

Supplementary Data

Enhanced lignin depolymerization to produce butylated hydroxytoluene and 4-propylguaiacol on carbon-nitride-supported molybdenum catalysts

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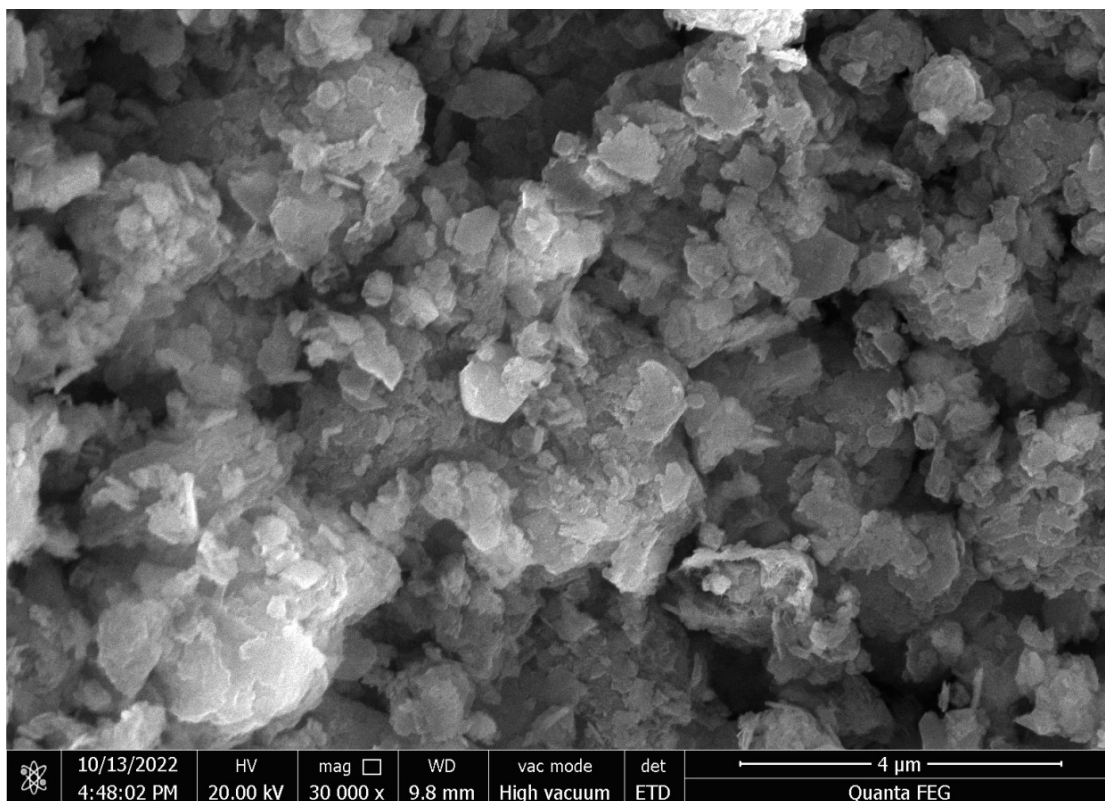


Figure S1. SEM image of Mo/CN.

