Supplementary table 1. Correlation matrix among instrumental flavor analysis, antioxidant acti

Variables	Carbon disulfide	Isobutyraldehyde	Benzene	3-methyl butanal
Carbon disulfide	**1**	0.016	**0.500**	**0.586**
Isobutyraldehyde		**1**	**-0.508**	**0.590**
Benzene			**1**	**0.228**
3-methyl butanal				**1**
Thiophene				
2-methyl butanal				
2-methyl-2-butenal				
2-pentanol				
Pentanal				
Dimethyl disulfide				
3-methyl 1-butanol				
2-Methyl pentanal				
2-methyl 1-butanol				
Pyridine				
Methyl benzene				
Isoamyl phenyl acetate				
2-Methylthiophene				
1-Pentanol				
Hexanal				
2-methyl pyrazine				
1,3,5,7-Cyclooctatetraene				
2-Heptanone				
2,5-dimethyl-Pyrazine				
2-Pentyl furan				
Benzaldehyde				
2,3,5-trimethyl pyrazine				
DPPH				
Total phenol (Free)				
Total phenol (Bound)				
Polyphenol				
TEAC (Free)				
TEAC (Bound)				
Total glucan				
α- glucan				
β- glucan				

α=0.05

bold text=significant

ivities, and functional activity (glucan contents) results

Thiophene	2-methyl butanal	2-methyl-2-butenal	2-pentanol	Pentanal	Dimethyl disulfide
0.035	**-0.302**	**0.663**	**-0.910**	**-0.575**	**-0.575**
0.361	**0.343**	**0.382**	**0.054**	**-0.131**	**-0.131**
0.076	**-0.630**	**-0.279**	**-0.736**	**-0.620**	**-0.620**
0.553	**-0.055**	**0.423**	**-0.620**	**-0.789**	**-0.789**
1	**-0.534**	**-0.210**	**-0.292**	**-0.160**	**-0.160**
	1	**0.378**	**0.606**	0.015	0.015
		1	**-0.316**	**-0.200**	**-0.200**
			1	**0.641**	**0.641**
				1	**1.000**
					1

3-methyl 1-butanol	2-Methyl pentanal	2-methyl 1-butanol	Pyridine	Methyl benzene	Isoamyl phenyl acetate
0.607	**-0.867**	**0.701**	**-0.575**	**-0.615**	**0.252**
-0.584	-0.011	**-0.547**	**-0.131**	**0.085**	**-0.923**
0.824	**-0.760**	**0.766**	**-0.620**	**-0.291**	**0.657**
-0.043	**-0.742**	0.016	**-0.789**	**-0.620**	**-0.246**
-0.427	**-0.269**	**-0.450**	**-0.160**	**-0.410**	**-0.210**
-0.380	**0.438**	**-0.314**	0.015	**0.187**	**-0.365**
0.041	**-0.301**	**0.200**	**-0.200**	**-0.430**	**-0.200**
-0.643	**0.957**	**-0.678**	**0.641**	**0.578**	**-0.316**
-0.407	**0.837**	**-0.429**	**1.000**	**0.546**	**-0.200**
-0.407	**0.837**	**-0.429**	**1.000**	**0.546**	**-0.200**
1	**-0.613**	**0.985**	**-0.407**	**-0.097**	**0.645**
	1	**-0.646**	**0.837**	**0.620**	**-0.301**
		1	**-0.429**	**-0.201**	**0.642**
			1	**0.546**	**-0.200**
				1	**-0.430**
					1

2-Methyl thiophene	1-Pentanol	Hexanal	2-methyl pyrazine	1,3,5,7-Cyclooctatetraene	2-Heptanone
-0.575	**-0.575**	**-0.317**	**-0.575**	**0.049**	**-0.575**
-0.131	**-0.131**	**-0.787**	**-0.131**	**-0.696**	**-0.131**
-0.620	**-0.620**	**-0.093**	**-0.620**	**0.535**	**-0.620**
-0.789	**-0.789**	**-0.730**	**-0.789**	**-0.321**	**-0.789**
-0.160	**-0.160**	**-0.509**	**-0.160**	**-0.693**	**-0.160**
0.015	0.015	**0.178**	0.015	**0.163**	0.015
-0.200	**-0.200**	**-0.162**	**-0.200**	**-0.194**	**-0.200**
0.641	**0.641**	**0.437**	**0.641**	-0.027	**0.641**
1.000	**1.000**	**0.423**	**1.000**	**-0.320**	**1.000**
1.000	**1.000**	**0.423**	**1.000**	**-0.320**	**1.000**
-0.407	**-0.407**	**0.106**	**-0.407**	**0.695**	**-0.407**
0.837	**0.837**	**0.472**	**0.837**	**-0.141**	**0.837**
-0.429	**-0.429**	**0.122**	**-0.429**	**0.665**	**-0.429**
1.000	**1.000**	**0.423**	**1.000**	**-0.320**	**1.000**
0.546	**0.546**	-0.023	**0.546**	**0.059**	**0.546**
-0.200	**-0.200**	**0.657**	**-0.200**	**0.691**	**-0.200**
1	**1.000**	**0.423**	**1.000**	**-0.320**	**1.000**
	1	**0.423**	**1.000**	**-0.320**	**1.000**
		1	**0.423**	**0.527**	**0.423**
			1	**-0.320**	**1.000**
				1	**-0.320**
					1

