

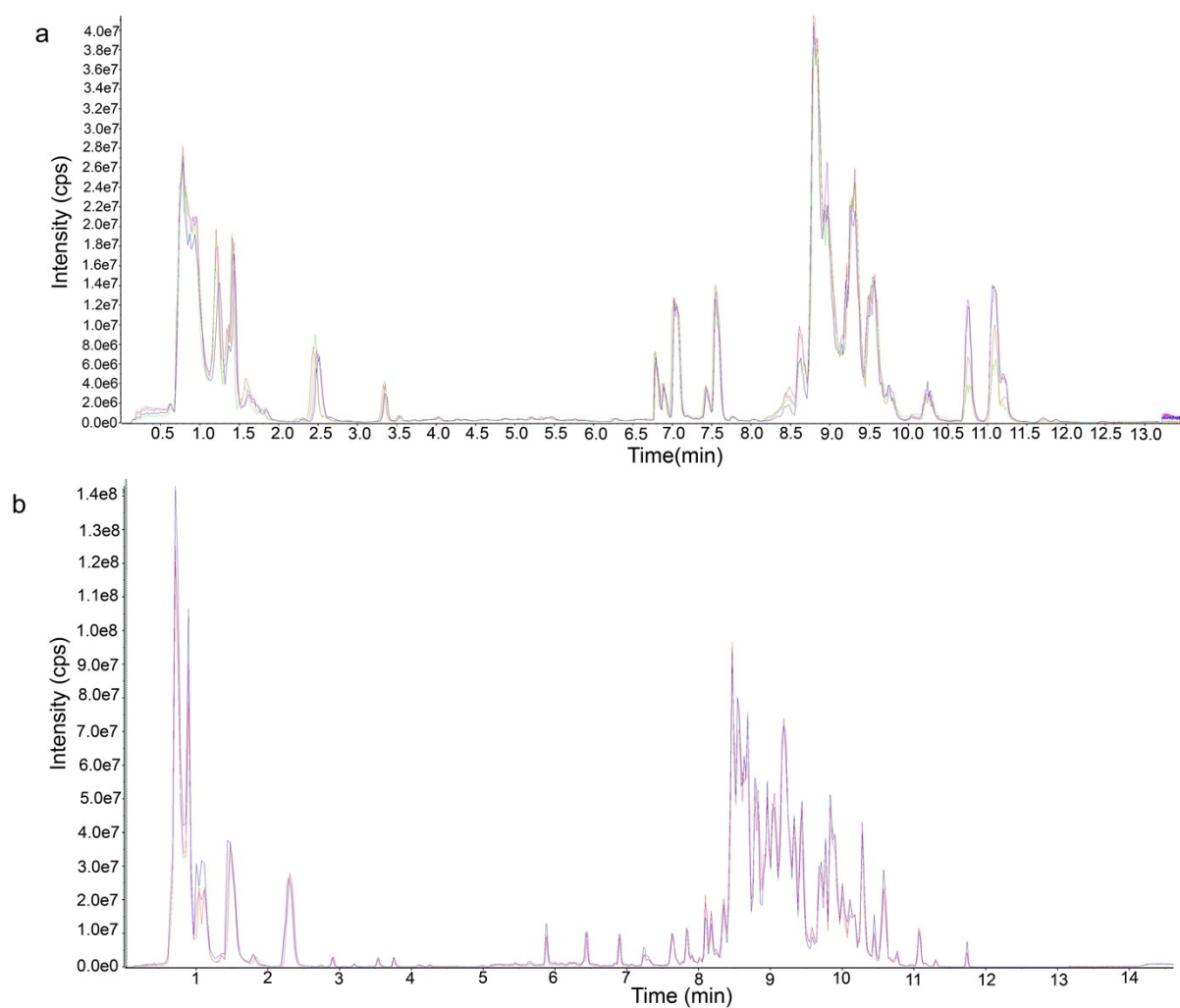


Fig.S1 TIC overlap plots (a: ESI⁻; b: ESI⁺)

