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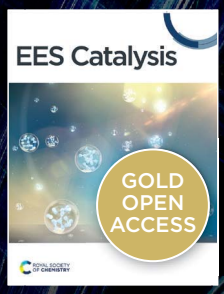

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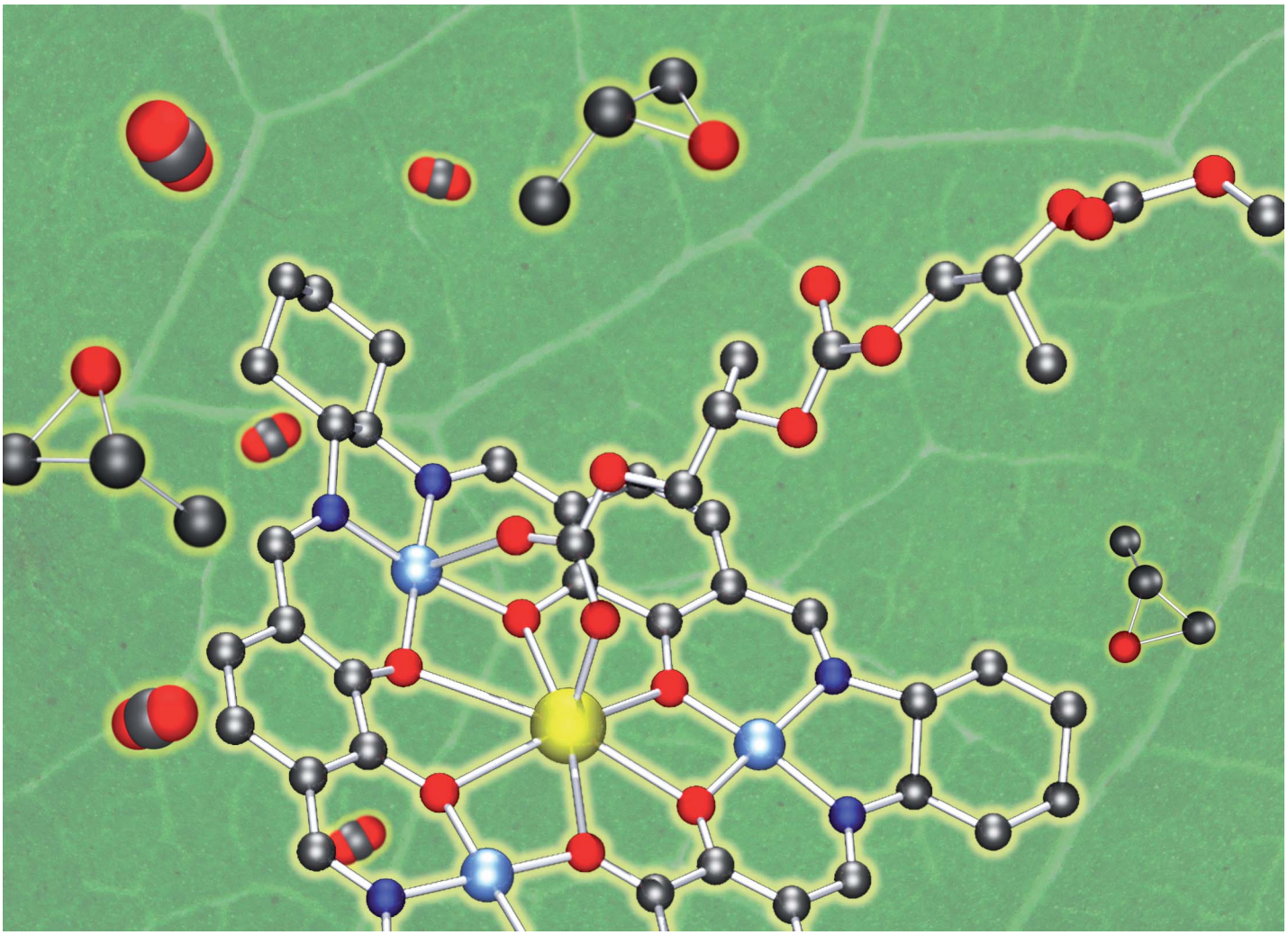

Showcasing research from Professor Mashima's laboratory, Department of Chemistry, Graduate School of Engineering Science Osaka University.

Cationic tetranuclear macrocyclic $CaCo_3$ complexes as highly active catalysts for alternating copolymerization of propylene oxide and carbon dioxide

A cationic $CaCo_3$ hetero tetranuclear complex exhibited catalytic activity toward alternating copolymerization of propylene oxide (PO) and carbon dioxide (CO_2). The tertiary anilinium salt $[PhNMe_2H][B(C_6F_5)_4]$ was the best additive to generate cationic species while maintaining polymer selectivity and carbonate linkage, even under 1.0 MPa CO_2. Density functional theory calculations clarified that the reaction pathway mediated by the cationic complex is more favorable than that mediated by the neutral complex by 1.0 kcal/mol.

As featured in:

See Jun Okuda, Kazushi Mashima *et al.*, *Chem. Sci.*, 2023, **14**, 8262.

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