

Enzymatic CO₂ conversion

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CO₂ caused climate change propelled attempts to convert this problematic and cheap CO₂ into value added chemicals to retard the elevation rate of CO₂ in the atmosphere. Among the reductive derivatives of carbon dioxide such as formate, carbon monoxide, ethylene, acetate, etc., formate is one of promising candidate chemicals on the basis of price gap and invested energy. Despite these advantages, the carbon dioxide reduction into formate harbors still several challenges to be addressed: 1) selectivity, 2) stability, and 3) productivity. Here, our study reports CO₂ reductase-catalyzed reaction for formate production without pre-treatment removing the oxygen in normal atmospheric condition.