

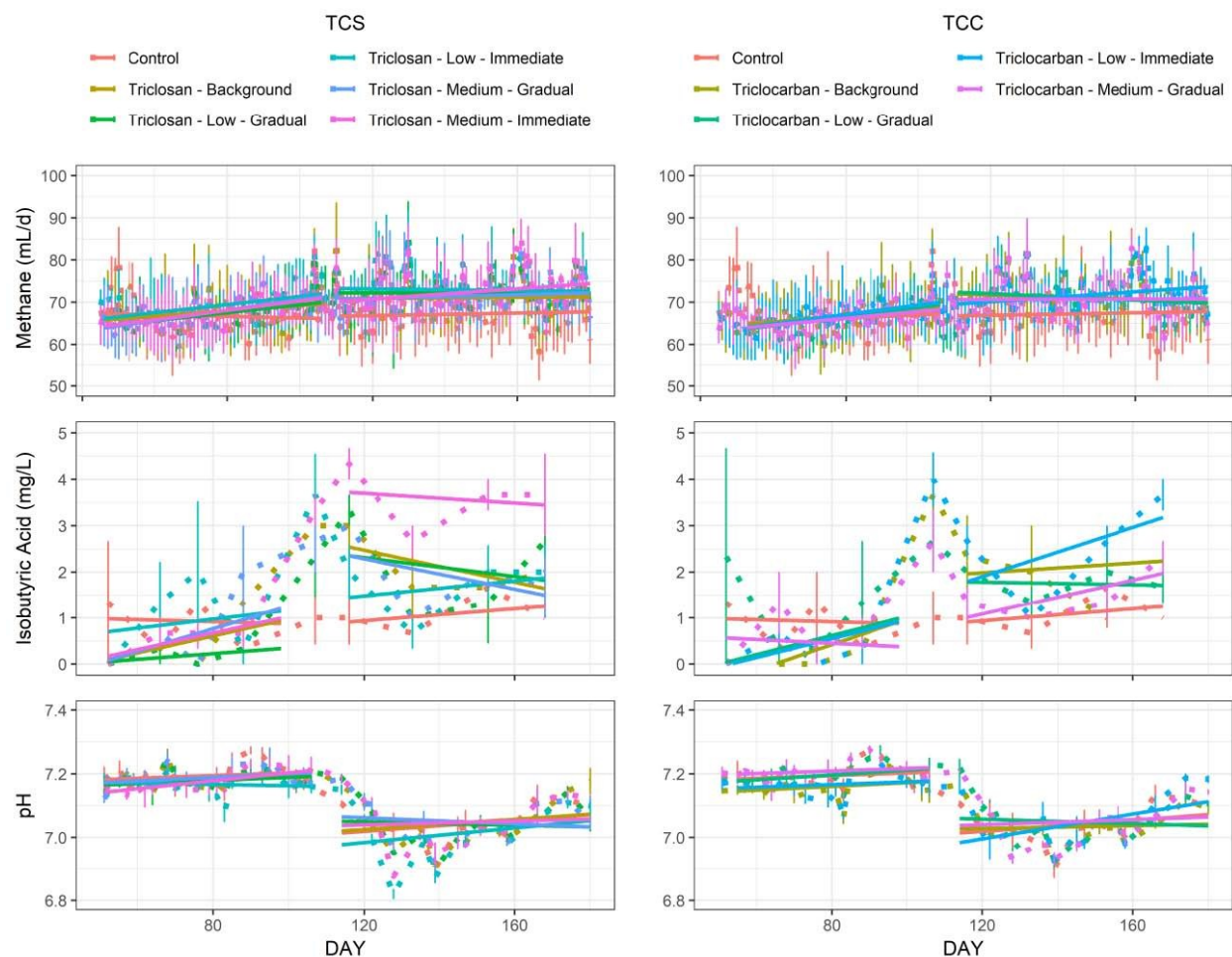


Figure S1) Digester conditions prior and during washout of TCS and TCC

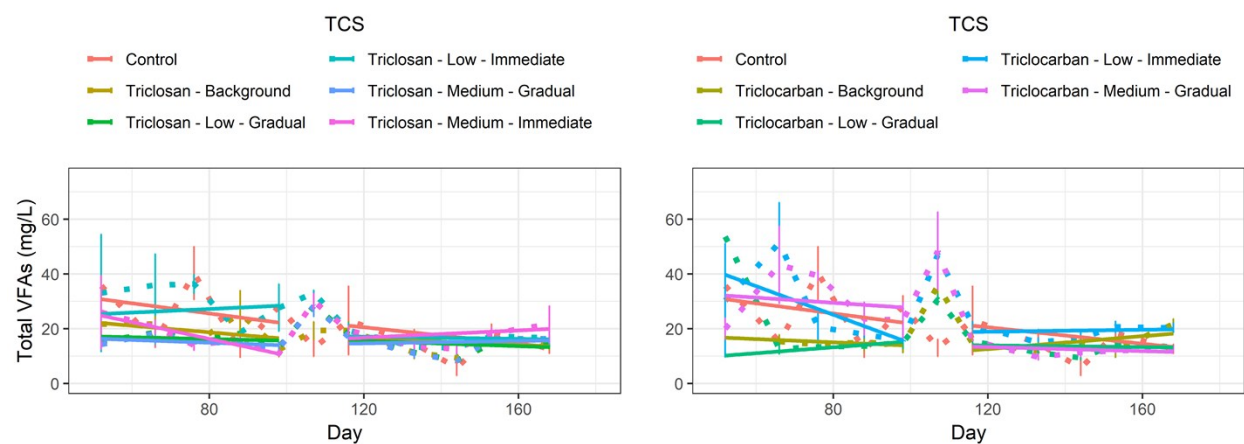


Figure S2) Digester Total VFA content