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(PDF) Microwave-Assisted Conversion of Lignin

Transformation of lignin into biobased thermoset - CORE

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Microwave-Assisted Degradation of Lignin Model Compounds ...

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What is cellulose?

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Chapter 4 Microwave-Assisted Conversion of Lignin

Many scholars have focused on studying the microwave-assisted conversion of lignin model compounds. J.Y. Pan investigated the microwave-assisted degradation of lignin model compounds, such as benzyl phenyl ether and guaiacol, by evaluating the catalytic activity of 29 types of ionic liquid with an imidazolium-based solvent and catalyst. The experimental results indicated that microwave could remarkably accelerate degradation rate and significantly increase product selectivity.

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Microwave-Assisted Conversion of Lignin | SpringerLink

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Physicochemical characterization of lignin recovered from ...

Conclusion:Lignin was degraded to its monomeric units when its aqueous solution in presence of catalytic amount of NaF was irradiated under microwaves at 150°C for 30 min. Hence, this technique could be used to degrade lignin into various lower lignols along with monolignols.

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The microwave-assisted DES treatment also showed good results in lignin extraction. During microwave-assisted DES treatment for 3 min, 15.4 % LF was extracted, which accounts for 80 % of the total lignin.

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Lignin percentage before and after the pretreatments were compared and analysed. The results obtained revealed that the microwave-assisted PAA shows the best percentage of delignification compared to the microwave-assisted dH2O pretreatment.

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