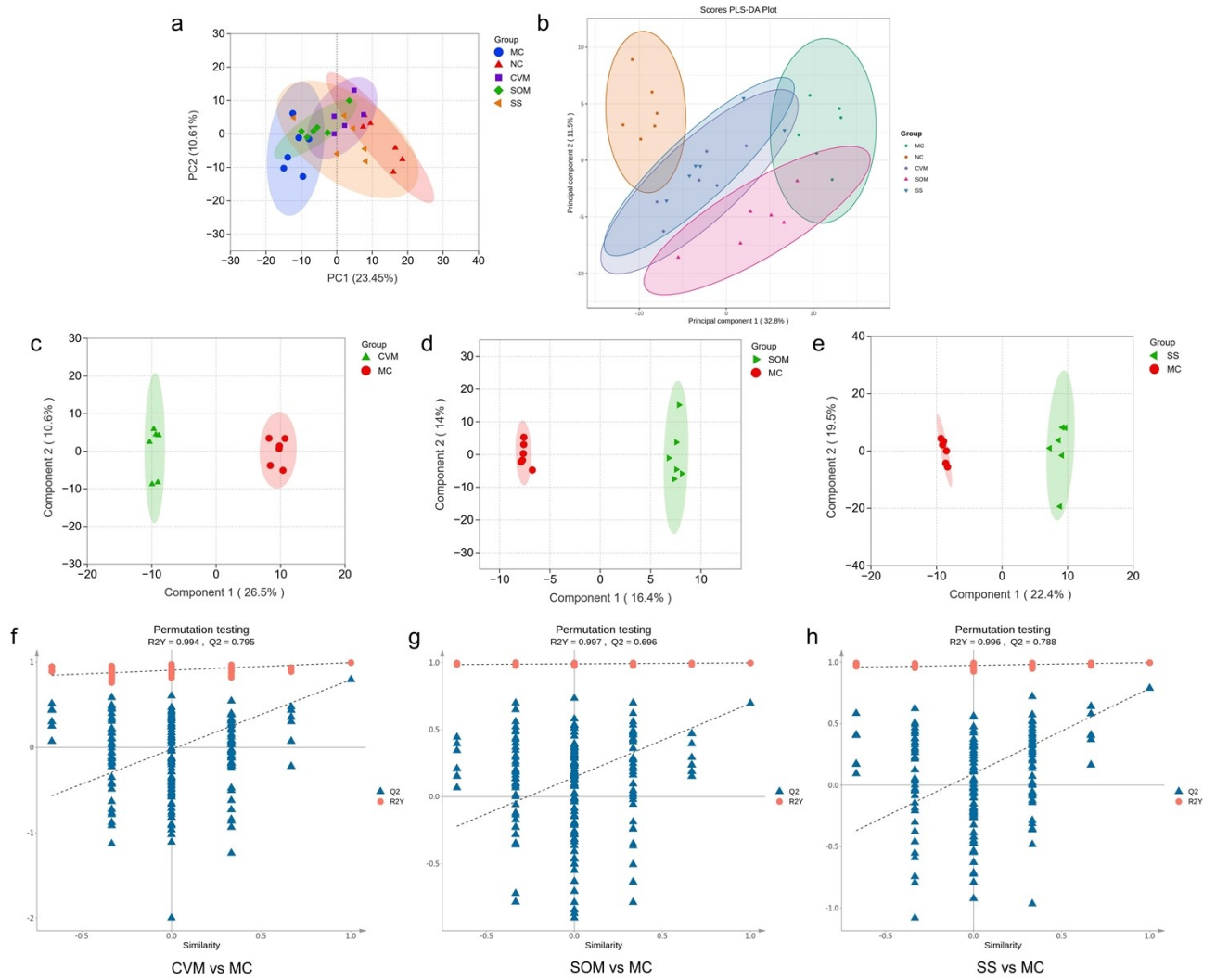


Fig.S2 Liver metabolic profile analysis, (a) PCA, (b) PLS-DA, (c-e) OPLS-DA, (f-h) permutation test.

