Table S1. The peak volume of the flavor profile, as characterized by GC-IMS in ciba pepper samples with varying salt concentrations, was determined (mean ± sd).

Count	Compound	CAS	Molecule Formula	MW	RI	Rt(s)	Dt(ms)	LJA	LJB	LJC	LJD	LJE
Alcohol	2-furanmethanol	98-00-0	$C_5H_6O_2$	98.1	894.7	244.055	1.3702	119.1±15.54^{c}	361.6±12.47^{a}	243.25±32.05^{b}	185.44±11.43^{b}	207.76±32.39^{b}
	(Z)-2-Penten1ol	1576-95-0	$C_5H_{10}O$	86.1	772.6	176.859	1.42855	406.23±19.35^{a}	378.28±13.25^{a}	443.61±22.63^{a}	436.04±43.5^{a}	403.99±34.47^{a}
	1-propanethiol	107-03-9	C_3H_8S	76.2	842.7	213.477	1.16314	139.63±4.85^{c}	195.62±2.69^{a}	144.36±9.65^{c}	102.67±9.86^{d}	170.57±6.93^{b}
	propanol	71-23-8	C_3H_8O	60.1	1008.3	353.786	1.10306	1124.73±19.78^{b}	1155.14±15.68^{b}	1390.39±25.4^{a}	1353.62±24.75^{a}	1350.24±9.42^{a}
	1-Decanol	112-30-1	$C_{10}H_{22}O$	158.3	1217.4	743.761	1.62597	2006.1±72.03^{b}	1871.41±52.21^{bc}	2520.1±403.99^{a}	1608.3±178.59^{c}	1774.37±28.12^{bc}
	2,3-Butanediol	513-85-9	$C_4H_{10}O_2$	90.1	782.7	179.437	1.36415	117.33±9.23^{c}	179.04±0.67^{bc}	177.25±33.52^{bc}	303.8±29.91^{a}	245.12±45.03^{ab}
	2-Butanol	78-92-2	$C_4H_{10}O$	74.1	635	128.589	1.15062	1261.85±50.69^{a}	1151.36±42.65^{a}	635.77±42.79^{b}	548.76±29.94^{bc}	441.85±31.08^{c}
	pent-1-en-3-ol-M	616-25-1	$C_5H_{10}O$	86.1	684.3	153.057	0.94634	191.24±3.62^{d}	245.47±6.26^{c}	509.59±15.98^{a}	540.03±35.27^{a}	416.74±25.99^{b}
	(E)-3-Hexen-1-ol	928-97-2	$C_6H_{12}O$	100.2	893.9	243.418	1.55739	72.35±5.58^{d}	355.79±10.55^{ab}	388.32±71.43^{a}	195.72±39.86^{c}	257.6±47.84^{bc}
	1-Propanol, 2-methyl-	78-83-1	$C_4H_{10}O$	74.1	1078.7	485.171	1.17003	78.48±11.62^{b}	99.08±1.06^{b}	158.72±11.45^{a}	144.69±9.76^{a}	149.56±5.8^{a}

Table S1. (continued).

