



Recent Trends in Catalysis for Syngas Production and Conversion

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Message from the Guest Editors

Synthesis gas (or syngas) is a mixture composed of CO and H₂, which can be produced from fossil fuel and biomass. Syngas is a crucial platform for the production of a variety of high-value compounds, such as synthetic hydrocarbons and oxygenated fuels. More syngas will be required in the near future in order to satisfy the industrial demands.

Catalytic processes for CO hydrogenation emphasize the selective production of light olefins (C₂-C₄=), methane, lower alcohols (C_nOH, n = 1 – 5), dimethyl ether (DME) and hydrocarbons (C₅+ as liquid fuels). Recent advances in understanding and developing active phases, supports, promoters, operation conditions and reactor configurations to control the selectivity in syngas production and conversion are the most challenging subjects for scientific research.

This Special Issue compiles and reviews the latest trends in heterogeneous catalysis for syngas production including the production from natural gas, coal and biomass, and the research on the conversion of CO into value-added products. Submissions are welcome in the form of original research papers or short reviews that reflect the state-of-the-art of this research area.

