

### Fabrication of high-performance catalysts based on cellulosic biomass resources

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Biomass resources represent several kinds wastes, such as animal residues, forestry crops and residues, and agricultural crops and residues, and so on. Above all, we are specifically interested on the agricultural residue.

The amounts of Biomass in the earth are estimated to be 2 trillion ton every year. Among them, large portion of them is the agricultural or forest residue. Such as wood, plant stem, rice bran, and any type of plant containing cellulose fibers. So far, the two types of conventional methods are the production of biodiesel or gasification to obtain energy.

We used natural cellulose fibers (NCF) as sources of catalytic supports, which show high surface area and porosity. Alkaline earth metals contained in NCF were also used as catalytic promoters for H<sub>2</sub> generation.