

Table S1. The metabolites with variable importance projections (VIP) value more than 1.0 to discriminate beef adulterated dog meat

| No. | Compounds | VIP value | Formula | Mass error (ppm) | Calculated m/z | Retention time (ppm) |
|-----|---|-----------|------------|------------------|----------------|----------------------|
| 1 | Hypoxanthine | 2.05 | C5H4N4O | -2.61 | 136.03816 | 0.918 |
| 2 | 5-aminoimidazole ribotide | 1.94 | C8H14N3O7P | 3.72 | 295.05803 | 0.671 |
| 3 | L-Tyrosine | 1.92 | C9H11NO3 | -2.77 | 181.07339 | 1.055 |
| 4 | 2-[(5Z)-5-tetradecenyl]cyclobutanone | 1.92 | C18H32O | -2.39 | 264.24468 | 20.336 |
| 5 | cis-5-Tetradecenoylcarnitine | 1.86 | C21H39NO4 | -1.91 | 369.28720 | 15.373 |
| 6 | Ethyl myristate | 1.76 | C16H32O2 | -1.94 | 256.23973 | 20.139 |
| 7 | D-PANTOTHENIC ACID | 1.75 | C9H17NO5 | -1.17 | 219.11042 | 2.808 |
| 8 | his-asp | 1.73 | C10H14N4O5 | -4.89 | 270.09510 | 0.691 |
| 9 | C14-Carnitine | 1.71 | C21H41NO4 | -1.98 | 371.30282 | 16.052 |
| 10 | D-lysopine | 1.70 | C9H18N2O4 | -1.19 | 218.12640 | 2.075 |
| 11 | Citric acid | 1.68 | C6H8O7 | -3.67 | 192.02630 | 0.963 |
| 12 | L-gamma-Glutamyl-L-leucine | 1.67 | C11H20N2O5 | -0.58 | 260.13707 | 2.557 |
| 13 | 2,3-Dihydroxybutanamide | 1.65 | C4H9NO3 | 0.00 | 119.05824 | 0.775 |
| 14 | 3-(Icosanoyloxy)-4-(trimethylammonio)butanoate | 1.64 | C27H53NO4 | -2.00 | 455.39655 | 18.558 |
| 15 | Piperidine | 1.63 | C5H11N | 2.43 | 85.08936 | 1.181 |
| 16 | DL-Arginine | 1.60 | C6H14N4O2 | -1.78 | 174.11137 | 0.704 |
| 17 | D-(+)-Galactose | 1.59 | C6H12O6 | -2.24 | 180.06299 | 0.686 |
| 18 | 1-Linoleoyl glycerol | 1.55 | C21H38O4 | -3.29 | 354.27584 | 18.838 |
| 19 | Isoleucine | 1.53 | C6H13NO2 | -1.97 | 131.09437 | 1.189 |
| 20 | Acetyl- β -methylcholine | 1.51 | C8H17NO2 | -0.96 | 159.12578 | 0.704 |
| 21 | D-Gluconic acid | 1.50 | C6H12O7 | -3.37 | 196.05764 | 0.747 |
| 22 | Acetyl-L-carnitine | 1.49 | C9H17NO4 | -2.91 | 203.11517 | 0.711 |
| 23 | 2-methylbutyrylcarnitine | 1.47 | C12H23NO4 | -0.91 | 245.16249 | 4.26 |
| 24 | N-Stearoyltyrosine | 1.46 | C27H45NO4 | -1.93 | 447.33400 | 16.729 |
| 25 | D-(+)-Proline | 1.42 | C5H9NO2 | -0.19 | 115.06331 | 0.755 |
| 26 | 3-hydroxytetradecanoylcarnitine | 1.39 | C21H41NO5 | -1.74 | 387.29780 | 15.022 |
| 27 | LysoPC(P-18:0) | 1.38 | C26H54NO6P | -2.49 | 507.36761 | 19.662 |
| 28 | Oleic acid | 1.37 | C18H34O2 | -2.57 | 282.25516 | 20.348 |
| 29 | L-(-)-Methionine | 1.37 | C5H11NO2S | -1.81 | 149.05078 | 0.867 |
| 30 | trans-3-Indoleacrylic acid | 1.37 | C11H9NO2 | -1.66 | 187.06302 | 3.485 |
| 31 | C8-Carnitine | 1.36 | C15H29NO4 | -0.72 | 287.20945 | 10.4 |
| 32 | 1-Oleoyl-2-hydroxy-sn-glycero-3-PE | 1.35 | C23H46NO7P | -1.50 | 479.30047 | 18.863 |
| 33 | 1-[(11Z)-octadecenoyl]-sn-glycero-3-phosphocholine | 1.35 | C26H52NO7P | -2.26 | 521.34696 | 18.718 |
| 34 | (2R)-1-[(2-Aminoethoxy)(hydroxy)phosphoryl]oxy}-3-hydroxy-2-propanyl (4Z,7Z,10Z,13Z,16Z)-4,7,10,13,16-docosapentaenoate | 1.32 | C27H46NO7P | -1.59 | 527.30035 | 18.295 |
| 35 | L-alpha-Glycerylphosphorylcholine | 1.32 | C8H20NO6P | -2.01 | 257.10231 | 0.767 |
| 36 | Linoleic acid | 1.30 | C18H32O2 | -3.43 | 280.23927 | 19.482 |
| 37 | 9,12-Hexadecadienoylcarnitine | 1.30 | C23H41NO4 | -1.39 | 395.30301 | 15.747 |
| 38 | α -Aspartylphenylalanine | 1.27 | C13H16N2O5 | -0.40 | 280.10581 | 3.755 |

