**Supplementary Table S1**

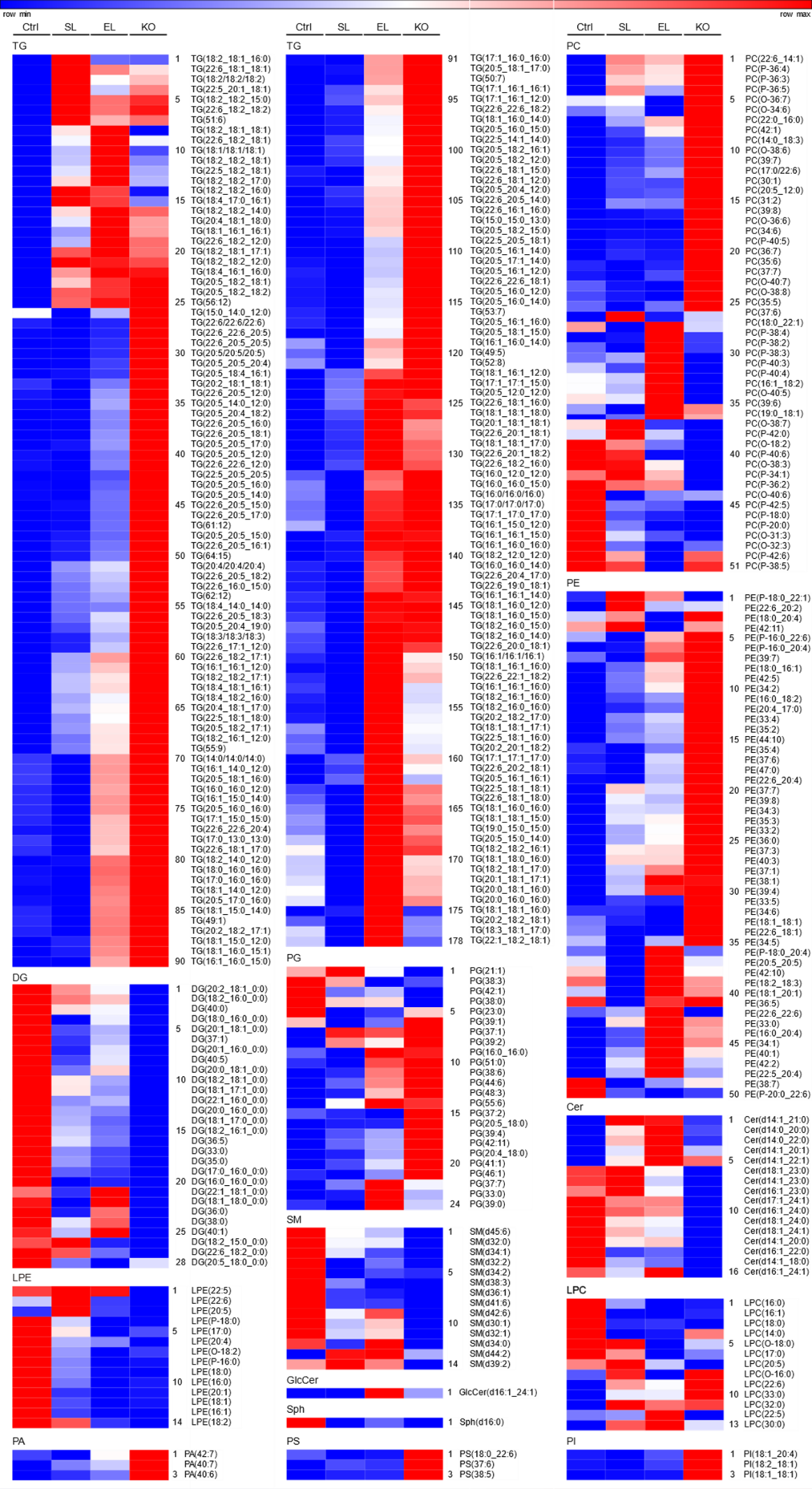
Fatty acid composition of four experimental diets (μg/g).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fatty acids** | | **Experiment diets** | | | |
| **Control** | **Soybean lecithin** | **Egg yolk lecithin** | **Krill oil** |
| Fatty acids with higher relative content in soybean lecithin group | | | | | |
| cis, cis-9,12-Linoleic Acid | C18:2 | 287.09a | 1524.91c | 493.94b | 317.25a |
| trans-11-Octadecenoic acid | C18:1 | 830.25b | 1205.87d | 1134.90c | 770.11a |
| cis, cis, cis-9,12,15-Linolenic Acid | C18:3 | 31.89a | 173.72d | 41.34b | 69.53c |
| Eicosanoic Acid | C20:0 | 15.30a | 18.36c | 16.53b | 14.79a |
| Lignoceric Acid | C24:0 | 11.08a | 12.64c | 11.74b | 11.41ab |
| Behenic Acid | C22:0 | 7.74a | 10.54c | 8.41b | 8.74b |
| Tricosanoic Acid | C23:0 | 6.03a | 6.92b | 6.23a | 6.11a |
| Fatty acids with higher relative content in egg yolk lecithin group | | | | | |
| Stearic Acid | C18:0 | 344.36a | 452.66b | 545.20c | 337.91a |
| Fatty acids with higher relative content in krill oil group | | | | | |
| all-cis-4,7,10,13,16,19-Docosahexaenoic Acid (DHA) | C22:6 | 271.94a | 298.88b | 307.39b | 1165.66c |
| all-cis-5,8,11,14,17-Eicosapentaenoic Acid | C20:5 | 144.85a | 170.41b | 167.81b | 1030.38c |
| cis-11-Octadecenoic acid | C18:1 | 67.36a | 115.54c | 95.06b | 249.20d |
| Myristic Acid | C14:0 | 109.06a | 148.97b | 147.85b | 229.54c |
| cis-15-Nervonic Acid | C24:1 | 45.92a | 50.32b | 50.74b | 168.17c |
| cis-9-Palmitoleic Acid | C16:1 | 95.84a | 141.61b | 147.52c | 165.60d |
| all-cis-7,10,13,16,19-Docosapentaenoic acid (EPA) | C22:5 | 46.62a | 50.99b | 52.39b | 69.70c |
| cis-11-Eicosenoic Acid | C20:1 | 30.32a | 39.36c | 37.91b | 40.42d |
| Pentadecanoic Acid | C15:0 | 19.47a | 25.29b | 23.77b | 29.57c |
| cis-13-Erucic Acid | C22:1 | 8.47a | 9.57a | 9.39a | 17.48b |
| cis, cis, cis-6,9,12-Linolenic Acid | C18:3 | 9.52a | 10.24b | 10.55b | 12.26c |
| cis, cis, cis-8,11,14-Linolenic Acid | C20:3 | 5.25a | 5.55a | 6.68b | 7.98c |
