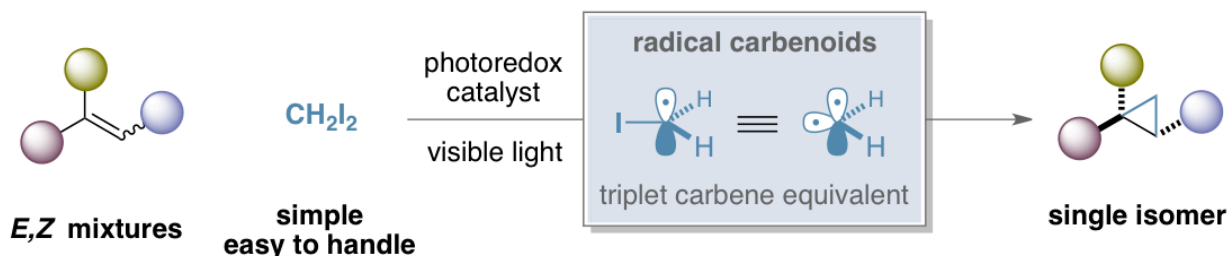


New carbenoid species yields unexpected reactivity

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The 'radical carbenoid', discovered at ICIQ in Tarragona, allows stereoconvergent cyclopropanation reaction. Credit: © ICIQ / © Wiley-VCH

Today, chemists synthesize cyclopropanes using pure *E* or *Z* alkenes as starting materials and usually dangerous, unstable reagents such as diazomethane or iodomethylzinc iodide.

Now, a team of researchers led by Dr. Suero at the Institute of Chemical Research of Catalonia in Tarragona (Spain) has designed a new strategy that allows the stereoconvergent preparation of trans-cyclopropanes starting from *E/Z* alkene mixtures. Moreover, this photoredox catalytic method uses diiodomethane—a commercially available, easily handled reagent—as the methylene source.

This research represents the first example of a stereoconvergent cyclopropanation reaction. It is also the first proposal of a new type of

carbenoid species called 'radical carbenoids,' theoretically equivalent to a triplet carbene but with a completely unprecedented reactivity.

More information: Ana M. del Hoyo et al, A Stereoconvergent Cyclopropanation Reaction of Styrenes, *Angewandte Chemie International Edition* (2016). [DOI: 10.1002/anie.201610924](https://doi.org/10.1002/anie.201610924)

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