

Supplementary Materials

Nanoscale Morphological Changes at Lithium Interface, Triggered by the Electrolyte Composition and Electrochemical Cycling

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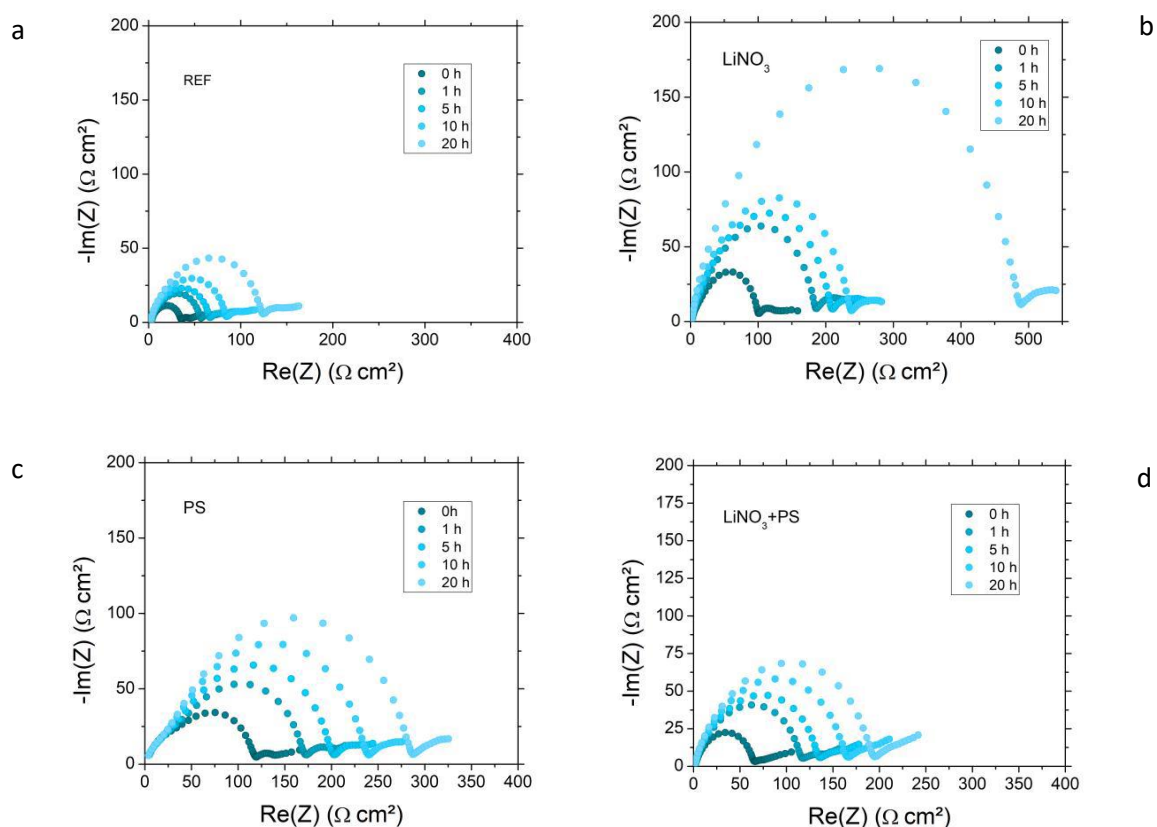


Figure S1: Nyquist impedance diagrams for anodes tested in symmetric cells, after different contact times with electrolyte DOL/TEGME (7:3) 1 M LiTFSI (a), DOL/TEGME (7:3) 1 M LiTFSI, 0.2 M LiNO₃ (b), DOL/TEGME (7:3) 1 M LiTFSI, PS (c) and DOL/TEGME (7:3) 1 M LiTFSI, 0.2 M LiNO₃, PS (d)

