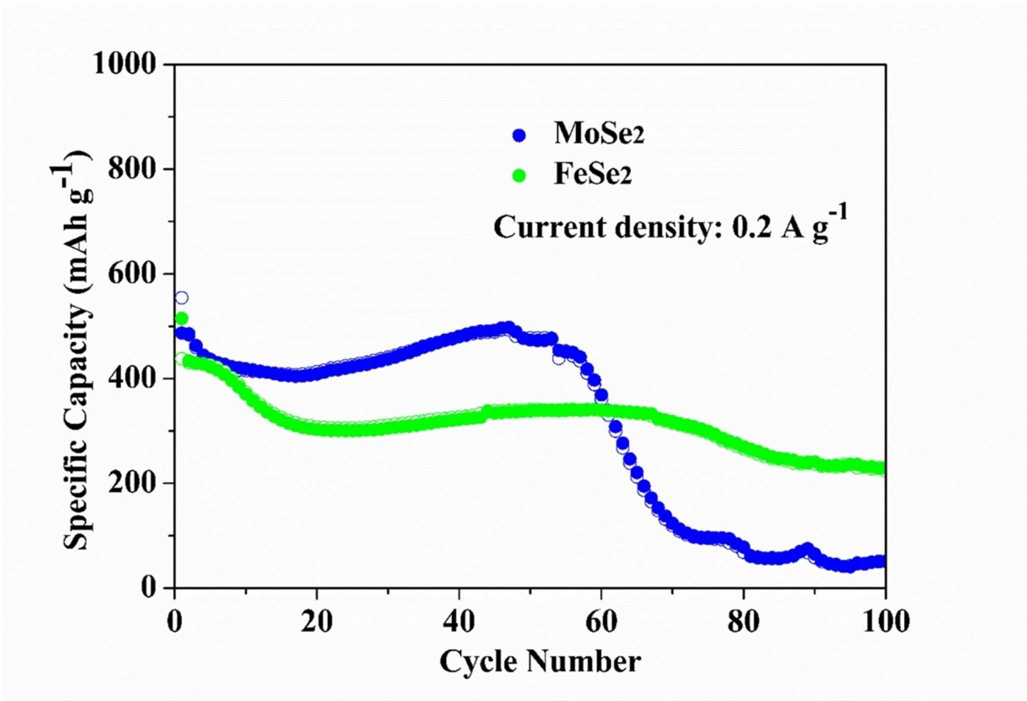


Fig. S8 Cycling performance of $FeSe_2$ and $MoSe_2$ anodes at 0.2 A g^{-1}.

