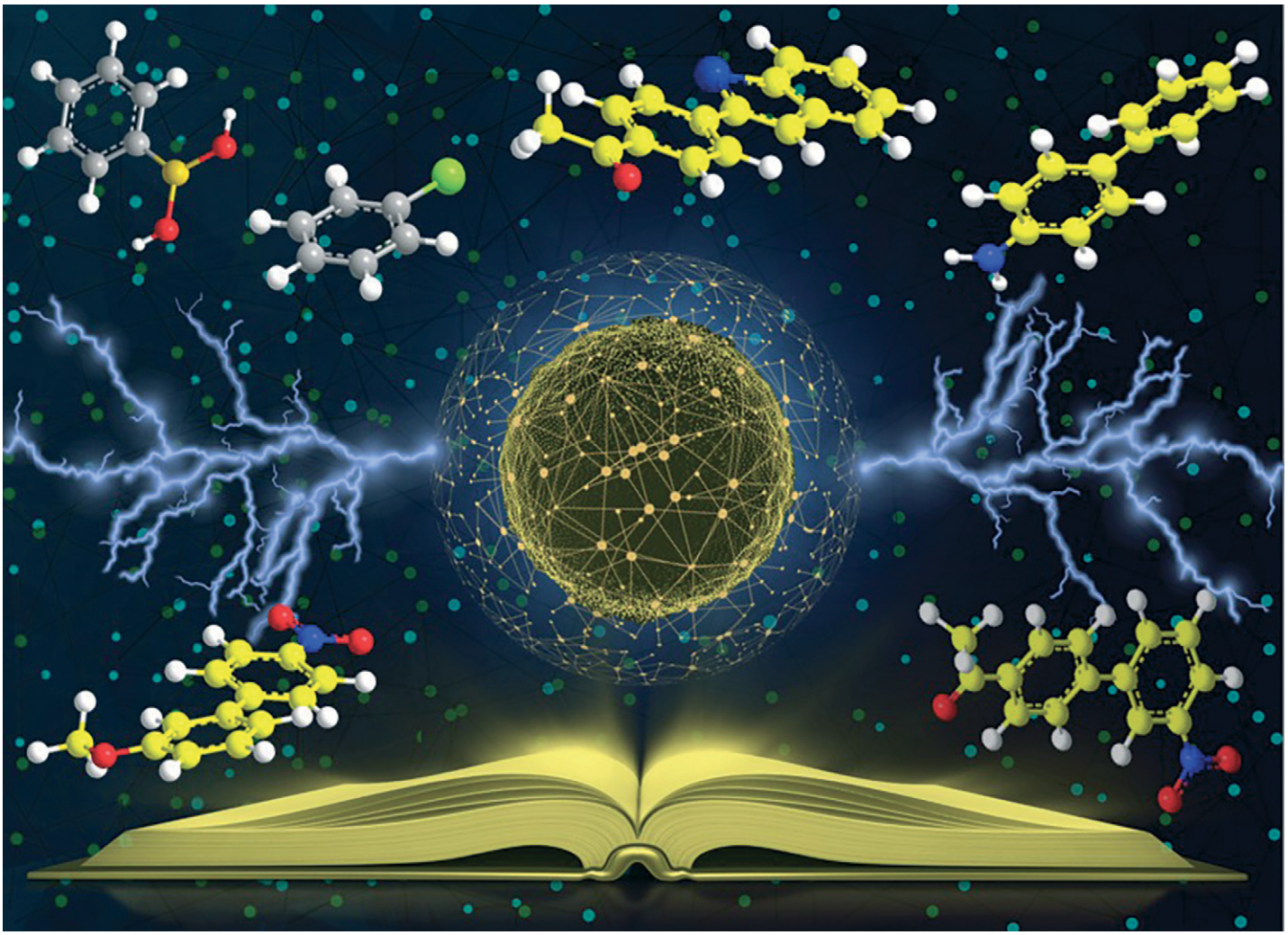
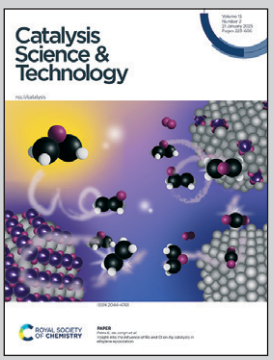


Showcasing research from Dr Bolin Chetia's laboratory, Department of Chemistry, Dibrugarh University, Assam, India.

Sustainable fabrication of $NiCuFe_2O_4$ nanospheres: a highly effective palladium-free heterogeneous catalyst for biaryl scaffold synthesis *via* a Suzuki–Miyaura cross-coupling reaction

The cost-effective and magnetically well-separable $NiCuFe_2O_4$ nanospheres were designed *via* a facile co-precipitation approach, and their physio-chemical characteristics have been validated with various advanced techniques. The synthesized nanostructures hold promise as a potential substitute for Pd-based catalysts in Suzuki-Miyaura cross-coupling of arylboronic acid with a plethora of aryl halide substituents under mild conditions in an ethanol-water mixture. These heterogenous catalysts demonstrated excellent recyclability with the tendency to retain their activity up to the fifth iteration.

As featured in:



See Bolin Chetia *et al.*, *Catal. Sci. Technol.*, 2025, **15**, 344.

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