Count	Compound	CAS	Molecule Formula	MW	RI	Rt (s)	Dt (ms)	LJA	LJB	LJC	LJD	LJE
Alcohol	1,2-Propanediol	57-55-6	$C_3H_8O_2$	76.1	735.4	167.265	1.29365	60.34±1.7^{b}	125.53±8.37^{a}	47.71±2.18^{b}	53.65±7.04^{b}	44.45±8.3^{b}
	1-hexanol	111-27-3	$C_6H_{14}O$	102.2	853.1	219.466	1.32533	25.35±1.25^{d}	21.4±1.35^{d}	104.92±9.81^{c}	332.34±1.02^{a}	142.27±11.99^{b}
	4-Methyl-1-pentanol	626-89-1	$C_6H_{14}O$	102.2	844.8	214.674	1.32443	4.11±2.15^{d}	15.09±1.92^{e}	44.49±7.23^{c}	165.74±20.21^{a}	79.64±8.89^{b}
	3-Methyl-1-pentanol	589-35-5	$C_6H_{14}O$	102.2	819.3	200.025	1.32424	143.79±7.43^{d}	95.62±6.02^{e}	659.73±73.38^{c}	2137.01±122.57^{a}	932.74±45.45^{b}
	pent-1-en-3-ol-D	616-25-1	$C_5H_{10}O$	86.1	685.8	153.849	1.33038	2140.34±51.88^{a}	1651±68.72^{b}	347.15±34.88^{c}	354.57±50.71^{c}	448.23±81.91^{c}
	(E)-2-hexenal	6728-26-3	$C_6H_{10}O$	98.1	1217.7	744.341	1.19728	6461.57±91.01^{b}	6352.18±86.78^{b}	7071.7±190.49^{a}	6017.15±294.41^{c}	6294.62±41.03^{b}
	2-hydroxybenzaldehyde	90-02-8	$C_7H_6O_2$	122.1	1047.8	427.59	1.1479	272.17±25.06^{b}	368.48±9.62^{a}	215.44±3.59^{c}	292.96±24.86^{b}	197.6±2.18^{c}
Aldehyde	3-methylbutanal	590-86-3	$C_5H_{10}O$	86.1	638.3	130.253	1.18838	2007.77±157.78^{a}	1600.86±20.61^{b}	934.56±53.83^{d}	1276±112.05^{c}	714.09±63.75^{d}
	2-methylbutanal	96-17-3	$C_5H_{10}O$	86.1	672.8	147.385	1.1758	258.24±16.97^{a}	242.35±4.45^{a}	100.92±15.27^{c}	189.29±3.92^{b}	118.04±7.96^{c}
	3-Methyl-2-butenal	107-86-8	C_5H_8O	84.1	786	180.867	1.08255	59.32±4.07^{c}	91.27±1.2^{bc}	63.51±10.94^{c}	131.04±14.46^{a}	97.39±17.34^{ab}

Table S1. (continued).

Count	Compound	CAS	Molecule Formula	MW	RI	Rt (s)	Dt (ms)	LJA	LJB	LJC	LJD	LJE
Aldehyde	2-methylpropanal	78-84-2	C_4H_8O	72.1	783.4	179.62	1.30507	51.13±4.1^{b}	177.94±4.95^{a}	55.96±5.56^{b}	177.63±20.92^{a}	69.21±12.43^{b}
	Butanal	123-72-8	C_4H_8O	72.1	857.6	222.038	1.27537	32.69±1.26^{b}	61.7±1.19^{a}	14.75±1.57^{c}	19.12±1.95^{c}	16.5±2.28^{c}
	Furfural	98-01-1	$C_5H_4O_2$	96.1	835.3	209.188	1.32463	106.3±3.51^{d}	61.59±3.33^{e}	225.35±23.33^{c}	1011.44±54.08^{a}	348.55±36.84^{b}
	trans-2-pentenal	1576-87-0	C_5H_8O	84.1	741.6	168.875	1.37037	14.94±1.28^{cd}	12.95±0.56^{d}	29.59±2.7^{a}	19.03±3.46^{bc}	21.88±2.51^{ab}
Acid	2-methylbutanoic acid-D	116-53-0	$C_5H_{10}O_2$	102.1	840.8	212.352	1.46864	172.97±5.8^{b}	277.79±11.45^{a}	164.19±6.89^{c}	136.75±6.91^{d}	164.26±5.92^{bc}
	acetic acid	64-19-7	$C_2H_4O_2$	60.1	611.8	117.085	1.04722	2031.95±19.5^{c}	2129.27±54.41^{c}	3496.21±43^{a}	2458.79±85.02^{b}	3429.99±43.62^{a}
	2-Methylbutanoic acid-M	116-53-0	$C_5H_{10}O_2$	102.1	852.9	219.354	1.20229	208.31±22.49^{c}	122.03±3.83^{d}	329.05±17.82^{b}	360.36±5.16^{ab}	394.43±6.43^{a}
	3-methylbutyric acid	503-74-2	$C_5H_{10}O_2$	102.1	817.5	199.003	1.47341	83.69±1.75^{b}	303.19±21.93^{a}	65.75±2.32^{c}	27.97±1.44^{d}	60.09±3.27^{c}
	Propanoic acid	79-09-4	$C_3H_6O_2$	74.1	654.6	138.341	1.26372	113.23±11.81^{d}	179.27±8.62^{cd}	338.42±50.88^{a}	244.51±23.92^{bc}	325.7±29.56^{ab}
Ester	Acetic acid 2-propyl ester	108-21-4	$C_5H_{10}O_2$	102.1	909.4	256.773	1.47796	531.5±30.38^{a}	405.94±21.59^{b}	327.68±23.45^{c}	296.87±28.2^{c}	337.65±34.91^{bc}

Table S1. (continued).