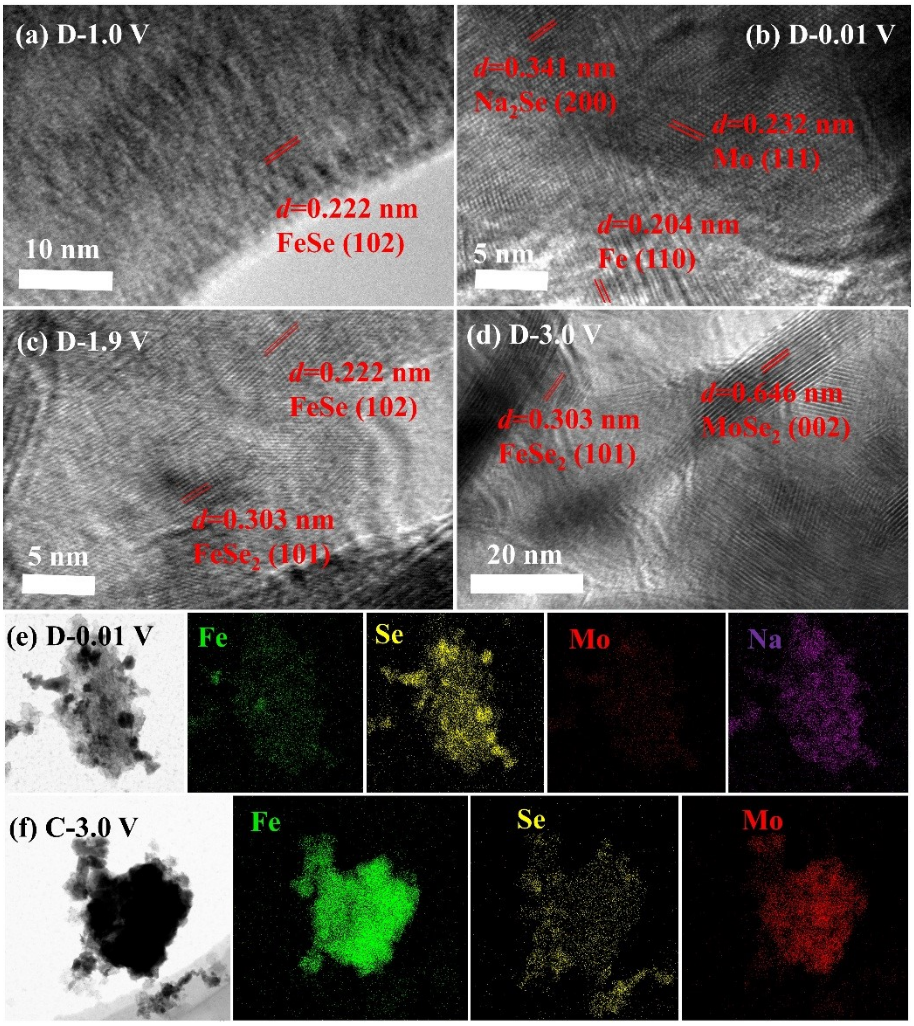


Fig. S9 Ex situ HRTEM images and corresponding elemental mappings of FMSe electrode at different states during charge/discharge process.

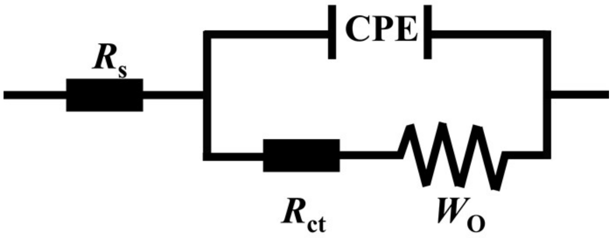


Fig. S10 The equivalent circuit of FMSe electrode.

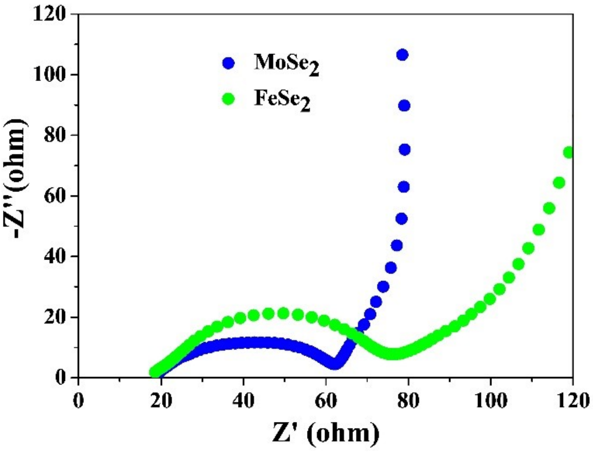


Fig. S11 EIS curves of uncycled $FeSe_2$ and $MoSe_2$.

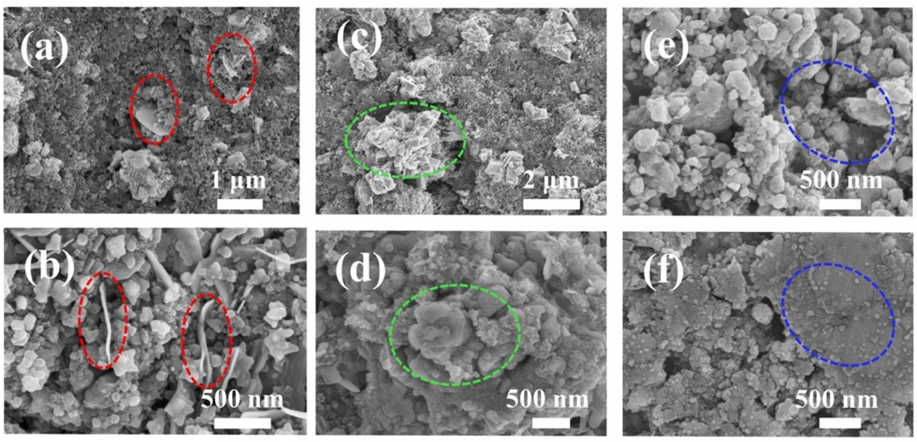


Fig. S12 (a, c, e) SEM images of the uncycled FMSe, $FeSe_2$, $MoSe_2$ electrodes. (b, d, f) SEM images of FMSe, $FeSe_2$, $MoSe_2$ electrodes after cycling.

