Ian Klein, Organic Chem Curr Res 2015, 4:2
http://dx.doi.org/10.4172/2161-0401.C1.007

OMICS International
conferenceseries.com
2nd International Conference on
Past and Present Research Systems of Green Chemistry
September 14-16, 2015 Orlando, USA

Improvements to the biorefinery model through lignin valorization

Ian Klein
Spero Energy, Inc., USA

In the current biorefinery setting millions of tons of the plant component lignin are underutilized, being primarily burned to produce electricity. Lignin accounts for 20-30% of the composition of wood biomass and can be visualized as support beams in plants. Spero Energy, Inc. has developed a one-step-process to convert lignin from waste wood into high value chemicals (HVCs), a step that also removes known inhibitors from the cellulosic components of the plant which are used in ethanol production. Spero Energy, Inc. uses a proprietary catalyst for biomass pretreatment; yielding separate product streams of HVCs and cellulose for ethanol production.

Biography

In 2010 Klein began graduate studies in the laboratory of Dr. Mahdi Abu-Omar at Purdue University. As a graduate student Klein studied the catalytic conversion of biomass to high value chemicals, earning his PhD in Chemistry in May 2015. In 2013 Klein joined Dr. Abu-Omar to commercialize their innovative biomass conversion technology through the startup company Spero Energy, Inc. Currently Spero is scaling up its patent pending technology with goals for commercialization within the next two years. Klein is the recipient of several awards including 2015 selection to the Forbes 30 under 30 list in Manufacturing and Industry.

iklein@purdue.edu

Notes: