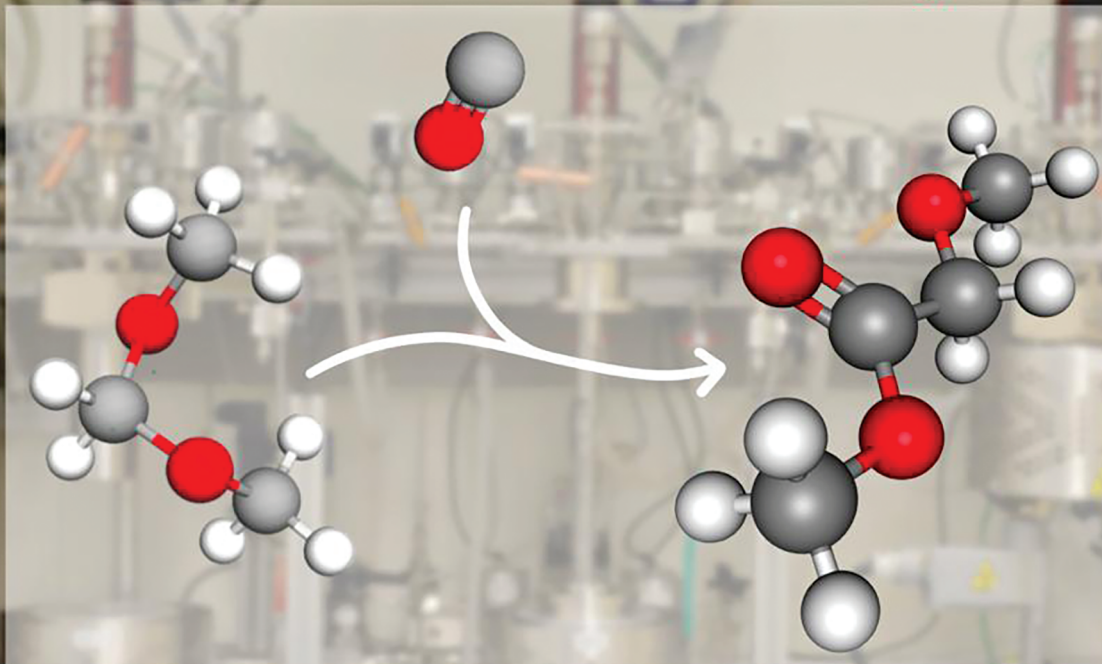


# Solvent-free Carbonylation in Liquid Phase with Solid Acid Catalysts



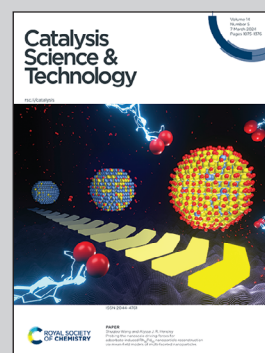
Showcasing research from Professor Sauer's laboratory,  
Institute of Catalysis Research and Technology, Karlsruhe  
Institute of Technology, Baden-Württemberg, Germany.

Carbonylation of dimethoxymethane: a study on the  
reactivity of different solid acid catalysts

The chemoselective, efficient, solventless carbonylation of dimethoxymethane (DMM) delivers methyl methoxyacetate (MMA), which is not only an intermediate to ethylene glycol but can also be considered as a fuel additive. Employing different zeolites and ion exchange resins as catalysts, this paper is a systematic approach to studying the effects of catalyst amount, temperature, carbon monoxide (CO) pressure and reaction conditions on educt conversion and product selectivities, using a purposely designed parallel high pressure reactor plant.

The authors would like to acknowledge Fiza A. Sheikh for the preparation of the back cover.

## As featured in:



See Kalim A. Sheikh *et al.*,  
*Catal. Sci. Technol.*, 2024, **14**, 1148.