Effect of Cricket Powder Incorporation on the Profile of Volatile Organic Compounds, Free Amino Acids and Sensory Properties of Gluten-Free Bread

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Supplementary Material

Table S1.Compounds tentatively identified based on results from GC×GC-ToF-MS analysis in the crumb part of breads subjected to the study (CP0, CP2, CP6, CP10), baked for 15 and 30 min.

	Compound	No	RI	15 min of baking				30 min of baking			
				CP0	CP2	CP6	CP10	CP0	CP2	CP6	CP10
Acids	Acetic acid	1	661	13116741±512282	12916281±786885	9546107±71795	0	0	0	0	0
	3-Methylbutanoic acid	2	853	0	0	0	0	3195451±1244813	404852±10008	0	0
	2-Methylpropanoic acid	3	731	3344524±5634	0	0	0	0	0	0	0
	Σ Acids			**13116741±512282**	**12916281±786885**	**9546107±71795**	**0**	**3195451±1244813**	**404852±10008**	**0**	**0**
Alcohols	3-Methylbutanol	4	717	12417480±17378064	0	3438025±1894087	0	9371530±1440727	0	0	0
	2-Methylbutanol	5	728	0	0	5456194±1241753	5803909±259409	1349308±42574	1388213±78492	3142903±83544	0
	2-Heptyn-1-ol	6	944	0	0	0	0	0	0	0	0
	1-Heptanol	7	951	0	0	0	1439561±208682	0	0	0	832474±41939
	1-Hexanol	8	859	275043679±13971901	0	16335952±38695	23500197±1304252	5670587±620169	6394316±170694	12974209±959763	14454707±741545
	2-Ethylhexanol	9	1015	3007735±135642	2551369±101759	0	2273248±104746	1519046±99306	2072805±39500	0	0
	1-Octen-3-ol	10	970	1480779±155039	2554060±86390	4870184±9862	6358214±303610	1050960±31752	1046255±47697	4413501±333301	4599908±285430
	2,6-Dimethyl-7-octen-2-ol	11	1066	0	766461±27351	0	0	494438±26068	0	0	0
	4-Ethyl-1-octyn-3-ol	12	1096	0	1469870±73905	0	0	0	708129±5496	0	0
	1-Pentanol	13	754	0	5651579±170894	4175943±2093721	169027106±7975924	0	3895448±858977	8422844±211524	6934026±349756
	1-Penten-3-ol	14	667	0	5051944±210939	0	0	0	3011762±49985	0	0
	Phenylethyl alcohol	15	1085	12954625±1099857	11212816±629694	9043677±459314	9694962±459457	14893365±426694	6994592±1119788	9478120±876101	9027825±301224
	1-Propanol	16	545	17475545±1374234	7895827±382839	8897396±26719	8155447±346400	6251020±1132805	6436098±430	7510389±45585	6574430±197719
	2-Methyl-1-propanol	17	626	0	0	20211673±3261183	24121068±1097779	49626922±13429247	63204898±16042340	0	0
	1-Ethoxy-2-propanol	18	738	0	0	0	0	2145414±190886	0	0	0
	1-Propoxypropan-2-ol	19	829	0	0	0	0	4387022±2039359	0	0	2593261±97739
	Σ Alcohols			**322379845±34114739**	**37153931±1683775**	**72429046±9025336**	**250373718±12060264**	**96759617±19479591**	**95152519±18413402**	**45941968±2509819**	**45016635±2015356**

