Title: Influence of Promoted Bimetallic Ni-Based Catalysts and Micro/Mesopores Carbonaceous Supports for Biomass Hydrothermal Conversion to H_2-Rich Gas

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Influence of Promoted Bimetallic Ni-Based Catalysts and Micro/Mesopores Carbonaceous Supports for Biomass Hydrothermal Conversion to H_2-Rich Gas

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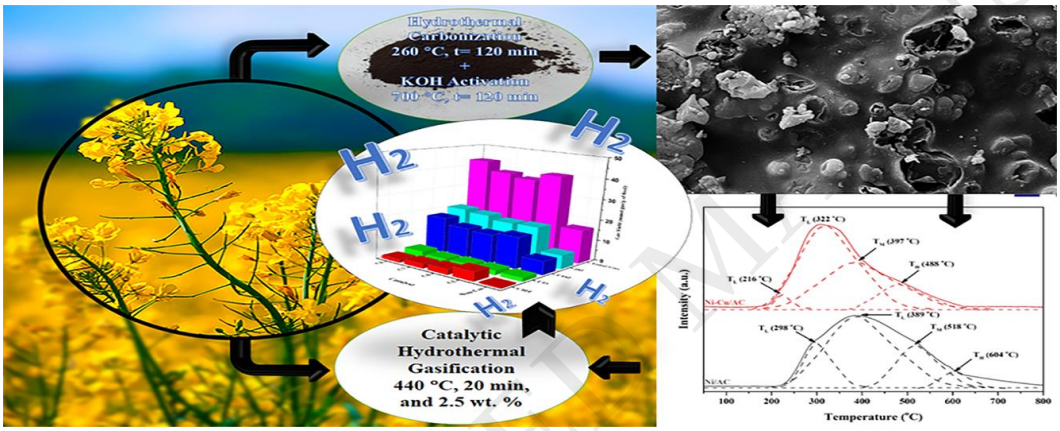
Graphical abstract



Highlights

- Optimizing the control factors governing the HTG process such as (temperature, time and feedstock concentration) for the highest possible H_2 gas production.
- Preparation of binary metal catalysts supported on and GNS using Ni and different noble metals (Ru, Co, and Cu) as promoters via the impregnation method for the first time and determining the most optimized promoter for the HTG process.
- Maximizing the benefits of the CS by using it as both the HTG feedstock and the basic material for the preparation of the catalytic materials produced via the HTC treatment and post chemical activation.