

Title (en)

Integrated process for the selective fractionation and separation of lignocellulose in its main components

Title (de)

Integriertes Verfahren zur selektiven Spaltung und Trennung von Lignozellulose in die Hauptbestandteile

Title (fr)

Procédé intégré pour le fractionnement sélectif et la séparation de la lignocellulose en ses principaux composants

Publication

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Application

EP 11154705 A 20110216

Priority

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Abstract (en)

[origin: EP2489780A1] A method for processing lignocellulose comprises the step of contacting a lignocellulosic substrate with a biphasic liquid system in a reaction vessel, the biphasic liquid system comprising a first, aqueous phase and a second, organic phase which is at least partially immiscible with the first, aqueous phase under the conditions under which step a) is performed. The first, aqueous phase further comprises a carboxylic acid catalyst and the second, organic phase comprises a solvent selected from the group comprising esters, lactones, ethers and/or cyclic ethers with the proviso that said solvent does not comprise a hydroxyl group or hydroxyl groups. Preferred are oxalic acid as a catalyst and 2-methyltetrahydrofuran as the organic solvent. The set-up of a two-phase system affords the selective hemicellulose hydrolysis, together with efficient in situ cellulose-pulp delignification and in situ lignin extraction. Overall, all components are easily separated and are ready for further bio-refinery processing.

IPC 8 full level

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Cited by

CN105408544A; EP3689847A1; US2015176090A1; US9359650B2; EP2989207A4; US10000891B2; US9863090B2; WO2014132056A1; US11066525B2; WO2014176531A2; US10774394B2; WO2014132055A1; WO2021245440A1

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