

Supplementary Table 1. Mean of standardized base peak of non-selected volatile compounds from barley, corn and blended grain-fed beef samples.

Volatile compounds	Barley	Blended	Corn
(1-Propyloctyl)benzene	0	0.00332523	0
(E,E)-2,4-Heptadienal	0.05499927	0.04133336	0.03616535
(E,E)-2,4-Nonadienal	0.28332775	0.28667742	0.25596278
(E,Z,Z)-2,4,7-Tridecatrienal	0.08266665	0.09089641	0.06299861
(E,Z)-2,6-Nonadienal	0.01238146	0.01163414	0.01204181
(E)-2-Nonenal	0.10572931	0.09820879	0.08462778
(E)-2-Octen-1-ol	0.06625213	0.0610077	0.05361802
(E)-2-Octenal	0.11104416	0.10242353	0.10114867
(E)-2-Undecenal	0.24955702	0.24918295	0.22333874
(E)-3-Tetradecene	0.00017808	0.00021921	0.00015502
(Z)-11-Octadecenoic acid	0.04269325	0.01924938	0.02756694
(Z)-9-Hexadecenal	0.14340133	0.10446274	0.16610462
1-Butanol	0.00129414	6.92E-05	0.00086856
1-Chlorohexane	3.48E-05	0	9.80E-05
1-Decanol	0.07653255	0.07480853	0.07170082
1-Dodecanol	0.09016195	0.07951297	0.11441492
1-Dodecene	0.01205798	0.01149578	0.0174805
1-Heptanol	0.02653987	0.02697966	0.02657724
1-Hexanol	0.00498783	0.00420937	0.0068452
1-Methoxyhexane	6.16E-05	0	0.00097507
1-Nonanol	0.01706481	0.0219253	0.0159335
1-Nonen-3-ol	0.00034224	0.0002438	0.00030803
1-Octanol	0.12030986	0.15005288	0.10340793
1-Pentadecanol	0.11050303	0.09169675	0.09990376
1-Pentanol	0.01401083	0.0095234	0.01230314
1-Tridecanol	0.05989379	0.06802657	0.07152793
1-Undecene	0.00408847	0.00449256	0.00796533
1,2-Dimethyl naphthalene	0.00480856	0.00762257	0.00302381
1,4-Dichlorobenzene	0.0030849	0.00706748	0.01064631
1,6,7-Trimethyl naphthalene	0.00529654	0.0066039	0.00129754
2-Butylfuran	0.00029787	1.69E-05	0.00077348
2-Decanone	0.05808011	0.08574807	0.10241707
2-Decenal	0.30571662	0.3068575	0.25806928
2-Ethyl-1-hexanol	0.24878587	0.29594167	0.21564291
2-Ethyl-3-hydroxyhexyl 2-methylpropanoate	0.10099326	0.12089483	0.09815403
2-Heptanone	0.01773103	0.01700561	0.02372422

2-Heptenal	0.04106154	0.03741087	0.04432526
2-Methyl naphthalene	0.00217512	0.00292765	0.00158533
2-Methyl-3-octanone	0.01234288	0.01661276	0.00026971
2-Methyldecane	0.00059393	0	0.00013222
2-Nonanone	0.02467708	0.03321998	0.03957208
2-Octanone	0.01764542	0.02990792	0.0271451
2-Pentylfuran	0.10923132	0.08502066	0.08977243
2-Pentylpyridine	0.00056325	0.00333918	0.00301594
2-Pentylthiazolidine	0.00182309	0.00483585	0.00206357
2-Propylfuran	9.76E-06	4.24E-05	1.67E-05
2-Tridecanone	0.01124647	0.01446584	0.00796469
2,3-Butanediol	0.0020966	0.00091167	0.0032503
2,3-Dimethylheptane	0	0.00030163	0.00014676
2,3,5-Trimethyl-6-(3-methylbutyl)-pyrazine	0.01382519	0.01283311	0.00389287
2,4-Decadienal	0.07055069	0.05460991	0.05737823
2,4-Di-tert-butylphenol	0.06360755	0.06827365	0.04963654
2,6-Diethylpyrazine	0.05428039	0.03589811	0.0578025
3-Ethyl-2,5-dimethylpyrazine	0.11796493	0.11534369	0.11352501
3-Ethyltridecane	0	0	0.00027011
3-Isopropyl-6-methylcyclohexene	0.00343067	0.00338338	0.00323647
3-Methylbutanal	0.00037408	0.00027464	0.0022048
3-Methylbutanoic acid	0.01050637	0.01029879	0.03054749
3-Methyldecane	0.02467418	0.02464789	0.02511667
3-Methylpentadecane	0.01870563	0.01393278	0.01670807
3-Nonanone	0.00107067	0.00171047	0.00305039
3-Octanone	0.03496251	0.07828504	0.02919882
3-Octen-2-one	0.01596934	0.01564072	0.01527915
3,5-Octadien-2-one	0.01354954	0.01053318	0.00766336
4-Ethylbenzaldehyde	0.00346906	0.00445898	0.00648113
4-Methylbenzaldehyde	0.00769432	0.01143141	0.01130213
4-Methyloctane	0.00050061	0	0.00010317
4-Methylundecane	0.00840369	0.00658492	0.00354822
4-Nonenal	0.00795226	0.00797187	0.00611341
4-Pentylbenzaldehyde	0.00038692	0.00036184	0.00032399
5-Ethyl-1-formylcyclopentene	0.00281997	0.00220514	0.00234619
5-Ethyl-2,3-dimethylpyrazine	0.01887504	0.01377539	0.01614535
a-Phellandrene	0.00093466	0.00083367	0.00041687
a-Thujene	0.00071281	0.00045411	0.00048278
alpha-Pinene	0.00018558	9.48E-05	5.33E-05
Benzaldehyde	0.04903391	0.04322561	0.115082