Aldehydes	Acetaldehyde	20	388	18053909±1644858	26632145±860124	15552844±1431126	21542809±910938	11709605±2338120	21153465±237645	11608464±656197	12495757±4677942
	Benzeneacetaldehyde	21	1006	2451330±124214	4161322±126868	4462758±24919	4861354±204673	2420533±209720	2560934±350559	5095152±292339	5236092±187666
	Benzaldehyde	22	931	0	1658999±49923	2728680±12736	4218697±177552	1223617±40088	0	4681913±345384	6908879±206139
	2-Butenal	23	641	0	0	0	0	0	0	0	0
	3-Methylbutanal	24	635	0	0	12708231±234947	20518821±1917726	0	5639652±3290515	0	0
	Furfural	25	798	0	0	0	0	0	0	0	0
	Heptanal	26	881	1381395±252652	2195928±67604	10460734±25022	2020234±873828	0	1217602±156750	2989156±240596	3664291±139358
	Hexanal	27	786	1354617±71795	17052906±9547837	8351363±86469	11606753±2962184	3727479±109128	14500757±739529	8041024±457375	9177155±524959
	Nonanal	28	1066	0	3342732±112528	1887155±29485	3040027±541468	2553271±747151	1617852±330067	2021167±326118	3255485±183509
	Octanal	29	981	1547159±406724	0	1233961±4260	1479457±111013	1066491±353515	0	0	1465187±52840
	Pentanal	30	673	2548710±174987	3206902±95444	4537264±59852	5630580±328434	0	1920299±105440	4355903±328908	5511873±548312
	2-Methylpropanal	31	681	0	5032051±352774	4066157±414009	5253054±361338	0	970850±65565	1653869±64008	1970372±294153
	3-Methylpentanal	32	689	0	0	0	0	0	0	0	0
	Σ Aldehydes			**27337123±2675233**	**63282989±11213106**	**65989149±2322827**	**80171791±8389159**	**22700999±3797725**	**49581413±5276071**	**40446652±2710928**	**49685095±6814881**
Esters	Butyl acetate	33	801	0	0	2211440±300000	0	0	0	0	0
	Methyl acetate	34	519	0	0	0	0	0	0	0	0
	Ethenyl acetate	35	564	11902784±864711	13710298±1077960	12981035±7813954	16392438±693610	0	0	0	0
	Ethyl butanoate	36	788	12293464±1864575	1778100±106296	0	1700310±159322	0	0	0	0
	Methyl butanoate	37	701	0	0	1908206±27110	0	0	0	0	0
	Ethyl acetate	38	579	13952383±531278	4795889±3660025	8255623±61458	6601346±282118	4827257±536735	2933836±421100	3308584±19168	2430206±621354
	Ethyl hexanoate	39	987	0	1243792±93291	1260781±23987	1874290±78452	712903±37635	0	0	0
	Ethyl octanoate	40	1169	9544988±537322	0	2636253±1383691	2854524±118956	5494969±312195	2413537±402802	0	2155590±138914
	Ethyl propanoate	41	693	31193935±10746027	15243544±1050017	429373±30596	17082168±1335278	0	3102601±143132	5613428±38352	4032855±1170112
	Nonyl 2-methylpropanoate	42	1428	4433223±204489	0	0	0	0	0	0	0
	Methyl 3-methylbutanoate	43	763	0	0	0	0	0	0	0	0
	Σ Esters			**83320778±14748406**	**36771625±5987591**	**29682713±9640798**	**46505078±2667739**	**11035131±886566**	**8449974±967034**	**8922012±57521**	**8618651±1930381**
Furans	Furan	44	501	115691906±28290337	0	0	0	0	0	0	0
	2-*n*-Butyl furan	45	885	0	0	605763±12183	761233±31564	0	0	655133±19032	890851±30325
	2-Furanmethanol	46	830	0	0	0	0	0	0	0	0
	2-Methylfuran	47	612	0	0	0	0	0	0	0	0
	2-Pentylfuran	48	981	3885086±201305	5850500±181072	8963067±268852	10080030±418075	3783197±168345	4423491±1150093	13906308±544201	15882320±552010
	2-Ethylfuran	49	676	0	0	0	1747297±54636	3431283±268742	2157311±295704	1747297±54636	0
	Σ Furans			**119576993±28491642**	**5850500±181072**	**9568830±281035**	**12588561±504276**	**7214480±437088**	**6580802±1445797**	**16308739±617869**	**16773171±582336**

