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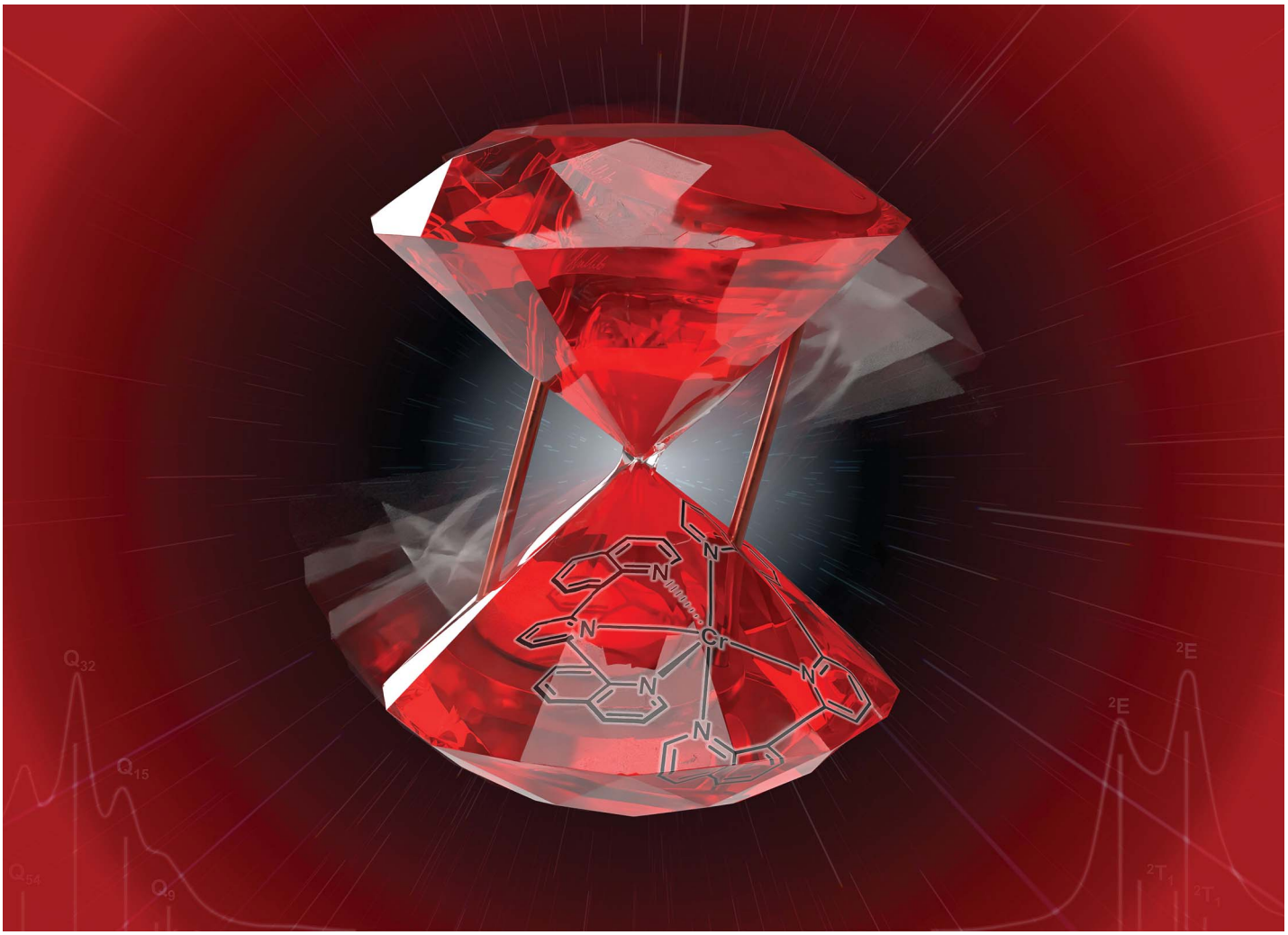
Fundamental questions
Elemental answers



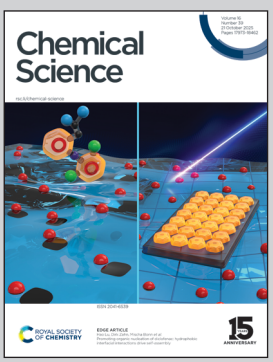
Showcasing research from Dr. Stephan Kupfer's laboratory, Institute of Physical Chemistry, Friedrich-Schiller-University Jena, Germany.

Unraveling the photoredox chemistry of a molecular ruby

In-depth computational modelling using state-of-the-art multiconfigurational methods allowed us to elucidate the photophysical processes as well as their kinetics in a Cr(III) spin-flip complex. Particular emphasis was set on investigating various intersystem crossing channels connecting the respective quartet and doublet spin states. Furthermore, ab initio molecular dynamics allowed us to evaluate the photoredox chemistry of the millisecond lived excited molecular ruby in combination with a reductive quencher.

Image reproduced by permission of Dr. Georgina E. Shillito and Dr. Stephan Kupfer from *Chem. Sci.*, 2025, **16**, 18113.

As featured in:



See Georgina E. Shillito, Stephan Kupfer *et al.*, *Chem. Sci.*, 2025, **16**, 18113.

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