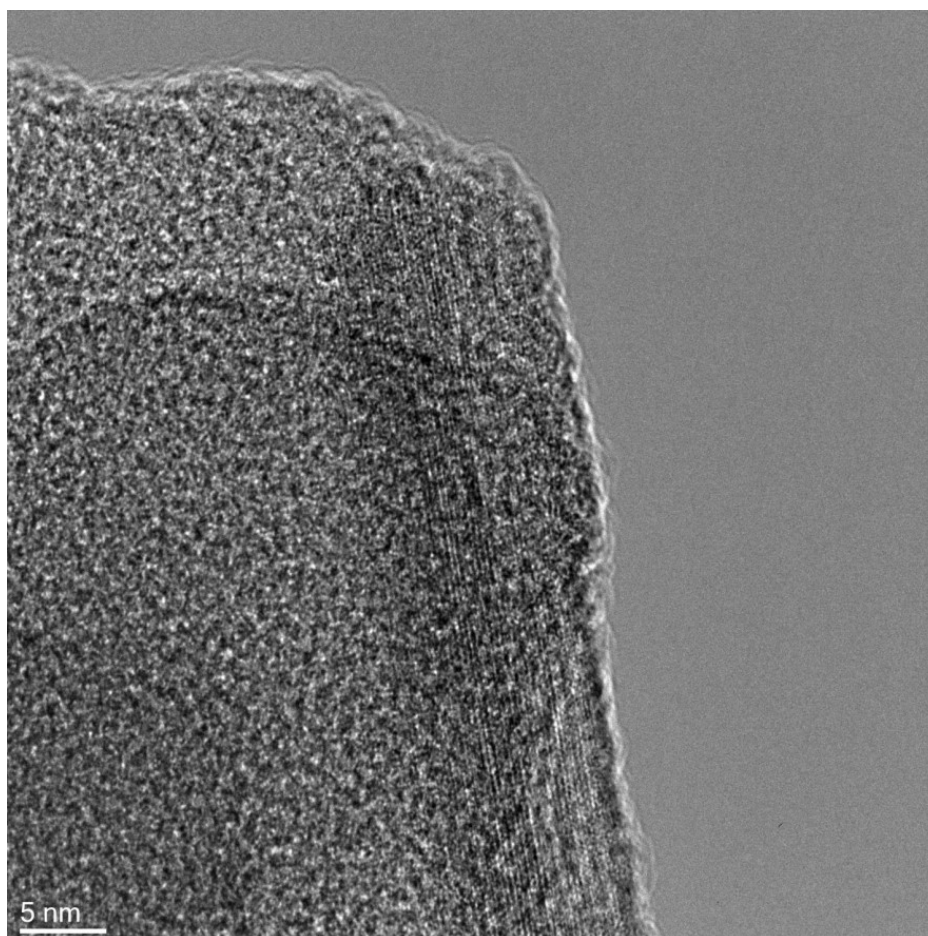
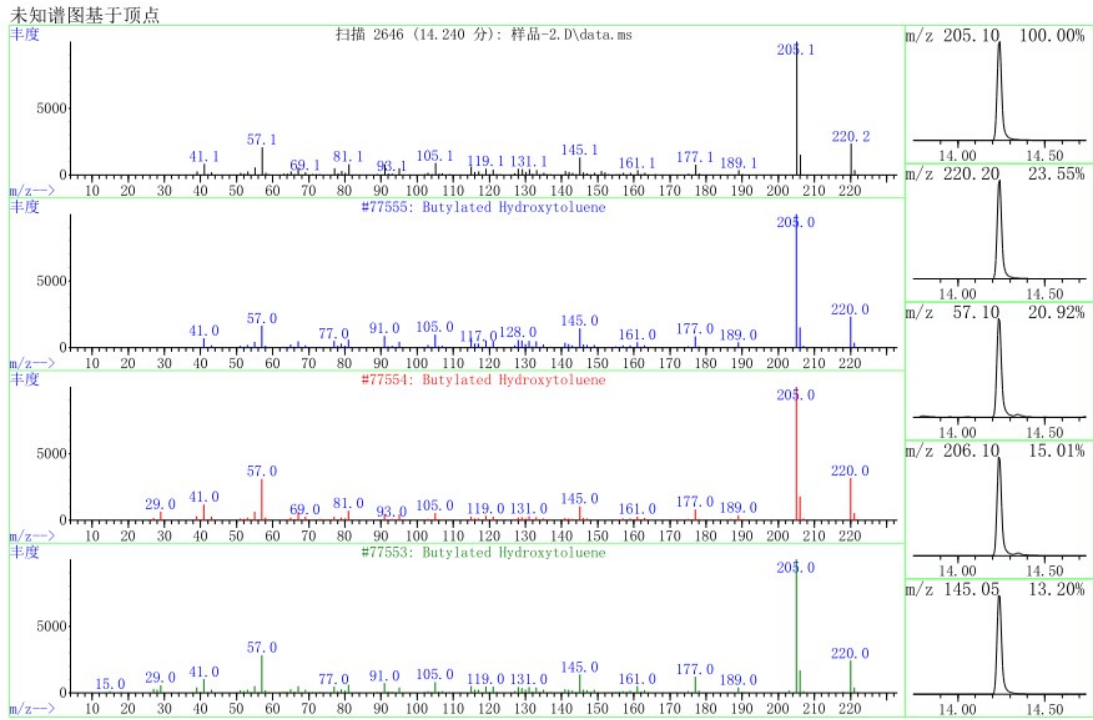


Figure S2. TEM image of Mo/CN.