Benzophenone	0.10045945	0.10143332	0.08136893
Butylated hydroxytoluene	0.03916871	0.03909776	0.03862474
Butylbenzene	0.00103687	0.00105527	0.00064697
Cumene	0.00016619	6.81E-05	0.01045251
Cuminaldehyde	0.04257936	0.03255089	0.05625314
Decanal	0.15972425	0.20421371	0.19099754
Decane	0.08287893	0.06827568	0.06984981
delta-Dodecalactone	0.13047779	0.14145568	0.17644468
Diethyl phthalate	0.00119453	0.03295124	0.01826625
Dodecanal	0.04529935	0.06101603	0.06012344
Dodecane	0.11172172	0.10632746	0.13376063
Ethylbenzene	0.00073006	0.00577932	0.00338862
gamma-Dodecalactone	0.00198574	0.01017237	0.01459433
Geranyl acetone	0.00524871	0.00345733	0.00299319
Heptanal	0.07394428	0.06547291	0.08355403
Hexadecanol	0.08064339	0.05263048	0.05274285
Hexanoic acid	0.0533213	0.04415529	0.04103461
Lavender lactone	0.00037125	0.00011406	0.00075154
Limonene	0.01505815	0.01563024	0.01573955
Linoleic acid	0.30903734	0.33055693	0.3196548
m-Cymene	0.00049359	0.00073274	0.0006557
m-Di-tert-butylbenzene	0.13545305	0.22965784	0.15466738
Menthol	0.01031245	0.00923616	0.00764156
Methyl 14-methylpentadecanoate	0	0	0.01540491
Methyl 2-methylbutanoate	0	0.00014216	0.00012372
Methyl butanoate	4.47E-05	0.00033557	0.00024663
Methyl heptadecanoate	0.03502186	0.00487121	0.01967373
Methyl heptanoate	0	0.00063092	0.00201756
Methyl heptenone	0.00522021	0.00627568	0.00766315
Methyl hexadecanoate	0.01018253	0.02315767	0.07201593
Methyl hexanoate	0.00029073	0.00039229	0.00025951
Methyl methacrylate	0.00158871	0	0
Methyl nonanoate	0	0.00046903	0.00036017
n-Octyl-cyclopropane	0.00593461	0.00998917	0.01253052
N,N-dibutylformamide	0.01391581	0.04061697	0.0114125
Naphthalene	0.0014595	0.00382006	0.00612689
Nerylacetone	0.14072093	0.14940974	0.14007209
Nonanal	1	1	1
Nonane	0.0246675	0.04101522	0.02512359
Nonanoic acid	0.06134177	0.05133886	0.05411756

o-Xylene	0.12194869	0.22104332	0.07254382
Octanal	0.1778603	0.16451656	0.17346796
Octane	0.02903676	0.0337197	0.04397178
Octylbenzene	0.00013631	0	0
p-Cymene	0.00070204	0.00066704	0.03740108
p-Cymenene	0.00011324	0.00022223	0.00107483
p-Menth-1-ene	8.43E-05	5.94E-05	0.00019037
p-Xylene	0	6.08E-05	0
Pentadecanal	0	0.00827225	0.0041366
Pentadecane	0.34489306	0.31620468	0.29745938
Pentanal	0.01111604	0.00632123	0.01562523
Piperitone	0.00871853	7.90E-05	0.00330094
Styrene	0.00620501	0.00273912	0.06894263
Sylvestrene	0.00469711	0.00658357	0.0044721
Tetradecanal	0.39282653	0.30925241	0.33889347
Tetradecane	0.40207969	0.44571282	0.39424631
Tetradecanoic acid	0	0.00280659	0.00015315
Thiazole	0	0.0002258	6.35E-05
Toluene	0.00328304	0.00254391	0.00526583
Tributyl phosphate	0.35034535	0.36013174	0.33103306
Tridecanal	0.24511573	0.20445514	0.19509785
Tridecane	0.08486665	0.09479349	0.09177113
Trimethylpyrazine	0.08439273	0.07161438	0.07376284
Undecanal	0.06974575	0.08943401	0.08598671