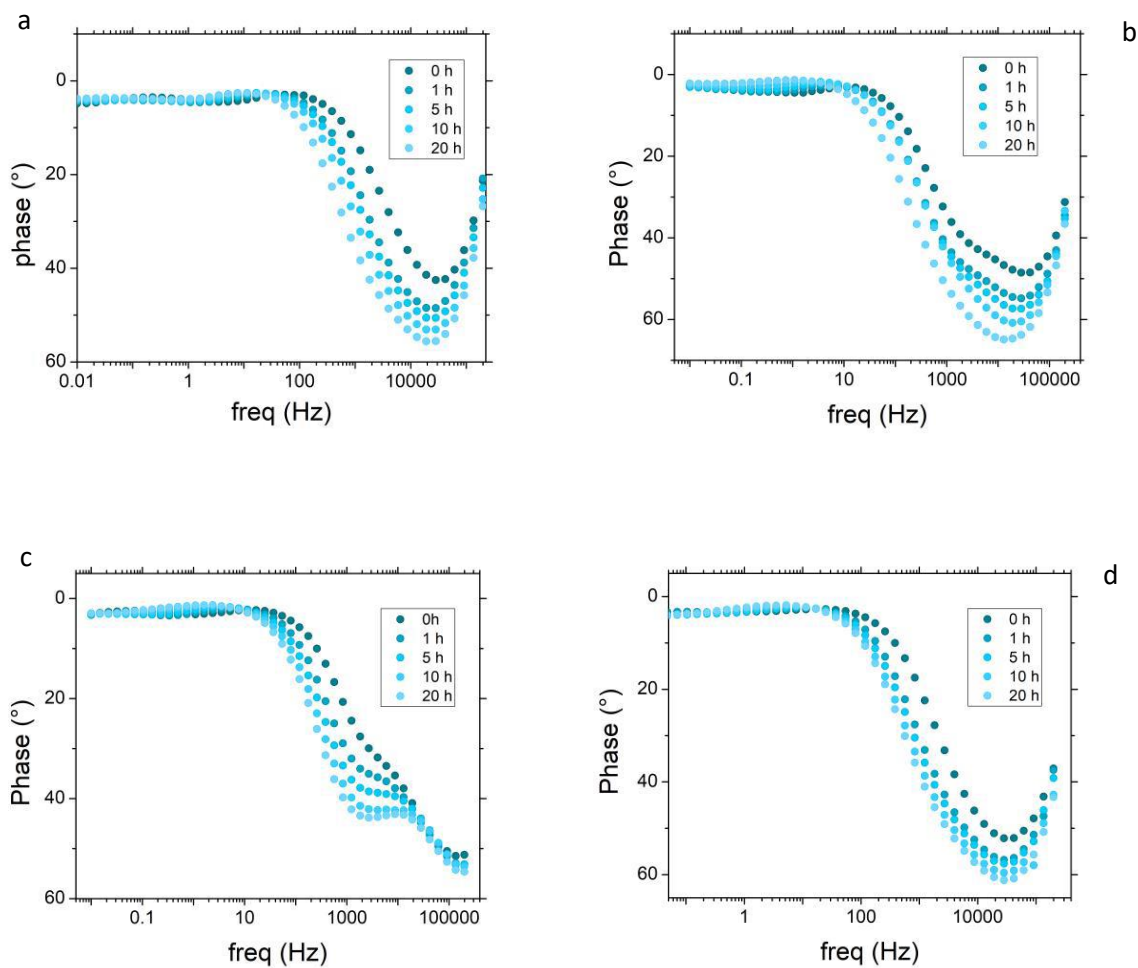


Figure S2: Bode phase diagrams for anodes tested in symmetric cells, after different contact time with electrolyte DOL/TEGME (7:3) 1 M LiTFSI (a), DOL/TEGME (7:3) 1 M LiTFSI, 0.2 M LiNO₃ (b), DOL/TEGME (7:3) 1 M LiTFSI, PS (c) and DOL/TEGME (7:3) 1 M LiTFSI, 0.2 M LiNO₃, PS (d).

