



RENEWABLE BIO-ADVANTAGED PLASTICIZER GENERATED BY REDUCTIVE COUPLING OF LIGNIN-DERIVED AROMATICS

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The Invention

A collaborative team of researchers from UW-Madison, MIT, and National Lab of the Rockies (NLR) have developed an innovative approach for the generation of bio-based plasticizers from lignin from 4-hydroxybenzoic acid (H), vanillic acid (G) and syringic acid (S) obtained via oxidative depolymerization of lignin substrates. The researchers deployed their collective expertise in engineering, catalysis, and electrochemistry to reductively couple sulfonate derivatives of H, G and S to generate a variety of homo- and cross-coupled products (e.g., S-S, S-G, S-H, H-G, etc.). Advantageously, the electrochemical catalytic systems and methods allow for the generation of renewable plasticizers that exhibit performance advantages relative to established petroleum-based phthalate ester plasticizers.

Additional Information

For More Information About the Inventors

- [Shannon Stahl](#)

Tech Fields

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

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