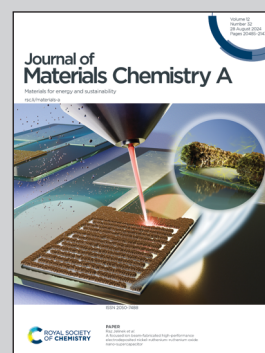


**Highlighting a study on single-crystal nickel-rich layered cathode materials for Li-ion batteries from Professor Ning Li's group, School of Materials Science and Engineering, Beijing Institute of Technology.**

**Aluminium doping in single-crystal nickel-rich cathodes: insights into electrochemical degradation and enhancement**

The single-crystal nickel-rich layered cathode materials doped with Al are investigated. Single-crystal materials have garnered widespread attention for their enhanced volumetric energy density. Additionally, Al doping significantly improves the surface and bulk structural stability of single-crystal nickel-rich cathode materials from micro to macro scale, thereby suppressing the growth of direct current resistance (DCR) and achieving excellent electrochemical performance (224 mAh/g at 0.1C; 85.9% retention at 1C, 2.75-4.3V, after 100 cycles).

**As featured in:**



See Yuefeng Su, Ning Li *et al.*,  
*J. Mater. Chem. A*, 2024, **12**, 20910.