

Supplementary information

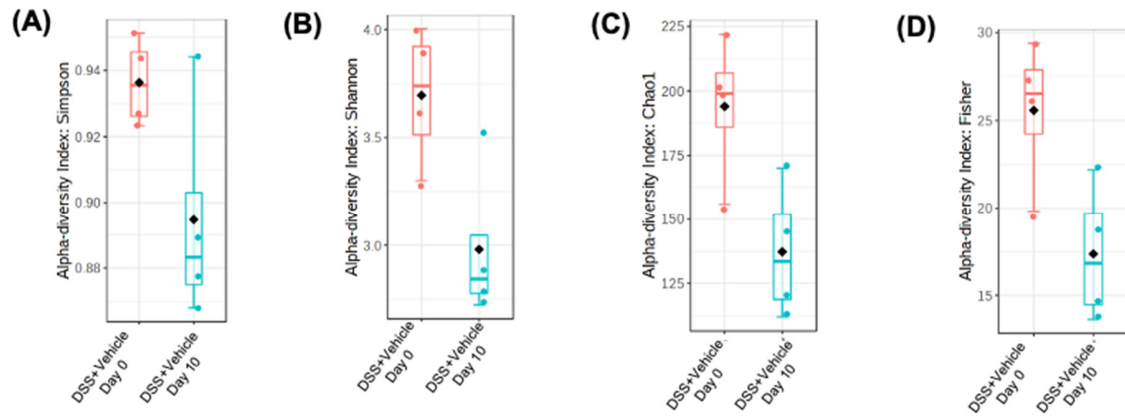
Table S1: Stool metabolite comparison in DSS+SFE group (n=5 each) at two time points (day 0 and day 10).

| BinBase name | DSS+SFE 10 vs DSS+SFE 0 Log2-Fold-change | Treated day 10 vs day 0 P-value | Treated day 10 vs day 0 FDR |
|---------------------------------|---|--|------------------------------------|
| 1-monostearin | 2.015 | 0.010 | 0.028 |
| 1,5-anhydroglucitol | 3.320 | 0.000 | 0.001 |
| 2-aminobutyric acid | 2.821 | 0.000 | 0.000 |
| 2-deoxypentitol | 2.062 | 0.000 | 0.001 |
| 2-deoxytetronic acid | 1.016 | 0.023 | 0.055 |
| 2-hydroxybutanoic acid | 4.861 | 0.000 | 0.000 |
| 2-hydroxyglutaric acid | 0.819 | 0.022 | 0.053 |
| 2-hydroxyhexanoic acid | 4.944 | 0.000 | 0.000 |
| 2-monoolein | -3.887 | 0.002 | 0.007 |
| 2'-deoxyguanosine | -2.183 | 0.006 | 0.020 |
| 3-aminoisobutyric acid | 1.364 | 0.007 | 0.021 |
| 3-epicholic acid | -2.052 | 0.007 | 0.022 |
| 3-hydroxy-3-methylglutaric acid | 2.975 | 0.000 | 0.000 |
| 3-hydroxybutyric acid | 2.810 | 0.000 | 0.000 |
| 3-phenyllactic acid | 3.883 | 0.000 | 0.000 |
| 3,4-dihydroxyphenylacetic acid | -2.410 | 0.001 | 0.003 |
| 4-aminobutyric acid | 2.848 | 0.018 | 0.046 |
| 4-hydroxybenzoic acid | 1.515 | 0.005 | 0.015 |
| 4-hydroxybutyric acid | 3.576 | 0.000 | 0.000 |
| 4-pyridoxic acid | -1.051 | 0.011 | 0.031 |
| 5-aminovaleric acid | 1.880 | 0.001 | 0.006 |
| 5-methoxytryptamine | -1.652 | 0.009 | 0.027 |
| aconitic acid | 1.609 | 0.017 | 0.044 |
| aminomalonate | 1.897 | 0.009 | 0.026 |
| arachidonic acid | 3.246 | 0.000 | 0.001 |
| beta-gentiobiose | 2.197 | 0.005 | 0.018 |
| cellobiose | -1.796 | 0.011 | 0.032 |
| chenodeoxycholic acid | -1.199 | 0.008 | 0.024 |
| cholesterol | 3.397 | 0.000 | 0.000 |
| citramalic acid | 3.876 | 0.000 | 0.002 |
| conduiritol-beta-epoxide | 4.549 | 0.000 | 0.000 |
| creatinine | 2.181 | 0.000 | 0.001 |
| cysteine | 1.565 | 0.006 | 0.020 |
| cystine | 3.832 | 0.000 | 0.000 |
| daidzein | 2.264 | 0.000 | 0.003 |
| deoxycholic acid | -7.352 | 0.000 | 0.000 |
| dihydro-3-coumaric acid | -4.553 | 0.000 | 0.000 |
| docosahexaenoic acid | 1.732 | 0.004 | 0.015 |
| erythritol | 1.655 | 0.003 | 0.012 |
| ferulic acid | -1.790 | 0.004 | 0.014 |
| fumaric acid | 1.939 | 0.001 | 0.004 |
| galactinol | 1.559 | 0.002 | 0.010 |
| gluconic acid | 3.454 | 0.000 | 0.002 |
| glucose | -1.894 | 0.003 | 0.011 |

