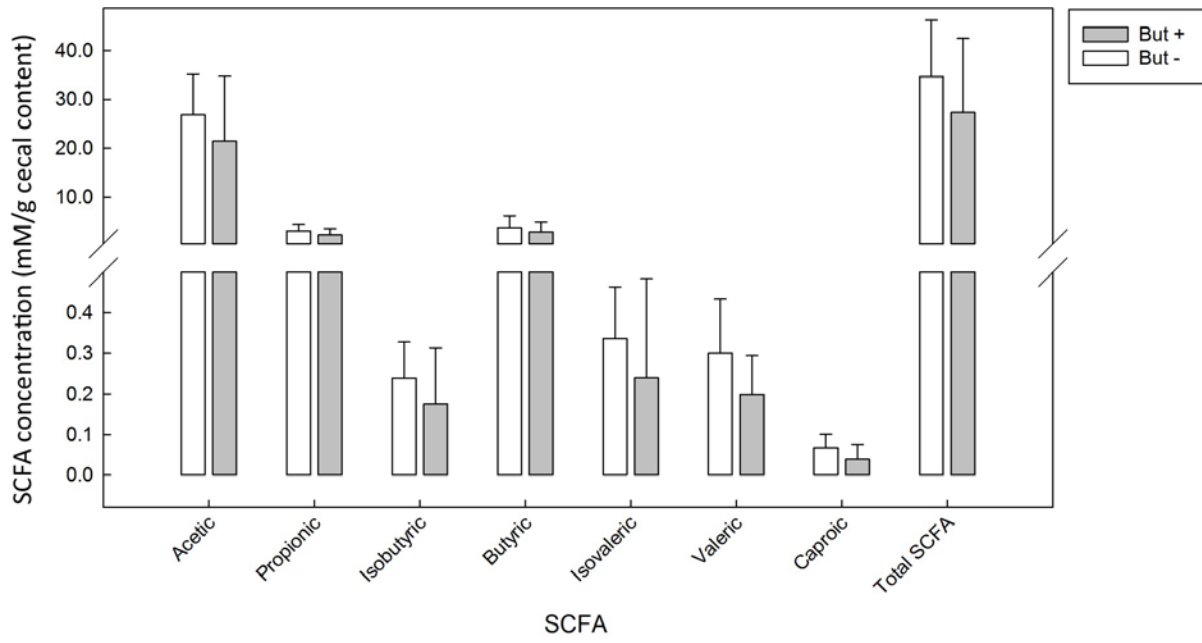
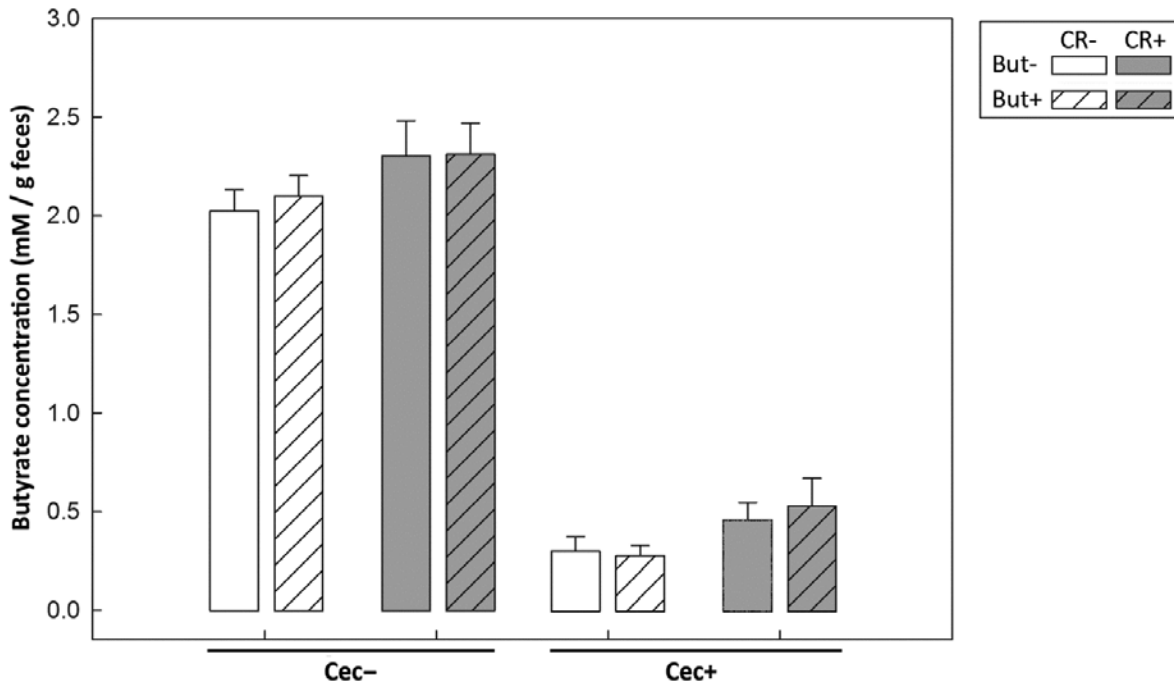