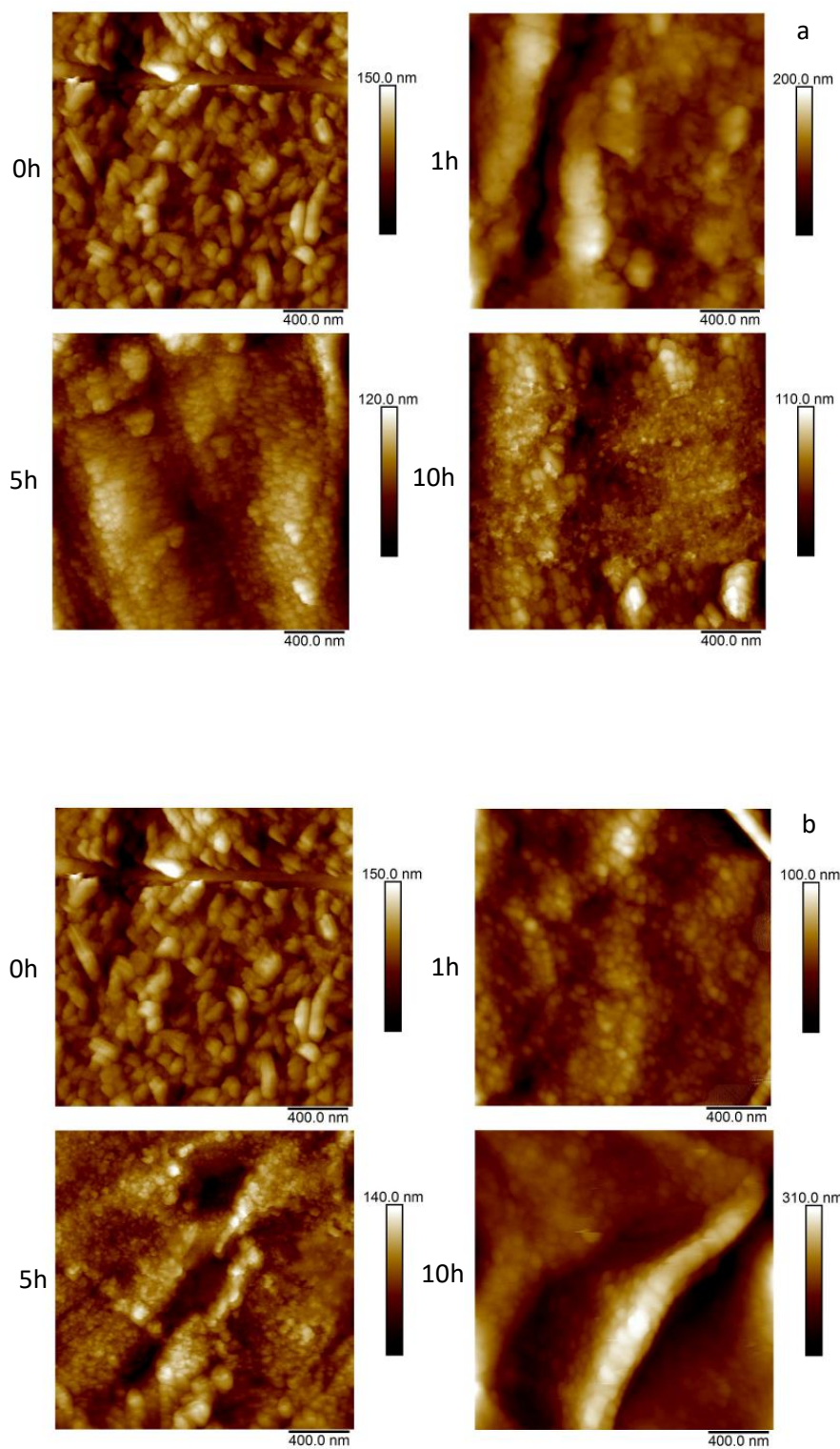


Figure S3: Surface morphology of Li plates, immersed in 1 M LiTFSI, DOL:DME (7:3 vol.) (a) and 1 M LiTFSI, DOL:TEGDME (7:3 vol.) (b) for different periods of time

