

Table S1 Permuted analysis of variance of the investigated parameters as function of the soil type, sterilization treatment and Incubation treatment. Significant effects and interactions are shown marked in bold, respectively.

OH-BHI							CH-BHI					
	Df	Sum Sq	R ²	F value	Pr(>F)	η^2	Df	Sum Sq	Mean Sq	F value	Pr(>F)	η^2
Sterilization treatment	1	2.290	0.02411	2.9746	0.093	0.044	1	0.039	0.00041	0.1106	0.737	0.002
Soil type	1	8.182	0.08613	10.6287	0.001	0.142	1	34.567	0.36386	97.3268	0.001	0.603
Incubation treatment	7	10.319	0.10862	1.9149	0.087	0.173	7	18.266	0.19227	7.3469	0.001	0.446
Sterilization treatment: soil type	1	0.227	0.00239	0.2955	0.597	0.004	1	2.481	0.02611	6.9851	0.013	0.098
Sterilization treatment: Incubation treatment	7	8.754	0.09215	1.6245	0.158	0.150	7	5.320	0.05600	2.1398	0.061	0.190
Soil type: Incubation treatment	7	11.535	0.12142	2.1405	0.045	0.190	7	8.323	0.08761	3.3477	0.006	0.268
Sterilization treatment: soil type: Incubation treatment	7	4.421	0.04654	0.8204	0.587	0.082	7	3.274	0.03446	1.3168	0.275	0.126
Residuals	64	49.270	0.51863				64	22.731	0.23927			

Carbonyl/Carboxyl-BHI							SiO/AIOSi-BHI					
	Df	Sum Sq	R ²	F value	Pr(>F)	η^2	Df	Sum Sq	Mean Sq	F value	Pr(>F)	η^2
Sterilization treatment	1	0.828	0.00872	5.0486	0.032	0.073	1	82.3	0.02263	23.0259	0.001	0.264
Soil type	1	39.288	0.41356	239.5033	0.001	0.469	1	2445.7	0.67270	684.5152	0.001	0.914
Incubation treatment	7	24.089	0.25357	20.9779	0.001	0.696	7	172.7	0.04751	6.9059	0.001	0.430
Sterilization treatment: soil type	1	0.525	0.00553	3.2031	0.071	0.048	1	20.5	0.00564	5.7361	0.022	0.082
Sterilization treatment: Incubation treatment	7	7.825	0.08237	6.8149	0.001	0.427	7	353.8	0.09732	14.1464	0.001	0.607
Soil type: Incubation treatment	7	8.322	0.08760	7.2472	0.001	0.442	7	166.7	0.04586	6.6668	0.001	0.422
Sterilization treatment: soil type: Incubation treatment	7	3.623	0.03814	3.1554	0.007	0.257	7	165.3	0.04546	6.6078	0.001	0.420
Residuals	64	10.499	0.11051				64	228.7	0.06290			

T _{yp}							T _{max}					
	Df	Sum Sq	R ²	F value	Pr(>F)	η^2	Df	Sum Sq	Mean Sq	F value	Pr(>F)	η^2
Sterilization treatment	1	1.882	0.01981	4.9201	0.043	0.071	1	41655463	0.06425	15.1275	0.001	0.191
Soil type	1	18.755	0.19742	49.0395	0.001	0.433	1	46423054	0.07160	16.8589	0.001	0.208
Incubation treatment	7	28.155	0.29636	10.5167	0.001	0.534	7	207055958	0.31935	10.7420	0.001	0.540
Sterilization treatment: soil type	1	0.794	0.00836	2.0762	0.148	0.031	1	1712637	0.00264	0.6220	0.423	0.010
Sterilization treatment: Incubation treatment	7	2.047	0.02155	0.7647	0.618	0.077	7	30694738	0.04734	1.5924	0.131	0.010
Soil type: Incubation treatment	7	15.258	0.16061	5.6993	0.001	0.383	7	122006736	0.18817	6.3297	0.001	0.000
Sterilization treatment: soil type: Incubation treatment	7	3.633	0.03824	1.3570	0.231	0.129	7	22588743	0.03484	1.1719	0.324	0.114
Residuals	64	24.477	0.25765				64	176231587	0.27181			

T _{2peak}							T _{2WL}					
	Df	Sum Sq	R ²	F value	Pr(>F)	η^2	Df	Sum Sq	Mean Sq	F value	Pr(>F)	η^2
Sterilization treatment	1	3.517	0.03702	739.2914	0.001	0.920	1	1.000	0.01052	0.9998	0.876	0.015
Soil type	1	1.713	0.01803	360.0629	0.001	0.849	1	1.000	0.01053	1.0004	0.028	0.015
Incubation treatment	7	66.686	0.70196	2002.6311	0.001	0.995	7	6.999	0.07368	0.9999	0.958	0.099
Sterilization treatment: soil type	1	0.082	0.00086	17.1600	0.001	0.212	1	1.000	0.01053	1.0002	0.199	0.015
Sterilization treatment: Incubation treatment	7	6.918	0.07282	207.7594	0.001	0.958	7	7.000	0.07369	1.0000	0.448	0.099
Soil type: Incubation treatment	7	15.739	0.16567	472.6511	0.001	0.981	7	7.000	0.07368	1.0000	0.698	0.099
Sterilization treatment: soil type: Incubation treatment	7	0.041	0.00043	1.2167	0.332	0.119	7	7.000	0.07368	1.0000	0.680	0.099
Residuals	64	0.304	0.00320				64	64.001	0.67369			