

**Supplementary Table S1.** Mean relative abundances of bacterial and Eukaryote phyla in ruminal samples of cows when fed a concentrate formulated with cold-pressed rapeseed cake or a control concentrate

Phylum	Treatment		SEM	P-value
	CTR	CPRC		
16S rRNA				
Bacteroidetes <sup>1</sup>	45.7	55.8	5.02	0.1762
Firmicutes <sup>1</sup>	37.6	28.5	4.09	0.1352
Proteobacteria <sup>2</sup>	-0.124	-0.059	0.0519	0.3976
Tenericutes <sup>2</sup>	-0.434	-0.611	0.0547	0.0382
Euryarchaeota <sup>2</sup>	0.105	0.225	0.0772	0.2898
Actinobacteria <sup>2</sup>	-0.532	-0.583	0.0947	0.7076
Chloroflexi <sup>2</sup>	-0.988	-1.031	0.0945	0.7540
Cyanobacteria <sup>2</sup>	-0.973	-0.897	0.0872	0.5465
Planctomycetes <sup>1</sup>	1.31	0.89	0.144	0.0560
Spirochaetes <sup>3</sup>	0.534	0.609	0.1006	0.6090
Sinergistetes <sup>1</sup>	0.152	0.111	0.0174	0.1100
Verrucomicrobia <sup>2</sup>	-0.442	-0.608	0.0719	0.1238
TM7 <sup>1</sup>	4.63	3.48	0.685	0.2552
WPS2 <sup>2</sup>	-0.587	-0.934	0.1487	0.1214
18S rRNA				
Ascomycota <sup>2</sup>	1.42	1.47	0.088	0.7362
Basidiomycota <sup>1</sup>	1.40	0.59	0.479	0.2479
Mucoromycota <sup>1</sup>	2.63	3.08	0.703	0.6625
Neocallimastigomycota <sup>1</sup>	11.5	3.8	2.00	0.0163
Ciliophora <sup>1</sup>	33.7	41.8	7.14	0.4374
Cercozoa <sup>1</sup>	0.25	1.02	0.613	0.3905
Ochrophyta <sup>1</sup>	0.029	0.040	0.0339	0.8302

CTR: Control; CPRC: cold-pressed rapeseed cake; <sup>1</sup>Untransformed data; <sup>2</sup>Log transformation; <sup>3</sup> square root transformation; SEM: standard error of the mean