**Table S1:** Number of sequences per sample sequenced for 16S rRNA gene amplicon community analysis

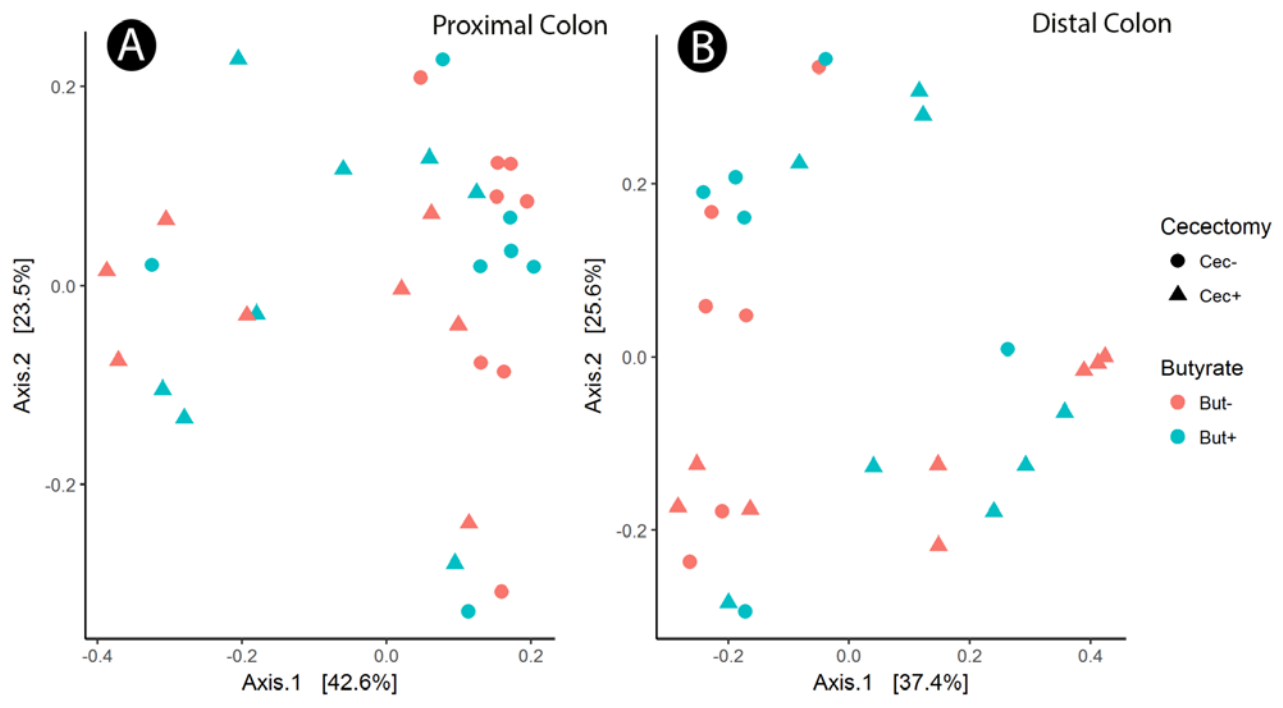
Sample Information		Treatment			# Sequences	
Experimental Rep	Mouse	Cecectomy	<i>C. rodentium</i>	Butyrate	PC	DC
A	10A	0	1	1	49126	33535
C	10C	0	1	0	30893	18365
D	10D	0	1	0	14579	26761
B	15B	1	0	0	11665	27976
D	15D	1	0	0	9266	38785
A	16A	1	0	0	54301	4811
B	16B	1	1	0	14051	13758
D	16D	1	0	1	1844	37064
A	17A	1	0	1	17765	7115
B	17B	1	0	1	30774	9172
D	17D	1	1	0	32874	11923
A	18A	1	1	0	26785	29803
B	18B	1	1	1	25849	18658
C	18C	1	0	0	39062	13998
D	18D	1	1	1	42292	1974
A	19A	1	1	1	54567	18328
C	19C	1	0	1	11508	19358
C	20C	1	1	0	42992	5216
B	21B	0	0	1	31471	26437
B	22B	0	1	1	32133	12481
D	22D	0	1	1	35449	12318
B	23B	0	1	0	34165	22292
C	23C	0	1	1	28989	18758
C	26C	0	1	1	32596	32351
D	6D	0	0	0	33380	9666
A	7A	0	0	0	19838	48368
A	8A	0	0	1	33402	28035
B	8B	0	0	0	16704	42537
C	8C	0	0	0	44057	32131
D	8D	0	0	1	34718	27744
A	9A	0	1	0	23365	29084
C	9C	0	0	1	25286	25133