Count	Compound	CAS	Molecule Formula	MW	RI	Rt(s)	Dt(ms)	LJA	LJB	LJC	LJD	LJE
Ester	isoamyl acetate	123-92-2	$C_7H_{14}O_2$	130.2	1135.1	590.369	1.30748	5571.87±68^{bc}	5895.82±175.63^{ab}	5576.43±196.39^{c}	6057.23±211.71^{a}	5575.6±195.86^{bc}
	Butyl 2-methylbutanoate	15706-73-7	$C_9H_{18}O_2$	158.2	1218.6	746.061	1.38933	639.19±22.04^{b}	598.87±17.57^{c}	825.66±45.63^{a}	512.38±64.36^{d}	578.46±10.03^{c}
	isobutyl butyrate	539-90-2	$C_8H_{16}O_2$	144.2	955.8	296.774	1.32179	468.8±6.44^{c}	480.22±9.62^{c}	559.55±5.04^{b}	663.91±10.97^{a}	553.65±26.87^{b}
	Acetic acid, hexyl ester	142-92-7	$C_8H_{16}O_2$	144.2	1008.1	353.405	1.39124	108.39±4.73^{ab}	103.68±10.84^{b}	131.81±15.56^{a}	95.19±6.59^{b}	103.16±7.69^{b}
	Ethyl 2-methylbutanoate	7452-79-1	$C_7H_{14}O_2$	130.2	1052	435.316	1.64048	583.36±103.75^{a}	294.73±3.94^{b}	137.78±21.31^{c}	192.22±20.23^{bc}	256.94±86.36^{b}
	Methyl 2-methylbutanoate-M	868-57-5	$C_6H_{12}O_2$	116.2	1008.5	354.218	1.19047	336.81±4.61^{b}	303.6±13.13^{c}	374.78±9.94^{ab}	379.78±2.73^{a}	366.21±6.08^{ab}
	Butyl formate	592-84-7	$C_5H_{10}O_2$	102.1	1033.8	401.336	1.21029	1976.12±113.77^{b}	2044.31±145.18^{b}	2076.83±217.15^{b}	2336.33±155.54^{a}	2269.21±16.14^{a}
	methyl 3-methylbutanoate	556-24-1	$C_6H_{12}O_2$	116.2	783.4	179.632	1.20558	483.09±11.04^{c}	499.19±11.52^{c}	672.84±28.88^{b}	801.81±22.46^{a}	764.03±32.16^{a}
	Formic acid, 3-methylbutyl ester	110-45-2	$C_6H_{12}O_2$	116.2	782.6	179.416	1.27869	149.44±0.11^{a}	120.09±3.36^{b}	76.6±5.93^{c}	61.98±9.11^{c}	65.71±6.47^{c}

Table S1. (continued).