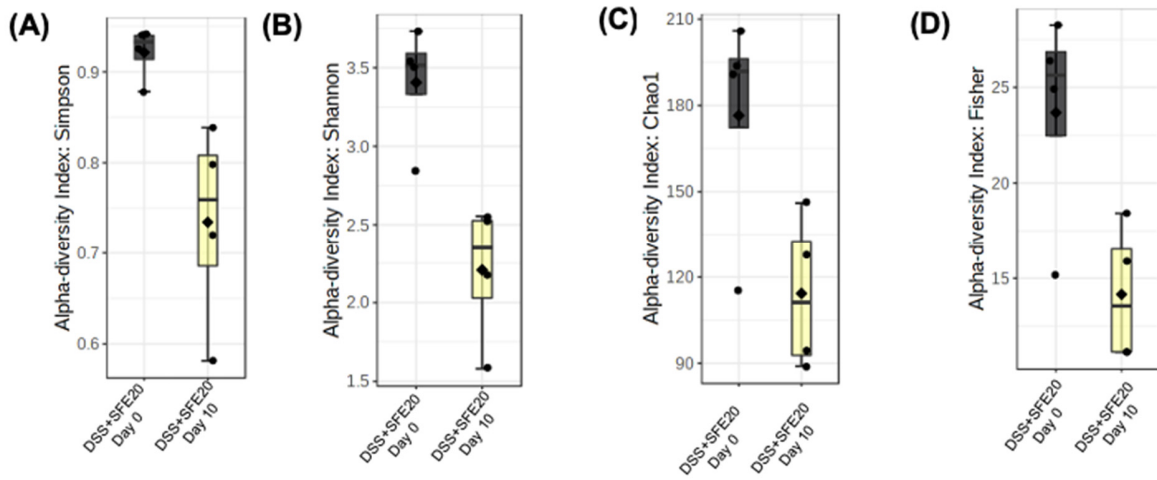
| | | | |
|------------------------|--------|-------|-------|
| glutamine | -1.520 | 0.017 | 0.044 |
| glycerol-3-galactoside | -1.152 | 0.019 | 0.048 |
| glycine | 1.210 | 0.003 | 0.011 |
| glycolic acid | 2.514 | 0.000 | 0.000 |
| glycyl tyrosine | -1.408 | 0.004 | 0.013 |
| guanine | -5.746 | 0.000 | 0.000 |
| hydrocinnamic acid | -1.871 | 0.004 | 0.014 |
| hypoxanthine | -4.625 | 0.000 | 0.001 |
| isothreonic acid | -1.384 | 0.018 | 0.046 |
| L-DOPA | 2.202 | 0.000 | 0.001 |
| lactitol | -3.038 | 0.000 | 0.000 |
| levoglucosan | 1.021 | 0.008 | 0.025 |
| lithocholic acid | -2.028 | 0.000 | 0.003 |
| maleimide | 1.002 | 0.014 | 0.039 |
| malic acid | 3.090 | 0.000 | 0.000 |
| malonic acid | 3.535 | 0.000 | 0.000 |
| myo-inositol | 2.821 | 0.000 | 0.000 |
| N-acetylglutamate | -1.182 | 0.007 | 0.023 |
| nicotianamine | 2.723 | 0.000 | 0.001 |
| O-acetylserine | 1.253 | 0.011 | 0.032 |
| oleic acid | -1.947 | 0.003 | 0.010 |
| oxamic acid | 2.533 | 0.000 | 0.000 |
| palmitoleic acid | 1.820 | 0.002 | 0.007 |
| parabanic acid | 2.505 | 0.001 | 0.004 |
| pentitol | 2.016 | 0.000 | 0.002 |
| pentose | -2.381 | 0.002 | 0.008 |
| phytol | -1.587 | 0.012 | 0.032 |
| phytosphingosine | 2.109 | 0.008 | 0.023 |
| pinitol | 4.600 | 0.000 | 0.001 |
| piperidone | 1.594 | 0.001 | 0.003 |
| quinic acid | 1.991 | 0.000 | 0.003 |
| quinolinic acid | 1.530 | 0.003 | 0.012 |
| raffinose | 1.848 | 0.018 | 0.046 |
| ribose | -1.936 | 0.007 | 0.023 |
| saccharic acid | 2.407 | 0.000 | 0.001 |
| saccharopine | -1.474 | 0.002 | 0.007 |
| sarcosine | 1.130 | 0.008 | 0.025 |
| sophorose | -2.059 | 0.016 | 0.042 |
| squalene | 1.139 | 0.008 | 0.023 |
| tagatose | 1.258 | 0.006 | 0.020 |
| tocopherol alpha- | -2.128 | 0.004 | 0.015 |
| tyrosine | -1.646 | 0.001 | 0.005 |
| uric acid | 4.088 | 0.000 | 0.000 |
| urocanic acid | 1.057 | 0.006 | 0.020 |
| vanillic acid | 2.460 | 0.000 | 0.001 |
| xanthosine | 2.255 | 0.000 | 0.003 |
| xylose | -2.302 | 0.001 | 0.003 |
| zymosterol | 1.504 | 0.002 | 0.009 |

*All the unidentified metabolites were excluded in this table.

At day 0 these are baseline values but at day 10 the alterations of metabolites are due to effect of DSS+SFE20mg (combine effect of DSS+SFE20mg)



Supplementary Figure S1: Microbial diversity comparison between two timepoints day 0 and day 10 for DSS+Vehicle group. The OTU number representing the bacterial species richness of the microbiota was estimated for alpha diversity using the, A) Simpson (p value:0.087) , B) Shannon index (p value:0.025), C) Chao1 (p value:0.024), D) Fischer (p value: 0.027).



Supplementary Figure S2: Microbial diversity comparison between two timepoints day 0 and day 10 for DSS+SFE20 group. The OTU number representing the bacterial species richness of the microbiota was estimated for alpha diversity using the , A) Simpson (p value:0.041) , B) Shannon index (p value:0.007), C) Chao1 (p value:0.050), D) Fischer (p value: 0.039).