Special Issue

Electrocatalysis and Electro(catalytic)synthesis for Sustainable Processes

Message from the Guest Editors

The world demands an independence of fossil fuel process and lower global CO2 emisions. This is particularly important in the chemical industry, as it is one of the larger contributors to global greenhouse emissions where very energy-demanding processes are used to produce comodity and high-value chemicals. In this landscape, electrochemistry and elelectrosynthesis have become very attractive processes, and in fact, electrolysis might represent a total independence of fossil fuel in the production process of chemicals. The use of electrochemistry offers several advantages. Notably, the most important is the direct use of renewable electricity to enable bond formation. In addition, electrochemical processes enable operation at mild temperatures, lower pressures, and with less waste production. For all these reasons, electrochemistry and electrocatalysis are assuming a fundamental role in the development of more sustainable and environmentally-friendly industrial technologies.

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Deadline for manuscript submissions

closed (31 March 2021)

Catalysts

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 7.6

mdpi.com/si/49395

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