

Special Issue

Advances in Catalysis for Various Carbonaceous Materials Transformations into Liquid Fuels

Message from the Guest Editor

To meet energy and materials demand of our modern society, we continue to rely on fossil-based carbon feedstock without closing the carbon loop. This led to the accumulation of non-degradable plastic in oceans and CO₂ in the atmosphere. Also, the circular economy and recycling efforts are incentivized and promoted in some countries, but its widespread industrial applications are still limited. Significant efforts are made to treat and convert mixed-waste into liquid fuels, but these are limited to catalyst-free processes. In this issue, we seek original articles on catalytic conversion of mixed-waste into liquid fuels; these include hydrothermal and solvent liquefaction, co-pyrolysis, gasification, microwave, solar thermal with or without CO₂ co-feeding. Particular interest on synergetic effect of each feedstock for instance: (i) co-feeding CO₂ during plastic, tyres, biomass thermal degradation, (ii) intermediates reactivity with catalytic active sites, (iii) improving selectivity towards diesel-range hydrocarbons and (iv) catalysts promoting C-C coupling, heteroatom (O, S, N) removal.

Guest Editor

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