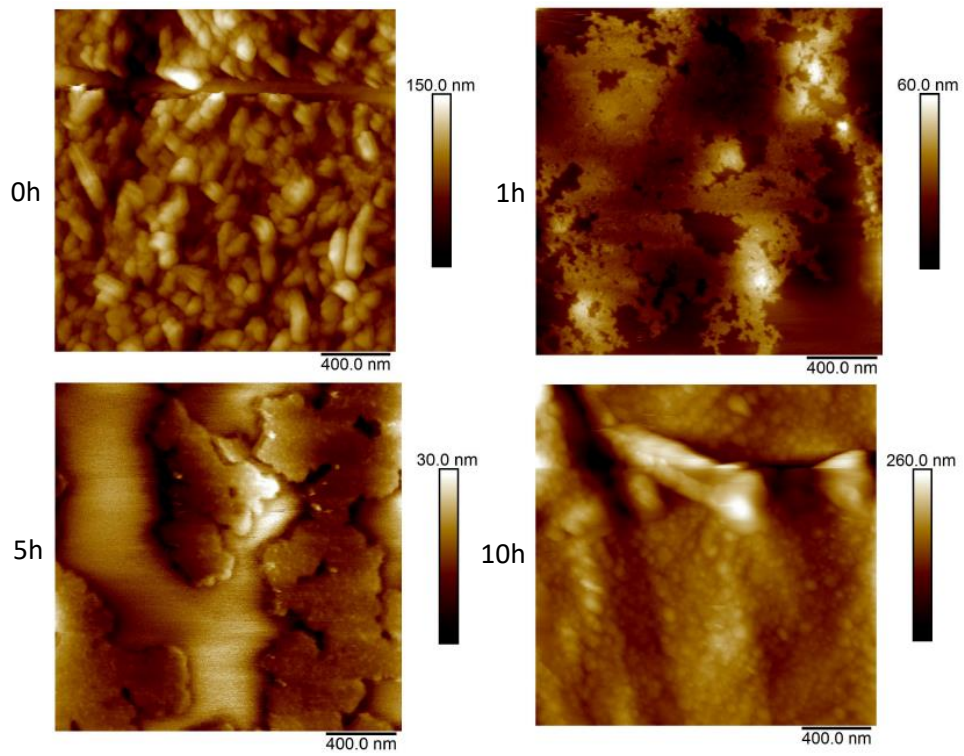


Figure S4: Surface morphology of Li plates, immersed in 1 M LiTFSI, DOL:TEGDME (7:3 vol.), 0.2 M LiNO₃ for different periods of time