prior and during washout of TCS and TCC

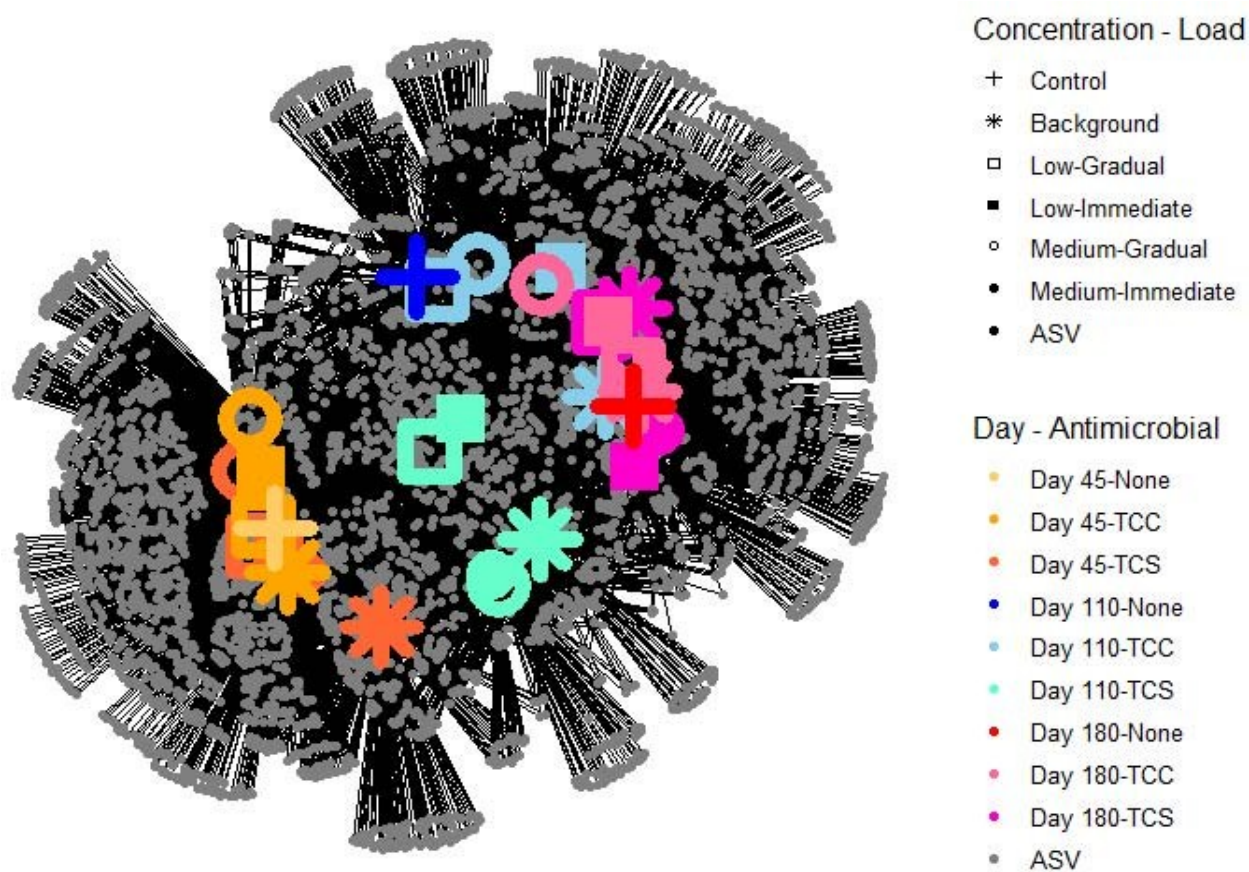


Figure S3) Bipartite network of sample groups and ASV clusters from bacterial 16S rRNA gene sequencing characterization of bioreactor samples from days 0, 45, 110, 180 with different concentrations and loading of TCC and TCS. Edges were drawn between each ASV and samples with weights greater than 0.2.

