

Electronic Supplementary Information (ESI) for RSC Advances

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**Mesoporous transition metal dichalcogenide ME₂ (M = Mo, W; E = S, Se)
with 2-D layered crystallinity as anode materials for lithium ion batteries**

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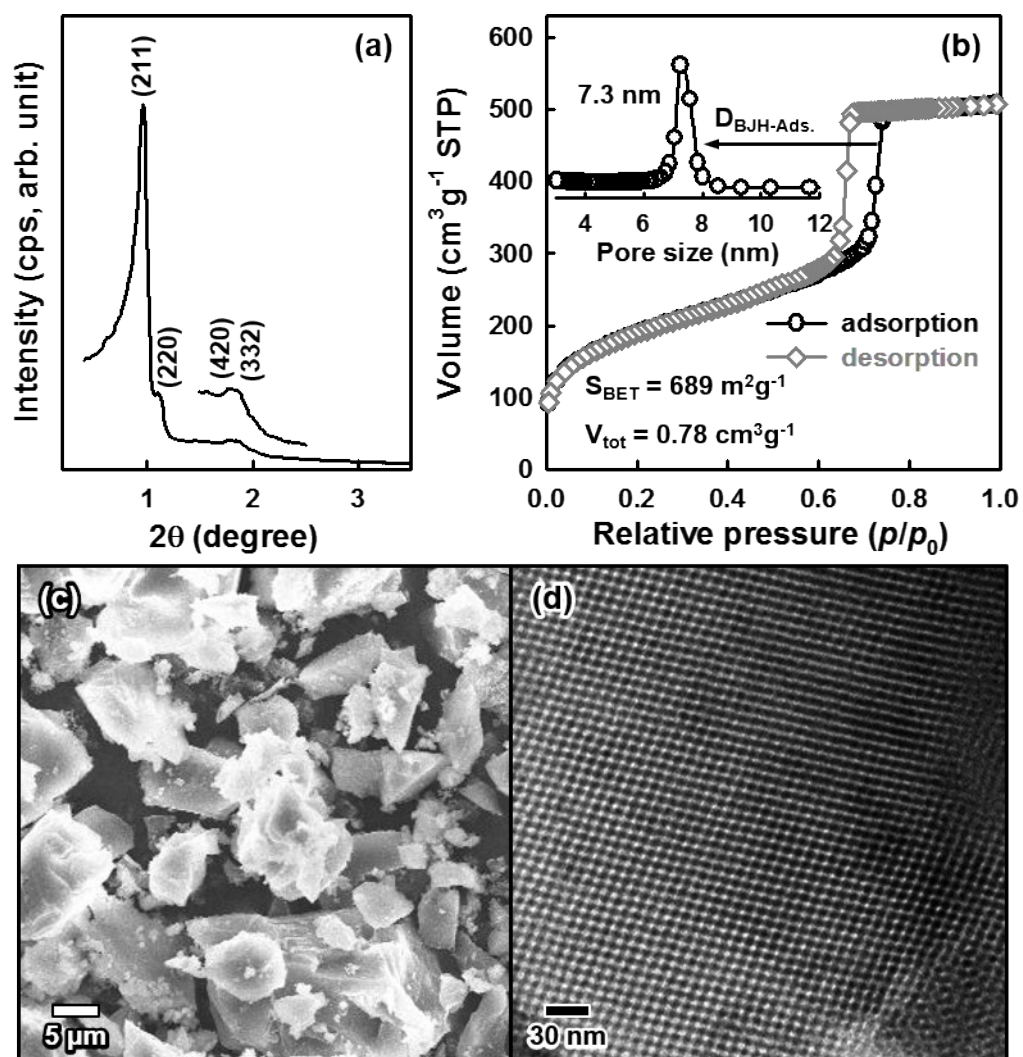


Figure S1. (a) Low angle XRD pattern, (b) N_2 -sorption isotherm and pore size distribution curve, (c) SEM image and (d) TEM image of the mesoporous silica KIT-6.

