Supplementary information

Table S1: Percentage of weight loss of the epoxy samples incubated in the microcosms for 6 months.

	Weight loss [mg]			
Untreated	0.5 ± 0.1			
Untreated UV	0.6 ± 1.1			
	60 whc		**90 whc**	
	Sterile	**Not sterile**	**Sterile**	**Not sterile**
Soil	0.6±0.2	0.7±0.2	0.2±0.4	0.5±0.1
Bacterium	0.6±0.1	0.3±0.1	0.4±0.2	0.3±0.2
Fungus	0.2±0.2	0.2±0.1	0.3±0.2	0.3±0.6
Bact/Fung	0.4±0.1	N.V.	0.6±0.4	0.5±0.2

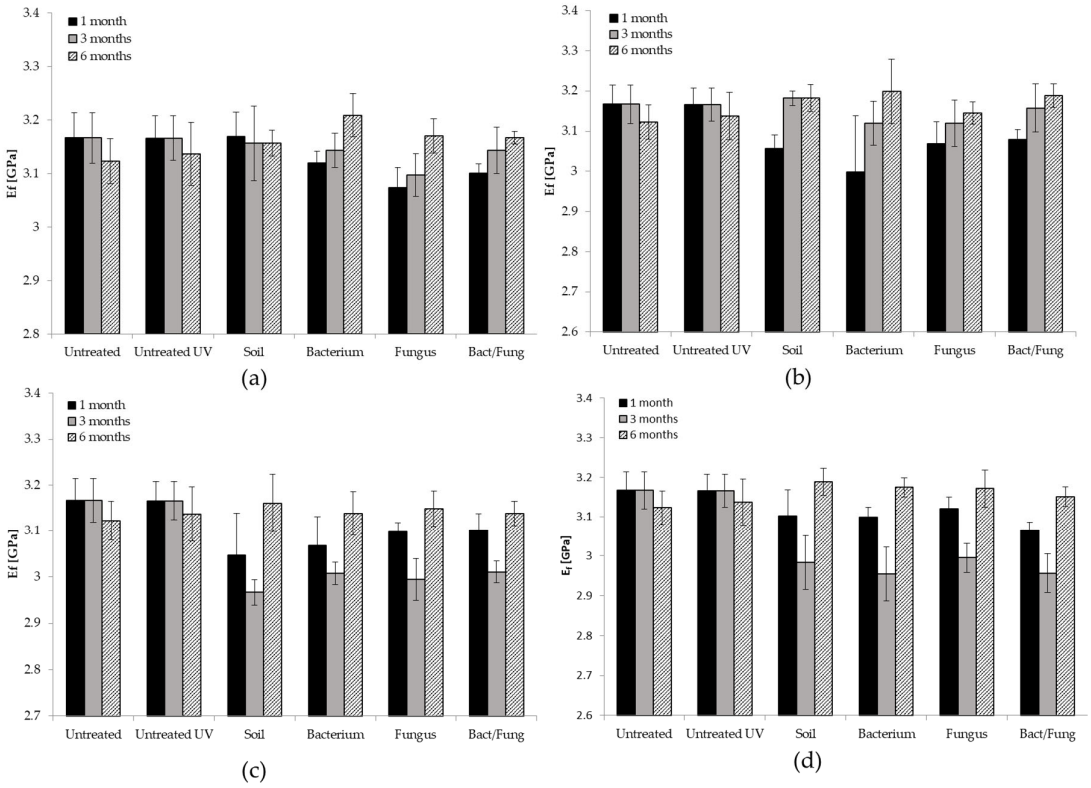

Figure S1: Bending modulus (Ef in GPa) of the samples incubated in microcosms with different conditions. a) Sterilized soil with a whc of 60 %, b) unsterilized soil with a whc of 60 %, c) Sterilized soil with a whc of 90 % and d) unsterilized soil with a whc of 90 %