Ketones	Acetyl valeryl	50	816	0	882347±29932	2212241±13358	2504792±110353	0	0	1235148±29248	1355629.±78546
	2,3-Butanedione	51	558	39879387±8365629	13609166±640013	12692624±7725182	0	70041797±8765550	2190112±35000	11005954±892079	7644630±230491
	2-Butanone	52	571	0	973426±352083	0	2547178±120463	0	0	0	2704319±160507
	3-Hydroxybutan-2-one	53	680	0	27164462±2056524	18832402±37802	0	0	0	26668651±732526	46757193±1393254
	2-Heptanone	54	874	0	0	8050264±117446	15014058±788048	0	3151517±24967	8382882±2637478	9614633±678807
	6-Methylhept-5-en-2-one	55	961	0	2979331±100746	3737507±249996	0	1985895±59713	0	0	0
	2,3-Octanedione	56	966	0	0	0	0	0	0	0	2960713±87313
	2-Octanone	57	969	0	905356±46822	0	1874290±78452	0	0	0	1368639±41495
	2,3-Pentanedione	58	682	5764255±1335187	3648425±553978	6809634±73035	1688916±76774	0	0	0	0
	2-Pentanone	59	653	0	7281131±443846	0	0	0	3478495±588354	0	0
	Σ Ketones			**45643643±9700817**	**57443649±4223948**	**52334673±8216820**	**23629236±1174092**	**72027692±8825263**	**8820125±648322**	**47292636±4291332**	**72405758±2670415**
Pyrazines	3-Ethyl-2,5-dimethylpyrazine	60	1057	0	0	1434174±113044	2471704±103485	0	0	1437016±9749	2187666±81843
	2-Ethylpyrazine	61	891	0	0	0	0	0	0	0	0
	2-Ethyl-3-methylpyrazine	62	952	0	0	0	0	0	0	0	0
	2-Ethyl-6-methylpyrazine	63	976	0	0	0	0	0	0	0	1966054±154890
	2,3-Dimethylpyrazine	64	891	0	0	0	0	0	0	0	0
	2,5-Dimethylpyrazine	65	896	0	0	0	3998652±223334	0	0	2081198±326859	3792747±111348
	2-Methylpyrazine	66	791	0	0	0	0	0	0	0	1997928±58729
	2-Isopropenylpyrazine	67	1026	0	0	0	0	0	0	0	0
	2,3,5-Trimethylpyrazine	68	977	0	1199468±43753	1694681±114912	2831012±136839	1179466±44344	1769854±778923	2274708±93488	4571697±1310800
	5-Ethyl-2,3-dimethyl-pyrazine	69	1066	0	0	0	0	0	0	0	0
	2-Methyl-3(2-propenyl)pyrazine	70	964	0	0	0	0	0	0	0	0
	2-Isobutyl-3-methylpyrazine	71	1001	0	0	0	0	0	0	0	0
	3,5-Diethyl-2-methylpyrazine	72	1133	0	0	0	0	0	0	0	0
	2,3-Diethylpyrazine	73	1061	0	0	0	0	0	0	0	0
	2-Ethyl-3,5-dimethylpyrazine	74	1061	0	0	0	0	0	0	0	0
	2-Acetyl-3-ethylpyrazine	75	1142	0	0	0	0	0	0	0	0
	2,5-Dimethyl-3-(2-methylpropyl)pyrazine	76	1188	0	0	0	0	0	0	0	0
	2-Isoamyl-6-methylpyrazine	77	1231	0	0	0	0	0	0	0	0
	Σ Pyrazines			**0**	**1199468±43753**	**3128855±227956**	**9301369±463659**	**1179466±44344**	**1769854±778923**	**5792923±430097**	**14516094±1717613**