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| 39 | (2R)-1-[(2-Aminoethoxy)(hydroxy)phosphoryl]oxy}-3-hydroxy-2-propanyl (11Z)-11-icosenoate | 1.26 | C25H50NO7P | -1.93 | 507.33151 | 18.212 |
| 40 | Succinylcholine | 1.26 | C14H30N2O4 | 3.21 | 290.22149 | 19.687 |
| 41 | α -Eleostearic acid | 1.21 | C18H30O2 | -2.64 | 278.22385 | 18.886 |
| 42 | D-ribose 5-phosphate | 1.21 | C5H11O8P | -1.44 | 230.01882 | 0.779 |
| 43 | 2-Amino-1,3,4-octadecanetriol | 1.21 | C18H39NO3 | -1.61 | 317.29248 | 14.105 |
| 44 | Benzoic acid | 1.19 | C7H6O2 | 2.93 | 122.03714 | 1.056 |
| 45 | Tiglylcarnitine | 1.18 | C12H21NO4 | -0.52 | 243.14693 | 3.864 |
| 46 | (R)-3-hydroxybutyrylcarnitine | 1.18 | C11H21NO5 | -1.97 | 247.14149 | 0.724 |
| 47 | Stearic acid | 1.16 | C18H36O2 | -0.20 | 284.27147 | 21.931 |
| 48 | 1-arachidonoyl-sn-glycero-3-phosphoethanolamine | 1.16 | C25H44NO7P | -1.04 | 501.28502 | 18.089 |
| 49 | Palmitoleic acid | 1.14 | C16H30O2 | -1.64 | 254.22416 | 19.105 |
| 50 | 2-Amino-3-hydroxy-15-methyl-1-hexadecanesulfonic acid | 1.14 | C17H37NO4S | 3.09 | 351.24542 | 18.498 |
| 51 | Prolylleucine | 1.10 | C11H20N2O3 | -2.10 | 228.14691 | 0.732 |
| 52 | 3-Methylhistidine | 1.10 | C7H11N3O2 | -1.70 | 169.08488 | 0.669 |
| 53 | 3,5,7-Octatriyn-1-ol | 1.10 | C8H6O | -0.68 | 118.04178 | 1.04 |
| 54 | Betaine | 1.08 | C5H11NO2 | -0.86 | 117.07888 | 0.724 |
| 55 | 3-hydroxyoctanoylcarnitine | 1.04 | C15H29NO5 | -1.19 | 303.20421 | 8.048 |
| 56 | Palmitoylcarnitine | 1.04 | C23H45NO4 | -2.16 | 399.33399 | 17.083 |
| 57 | 3, 5-Tetradecadiencarnitine | 1.03 | C21H37NO4 | -1.91 | 367.27156 | 14.599 |
| 58 | 3-Methylsulfolene | 1.03 | C5H8O2S | -1.82 | 132.02426 | 0.875 |
| 59 | (2S)-2,3-Dihydroxypropyl (9Z)-9-hexadecenoate | 1.02 | C19H36O4 | -1.19 | 328.26097 | 20.329 |
| 60 | 2-Acetyl-6-Methylpyridine | 1.01 | C8H9NO | -1.01 | 135.06828 | 1.042 |