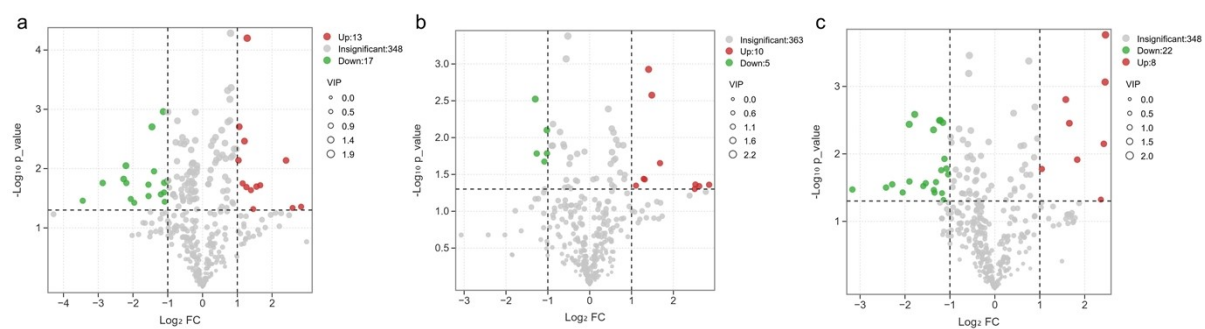


Fig. S3 Volcanic diagram of differential metabolites, (a) MC vs. CVM; (b) MC vs. SOM; (c)

