

# EES Catalysis

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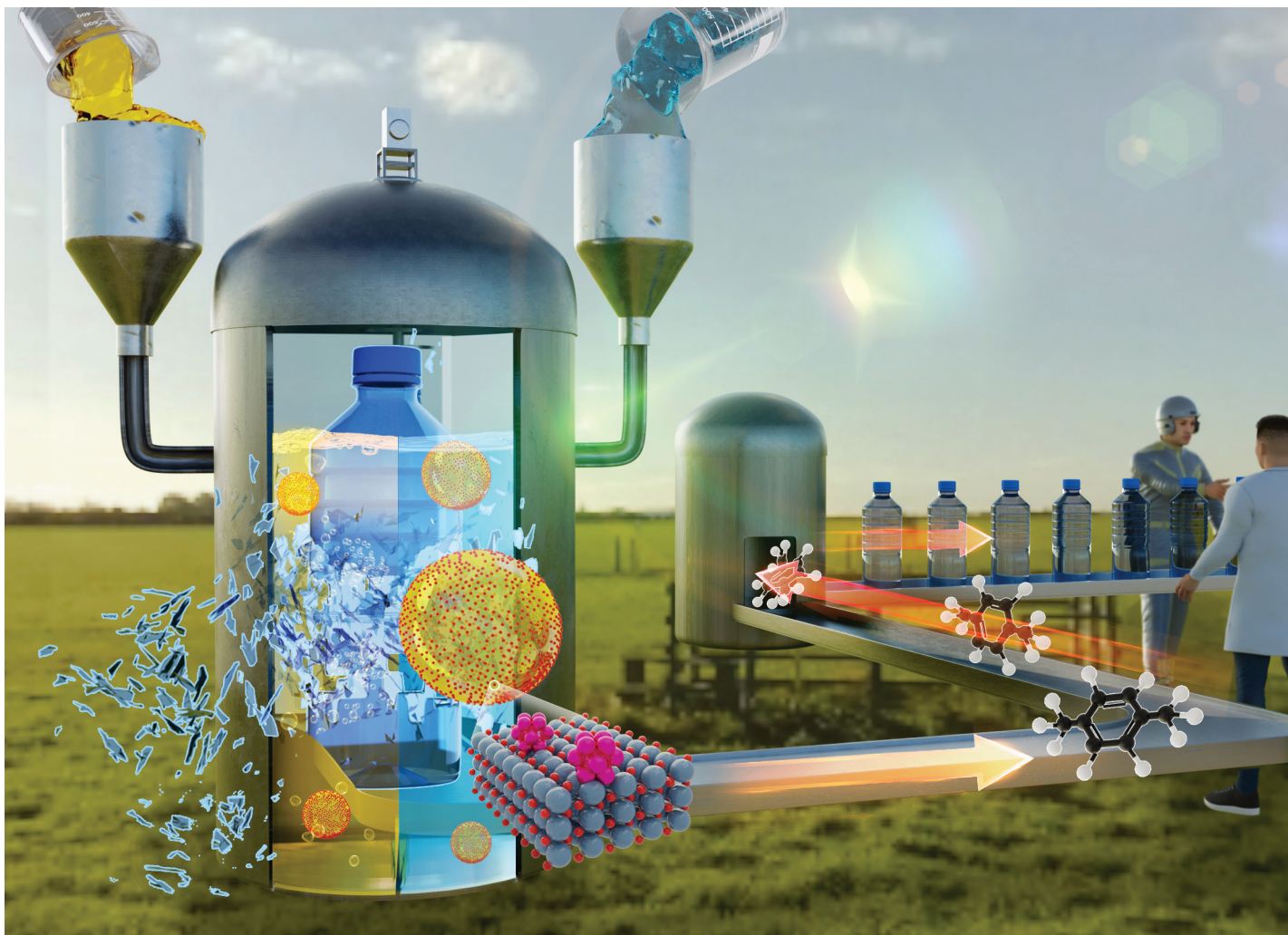
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**Fundamental questions  
Elemental answers**





**Showcasing research from Professor Jungho Jae *et al.* from Pusan national university, South Korea.**

Selective one-pot chemical recycling of PET waste to xylene monomers: insights into a Ru/TiO<sub>2</sub> catalyst design and interfacial dynamics in a biphasic system

We present a single-step catalytic strategy achieving 99% selectivity and over 95% conversion of PET waste into high-value BTX using a Ru/TiO<sub>2</sub> catalyst in a biphasic system. Small-sized Ru catalysts preferentially promoted the hydrogenolysis pathway, enhancing xylene production. By uncovering the interfacial effects of Ru/TiO<sub>2</sub> catalysts at the oil-water interface, we identified the catalyst located in the inner interfacial layer of the emulsion as a key driver for boosting BTX production.

**As featured in:**



See Jungho Jae *et al.*, *Green Chem.*, 2025, 27, 2203.