

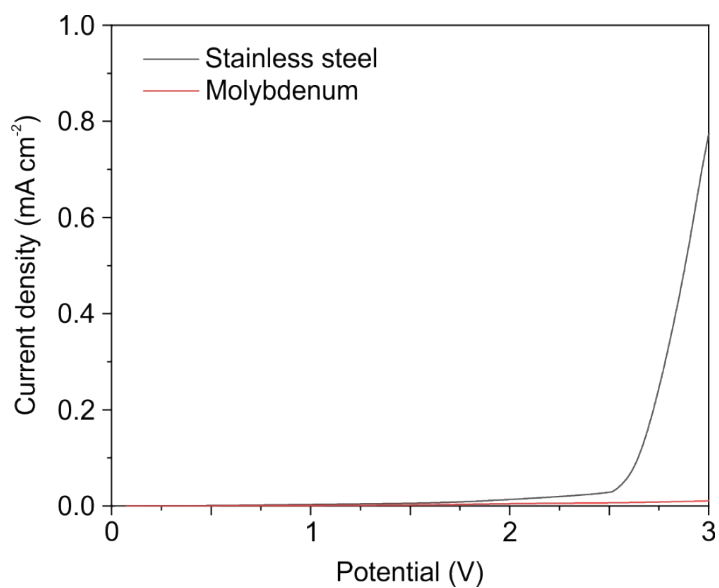
## Supporting Information

### Self-supporting V<sub>2</sub>O<sub>5</sub> Nanofiber-based Electrodes for Magnesium-Lithium-ion Hybrid Batteries

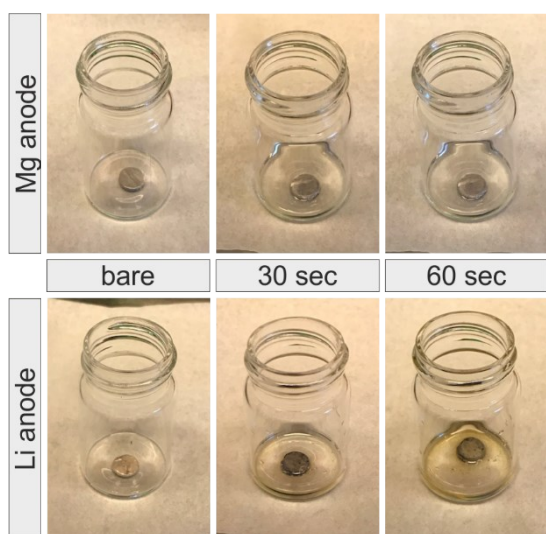
*Achim M. Diem, Kevin Hildenbrand, Leila Raafat, Joachim Bill and Zaklina Burghard\**

*Institute for Materials Science, University of Stuttgart, Stuttgart, Germany*

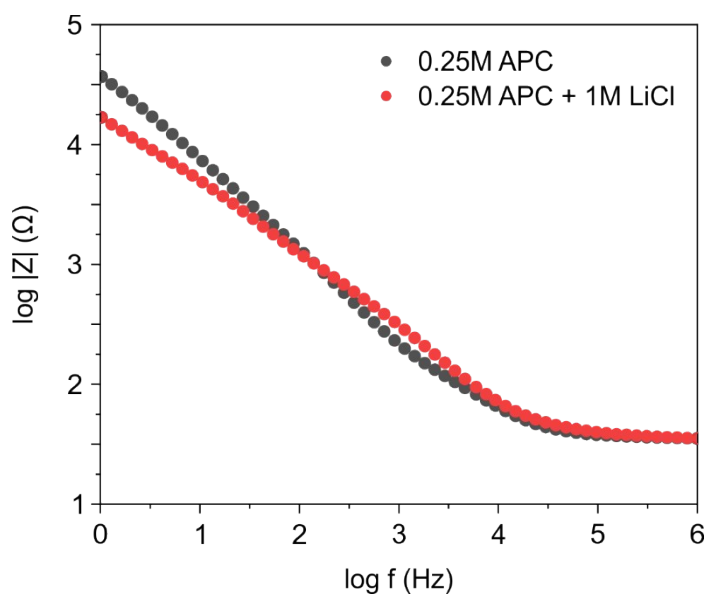
\*Corresponding author: [zaklina.burghard@imw.uni-stuttgart.de](mailto:zaklina.burghard@imw.uni-stuttgart.de)



