



Supplementary Materials

Diversity and Source of Airborne Microbial Communities at Differential Polluted Sites of Rome

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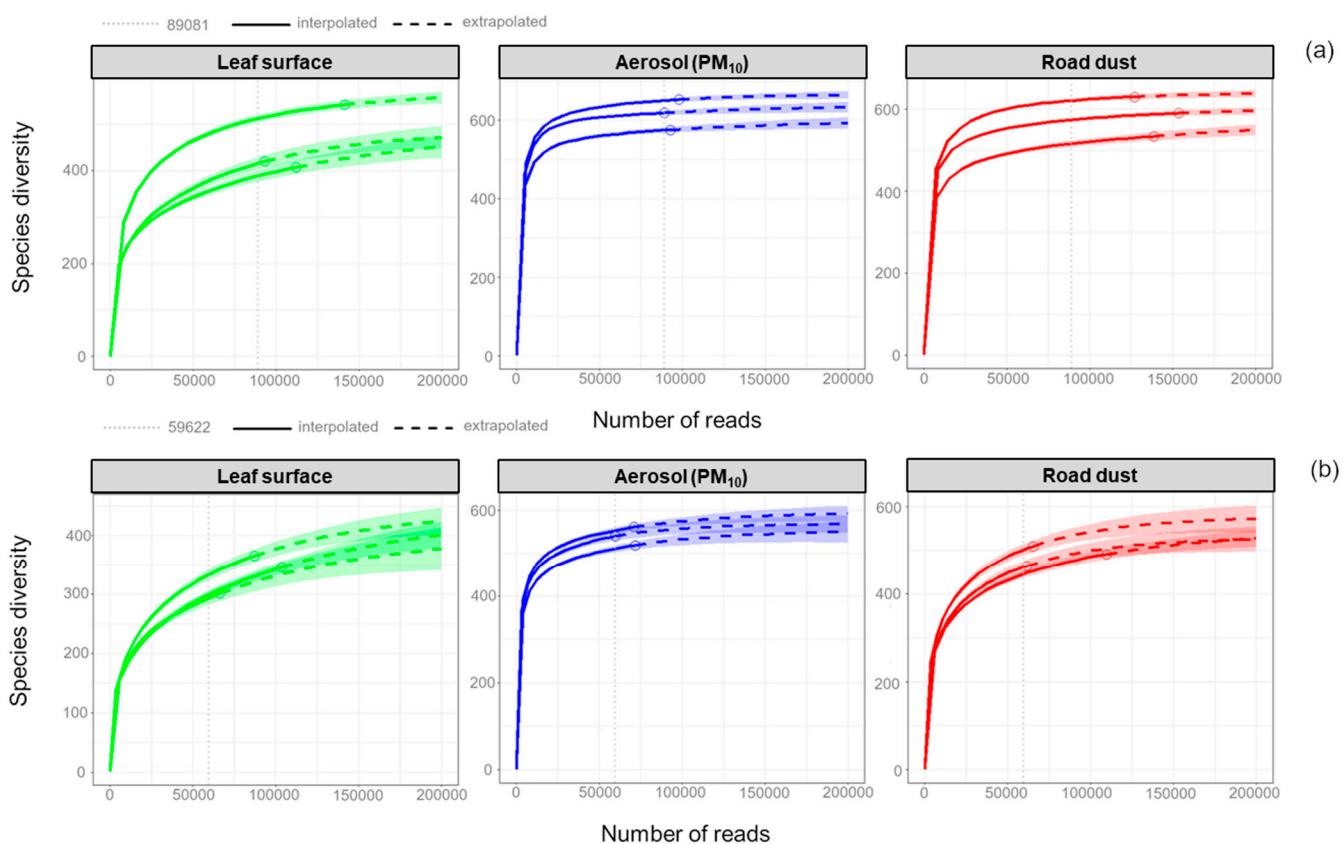


Figure S1. Rarefaction curves of OTUs abundance grouped by types of samples (leaf surface of *Q. ilex* trees, aerosol and road dust) for bacteria (a) and fungal (b) communities sampled in three urban sites of Rome. Solid curves represent the observations while the dashed ones show the interpolation. The dashed vertical line indicates the number of sequences subsampled from each sample, 89,081 for bacteria and 59,622 for fungi.

