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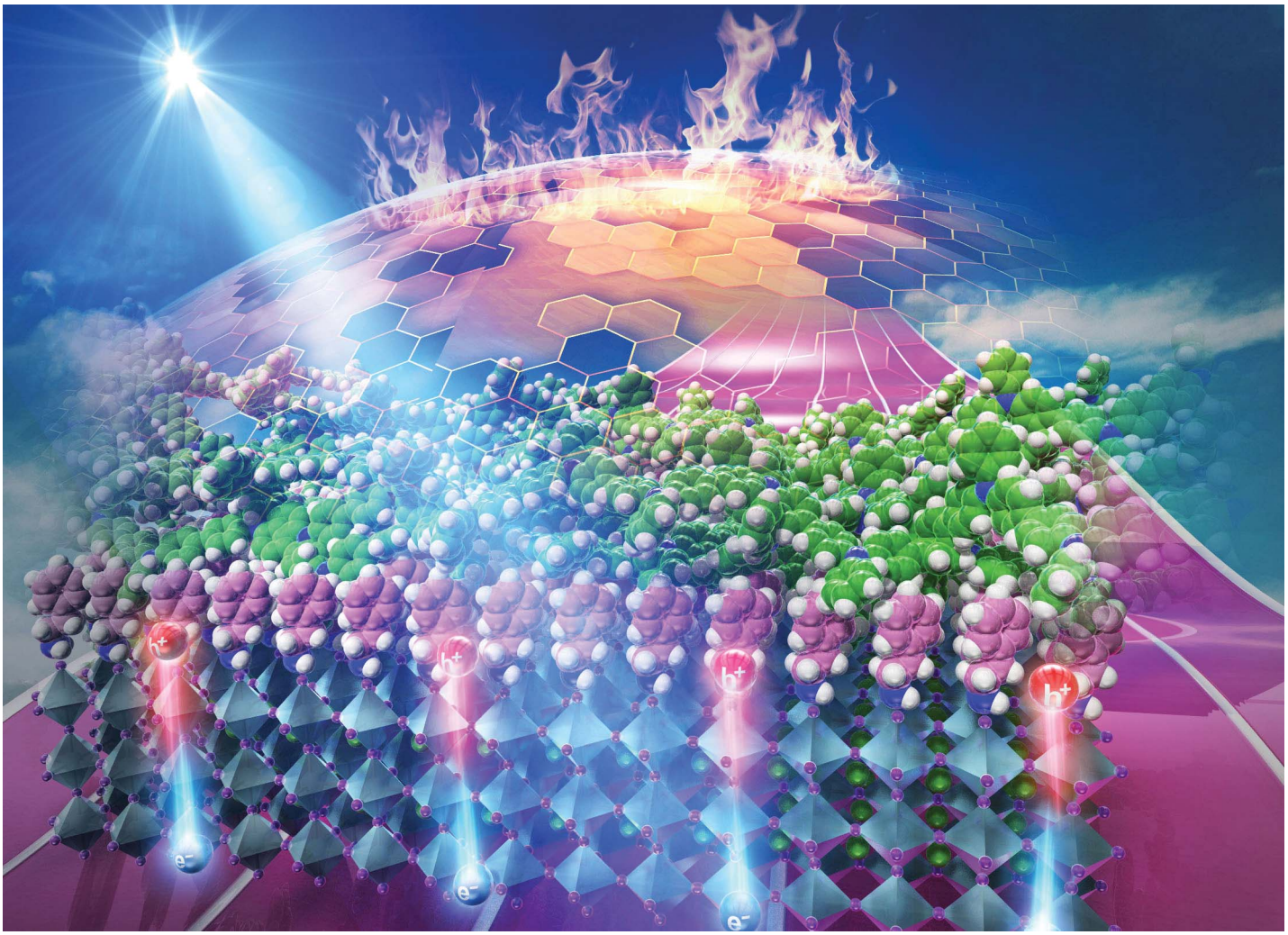
Fundamental questions
Elemental answers

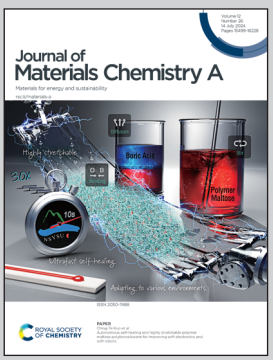


Showcasing research from Dr. Naoyuki Nishimura *et al.,* National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan.

Thermally stable phenylethylammonium-based perovskite passivation: spontaneous passivation with phenylethylammonium bis(trifluoromethylsulfonyl)imide during deposition of PTAA for enhancing photovoltaic performance of perovskite solar cells

Phenylethylammonium bis(trifluoromethylsulfonyl)imide (PEA-TFSI) additive for poly[bis(4-phenyl)(2,4,6-trimethylphenyl) amine] (PTAA) hole transport material (HTM) addresses the thermal stability problems of PEA-based perovskite passivators. During HTM deposition with the PEA-TFSI additive over perovskite layers, the PEA cations spontaneously passivated the perovskite, forming a monolayer-like passivation overlayer. The resulting PEA-based passivation did not cause a photovoltaic performance drop of the perovskite solar cells due to thermal stress at 85 °C.

As featured in:



See Naoyuki Nishimura *et al.,* *J. Mater. Chem. A*, 2024, **12**, 15631.

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