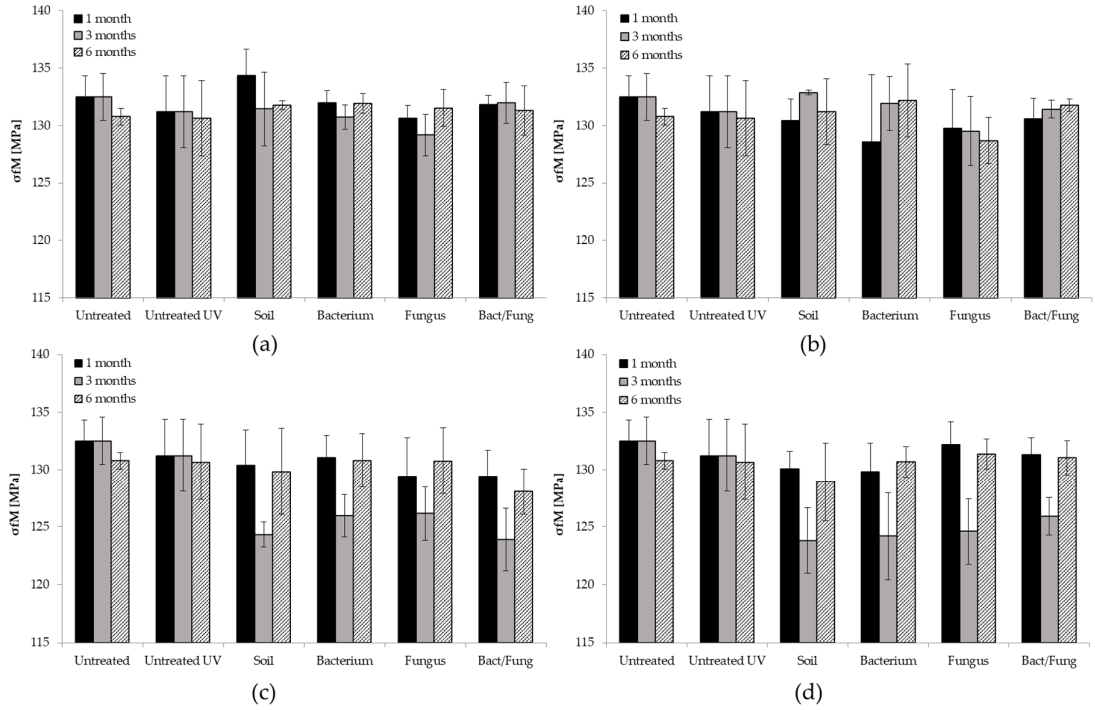

Figure S2: Bending strength (σf max in MPa) of the samples incubated in microcosms with different conditions. a) Sterilized soil with a whc of 60 %, b) unsterilized soil with a whc of 60%, c) Sterilized soil with a whc of 90 %, and d) unsterilized soil with a whc of 90 %

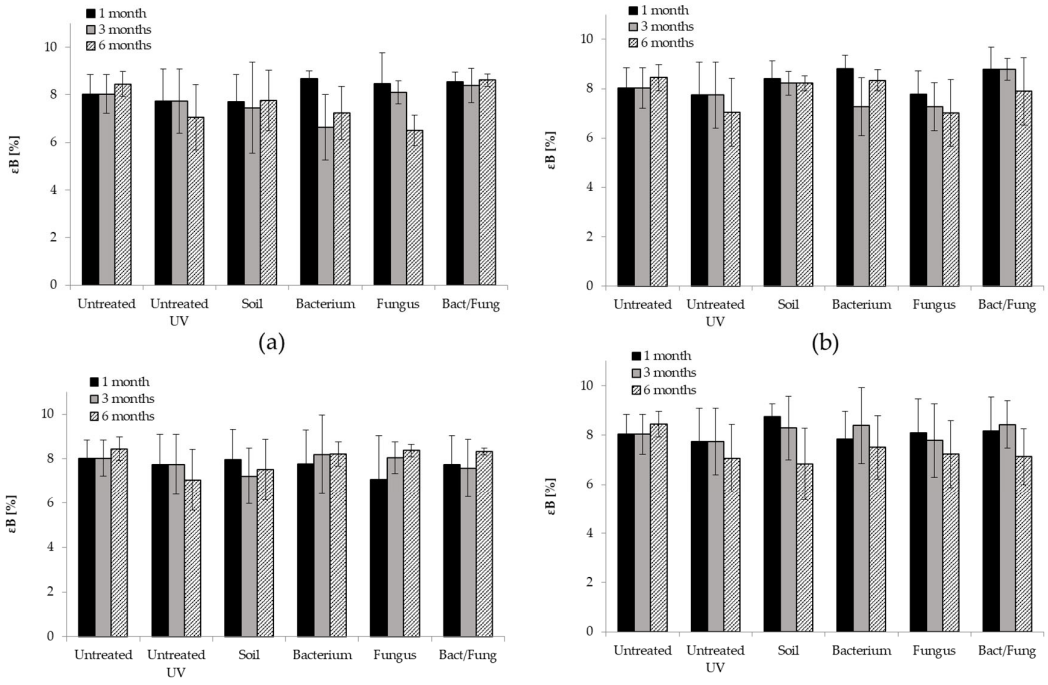

Figure S3: strain at failure (εB in %) of the samples incubated in microcosms with different conditions. a) Sterilized soil with a whc of 60 %, b) unsterilized soil with a whc of 60 %, c) Sterilized soil with a whc of 90 % and d) unsterilized soil with a whc of 90 %