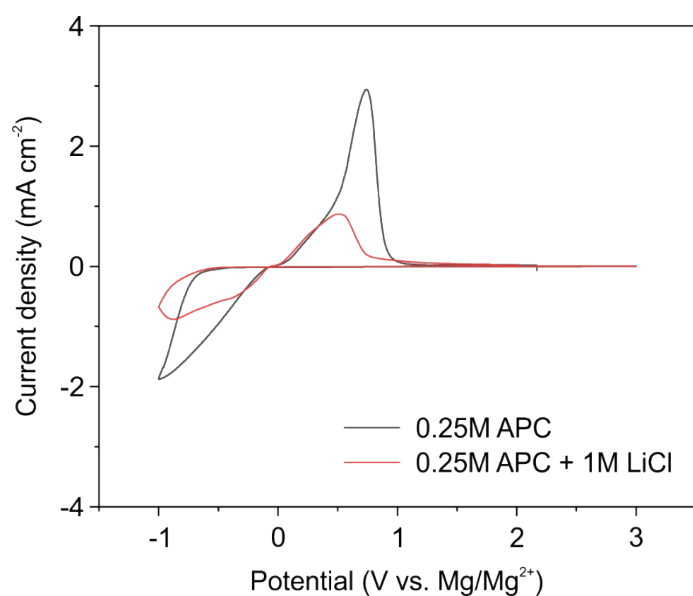
**Figure S1:** Linear sweep voltammetry scan at  $1 \text{ mV s}^{-1}$  of symmetric cells with APC+LiCl as electrolyte.



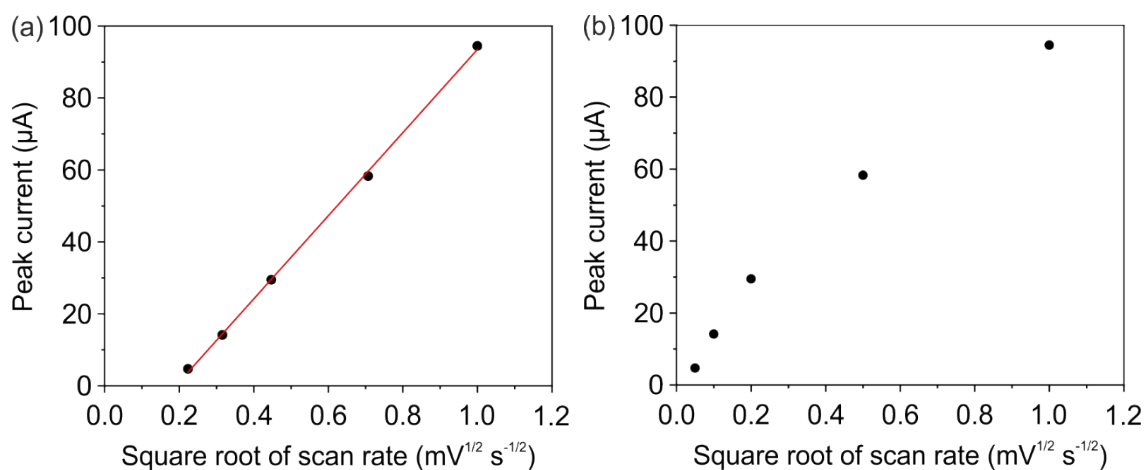
**Figure S2:** Mg and Li anode before and after the addition of the APC+LiCl electrolyte. The Mg anode is stable, whereas the Li anode reacts instantly with the electrolyte.



**Figure S3:** Bode diagram for the APC and APC+LiCl electrolyte in asymmetric cell setup (Mo vs. Mg).



**Figure S4:** CV scan of the 1<sup>st</sup> cycle at 5 mV s<sup>-1</sup> showing the reversible Mg stripping and deposition on the Mg anode for the APC and APC+LiCl electrolyte.



**Figure S5:** (a) Anodic peak current vs. the square root of the scan rate and (b) anodic peak current vs. the scan rate obtained from CV measurements using the APC+LiCl electrolyte.

#### References:

- 1 O. Mizrahi, N. Amir, E. Pollak, O. Chusid, V. Marks, H. Gottlieb, L. Larush, E. Zinigrad, D. Aurbach, *J. Electrochem. Soc.* **2008**, *155*, A103.