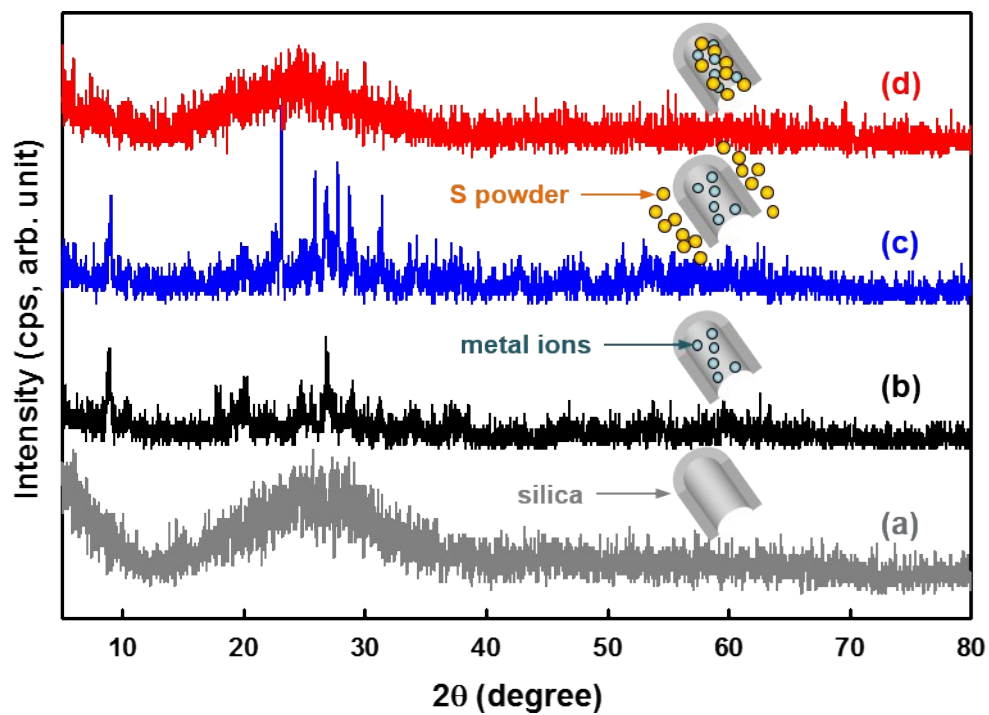


Figure S2. Wide angle XRD patterns of (a) KIT-6 silica template, (b) $\text{H}_3\text{PMo}_{12}\text{O}_{40} \cdot x\text{H}_2\text{O}@\text{KIT-6}$ silica template, (c) mixture of $\text{H}_3\text{PMo}_{12}\text{O}_{40} \cdot x\text{H}_2\text{O}@\text{KIT-6}$ and sulphur powder, and (d) after heating at 160 °C for 12 h of (c).

