

**Table S4**

**A.**

DECREASE (by LED209 administration)					
# of Exp	OTU	P	SD+ve mean	SD+LED mean	Fold change
3 Exp	p__Bacteroidetes c__Bacteroidia o__Bacteroidales f__Rikenellaceae g__AF12 s__	0.003	0.246%	0.117%	2.10
	p__Bacteroidetes c__Bacteroidia o__Bacteroidales f__Prevotellaceae g__Prevotella s__	0.014	19.215%	15.638%	1.23
INCREASE					
# of Exp	OTU	P	SD+ve mean	SD+LED mean	Fold change
3 Exp	p__Tenericutes c__Mollicutes o__RF39 f__ g__ s__	0.016	0.024%	0.032%	1.35

**B.**

DECREASE (by LED209 administration)					
# of Exp	OTU	P	SD+Ve mean	SD+LED mean	Fold change
Exp1	p__Firmicutes c__Bacilli o__Bacillales f__Planococcaceae g__ s__	0.007	0.058%	0.000%	N/A
	p__Proteobacteria c__Gammaproteobacteria o__Pseudomonadales f__Moraxellaceae g__Acinetobacter Other	0.022	0.075%	0.000%	N/A
Exp2	p__Firmicutes c__Clostridia o__Clostridiales f__Ruminococcaceae Other Other	0.013	0.413%	0.096%	4.31
	Unassigned Other Other Other Other Other Other	0.016	1.246%	0.464%	2.68
Exp3	p__Bacteroidetes c__Bacteroidia o__Bacteroidales f__Rikenellaceae g__AF12 s__	0.009	0.184%	0.030%	6.22
	p__Actinobacteria c__Actinobacteria o__Actinomycetales f__Propionibacteriaceae g__Propionibacterium s__acnes	0.013	0.259%	0.016%	15.80
	p__Bacteroidetes c__Bacteroidia o__Bacteroidales f__ g__ s__	0.016	0.662%	0.197%	3.37
	p__Firmicutes c__Bacilli o__Lactobacillales f__Lactobacillaceae g__Lactobacillus s__	0.047	2.292%	1.413%	1.62
INCREASE					
# of Exp	OTU	P	SD+Ve mean	SD+LED mean	Fold change
Exp1	p__Bacteroidetes c__Bacteroidia o__Bacteroidales f__Bacteroidaceae g__Bacteroides s__acidifaciens	0.046	0.067%	0.304%	4.56
Exp2	p__Proteobacteria c__Betaproteobacteria o__Burkholderiales f__Alcaligenaceae g__Suttrella s__	0.046	0.019%	0.139%	7.29
Exp3	p__Proteobacteria c__Betaproteobacteria o__Burkholderiales f__Alcaligenaceae g__Suttrella s__	0.016	0.059%	0.233%	3.94