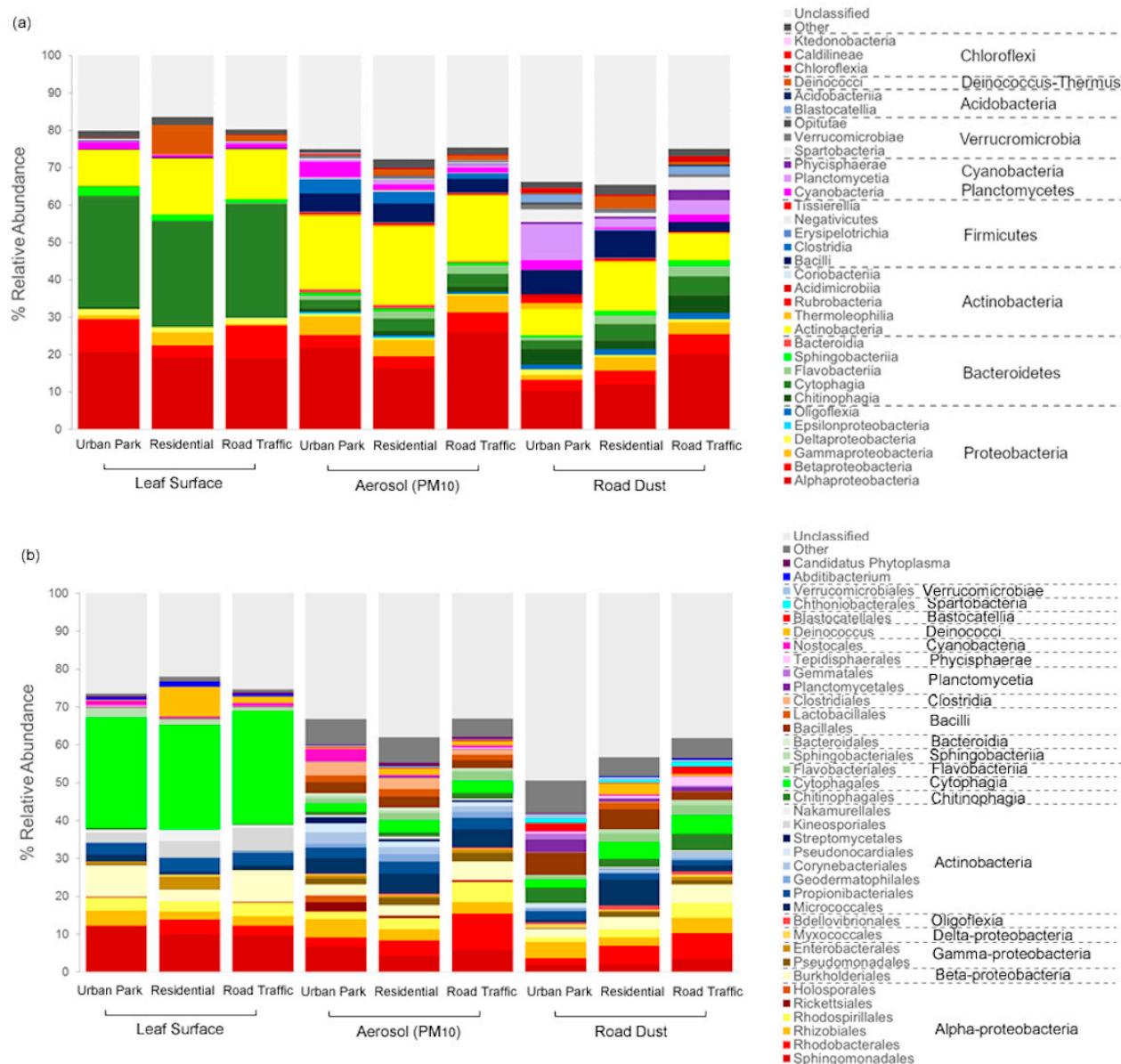


Figure S2. The relative abundance (%) of the most pronounced different classes (a) and orders (b) of bacteria recovered in three urban sites of Rome (Urban Park, Residential and Road Traffic) and in three sample types (Leaf Surface, Aerosol and Road Dust). The classes/orders with relative abundance $\geq 1\%$ of the reads per given sample were included, accounting for $\geq 40\%$ of all sequences recovered.

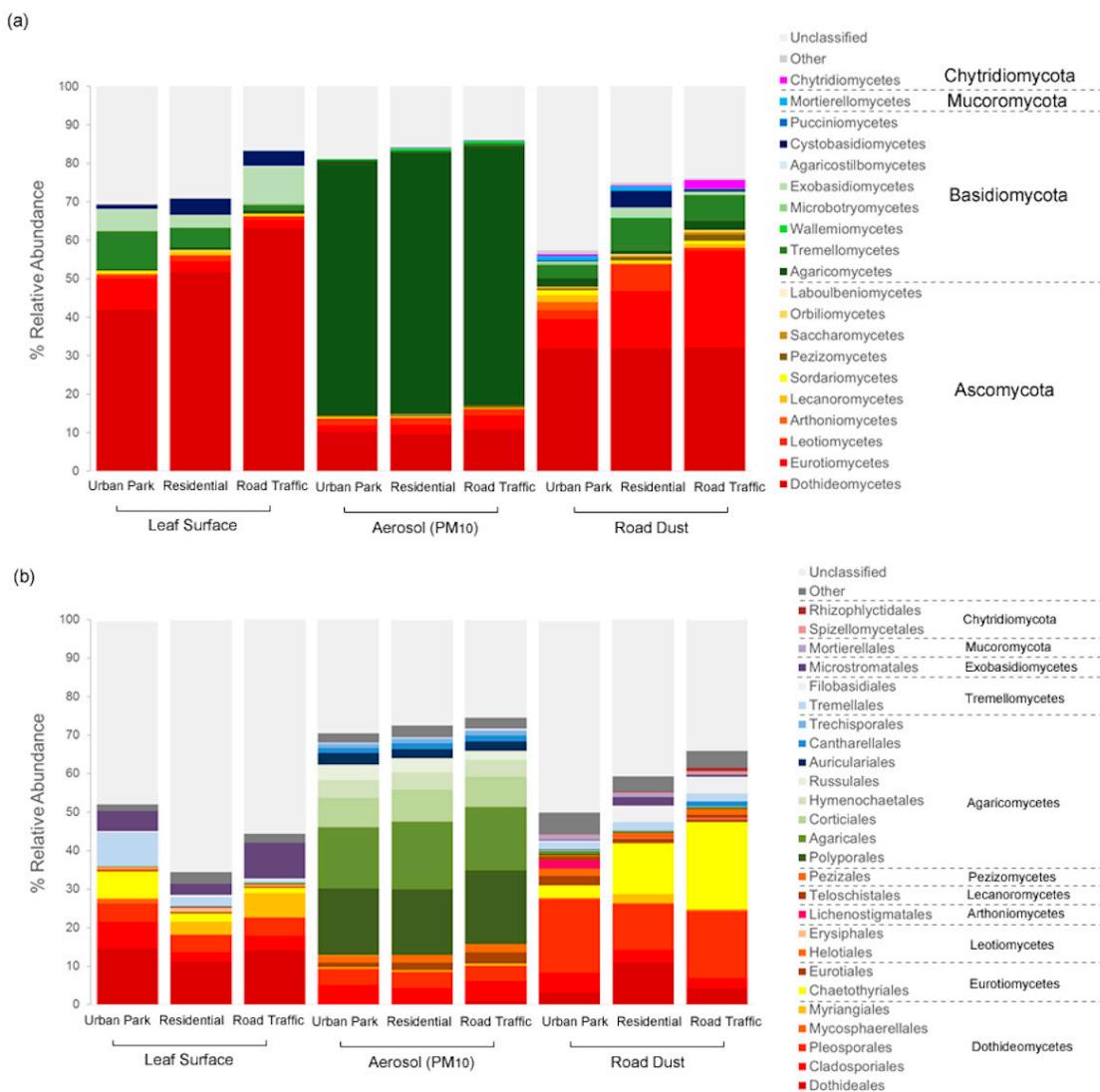


Figure S3. The relative abundance (%) of the most pronounced different classes (a) and orders (b) of fungi recovered in three urban sites of Rome (Urban Park, Residential and Road Traffic) and in three sample types (Leaf Surface, Aer-osal and Road Dust). The classes/orders with relative abundance $\geq 1\%$ of the reads per given sample were included, accounting for $\geq 35\%$ of all sequences recovered;

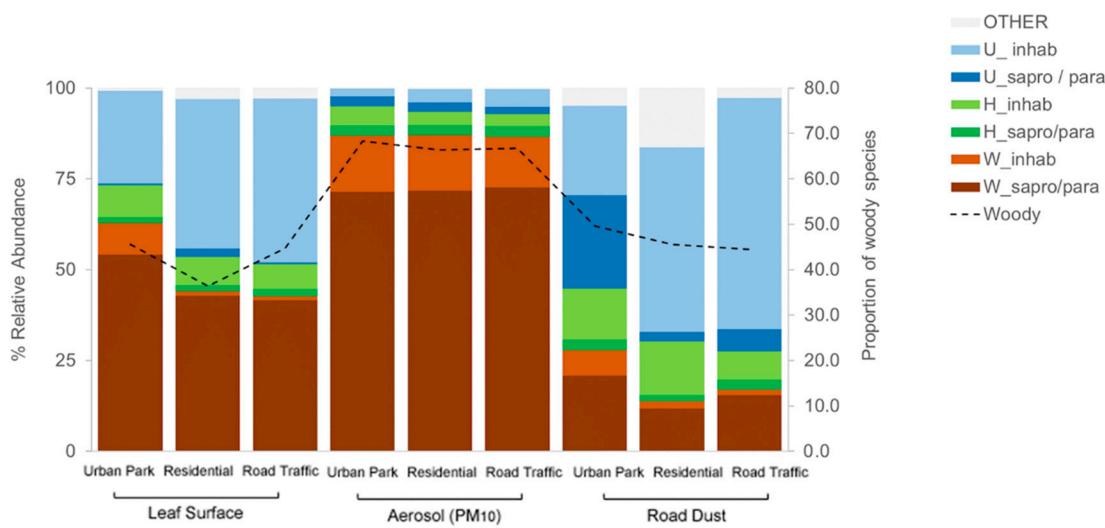


Figure S4. Percentage contribution of the life-style associated with the fungal species identified in three sample types, Leaf Surface, Aerosol (PM₁₀) and Road Dust, collected in the Urban Park, Residential and Road Traffic sites of Rome. Ubiquitous = U, H = herbaceous-plant-associated; W = woody; sapro = saprophytic; para = parasitic; inhab = surface inhabiting.