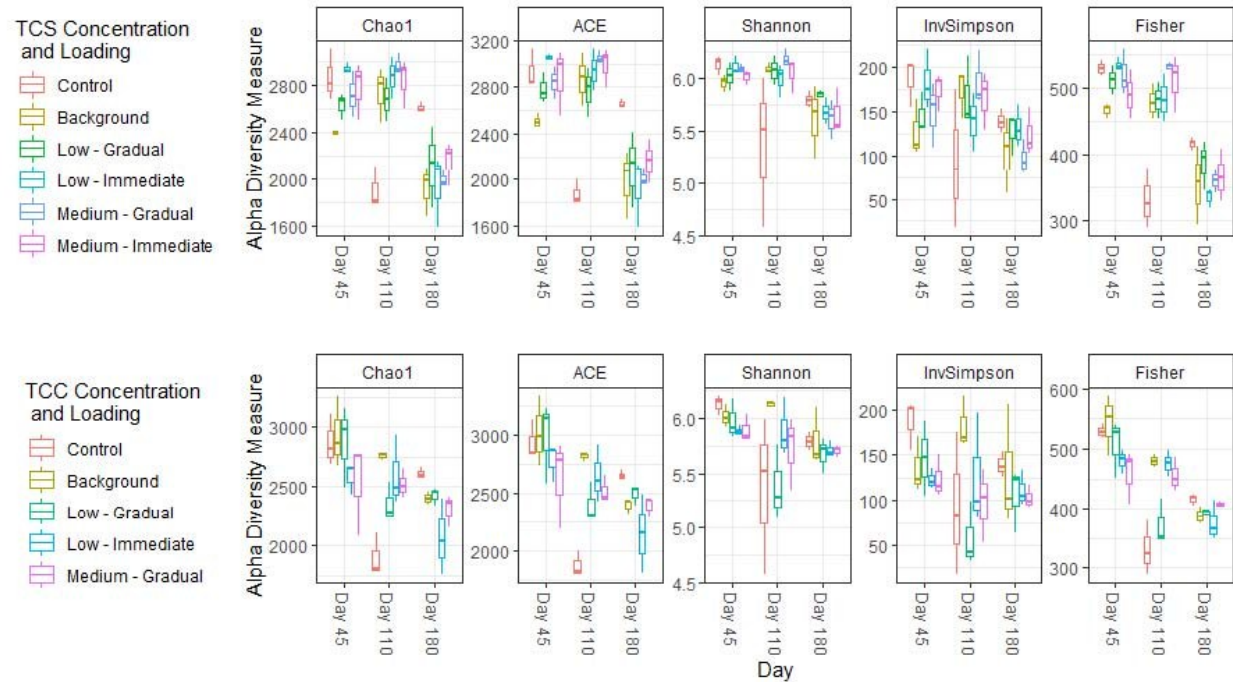


Figure S4) Diversity of bacterial community measured by Chao1, ACE, Shannon, InvSimpson, and Fisher Indexes.

Table S1: ANOVA Tables related to Alpha Indices

ACE – Day 45

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	109693	36564	0.6851	0.57157
Antibiotic	1	20913	20913	0.3919	0.53840
Concentration	1	44434	44434	0.3286	0.37239
Loading: Antibiotic	2	507292	253646	4.7528	0.02048
Loading: Concentration	1	1145	1145	0.0215	0.88499
Antibiotic: Concentration	1	128578	128578	2.4093	0.13630
Residuals	20	1067364	53368		

ACE – Day 110

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	2382767	794256	28.7554	1.88E-07
Antibiotic	1	657716	657716	23.8121	9.07E-05
Concentration	1	91774	91774	3.3226	0.08332
Loading: Antibiotic	2	170692	85346	3.0899	0.06771
Loading: Concentration	1	26958	26958	0.976	0.33499
Antibiotic: Concentration	1	17604	17604	0.6373	0.43406
Residuals	20	552422	27621		

ACE – Day 180

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	753063	251021	5.4317	0.00674
Antibiotic	1	594775	594775	12.87	0.001841
Concentration	1	12460	12460	0.2696	0.609288
Loading: Antibiotic	2	105013	52506	1.1362	0.340916
Loading: Concentration	1	106717	106717	2.3092	0.144262
Antibiotic: Concentration	1	277	277	0.006	0.93905
Residuals	20	924282	46214		

Chao1 – Day 45

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	116067	38689	0.7159	0.554039
Antibiotic	1	16625	16625	0.3076	0.585298
Concentration	1	16192	16192	0.2996	0.590183
Loading: Antibiotic	2	644800	322400	5.9655	0.009293
Loading: Concentration	1	2037	2037	0.0377	0.848022
Antibiotic: Concentration	1	134028	134028	2.48	0.130991
Residuals	20	1080880	54044		

Chao1 – Day 110

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	1872746	624249	18.6538	5.17E-06
Antibiotic	1	423113	423113	12.6434	0.001982
Concentration	1	83947	83947	2.5085	0.128919
Loading: Antibiotic	2	173851	86926	2.5975	0.099347
Loading: Concentration	1	68676	68676	2.0522	0.167435
Antibiotic: Concentration	1	11138	11138	0.3328	0.57044
Residuals	20	669301	33465		

Chao1 – Day 180

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	719663	239888	5.5723	0.00604
Antibiotic	1	456154	456154	10.5958	0.003964
Concentration	1	9974	9974	0.2317	0.635496
Loading: Antibiotic	2	188135	94068	2.1851	0.138587
Loading: Concentration	1	108507	108507	2.5205	0.128062
Antibiotic: Concentration	1	0	0	0	0.998883
Residuals	20	861006	43050		

