

Supporting information

From liquid to thin film: colloidal suspensions for tungsten oxide as an electrode material for Li-ion batteries

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Video S1. Video footage of the synthesis performed. WCl_6 was dissolved in Ethanol. After complete dissolution, water was added, shifting the color from yellow to colorless and finally dark blue.

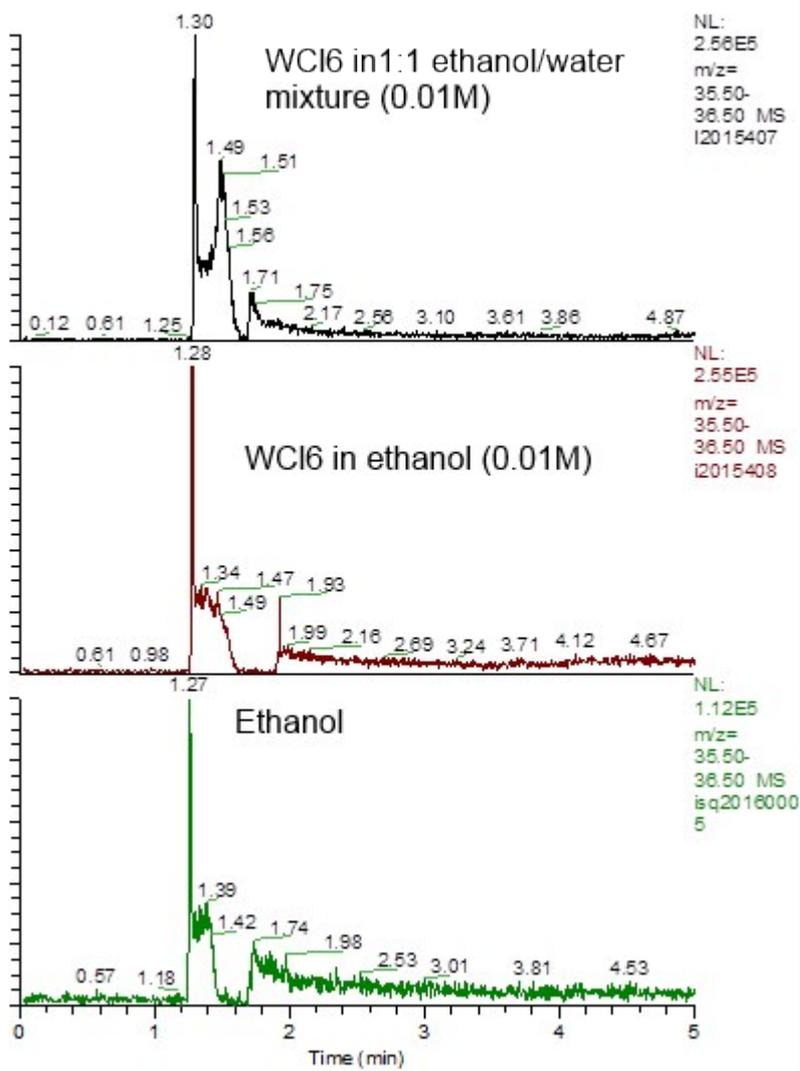


Figure S1. MS data of headspace GCMS measurements performed on the precursors and ethanol, showing the 35.5-36.5 u fraction (HCl).