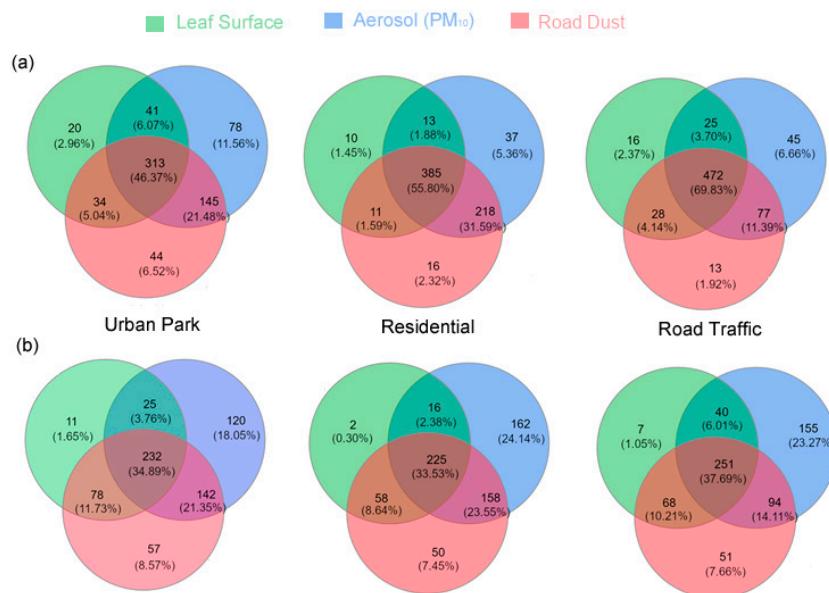


Figure S5. Venn diagrams illustrating the number of unique and shared bacterial (a) and fungal (b) OTUs among three sample types, leaf surface samples of *Q. ilex*, aerosol (PM₁₀), and road dust detected in three urban sites of Rome: green area (Urban Park), residential area (Residential) and polluted area close to the traffic roads (Road Traffic).

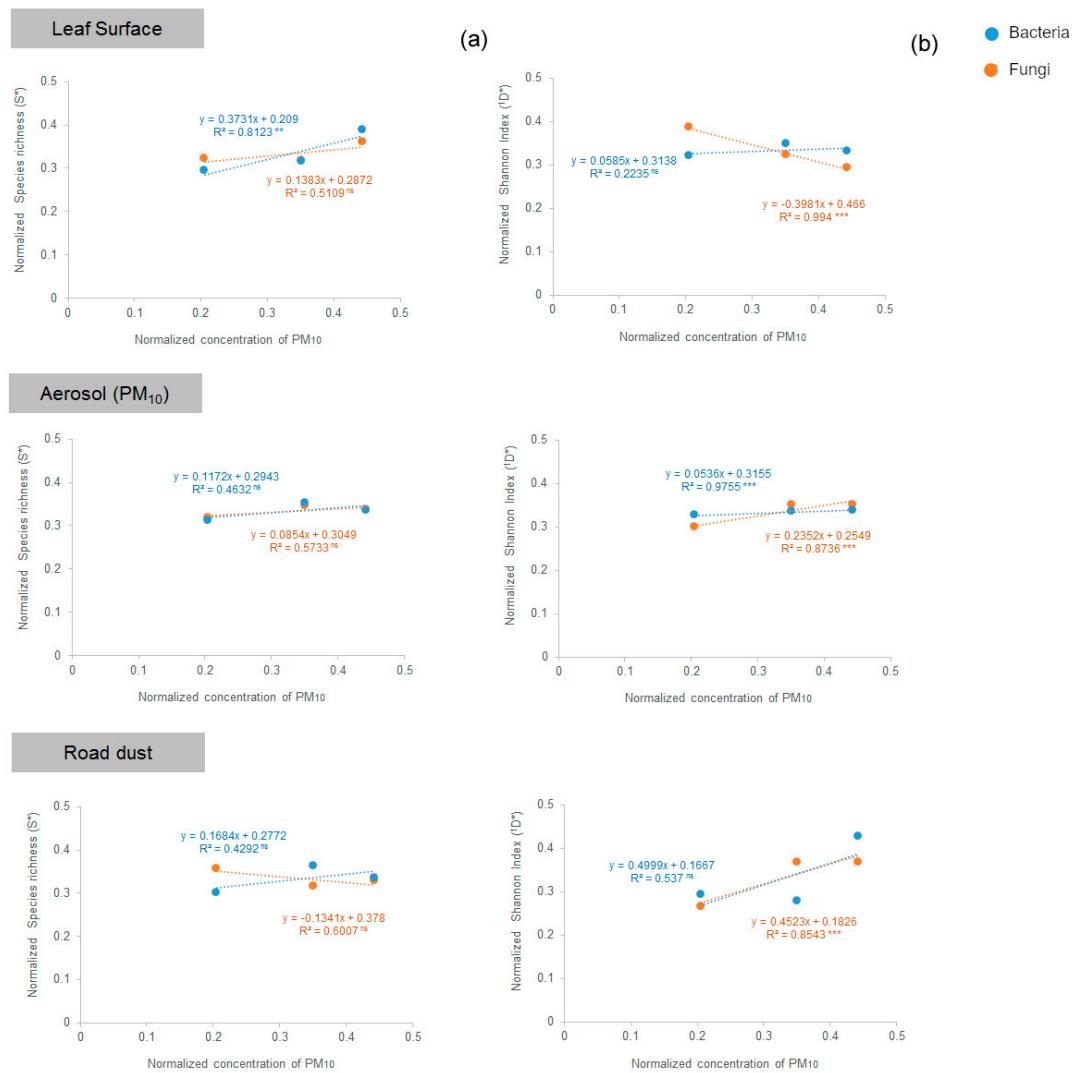


Figure S6. Linear regression analysis between normalized PM10 mass concentration and two normalized-alpha-diversity estimators, Species Richness (S^*) (a) and exponential of Shannon entropy (ID^*) (b) computed in the three urban sites for bacterial and fungal communities of leaf surface, aerosol (PM10) and road dust. Statistical significance of R-squared coefficient was reported (ns = Not significant, *p < 0.05, **p < 0.01, ***p < 0.001);

