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Supporting Information

for

Exfoliation in a low boiling point solvent and electrochemical applications of MoO_3

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Additional experimental data

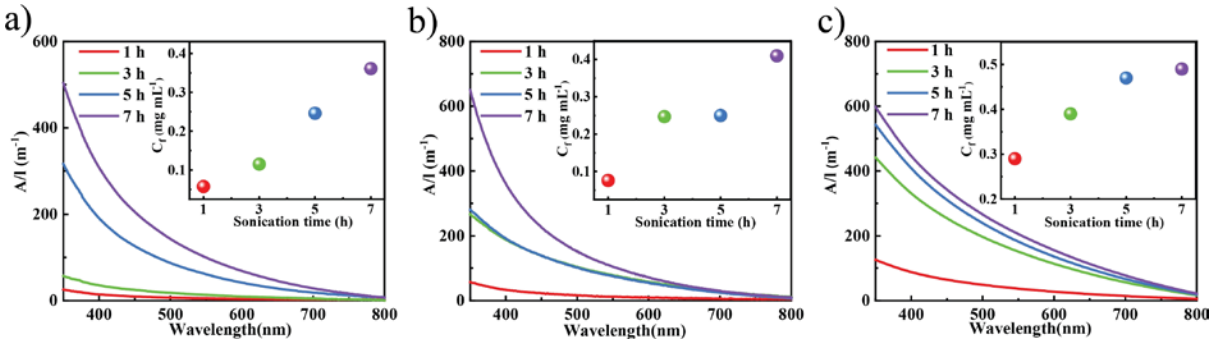

Figure S1: UV–vis spectra of MoO_3 dispersions obtained from C_i of (a) 5 mg·mL^{-1} (b) 7.5 mg·mL^{-1} and (c) 20 mg·mL^{-1}.

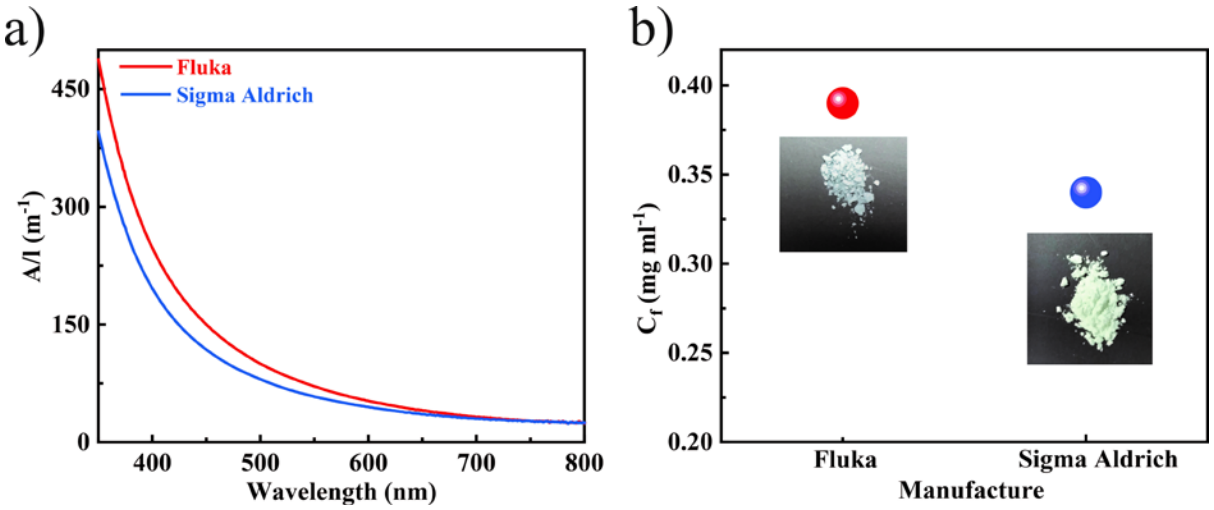

Figure S2: (a) UV–vis spectra of MoO_3 dispersions with MoO_3 procured from two different sources (Fluka and Sigma-Aldrich). MoO_3 exfoliation was carried out in 2-butanone with C_i of 10 mg·mL^{-1} and 3 h of sonication. (b) C_f of MoO_3 dispersions obtained from different manufacturers. Insets show digital micrographs of the MoO_3 powders obtained from different manufacturers.