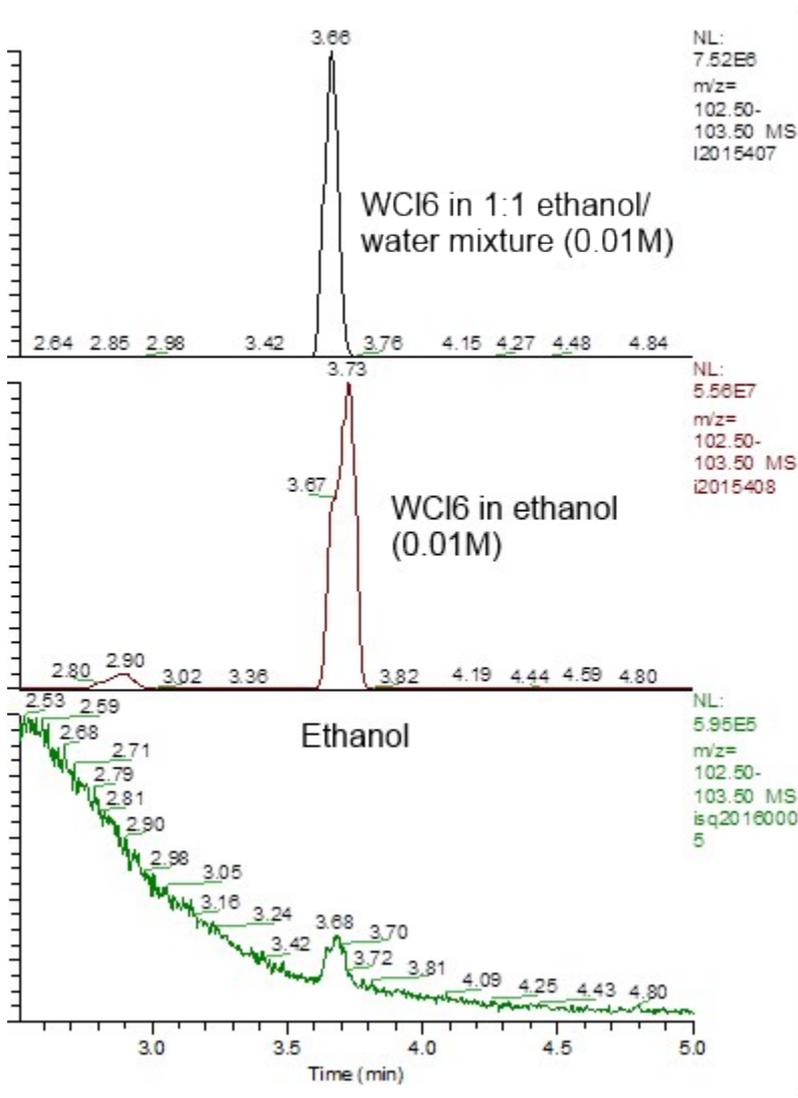


Figure S2. MS data of headspace GCMS measurements performed on the precursors and ethanol, showing the 102.5-1-3.5 u fraction (DEE).

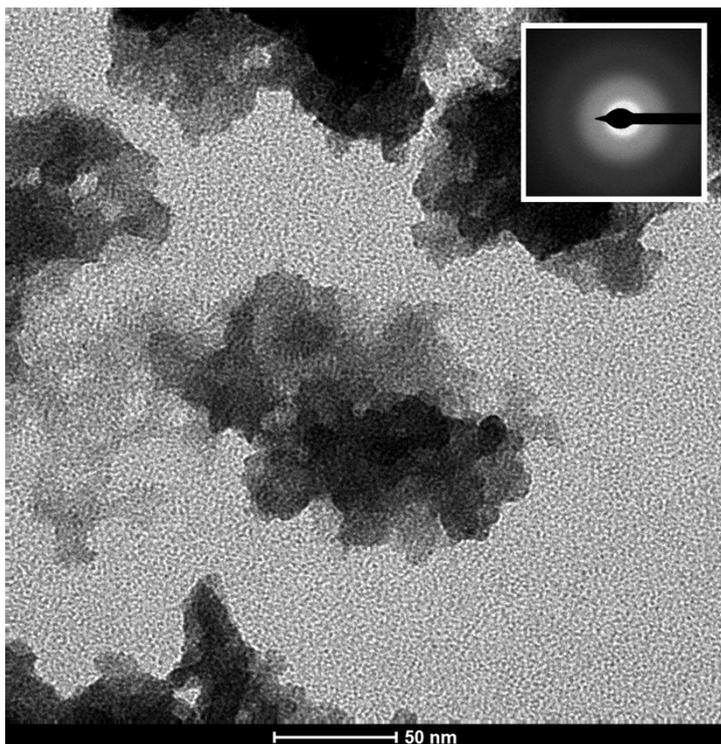


Figure S3. TEM image of the tungsten precursor deposited on a copper grid and dried before measuring. The inset shows electron diffraction (ED) of a cluster of circular particles.

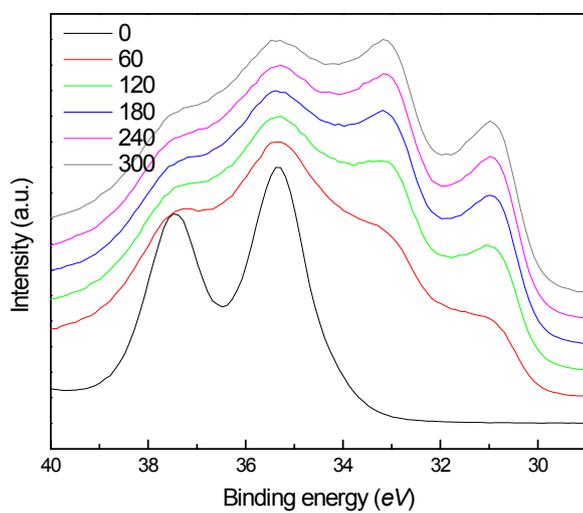


Figure S4. W4f XPS spectrum of WO_3 films annealed at 500°C for 1 hour (static air) on TiN. Etching times are indicates in seconds (s).

