Table S1 Main components in biopolyol products[a]

Retention time(min)	Components	Area(%)	Quality (%)	Retention time(min)	Components	Area(%)	Quality (%)
	Alcohols and ethers				**Sugar derivatives**		
4.78	1,3-Dimethoxy-2-propanol	1.1	83	11.89	Methyl-α-D-galactopyranoside	0.7	78
5.28	3-Methoxy-1,2-propanediol	7.3	90	13.31	Methyl-β-d-mannofuranoside	0.6	35
6.36	4-Oxo-pentanoic acid methyl ester	2.0	91	14.39	2-Methyl-l-methylmannopyranoside	7.7	50
9.13	Glycerol	26.5	83	14.53	Methyl-2-O-methyl-β-arabinopyranoside	2.7	43
	Phenolic and aromatics			14.77	Methyl-2-O-methyl-β-arabinopyranoside	0.7	38
12.35	Vanillin	0.2	97	17.13	Methyl-α-D-glucopyranoside	22.0	86
13.12	2-Methoxy-4-propyl-phenol	0.4	81	17.42	Methyl-β-D-glucopyranoside	13.3	91
13.46	1-(3-Hydroxy-4-methoxyphenyl)-ethanone,	0.1	83	17.86	Methyl isopropylidene-β-d-arabinoside	0.2	38
13.80	4-Hydroxy-3-methoxy-benzoic acid methyl ester	0.7	97	18.25	Methyl 6-O-[1-methylpropyl]-β-d-galactopyranoside	0.1	43
14.03	4-Hydroxy-3-methoxy-benzeneacetic acid	1.9	72				
Total content of poly-hydroxy compounds					84.9 %		

a. Reaction conditions: m(sawdust):m(mathanol):m(glycerol)=1:6:1, 2.5 wt% sulfuric acid, autogenic pressure, microwave power 700 W, 15min, 180 ℃.

Table S2 Main compounds in phenolic products[a]

Retention time(min)	Components	Area(%)	Quality (%)	Retention time(min)	Components	Area(%)	Quality (%)
	Aromatics and Phenols				**Alcohols and ethers from cellulose**		
13.10	2-Methoxy-4-propyl-phenol	1.3	87	6.33	4-Oxo-pentanoic acid methyl ester	12.6	93
13.79	4-Hydroxy-3-methoxy-benzoic acid methyl ester	3.6	96	9.35	4-(2-Furanyl)-3-buten-2-one	1.7	97
13.99	Homovanillyl alcohol	5.7	80	14.27	Methyl-α-D-galactopyranoside	2.3	53
14.05	4-Hydroxy-3-methoxy benzeneacetic acid	3.0	76	17.41	3-(4-Hydroxy-3-m ethoxyphenyl)-2-Propenoic acid methyl ester	0.9	95
14.65	α-Amino-3'-hydroxy-4'-methox yacetophenone	10.7	90				
14.74	4-(Acetyloxy)-3-methoxy-benzoic acid methyl ester	3.9	59		**Others**		
13.03	3,3-dimethoxypropyl-benzene	15.0	36		Pentadecanoic acid, 14-methyl-, methyl ester	0.8	97
15.33	4-hydroxy-3-methoxy-benzeneaceti c acid	1.8	52	18.13	9-Octadecenoic acid, methyl ester	0.8	97
16.96	2,7-Dimethoxy-naphthalene	2.1	64	19.82	[1R-(1. α.,4a. β.,10a. α.)]-1-Phenanthrenecarboxylic acid,1,2,3,4,4a,10a-hexahydro-1,4a-dimet hyl-7-(1-methylethyl)-, methyl ester	1.1	99
24.65	1,2-Benzenedicarboxylic acid, mono (2-ethylhexyl) ester	15.8	91	18.18	[1R-(1. α.,4a. β.,10a. α.)]-1-Phenanthrenecarboxylic acid, 1,2,3,4,4a,9,10,10a-octahydro-1,4a-dimet hyl-7-(1-methylethyl)-, methyl ester	0.6	98
33.39	2,4-Dihydroxy-benzaldehyde	3.0	47	22.25			
	Total content of phenolics				65.9 %		

a. Reaction conditions: m(sawdust):m(mathanol):m(glycerol)=1:6:1, 2.5 wt% sulfuric acid, autogenic pressure, microwave power 700 W, 15min, 180 ℃.