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Supplemental Material

Metabolomic, Lipidomic, Transcriptomic, and Metagenomic Analyses in Mice Exposed to PFOS and Fed Soluble and Insoluble Dietary Fibers

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Figure S5. Relative abundance of *Muribaculum* and *Duncaniella* in mouse cecal contents (Excel Table S7). Mice were exposed to PFOS and fed diets supplemented with one of the three fibers: cellulose (control), inulin, or pectin (n=5/group). Relative abundance values are shown as box and whisker plots (midline, median; box limits, upper and lower quartiles; whiskers, 10 th and 90 th percentiles). Data were analyzed using two-way ANOVA followed by the Tukey's post-hoc test. *$p < 0.05$, **$p<0.01$.

Additional File- Excel Document

Table S1. OpenStandard Diet supplemented with cellulose, inulin, or pectin dietary fibers.

	8% Cellulose		8% Inulin		8% Pectin	
Ingredient	gm	kcal	gm	kcal	gm	kcal
Casein	200	800	200	800	200	800
L-Cysteine	3	12	3	12	3	12
Core Starch	390.5	1562	358.5	1434	358.5	1434
Maltodexitrin 10	110	440	110	440	110	440
Dextrose	150	600	150	600	150	600
Cellulose	85	0	0	0	0	0
Inulin	0	0	85	127.5	0	0
Pectin	0	0	0	0	85	127.5
Soybean Oil	70	630	70	630	70	630
Mineral Mix S10026	10	0	10	0	10	0
Dicalcium Phosphate	13	0	13	0	13	0
Cacium Carbonate	5.5	0	5.5	0	5.5	0
Potassium Citrate	16.5	0	16.5	0	16.5	0
Vitamine Mix	10	40	10	40	10	40
Choline Bitatrate	2	0	2	0	2	0
Yellow Dye	0.025	0	0	0	0	0
Red Dye	0.025	0	0.05	0	0	0
Blue Dye	0	0	0	0	0.05	0