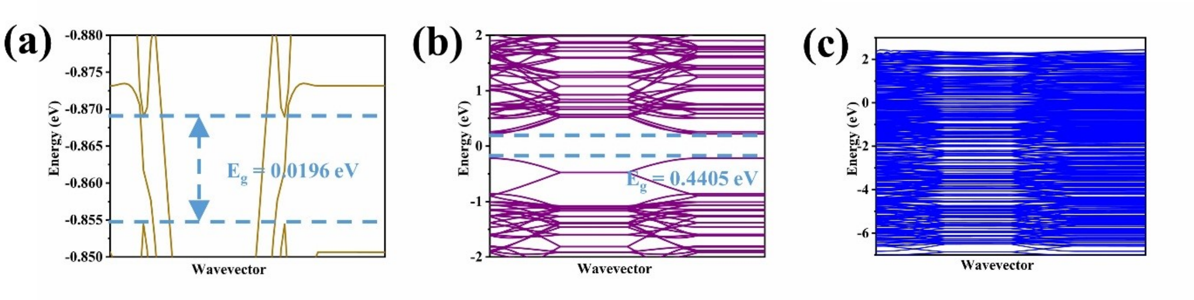


Fig. S13 The band structures of (a) $FeSe_2$, (b) $MoSe_2$ and (c) FMSe.

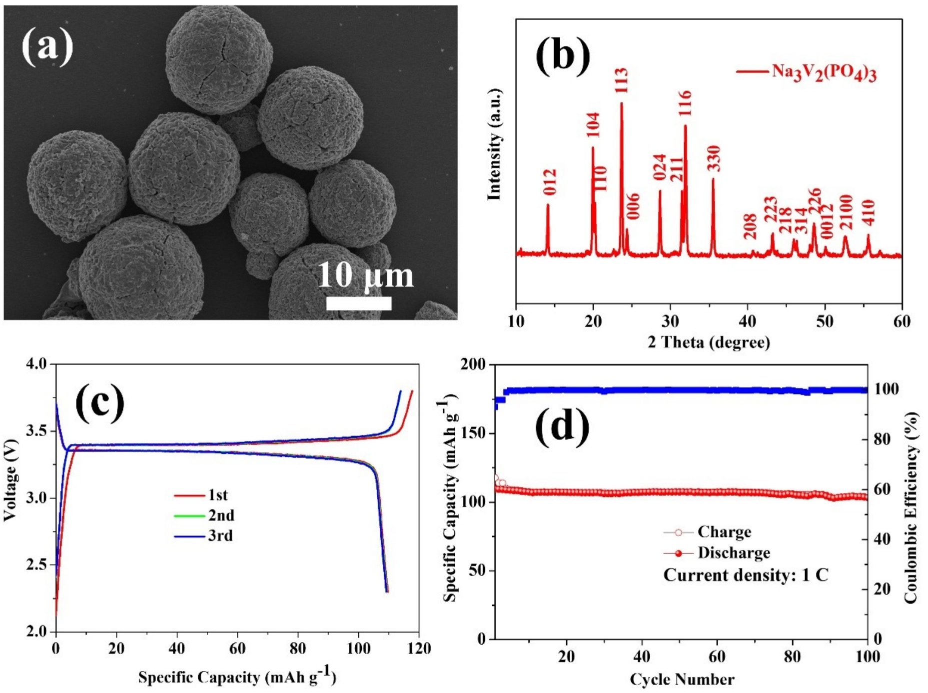


Fig. S14 Structural characterizations and electrochemical tests of $Na_3V_2(PO_4)_3$ (NVP) cathode. (a) SEM and (b) XRD image of NVP. (c) GCD curves of NVP at 1C. (d) cycling performance and corresponding CE of NVP at 1C.