

Supplementary information

On the ability of perfluorohexane sulfonate (PFHxS) bioaccumulation by two *Pseudomonas* sp. strains isolated from PFAS-contaminated environmental matrices

Alessandro Presentato ¹, Silvia Lampis ^{2,*}, Andrea Vantini ³, Flavio Manea ³, Francesca Daprà ³, Stefano Zuccoli ², Giovanni Vallini ²

¹Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STEBICEF) – University of Palermo, Italy; alessandro.presentato@unipa.it

²Department of Biotechnology – University of Verona, Italy; silvia.lampis@univr.it; stefano.zuccoli@studenti.univr.it; giovanni.vallini@univr.it

³Regional Agency for Environmental Prevention and Protection of Veneto (ARPAV) – Regional Laboratories, Verona, Italy; andrea.vantini@arpa.veneto.it; flavio.manea@arpa.veneto.it; francesca.dapra@arpa.veneto.it

* Correspondence: silvia.lampis@univr.it

Table S1: bacterial strains isolated from the microbial community inhabiting the soil contaminated by PFASs.

Bacterial isolates	Identity (%)	Type reference strains	Accession number	Taxonomy
RS11	99	<i>Pseudomonas delhiensis</i>	JGI.1118306	Gammaproteobacteria
RS12	99	<i>Pseudomonas veronii</i>	JYLL01000074	Gammaproteobacteria
RS15	99	<i>Enterobacter ludwigii</i>	JTLO01000001	Gammaproteobacteria
RS16	99	<i>Pseudomonas veronii</i>	JYLL01000074	Gammaproteobacteria
RS17	98	<i>Pseudomonas delhiensis</i>	JGI.1118306	Gammaproteobacteria
RS18	99	<i>Bordetella petrii</i>	AM902716	Betaproteobacteria
RS21	99	<i>Pseudomonas extremaustralis</i>	AHIP01000073	Gammaproteobacteria
RS23	99	<i>Pseudomonas aeruginosa</i>	BAMA01000316	Gammaproteobacteria
RS25	99	<i>Pseudomonas veronii</i>	JYLL01000074	Gammaproteobacteria
RS26	99	<i>Starkeya novella</i>	CP002026	Alphaproteobacteria
RS31	98	<i>Citrobacter farmeri</i>	AF025371	Gammaproteobacteria
RS33	99	<i>Achromobacter dolens</i>	HF586509	Betaproteobacteria
RS34	99	<i>Citrobacter farmeri</i>	AF025371	Gammaproteobacteria
RS36	99	<i>Bordetella petrii</i>	AM902716	Betaproteobacteria
RS37	99	<i>Achromobacter insolitus</i>	CP019325	Betaproteobacteria
PS11	98	<i>Pseudomonas nitrireducens</i>	HM246143	Gammaproteobacteria
PS12	99	<i>Pseudomonas simiae</i>	AJ936933	Gammaproteobacteria
PS13	99	<i>Enterobacter ludwigii</i>	JTLO01000001	Gammaproteobacteria
PS16	99	<i>Starkeya novella</i>	CP002026	Alphaproteobacteria
PS17	99	<i>Starkeya novella</i>	CP002026	Alphaproteobacteria
PS18	100	<i>Pseudomonas delhiensis</i>	JGI.1118306	Gammaproteobacteria
PS21	99	<i>Pseudomonas veronii</i>	JYLL01000074	Gammaproteobacteria
PS23	99	<i>Citrobacter farmeri</i>	AF025371	Gammaproteobacteria
PS25	98	<i>Citrobacter farmeri</i>	AF025371	Gammaproteobacteria
PS27	99	<i>Pseudomonas humi</i> ; <i>Pseudomonas delhiensis</i>	LC145037 JGI.1118306	Gammaproteobacteria
PS28	99	<i>Starkeya novella</i>	CP002026	Alphaproteobacteria
PS29	98	<i>Starkeya novella</i>	CP002026	Alphaproteobacteria
PS33	99	<i>Achromobacter insolitus</i>	CP019325	Betaproteobacteria
PS34	99	<i>Pseudomonas delhiensis</i>	JGI.1118306	Gammaproteobacteria
PS35	99	<i>Pseudomonas veronii</i>	JYLL01000074	Gammaproteobacteria
PS38	99	<i>Starkeya novella</i>	CP002026	Alphaproteobacteria
PS39	99	<i>Starkeya novella</i>	CP002026	Alphaproteobacteria
WS11	99	<i>Serratia proteamaculans</i>	AJ233434	Gammaproteobacteria
WS12	99	<i>Pseudomonas veronii</i>	JYLL01000074	Gammaproteobacteria
WS15	99	<i>Pseudomonas simiae</i>	AJ936933	Gammaproteobacteria
WS16	99	<i>Enterobacter ludwigii</i>	JTLO01000001	Gammaproteobacteria
WS22	99	<i>Enterobacter ludwigii</i>	JTLO01000001	Gammaproteobacteria
WS25	94	<i>Rhodanobacter rhizosphaerae</i>	FJ772032	Gammaproteobacteria
WS31	99	<i>Serratia liquefaciens</i>	CP006252	Gammaproteobacteria
WS32	99	<i>Enterobacter ludwigii</i>	JTLO01000001	Gammaproteobacteria

