

Whisker-free lithium electrodeposition by tuning electrode microstructure

Supplementary Information

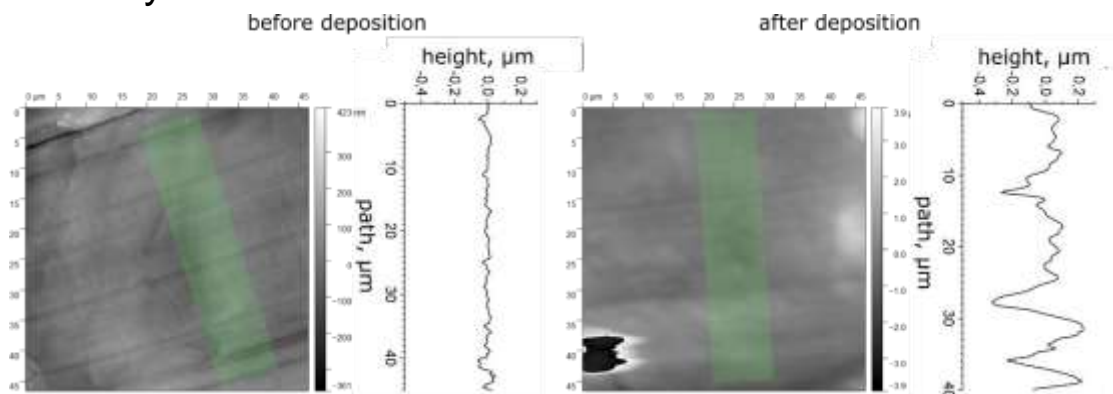


Figure S1. AFM image of lithium disk electrode before and after deposition and the height profile along the indicated path (profile averaged along the short side of the green rectangles)



Figure S2. Etched surface of lithium disk

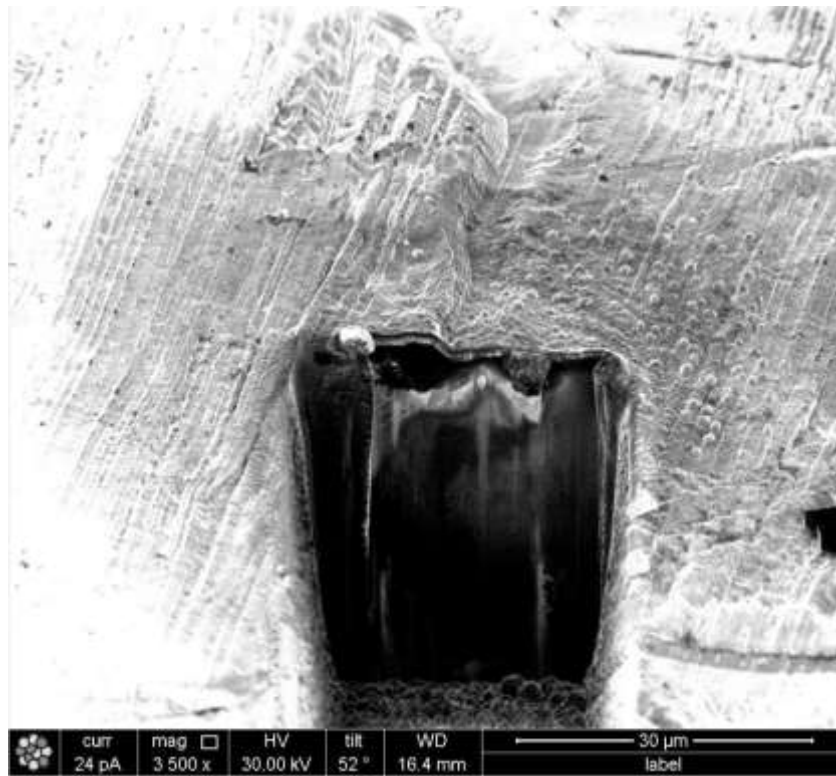


Figure S3. SEM image of FIB cross section of Li electrode from figure 2,b of the original manuscript.