MC vs. SS

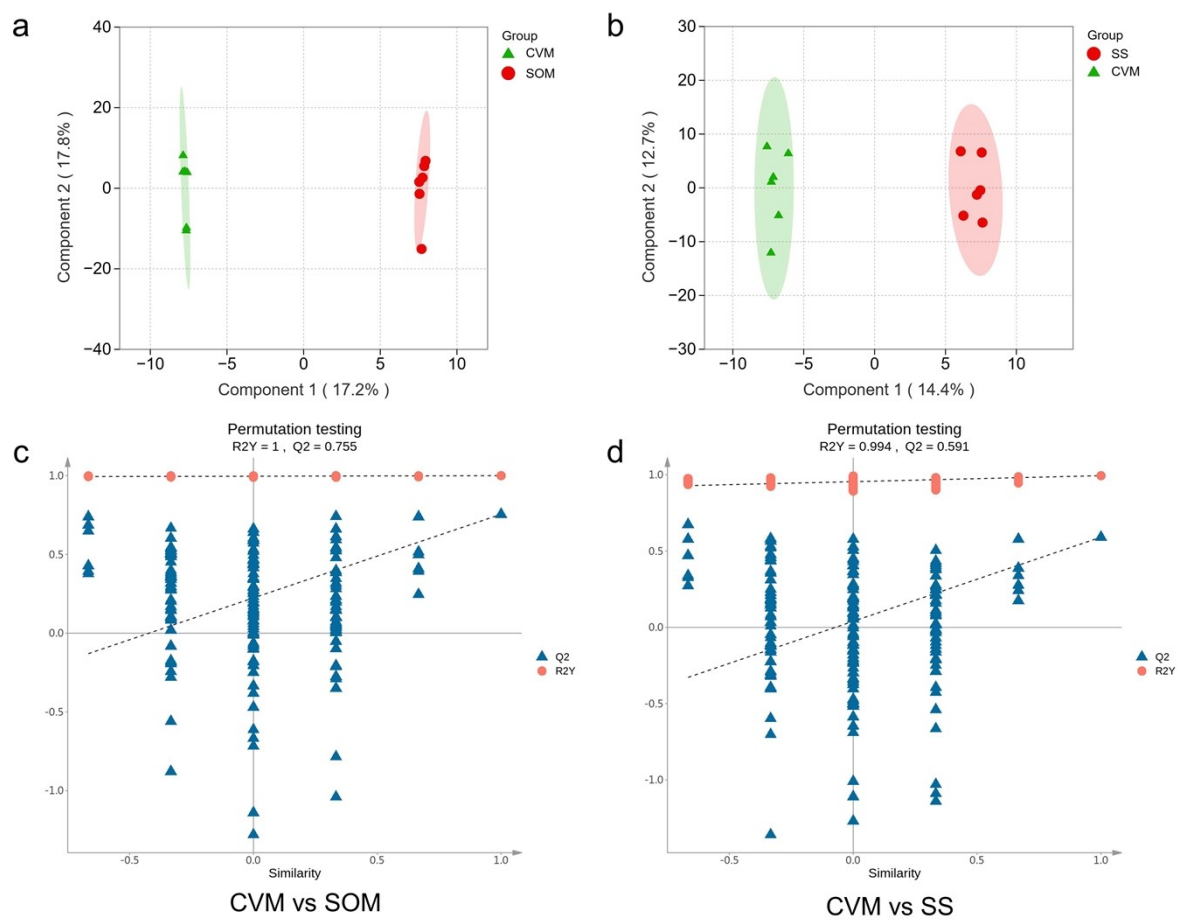


Fig.S4 OPLS-DA analysis and permutation test of CVM vs SOM and CVM vs SS groups

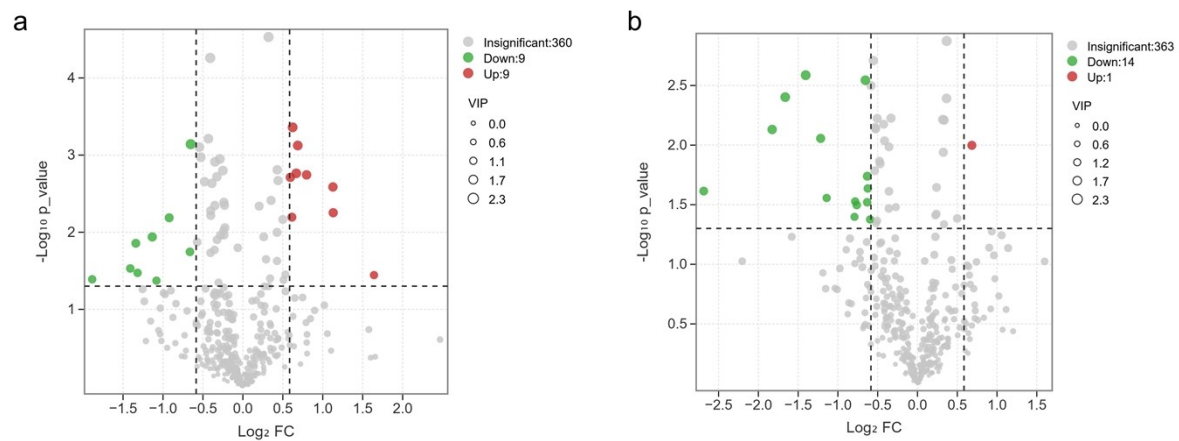


Fig.S5 Volcanic map of differential metabolites between intervention groups, (a) CVM vs. SOM; (b) CVM vs. SS

Table S1 Differential metabolites between the MC group and the CVM group

metabolite	VIP	FC	<i>p</i> value
D-Mannose	1.853665	2.435119	6.32E-05
Moracin N	1.413616	2.39841	0.020493
N-Acetylneuraminic acid	1.446347	2.930191	0.02012
Isoliquiritigenin	1.645773	0.456902	0.001093
α,α -Trehalose	1.301347	7.136264	0.043954
N-Propionylglycine	1.418834	0.496189	0.016144
N-(1-Deoxy-1-fructosyl)phenylalanine	1.292645	6.01971	0.04608
N-palmitoyl-phosphoethanolamine	1.531893	0.207413	0.014988
L-Menthyl acetoacetate	1.607861	0.217137	0.008935
3,5-Diiodo-L-thyronine	1.499661	0.466469	0.017294
Dopamine glucuronide	1.322227	0.435409	0.027175
Docosahexaenoic acid	1.329806	0.464455	0.025225
Glycyl-L-proline	1.591867	2.306114	0.003444
Glycerophosphocholine	1.29253	2.623875	0.023096
Galactinol	1.517373	5.282996	0.007284
Cyclobenzaprine	1.330323	2.224174	0.017771
Glucose 6-phosphate	1.485711	2.045988	0.007241
Galactose 1-phosphate	1.576987	2.077235	0.001967
Asp-phe	1.322764	3.157884	0.019084
Acetylcholine	1.240631	2.746305	0.048176
Indoleacetic acid	1.254503	0.470101	0.036227
O-Decanoyl-L-carnitine	1.313564	0.239459	0.032543
ACar 18:2	1.445338	0.136632	0.017474
ACar 20:4	1.681036	0.364919	0.001976
Linoleyl carnitine	1.317852	0.091805	0.034811
L-Palmitoylcarnitine	1.396927	0.218876	0.017471
LPE 16:1	1.341923	0.340995	0.029041
Sclareol	1.387084	0.380259	0.011105
DGLA	1.272493	0.25624	0.037669
Cis-8,11,14-Eicosatrienoic acid	1.34035	0.340253	0.018649