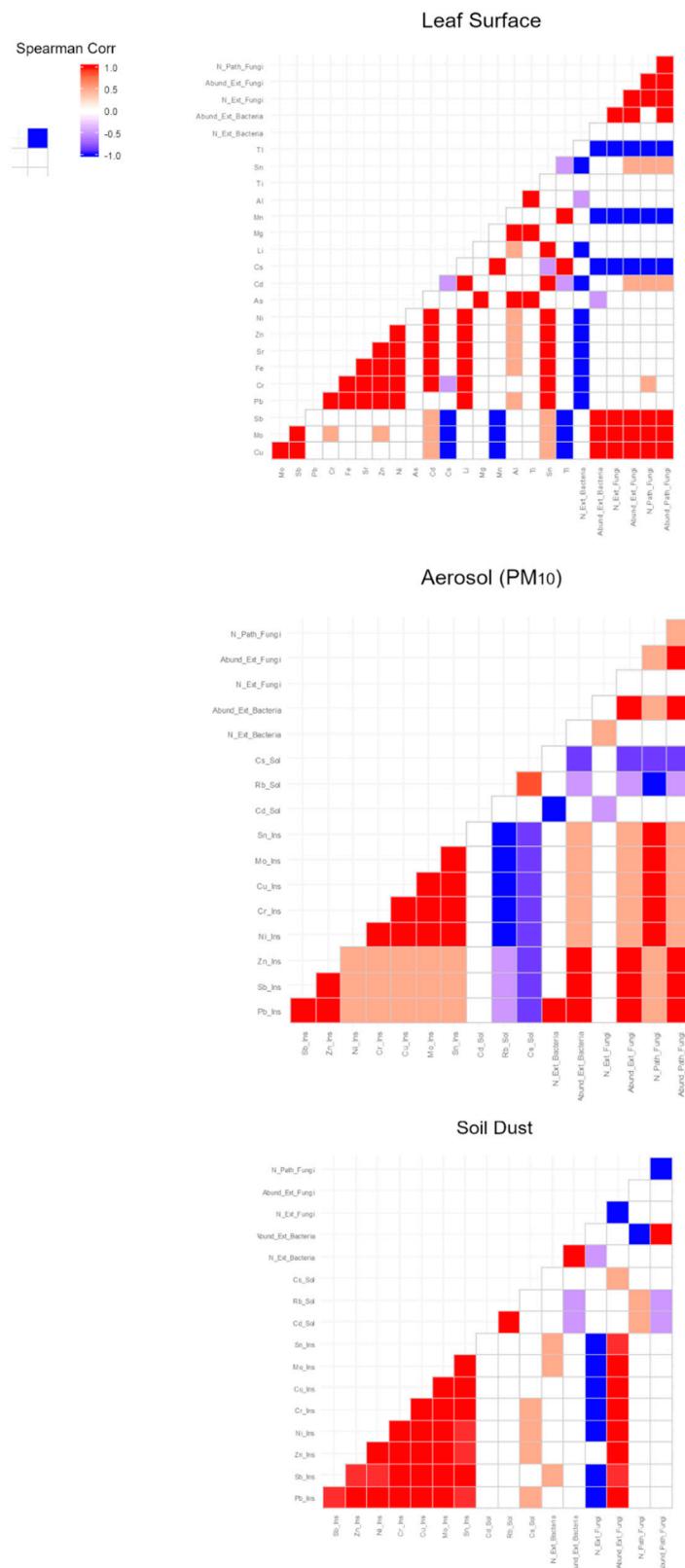


Figure S7. Heatmap of Spearman's rank correlation between the chemical species used as pollution tracers and the relative abundance of extremotolerant microbes and human-pathogenic fungi in three sample types: Leaf Surface, Aerosol (PM10) and Road Dust. Only significant Spearman's rank correlation values for $p < 0.05$ were reported.

Table S1. Frequency distribution of bacterial classes/orders detected in three urban sites of Rome (Urban Park, Residential and Road Traffic) and in three sample types (Leaf Surface, Aerosol and Road Dust).

Phylum	Class / Order	Leaf Surface			Aerosol (PM ₁₀)			Road Dust		
		Urban Park	Residential	Road Traffic	Urban Park	Residential	Road Traffic	Urban Park	Residential	Road Traffic
Proteobacteria										
	Alphaproteobacteria	20.835	19.292	19.122	21.926	16.409	26.014	10.448	12.181	20.134
	Sphingomonadales	12.219	10.022	9.743	6.676	4.443	6.075	2.214	2.200	3.558
	Rhodobacterales	0.047	3.795	2.519	2.440	3.893	9.380	1.444	4.686	6.752
	Rhizobiales	3.970	2.135	2.439	4.808	2.996	2.955	4.319	2.326	4.005
	Rhodospirillales	3.447	2.697	3.608	2.083	2.848	5.412	1.151	2.049	3.882
	Rickettsiales	0.157	0.052	0.187	2.494	0.598	0.205	0.008	0.011	0.016
	Caulobacterales	0.024	0.005	0.032	0.595	0.489	0.447	0.313	0.239	0.558
	Holosporales	0.032	0.018	0.054	1.768	0.152	0.350	0.006	0.007	0.010
	Hyphomonadales	0.000	0.000	0.000	0.060	0.003	0.020	0.083	0.012	0.029
	Unclassified	0.949	0.572	0.548	1.059	1.043	1.240	0.923	0.665	1.351
	Betaproteobacteria	8.647	3.188	8.748	3.397	3.158	5.277	2.821	3.572	5.411
	Burkholderiales	8.317	3.097	8.239	2.894	2.732	4.857	2.299	3.198	4.945
	Neisseriales	0.003	0.002	0.003	0.180	0.021	0.019	0.011	0.002	0.007
	Nitrosomonadales	0.002	0.004	0.001	0.055	0.067	0.059	0.043	0.083	0.066
	Rhodocyclales	0.001	0.000	0.000	0.133	0.063	0.032	0.026	0.013	0.009
	Unclassified	0.330	0.085	0.508	0.143	0.287	0.326	0.453	0.281	0.392
	Gammaproteobacteria	1.099	3.463	0.261	4.819	4.292	4.476	1.209	3.579	3.036
	Pseudomonadales	0.293	0.066	0.100	1.575	1.923	2.176	0.123	1.445	1.079
	Xanthomonadales	0.003	0.004	0.033	0.318	0.747	0.413	0.479	0.688	0.468
	Enterobacterales	0.703	3.308	0.056	0.809	0.564	0.867	0.015	0.205	0.916
	Aeromonadales	0.000	0.001	0.000	0.526	0.181	0.079	0.000	0.001	0.001
	Oceanospirillales	0.001	0.000	0.001	0.044	0.099	0.112	0.001	0.037	0.002
	Cellvibrionales	0.002	0.005	0.004	0.043	0.084	0.291	0.163	0.232	0.301
	Legionellales	0.026	0.007	0.022	0.190	0.082	0.056	0.042	0.404	0.010
	Chromatiales	0.003	0.000	0.002	0.120	0.069	0.051	0.015	0.150	0.009
	Alteromonadales	0.000	0.000	0.001	0.027	0.044	0.050	0.049	0.029	0.003

