

Special Issue

Advanced Acid–Base Catalysis: Spreading Application in Heterogeneous, Homogeneous, Enzymatic and Supramolecular Catalysis

Message from the Guest Editor

Modern acid–base catalysis aims to replace homogeneous catalysts as sulphuric, hydrochloric, or nitric acids, as well as sodium hydroxide and potassium t-butoxide with solid materials, such as silica-alumina, heteropolyacids/polyoxometallates (POMs), perovskites, sulphate oxides, acid or basic zeolites, hydroxyapatite, and MOF. Many catalytic reactions have been optimized under heterogeneous acid–base catalysis with the dehydration of alcohols to olefins, olefin hydrogenation, side chain aromatic alkylation as pre-eminent examples. Acid–base catalysis also dominates other research areas, such as enzymatic and supramolecular catalysis, transition metal catalysis, and organocatalysis. The active sites of enzymes mimicked by cage compounds and ligand assembly through hydrogen bonds in transition metals complexes are only examples of acid–base catalysis implementation at a supramolecular level. This Special Issue aims to cover the recent progresses in acid–base catalysis spreading applications in heterogeneous, homogeneous, enzymatic, and supramolecular catalysis. Original research articles and reviews focusing on a specific topic are welcome.

Guest Editor

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