Table S2 Differential metabolites between the MC group and the SOM group

metabolite	VIP	FC	<i>p</i> value
Isocitric acid	1.588575	2.4889	0.036987
Citrulline	1.594172	2.44576	0.036312
N-(1-Deoxy-1-fructosyl)valine	1.668697	5.765161	0.043411
α,α -Trehalose	1.665076	7.233735	0.043691
Phenylalanyl-Glutamine	1.628461	5.696483	0.0498
N-(1-Deoxy-1-fructosyl)phenylalanine	1.654038	6.135605	0.045627
Dopamine glucuronide	1.644664	0.472009	0.021196
Docosaehaenoic acid	1.692944	0.492725	0.016397
Glycerophosphocholine	2.037872	2.653685	0.001184
Galactinol	1.665176	3.204534	0.022235
sn-Glycero-3-phosphocholine	1.959056	2.798275	0.002653
D-Galactosamine	1.590872	2.152529	0.044877
Alpha-Linolenic acid	1.705799	0.415833	0.016461
Sclareol	1.965788	0.406118	0.003
Bis(beta-D-glucosyl) crocetin	1.861951	0.492028	0.007911

Table S3 Differential metabolites between the MC group and the SS group

metabolite	VIP	FC	<i>p</i> value
Glycerol-3-phosphate	1.310276	0.442571	0.038192
Isoliquiritigenin	1.437357	0.403219	0.026216
Quinolate	1.255657	0.452481	0.048005
N-palmitoyl-phosphoethanolamine	1.445571	0.241226	0.03732
L-Menthyl acetoacetate	1.507071	0.344235	0.027262
3,5-Diiodo-L-thyronine	1.787399	0.430977	0.003186
Dopamine glucuronide	1.657569	0.424838	0.003198
Docosahexaenoic acid	1.656324	0.448785	0.003443
Arachidonic acid	1.409633	0.486423	0.020194
Fructoselysine	1.481043	2.063681	0.016748
Glycerophosphocholine	1.990014	5.511237	0.000172
Galactinol	1.603198	5.370286	0.007098
sn-Glycero-3-phosphocholine	1.909842	5.479216	0.000862
Cyclobenzaprine	1.700651	3.156773	0.003516
Asp-phe	1.596383	3.562707	0.012197
Gly-Phe	1.321568	5.132503	0.047576
Epsilon caprolactam	1.833845	0.266753	0.003646
Indoleacetic acid	1.748908	0.388201	0.004406
Hydrocortisone	1.744929	2.985856	0.001566
O-Decanoyl-L-carnitine	1.403758	0.394354	0.037597
ACar 18:3	1.505912	0.110989	0.033763
ACar 18:2	1.54097	0.205222	0.028318
ACar 20:4	1.477329	0.390055	0.034383
Linoleyl carnitine	1.519058	0.186611	0.031554
L-Palmitoylcarnitine	1.515008	0.267644	0.025657
tropicamide	1.555814	0.47337	0.016546
Alpha-Linolenic acid	1.528825	0.459552	0.011856
Palmitoleic acid	1.798802	0.290346	0.002598
Sclareol	1.452167	0.437474	0.017476
Dihomo-gamma-linolenic acid	1.433598	0.331417	0.030025

