



Method To Solubilize Biomass Under Mild Conditions

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Inventors: John Ralph, Fachuang Lu

The Invention

UW researchers have developed a simple and efficient method of dissolving biomass using concentrated sulfuric acid and cysteine. The standard method of Klason lignin determination involves dissolving biomass in sulfuric acid to get the lignin from the biomass into solution. In many instances, this method results in a cloudy solution as the biomass fails to dissolve completely or chemicals precipitate out of solution. This interferes with analysis of the lignin. The UW researchers attempted to use an additive that would promote dissolution of biomass into a clear solution. Surprisingly, they found they could add cysteine along with the concentrated sulfuric acid at room temperature, and the ground biomass dissolved completely into a clear solution. The solution can be diluted with water making it easy to use UV spectroscopy to determine the lignin concentration. The resulting dissolved biomass may be amenable to further processing to produce a variety of chemicals from the dissolved carbohydrates and the lignin in solution.

Additional Information

For More Information About the Inventors

- [John Ralph](#)

Tech Fields

- [Clean Technology: Biobased & renewable chemicals & fuels](#)

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854