

## Method for improving separation of carbohydrates from wood pulping and wood or biomass hydrolysis liquors

### **Disclosure Number**

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### **Technology Summary**

This invention describes a way to improve separation of carbohydrates from pulping and hydrolysis liquors. It is difficult to separate dissolved carbohydrates from acidic or basic pulping liquors used to hydrolyze plant materials. One method is precipitation of carbohydrate by manipulation of solution pH or composition. However, the carbohydrate precipitate is both finely divided and gelatinous. By addition of novel combinations of flocculating and complexing agents which cause the precipitate to aggregate into larger structures, it is possible to selectively remove carbohydrate gel precipitates. Carbohydrate removal from pulping and hydrolyzate liquors has several advantages. 1) Carbohydrate-stripping minimizes carbohydrate content of lignin from such liquors. This is advantageous where lignin is converted to products such as lignin chemicals, resins, or fibers. 2) Carbohydrate-stripping lowers pulping liquor viscosity which facilitates concentration of pulping liquor by evaporation and improves mill energy balance and chemical recovery. 3) The carbohydrates can be added to virgin or recycled pulp to increase yield and strength. 4) The carbohydrates can be concentrated and either directly marketed or converted to marketable products (xylitol, ethanol, polymer intermediates). 5) Precipitation and agglomeration may selectively minimize biotoxic materials in the carbohydrate which could be beneficial if fermentation or bioconversion is planned.

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