Aims & Scope:
Lignocellulosic biomass, the most abundant and non-edible renewable source, is expected to be a promising alternative for the production of biofuels and fine chemicals. Typically, the utilization of biomass and its derivatives can be divided into two major pathways involving selective C-C and C-X (X = O, N, S, P) bond cleavage or coupling. Over the past few decades, an impressive amount of catalytic studies on the transformation of bio-based feedstocks into valuable chemicals have already been carried out. In addition to homogeneous catalysts and enzyme-mediated processes, solid catalytic materials with much more attention on separation, reusability, lower catalyst loading and corrosion effects are extensively reported.

As a class of heterogeneous catalysts, solid nanomaterials exhibit dramatic improvement of catalytic activity and selectivity in biomass refinery to produce energy and chemicals, compared with conventional counterparts. The nature and distribution of final products can be adjusted by modification of chemical processes with suitable nanocatalysts, which is one of the prospective routes to efficient degradation of biomass into specific molecules with high selectivity. This thematic issue thereby aims to overview the state-of-the-art of selective conversion of bio-based feedstocks to important/profitable chemicals through different types of reactions promoted by mono or bi-functional nanocatalysts. Emphasis is also paid to discuss the relevant reaction pathways and mechanisms.

Subtopics:
The subtopics to be covered within this issue are listed below:

- Nanomaterials for catalytic production of bio-derived chemicals and fuels
- Synthesis and sustainable applications of nanomaterials
- Nanomaterials-catalyzed biomass gasification and pyrolysis
- Nanocatalysts for upgrading of bio-based platform molecules
- Functionalization and application of biomass-derived nanomaterials

Schedule:

- Manuscript submission deadline: February 2020
- Peer Review Due: April 2020
- Revision Due: June 2020
- Final manuscripts due: December 2020

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