

Resource Circulation

R&D Project Title: Development of Catalysts for Synthesis of Carboxylic Acids Using CO₂ as the Sole Carbon Source

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Summary :

In this R&D project, we will promote (I) the low-cost and energy-saving production of methanol from CO₂ and (II) the high-efficiency production of acrylic acid through the direct introduction of CO₂.

By combining the developed technology with technologies for CO₂ capture (DAC etc.) and low-cost (green) hydrogen production that are currently being developed in various fields, we aim to realize acrylic acid production using only CO₂ as a carbon source and introduce it to society, thereby realizing a CO₂ recycling-oriented bulk product manufacturing process.

In (I), we will develop a highly efficient methanol synthesis technology under low-pressure conditions (1 MPa or lower), which is different from the current high-pressure methanol synthesis process (5 to 10 MPa). In (II), we aim to construct a CO₂ carboxylation process in which CO₂ is directly introduced into a product.

