

# Effects of Polyethylene Microplastics and Phenanthrene on Soil Properties, Enzyme Activities and Bacterial Communities

Shasha Liu <sup>1</sup>, Kaibo Huang<sup>2</sup>, Guodong Yuan<sup>1,\*</sup> and Chengfang Yang <sup>3,\*</sup>

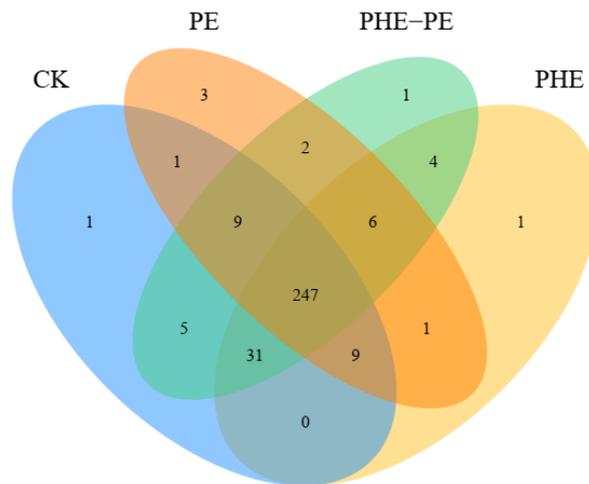


Figure S1. Venn diagrams showing the number of bacterial OTUs shared within and between groups of samples

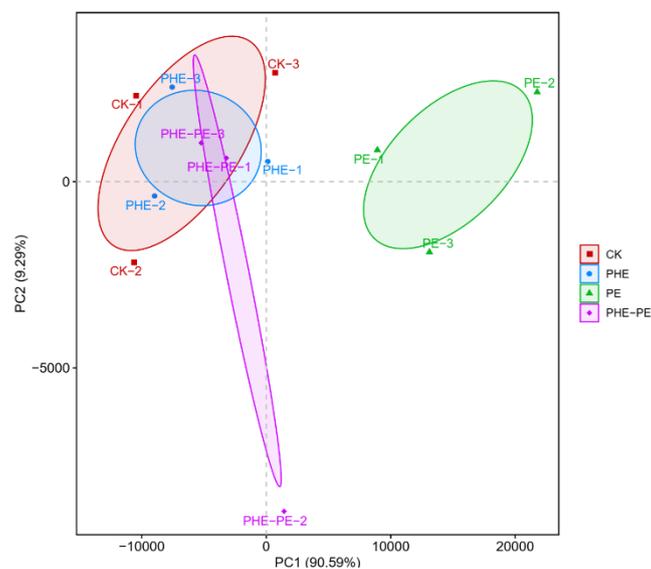
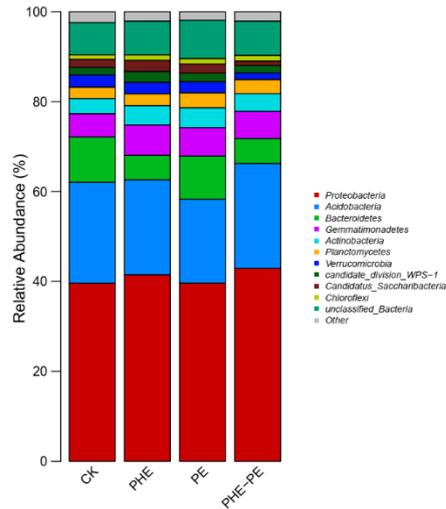


Figure S2. PCA plots visualizing the distribution pattern among different treatments (CK, PHE, PE and PHE-PE)



**Figure S3.** Relative abundance of the microbial communities in the different treatments at phylum level

**Table S1** The chemical properties of the tested soil.

pH	SOM (g kg <sup>-1</sup> )	AN (mg kg <sup>-1</sup> )	AP (mg kg <sup>-1</sup> )	Total N (mg kg <sup>-1</sup> )	Total P (mg kg <sup>-1</sup> )
7.433±0.067	9.910±0.386	39.409±3.901	2.451±0.203	783.559±27.215	15.864±0.853

**Table S2** Enzymatic activities of the tested soil.

Urease (mg NH <sub>3</sub> -N g <sup>-1</sup> soil)	FDase (µg FDA g <sup>-1</sup> soil)	Dehydrogenase (µL H <sup>+</sup> 20g <sup>-1</sup> soil)	Phosphatase (mg phenol g <sup>-1</sup> soil)
1.932±0.155	6.576±0.509	3.263±0.451	0.107±0.022

**Table S3** Similarity analysis of the Anosim group

Comparison	Group Size	ANOSIM statistic R	<i>p</i>	Permutations
CK vs PHE	2	0.185	0.3	719
CK vs PE	2	0.222	0.2	719
CK vs PHE-PE	2	0.074	0.5	719
PHE vs PE	2	0.556	0.1	719
PHE vs PHE-PE	2	0.259	0.3	719
PE vs PHE-PE	2	0.333	0.1	719