

RSC Sustainability

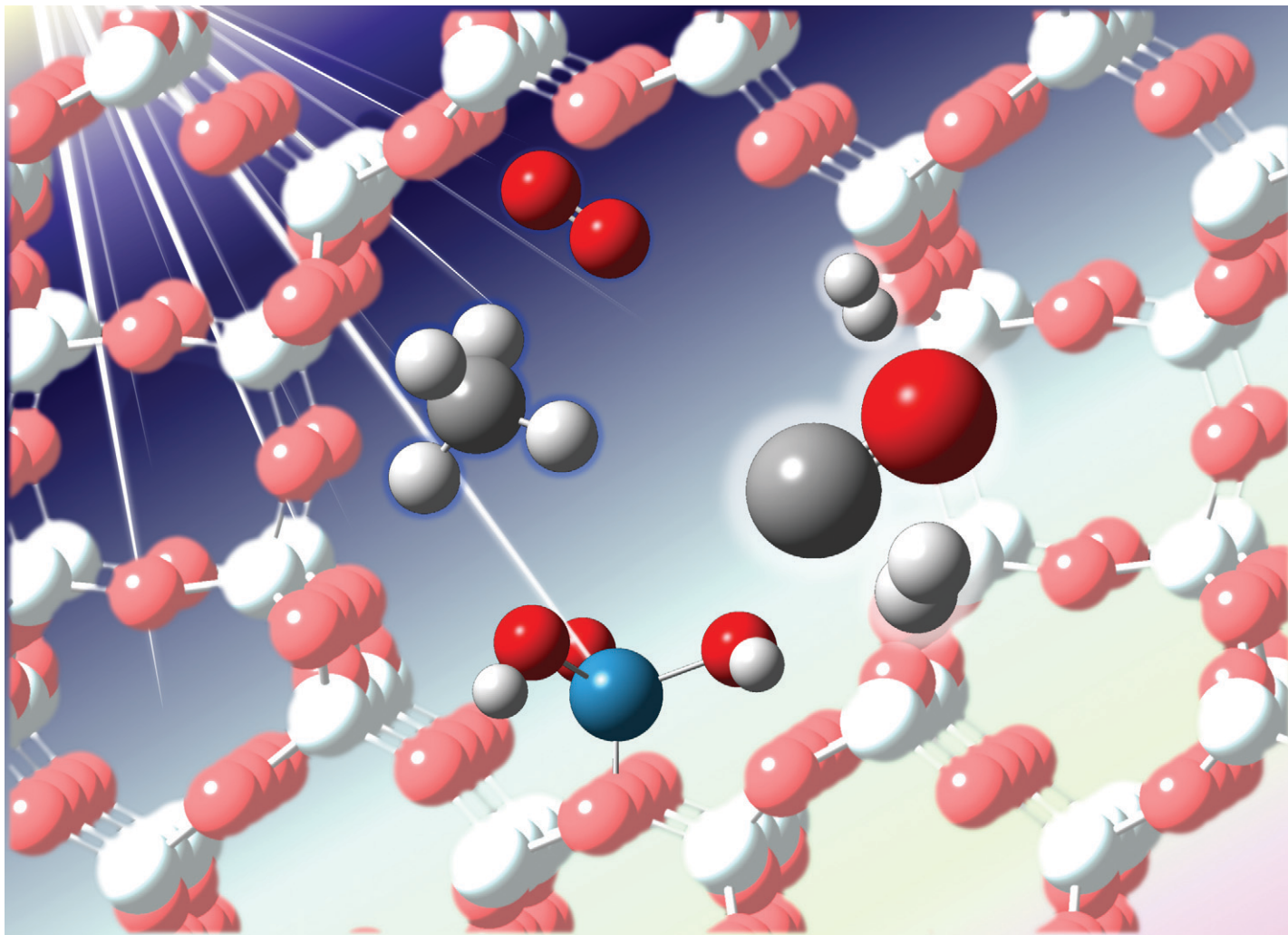
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Fundamental questions
Elemental answers



Showcasing research from Associate Professor Kobayashi's laboratory, Komaba Institute for Science, The University of Tokyo, Tokyo, Japan.

Mordenite-stabilised rhenium catalyst for partial oxidation of methane to syngas

Partial oxidation of methane to syngas has remained a challenge for utilising natural gas efficiently. Although Re shows an interesting catalytic property, it is susceptible to oxidation. This work shows the use of MOR zeolite stabilizes a low-valent active Re species under the oxidation reaction conditions. This graphic depicts a low-valent Re species within the zeolite framework that converts methane and dioxygen to carbon monoxide and dihydrogen.

As featured in:



See Hirokazu Kobayashi *et al.*,
Catal. Sci. Technol., 2023, **13**, 5190.