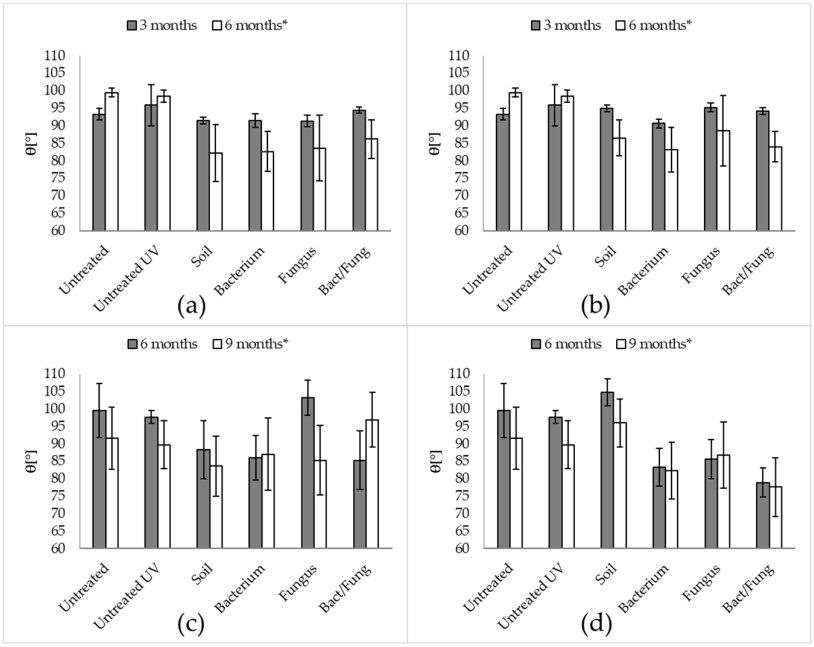

Figure S4: Contact angle measurements on the epoxy samples incubated in the microcosms with a whc of 60 % at different conditions and for different exposure times. a) and b) Data showing the results of the samples incubated for 3 and additional 3 months (6 months*) in the microcosms prepared with a) sterile and b) unsterilized soil. c) and d) Data showing the results samples incubated for 6 and additional 3 months (9 months*) in the microcosms prepared with c) sterile and d) unsterilized soil.

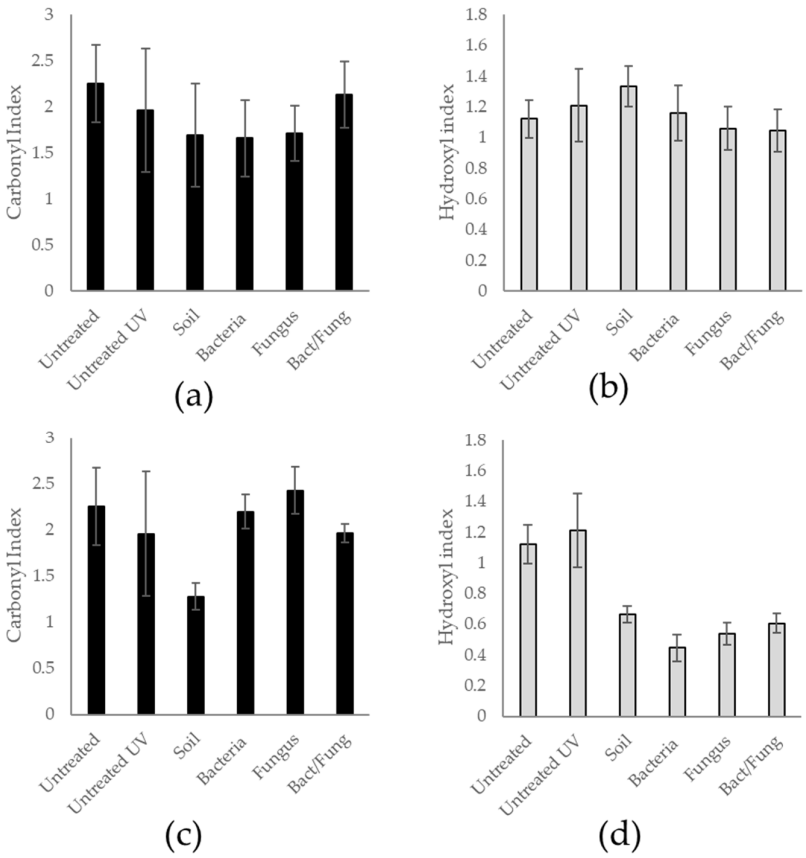

Figure S5: Graphics presenting the carbonyl and hydroxyl indexes calculated from the FTIR interferograms recorded on the epoxy samples incubated in the microcosms prepared with a whc of 60 % after 9 month* of incubation at different conditions. a) Carbonyl index of epoxy samples incubated in sterile soil, b) corresponding hydroxyl indexes. c) Carbonyl index of epoxy samples incubated in unsterilized soil, d) corresponding hydroxyl indexes