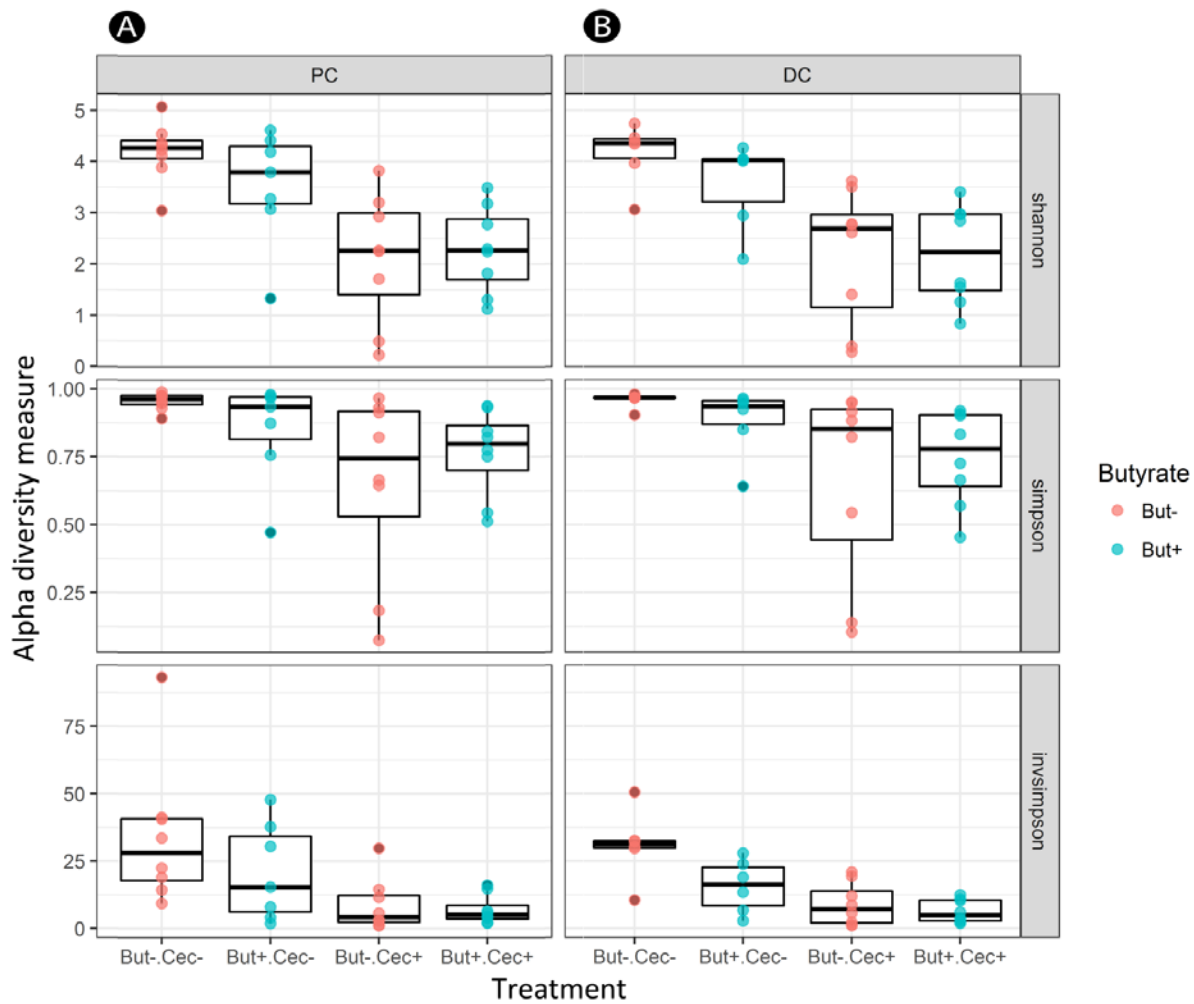
**Figure S1.** Concentrations of short chain fatty acids (SCFAs) in the cecal content of mice that were administered PBS (But-) or butyrate (But+) via colonic infusion. Data is representative of mice euthenized 7 and 14 days after oral administration of PBS or *Citrobacter rodentium*. Vertical lines associated with histogram bars represent standard error of the means (n=eight mice/treatment).