Table S2: bacterial strains isolated from the microbial community inhabiting the groundwater contaminated by PFASs.

Bacterial isolates	Identity (%)	Type reference strains	Accession number	Taxonomy
RDM2	99	<i>Comamonas thiooxydans</i>	BBVD01000034;	Betaproteobacteria
RDM11	99	<i>Variovorax bronnicumulans</i>	AB300597	Betaproteobacteria
RDM14	99	<i>Acidovorax soli</i>	JGI.1085893	Betaproteobacteria
RDMF2	99	<i>Aeromonas taiwansis</i>	CDDD01000060	Gammaproteobacteria
RDMF5	93	<i>Pseudomonas marginalis</i>	AJ308309	Gammaproteobacteria
RDMF10	97	<i>Pseudomonas granadiensis</i>	LT629778	Gammaproteobacteria
RDMF14	98	<i>Albidiferax ferrireducens</i>	CP000267	Betaproteobacteria
RDMF15	99	<i>Pseudomonas gessardii</i>	MNPU01000117	Gammaproteobacteria
RDMYE2	99	<i>Aeromonas caviae</i>	CDBK01000019	Gammaproteobacteria
RDMYE6	99	<i>Aeromonas taiwansis</i>	CDDD01000060	Gammaproteobacteria
RDMYE7	97	<i>Pseudomonas baetica</i>	FM201274	Gammaproteobacteria
RDMYE8	92	<i>Aeromonas caviae</i>	CDBK01000019	Gammaproteobacteria
PDM1	99	<i>Pseudomonas veronii</i>	JYLL01000074	Gammaproteobacteria
PDM2	98	<i>Acinetobacter haemolyticus</i>	APQQ01000002	Gammaproteobacteria
PDM10	99	<i>Variovorax boronicumulans</i>	AB300597	Betaproteobacteria
PDM11	93	<i>Flavobacterium tilapiae</i>	HQ111525	Flavobacteria
PDMF1	99	<i>Pseudomonas nitrireducens</i>	HM246143	Gammaproteobacteria
PDMF2	99	<i>Citrobacter amalonaticus</i>	FR870441	Gammaproteobacteria
PDMF3	99	<i>Pseudomonas donghuensis</i>	AJJP01000212	Gammaproteobacteria
PDMF7	99	<i>Pseudomonas marginalis</i>	AJ308309	Gammaproteobacteria
PDMF9	99	<i>Flavobacterium resistens</i>	EF575563	Flavobacteria
PDMF10	98	<i>Pseudomonas alcaligenes</i>	BATI01000076	Gammaproteobacteria
PDMF11	99	<i>Pseudoxanthomonas japonensis</i>	AB008507	Gammaproteobacteria
PDMYE1	99	<i>Pseudomonas mosselii</i>	AF072688	Gammaproteobacteria
PDMYE5	99	<i>Pseudomonas alkylphenolica</i>	CP009048	Gammaproteobacteria
PDMYE8	99	<i>Aeromonas media</i>	CDBZ01000012	Gammaproteobacteria
WDM8	99	<i>Pseudomonas veronii</i>	JYLL01000074	Gammaproteobacteria
WDMF2	99	<i>Delftia acidovorans</i>	JOUB01000005	Betaproteobacteria
WDMF6	99	<i>Pseudomonas saponiphila</i>	FNTJ01000001	Gammaproteobacteria
WDMF7	99	<i>Pseudomonas protegens</i>	CP003190	Gammaproteobacteria
WDMF8	99	<i>Pseudomonas protegens</i>	CP003190	Gammaproteobacteria
WDMF10	99	<i>Rhizobium oryzae</i>	KX129901	Alphaproteobacteria
WDMF11	99	<i>Rhodanobacter thiooxydans</i>	AJXW01000099	Gammaproteobacteria
WDMF12	98	<i>Shinella kummerowiae</i>	EF070131	Alphaproteobacteria
WDMYE1	98	<i>Bacillus proteolyticus</i>	MACH01000033	Bacilli
WDMYE3	99	<i>Delftia lacustris</i>	JGI.1102360	Betaproteobacteria
WDMYE4	98	<i>Acinetobacter haemolyticus</i>	APQQ01000002	Gammaproteobacteria
WDMYE7	98	<i>Aeromonas salmonicida</i>	LSGW01000109	Gammaproteobacteria
WDMYE8	94	<i>Bacillus gaemokensis</i>	LTAQ01000012	Bacilli

