

SUPPLEMENTARY INFORMATION

Contrasting distribution of microbial communities, functional genes and antibiotic resistance genes in produced water treatment plants with different treatment technologies

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Table S1
KEGG entry number and the description of genes.

KO ID	KO Name	KO Description
K00496	<i>alkB</i>	Alkane 1-monooxygenase [EC:1.14.15.3]
K00121	<i>adhC</i>	Alcohol dehydrogenase [EC:1.1.1.284 1.1.1.1]
K18382	<i>adhI</i>	NAD ⁺ -dependent secondary alcohol dehydrogenase AdhI [EC:1.1.1.-]
K00114	<i>adhA</i>	Alcohol dehydrogenase (cytochrome c) [EC:1.1.2.8]
K00128	<i>ALDH</i>	Aldehyde dehydrogenase (NAD ⁺) [EC:1.2.1.3]
K14085	<i>ALDH7A1</i>	Aldehyde dehydrogenase family 7 member A1 [EC:1.2.1.31 1.2.1.8 1.2.1.3]
K00149	<i>ALDH9A1</i>	Aldehyde dehydrogenase family 9 member A1 [EC:1.2.1.47 1.2.1.3]
K04021	<i>adhE</i>	Aldehyde dehydrogenase
K20034	<i>alkK</i>	3-(methylthio)propionyl---CoA ligase [EC:6.2.1.44]
K15760	<i>tmoA</i>	Toluene monooxygenase system protein A [EC:1.14.13.236 1.14.13.-]
K15763	<i>tmoD</i>	Toluene monooxygenase system protein D [EC:1.14.13.236 1.14.13.-]
K05549	<i>benA</i>	Benzoate/toluate 1,2-dioxygenase subunit alpha [EC:1.14.12.10 1.14.12.-]
K05550	<i>benB</i>	Benzoate/toluate 1,2-dioxygenase subunit beta [EC:1.14.12.10 1.14.12.-]
K05784	<i>benC</i>	Benzoate/toluate 1,2-dioxygenase reductase component [EC:1.18.1.-]
K03381	<i>cata</i>	Catechol 1,2-dioxygenase [EC:1.13.11.1]
K01856	<i>catB</i>	Muconate cycloisomerase [EC:5.5.1.1]
K01666	<i>mhpE</i>	4-hydroxy 2-oxovalerate aldolase [EC:4.1.3.39]

Fig.S1

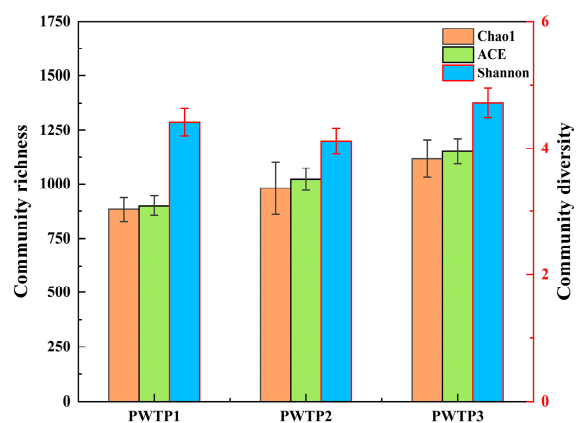


Fig.S1 Alpha diversity indices including Chao1, ACE, and Shannon of microbial community in different PWTPs.