Terpenes	*m*-Cymene	78	1013	0	8622343±410973	7363819±2325153	9009792±373321	0	4788989±1193343	7391872±270444	6746824±210258
	(–)-Limonene	79	1017	0	0	8050264±117446	0	0	797593±6870	0	0
	Eucalyptol	80	1023	1337235±372873	2071869±110183	4190235±2183845	1323679±219118	0	3313139±96614	4914696±177014	3059046±1744279
	Limonene	81	1020	0	1948669±75977	2094086±298414	1805209±80281	0	0	1632318±92576	1361968±50090
	β-Phellandrene	82	1009	0	459734±27862	0	0	0	231777±5110	0	0
	α-Pinene	83	944	0	0	0	894175±38019	0	0	0	2199097±78043
	Σ Terpenes			**1337235±372873**	**13102617±624997**	**21698405±4924858**	**13032857±710741**	**0**	**9131498±1301938**	**13938886±540035**	**13366936±2082672**
Sulfur compounds	Dimethyl sulfide	84	509	0	0	0	0	0	0	0	0
	Dimethyl disulfide	85	722	0	0	1287986±255951	3027550±267499	0	553217±48224	2389389±397122	4442391±284301
	Dimethyl trisulfide	86	944	0	0	0	1252669±231316	0	0	1315507±132765	2008757±195119
	Methanethiol	87	420	0	634827±71012	0	0	167000±12151	491358±45774	0	0
	Methional	88	866	0	0	0	1653740±121173	0	0	1914133±128702	3566460±104792
	Σ Sulfur compounds			**0**	**634827±71012**	**1287986±255951**	**5933961±619989**	**167000±12151**	**1044575±93999**	**5619031±658589**	**10017608±584213**
Others	1-Acetyl-1,4-dihydropyridine	89	1033	0	0	0	0	0	0	0	0
	2-Methyltetrahydro-3-furanone	90	768	0	0	0	0	0	0	0	0
	2-Acetylfuran	91	879	0	0	0	0	0	0	0	0
	Pyrrole	92	731	0	0	0	0	0	0	0	0
	1-Butylpyrrole	93	980	0	0	0	0	0	0	0	0
	Styrene	94	911	0	0	0	0	0	0	0	0
	1-Methyl-1*H*-pyrrole	95	719	0	0	0	0	0	0	0	0
	3-Methylbutanamine	96	697	0	80552533±56238306	0	0	3647376±130256	0	0	0
	Σ Others			**0**	**80552533±56238306**	**0**	**0**	**3647376±130256**	**0**	**0**	**0**

RI – Retention index; CP0, CP2, CP6, CP10 – samples with 0, 2, 6, and 10% of starch replacement with cricket powder, respectively.

Table S2. Compounds tentatively identified based on results from GC×GC-ToF-MS analysis in the crust part of breads subjected to the study (CP0, CP2, CP6, CP10), baked for 15 and 30 min.

	Compound	No	RI	15 min of baking				30 min of baking			
				CP0	CP2	CP6	CP10	CP0	CP2	CP6	CP10
Acids	Acetic acid	1	661	0	0	0	0	0	0	0	0
	3-Methylbutanoic acid	2	853	0	0	0	0	0	0	0	0
	2-Methylpropanoic acid	3	731	0	0	0	0	0	0	0	0
	Σ Acids			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Alcohols	3-Methylbutanol	4	717	4514690±487080	0	0	0	44390764±1373842	50308173±157624	39489981±4704170	132245324±26156514
	2-Methylbutanol	5	728	0	2248067±174259	1628085±364352	0	0	0	0	0
	2-Heptyn-1-ol	6	944	0	0	0	0	0	0	2637656±242110	0
	1-Heptanol	7	951	0	0	0	0	0	0	0	0
	1-Hexanol	8	859	6135179±909551	7438956±464638	0	11602156±896645	0	0	4607521±694771	0
	2-Ethylhexanol	9	1015	0	0	0	0	0	0	0	5292857±2198210
	1-Octen-3-ol	10	970	1391801±165156	1647079±116844	2607851±108786	4467307±186650	0	0	3168141±239423	4697577±297126
	2,6-Dimethyl-7-octen-2-ol	11	1066	0	0	0	0	0	0	0	0
	4-Ethyl-1-octyn-3-ol	12	1096	0	0	0	0	0	0	0	0
	1-Pentanol	13	754	6118609±390873	0	5807582±194012	7571613±433840	0	0	0	0
	1-Penten-3-ol	14	667	0	3807895±243673	0	0	0	0	0	0
	Phenylethyl alcohol	15	1085	13826169±740925	11527764±919258	8171010±386516	9062521±1204116	11918713±742621	0	8463704±908834	0
	1-Propanol	16	545	12507186±4175819	6026100±551421	6497779±231051	5440150±508174	8667745±4377605	3514047±293197	5248721±18388	0
	2-Methylpropanol	17	626	12601476±1863930	0	6533591±572263	43331682±14560682	42912081±1942967	6516141±37266	5297218±72615	0
	1-Ethoxy-2-propanol	18	738	0	0	0	0	0	0	0	0
	1-Propoxypropan-2-ol	19	829	2806350±79160	0	0	0	0	0	0	0
	Σ Alcohols			**59901464±8812497**	**32695862±2470094**	**31245900±1856982**	**81475431±17790110**	**107889305±8437037**	**60338361±488088**	**68912943±6880312**	**142235759±28651851**
Aldehydes	Acetaldehyde	20	388	13780983±1142081	21598850±2106635	17265635±5043995	9968375±434737	24730570±3800221	18757629±2280341	11393100±2795021	17310237±517675
	Benzeneacetaldehyde	21	1006	3280001±707731	3438165±675629	4094044±490101	5724986±285709	25307127±1074477	10159346±557744	18520822±1850471	25398233±1572041
	Benzaldehyde	22	931	0	1763726±247585	2981191±152229	4561245±674617	5507453±510528	4369729±316853	9279202±1782019	0
	2-Butenal	23	641	0	0	0	0	0	4769009±863753	7857498±166331	15460685±871019

