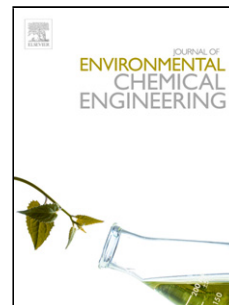


## Accepted Manuscript

Title: Understanding Lignin Depolymerization to Phenols via Microwave-Assisted Solvolysis Process

Authors: Piyali Dhar, R. Vinu

PII: S2213-3437(17)30415-3  
DOI: <http://dx.doi.org/10.1016/j.jece.2017.08.031>  
Reference: JECE 1826



To appear in:

Received date: 29-4-2017  
Revised date: 6-8-2017  
Accepted date: 20-8-2017

Please cite this article as: Piyali Dhar, R. Vinu, Understanding Lignin Depolymerization to Phenols via Microwave-Assisted Solvolysis Process, Journal of Environmental Chemical Engineering <http://dx.doi.org/10.1016/j.jece.2017.08.031>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# Understanding Lignin Depolymerization to Phenols via Microwave-Assisted Solvolysis Process

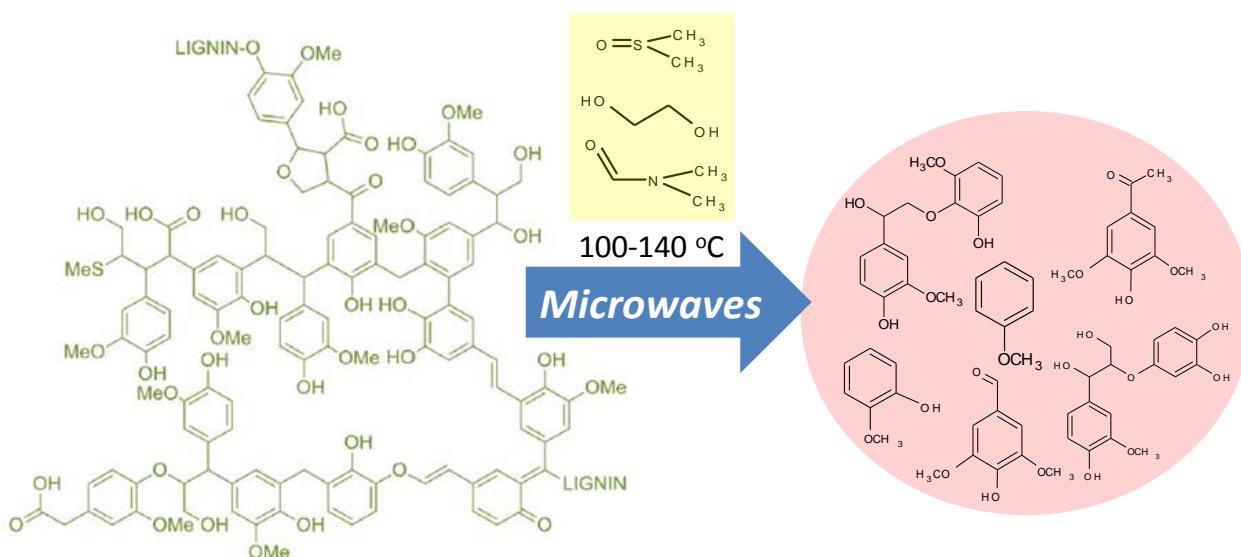
Piyali Dhar and R. Vinu\*

*Department of Chemical Engineering and National Center for Combustion Research and Development*

*Indian Institute of Technology Madras, Chennai - 600036, India*

\*Corresponding author. E-mail: vinu@iitm.ac.in. Phone: +91-44-22574187

## Graphical Abstract



### Highlights

- Microwaves converted alkali lignin to phenolics at low temperatures ( $100-140^{\circ}\text{C}$ )
- Reaction media constituted a homogeneous phase with solvents of varying polarity
- Time evolution of molecular weight distribution of lignin and phenolics were studied
- Phenolics include acetosyringone, guaiacol, syringaldehyde, anisole and lignin dimers
- Maximum phenolic yield (20 wt.%) was obtained with DMSO and DMF at  $100^{\circ}\text{C}$

Download English Version:

<https://daneshyari.com/en/article/6664307>

Download Persian Version:

<https://daneshyari.com/article/6664307>

[Daneshyari.com](https://daneshyari.com)