	Nevskiales	0.000	0.000	0.001	0.000	0.028	0.011	0.050	0.014	0.001
	Unclassified	0.069	0.071	0.036	1.096	0.432	0.374	0.273	0.375	0.247
	Deltaproteobacteria	1.607	1.438	1.753	0.673	0.557	0.435	1.580	0.515	0.939
	Myxococcales	0.014	0.565	0.040	0.284	0.242	0.306	1.092	0.338	0.565
	Desulfuromonadales	0.006	0.003	0.001	0.003	0.033	0.033	0.070	0.012	0.016
	Unclassified	1.586	0.869	1.712	0.385	0.271	0.087	0.422	0.163	0.358
	Epsilonproteobacteria	0.001	0.004	0.001	0.521	0.364	0.079	0.005	0.001	0.000
	Campylobacterales	0.001	0.004	0.001	0.519	0.365	0.079	0.004	0.001	0.000
	Oligoflexia	0.018	0.044	0.058	0.205	0.507	0.487	1.283	1.615	1.670
	Bdellovibrionales	0.008	0.025	0.028	0.095	0.303	0.332	0.397	1.063	0.824
	Bacteriovoracales	0.004	0.006	0.010	0.000	0.051	0.031	0.123	0.179	0.338
	Oligoflexales	0.000	0.000	0.001	0.000	0.001	0.002	0.212	0.014	0.043
	Unclassified	0.006	0.013	0.017	0.111	0.154	0.123	0.521	0.355	0.428
Actinobacteria										
	Actinobacteria	9.647	15.185	13.463	19.519	20.846	17.495	7.088	12.895	7.314
	Micrococcales	1.831	0.757	1.126	4.117	5.269	4.743	0.780	6.819	1.596
	Propionibacterales	3.074	3.465	3.431	2.899	3.249	3.104	2.264	1.663	1.406
	Geodermatophilales	0.083	0.086	0.175	0.987	1.913	1.512	0.625	0.283	0.575
	Corynebacterales	0.011	0.011	0.068	3.041	1.893	1.464	0.250	0.761	1.202
	Pseudonocardiales	0.106	0.019	0.090	2.290	1.425	1.174	0.959	0.129	0.229
	Streptomycetales	0.043	0.065	0.044	1.551	0.645	0.372	0.090	0.123	0.052
	Kineosporiales	2.399	4.439	6.109	0.671	0.473	0.310	0.098	0.090	0.093
	Actinomycetales	0.017	0.021	0.038	0.088	0.320	0.212	0.117	0.038	0.085
	Nakamurellales	0.888	2.934	0.769	0.061	0.223	0.170	0.103	0.329	0.427
	Bifidobacterales	0.000	0.002	0.000	0.235	0.189	0.034	0.001	0.001	0.000
	Frankiales	0.008	0.869	0.105	0.012	0.156	0.136	0.026	0.065	0.114
	Micromonosporales	0.046	0.041	0.104	0.203	0.136	0.128	0.299	0.050	0.065
	Streptosporangiales	0.004	0.002	0.001	0.297	0.103	0.142	0.013	0.030	0.002
	Motilibacterales	0.002	0.032	0.017	0.012	0.032	0.009	0.008	0.004	0.007
	Unclassified	1.131	2.441	1.371	3.066	4.841	4.009	1.462	2.479	1.467
	Thermoleophilia	0.134	0.014	0.035	0.555	0.476	0.243	1.582	0.459	0.125

	Solirubrobacterales	0.126	0.011	0.028	0.467	0.323	0.130	0.923	0.303	0.075
	Unclassified	0.009	0.003	0.007	0.090	0.154	0.114	0.662	0.157	0.049
	Rubrobacteria	0.005	0.019	0.013	0.116	0.199	0.137	1.266	0.276	0.159
	Rubrobacterales	0.003	0.005	0.007	0.041	0.124	0.036	0.882	0.18	0.126
	Gaiellales	0.000	0.000	0.000	0.009	0.002	0.052	0.034	0.011	0.004
	Unclassified	0.003	0.014	0.006	0.066	0.074	0.050	0.355	0.086	0.030
	Acidimicrobiia	0.024	0.016	0.038	0.428	0.422	0.305	1.028	0.463	0.182
	Acidimicrobiales	0.014	0.013	0.022	0.352	0.36	0.27	0.626	0.265	0.158
	Unclassified	0.01	0.003	0.015	0.077	0.064	0.035	0.406	0.198	0.024
	Coriobacteriia	0.002	0.003	0.001	0.125	0.153	0.182	0.001	0.012	0.001
	Coriobacteriales	0.001	0.003	0.001	0.122	0.119	0.129	0.000	0.011	0.001
Armatimonadetes										
	Armatimonadia	0.039	0.003	0.036	0.013	0.017	0.085	0.096	0.021	0.318
	Armatimonadales	0.001	0.003	0.029	0.013	0.015	0.073	0.071	0.014	0.255
	Unclassified	0.343	0.402	0.258	0.027	0.060	0.061	0.226	0.052	0.434
Bacteroidetes										
	Chitinophagia	0.438	0.061	0.180	0.827	1.036	1.425	4.108	2.220	4.583
	Chitinophagales	0.414	0.052	0.175	0.778	1.017	1.410	4.000	2.153	4.384
	Unclassified	0.025	0.010	0.005	0.051	0.023	0.019	0.123	0.071	0.205
	Cytophagia	29.781	28.255	30.330	2.248	3.322	3.404	2.340	4.536	5.215
	Cytophagales	29.159	27.613	29.885	2.211	3.250	3.340	2.145	4.422	4.893
	Unclassified	0.636	0.647	0.457	0.042	0.084	0.074	0.204	0.122	0.330
	Flavobacteriia	0.145	0.095	0.315	1.266	1.965	2.384	0.909	2.276	2.748
	Flavobacteriales	0.141	0.093	0.306	1.201	1.899	2.366	0.880	2.241	2.692
	Unclassified	0.004	0.002	0.009	0.068	0.073	0.025	0.033	0.040	0.060
	Sphingobacteriia	2.489	1.518	0.743	0.738	0.752	0.634	0.418	1.172	1.402
	Sphingobacteriales	2.447	1.492	0.732	0.734	0.712	0.630	0.393	1.148	1.370
	Unclassified	0.043	0.026	0.010	0.006	0.043	0.005	0.026	0.026	0.035
	Bacteroidia	0.003	0.000	0.001	0.854	0.942	0.387	0.007	0.036	0.001
	Bacteroidales	0.001	0.000	0.001	0.701	0.788	0.308	0.002	0.032	0.001
	Unclassified	0.002	0.000	0.000	0.155	0.149	0.081	0.003	0.001	0.000