Fisher – Day 45

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	2291.9	764	0.7206	0.551402
Antibiotic	1	334.8	334.8	0.3158	0.580396
Concentration	1	2097.1	2097.1	1.9779	0.174959
Loading: Antibiotic	2	15194.8	7597.4	7.1658	0.004502
Loading: Concentration	1	622.9	622.9	0.5875	0.452335
Antibiotic: Concentration	1	2343.8	2343.8	2.2106	0.15266
Residuals	20	21204.7	1060.2		

Fisher – Day 110

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	60199	20066.4	21.1066	2.08E-06
Antibiotic	1	15986	15986	16.8147	0.000556
Concentration	1	9082	9081.9	9.5526	0.005765
Loading: Antibiotic	2	14901	7450.7	7.8369	0.003068
Loading: Concentration	1	1592	1592.4	1.6749	0.210348
Antibiotic: Concentration	1	800	799.5	0.841	0.370041
Residuals	20	19014	950.7		

Fisher – Day 180

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	8592	2864	3.4069	0.03755
Antibiotic	1	5165.6	5165.6	6.1448	0.02221
Concentration	1	223.4	223.4	0.2658	0.61184
Loading: Antibiotic	2	39.9	19.9	0.0237	0.9766
Loading: Concentration	1	1426.6	1426.6	1.6971	0.20748
Antibiotic: Concentration	1	1322.4	1322.4	1.5731	0.22421
Residuals	20	16812.9	840.6		

Inverted Simpson – Day 45

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	7925.8	2641.93	3.0902	0.05039
Antibiotic	1	2761.4	2761.43	3.23	0.08742
Concentration	1	8.6	8.57	0.01	0.92125
Loading: Antibiotic	2	4328.2	2164.1	2.5313	0.10472
Loading: Concentration	1	0.1	0.06	0.0001	0.99324
Antibiotic: Concentration	1	506.4	506.43	0.5924	0.4505
Residuals	20	17098.8	854.94		

Inverted Simpson– Day 110

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	17814	5938	3.0641	0.051637
Antibiotic	1	17342	17342.4	8.9489	0.007213
Concentration	1	2017	2017.5	1.0411	0.319759
Loading: Antibiotic	2	14444	7221.9	3.7266	0.042107
Loading: Concentration	1	0	0.3	0.0001	0.99042
Antibiotic: Concentration	1	368	368.1	0.1899	0.667635
Residuals	20	38759	1937.9		

Inverted Simpson – Day 180

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	2686.9	895.63	0.8407	0.4875
Antibiotic	1	44.3	44.28	0.0416	0.8405
Concentration	1	419.6	419.55	0.3938	0.5374
Loading: Antibiotic	2	2065	1032.48	0.9692	0.3965
Loading: Concentration	1	73.1	73.08	0.0686	0.7961
Antibiotic: Concentration	1	605.8	605.84	0.5687	0.4596
Residuals	20	21305.4	1065.27		

Shannon – Day 45

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	0.047319	0.015773	1.5208	0.23981
Antibiotic	1	0.059052	0.059052	5.6936	0.02703
Concentration	1	0.001245	0.001245	0.1201	0.73257
Loading: Antibiotic	2	0.058318	0.029159	2.8114	0.08395
Loading: Concentration	1	0.008419	0.008419	0.8117	0.37833
Antibiotic: Concentration	1	0.017636	0.017636	1.7004	0.20704
Residuals	20	0.207433	0.010372		

Shannon – Day 110

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	1.20668	0.40223	4.5276	0.01404
Antibiotic	1	0.56358	0.56358	6.3438	0.0204
Concentration	1	0.07154	0.07154	0.8053	0.38019
Loading: Antibiotic	2	0.51148	0.25574	2.8787	0.07967
Loading: Concentration	1	0.02996	0.02996	0.3372	0.56792
Antibiotic: Concentration	1	0.03989	0.03989	0.449	0.51045
Residuals	20	1.77678	0.08884		

