**Supplementary**

*A1. PLS regression models equations.*

The complete PLS regression models are explained by following equations:

Figure 1: A) Y= 0.855 - 0.014x1 - 0.009x2 + 0.018x3 + 0.016x4 - 0.018x5 + 0.027x1x2 - 0.010x1x4 + 0.012x1x5 - 0.012x2x4 + 0.013x2x5 + 0.018x3x4 - 0.010x3x5 + 0.017x4x5 + e.

Figure 4: A) Cytochrome P450 1A (CYP1A); Y= 0.403 - 0.026x1 + 0.062x2 - 0.014x3 + 0.004x4 + 0.392x5 - 0.052x1x2 - 0.026x1x5 - 0.020x2x3 + 0.063x2x5 - 0.045x3x4 + e. B) Cytochrome P450 3A (CYP3A); Y= 0.646 + 0.027x1 + 0.026x2 - 0.010x3 - 0.008x4 + 0.039x5 - 0.020x1x2 + 0.014x1x4 + 0.009x1x5 + 0.009x2x3 + 0.010x2x4 + 0.018x2x5 - 0.016x3x4 + e. C) Peroxisome proliferator-activated receptors (PPARα); Y= 0.417 -0.002x1 - 0.045x2 - 0.015x3 - 0.013x4 - 0.071x5 + 0.029x1x2 - 0.022x1x4 + 0.013x2x3 - 0.027x2x4 - 0.017x2x5 + 0.016x4x5 + e. D) Carnitine palmitoyltransferase 2 (CPT2); Y= 0.633 + 0.009 x1 + 0.010x2-0.007x3 + 0.008x4 + 0.044x5 - 0.010x1x2 + 0.011x1x3 + 0.017x1x4 + 0.009x2x3 + 0.014x2x4 + 0.026x2x5 + e. E) Peroxisomal acyl-coenzyme A oxidase 1 (ACOX1); Y= 0.644 - 0.016x1 - 0.023x2 - 0.0043x3 - 0.017x4 + 0.013x5 + 0.019x1x2 + 0.009x2x3 -0.007x2x4 - 0.006x3x4 + 0.021x4x5 +e. F) Fatty acid-binding protein 4 (FABP4); Y= 0.653 + 0.022x1 + 0.004x2 - 0.010x3 - 0.014x4 + 0.078x5 - 0.017x1x5 + 0.019x2x3 + 0.022x2x4 + 0.013x3x4 - 0.025x3x5 + e. G) Vitellogenin (VTG); Y= 0.341 - 0.107x1 + 0.003x2 - 0.024x3 + 0.034x4 + 0.260x5 - 0.057x1x2 - 0.094x1x5 -0.065x3x4 + 0.031x4x5 + e.

*A2.1. Table of putatively annotated mass features significantly different between hepatocytes treated with control DMSO and those treated with either a contaminant mixture (CM), arachidonic acid (ARA) or a combination treatment of ARA and the CM (C-ARA) (Table A2.1) and control, CM, EPA or C-EPA (Table A2.2).*