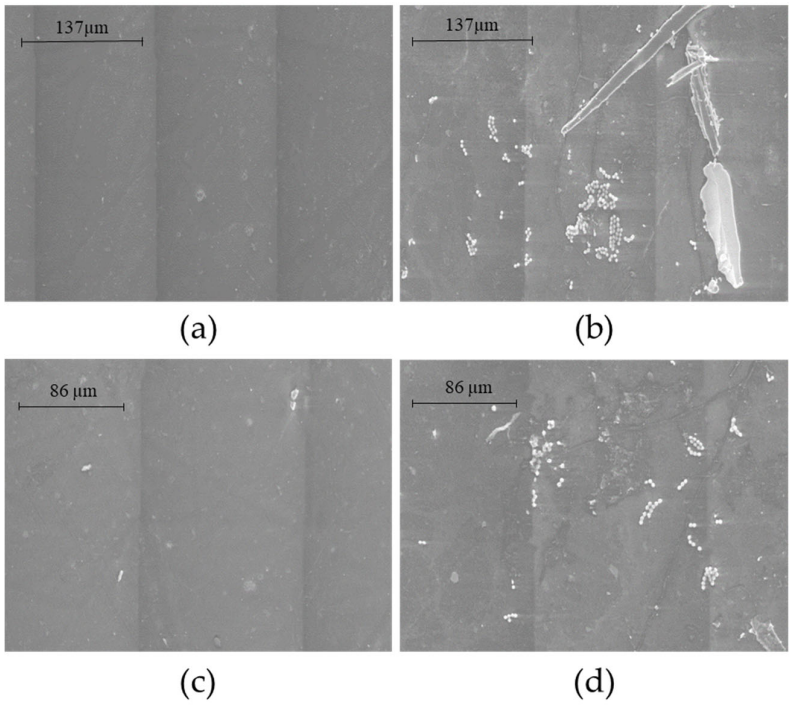

Figure S6: Morphological ESEM mapping of the epoxy cube incubated for 3 months in the microbiological water before and after the incubation.

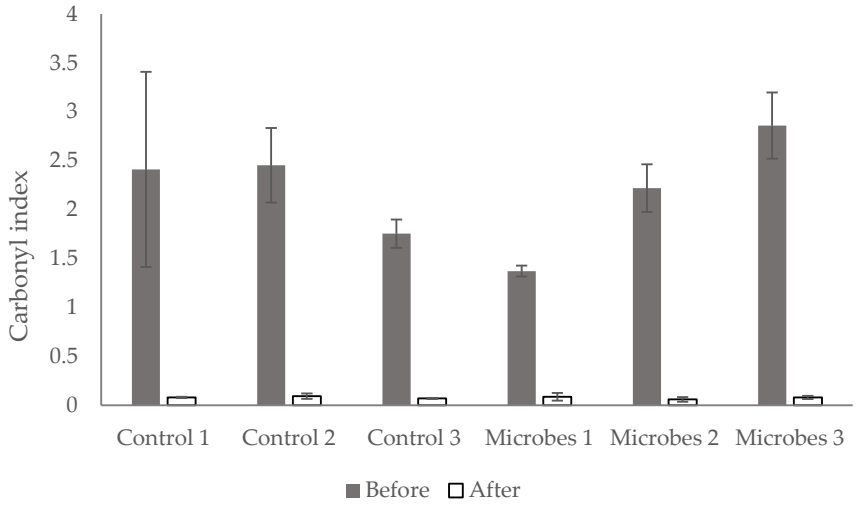

Figure S7: Carbonyl indexes calculated from FTIR interferograms recorded on the epoxy plates incubated for 3 months in the microbiological water before and after incubation.

Table S2: Results of the analysis performed with ion chromatography (IC) on the microbiological water sampled before the experiment, showing the ionic composition of the water environment.

Ions	Concentration [mg/l]
Sodium	21.9
Magnesium	15.2
Calcium	28.6
Potassium	5.1
Chlorides	24.3
Nitrates	5.5
Sulphates	23
Dissolved organic carbon (DOC)	3.4