Data File: C:\msdchem\2\data\2022\20221013-2210109460木质素降解产物\BSB\样品-2.D

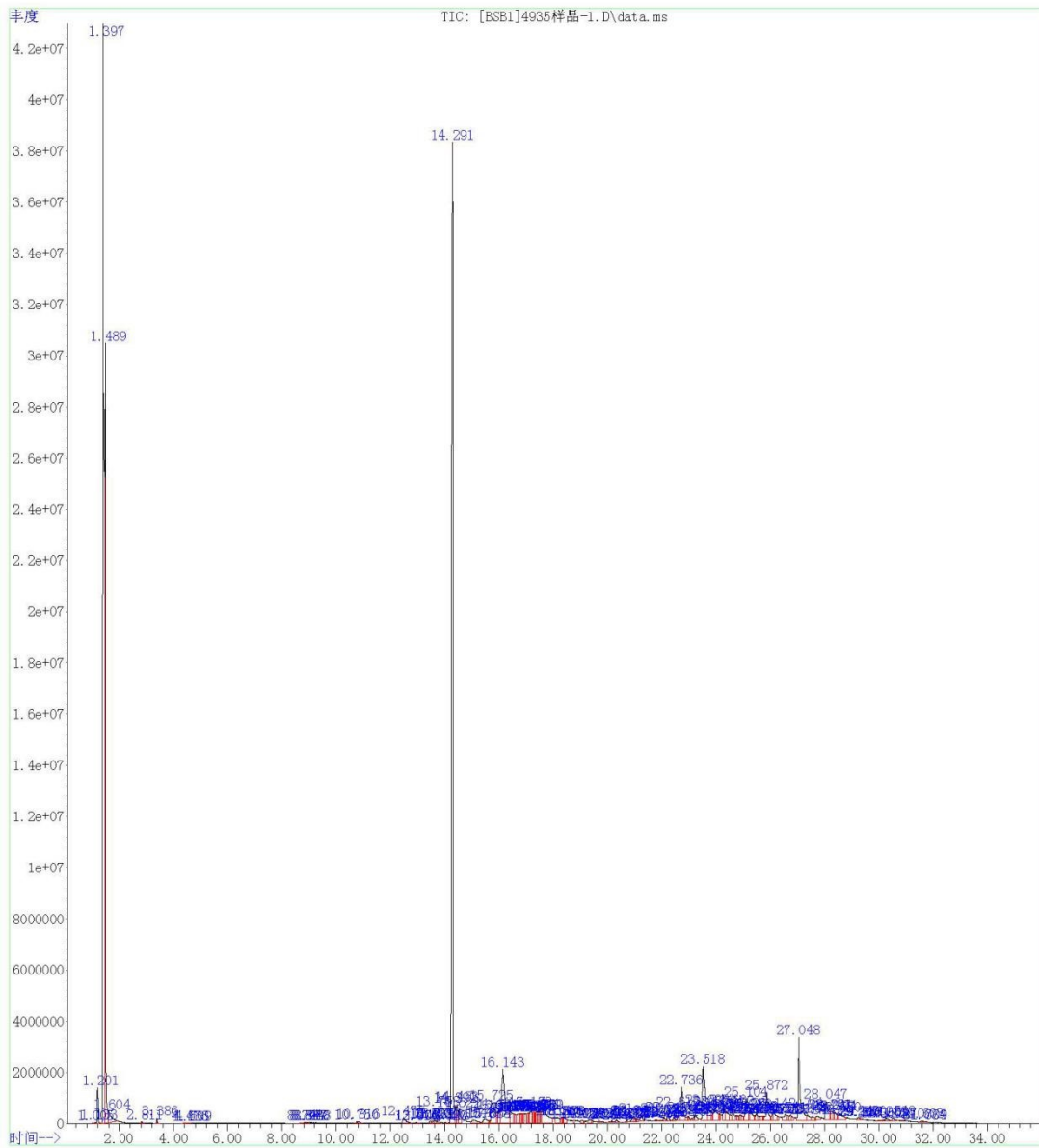
样品: sample-10

峰编号: 19 14.240 分钟处 面积: 69738244 面积 % 2.34

每个谱库中 3 个最匹配的记录。 Ref\# CAS\# 匹配度

Ref\#	CAS\#	匹配度
1	77555 000128-37-0	98
2	77554 000128-37-0	96
3	77553 000128-37-0	96