Table A2.1: Table of putatively annotated mass features significantly different between hepatocytes treated with control DMSO and those treated with either a contaminant mixture (CM), arachidonic acid (ARA) or a combination treatment of ARA and the CM (C-ARA). Fold changes in bold indicate results that were significantly different with respect to the control. Mass features are represented more than once if they were significantly different with respect to the control for more than one class. Analysis was conducted using Kruskal Wallis analysis of variance (level of significance set at q<0.1) followed by Games Howell post hoc testing (level of significance defined as p<0.05). For any individual mass feature, there may be a difference in the number of samples for which that feature is detectable, hence affecting the degrees of freedom of the statistical test and thus the power.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mean fold change  (compared to the control) | | | | | | |
| m/z | **ARA** | **CM** | **C-ARA** | **Empirical formula** | **Putative annotation** | **Adduct form** |
|  |  |  |  |  |  |  |
| 419.3531 | 1.53 | **4.43** | 3.98 | C27H48O3/ C25H44O | Trihydroxycholestane, Cholestanetriol, 16-Deoxymyxinol, C25:3 6,7-Epoxy highly branched isoprenoid | [M-H]-/[M+Hac-H]- |
| 461.3636 | 1.26 | **10.11** | 8.95 | C29H50O4 | (Hydroxypropyl)dihydroxynorvitamin D3 | [M-H]- |
| 462.3671 | 1.29 | **10.12** | 8.86 | C29H50O4 | (Hydroxypropyl)dihydroxynorvitamin D3 | [M-H]- C13 |
| 463.3706 | 1.27 | **8.98** | 8.20 | C30H52O | Dihydrolanosterol, Diplopterol, Tetrahymanol, epi-Friedelanol, Isopropyl-cholesterol, ethyl-methyl-cholesterol, norgorgostanol, Dinosterol, Peridinosterol, cycloartanol | [M+Cl]- |
| 508.3727 | 1.15 | **6.90** | 8.80 | >10 | No named identities |  |
| 521.3846 | 1.08 | **15.26** | 12.35 | C29H50O4 | (Hydroxypropyl)dihydroxy norvitamin D3 | [M+Hac-H]- |
| 522.3882 | 1.04 | **15.39** | 12.40 | C29H50O4 | (Hydroxypropyl)dihydroxy norvitamin D3 | [M+Hac-H]- C13 |
| 614.5883 | 0.88 | **0.53** | 0.65 |  | No named identities |  |
| 693.6605 | 0.90 | **4.27** | 3.78 | >10 | No named identities |  |
| 774.5088 | 1.14 | **0.78** | 0.97 | C44H74NO8P | PC(36:7), PE(39:7) | [M-H]- |
| 493.3535 | **22.64** | 3.60 | **20.47** | C27H46O4 | trihydroxy-dihydrovitamin D3, trihydroxycholestanal,dihydroxycholestanoic acid, dihydroxyhydroxymethylnorepivitamin D3, dihydroxyhydroxymethylnorvitamin D3, Dihydroxycoprostanic acid, trihydroxycholestanone, trihydroxycholesterol | [M+Hac-H]- |
| 494.3568 | **23.60** | 3.62 | **21.65** | C27H46O4 | trihydroxy-dihydrovitamin D3, trihydroxycholestanal,dihydroxycholestanoic acid, dihydroxyhydroxymethylnorepivitamin D3, dihydroxyhydroxymethylnorvitamin D3, Dihydroxycoprostanic acid, trihydroxycholestanone, trihydroxycholesterol | [M+Hac-H]- (C13) |
| 554.3466 | 0.74 | 0.69 | **0.41** | C24H50NO7P | PE(19:0),LysoPC(16:0), PC(16:0), PC(O-16:0) | [M+Hac-H]- |
| 693.6605 | 0.90 | 4.27 | **3.78** | >10 | No named identities |  |
