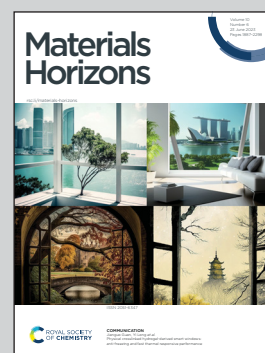


Showcasing research from Professor Sung-Yool Choi's Quantum Materials and Devices Laboratory (QMDL) at KAIST (Korea Advanced Institute of Science and Technology), Daejeon, Korea.

Imidazole-based artificial synapses for neuromorphic computing: a cluster-type conductive filament *via* controllable nanocluster nucleation

Reliable analogue weight storage is a key functionality of artificial synapses for hardware neuromorphic systems. In general, artificial synapses based on memristors suffer from the dilemma of the trade-off between the conductance tunability and state stability. Herein, a controllable nanocluster nucleation method was developed by introducing an imidazole-based copolymer as the switching medium of the memristor, resulting in cluster-type conductive filaments exhibiting tunable metal migration while maintaining stable retention.

As featured in:



See Sung-Yool Choi *et al.*,
Mater. Horiz., 2023, 10, 2035.