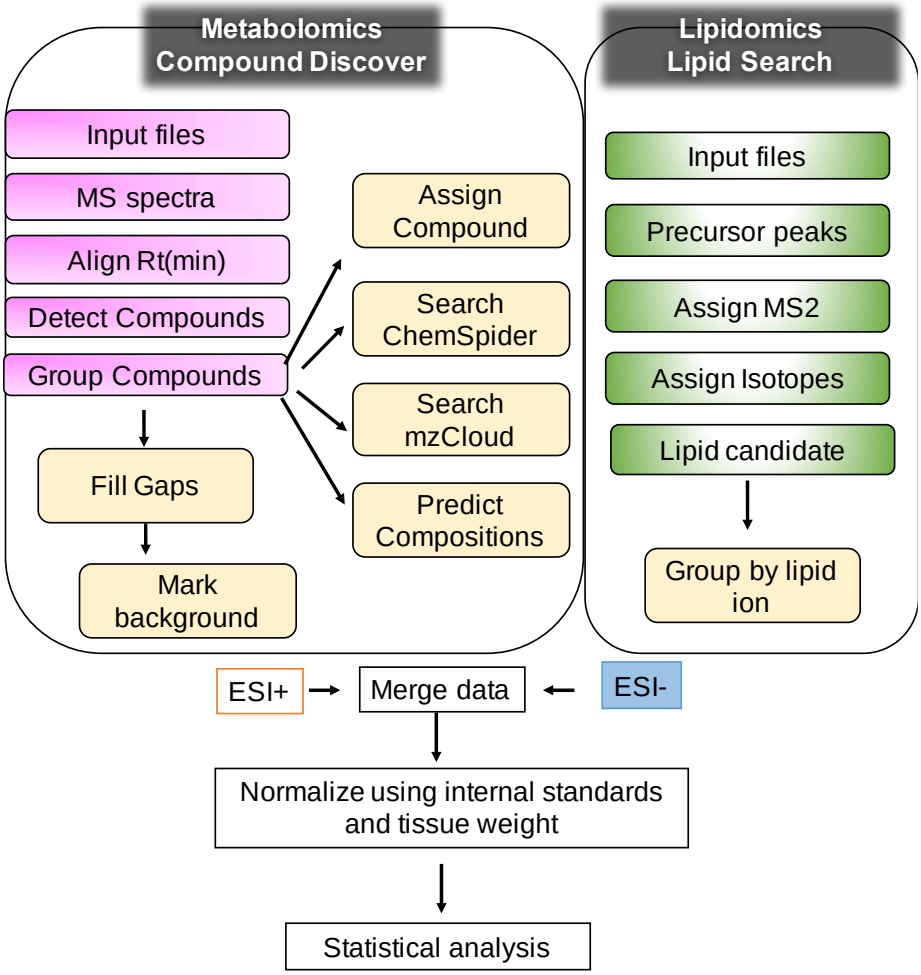


Figure S1. Metabolomic and lipidomic data analysis workflow

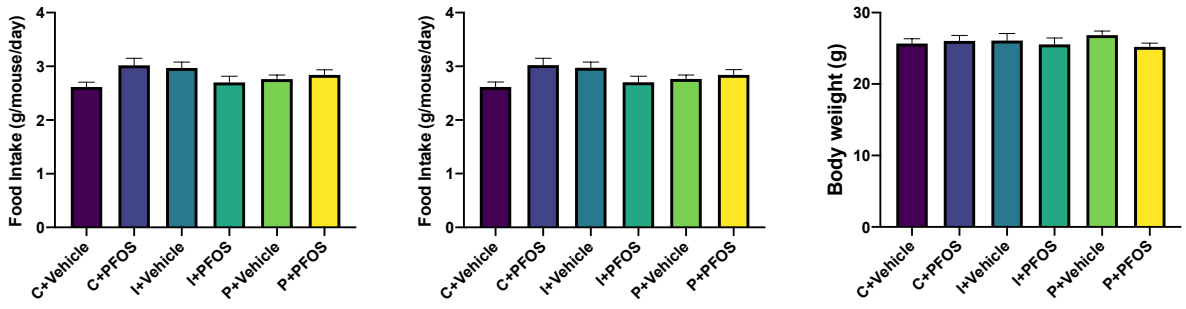


Figure S2. Body weight, food and water intake of male C57BL/6 mice exposed to PFOS and fed with cellulose, inulin or pectin supplemented diet for 7 weeks. A: water intake; B: food intake; C: body weight. Bars represent mean ± SEM of 6-8 mice in each group. Detailed data are of body weight, food and water intake are listed in Excel Table S9-10.

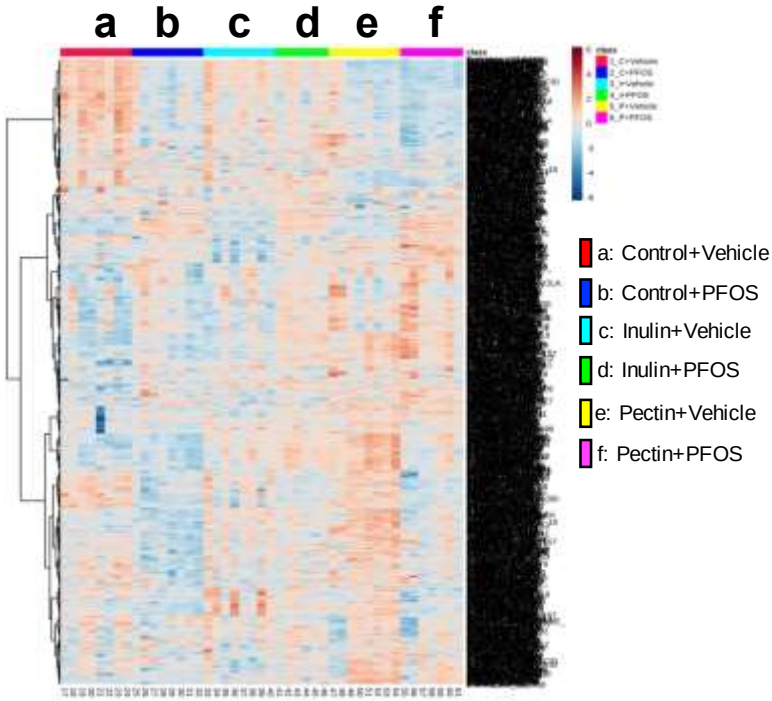


Figure S3. Heat map analysis of liver samples from mice exposed to PFOS and fed diets supplemented with one of the three fibers: cellulose (control), inulin, or pectin (n=6-8/group). Full metabolomic data are listed in Excel Table S5.

