

Fig 2 the epitaxial structure and elemental segregation of P3-O3' layered oxides

In the coming IMC19, an in situ study of layered oxides $\text{Na}_2\text{Ni}_2\text{TeO}_6$ in a Protochip liquid holder is going to be discussed. $\text{Na}_2\text{Ni}_2\text{TeO}_6$ is grown into large crystals, cut into nano slice and mount onto electrochemical chip using focused ion beam technique. To acquire higher resolution in liquid holder under TEM, a new method is devised to insert and extract the liquid electrolyte reversibly. This method is believed to address the issue of unacceptably low resolution that haunts the liquid holder research in materials science.

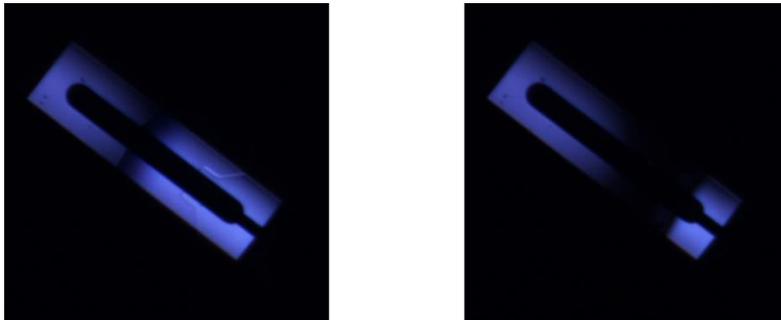


Fig 3 liquid being inserted and extracted from E-chip

Reference

- Huang Q, **Liu J** (joint first author), Zhang L, et al. Tailoring Alternating Heteroepitaxial Nanostructures in Na-ion Layered Oxide Cathodes via an in-situ Composition Modulation Route[J]. *Nano Energy*, 2017.
- **Liu J**, Wang S, Ding Z, et al. The Effect of Boron Doping on Structure and Electrochemical Performance of Lithium-rich Layered Oxide Materials. *ACS Applied Materials & Interfaces*, 2016, 8(28): 18008-18017.

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