2,5-dimethyl-Pyrazine	2-Pentyl furan	Benzaldehyde	2,3,5-trimethyl pyrazine	DPPH	Total phenol (Free)
-0.575	**-0.575**	**-0.575**	**-0.575**	**-0.393**	**-0.842**
-0.131	**-0.131**	**-0.131**	**-0.131**	**0.835**	**0.242**
-0.620	**-0.620**	**-0.620**	**-0.620**	**-0.616**	**-0.841**
-0.789	**-0.789**	**-0.789**	**-0.789**	**0.097**	**-0.392**
-0.160	**-0.160**	**-0.160**	**-0.160**	**0.133**	**-0.073**
0.015	0.015	0.015	0.015	**0.348**	**0.636**
-0.200	**-0.200**	**-0.200**	**-0.200**	0.021	**-0.177**
0.641	**0.641**	**0.641**	**0.641**	**0.414**	**0.949**
1.000	**1.000**	**1.000**	**1.000**	**0.268**	**0.560**
1.000	**1.000**	**1.000**	**1.000**	**0.268**	**0.560**
-0.407	**-0.407**	**-0.407**	**-0.407**	**-0.604**	**-0.833**
0.837	**0.837**	**0.837**	**0.837**	**0.397**	**0.889**
-0.429	**-0.429**	**-0.429**	**-0.429**	**-0.634**	**-0.838**
1.000	**1.000**	**1.000**	**1.000**	**0.268**	**0.560**
0.546	**0.546**	**0.546**	**0.546**	**0.604**	**0.365**
-0.200	**-0.200**	**-0.200**	**-0.200**	**-0.976**	**-0.423**
1.000	**1.000**	**1.000**	**1.000**	**0.268**	**0.560**
1.000	**1.000**	**1.000**	**1.000**	**0.268**	**0.560**
0.423	**0.423**	**0.423**	**0.423**	**-0.604**	**0.319**
1.000	**1.000**	**1.000**	**1.000**	**0.268**	**0.560**
-0.320	**-0.320**	**-0.320**	**-0.320**	**-0.589**	**-0.242**
1.000	**1.000**	**1.000**	**1.000**	**0.268**	**0.560**
1	**1.000**	**1.000**	**1.000**	**0.268**	**0.560**
	1	**1.000**	**1.000**	**0.268**	**0.560**
		1	**1.000**	**0.268**	**0.560**
			1	**0.268**	**0.560**
				1	**0.462**
					1

Total phenol (Bound)	Polyphenol	TEAC (Free)	TEAC (Bound)	Total glucan	α- glucan
-0.543	**-0.770**	**-0.771**	**0.157**	**0.152**	**0.557**
-0.670	**0.350**	**0.135**	**0.744**	**0.273**	**0.156**
-0.110	**-0.911**	**-0.645**	**-0.109**	**0.367**	**0.680**
-0.976	**-0.322**	**-0.203**	**0.852**	**0.702**	**0.445**
-0.666	**-0.034**	**0.243**	**0.399**	**0.914**	**0.053**
0.124	**0.645**	**0.415**	**0.377**	**-0.502**	**-0.407**
-0.427	**-0.057**	**-0.291**	**0.303**	**-0.259**	0.011
0.585	**0.908**	**0.778**	**-0.143**	**-0.446**	**-0.713**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.171	**-0.880**	**-0.850**	**-0.369**	**-0.186**	**0.636**
0.660	**0.865**	**0.698**	**-0.355**	**-0.513**	**-0.729**
0.111	**-0.867**	**-0.856**	**-0.326**	**-0.222**	**0.586**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.588	**0.333**	0.029	**-0.353**	**-0.497**	**0.081**
0.356	**-0.517**	**-0.209**	**-0.480**	**-0.042**	**-0.055**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.777	**0.238**	**0.334**	**-0.636**	**-0.549**	**-0.681**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.517	**-0.359**	**-0.275**	**-0.278**	**-0.391**	**0.150**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
0.640	**0.574**	**0.377**	**-0.667**	**-0.512**	**-0.582**
-0.197	**0.530**	**0.217**	**0.375**	-0.019	**0.079**
0.332	**0.988**	**0.900**	**0.078**	**-0.257**	**-0.795**
1	**0.242**	**0.147**	**-0.811**	**-0.730**	**-0.382**
	1	**0.872**	**0.124**	**-0.253**	**-0.784**
		1	**0.179**	**0.099**	**-0.838**
			1	**0.548**	**0.187**
				1	**0.271**
					1

β- glucan
0.132
0.269
0.346
0.690
0.922
-0.495
-0.264
-0.424
-0.492
-0.492
-0.211
-0.490
-0.246
-0.492
-0.502
-0.040
-0.492
-0.492
-0.529
-0.492
-0.401
-0.492
-0.492
-0.492
-0.492
-0.492
-0.021
-0.231
-0.721
-0.227
0.130
0.543
0.999
0.238
1