

November 12, 2020

IHI Corporation

Title: Catalytic CO₂ Hydrogenation to Produce Monomers for Greener Resin Production

A Japanese multi-national engineering company, IHI Corporation, and a Singapore Research Institute, Institute of Chemical Engineering and Sciences (ICES), A*STAR, are extensively conducting a collaborative R&D project to develop a novel catalytic process to convert CO₂ to monomer such as lower olefins to produce resins in much more greener way than the conventional naphtha based process. In the R&D project, catalyst synthesis, characterization, and activity testing were continuously conducted. Precisely controlled nano-structured Fe based catalysts were found to be effective for the CO₂ hydrogenation and to produce C₂ to C₄ light olefins selectively. Very stable performance over several 100 hours has been achieved in the ICES laboratory. Our efforts to improve the performance of the catalysts and the reaction system will be widely presented in the presentation together with the aim of future deployment.