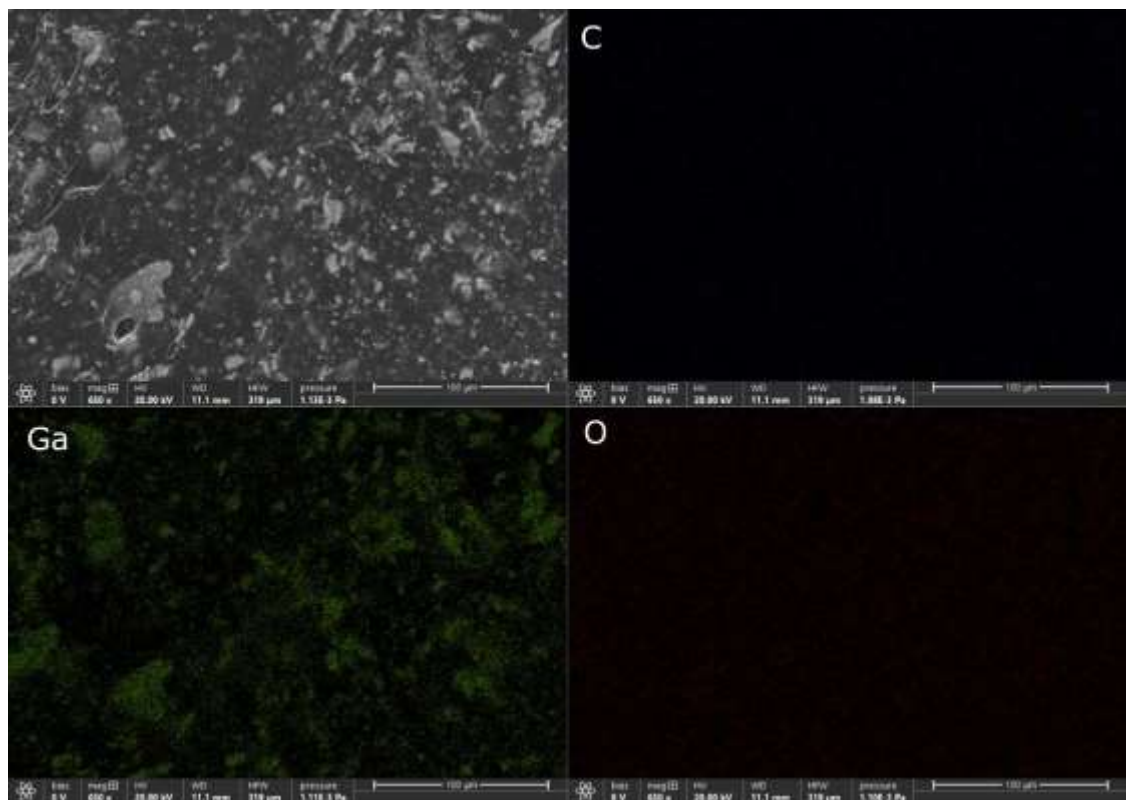


Figure S4. SEM image and corresponding EDX map of carbon, gallium, and oxygen in a cross-section of Ga-Li eutectic alloy.