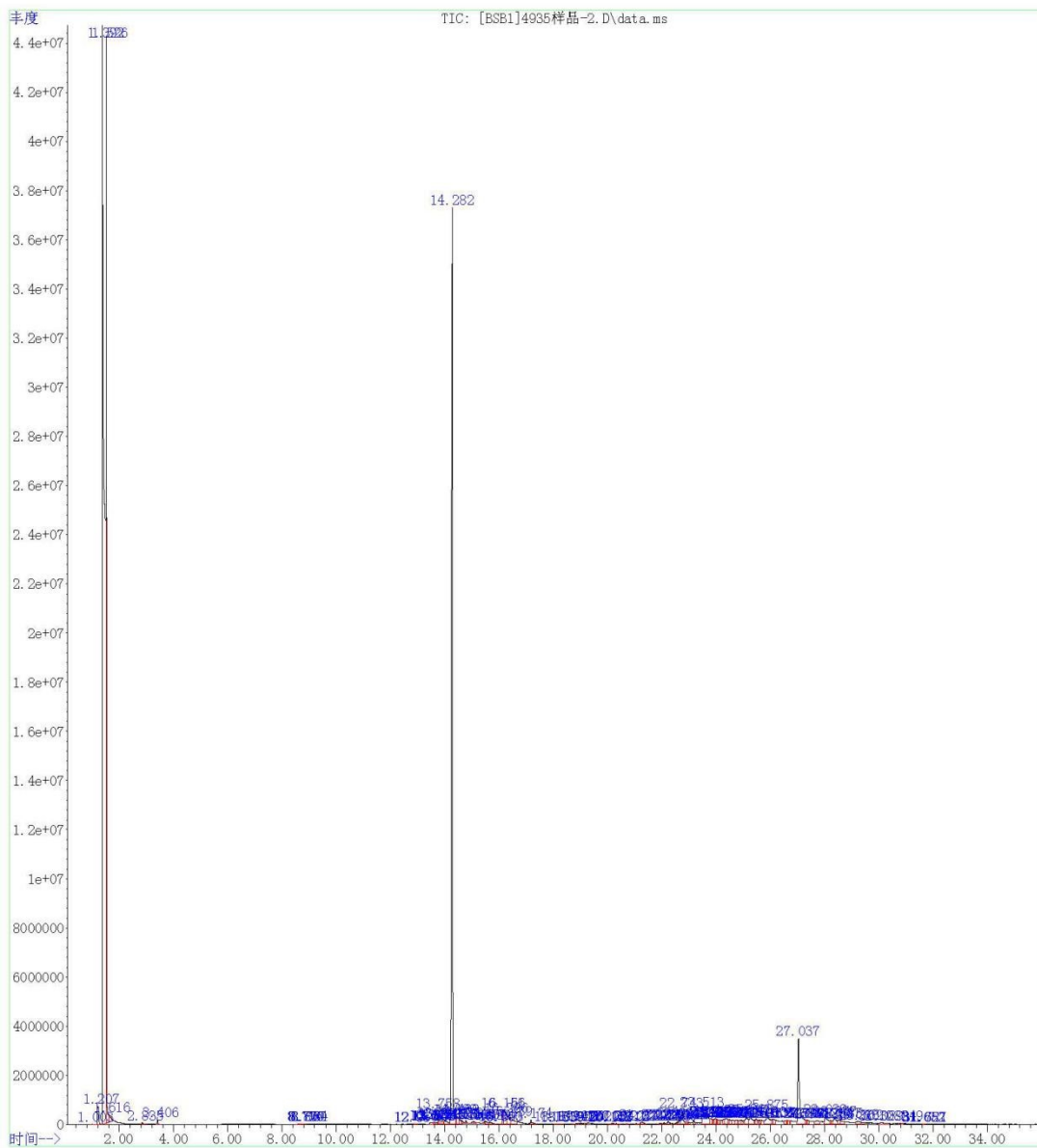
Figure S3. Mass spectrometric analysis of BHT peaked at 14.24'.



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Figure S4. GC-MS TIC of TSPs obtained from kraft lignin depolymerization on CN.



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Figure S5. GC-MS TIC of TSPs obtained from kraft lignin depolymerization on Mo/CN.

Table S1. Physicochemical properties of the lignin samples

Sample	Lignin content ^a (wt%)	Element content (wt%)					M_w (g/mol)
		C	H	O	N	S	
CAHL	80.27	58.24	5.03	33.87	0.79	2.07	8927
CEL	64.33	55.27	5.96	36.68	0.81	1.28	2623
KL	82.91	61.39	5.22	30.48	0.67	2.24	3133

^a Klason lignin (acid-insoluble lignin)

Table S2. Products identification by GC-MS via catalytic depolymerization of lignin on Mo/CN

No.	Retention time/min	Structure	Quantify/%	Qualitative/%
1	1.62	Tetrahydrofuran	41.02	90
2	13.52	Vanillin	0.21	94
3	13.76	Phenol, 3-(1,1-dimethylethyl)-4-methoxy-	0.24	75
4	14.28	Butylated Hydroxytoluene (BHT)	26.73	98
5	14.4	Apocynin	0.47	90
6	14.47	Ethanone, 1-(3-hydroxy-4-methoxyphenyl)-	0.24	70
7	15.04	Homovanillyl alcohol	0.11	76
8	16.15	Homovanillic acid	2.02	68
9	19.28	Benzoic acid, 3,5-dihydroxy-	0.35	65
10	20.12	2-Propanone, 1-hydroxy-3-(4-hydroxy-3-methoxyphenyl)-	0.17	76

11	27.04	4-propylguaiacol	3.77	84
12	28.21	Phenol, 2-methoxy-4-(methoxymethyl)-	0.17	57