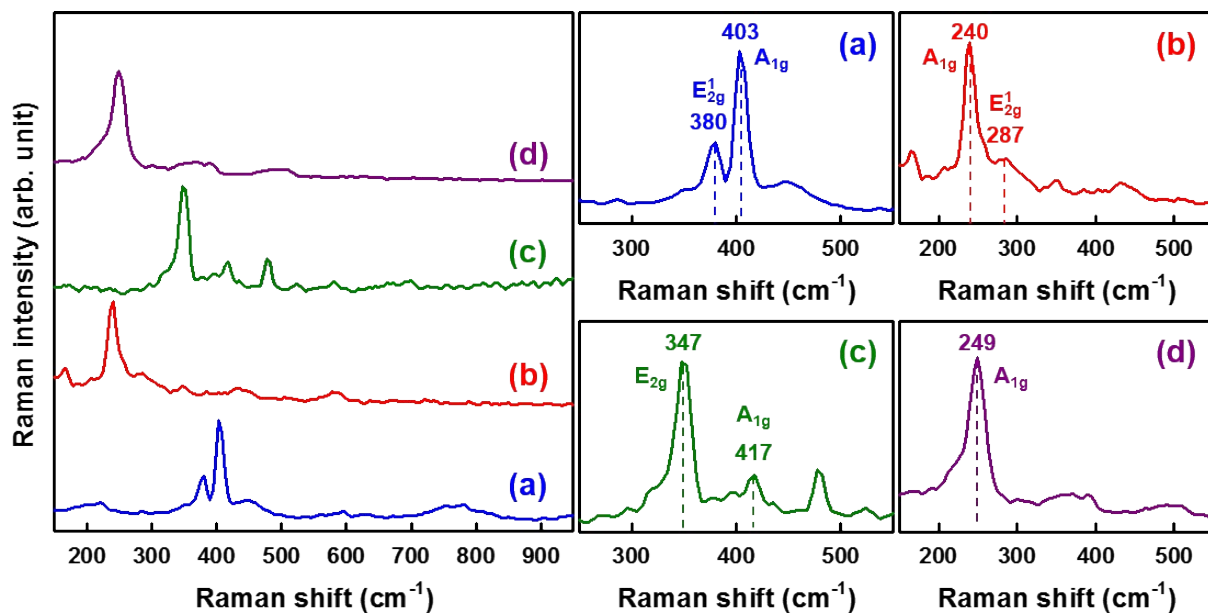


Figure S3. Raman spectrums of the mesoporous (a) MoS₂, (b) MoSe₂, (c) WS₂ and (d) WSe₂.

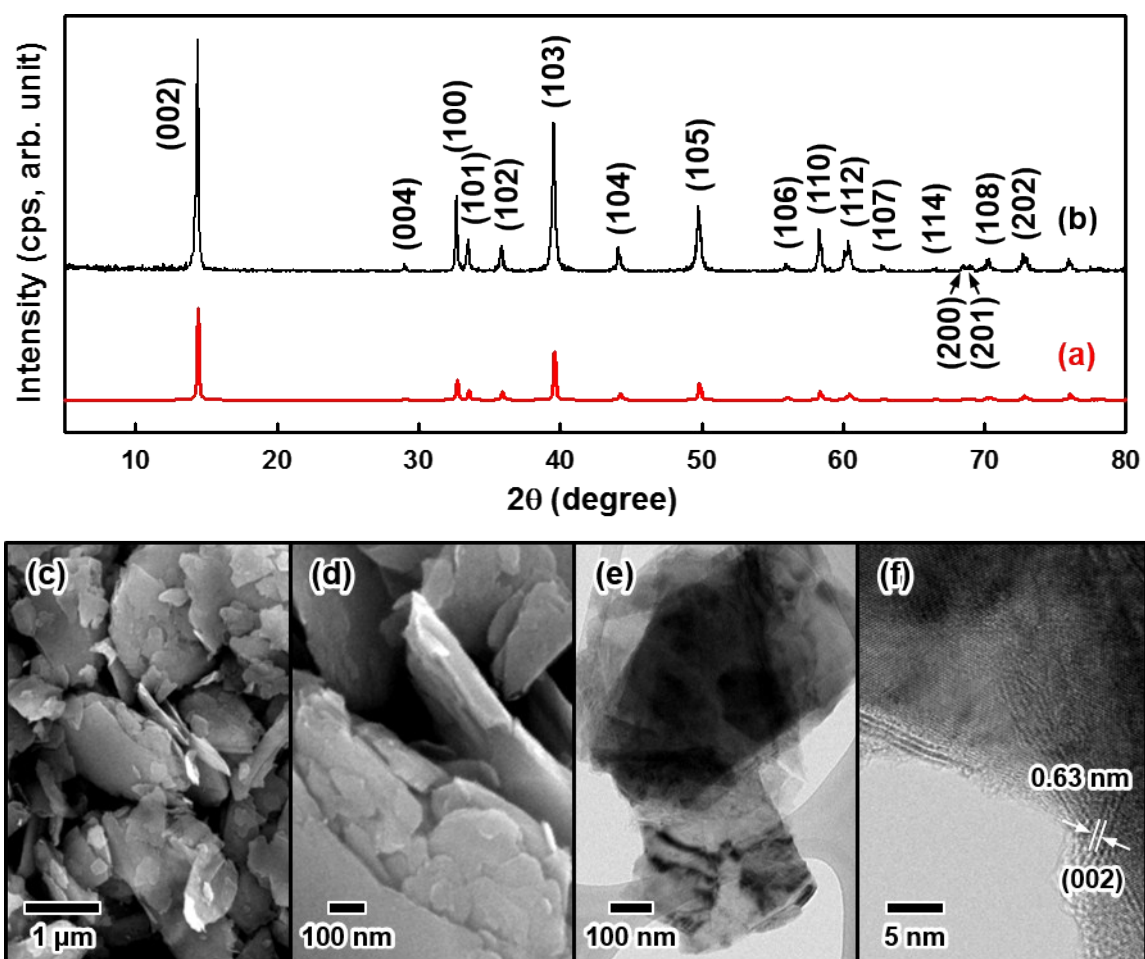


Figure S4. Wide angle XRD patterns of (a) MoS₂ in JCPDS #87-2416, (b) bulk MoS₂, (c, d) SEM images and (e, f) TEM images of the bulk MoS₂.