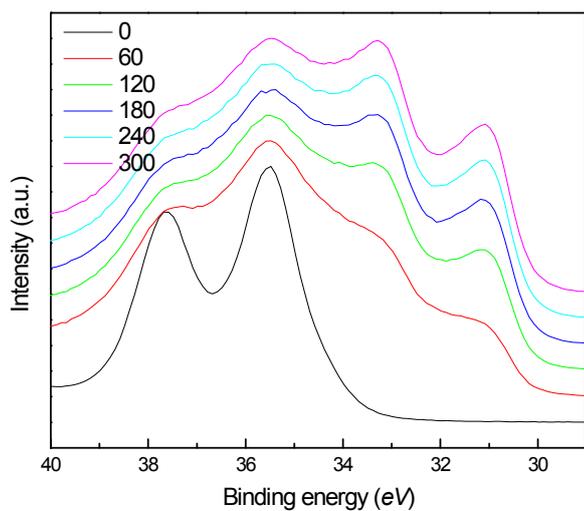


Figure S5. W4f XPS spectrum of WO_3 films annealed at 500°C for 1 hour (static air) on Pt. Etching times are indicates in seconds (s).

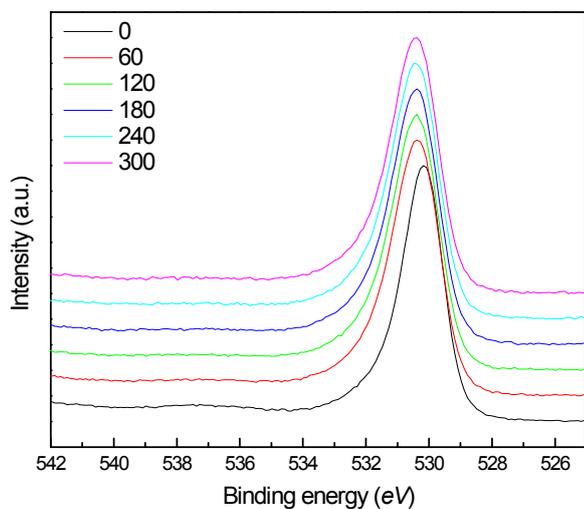


Figure S6. O1s XPS spectrum of WO_3 films annealed at 500°C for 1 hour (static air) on TiN. Etching times are indicates in seconds (s).

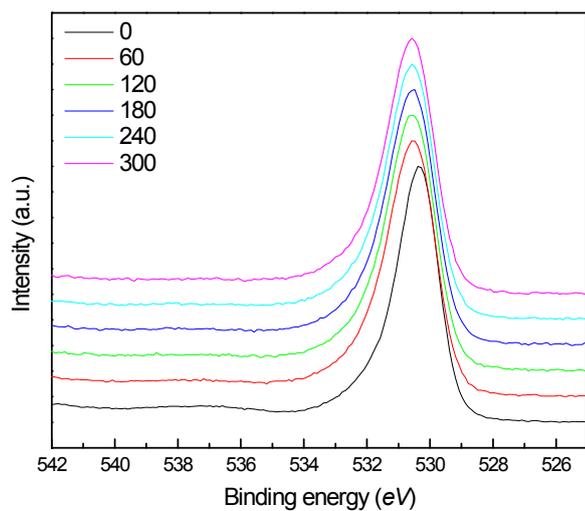


Figure S7. O1s XPS spectrum of WO_3 films annealed at 500°C for 1 hour (static air) on Pt. Etching times are indicates in seconds (s).

