nanostructures stability might be achieved through electro-steric interactions occurring between metalloid-nanomaterials and the surrounding organic coating surrounding.

B47. Microbial communities and novel taxa in « Continental Smokers » of northern Greece

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Analogously to the ocean-bottom black/white smokers, "continental smokers" have recently been defined as sites of mantle degassing through continental crust. The goal of this research, carried out within the Deep Carbon Observatory Community, is to investigate the role of deeply-sourced fluids in niche ecosystem differentiation in European continental smokers. A 16S rRNA gene survey of microbial communities was carried out on 11 geothermal manifestations of northern Greece, all showing a distinct contribution of mantle fluids (R/Ra up to 1.2) that allow to classify them as continental smokers. The selected sites cover a wide range of temperatures (15-77 °C), pH (6.11-8.46), Eh (-289 – 40 mV), salinities (TDS 0.4-38 g/L) and show significant differences in energy sources for microbial life, like H_2 (up to 0.8 µmol/L), CH_4 (up to 400 µmol/L), NH_4 (up to 112 µmol/L), sulphide (up to 103 µmol/L), Fe (up to 130 mmol/L). Illumina sequencing revealed negligible presence of Archaea and dominance of Actinobacteria, Bacteroidetes, Firmicutes and Proteobacteria. Different bacterial taxa dominate depending on physico-chemical features: Deinococcus-Thermus dominates the hottest sites while chemoautotrophic genera (*Sulfurovum* and *Sulfurimonas*) are abundant in the most reducing H_2S-rich waters. Signatures of deep-sea vent microbial ecosystems were detected in most assemblages, together with novel taxa.

B48. Production of phenoxy-substituted poly(3-hydroxyalkanoates) (PHA) by *Pseudomonas mediterranea*

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Medium-chain length poly(3-hydroxyalkanoates) (mcl-PHAs) with functional groups can be used to bind bioactive compounds. However, some precursors, containing a phenyl group, are not readily utilized by bacteria when used as sole carbon source.

Co-feeding strategies are used to promote both substrates uptake and PHA accumulation. Conversely, the simultaneous use of two different sources may induce variations in the monomer composition.

In previous studies we showed that glutamine in co-metabolism promotes the uptake of second carbon sources and increases PHA yield in *P. mediterranea*.

The aim of this work was to verify whether glutamine in co-metabolism with 11-phenoxyundecanoic acid could promote PHA accumulation without changes in monomer composition. The structural characterization of the polymers was performed through MALDI-TOF MS and NMR analyses. Glutamine/11-phenoxyundecanoic acid-fed cultures (GLN-