

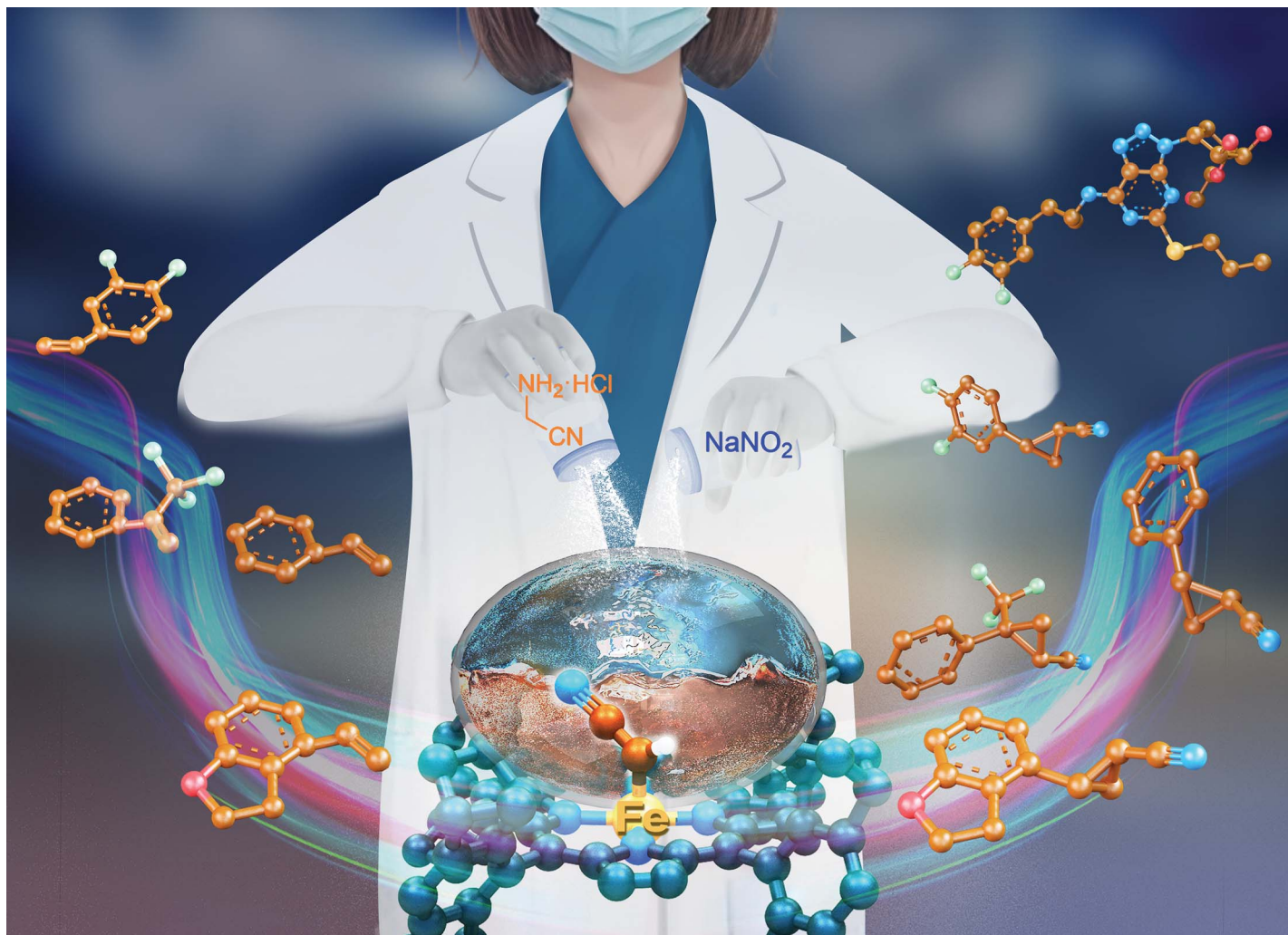
RSC Applied Polymers

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Fundamental questions
Elemental answers



Showcasing research from Professor Che's laboratory,
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Chiral iron porphyrin (+)-D₄-(por)FeCl catalyzes highly
enantioselective cyclopropanation of alkenes using *in situ*
generated diazoacetone nitrile with up to 35000 product turnover

With α -diazoacetone nitrile, *in situ* generated through the reaction
of commercially available aminoacetone nitrile hydrochloride with
sodium nitrite, as carbene source, chiral iron porphyrin catalyzed
asymmetric cyclopropanation reaction is applicable to a broad
substrate scope (44 examples) with high enantioselectivity (up to
98% ee) and product turnover (up to 35000 TON). The reactive
chiral iron-cyanocarbene intermediate has been characterized by
spectroscopic methods.

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Chem. Sci., 2025, **16**, 7191.

As featured in:



See Chi-Ming Che *et al.*,
Chem. Sci., 2025, **16**, 7191.