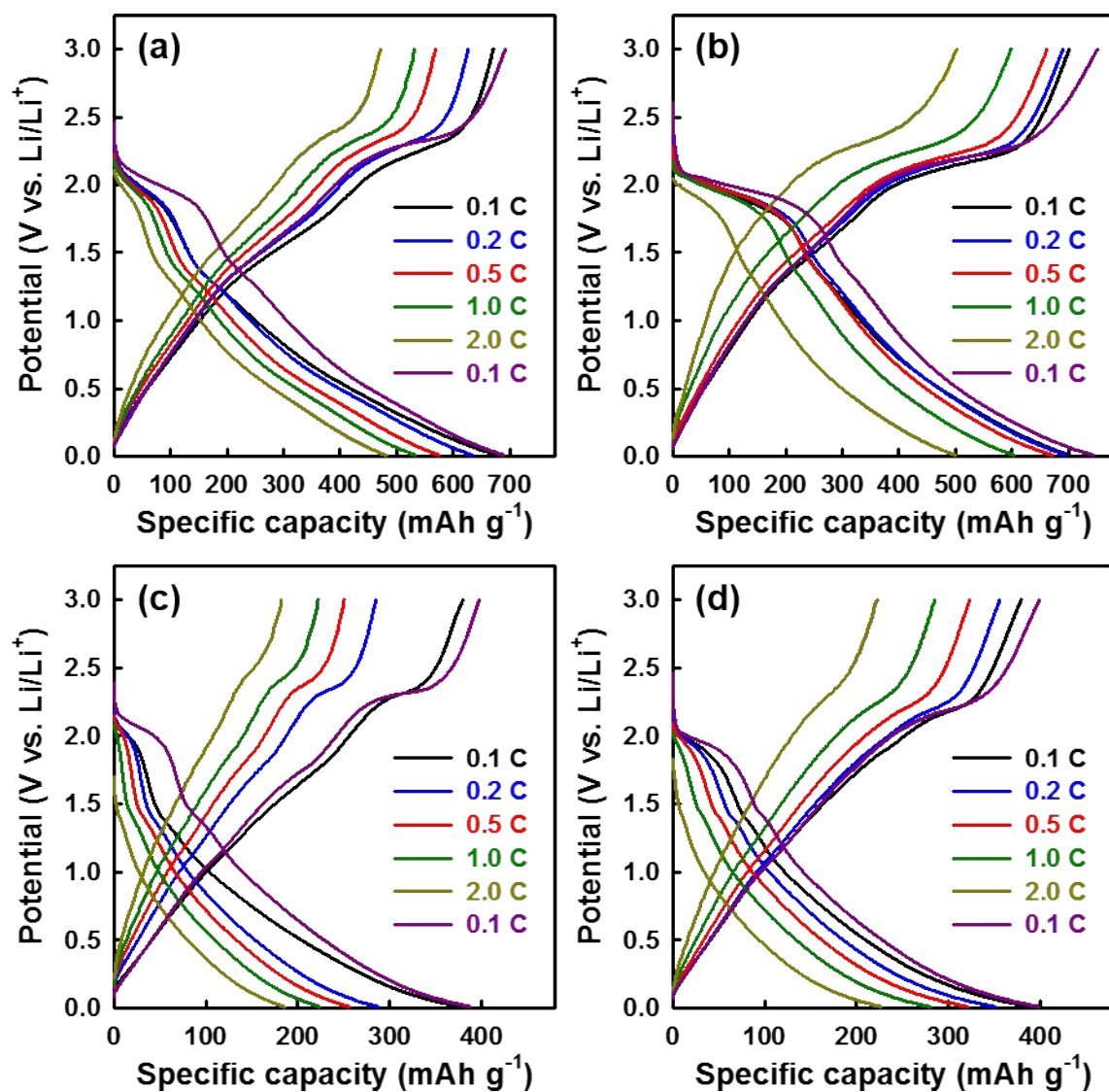


Figure S5. Galvanostatic discharge – charge curves at various current rates from 0.1 to 2 C of the mesoporous electrodes, (a) MoS_2 , (b) MoSe_2 , (c) WS_2 and (d) WSe_2 .