Figure 1

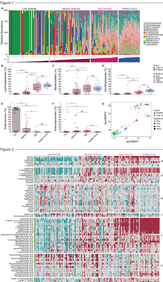


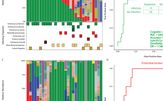
Figure 2

Figure 3

Metabolite	Category	Group	Coef
Tryptophan	Amino Acid	High	-
2-Furoyl	Acyl	High	-
Tryptophan	Amino Acid	High	-
Acetylcholine	BCFA	High	-
Acetylcholine	BCFA	High	-
Isobutyricacid Acid	Acyl	High	-
Tryptophan	Amino Acid	High	-
Propionate	SCFA	High	-
Tryptophan	Amino Acid	High	-
Tryptophan	Amino Acid	High	-
Trimethylamine N-oxide	Amino Acid	Mid	-
Trimethylamine N-oxide	Amino Acid	Mid	-
Gamma-Butyrobetaine Acid	Amino Acid	Mid	-
Gamma-Butyrobetaine Acid	Amino Acid	Mid	-
Cysteine	AA	Low	-
Cysteine	AA	Low	-
Indole-3-Propionic	Amino Acid	Low	-
Indole-3-Propionic	Amino Acid	Low	-
Tryptophan	Amino Acid	Low	-
Tryptophan	Amino Acid	Low	-

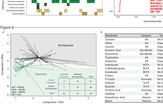
Figure 4

Figure 5



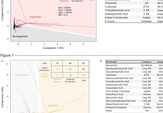
Metabolite	Category	Group	Coef
Tryptophan	Amino Acid	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Trimethylamine N-oxide	Amino Acid	Exponential	-
Trimethylamine N-oxide	Amino Acid	Exponential	-
Gamma-Butyrobetaine Acid	Amino Acid	Exponential	-
Gamma-Butyrobetaine Acid	Amino Acid	Exponential	-
Tryptophan	AA	Exponential	-
Tryptophan	AA	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Acetylcholine	BCFA	No Dysbiosis	-
Acetylcholine	BCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	Organic	No Dysbiosis	-
Butyrate	Organic	No Dysbiosis	-

Figure 6



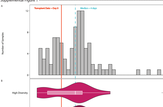
Metabolite	Category	Group	Coef
Tryptophan	Amino Acid	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Trimethylamine N-oxide	Amino Acid	Exponential	-
Trimethylamine N-oxide	Amino Acid	Exponential	-
Gamma-Butyrobetaine Acid	Amino Acid	Exponential	-
Gamma-Butyrobetaine Acid	Amino Acid	Exponential	-
Tryptophan	AA	Exponential	-
Tryptophan	AA	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Acetylcholine	BCFA	No Dysbiosis	-
Acetylcholine	BCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	Organic	No Dysbiosis	-
Butyrate	Organic	No Dysbiosis	-

Figure 7

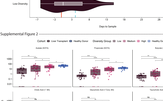


Metabolite	Category	Group	Coef
Tryptophan	Amino Acid	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Trimethylamine N-oxide	Amino Acid	Exponential	-
Trimethylamine N-oxide	Amino Acid	Exponential	-
Gamma-Butyrobetaine Acid	Amino Acid	Exponential	-
Gamma-Butyrobetaine Acid	Amino Acid	Exponential	-
Tryptophan	AA	Exponential	-
Tryptophan	AA	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Tryptophan	Amino Acid	Exponential	-
Acetylcholine	BCFA	No Dysbiosis	-
Acetylcholine	BCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	SCFA	No Dysbiosis	-
Butyrate	Organic	No Dysbiosis	-
Butyrate	Organic	No Dysbiosis	-

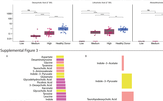
Supplemental Figure 1



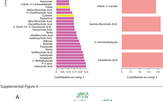
Supplemental Figure 2



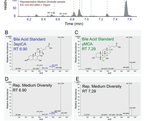
Supplemental Figure 3



Supplemental Figure 4

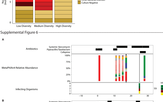


Supplemental Figure 5

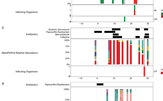


Supplemental Figure 6

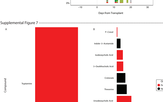
Supplemental Figure 7



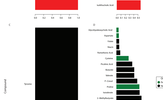
Supplemental Figure 8



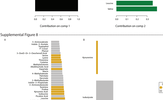
Supplemental Figure 9



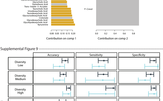
Supplemental Figure 10



Supplemental Figure 11



Supplemental Figure 12



Supplemental Figure 13

Supplemental Figure 14

Supplemental Figure 15

Supplemental Figure 16

Supplemental Figure 17

Supplemental Figure 18

Supplemental Figure 19