| 752.525 | **2.58** | 1.18 | **2.30** | C42H76NO8P | PC(34:4), PE(37:4) | [M-H]- |
| 782.4993 | **5.17** | 0.85 | **3.67** | C40H70NO8P/ C42H74NO10P | PC(32:5), PE(35:5), PS(36:4) | [M+Hac-H]-/[M-H]- |
| 810.5082 | **2.60** | 1.01 | **2.43** | C47H74NO8P | PE(42:10) | [M-H]- |
| 811.5114 | **2.54** | 1.07 | **2.37** | C42H76NO8P/ C44H80NO10P | PC(34:4), PE(37:4), PS(38:3) | [M+Hac-H]-,[M-H]- |
| 812.5241 | 1.66 | 1.02 | **1.52** | C47H76NO8P | PE(42:9) | [M-H]- |
| 813.527 | 1.68 | 0.99 | **1.52** | >10 | No named identities |  |
| 905.52 | 2.19 | 0.91 | **1.93** | >10 | No named identities |  |
| 387.3269 | **2.24** | 1.10 | 2.54 | C26H44O2 | dihydroxy-deoxynorvitamin D3 / 1alpha,25-dihydroxy-3-deoxy-19-norcholecalciferol, dihydroxydeoxynorcholecalciferol, dihydroxy-norepicholecalciferol, FA26:4 | [M-H]- |
| 493.3535 | **22.64** | 3.60 | **20.47** | C27H46O4 | trihydroxy-dihydrovitamin D3, trihydroxycholestanal,dihydroxycholestanoic acid, dihydroxyhydroxymethylnorepivitamin D3, dihydroxyhydroxymethylnorvitamin D3, Dihydroxycoprostanic acid, trihydroxycholestanone, trihydroxycholesterol | [M+Hac-H]- |
| 494.3568 | **23.60** | 3.62 | **21.65** | C27H46O4 | trihydroxy-dihydrovitamin D3, trihydroxycholestanal,dihydroxycholestanoic acid, dihydroxyhydroxymethylnorepivitamin D3, dihydroxyhydroxymethylnorvitamin D3, Dihydroxycoprostanic acid, trihydroxycholestanone, trihydroxycholesterol | [M+Hac-H]- C13 |
| 531.2731 | **4.37** | 1.07 | 3.47 | C24H41O7P/ C26H45O9P/ C27H44O8/ C28H46O7 | PA(21:4), PG(20:4), dihydroxyecdysone, Polypodine B, Pregnanediol-3-glucuronide, Makisterone B, | [M+Hac-H]-/[M-H]-/[M+Cl]-/[M+K-2H]- |
| 559.3044 | **13.42** | 0.53 | 7.40 | C28H49O9P | PG(22:4) | [M-H]­- |
| 560.3077 | **13.44** | 0.62 | 7.68 | C28H49O9P | PG(22:4) | [M-H]- |
| 738.509 | **3.90** | 1.02 | 3.03 | C41H74NO8P | PC(23:4), PE(36:4),PE(P-36:4)(OH[S]) | [M-H]- |
| 739.5123 | **3.74** | 0.99 | 2.89 | C41H74NO8P | PC(23:4), PE(36:4),PE(P-36:4)(OH[S]) | [M-H]- |
| 752.525 | **2.58** | 1.18 | **2.30** | C42H76NO8P | PC(34:4), PE(37:4) | [M-H]- |
| 782.4993 | **5.17** | 0.85 | **3.67** | C40H70NO8P/ C42H74NO10P | PC(32:5), PE(35:5), PS(36:4) | [M+Hac-H]-/[M-H]- |
| 810.5082 | **2.60** | 1.01 | **2.43** | C47H74NO8P | PE(42:10) | [M-H]- |
| 810.5293 | **1.94** | 1.36 | 1.76 | C42H74NO8P/ C44H78NO10P/ C46H79NO8 | PC(34:5), PE(37:5), PS(38:4), DGCC(36:5) | [M+Hac-H]-,[M-H]-, [M+K-2H]- |
| 811.5114 | **2.54** | 1.07 | **2.37** | C42H76NO8P/ C44H80NO10P | PC(34:4), PE(37:4), PS(38:3) | [M+Hac-H]-,[M-H]- |
| 811.5325 | **1.99** | 1.33 | 1.79 | >10 | No named identities |  |
| 812.5455 | **2.05** | 1.61 | 2.33 | >10 | No named identities |  |
| 813.548 | **2.03** | 1.57 | 2.35 | >10 | No named identities |  |
| 841.5802 | **3.51** | 1.71 | 3.87 | >10 | No named identities |  |
| 885.582 | **1.39** | 0.98 | 1.25 | >10 | No named identities |  |
| 885.6013 | **1.38** | 0.97 | 1.24 | >10 | No named identities |  |
| 886.5113 | **1.32** | 0.93 | 1.25 | >10 | No named identities |  |
| 886.606 | **1.34** | 0.93 | 1.12 | >10 | No named identities |  |

