

Table S3 Identification of chemical properties correlated with bacterial and fungal communities via envfit analysis

	Bacteria				Fungi			
	CCA1	CCA2	r2	pvals	CCA1	CCA2	r2	pvals
TN	0.9997	0.0242	0.9756	0.0931	0.9998	-0.0205	0.9803	0.0458
TP	-0.9964	-0.0852	0.9702	0.0375	-0.9987	0.0510	0.9312	0.1000
TK	-0.9978	-0.0662	0.9597	0.0847	-0.9997	-0.0262	0.9735	0.0389
AN	0.9971	-0.0758	0.9960	0.0194	0.9916	-0.1294	0.9885	0.0597
AP	0.9640	0.2659	0.9815	0.0125	0.9991	0.0422	0.9447	0.0667
SOM	0.9998	0.0182	0.9932	0.0583	0.9978	-0.0665	0.9847	0.0694
AK	0.9973	-0.0741	0.9098	0.0917	0.9559	-0.2937	0.9438	0.0375
TSS	-0.9982	-0.0595	0.8072	0.0917	-0.9947	0.1024	0.7829	0.1111
EC	-0.9870	-0.1607	0.9744	0.0389	-0.9989	0.0465	0.9505	0.0861
pH	-0.9911	0.1333	0.9724	0.0403	-0.9614	0.2750	0.9856	0.0097

An envfit analysis utilizing the envfit function identifies chemical properties that are correlated with bacterial and fungal communities ($p < 0.05$). TN, total nitrogen; TP, total phosphorus; TK, total potassium; AN, available nitrogen; AP, available phosphorus; AK, available potassium; SOM, soil organic matter; TSS, total soluble salts; EC, electrical conductivity.