

**Table S1.** Analysis of pyrolysis products from BLS, AL and EMAL

Rt(min)	Compound	Mw	Area percent (%)		
			BLS	AL	EMAL
1.613	CO <sub>2</sub>	44	3.76	8.63	10.5
2.058	Acetic acid	60	-	0.3	0.65
2.318	Benzene	78	-	1.65	0.34
5.115	2-Cyclopenten-1-one, 3-methyl-	96	1.68	-	-
5.289	Phenol	94	2.29	0.44	0.37
6.236	Indene	116	0.48	-	-
6.317	Phenol,2-methyl-	108	2.72	0.61	0.51
6.618	Phenol,4-methyl-	108	4.42	1.02	1.08
6.872	Guaiacol	124	20.98	16.06	8.59
7.635	Benzene, 1,2-dimethoxy-	138	2.74	-	-
7.681	Phenol, 2,4-dimethyl-	122	4.83	0.87	0.71
7.762	2-Methylindene	130	1.67	-	-
7.97	Phenol, 3,4-dimethyl-	122	2.96	-	-
7.981	Phenol, 4-ethyl-	122	-	-	0.67
8.363	4-methyl-guaiacol	138	13.99	13.20	9.42
8.444	1,2-Benzenediol	110	-	1.82	1.85
8.675	4-Vinyl phenol	120	-	-	1.59
8.964	3,4-Dimethoxytoluene	152	3.00	0.94	0.64
9.253	Phenol, 3-ethyl-5-methyl-	136	1.65	-	-
9.565	Phenol, 4-ethyl-2-methoxy-	152	9.64	4.78	2.41
9.669	1H-Inden-1-one, 2,3-dihydro-	132	0.68	-	-
9.727	1,2-Benzenediol, 4-methyl-	124	-	2.71	2.01
9.865	Phenol, 2,4,6-trimethyl-	136	0.96	-	-
10.062	4-vinyl-guaiacol	150	6.53	13.98	11.98
10.13	Benzene, 4-ethyl-1,2-dimethoxy-	166	2.24	-	-
10.628	Eugenol	164	-	2.41	2.88
10.755	Phenol, 2-methoxy-4-propyl-	166	1.54	1.68	0.74
10.998	1,3-Benzenediol, 4,5-dimethyl-	138	-	1.08	-
11.229	Vanillin	152	-	7.19	5.73
11.83	Phenol, 2-methoxy-4-(1-propenyl)-, (E)-	164	4.50	7.05	11.36
12.327	Ethanone, 1-(4-hydroxy-3-methoxyphenyl)-	166	-	6.36	4.39
12.859	2-Propanone, 1-(4-hydroxy-3-methoxyphenyl)-	180	-	4.61	1.75
14.246	Benzeneacetic acid, 4-hydroxy-3-methoxy-	182	3.81	2.61	3.90
14.512	4-((1E)-3-Hydroxy-1-propenyl)-2-methoxyphenol	180	-	-	1.61
14.691	3-(3,4-Dimethoxyphenyl)-1-propanol	196	1.50	-	-
15.274	coniferyl aldehyde	178	-	-	14.32