	Bacilli	0.103	0.216	0.175	4.843	5.026	3.668	6.491	7.358	2.568
Firmicutes	Bacillales	0.083	0.176	0.135	2.922	2.839	2.085	5.933	5.243	2.014
	Lactobacillales	0.006	0.019	0.020	1.835	2.007	1.485	0.007	1.840	0.176
	Unclassified	0.013	0.021	0.020	0.097	0.199	0.108	0.575	0.287	0.381
	Clostridia	0.005	0.064	0.025	3.766	3.035	1.455	0.104	0.219	0.043
	Clostridiales	0.005	0.061	0.022	3.626	2.919	1.383	0.095	0.211	0.032
	Unclassified	0.000	0.002	0.003	0.150	0.127	0.076	0.009	0.007	0.010
	Erysipelotrichia	0.000	0.002	0.001	0.174	0.235	0.124	0.004	0.029	0.004
	Erysipelotrichales	0.000	0.002	0.001	0.171	0.223	0.110	0.003	0.028	0.004
	Negativicutes	0.000	0.001	0.000	0.307	0.274	0.059	0.002	0.021	0.002
	Acidaminococcales	0.000	0.000	0.000	0.036	0.101	0.018	0.000	0.001	0.000
	Selenomonadales	0.000	0.001	0.000	0.167	0.064	0.035	0.002	0.017	0.000
	Veillonellales	0.000	0.000	0.000	0.099	0.103	0.003	0.000	0.001	0.000
	Tissierellia	0.000	0.001	0.000	0.089	0.119	0.047	0.000	0.002	0.001
	Tissierellales	0.000	0.001	0.000	0.089	0.110	0.048	0.000	0.001	0.001
Planctomycetes	Planctomycetia	0.229	0.058	0.230	0.529	1.049	0.714	9.555	2.341	3.749
	Planctomycetales	0.1	0.017	0.057	0.075	0.342	0.101	3.373	0.632	1.062
	Gemmatales	0.006	0.008	0.015	0.050	0.138	0.112	1.508	0.335	0.449
	Pirellulales	0.000	0.003	0.004	0.049	0.083	0.215	0.694	0.257	0.049
	Isosphaerales	0.061	0.008	0.073	0.079	0.064	0.138	0.176	0.190	0.240
	Unclassified	0.062	0.021	0.080	0.277	0.425	0.151	3.840	0.931	1.955
	Phycisphaerae	0.36	0.02	0.141	0.019	0.064	0.318	0.603	0.655	2.872
	Tepidisphaerales	0.328	0.017	0.109	0.017	0.039	0.289	0.434	0.557	2.406
	Unclassified	0.033	0.003	0.031	0.002	0.025	0.029	0.172	0.1	0.47
Acidobacteria	Blastocatellia	0.018	0.007	0.046	0.242	0.216	0.280	2.138	0.170	2.063
	Blastocatellales	0.014	0.006	0.044	0.232	0.203	0.272	2.067	0.163	2.014
	Unclassified	0.004	0.001	0.002	0.011	0.013	0.009	0.079	0.008	0.052
	Acidobacteriia	0.226	0.001	0.025	0.13	0.061	0.066	0.15	0.032	0.511

		0.224	0.001	0.024	0.129	0.06	0.066	0.133	0.022	0.503
	Vicinamibacteria	0.001	0.000	0.000	0.033	0.004	0.001	0.037	0.011	0.015
Verrucomicrobia	Spartobacteria	0.377	0.028	0.274	0.314	0.358	0.291	3.363	0.994	3.315
	Chthoniobacterales	0.007	0.004	0.026	0.142	0.115	0.120	1.155	0.690	1.056
	Unclassified	0.370	0.023	0.248	0.172	0.244	0.171	2.220	0.306	2.264
	Verrucomicrobiae	0.005	0.013	0.011	0.234	0.247	0.16	1.217	0.816	0.724
	Verrucomicrobiales	0.004	0.011	0.011	0.223	0.234	0.154	1.156	0.795	0.704
	Unclassified	0.001	0.002	0.000	0.012	0.014	0.007	0.066	0.022	0.021
	Opitutae	0.008	0.004	0.003	0.108	0.194	0.068	0.635	0.113	0.093
	Opitutales	0.008	0.004	0.003	0.098	0.115	0.029	0.623	0.105	0.089
Chloroflexi	Chloroflexia	0.007	0.013	0.039	0.193	0.342	0.188	0.919	0.18	1.391
	Herpetosiphonales	0.002	0.004	0.009	0.028	0.251	0.058	0.130	0.091	0.324
	Chloroflexales	0.001	0.002	0.007	0.035	0.020	0.045	0.088	0.005	0.012
	Unclassified	0.004	0.006	0.023	0.131	0.072	0.075	0.693	0.084	1.055
	Caldilineae	0.002	0.001	0.001	0.001	0.003	0.02	0.326	0.093	0.052
	Caldilineales	0.002	0.001	0.001	0	0.003	0.018	0.277	0.089	0.043
	Ktedonobacteria	0.000	0.000	0.000	0.174	0.021	0.032	0.003	0.000	0.000
	Ktedonobacterales	0.000	0.000	0.000	0.162	0.003	0.031	0.003	0.000	0.000
	Thermomicrobia	0.000	0.000	0.001	0.019	0.012	0.020	0.058	0.050	0.016
Cyanobacteria	Cyanobacteria	1.777	0.473	1.131	4.209	1.483	1.350	2.648	0.559	2.006
	Nostocales	1.250	0.365	0.776	3.301	0.304	0.564	0.246	0.293	0.102
	Spiruliniales	0.005	0.000	0.034	0.186	0.001	0.021	0.033	0.041	0.002
	Oscillatoriales	0.029	0.017	0.049	0.101	0.221	0.084	0.119	0.027	0.157
	Chroococcales	0.005	0.018	0.049	0.084	0.130	0.074	0.115	0.031	0.194
	Synechococcales	0.037	0.002	0.008	0.064	0.106	0.039	0.210	0.010	0.115
	Chroococcidiopsidales	0.003	0.011	0.037	0.001	0.061	0.046	0.300	0.022	0.244
	Pleurocapsales	0.000	0.003	0.000	0.000	0.016	0.000	0.087	0.006	0.034
	Unclassified	0.449	0.057	0.178	0.482	0.650	0.526	1.547	0.129	1.160

	Candidatus Sumerlaenia	0.000	0.000	0.001	0.021	0.007	0.042	0.141	0.007	0.009
	Candidatus Sumerlaeales	0.000	0.000	0.001	0.016	0.004	0.018	0.094	0.004	0.005
Rhodothermaeota	Rhodothermia	0.000	0.001	0.002	0.060	0.008	0.024	0.026	0.014	0.065
	Rhodothermales	0.000	0.001	0.002	0.060	0.008	0.024	0.026	0.014	0.065
Candidatus Nomurabacteria	Unclassified	0.000	0.000	0.002	0.021	0.029	0.000	0.033	0.024	0.015
Candidatus Saccharibacteria	Unclassified	0.581	0.444	0.219	0.319	0.623	0.674	0.581	1.841	0.920

Table S2. Frequency distribution of fungal classes / orders detected in three urban sites of Rome (Urban Park, Residential and Road Traffic) and in three sample types (Leaf Surface, Aerosol and Road Dust).