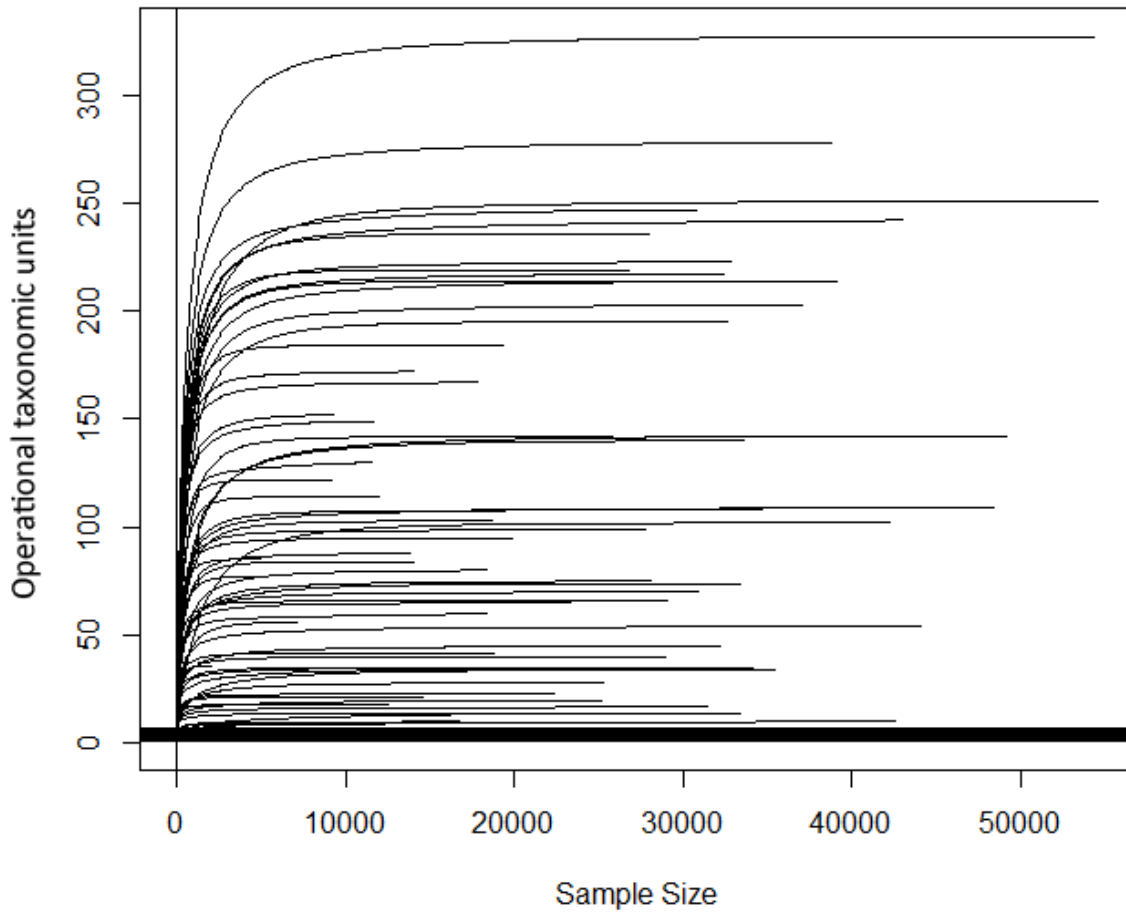
**Figure S2.** Concentrations of butyrate in feces from mice that received sham (Cec-) or cecectomy (Cec+) surgeries, were orally administered PBS (CR-) or *Citrobacter rodentium* (CR+), and received enemas containing PBS (But-) or butyrate (But+). Data is shown from fecal material collected over 5 weeks post-surgery. Vertical lines associated with histogram bars represent standard error of the means (n=55 to 75 fecal samples/treatment).



**Figure S3.** Principal component analysis based on Bray-Curtis dissimilarity in bacterial communities in the proximal (A) and distal (B) colon in mice that received sham (Cec-) or cecectomy (Cec+) surgeries, and were administered PBS (But-) or butyrate (But+) via enemas.



**Figure S4.** Alpha diversity of bacterial communities in the proximal (A) and distal (B) colon in mice that received sham (Cec-) or cecectomy (Cec+) surgeries and were administered PBS (But-) or butyrate (But+) via enema. Vertical lines associated with histogram bars represent standard error of the means (n=six to eight mice/treatment).



**Figure S5.** Rarefaction curves of processed samples from the proximal and distal colon of mice  $\pm$  cecum and  $\pm$  inoculated by *Citrobacter rodentium*.