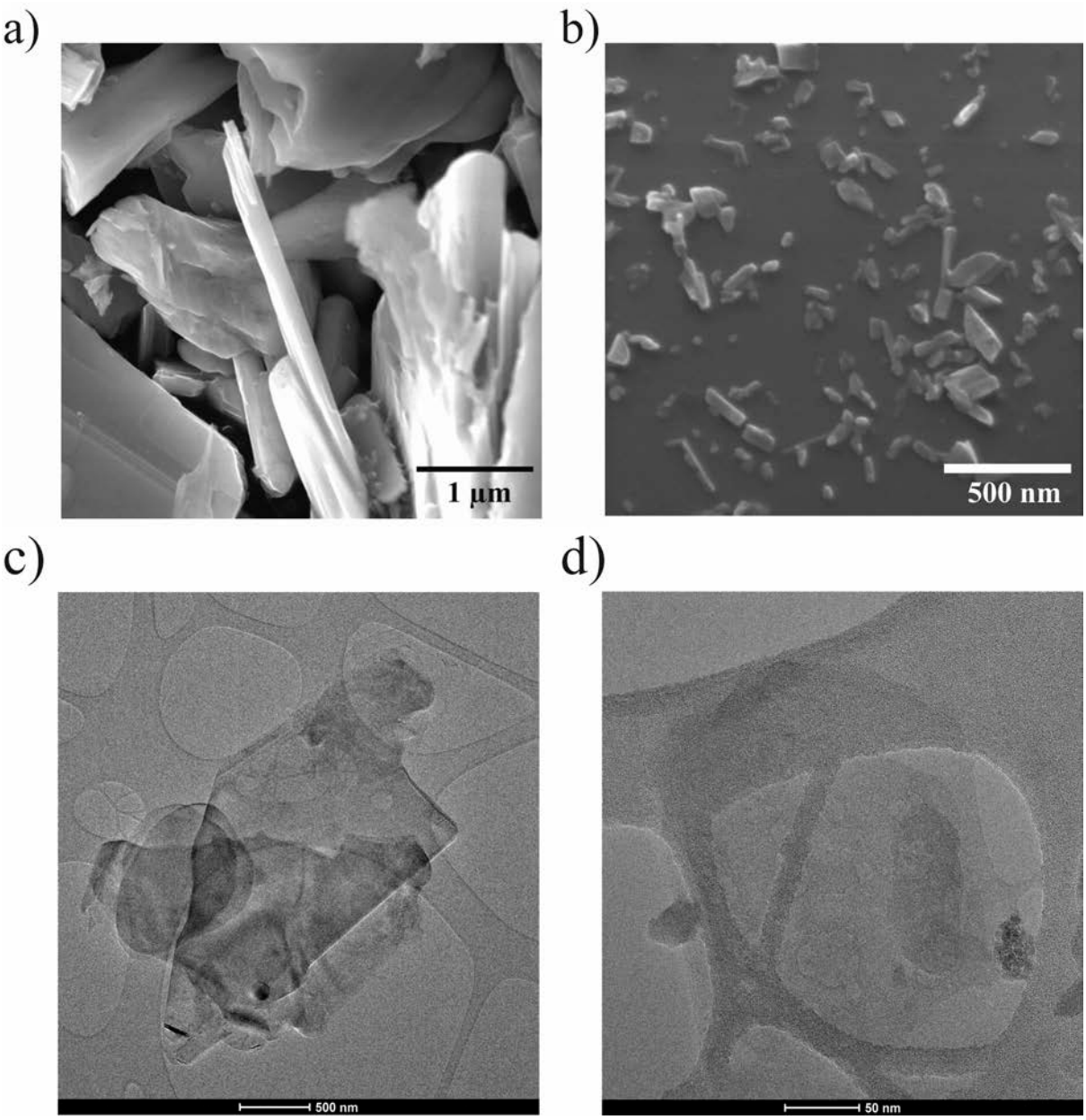

Figure S3: FESEM micrographs of (a) bulk and (b) exfoliated MoO_3; (c, d) TEM micrographs of exfoliated MoO_3 nanosheets.

