



Catalysis and Catalytic Processes for CO₂ Conversion

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Message from the Guest Editors

There is still a great deal of controversy over whether CO₂ conversion can be considered as a means to massively mitigate CO₂. Nonetheless, recent progress in CO₂ conversion has shown that the technology has the potential to create new industries in new chemical and energy fields. Catalysis for CO₂ conversion have been mainly focused on CO₂ hydrogenation and polymer synthesis. The high price of hydrogen is the biggest obstacle to the industrialization of CO₂ hydrogenation, but, in recent years, the development of active catalysts at low temperatures and processes have been carried out to overcome these economic limitations. The innovative routes are also explored to prepare environmentally benign polymer from CO₂. On the other hand, the advances on the electrochemical CO₂ reduction deliver persuasive results that the electrochemical CO₂ conversion can be commercialized in near future. Furthermore, enzyme and microbial electrosynthesis are also studied to reduce CO₂ into valuable products. The processes using the innovative catalysts are also studied to examine the potential of the commercialization of the CO₂ conversion.

