

Supercritical Methanol Depolymerization and Hydrodeoxygenation  
of Lignin and Biomass over Reduced Copper Porous Metal Oxides

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## Supplementary Information

Table S1. Lignin fraction carbon yields of 15 and 30 min from SCM-DHDO experiments with maple wood and GVL extracted lignin. Dimer and trimer yields were estimated for the 15 min time-point using a high-temperature GC-FID.

Feed	Carbon yield from lignin fraction (%)			
	Maple Wood	GVL extracted lignin	Maple Wood	GVL extracted lignin
	15 min	15 min	30 min	30 min
Guaiacol	0.8	0.1	0.9	0.2
4-Ethylphenol	1.5	0.1	1.4	0.3
4-Methylguaiacol	1.5	0.2	1.4	0.5
4-Ethylguaiacol	1.4	0.5	1.2	0.9
4-Propylphenol	1.4	0.0	1.2	0.0
4-Propylguaiacol	6.3	0.8	5.7	1.3
4-Methylsyringol	0.8	0.2	0.8	0.4
4-Ethylsyringol	0.8	0.3	0.9	0.5
4-Propylsyringol	0.8	1.1	1.3	0.9
By type				
Syringols	2.4	1.6	3.1	1.8
Guaiacols	10.1	1.7	9.2	3.0
Phenols	2.9	0.1	2.6	0.3
By alkyl tail length				
No tail (C <sub>0</sub> )	0.8	0.1	0.9	0.2

Methyl tail (C <sub>1</sub> )	2.3	0.4	2.2	0.9
Ethyl tail (C <sub>2</sub> )	3.7	1.0	3.6	1.7
Propyl tail (C <sub>3</sub> )	8.6	1.9	8.2	2.2
Unidentified aromatics	0	0.6	0	3.0
Unidentified cyclohexanols	0	0.0	0	0.0
Total monomers	15.4	4.1	15.0	8.1
S/G/P ratio	1.0/4.2/1.2	1.0/1.0/0.1	1.0/2.9/0.8	1.0/1.6/0.2
Alkyl tail length ratio C <sub>0</sub> /C <sub>1</sub> /C <sub>2</sub> /C <sub>3</sub>	0.1/0.3/0.4/1.0	0.1/0.2/0.5/1.0	0.1/0.3/0.4/1.0	0.1/0.4/0.8/1.0
Estimated dimer yield	0.0	2.3	Not measured	Not measured
Estimated trimer yield	0.0	0.0	Not measured	Not measured