Shannon – Day 180

Factors	Df	Sum of Squares (SS)	Mean SS	F	P value
Loading	3	0.02521	0.008405	0.2574	0.8552
Antibiotic	1	0.00933	0.009331	0.2857	0.5989
Concentration	1	0.02371	0.023713	0.7261	0.4042
Loading: Antibiotic	2	0.05386	0.026928	0.8246	0.4528
Loading: Concentration	1	0.00766	0.007659	0.2345	0.6335
Antibiotic: Concentration	1	0.05244	0.052438	1.6057	0.2197
Residuals	20	0.65316	0.032658		

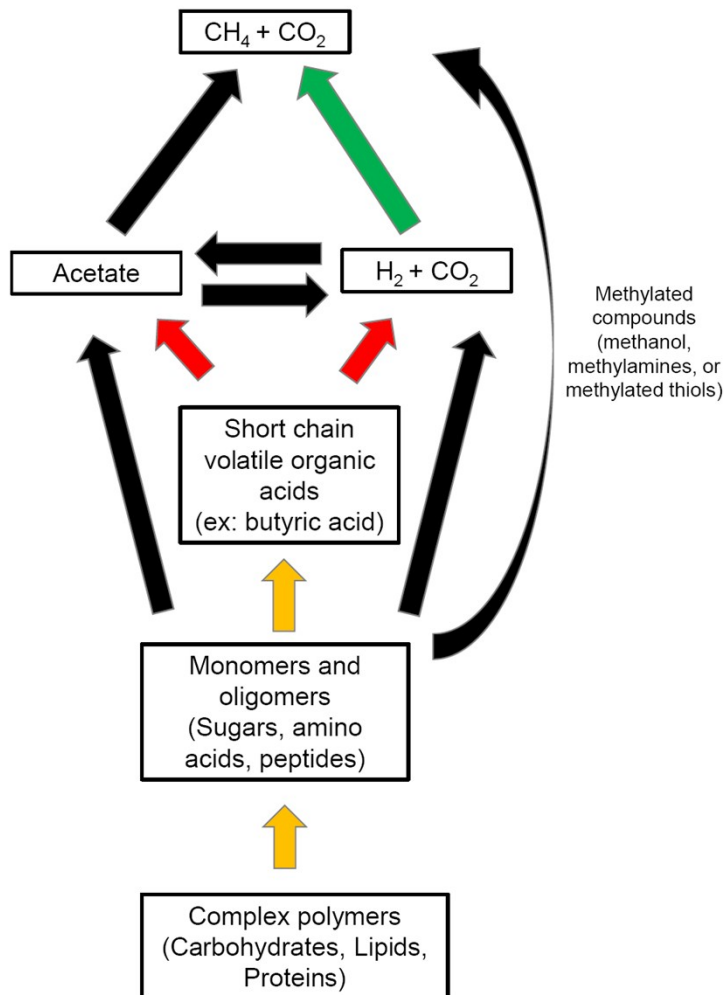


Figure S5) Changes and disruption of the phases of the anaerobic digestion process. The Green arrow indicates the increased abundance of hydrogenotrophic methanogens and decrease in syntrophic VFA oxidizing acetogens which would lead to lower hydrogen partial pressure. The Red arrow indicates the lower hydrogen pressure would favor acetogenic metabolism, adding to the health of the anaerobic digester. Yellow arrows represent shifts in the genera of hydrolyzers and acidogens before and after washout, indicating the supportive microbial community for substrate has remained disrupted from antimicrobial amendment.