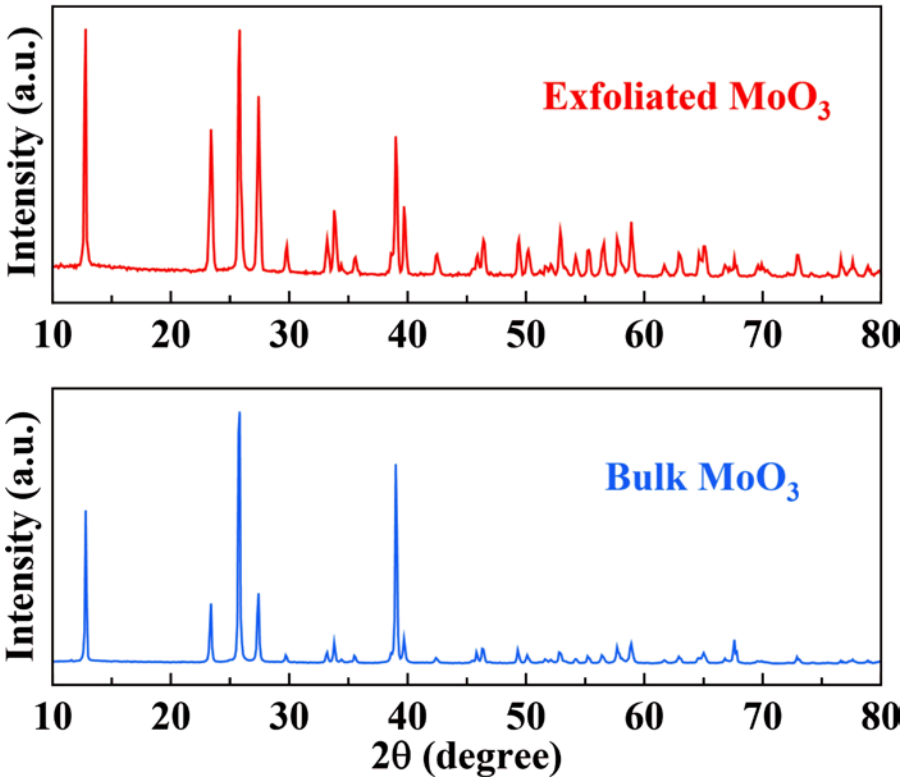

Figure S4: XRD of bulk and exfoliated MoO_3.