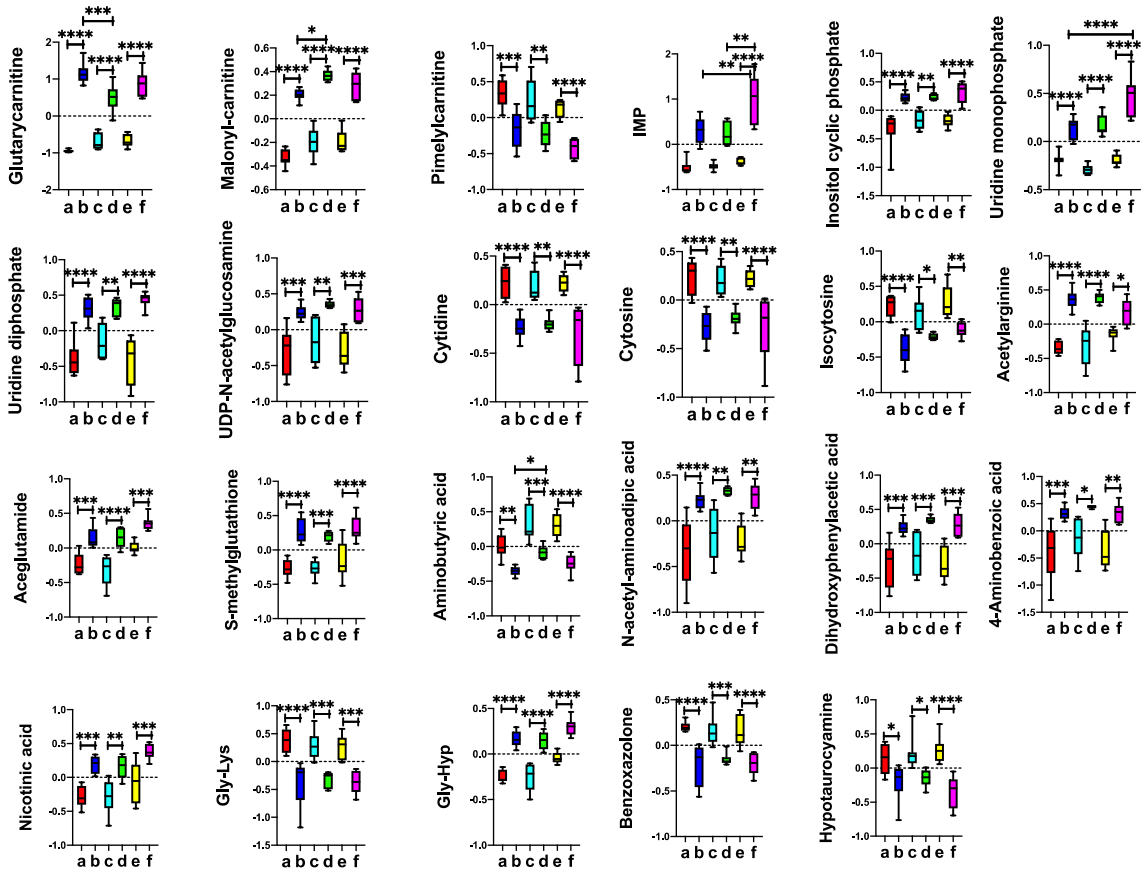
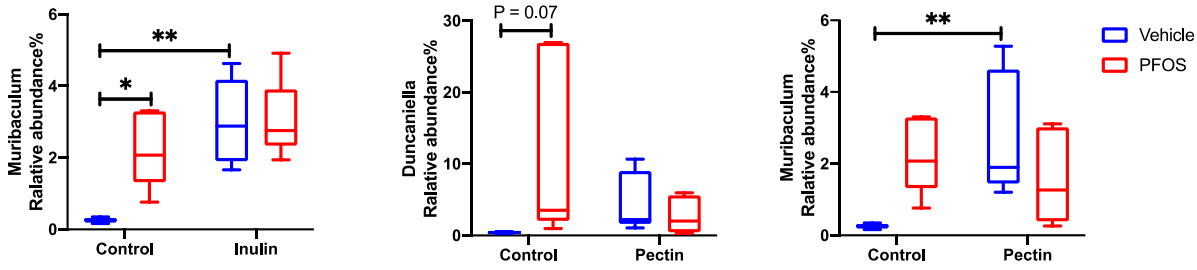


Figure S4. Differences in the level of liver metabolites from mice exposed to PFOS and fed diets supplemented with one of the three fibers: cellulose (control), inulin, or pectin (n=6-8/group). MetaboAnalyst 5.0 analysis identified a total of 23 metabolites/compounds that had adjusted $p<0.05$ (adj-p) and fold change>2 after PFOS exposure in control, inulin and pectin fed groups. Log-transformed abundance values are shown as box and whisker plots (midline, median; box limits, upper and lower quartiles; whiskers, 10 th and 90 th percentiles). Data were compared using two-way ANOVA and Tukey test for multiple comparisons, * $p<0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$. Full metabolomic data are listed in Excel Table S5.



Source of Variation	% of total variation	P value
Interaction	11.77	0.0387
Dietary fiber	38.34	0.0009
PFOS Exposure	12.76	0.0322

Source of Variation	% of total variation	P value
Interaction	19.59	0.0465
Dietary fiber	2.757	0.4300
PFOS Exposure	10.37	0.1360

Source of Variation	% of total variation	P value
Interaction	30.49	0.0097
Dietary fiber	10.90	0.0984
PFOS Exposure	1.961	0.4675

Figure S5. Relative abundance of *Muribaculum* and *Duncaniella* in mouse cecal contents (Excel Table S7). Mice were exposed to PFOS and fed diets supplemented with one of the three fibers: cellulose (control), inulin, or pectin (n=5/group). Relative abundance values are shown as box and whisker plots (midline, median; box limits, upper and lower quartiles; whiskers, 10 th and 90 th percentiles). Data were analyzed using two-way ANOVA followed by the Tukey's post-hoc test. *$p < 0.05$, **$p<0.01$.