	3-Methylbutanal	24	635	6775644±481858	12495745±1366484	15587365±1578493	0	0	15740008±384793	0	0
	Furfural	25	798	0	0	0	0	43533840±6387265	97237902±12786254	20845581±613970	52423980±2213764
	Heptanal	26	881	2562867±1051449	1873104±4620	2843139±23400	2169667±205173	5532730±382799	4013909±418681	4144668±185829	5980773±422182
	Hexanal	27	786	3689224±312504	6013767±4127	29776007±1815525	17916543±9932726	2589300±1021622	16439376±9795271	19375928±274085	20442582±155156
	Nonanal	28	1066	2185920±128046	2440117±135233	2122742±362915	2188643±109733	3777585±248838	4226019±322025	2824905±263082	5216294±598209
	Octanal	29	981	941295±54614	919007±59328	1766157±34028	0	0	1841558±228058	1855347±112612	3348010±255454
	Pentanal	30	673	2927275±223400	3250824±72461	5167770±99368	10729483±4858909	13507734±2071052	0	24962137±230365	30964875±9542392
	2-Methylpropanal	31	681	0	2526812±529138	3444827±428256	16749278±12786418	22363207±2223624	36827751±3122482	28403957±58667	0
	3-Methylpentanal	32	689	0	0	0	0	3470974±406564	1822659±14500	0	0
	Σ Aldehydes			**36143213±4101686**	**56320121±5201244**	**85048879±10028312**	**70008222±29288024**	**150320523±18126994**	**216204899±31090758**	**149463149±8332456**	**176545672±16147894**
Esters	Butyl acetate	33	801	0	0	0	0	0	0	0	0
	Methyl acetate	34	519	0	0	0	0	8148819±259423	5881489±1045105	0	28219506±1885218
	Ethenyl acetate	35	564	12817612±810993	13303356±750000	13530467±524291	12270297±940896	11694077±1596429	12421043±185083	18262844±81759	0
	Ethyl butanoate	36	788	1851583±147100	875496±47053	684026±22660	0	0	0	0	0
	Methyl butanoate	37	701	0	0	0	0	8085287±249395	4635962±1003810	0	19398875±823268
	Ethyl acetate	38	579	12940003±693694	6257738±1033271	3631026±127361	10997971±1658501	0	2378671±170173	0	0
	Ethyl hexanoate	39	987	1121717±200758	0	0	0	0	0	0	0
	Ethyl octanoate	40	1169	4075306±1014398	1813697±346416	1381737±8157	998283±88816	0	0	1158830±106452	0
	Ethyl propanoate	41	693	14920420±1309483	8521864±1095242	7487248±309420	4848138±201330	0	2877221±209642	0	0
	Nonyl 2-methylpropanoate	42	1428	5265492±1326096	0	0	0	0	0	0	0
	Methyl 3-methylbutanoate	43	763	0	0	0	0	4434318±278812	3230430±461230	0	0
	Σ Esters			**52992136±5502524**	**30772151±3271982**	**26714505±991890**	**29114691±2889545**	**32362502±2384060**	**31424817±3075044**	**19421675±188212**	**47618381±2708487**
Furans	Furan	44	501	0	0	0	0	2006903±63335	1512073±411822	0	0
	2-*n*-Butyl furan	45	885	0	0	0	0	0	0	1140872±55772	0
	2-Furanmethanol	46	830	0	0	0	0	7655269±725746	9911857±109626	9784457±161126	16904696±949046
	2-Methylfuran	47	612	0	0	0	0	3788766±238587	6373908±1765109	2028923±107818	0
	2-Pentylfuran	48	981	4009665±215929	5030984±122766	7518090±98517	9768567±493692	0	10967655±1649093	17744455±607207	2946070±86512
	2-Ethylfuran	49	676	0	0	0	0	3431283±268742	2157311±295704	1747297±54636	2026812±529138
	Σ Furans			**4009665±215929**	**5030984±122766**	**7518090±98517**	**9768567±493692**	**16882222±1296411**	**30922805±4231355**	**32446004±986560**	**21877579±1564697**