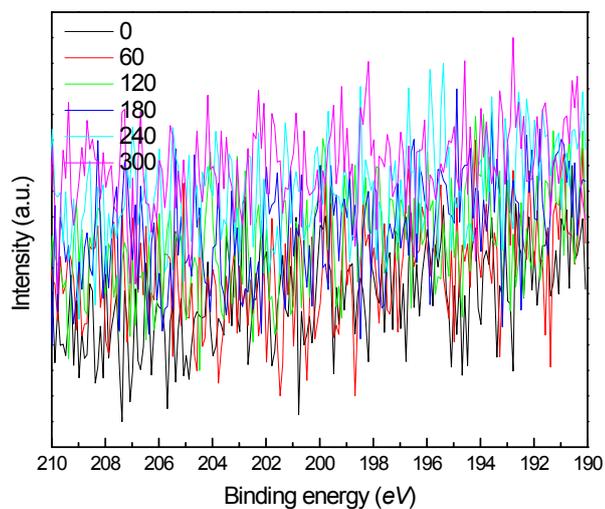


Figure S8. Cl2p XPS spectrum of WO_3 films annealed at 500°C for 1 hour (static air) on TiN. Etching times are indicates in seconds (s).

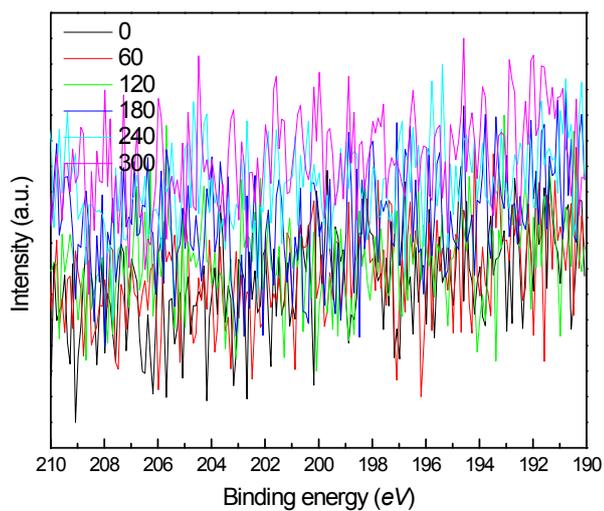


Figure S9. Cl_{2p} XPS spectrum of WO₃ films annealed at 500°C for 1 hour (static air) on Pt. Etching times are indicates in seconds (s).

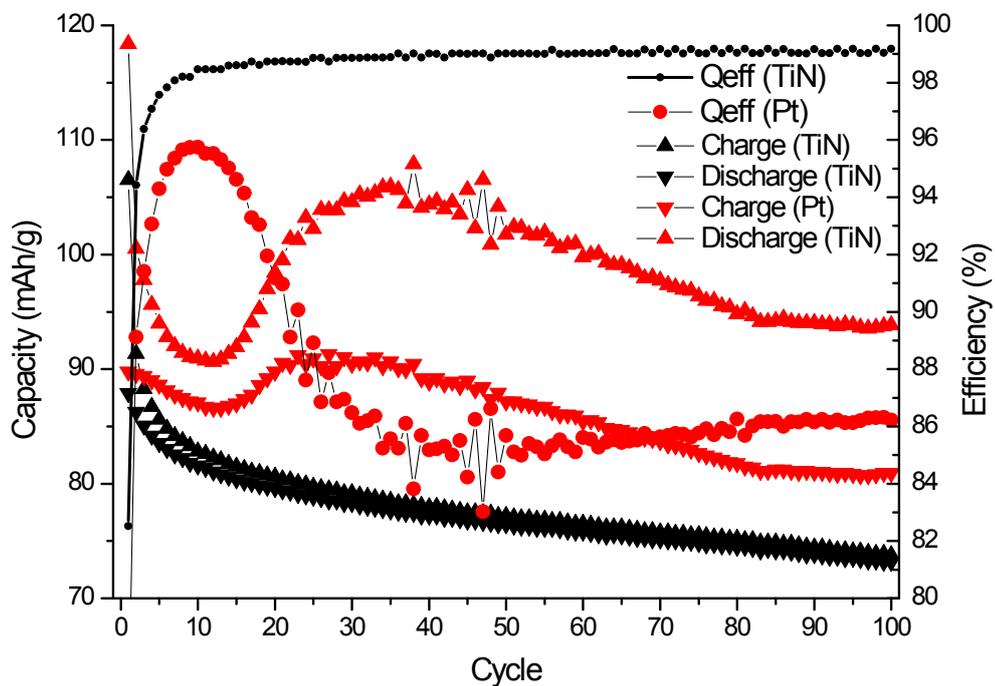


Figure S10. Charge/discharge measurements of 10 layers of WO₃ deposited on TiN (black) and Pt (red), measured at 1 mV·s⁻¹ in 1.0 m LiClO₄ in PC. The films were submitted to a post deposition anneal of 1 hour at 400°C in static air.