Table A2.2: Table of putatively annotated mass features significantly different between hepatocytes treated with control DMSO and those treated with either a contaminant mixture (CM), eicosapentanoic acid (EPA) or a combination treatment of EPA and the CM (C-EPA). Fold changes in bold indicate results that were significantly different with respect to the control. Mass features are represented more than once if they were significantly different with respect to the control for more than one class. Analysis was conducted using Kruskal Wallis analysis of variance (level of significance set at q<0.1) followed by Games Howell post hoc testing (level of significance defined as p<0.05). For any individual mass feature, there may be a difference in the number of samples for which that feature is detectable, hence affecting the degrees of freedom of the statistical test and thus the power.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mean fold change  (compared to the control) | | | | | | |
| m/z | **EPA** | **CM** | **C-EPA** | **Empirical formula (parent)** | **Putative annotation** | Adduct form |
| 419.35307 | 1.52 | **4.43** | **3.63** | C25H44O/C27H48O3 | C25:3 6,7-Epoxy highly branched isoprenoid, 16-Deoxymyxinol, Trihydroxycholestane, Cholestanetriol, Hipposterol | [M+Hac-H]-/[M-H]- |
| 461.36357 | 1.39 | **10.11** | **6.91** | C27H46O2/C29H50O4 | Hydroxycholesterol, Hydroxycholestene, Hydroxy-dihydrovitamin D3, Ketocholestanol, Oxocholestanol, Hydroxycholestanone, Cerebrosterol, Cholestenediol, Cholesterolepoxide, Cholesterolepoxide, Tocopherol, Hydroxypropyl-dihydroxynorvitamin D3 | [M+Hac-H]-/[M-H]- |
| 462.36706 | 1.38 | **10.12** | **6.84** | C27H46O2/C29H50O4 | Hydroxycholesterol, Hydroxycholestene, Hydroxy-dihydrovitamin D3, Ketocholestanol, Oxocholestanol, Hydroxycholestanone, Cerebrosterol, Cholestenediol, Cholesterolepoxide, Cholesterolepoxide, Tocopherol, Hydroxypropyl-dihydroxynorvitamin D3 | [M+Hac-H]-/[M-H]- (C13) |
| 463.37061 | 1.42 | **8.98** | **6.22** | C27H46O2/C29H50O4 C14H40N14/C30H52O | (C13 isotopes) Hydroxycholesterol, Hydroxycholestene, Hydroxy-dihydrovitamin D3, Ketocholestanol, Oxocholestanol, Hydroxycholestanone, Cerebrosterol, Cholestenediol, Cholesterolepoxide, Cholesterolepoxide, Tocopherol, Hydroxypropyl-dihydroxynorvitamin D3  (C12 isotopes) Dihydrolanosterol, Isopropyl-cholesterol, ethyl-methyl-cholesterol, A-norgorgostanol, Dinosterol, Diplopterol, Peridinosterol, Tetrahymanol, cycloartanol, epi-Friedelanol | [M+Hac-H]-/[ M-H]- (C13) |
| 508.37267 | 1.24 | **6.90** | **5.13** | >10 | No named identities |  |
| 509.47701 | 1.40 | **2.23** | 1.68 | C33H66OS/C26H58N10 | No named identities |  |
| 521.38458 | 1.51 | **15.26** | **11.24** | >10 | No named identities |  |
| 522.38822 | 1.51 | **15.39** | **11.36** | >10 | No named identities | (C13) |
| 614.58834 | 0.97 | **0.53** | 0.68 | >10 | No named identities |  |
| 693.66051 | 0.94 | **4.27** | **3.96** | >10 | No named identities |  |
| 774.50878 | 0.96 | **0.78** | 0.85 | >10 | No named identities |  |
| 775.51214 | 0.97 | **0.79** | 0.85 | C39H73O9P | PG(P-33:2) | [M+Hac-H]- |
| 776.50978 | 0.96 | **0.79** | 0.85 | C38H72NO9P | PS(P-32:1) | [M+Hac-H]- |
| 903.85936 | 0.65 | **0.54** | **0.38** | >10 | No named identities |  |
| 929.87495 | **0.34** | **0.23** | **0.13** | >10 | No named identities |  |
| 1006.63966 | 0.97 | **3.90** | **3.71** | >10 | No named identities |  |
| 1672.1481 | 1.09 | **1.45** | 0.99 | 0 | No named identities |  |
