

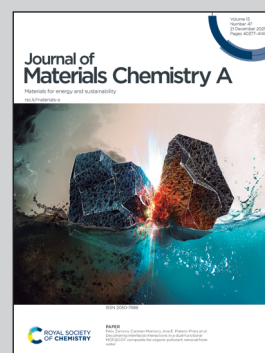
Showcasing research from Professor Jiang's laboratory, State Key Laboratory of Fine Chemicals, Frontiers Science Center for Smart Materials, School of Chemical Engineering, Dalian University of Technology, Dalian, Liaoning, China.

Heterogeneous charge membranes with a sub-10-nanometer polyamide/Zn-TCPP dual-layer for lithium extraction

A positively and negatively charged heterostructure dual-layer NF membrane with sub-10 nanometer PA layer on 2D Zn-TCPP nanosheets through interfacial polymerization method coupled with vacuum assisted filtration was constructed. PA layer with positive charge on the top performed as the 'shield' that effectively retains Mg^{2+} , while negatively charged Zn-TCPP coupled with uniform pores performed as the 'accelerator' to facilitate Li^+ permeate.

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See Yuandong Jia,
Xiaobin Jiang *et al.*,
J. Mater. Chem. A, 2025, **13**, 40672.