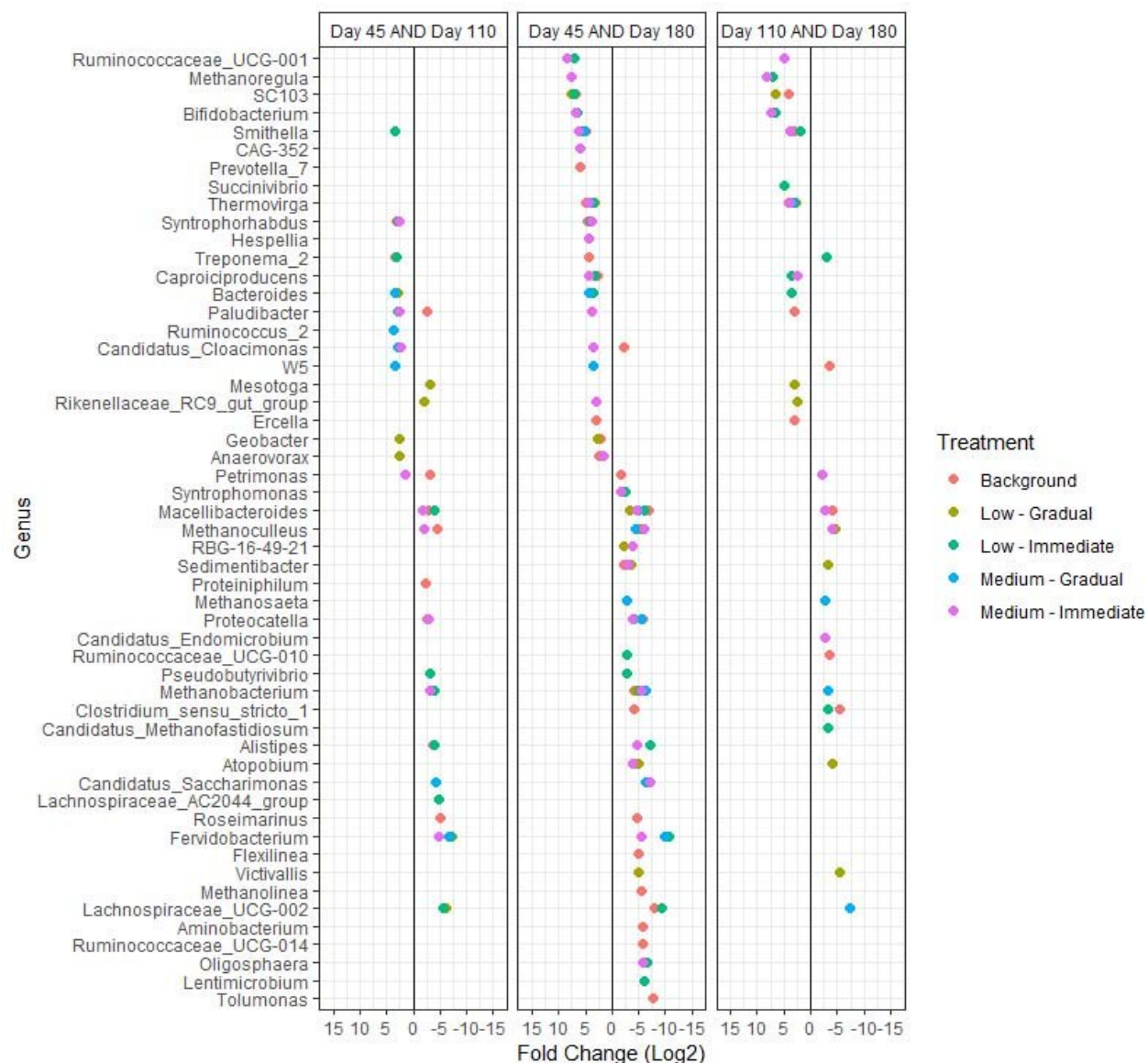


Figure S6) Significant differences (p < 0.01) in Genus between Days based on treatment with TCS.

