Strategies for biobased dicarboxylic acid production

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Dicarboxylic acids are important chemicals in the chemical industry, widely used in polymer, food, medicine and other industries. The market demand is large and growing every year. It is of great practical significance to prepare biobased binary carboxylic acid through making full use of the high oxygen content of biomass.

This report mainly introduces our research on the preparation of biobased binary carboxylic acids in recent years, including glyceric acid to succinic acid by one-step reduction carbonylation, tartaric acid to succinic acid by iodine catalytic hydrodeoxygenation, 3-iodopropionic acid to adipic acid by carbon-carbon coupling, and tetrahydrofuran to adipic acid by one-step bicarbonylation. These preparation methods and catalytic systems provide new ideas for the conversion of other similar biomass feedstock to dicarboxylic acids [1-3].

References

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BIO

Prof. Weiran Yang got her BS from University of Science and Technology of China in 2004, and got her PhD from the Pennsylvania State University in 2010, and subsequently worked for the Pennsylvania State University, Cornell University, and Dow Chemical company. She joined Nanchang University in 2016 and now is the distinguished professor of Nanchang University. Professor Yang Weiran has been committed to the synthesis of green biomass-based chemicals, the reuse of solid waste resources, and the synthesis of biodegradable polymer materials. She has published more than 50 high-level papers in Top journals such as ACS Catalysis, Chemical Engineering journal, Chinese Journal of Catalysis, Green Chemistry, and 15 authorized patents. In 2017, she won the "Overseas High-level Talents" youth Project and the "New Century Hundred Million Talents Project" of Jiangxi Province. In recent years, she has won the "Elsevier Best Poster Prize" and the nomination award of "Powerful Young Scientists" from the Chinese Chemical Society.