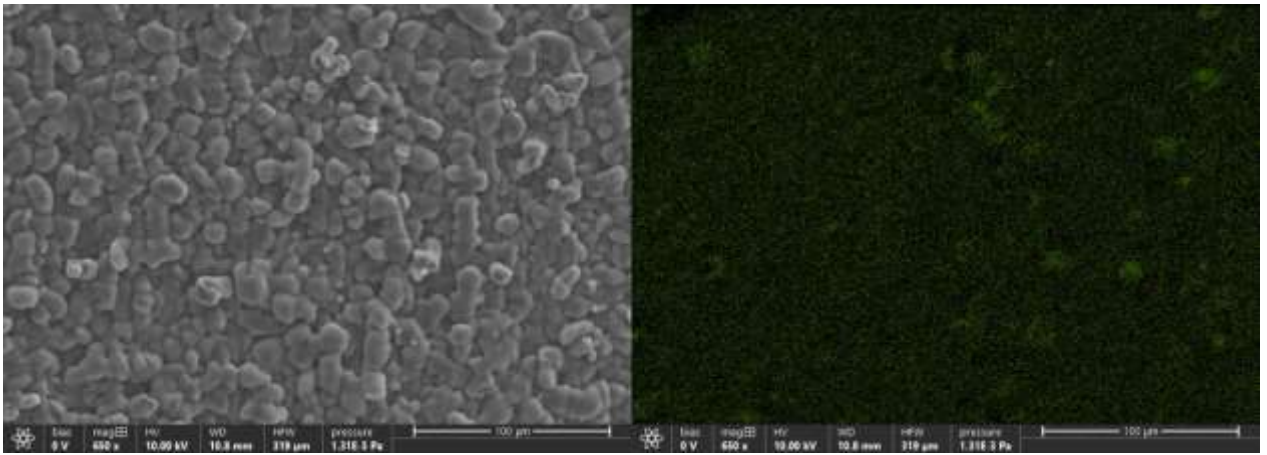


Figure S5. SEM image and EDX map of gallium on the Li-Ga electrode after 60 minutes of lithium deposition at $500 \mu\text{A}/\text{cm}^2$.

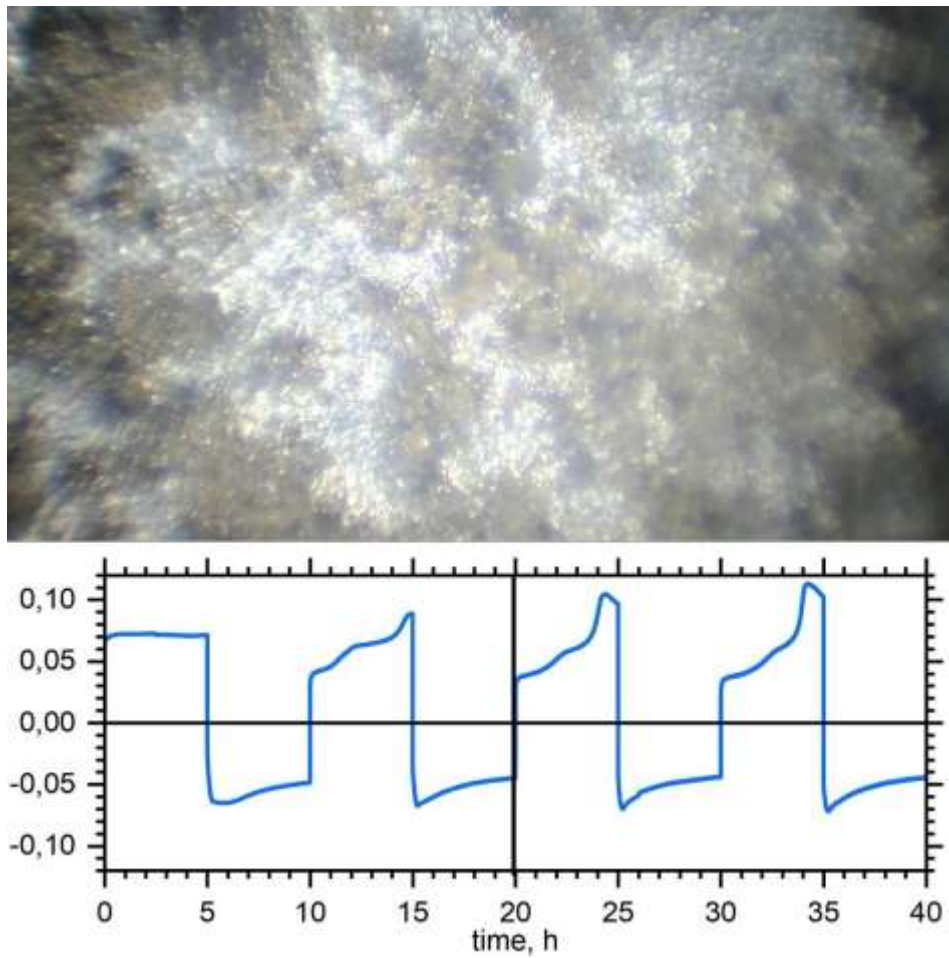


Figure S6. Cycling of Ga-Li electrode at $500 \mu\text{A}/\text{cm}^2$: optical micrograph and galvanostatic cycling curve.



Figure S7. Vacuum transfer chamber for electron microscope. The sample is mounted inside the chamber in a glovebox, then chamber is closed and evacuated in antechamber of a glovebox. Atmospheric pressure secures the chamber shut, while a pre- tensioned spring releases the cap in the SEM chamber once vacuum equilibrium is achieved.