# ELECTRONIC SUPPLEMENTARY INFORMATION FOR THE PAPER ENTITLED:

# Fecal coliform population dynamics associated with the thermophilic stabilization of treated sewage sludge

Chris Ziemba and Jordan Peccia\*

Department of Chemical and Environmental Engineering, Yale University, New Haven, CT 06520, USA

\* Corresponding author, Department of Chemical and Environmental Engineering, Yale University, New Haven, CT 06520, USA; Phone: (203)432-4385, Fax: (203)432-4387, E-mail: jordan.peccia@yale.edu

**Table S1**. UniFrac P-vales based on pairwise phylogenic population difference comparisons. Values are corrected for the number of pairwise comparisons between each set of populations. P values > 0.1, indicate that no significant phylogenetic differences exist between the compared populations.

	50°C Pre	50°C Post	55°C Pre	55°C Post	60°C Pre	60°C Post	Patho- genic	Non- path.
50°C Pre		1	1	1	1	1	1	1
50°C Post			1	0.28	0.28	1	0.28	0.28
55°C Pre				1	1	1	1	1
55°C Post					1	1	1	1
60°C Pre						0.28	1	1
60°C Post							1	0.84
Pathogenic								1
Non-path.								

## Unifrac P-values for pairwise difference comparisons

	0.05	
		Archaea root
50°C Post-treatment		
Non-pathogenic		
Pathogenic		
60°C Pre-treatment		
50°C Pre-treatment		
55°C Pre-treatment		
55°C Post-treatment		
- 60°C Post-treatment		

**Figure S1.** Phylogenic tree of consensus sequences for *E. coli* isolates sampled pre and post thermophilic batch treatment at each temperature compared to consensus sequences for pathogenic and non-pathogenic *E. coli* strains. The scale of 0.05 corresponds to a distance representing 5 deviations in 100 base pairs. The tree is rooted with the Archaebacteria *Methanobacterium congolense*.



#### E. coli 50°C Pre-Treatment

**Figure S2.** Inactivation profiles at 50°C for pre-treatment *E. coli* isolates. Each isolate is tested in duplicate. Testing was conducted in PBS.



*E. coli* 50°C Post-Treatment

**Figure S3.** Inactivation profiles at 50°C for post-treatment *E. coli* isolates. Each isolate is tested in duplicate. Testing was conducted in PBS.



*E. coli* 55°C Pre-Treatment

**Figure S4.** Inactivation profiles at 55°C for pre-treatment *E. coli* isolates. Each isolate is tested in duplicate. Testing was conducted in PBS.



### E. coli 55°C Post-Treatment

**Figure S5.** Inactivation profiles at 55°C for post-treatment *E. coli* isolates. Each isolate is tested in duplicate. Testing was conducted in PBS.



#### E. coli 60°C Pre- and Post-Treatment

**Figure S6**. Inactivation profiles at 60°C for pre-treatment and post-treatment *E. coli* isolates. Testing was conducted in PBS.



Bacillus sp.

**Figure S7**. Inactivation profiles of *Bacillus* sp. in PBS at various temperatures. Inset equations and lines represent linear best fit.



### Cronobacter sp.

**Figure S8**. Inactivation profiles of *Cronobacter* sp. in PBS at various temperatures. Inset equations and lines represent linear best fit.



Citrobacter sp.

**Figure S9.** Inactivation profiles of *Citrobacter* sp. in PBS at various temperatures. Inset equations and lines represent linear best fit.



Enterobacter sp.

Figure S10. Inactivation profiles of *Enterobacter* sp. in PBS at various temperatures. Inset equations and lines represent linear best fit.



Klebsiella sp.

**Figure S11.** Inactivation profiles of *Klebsellia* sp. in PBS at various temperatures. Inset equations and lines represent linear best fit.



Raoultella sp.

**Figure S12.** Inactivation profiles of *Raoultella* sp. in PBS at various temperatures. Inset equations and lines represent linear best fit.