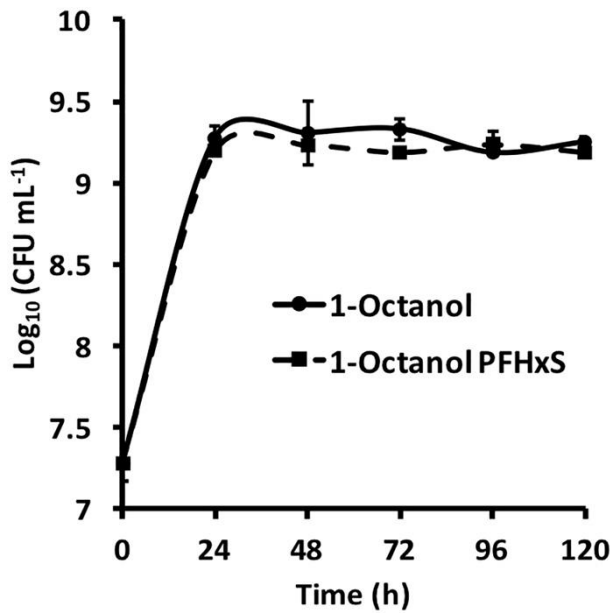


Figure S1: Growth profile of PS27 strain in the presence of either 1-octanol or in the co-presence of the organic solvent alongside PFHxS.

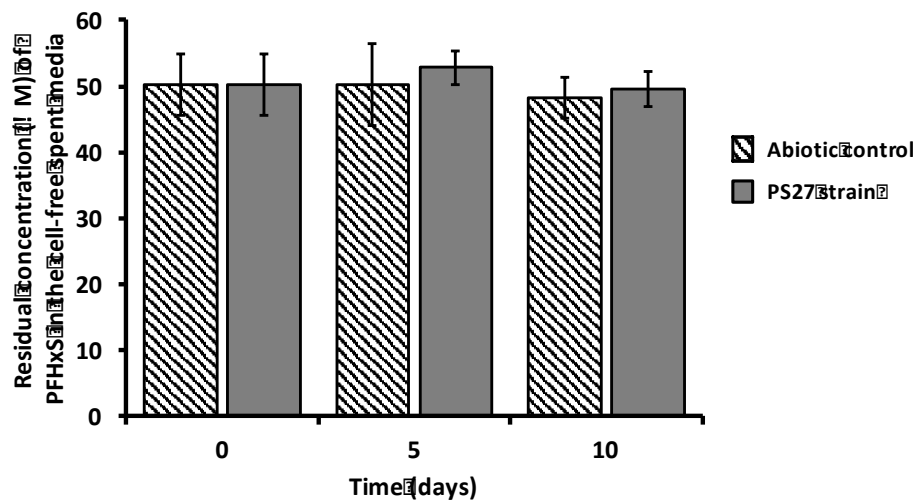


Figure S2: Removal efficacy of PFHxS performed by PS27 growing cells under 1-octanol conditioning.