Count	Compound	CAS	Molecule Formula	MW	RI	Rt(s)	Dt(ms)	LJA	LJB	LJC	LJD	LJE
Ester	Isobutyl isobutyrate	97-85-8	$C_8H_{16}O_2$	144.2	1080.8	489.107	1.29028	152.18±13.78^{a}	155.42±21.96^{a}	163.11±16.78^{a}	154.31±13.64^{a}	164.98±3.72^{a}
	Linalyl acetate	115-95-7	$C_{12}H_{20}O_2$	196.3	1248.7	802.071	1.19953	631.32±17.25^{ab}	619.64±25.34^{b}	574.01±67.49^{c}	659.01±30.02^{a}	654.08±3.19^{a}
	Ethyl isovalerate	108-64-5	$C_7H_{14}O_2$	130.2	1068	465.201	1.67191	1000.21±9.24^{a}	977.13±16.27^{ab}	955.59±12.2^{ab}	891.95±15.75^{b}	907.78±2.04^{b}
	Methyl 2-methylbutanoate-D	868-57-5	$C_6H_{12}O_2$	116.2	1008.2	353.692	1.55135	223.9±11.47^{b}	213.76±12.09^{b}	305.26±34.24^{a}	224.8±19.86^{b}	221.85±6.13^{b}
	propyl acetate	109-60-4	$C_5H_{10}O_2$	102.1	932.6	276.726	1.47554	883.93±37.43^{c}	884.41±3.12^{c}	1083.24±41.69^{b}	1485.68±8.4^{a}	1122.22±31.82^{b}
	acetic acid ethyl ester	141-78-6	$C_4H_8O_2$	88.1	624.3	123.299	1.11267	4893.64±86.94^{ab}	5032.11±66.16^{a}	4647.97±158.01^{c}	4125.46±104.43^{d}	4568.07±118.22^{bc}
	2(3H)-Furanone, dihydro-5-methyl-	108-29-2	$C_5H_8O_2$	100.1	947.6	289.657	1.41396	46.02±4.58^{b}	44.04±3.52^{bc}	35.92±1.94^{c}	97.01±3.03^{a}	3.78±5.53^{bc}
	(Z)-3-hexenyl acetate	3681-71-8	$C_8H_{14}O_2$	142.2	1008.1	353.388	1.31726	185.61±11.87^{c}	186.69±7.76^{c}	219.58±12.24^{ab}	227.69±5.02^{a}	197.5±7.1^{bc}
	Ethyl butanoate	105-54-4	$C_6H_{12}O_2$	116.2	799.5	188.63	1.20525	211.66±11.58^{c}	259.3±7.7^{b}	249.04±5.15^{bc}	314.67±3.56^{a}	311.59±9.88^{a}

Table S1. (continued).

Count	Compound	CAS	Molecule Formula	MW	RI	Rt(s)	Dt(ms)	LJA	LJB	LJC	LJD	LJE
Ester	Isobutyl formate	542-55-2	$C_5H_{10}O_2$	102.1	684.7	153.256	1.20011	174.02±1.28^{bc}	143.94±5.66^{c}	169.59±26.55^{c}	274.99±41.8^{a}	253±33.01^{ab}
	Methyl hexanoate	106-70-7	$C_7H_{14}O_2$	130.2	910.6	257.811	1.67521	290.56±11.67^{bc}	242.65±14^{c}	371.89±41.5^{b}	570.93±44.37^{a}	385.52±46.08^{b}
	ethyl 2-hydroxypropanoate	97-64-3	$C_5H_{10}O_3$	118.1	820	200.429	1.1353	300.73±39.02^{b}	825.23±14.01^{a}	185.12±15.83^{c}	62.41±8.71^{d}	93.5±6.75^{d}
	3-Hepten-2-one	1119-44-4	$C_7H_{12}O$	112.2	935.4	279.146	1.63823	240.77±18.3^{b}	252.3±9.37^{b}	258.11±8.37^{b}	282.15±12.29^{a}	225.35±6.46^{b}
	4-Methyl-2-pentanone	108-10-1	$C_6H_{12}O$	100.2	1008.2	353.692	1.45582	1315.64±31.07^{cd}	1286.75±70.72^{d}	1639.48±71.86^{a}	1358.11±70.62^{c}	1391.36±8.2^{b}
	2-butanone	78-93-3	C_4H_8O	72.1	867.4	227.641	1.24852	273.38±14.24^{a}	270.57±4.53^{a}	276.31±11.27^{a}	168.6±5.56^{c}	236.82±10.6^{b}
Ketone	cyclopentanone-D	120-92-3	C_5H_8O	84.1	793	184.895	1.34483	515.83±21.36^{b}	486.05±10.29^{bc}	767.06±53.23^{a}	462.25±18.46^{bc}	438.38±31.73^{c}
	2-Propanone, 1-hydroxy-	116-09-6	$C_3H_6O_2$	74.1	672.8	147.382	1.2431	763.44±58.77^{a}	850.37±24.06^{a}	806.89±62.45^{a}	750.6±46.07^{ab}	638.45±45.88^{b}
	1-Penten-3-one	1629-58-9	C_5H_8O	84.1	675.5	148.706	1.28415	454.22±18.89^{a}	439.32±17.02^{a}	270.65±16.96^{b}	286.79±18.42^{b}	283.55±20.73^{b}
	cyclopentanone-M	120-92-3	C_5H_8O	84.1	792.6	184.688	1.11323	270.1±13.3^{b}	174.13±3.24^{c}	418.57±17.15^{a}	185.44±0.29^{c}	247.87±9.89^{b}

Table S1. (continued).