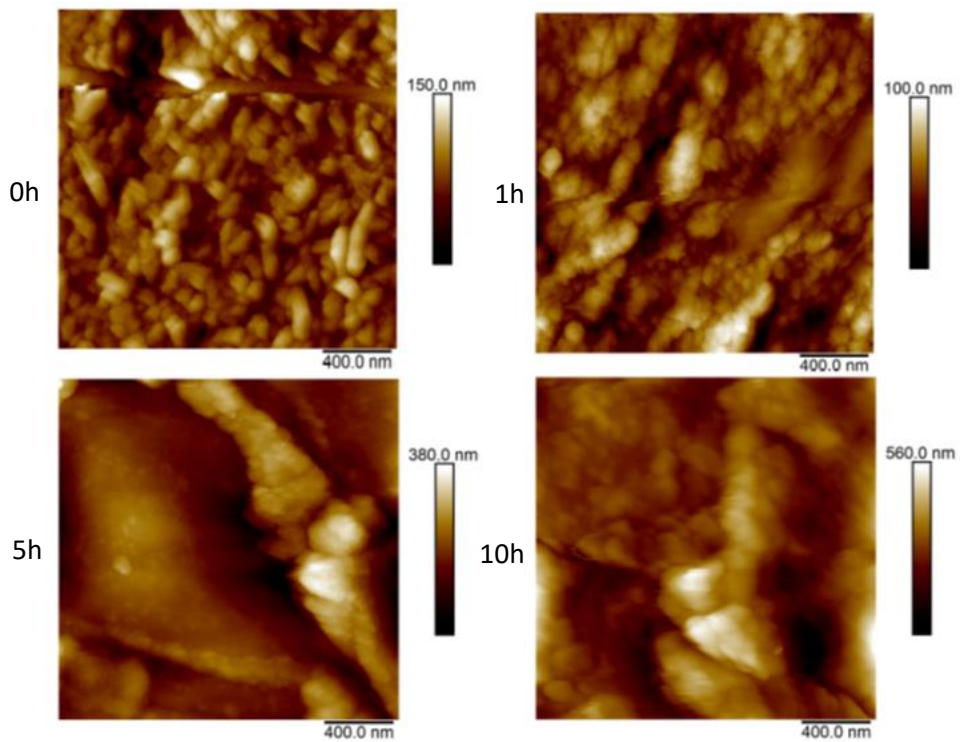


Figure S5: Surface morphology of Li plates, immersed in 1 M LiTFSI, DOL:TEGDME (7:3 vol.) after addition of polysulfides for different periods of time

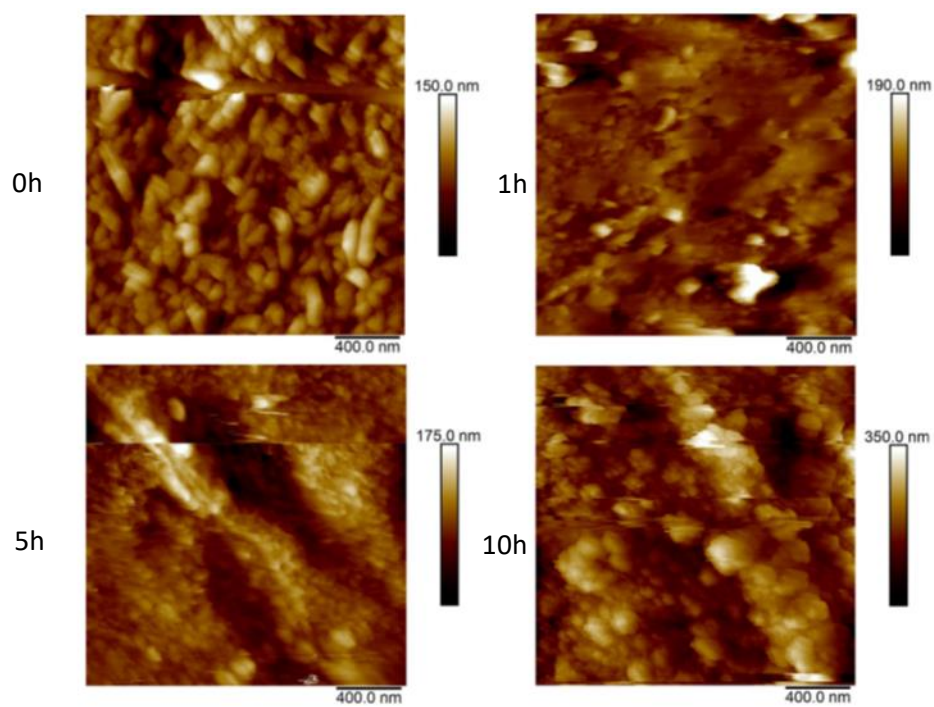


Figure S6: Surface morphology of Li plates, immersed in 1 M LiTFSI, DOL:TEGDME (7:3 vol.) after addition of polysulfides and 0.2 M LiNO_3 for different periods of time