| 1716.11705 | 1.45 | **1.25** | **1.29** | 0 | No named identities |  |
| 419.35307 | 1.52 | **4.43** | **3.63** | C25H44O/C27H48O3 | C25:3 6,7-Epoxy highly branched isoprenoid, 16-Deoxymyxinol, Trihydroxycholestane, Cholestanetriol, Hipposterol | [M+Hac-H]-/[M-H]- |
| 461.36357 | 1.39 | **10.11** | **6.91** | C27H46O2/C29H50O4 | NA, hydroxycholesterol, hydroxycholestene,Hydroxy-dihydrovitamin D3, ketocholestanol, oxocholestanol, Hydroxycholestanone, Cerebrosterol, Cholestenediol, Cholesterolepoxide, Cholesterolepoxide, Tocopherol, Hydroxypropyl-dihydroxynorvitamin D3 | [M+Hac-H]-/[M-H]- |
| 462.36085 | 1.28 | 7.91 | **4.93** | 6 | No named identities |  |
| 462.36706 | 1.38 | **10.12** | **6.84** | >10 | No named identities |  |
| 463.37061 | 1.42 | **8.98** | **6.22** | C27H46O2/C29H50O4 C14H40N14/C30H52O | (C13 isotopes) Hydroxycholesterol, Hydroxycholestene, Hydroxy-dihydrovitamin D3, Ketocholestanol, Oxocholestanol, Hydroxycholestanone, Cerebrosterol, Cholestenediol, Cholesterolepoxide, Cholesterolepoxide, Tocopherol, Hydroxypropyl-dihydroxynorvitamin D3  (C12 isotopes) Dihydrolanosterol, Isopropyl-cholesterol, ethyl-methyl-cholesterol, A-norgorgostanol, Dinosterol, Diplopterol, Peridinosterol, Tetrahymanol, cycloartanol, epi-Friedelanol | [M+Hac-H]-/[ M-H]-/[M+Cl]- (C13) |
| 493.35353 | 1.48 | 3.60 | **2.36** | C27H46O4/C25H54NO6P | trihydroxydihydrovitamin D3, trihydroxycholestanal, dihydroxycholestanoic acid, dihydroxyhydroxymethylnorepivitamin D3, hydroxymethyl-norepicholecalciferol, dihydroxy-hydroxymethyl-norvitamin D3, Dihydroxycoprostanic acid,Trihydroxycholestanal, trihydroxycholestanone, trihydroxycholesterol, PC(O-17:0), PE(O-20:0) | [M+Hac-H]-/[M-2H]- |
| 501.28166 | 0.65 | 1.22 | **0.66** | C27H46O4S | Cholesterol sulfate | [M+Cl]- |
| 508.37267 | 1.24 | **6.90** | **5.13** | >10 | No named identities |  |
| 521.38458 | 1.51 | **15.26** | **11.24** | >10 | No named identities |  |
| 522.38822 | 1.51 | **15.39** | **11.36** | >10 | No named identities | (C13) |
| 523.39193 | 1.62 | 15.36 | **11.05** | C33H58O2/C36H54O | dihydroxymethyl-bishomohopane, Hexaprenylphenol | [M+K-2H]-/[M+Na-2H]- (C13) |
| 551.39556 | 1.32 | 2.36 | **2.26** | C30H52O5 | Xeniasterol | [M+Hac-H]- |
| 601.42635 | **3.17** | 0.91 | **4.10** | >10 | No named identities |  |
| 602.42964 | **3.07** | 1.00 | **3.80** | >10 | No named identities | (C13) |
| 693.66051 | 0.94 | **4.27** | **3.96** | >10 | No named identities |  |
| 719.48986 | 7.58 | 0.87 | **7.37** | C41H72NO7P/C43H64O5 | PE(P-36:5), DG(40:10) | [M-2H]-/[M+Hac-H]- |
| 738.50899 | 0.85 | 1.02 | **0.84** | C41H74NO8P | PC(33:4), PE(36:4)PE(P-36:4)OHS) | [M-H]- |
| 811.51142 | 1.49 | 1.07 | **1.38** | >10 | No named identities |  |
| 902.85623 | 0.67 | 0.58 | **0.38** | >10 | No named identities |  |
| 903.85936 | 0.65 | **0.54** | **0.38** | >10 | No named identities |  |
| 906.58933 | 1.50 | 1.65 | **1.97** | >10 | No named identities |  |
| 929.87495 | **0.35** | **0.23** | **0.13** | >10 | No named identities |  |
| 939.59786 | 2.25 | 1.20 | **1.96** | C51H89O13P | PI(42:5) | [M-H]- |
| 1006.6397 | 0.97 | **3.90** | **3.71** | >10 | No named identities |  |
| 1716.1171 | 1.45 | **1.25** | **1.29** | 0 | No named identities |  |
| 601.42635 | **3.17** | 0.91 | **4.10** | >10 | No named identities |  |
| 602.42964 | **3.07** | 1.01 | **3.80** | >10 | No named identities | (C13) |
| 929.87495 | **0.34** | **0.23** | **0.13** | >10 | No named identities |  |
| 1542.0525 | **1.40** | 1.08 | 1.16 | 0 | No named identities |  |