| all-cis-11,14,17-Eicosatrienoic Acid | C20:3 | 4.64a | 5.07b | 5.22b | 7.98c |
| trans-13-Docosenoic acid | C22:1 | 0.00a | 0.00a | 0.00a | 5.87b |
| Fatty acids with no significant difference in pairwise comparison | | | | | |
| Palmitic Acid | C16:0 | 1167.74a | 1901.81c | 1867.66c | 1556.67b |
| all-cis-5,8,11,14-Eicosatetraenoic Acid (AA) | C20:4 | 32.06a | 35.39b | 66.35c | 63.25c |
| Heptadecanoic Acid | C17:0 | 23.35a | 28.91c | 28.25c | 26.42b |
| trans-9-Elaidic Acid | C18:1 | 13.76ab | 13.23a | 14.03b | 14.36b |
| cis, cis-11,14-Eicosadienoic Acid | C20:2 | 7.45a | 9.06b | 10.45b | 10.26b |
| Lauric Acid | C12:0 | 7.41a | 8.72a | 12.11b | 9.90ab |
| trans, trans-9,12-Linolelaidic Acid | C18:2 | 6.94b | 6.85ab | 6.90ab | 6.65a |
| tran-9-Palmitelaidic acid | C16:1 | 4.96ab | 4.90ab | 4.57a | 5.08b |
| Heneicosanoic Acid | C21:0 | 3.68a | 3.99c | 3.77ab | 3.94bc |
| cis-9-Myristoleic Acid | C14:1 | 3.61a | 4.16b | 4.43b | 4.57b |
| trans-11-Eicosenoic acid | C20:1 | 2.44b | 2.54b | 1.95b | 0.36a |
| Saturated fatty acid | SFA | 1715.21a | 2609.29c | 2488.04bc | 2234.98b |
| Monounsaturated fatty acid | MUFA | 1133.36a | 1615.88d | 1529.36c | 1470.01b |
| Polyunsaturated fatty acid | PUFA | 690.57a | 995.44b | 1971.61d | 1679.64c |
| n-3 fatty acid | n-3 FA | 495.31a | 694.01c | 568.93b | 2335.27d |
| n-6 fatty acid | n-6 FA | 335.62a | 1577.41d | 577.74c | 399.4b |
| n-9 fatty acid | n-9 FA | 106.22a | 152.33b | 158.08c | 176.77d |

The values are the mean ± standard errors (n=4). Different superscripts (a, b, c and d) in the same row represent significant difference (*P* <0.05,

single factor analysis of variance and Duncan's tests).

**Supplemental Figure S1︱**Heatmaps for hierarchical clustering analysis of differential metabolites in ovary. Colors from dark blue to dark red indicate the contents of lipid molecules from min to max within a row. Ctrl (control group, phospholipid-devoid), SL (added 4% soybean lecithin), EL (added 4% egg yolk lecithin), KO (added 4% krill oil).



**Supplemental Figure S2︱**Dispersion point diagram of PCA model for ovary.

