

Environmental Science journals

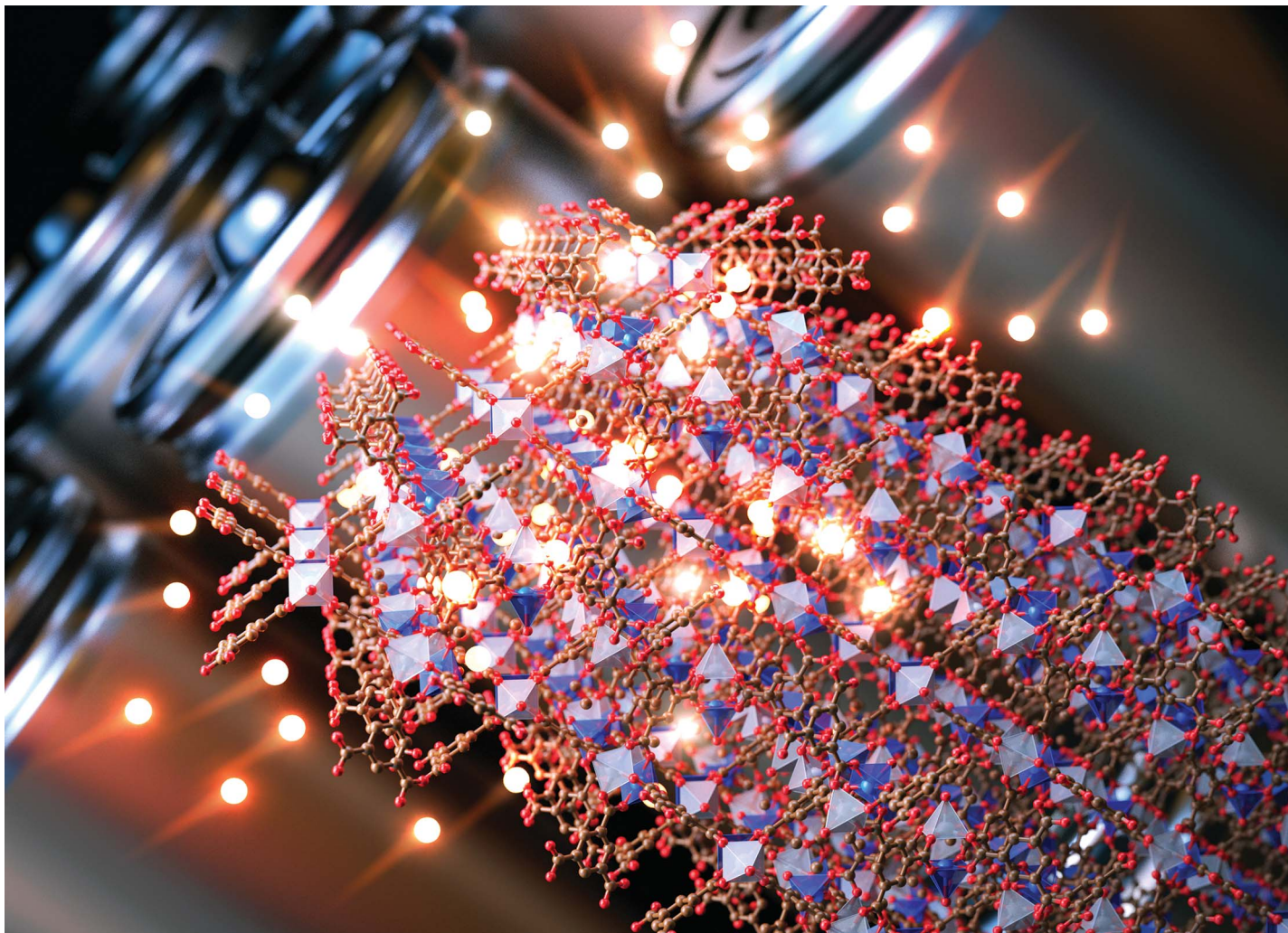
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Fundamental questions
Elemental answers





Showcasing research from Professor Sang Mun Jeong's laboratory, Green Energy lab, Department of Chemical Engineering, Chungbuk National University of South Korea.

An effective lithium incorporation strategy to boost the charge-storage capacity of bimetallic metal-organic frameworks with theoretical insights and solid-state lithium-ion capacitors

An effective strategy for incorporating Li into NiCo MOF (Li-NiCo MOF) is achieved through a simple hydrothermal process. This method demonstrates a high capacity of 1133 mAh g^{-1} at 0.1 A g^{-1} , nearly three times the capacity of pristine NiCo MOF. Furthermore, DFT confirms that Li incorporation at the O-Co-O site of the MOF enhances both conductivity and Li diffusion. The assembled solid-state Li-NiCo MOF//AC lithium-ion capacitor exhibited an energy density of 145 Wh kg^{-1} .

As featured in:



See Sang Mun Jeong *et al.*,
J. Mater. Chem. A, 2024, **12**, 15019.