Count	Compound	CAS	Molecule Formula	MW	RI	Rt(s)	Dt(ms)	LJA	LJB	LJC	LJD	LJE
Ketone	1-(acetyloxy)-2-propanone	592-20-1	$C_5H_8O_3$	116.1	870.8	229.641	1.2029	142.43±19.01^{c}	119.06±5.73^{c}	210.31±8.9^{b}	270.51±11.74^{a}	259.68±7.37^{a}
	Pentan-2-one	107-87-9	$C_5H_{10}O$	86.1	982.7	319.903	1.11619	85.25±3.87^{b}	80.99±4.61^{b}	94.17±9.47^{ab}	93.2±2.56^{ab}	100.74±7.84^{a}
Alkene	gamma-Terpinene	99-85-4	$C_{10}H_{16}$	136.2	1264.1	830.863	1.19778	1798.85±55.82^{bc}	1875.84±39.41^{abc}	1839.73±110.95^{c}	1929.89±97.91^{a}	1886.84±66.6^{ab}
	Styrene	100-42-5	C_8H_8	104.2	866.8	227.306	1.41231	126.66±16.32^{c}	153.06±3.42^{c}	376.57±26.61^{b}	633.07±3.2^{a}	378.83±28.28^{b}
	alpha-Terpinene	99-86-5	$C_{10}H_{16}$	136.2	1022.2	379.781	1.21375	554.71±32.52^{d}	585.09±46.65^{cd}	654.13±57.52^{c}	780.45±23.59^{a}	701.66±10.83^{b}
Ether	Diethyl trisulfide	3600-24-6	$C_4H_{10}S_3$	154.3	1128.3	577.668	1.21466	2611.21±193.44^{ab}	2708.71±139.64^{a}	2435.15±161.09^{b}	2808.12±145.65^{a}	2847.51±112.6^{a}
	2-Ethyl-3,5-dimethylpyrazine	13925-07-0	$C_8H_{12}N_2$	136.2	1080.2	487.961	1.2153	527.3±43.09^{c}	556.01±57.04^{bc}	592.66±63.57^{bc}	673.92±56.92^{a}	638.45±21.84^{ab}
Others	2-methyl-3-(methylthio)furan-M	63012-97-5	C_6H_8OS	128.2	949.6	291.381	1.11735	1254.15±53.96^{b}	978.61±26.45^{c}	1387.82±38.79^{a}	935.04±65.44^{c}	1188.2±9.44^{b}
	2-methyl-3-(methylthio)furan-D	63012-97-5	C_6H_8OS	128.2	949.2	291.096	1.17478	233.91±4.52^{b}	274.26±7.64^{a}	119.85±13.29^{c}	286±15.7^{a}	140.51±2.02^{c}
	1,3-Dioxolane, 2,4-dimethyl, cis	3390-12-3	$C_5H_{10}O_2$	102.1	703.9	159.171	1.25552	259.97±19.64^{a}	233.08±5.69^{a}	119.84±12.17^{b}	108.46±9.98^{b}	107.44±2.47^{b}

Table S1. (continued).

Count	Compound	CAS	Molecule Formula	MW	RI	Rt(s)	Dt(ms)	LJA	LJB	LJC	LJD	LJE
Others	Methylpyrazine	109-08-0	$C_5H_6N_2$	94.1	840.7	212.306	1.3946	227.49±17.46^{c}	262.08±7.96^{c}	600.19±34.2^{b}	790.88±8.18^{a}	606.31±30.34^{b}
	(E)-3-Pentenenitrile	16529-66-1	C_5H_7N	81.1	700.6	158.31	1.37004	46.12±3.03^{b}	57.7±1.86^{b}	100.37±9.04^{a}	93.38±15.09^{a}	82.06±9.85^{a}
	Acetal	105-57-7	$C_6H_{14}O_2$	118.2	719.2	163.095	1.13155	163.77±27.98^{a}	117.12±8.49^{a}	38.64±2.14^{b}	31.1±1.99^{b}	34.23±3.6^{b}
	2-Propenenitrile	107-13-1	C_3H_3N	53.1	649.8	135.951	1.0859	441.73±13.74^{d}	457.37±4.87^{d}	758.75±17.9^{c}	1466.19±16.04^{a}	1079.95±18.62^{b}