*A3. Tables of eigenvalues for the different groups in different MS PCA plots (Tables A3.1-A3.5).*

Table A3.1: Percent variance captured by PCA model for Control, CM, All high and All Low

|  |  |  |  |
| --- | --- | --- | --- |
| Principal Component Number | Eigenvalue of Cov(X) | % Variance Captured This PC | % Variance Captured Total |
| 1 | 6.12e+01 | 38.24 | 38.24 |
| 2 | 3.31e+01 | 20.71 | 58.95 |
| 3 | 2.31e+01 | 14.44 | 73.39 |
| 4 | 1.13e+01 | 7.05 | 80.43 |
| 5 | 7.86e+00 | 4.91 | 85.35 |

Algorithm: SVD. Cross validation: venetian blinds w/ 8 splits. RMSEC: 0.156762. RMSECV: 0.262051.

Table A3.2: Percent variance captured by PCA model for Control, CM, EPA and C-EPA.

|  |  |  |  |
| --- | --- | --- | --- |
| Principal Component Number | Eigenvalue of Cov(X) | % Variance Captured This PC | % Variance Captured Total |
| 1 | 6.12e+01 | 39.23 | 39.23 |
| 2 | 2.34e+01 | 15.01 | 54.25 |
| 3 | 2.13e+01 | 13.65 | 67.90 |
| 4 | 1.57e+01 | 10.04 | 77.94 |
| 5 | 7.86e+00 | 6.21 | 84.15 |
| 6 | 5.68e+00 | 3.64 | 87.79 |

Preprocessing: Mean Center. Algorithm: SVD. Cross validation: venetian blinds w/ 8 splits. RMSEC: 0.141289. RMSECV: 0.249531.

Table A3.3: Percent variance captured by PCA model for Control, CM, ARA and C-ARA.

|  |  |  |  |
| --- | --- | --- | --- |
| Principal Component Number | Eigenvalue of Cov(X) | % Variance Captured This PC | % Variance Captured Total |
| 1 | 5.07e+01 | 31.31 | 31.31 |
| 2 | 3.57e+01 | 22.05 | 22.05 |

Algorithm: SVD. Cross validation: venetian blinds w/ 8 splits. RMSEC: 0.281358. RMSECV: 0.358088.

