Table1. Aroma-active compounds identified in roasted white yam (*D. rotundata*)

No	Compounds [a]	Odour quality	RI on BPX5	FD factor	GC peak area* %
1	Acetic acid	Vinegar	600	4	0.25±0.00
2	3-Methyl butanal	Malty	668	2	0.55±0.01
3	Butanoic acid	Sweaty	763	2	0.19±0.05
4	Pentan-2-one	Ether-like	711	4	0.10±0.01
5	Dihydro-2-methyl-3(2H)-furanone	Toasty	808	16	6.65±0.12
6	2-Methylpyrazine	Toasty	820	64	8.87±0.78
7	3-Furaldehyde	Almond-like	828	8	2.15±0.01
8	2-Furanmethanol	Caramel	866	4	1.13±0.05
9	2-Acetylfuran	Cocoa/almond	893	128	10.02±0.14
10	2-Ethylpyrazine	Nutty/roasty	911	16	28.19±1.02
11	Benzaldehyde	Almond-like	960	8	4.17±0.01
12	5-Methyl-2-furfural	Spice/caramel	978	16	20.68±0.11
13	2-Pentyl furan	Green bean	993	16	12.54±0.33
14	Ethyl furfural	Caramel/spice	1020	64	13.29±1.58
15	Limonene	Orange-like	1033	4	0.58±0.00
16	Phenyl acetaldehyde	Sweet rose	1043	16	1.56±0.05
17	2-Acetylpyrrole	popcorn	1045	256	18.31±0.04
18	2-Pyrrole carboxaldehyde	Musty/coffee	1047	16	9.80±0.36
19	3-Methyl phenol	Phenolic/smoky	1076	8	3.36±0.16
20	2-Ethyl-3,5-dimethylpyrazine	Earthy/roasty	1088	16	4.03±0.03
21	Linalool	Floral	1100	4	0.52±0.01
22	5-Hydroxy methyl furfural	Chamomile flower-like	1163	32	1.46±0.11
23	β-Cyclocitral	Hay-like	1218	2	0.10±0.01
24	2,6-Dimethoxyphenol	Smoky	1349	2	0.45±0.01
25	β-Caryophyllene	Woody/spice	1408	8	1.62±0.11
26	α-Ionone	Floral	1422	4	0.79±0.14
27	α-Copaene	Woody	1430	8	15.08±1.20
28	β-ionone	Violet	1493	2	1.29±0.01
29	4-Carbethoxybutyrolactone	Roasty/smoky	1893	16	0.49±0.03

a Compounds were identified by comparing their retention indices on BPX5 column, their mass spectra, and their odour notes with that of the respective reference standards.

* Values are mean±SD, n =3, [RI] Retention index on BPX5 column

[FD] Flavour dilution

Table2. Concentrations (µg mL $^{-1}$) of the selected aroma-active compounds in roasted white yam (*Dioscorea rotundata*)

No	Compound	Conc. In roasted yam	5 fold conc. In yam	10 fold conc. In yam	20 fold conc. In yam	50 fold conc. In yam
	Furans					
1	2-Acetyl furan	2.80±0.01	14.0	28.0	56.0	140.0
2	5-Methyl-2-furfural	8.06±0.23	40.3	80.6	161.2	403.0
3	2-Pentyl furan	2.56±0.10	12.8	25.6	51.2	128.0
4	Ethyl furfural	16.23±0.45	81.2	162.3	324.6	811.5
	Pyrroles					
1	2-Acetylpyrrole	1.68±0.01	8.4	16.8	33.6	84.0
2	2-Pyrrole carboxaldehyde	3.71±0.02	18.6	37.1	74.2	185.5
	Pyrazines					
1	2-Ethylpyrazine	0.95±0.01	4.75	9.5	19.0	47.5
2	2-Methylpyrazine	4.06±0.12	20.3	40.6	81.2	203
3	2-Ethyl-3,5-dimethylpyrazine	0.70±0.01	3.5	7.0	14.0	35.0