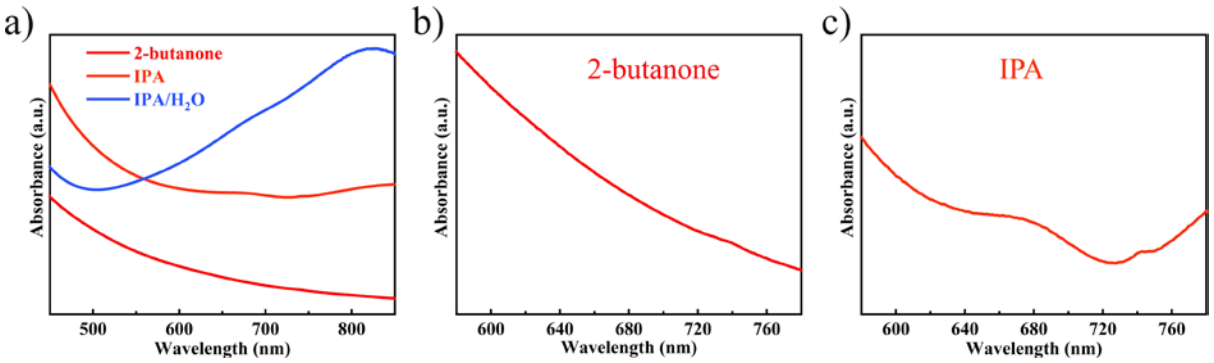

Figure S5: (a) UV–vis spectra of MoO_3 in 2-butanone, IPA and IPA/H_2O. (b) Enlarged view of the UV–vis spectrum in 2-butanone. (c) Enlarged view of the UV–vis spectrum in IPA.

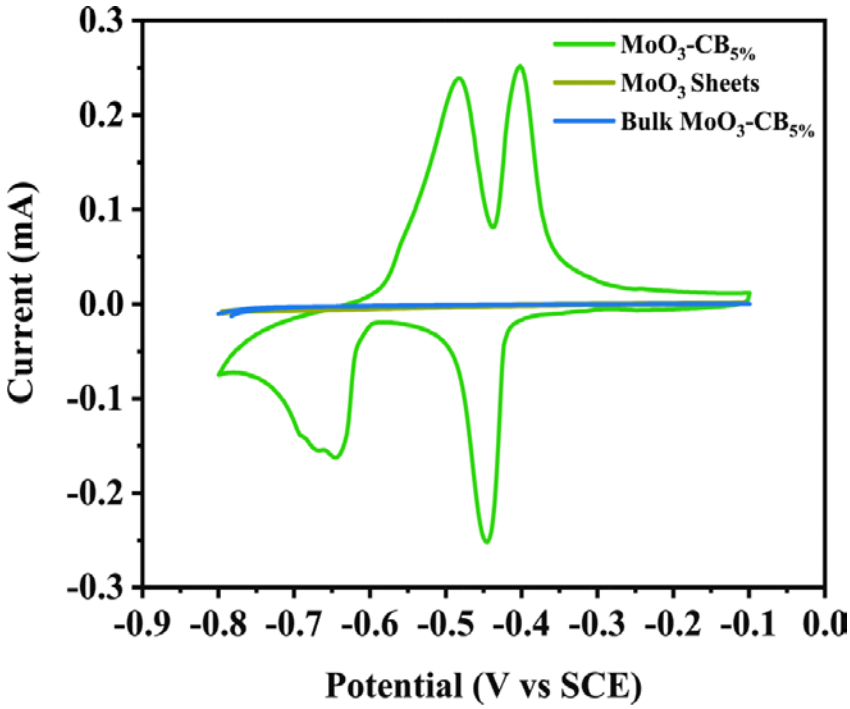

Figure S6: CV measurement comparing the performance of exfoliated MoO_3, the composite of exfoliated MoO_3 with 5 wt % CB and the composite of bulk MoO_3 with 5 wt % CB.

Table S1: Comparison of HSP values of 2-butanone and MoO_3.

Hansen solubility parameters	MoO_3 [1]	2-Butanone
Range of δ_D ($MPa^{1/2}$)	17.8	16
Range of δ_P ($MPa^{1/2}$)	8	9
Range of δ_H ($MPa^{1/2}$)	6.5	5.1

Table S2: Comparison of the specific capacitance of various MoO_3 structures and composites.

Material	Specific capacitance ($F \cdot g^{-1}$)	Reference
MoO_3 nanoparticles distributed uniformly in carbon matrix	179 @ 50 mA/g	[2]
MoO_3 nanowires	100 @ 200 mA/g	[3]
MoO_3 nanorod	30 @ 5 mV/s	[4]
Polypyrrole-coated α-MoO_3	125 @ 100 mA/g	[5]
ZnO@MoO_3 core/shell nanocables	236 @ 5 mV/s	[6]
MoO_3–MWCNT nanocomposites	210 @ 5 mV/s	[7]
MoO_3-carbon black	**201 @ 50 mV/s**	**This work**

References

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