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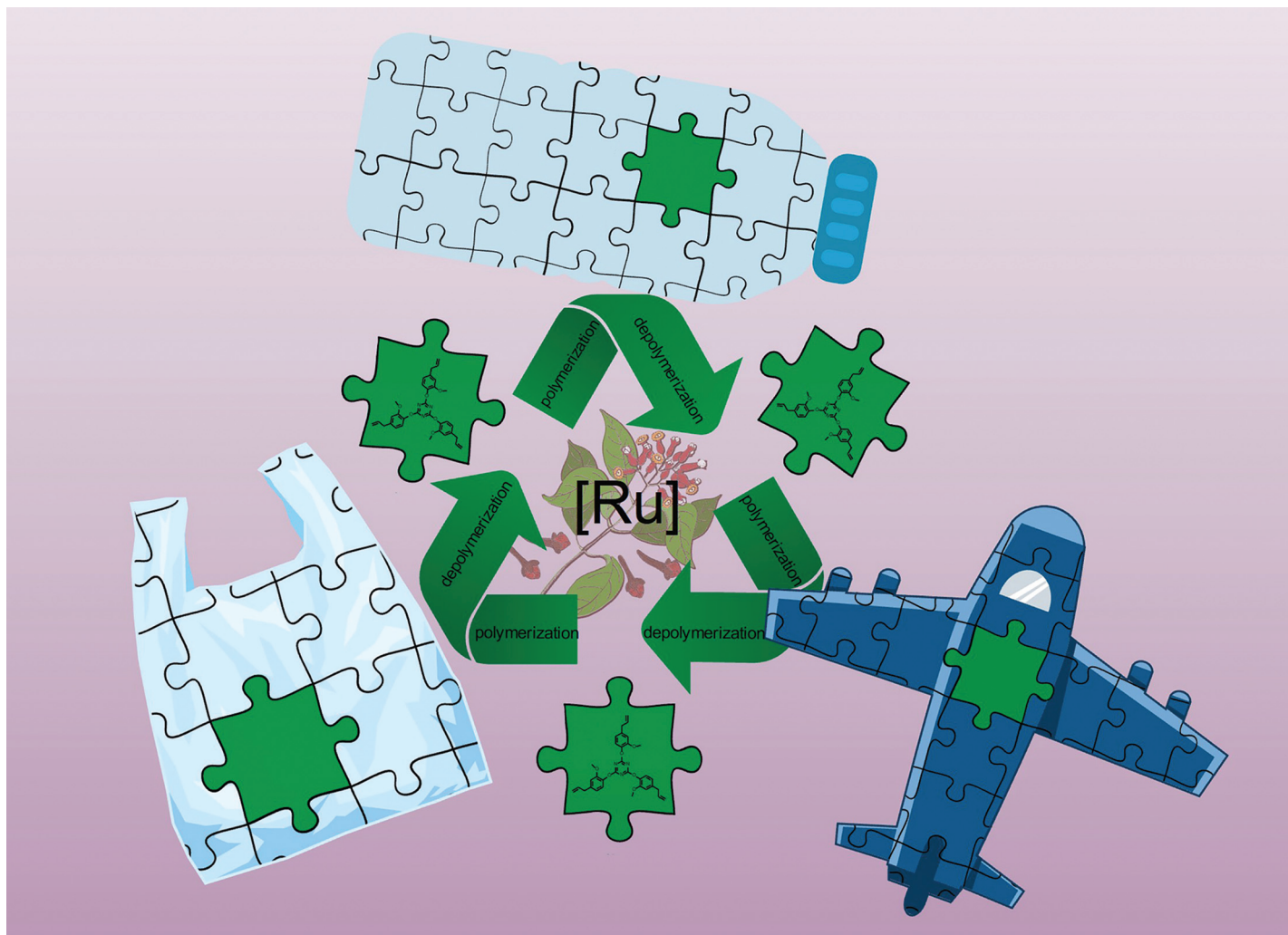
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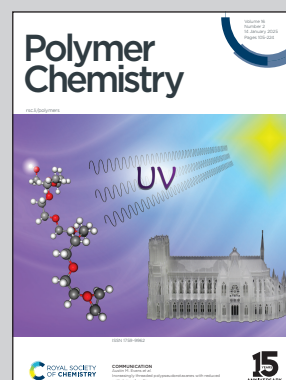
Showcasing research from Dr. Ben Harvey's laboratory,
Research Department, Chemistry Division, Naval Air Warfare
Center, Weapons Division, China Lake CA, USA.

[Ru]-Catalyzed olefin metathesis and ethenolysis for the
synthesis and recycling of bio-based polycarbonates and
polycyanurates

Eugenol, a bio-based phenolic compound, was converted into both an unsaturated polycarbonate and polycyanurate. These polymers were then depolymerized *via* [Ru]-catalyzed ethenolysis to yield well-defined monomeric species. The monomers were subsequently repolymerized *via* olefin metathesis to generate new polymers with comparable or better thermal properties compared to the virgin materials. The depolymerization/repolymerization process can be repeated indefinitely, providing a route to recycle high-performance engineering thermoplastics and hyperbranched polymers in support of a circular economy.

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As featured in:



See Benjamin G. Harvey *et al.*,
Polym. Chem., 2025, **16**, 133.