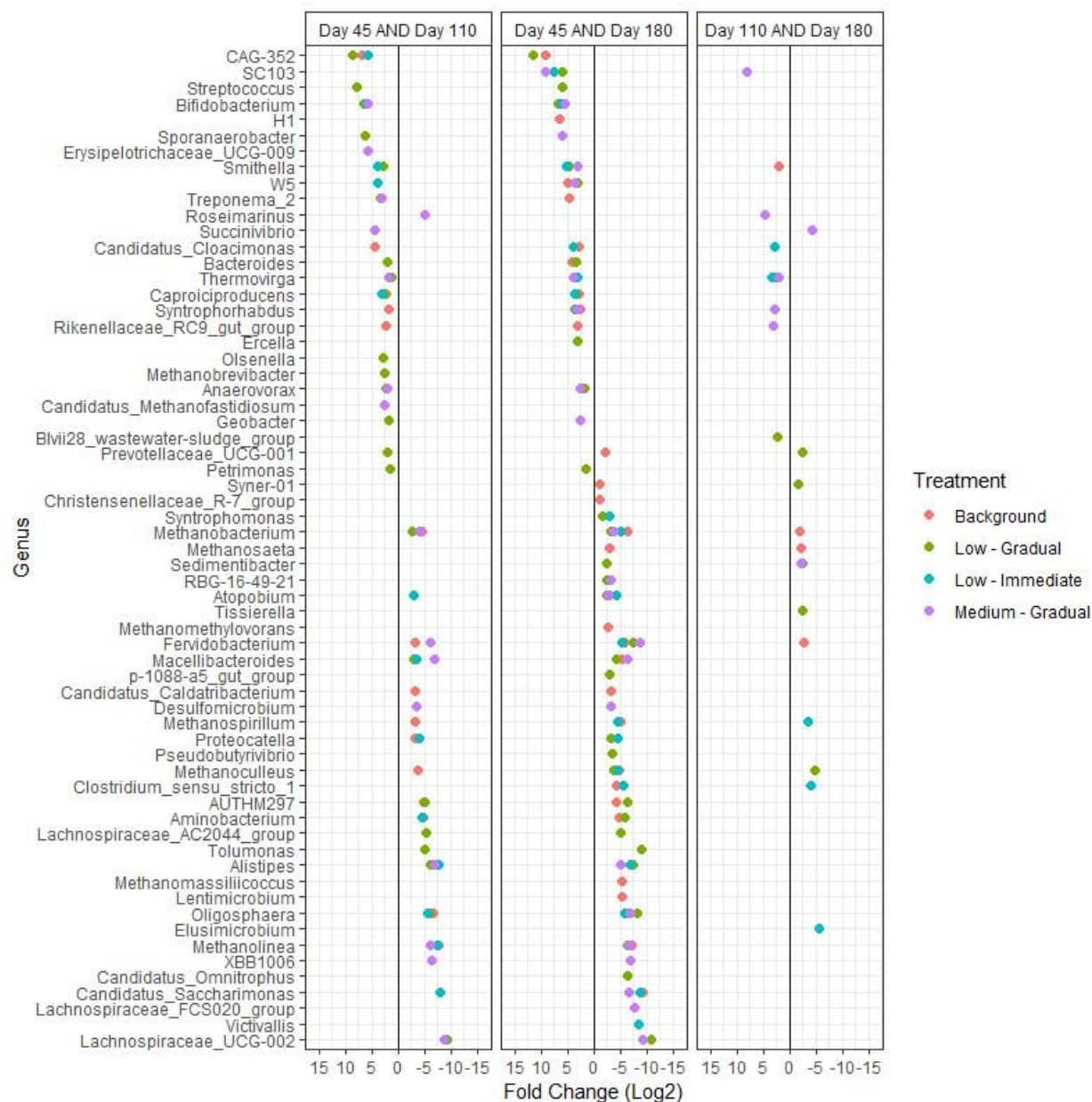


Figure S7) Significant differences (p<0.01) in Genus between Days based on treatment with TCC (Healthy Reactors only)