Ketones	Acetyl valeryl	50	816	0	0	962940±46979	0	0	3245977±586835	3080111±12132	9106408±327734
	2,3-Butanedione	51	558	111975411±1961261	115121870±2526360	11694077±127361	20109976±1326224	13081204±2201721	20397840±412620	17661570±112612	19229775±823268
	2-Butanone	52	571	0	0	859535±43086	1889821±111510	0	0	0	0
	3-Hydroxybutan-2-one	53	680	0	0	69573645±2559977	67199970±4768896	0	0	68964798±310729	0
	2-Heptanone	54	874	1794729±769596	5475026±3163	8168684±140219	10723496±3756792	7489440±371157	9050681±1047755	15031450±449243	0
	6-Methylhept-5-en-2-one	55	961	0	2235362±36139	0	0	0	0	0	0
	2,3-Octanedione	56	966	0	0	0	0	0	0	0	0
	2-Octanone	57	969	0	0	0	0	0	0	0	0
	2,3-Pentanedione	58	682	3910843±2195755	3844110±51029	1049372±52545	5161533±774429	8481398±3424605	18417469±1004824	7379127±1465482	0
	2-Pentanone	59	653	6436945±345300	6217507±507722	0	0	0	0	5589975±895805	0
	Σ Ketones			**233400604±5271914**	**292841933±3124414**	**92308254±2970169**	**1050847993±10737853**	**29052043±5997483**	**51111968±3052035**	**117707032±3246004**	**28336183±1151002**
Pyrazines	3-Ethyl-2,5-dimethylpyrazine	60	1057	0	0	956728±90889	1776087±211335	3909775±553804	9139244±402912	26388417±3050625	22307633±4574078
	2-Ethylpyrazine	61	891	0	0	0	0	0	1678648±6862	15637271±947585	35230780±1967674
	2-Ethyl-3-methylpyrazine	62	952	0	0	0	0	0	31360538±907041	9654928±282196	39083704±2291548
	2-Ethyl-6-methylpyrazine	63	976	0	0	0	0	0	29977227±100007	56322664±4154675	46309805±16718220
	2,3-Dimethylpyrazine	64	891	0	0	0	0	17200325±1914475	33431758±3454438	34476687±1860056	86056626±7883872
	2,5-Dimethylpyrazine	65	896	0	0	2199075±121755	4324641±347429	43834520±6609976	96883627±14876797	114971293±3802473	36675504±3351491
	2-Methylpyrazine	66	791	0	0	0	2418024±118960	68250970±9440828	185622029±28459698	122196698±4036538	151126844±72518688
	2-Isoprop-en-ylpyrazine	67	1026	0	0	0	0	0	1880744±95033	0	4575888±554661
	2,3,5-Trimethylpyrazine	68	977	1283106±143940	1461620±137934	1509505±214323	4086336±961334	0	0	0	0
	5-Ethyl-2,3-dimethyl-pyrazine	69	1066	0	0	0	0	0	3124178±199990	0	6846377±227564
	2-Methyl-3-(2-propenyl)pyrazine	70	964	0	0	0	0	0	0	1533159±180122	4618903±214662.
	2-Isobutyl-3-methylpyrazine	71	1001	0	0	0	0	0	0	1855354±267695	7174872±378961
	3,5-Diethyl-2-methylpyrazine	72	1133	0	0	0	0	0	0	3056044±479662	9528982±986427
	2,3-Diethylpyrazine	73	1061	0	0	0	0	0	0	0	6217532±244928
	2-Ethyl-3,5-dimethylpyrazine	74	1061	0	0	0	0	0	0	1711159±11599	14574157±6866597
	2-Acetyl-3-ethylpyrazine	75	1142	0	0	0	0	0	0	0	3542816±463502
	2,5-Dimethyl-3-(2-methylpropyl)pyrazine	76	1188	0	0	0	0	0	0	0	2998716±88136

