



Electrochemical Reductive Coupling of Phenol Derivatives

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The Invention

UW Madison researchers have developed an improved method for the electrochemical reductive coupling of lignin derived monomers (e.g., 4-carboxylic acid phenols) in the presence of Ni or Ni/Pd catalysis to produce value added intermediates (e.g., BPDA). The method is based on sequential esterification and phenol activation of lignin monomers to produce substrates for reductive coupling. These intermediates are then coupled over the appropriate catalyst (e.g., Ni for homo-coupling) resulting in near quantitative yields. This invention can be implemented in a batch or flow electrolytical cell and is compatible with various solvents (e.g., DMF, DMA and DMSO).

Additional Information

For More Information About the Inventors

- [Shannon Stahl](#)

Publications

- [Read a news story about this technology.](#)

Tech Fields

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

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