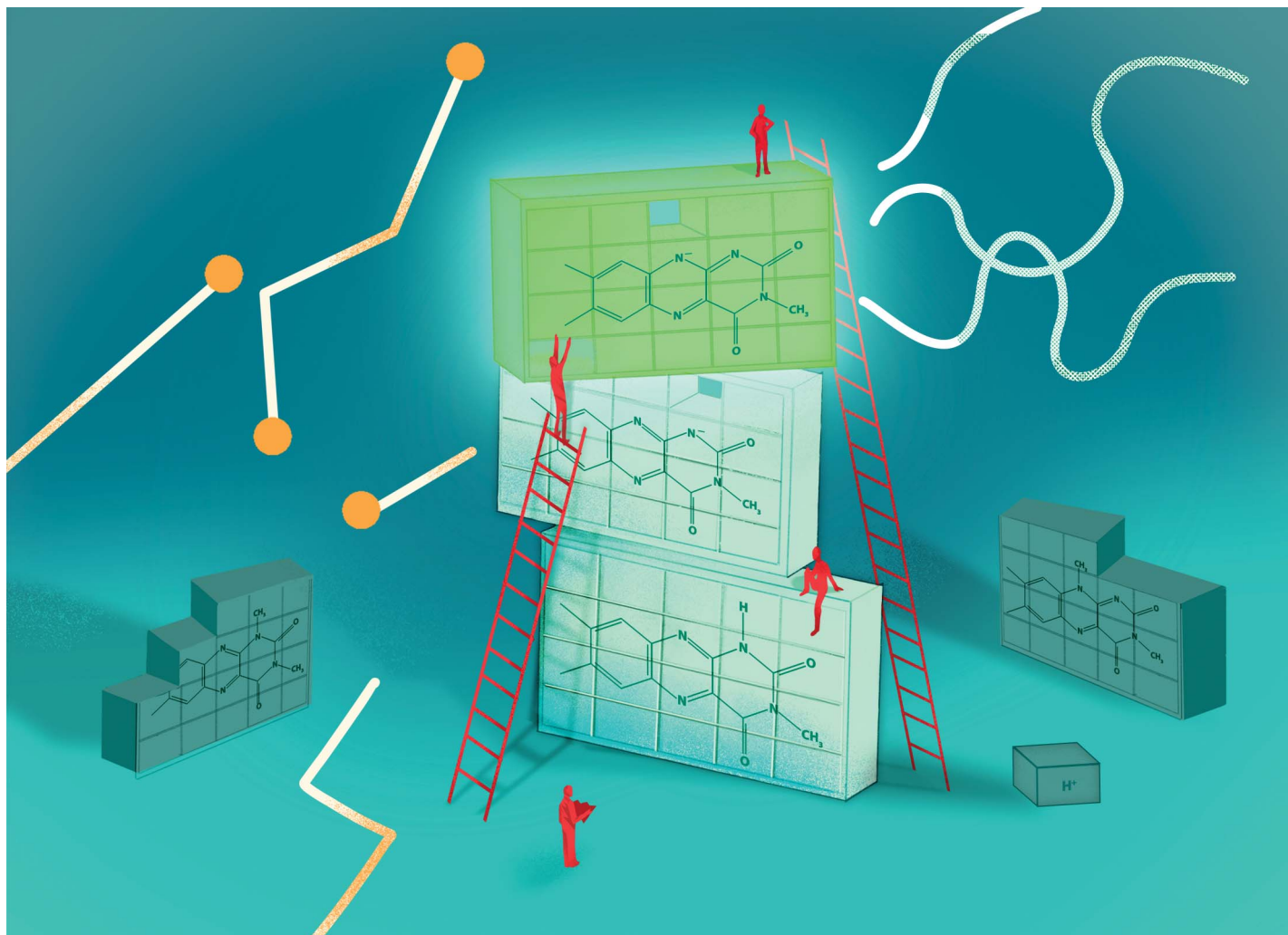




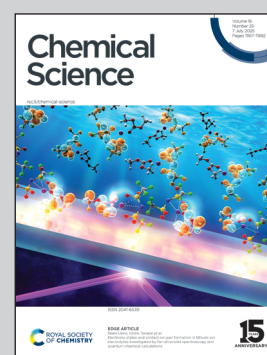
Showcasing research from Professor Marek Sikorski's laboratory, Adam Mickiewicz University, Poznań, Poland, and Radek Cibulka's laboratory, University of Chemistry and Technology, Prague, Czech Republic.

Introduction of flavin anions into photoredox catalysis: acid-base equilibria of lumichrome allow photoreductions with an anion of an elusive 10-unsubstituted isoalloxazine

We design molecules to order—here, the anion of 3-methylalumichrome. Deprotonation of 3-methylalumichrome generates the 10-H-isoalloxazine anion, a powerful reducing agent when excited by blue/cyan light. This anion facilitates catalytic reductive dehalogenation or phosphorylation of bromobenzonitrile. Compared to other flavin-based photoreductants, the oxidized flavin anion exhibit several advantages: exceptional stability (even under aerobic conditions), visible-range absorption, and long-lived singlet excited-state.

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As featured in:



See Dorota Prukala, Marek Sikorski, Radek Cibulka *et al.*, *Chem. Sci.*, 2025, **16**, 11255.