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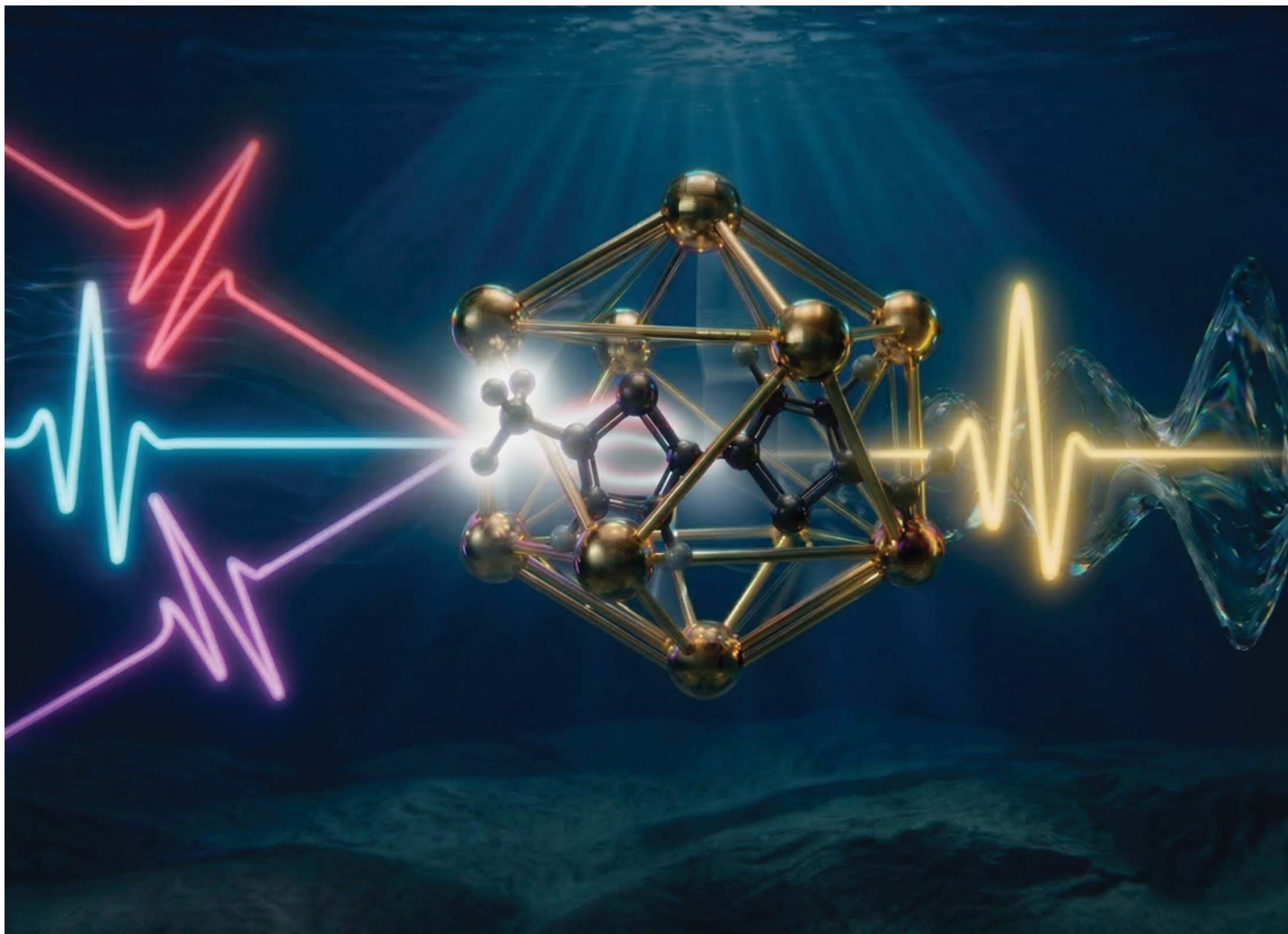
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Showcasing research from Professor Jyotishman Dasgupta's laboratory, Department of Chemical Sciences at Tata Institute of Fundamental Research, Mumbai with collaborative support from Dr Dooshaye Moonshiram (ICMM Madrid).

Vibrational snapshots of ultrafast C-H bond photoactivation inside a water-soluble nanocage

Photoactivation of C-H bonds in enzyme-like nanocavities can enable diverse photoredox organic transformations in water. Here, we use femtosecond stimulated Raman spectroscopy and transient absorption spectroscopy to probe the structural dynamics of sequential proton-coupled electron transfer, and reveal the role of water in selective C-H functionalization inside a cationic water-soluble nanocage.

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As featured in:



See Sunandita Paul *et al.*,
Chem. Sci., 2026, **17**, 6390.