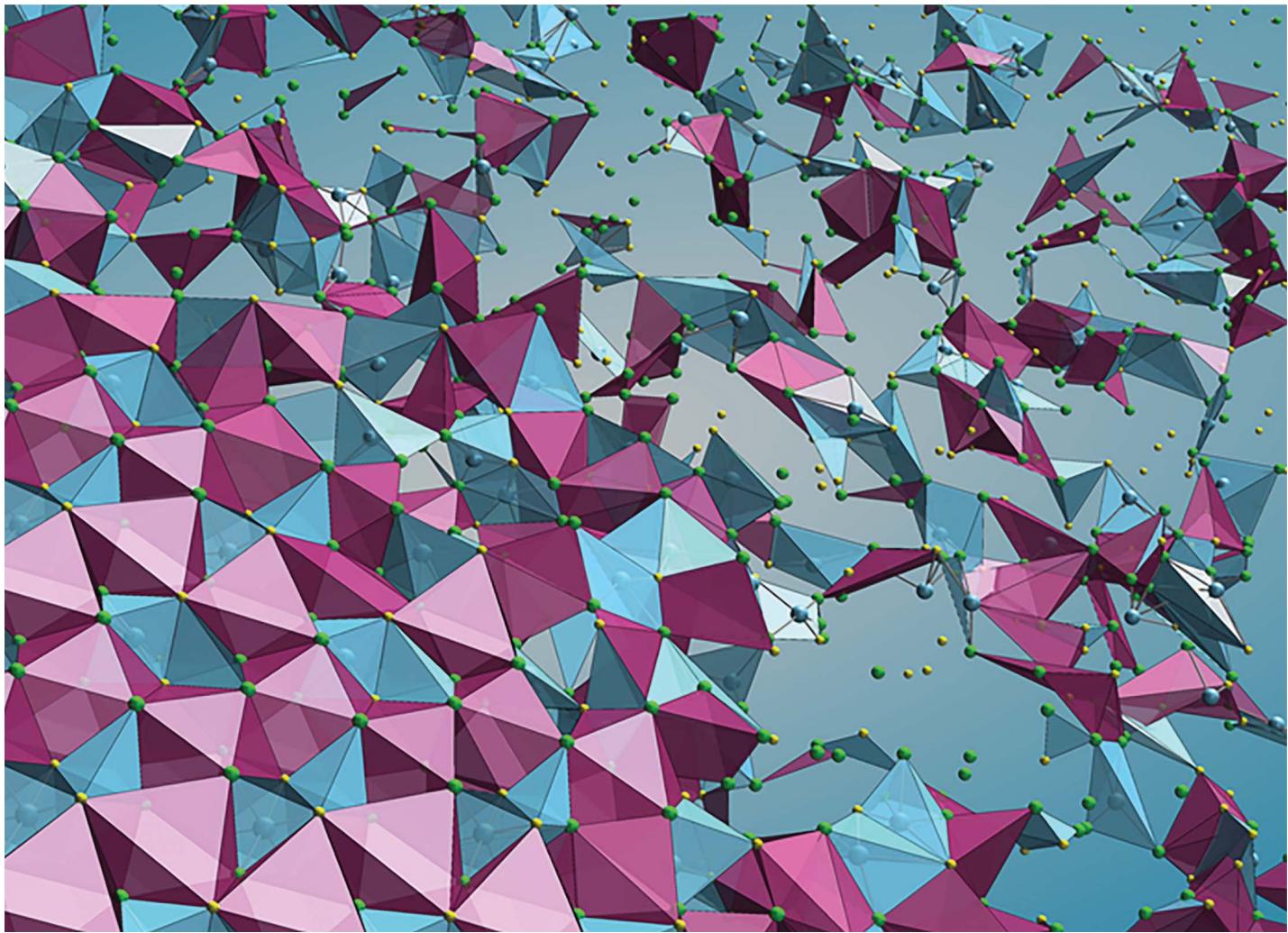


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Showcasing research from Robert L. Z. Hoye research group at the Inorganic Chemistry Laboratory, University of Oxford, South Parks Road, Oxford, UK.

Evaluating the potential of CsBiSCl_2 as a solar absorber

CsBiSCl_2 has recently emerged as a promising material for photovoltaics, with PCEs up to 10.38%. Still, the crystal structure is unknown, and it is unclear whether the reported thin film synthesis method could realize thin films with the desired phase and stoichiometry. In this manuscript, computational and experimental research shows that the lowest-energy CsBiSCl_2 phase is metastable and the previously-proposed cubic perovskite structure is implausible. Taking these experimental and computational results together, it is unlikely that >10%-efficient CsBiSCl_2 solar cells have been achieved.

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EES Sol., 2025, 1, 1173.