Phylum	Class / Order	Leaf Surface			Aerosol (PM ₁₀)			Road Dust		
		Urban Park	Residential	Road Traffic	Urban Park	Residential	Road Traffic	Urban Park	Residential	Road Traffic
Ascomycota										
	Dothideomycetes	42.071	51.802	63.254	10.312	9.696	10.931	31.896	31.827	32.292
	Dothideales	14.660	11.326	14.149	0.294	0.461	1.012	3.211	11.056	4.359
	Cladosporiales	6.759	2.336	3.735	4.834	3.893	5.137	5.072	3.175	2.603
	Pleosporales	4.813	4.433	4.761	3.990	3.996	3.761	19.011	11.941	17.244
	Mycosphaerellales	1.293	0.082	0.102	0.428	0.413	0.388	0.455	0.181	0.445
	Capnodiales	0.685	0.032	0.045	0.028	0.009	0.032	0.282	0.034	0.101
	Myriangiales	0.121	3.371	6.243	0.005	0.014	0.038	0.033	2.402	0.132
	Botryosphaeriales	0.070	0.906	0.160	0.076	0.098	0.069	0.218	0.406	0.494
	Venturiales	0.008	0.003	0.001	0.008	0.025	0.033	0.087	0.009	0.038
	Muyocopronales	0.007	0.023	0.078	0.003	0.001	0.000	0.255	0.091	0.330
	Tubeufiales	0.003	0.006	0.004	0.003	0.010	0.003	0.078	0.042	0.028
	Hysteriales	0.002	0.219	0.048	0.005	0.004	0.000	0.003	0.040	0.005
	Unclassified	13.700	29.108	33.989	0.633	0.758	0.427	3.230	2.489	6.537
	Eurotiomycetes	7.896	2.658	1.942	1.538	2.275	3.437	7.619	14.973	24.853
	Chaetothyriales	6.975	2.214	1.299	0.173	0.205	0.282	3.248	13.144	22.654
	Eurotiales	0.145	0.250	0.276	1.273	1.954	3.061	2.456	1.151	0.642
	Onygenales	0.040	0.026	0.030	0.023	0.024	0.029	0.135	0.141	0.102
	Verrucariales	0.008	0.007	0.011	0.024	0.052	0.017	0.668	0.033	0.211

Mycocaliciales	0.014	0.016	0.010	0.003	0.006	0.006	0.010	0.009	0.021
Phaeomoniellales	0.052	0.003	0.003	0.001	0.004	0.002	0.026	0.006	0.009
Unclassified	0.671	0.144	0.314	0.043	0.031	0.044	1.102	0.516	1.254
Leotiomycetes	1.092	1.586	0.993	1.843	1.887	1.820	2.281	6.914	0.782
Helotiales	0.540	0.170	0.277	1.671	1.657	1.625	1.821	0.312	0.295
Rhytismatales	0.023	0.053	0.039	0.061	0.106	0.103	0.043	0.024	0.028
Thelebolales	0.000	0.001	0.004	0.001	0.000	0.000	0.029	0.052	0.005
Erysiphales	0.403	1.019	0.398	0.022	0.042	0.041	0.025	0.170	0.046
Phacidiales	0.008	0.028	0.054	0.003	0.004	0.005	0.007	0.009	0.014
Unclassified	0.115	0.313	0.210	0.076	0.078	0.047	0.319	6.344	0.385
Arthoniomycetes	0.030	0.053	0.015	0.004	0.005	0.000	2.178	0.066	0.134
Lichenostigmatales	0.020	0.050	0.010	0.003	0.005	0.000	2.174	0.058	0.132
Lecanoromycetes	0.525	0.678	0.317	0.058	0.063	0.056	1.758	0.346	0.985
Teloschistales	0.019	0.007	0.021	0.009	0.013	0.005	1.034	0.112	0.780
Peltigerales	0.005	0.010	0.003	0.004	0.004	0.003	0.044	0.011	0.018
Lecanorales	0.018	0.018	0.031	0.005	0.008	0.005	0.025	0.020	0.028
Acarosporales	0.010	0.069	0.018	0.000	0.006	0.000	0.015	0.014	0.008
Umbilicariales	0.004	0.276	0.133	0.001	0.001	0.002	0.012	0.074	0.006
Trapeliales	0.007	0.040	0.030	0.008	0.001	0.000	0.011	0.015	0.012
Ostropales	0.345	0.004	0.002	0.020	0.019	0.029	0.008	0.015	0.012
Unclassified	0.088	0.216	0.044	0.005	0.006	0.005	0.593	0.065	0.104
Sordariomycetes	0.395	0.157	0.320	0.286	0.231	0.237	1.285	0.541	0.775
Hypocreales	0.060	0.040	0.079	0.095	0.082	0.094	0.859	0.222	0.459
Sordariales	0.020	0.010	0.002	0.001	0.010	0.005	0.076	0.071	0.119
Glomerellales	0.020	0.021	0.011	0.036	0.020	0.014	0.058	0.028	0.031
Xylariales	0.025	0.019	0.019	0.058	0.048	0.053	0.133	0.025	0.038
Diaporthales	0.014	0.004	0.040	0.019	0.026	0.005	0.015	0.019	0.015
Unclassified	0.240	0.062	0.158	0.053	0.031	0.044	0.103	0.103	0.107
Pezizomycetes	0.055	0.040	0.067	0.279	0.375	0.420	0.325	0.932	1.586
Pezizales	0.053	0.035	0.066	0.274	0.354	0.389	0.308	0.906	1.439
Unclassified	0.002	0.004	0.001	0.005	0.021	0.032	0.018	0.027	0.150

Saccharomycetes	0.052	0.103	0.099	0.119	0.106	0.113	0.320	0.320	0.713
Saccharomycetales	0.051	0.084	0.084	0.115	0.099	0.112	0.269	0.301	0.679
Unclassified	0.001	0.019	0.016	0.004	0.006	0.002	0.051	0.019	0.035
Orbiliomycetes	0.015	0.387	0.042	0.025	0.058	0.023	0.227	0.317	0.551
Orbiliales	0.010	0.226	0.036	0.023	0.044	0.021	0.194	0.167	0.523
Unclassified	0.005	0.162	0.007	0.003	0.014	0.002	0.033	0.150	0.029
Laboulbeniomycetes	0.001	0.009	0.001	0.004	0.004	0.005	0.000	0.124	0.012
Unclassified	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.109	0.000
Basidiomycota									
Agaricomycetes	0.311	0.574	0.610	65.941	68.124	67.482	2.249	0.912	2.363
Polyporales	0.053	0.054	0.117	17.259	17.008	19.111	0.322	0.232	0.286
Agaricales	0.093	0.210	0.164	15.911	17.502	16.524	0.718	0.224	0.294
Corticiales	0.021	0.019	0.117	7.594	8.315	7.790	0.130	0.056	0.049
Hymenochaetales	0.026	0.013	0.017	4.567	4.459	4.363	0.046	0.024	0.035
Russulales	0.009	0.015	0.021	3.983	3.677	2.379	0.093	0.036	0.046
Auriculariales	0.008	0.007	0.015	3.072	2.379	2.412	0.093	0.049	0.038
Cantharellales	0.020	0.029	0.020	1.331	1.600	1.628	0.117	0.084	1.321
Trechisporales	0.002	0.001	0.001	1.054	1.153	1.189	0.018	0.008	0.008
Gloeophyllales	0.003	0.006	0.007	0.519	0.099	0.167	0.010	0.006	0.005
Atheliales	0.005	0.010	0.004	0.364	0.594	0.540	0.015	0.008	0.015
Thelephorales	0.008	0.021	0.013	0.200	0.332	0.380	0.054	0.022	0.020
Boletales	0.021	0.031	0.027	0.156	0.198	0.106	0.054	0.032	0.043
Sebacinales	0.000	0.006	0.002	0.081	0.058	0.072	0.071	0.002	0.014
Geastrales	0.002	0.001	0.001	0.058	0.024	0.011	0.075	0.003	0.003
Gomphiales	0.003	0.019	0.004	0.056	0.082	0.068	0.019	0.012	0.014
Amylocorticiales	0.001	0.000	0.001	0.036	0.063	0.050	0.000	0.001	0.003
Phallales	0.001	0.004	0.000	0.003	0.005	0.000	0.178	0.017	0.035
Unclassified	0.034	0.126	0.078	9.762	10.656	10.782	0.244	0.099	0.139
Tremellomycetes	9.857	5.219	1.549	0.468	0.479	0.678	3.417	8.441	6.663
Tremellales	8.667	2.373	0.494	0.297	0.312	0.299	1.913	2.165	2.038
Filobasidiales	0.386	0.452	0.502	0.030	0.091	0.282	0.372	4.208	4.306