	2-Isoamyl-6-methylpyrazine	77	1231	0	0	0	0	0	0	0	3560389±141231
	Σ Pyrazines			**1283106±143940**	**1461620±137934**	**4665308±426967**	**12605090±1639059**	**133195591±1851908 4**	**393097995±4850277 9**	**387803677±1907322 9**	**480429535±11947224 6**
Terpenes		78	1013	0	8622343±410973	7363819±2325153	9009792±373321	0	4788989±1193343.	7391872±270444	6746824±210258
Terpenes	(–)-Limonene	79	1017	0	0	8050264±117446	0	0	797593±6870	0	0
Terpenes	Eucalyptol	80	1023	1337235±372873	2071869±110183	4190235±2183845	1323679±219118	0	3313139±96614	4914696±177014	3059046±1744279
Terpenes	Limonene	81	1020	0	1948669±75977	2094086±298414	1805209±80281	0	0	1632318±92576	1361968±50090
Terpenes	β-Phellandrene	82	1009	0	459734±27862	0	0	0	231777±5110	0	0
Terpenes	α-Pinene	83	944	0	0	0	894175±38019	0	0	0	2199097±78043
Terpenes	**Σ Terpenes**			**1337235±372873**	**13102617±624997**	**21698405±4924858**	**13032857±710741**	**0**	**9131498±1301938**	**13938886±540035**	**13366936±2082672**
Sulfur compounds	Dimethyl sulfide	84	509	0	0	0	0	3574940±287485	1034623±32182	0	22397146±4281205
Sulfur compounds	Dimethyl disulfide	85	722	0	0	2321282±781997	3431716±1277706	4879853±400614	8484018±2799010	15964184±314034	0
Sulfur compounds	Dimethyl trisulfide	86	944	0	0	1810545±194012	1137363±168671	0	2897389±1316807	4900330±3146838	11426238±337761
Sulfur compounds	Methanethiol	87	420	658804±88691	890257±136743	0	665101±32786	2713467±130438	705264±76590	925554±30009	0
Sulfur compounds	Methional	88	866	0	0	1592880±27836	3387977±147171	0	2198700±14566	3608790±121385	11490282±1074173
Sulfur compounds	**Σ Sulfur compounds**			**658804±88691**	**890257±136743**	**5724708±1003846**	**8622158±1626336**	**11168260±818538**	**15319994±4239155**	**25398858±3612266**	**45313668±5693140**
Others	1-Acetyl-1,4-dihydropyridine	89	1033	0	0	0	0	0	6614025±1077098	0	0
Others	2-Methyltetrahydro-3-furanone	90	768	0	0	0	0	0	11804088±5669955	5153108±165822	5044606±261839
Others	2-Acetylfuran	91	879	0	0	0	0	0	5353363±1100015	0	0
Others	Pyrrole	92	731	0	0	0	0	8821179±5254123	21259726±1837671	11991776±180855	25953235±1039162
Others	1-Butylpyrrole	93	980	0	0	0	0	1563010±884605	0	2103293±221697	8753844±530977
Others	Styrene	94	911	0	0	0	1843387±244544	0	0	0	0
Others	1-Methyl-1*H*-pyrrole	95	719	0	0	0	0	0	21242054±1789745	15393219±79844	26530524±792579
Others	3-Methylbutanamine	96	697	0	0	0	0	0	0	0	1140520±37710
Others	**Σ Others**			**0**	**0**	**0**	**1843387±244544**	**10384190±6138729**	**66273258±11474486**	**34641398±648220**	**67422730±2662270**

RI – Retention index; CP0, CP2, CP6, and CP10 – samples with 0, 2, 6, and 10% of starch replacement with cricket powder, respectively.