Fig.S2

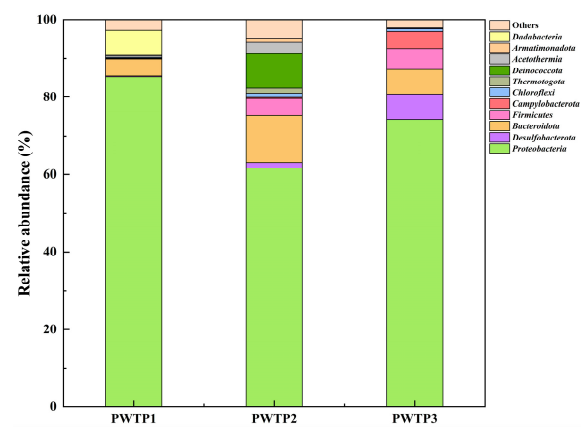
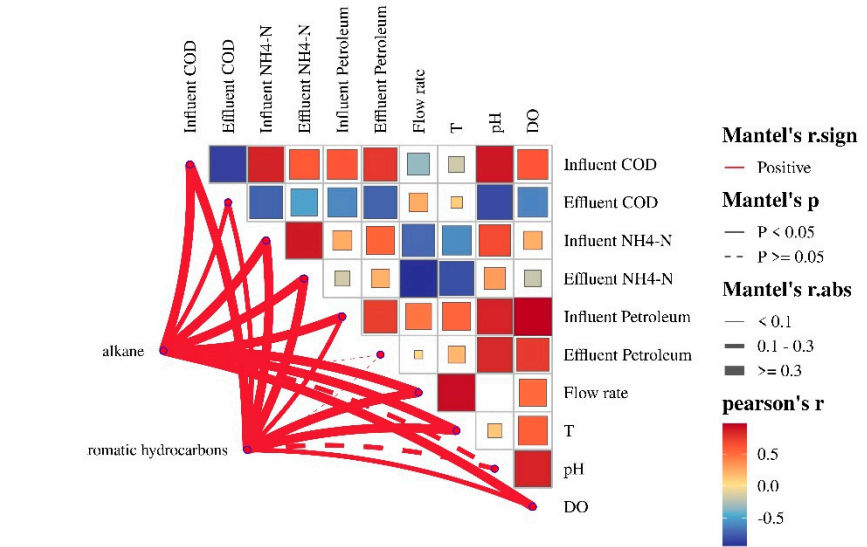
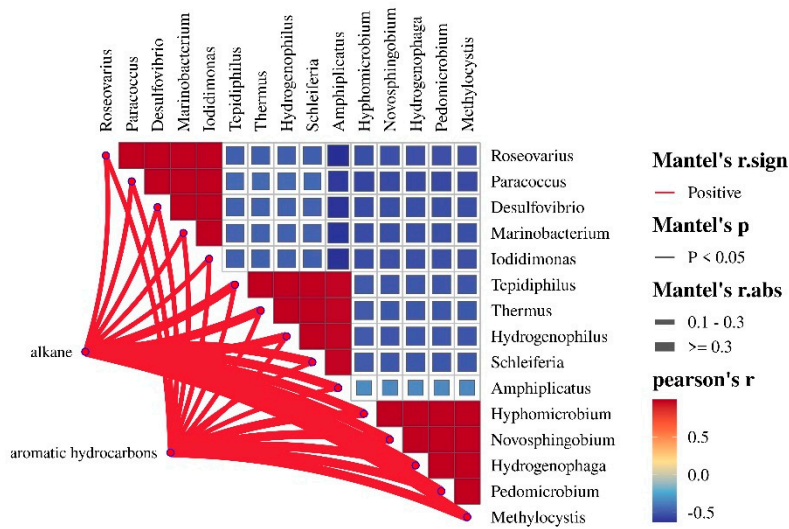


Fig.S2 Bacterial community composition at the phylum level in different PWTPs.

Fig.S3



(a)



(b)

Fig.S3 The correlation between petroleum hydrocarbon degradation related genes and the environmental factors (a) or dominant genera (b). The color of the edges corresponds to the r value obtained from the Mantel test, and the width of the edges denotes the statistical significance. The pairwise correlation is indicated by the color gradient that denotes Pearson's correlation coefficient.

Fig.S4

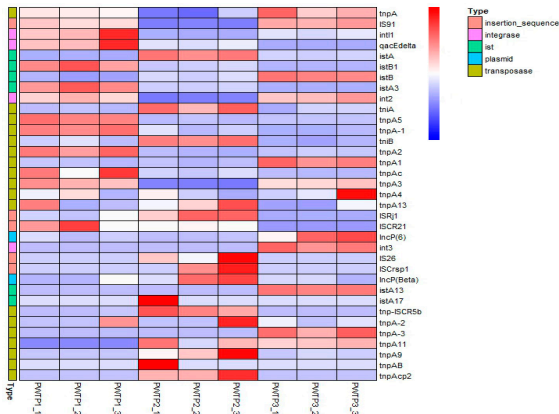


Fig.S4 The abundance of MGEs subtypes in different PWTPs.