Table A3.4: Percent variance captured by PCA model for Control, CM, αT and C-αT.

|  |  |  |  |
| --- | --- | --- | --- |
| Principal Component Number | Eigenvalue of Cov(X) | % Variance Captured This PC | % Variance Captured Total |
| 1 | 7.70e+01 | 49.16 | 49.16 |
| 2 | 2.52e+01 | 16.12 | 65.28 |
| 3 | 1.44e+01 | 9.22 | 74.50 |
| 4 | 1.01e+01 | 6.44 | 80.94 |
| 5 | 8.17e+00 | 5.22 | 86.16 |

Preprocessing: Mean Center. Algorithm: SVD. Cross validation: venetian blinds w/ 8 splits. RMSEC: 0.150743. RMSECV: 0.258243.

Table A3.5: Percent variance captured by PCA model for Control, CM, γT and C- γT.

|  |  |  |  |
| --- | --- | --- | --- |
| Principal Component Number | Eigenvalue of Cov(X) | % Variance Captured This PC | % Variance Captured Total |
| 1 | 7.02e+01 | 42.71 | 42.71 |
| 2 | 2.61e+01 | 15.85 | 58.57 |
| 3 | 1.86e+01 | 11.31 | 69.87 |
| 4 | 1.52e+01 | 9.26 | 79.14 |
| 5 | 8.17e+00 | 5.22 | 86.16 |

Preprocessing: Mean Center. Algorithm: SVD. Cross validation: venetian blinds w/ 8 splits. RMSEC: 0.189582. RMSECV: 0.304575.

*A4. Permutation tested p‐values for each of the classes in different MS PCA plots. Rate of permuted tests having class error rate lower than mean of the non‐permuted test (Tables A4.1-A4.5).*

Table A4.1: Permutation tested p‐values for each of the classes (Control, CM, All high and All Low).

|  |  |  |
| --- | --- | --- |
| Class |  | p-values |
| CM | BaP100μM‐Phen100μM‐Chlor1μM‐End1μM | 0.001 |
| Control | DMSO | 0 |
| All high | EPA200μM‐ARA200μM‐VitEa100μM‐VitEg100μM‐BaP100μM‐Phen100μM-Chlor1μM‐End1μM | 0.047 |
| All Low | EPA100μM‐ARA100μM‐VitEa50μM‐VitEg50μM‐BaP50μM‐Phen50μM‐  Chlor0.5μM‐End0.5μM | 0.005 |

Table A4.2: Permutation tested p‐values for each of the classes (Control, CM, EPA and C-EPA).

|  |  |  |
| --- | --- | --- |
| Class |  | p-values |
| CM | BaP100μM‐Phen100μM‐Chlor1μM‐End1μM | 0 |
| Control | DMSO | 0.001 |
| EPA | EPA200μM | 0.029 |
| C-EPA | EPA200μM‐BaP100μM‐Phen100μM‐Chlor1μM-End1μM | 0.016 |

Table A4.3: Permutation tested p‐values for each of the classes (Control, CM, ARA and C-ARA).

|  |  |  |
| --- | --- | --- |
| Class |  | p-values |
| CM | BaP100μM‐Phen100μM‐Chlor1μM‐End1μM | 0 |
| Control | DMSO | 0.001 |
| ARA | ARA200μM | 0.001 |
| C-ARA | ARA200μM‐BaP100μM‐Phen100μM‐Chlor1μM‐End1μM | 0.191 |

Table A4.4: Permutation tested p‐values for each of the classes (Control, CM, αT and C-αT).

|  |  |  |
| --- | --- | --- |
| Class |  | p-values |
| CM | BaP100μM‐Phen100μM‐Chlor1μM‐End1μM | 0.004 |
| Control | DMSO | 0.062 |
| αT | αT100μM | 0.104 |
| C-αT | αT100μM ‐BaP100μM‐Phen100μM‐Chlor1μM‐End1μM | 0.089 |

Table A4.5: Permutation tested p‐values for each of the classes (Control, CM, γT and C-γT).

|  |  |  |
| --- | --- | --- |
| Class |  | p-values |
| CM | BaP100μM‐Phen100μM‐Chlor1μM‐End1μM | 0.013 |
| Control | DMSO | 0.014 |
| γT | γT100μM | 0.004 |
| C-γT | γT100μM ‐BaP100μM‐Phen100μM‐Chlor1μM‐End1μM | 0.003 |