	1	2	3	4	5	6	7	8	9
Trichosporonales	0.021	0.012	0.015	0.066	0.024	0.015	0.133	0.343	0.069
Cystofilobasidiales	0.002	0.000	0.006	0.004	0.018	0.005	0.358	0.004	0.067
Holtermanniales	0.000	0.000	0.000	0.008	0.000	0.000	0.196	0.003	0.014
Unclassified	0.792	2.387	0.535	0.063	0.035	0.078	0.457	1.734	0.180
Walleiomycetes	0.001	0.000	0.000	0.101	0.332	0.395	0.010	0.057	0.034
Wallemiales	0.001	0.000	0.000	0.100	0.329	0.394	0.010	0.055	0.034
Microbotryomycetes	0.230	0.114	0.397	0.137	0.175	0.127	0.603	0.192	0.217
Sporidiobolales	0.106	0.043	0.316	0.117	0.152	0.115	0.114	0.103	0.150
Microbotryales	0.005	0.004	0.001	0.000	0.000	0.002	0.089	0.009	0.008
Leucosporidiales	0.000	0.000	0.001	0.000	0.000	0.000	0.199	0.002	0.002
Unclassified	0.119	0.068	0.077	0.019	0.021	0.009	0.203	0.078	0.058
Exobasidiomycetes	5.347	3.042	9.361	0.039	0.093	0.105	0.216	2.279	0.609
Microstromatales	5.280	3.011	9.303	0.014	0.050	0.077	0.205	2.245	0.599
Exobasidiales	0.051	0.001	0.003	0.000	0.004	0.002	0.006	0.026	0.005
Unclassified	0.021	0.032	0.063	0.000	0.000	0.002	0.001	0.012	0.005
Agaricostilbomycetes	0.245	0.163	0.373	0.039	0.064	0.045	0.071	0.290	0.040
Agaricostilbales	0.219	0.156	0.300	0.033	0.063	0.044	0.061	0.281	0.037
Unclassified	0.026	0.007	0.073	0.006	0.001	0.002	0.010	0.009	0.003
Cystobasidiomycetes	1.102	4.238	3.859	0.015	0.034	0.033	0.199	4.286	0.580
Erythrobasidiales	0.199	0.530	0.650	0.005	0.009	0.006	0.024	0.535	0.125
Cystobasidiales	0.115	0.022	0.017	0.004	0.001	0.008	0.076	0.402	0.158
Unclassified	0.789	3.690	3.195	0.006	0.024	0.020	0.099	3.357	0.298
Pucciniomycetes	0.009	0.006	0.009	0.008	0.036	0.023	0.140	0.008	0.035
Pucciniales	0.007	0.004	0.008	0.005	0.028	0.009	0.128	0.004	0.006
Mucoromycota									
Mortierellomycetes	0.003	0.004	0.011	0.011	0.008	0.012	1.145	1.222	0.166
Mortierellales	0.002	0.004	0.011	0.011	0.008	0.012	1.108	1.157	0.159
Unclassified	0.001	0.000	0.000	0.000	0.000	0.000	0.042	0.067	0.008
Glomeromycetes	0.008	0.012	0.017	0.013	0.014	0.017	0.307	0.045	0.162
Diversisporales	0.005	0.004	0.000	0.000	0.003	0.008	0.207	0.014	0.055
Glomerales	0.003	0.003	0.015	0.011	0.009	0.008	0.056	0.021	0.040

	Unclassified	0.001	0.003	0.002	0.001	0.003	0.002	0.025	0.009	0.055
	Mucoromycetes	0.025	0.007	0.016	0.030	0.117	0.095	0.237	0.207	0.128
	Mucorales	0.024	0.007	0.016	0.029	0.116	0.094	0.236	0.208	0.121
	Unclassified	0.000	0.003	0.006	0.001	0.003	0.003	0.122	0.290	0.081
Chytridiomycota										
	Chytridiomycetes	0.006	0.003	0.012	0.001	0.000	0.002	0.459	0.297	2.235
	Spizellomycetales	0.002	0.001	0.000	0.000	0.000	0.000	0.175	0.114	0.705
	Rhizophlyctidales	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.131	0.922
	Lobulomycetales	0.004	0.001	0.010	0.000	0.000	0.000	0.046	0.005	0.052
	Unclassified	0.000	0.000	0.002	0.000	0.000	0.000	0.136	0.044	0.552
Blastocladiomycota										
	Blastocladiomycetes	0.001	0.000	0.000	0.000	0.000	0.000	0.280	0.057	0.081
	Blastocladiales	0.000	0.000	0.000	0.000	0.000	0.000	0.221	0.033	0.018
	Unclassified	0.001	0.000	0.000	0.000	0.000	0.000	0.060	0.023	0.063
Zoopagomycota	Unclassified	0.001	0.001	0.000	0.014	0.000	0.000	0.055	0.019	0.009

Table S3. List of 77 extremotolerant bacteria detected in three sample types, Leaf Surface, Aerosol (PM₁₀) and Road Dust, collected in the Urban Park (Park), Residential (Res) and Road Traffic (Traf) sites of Rome. Isolation_sources were collected from published sources, “The Bacterial Diversity Metadatabase BacDive” and NCBI nucleotide database.

Order	Species	Type	Leaf Surface			Aerosol (PM ₁₀)			Road Dust			Isolation_source
			Park	Res	Traf	Park	Res	Traf	Park	Res	Traf	
Abditibacteriota												
Abditibacteriales	<i>Abditibacterium utsteinense</i>	TAE	1.67	2.52	1.29	0.00	0.01	0.03	0.04	0.48	0.32	Top surface of weathered granite parent material, elevation 1382 m (Antarctica)
Acidobacteria												
Blastocatellales	<i>Blastocatella fastidiosa</i>	SOI	0.01	0.01	0.03	0.19	0.16	0.15	3.42	0.22	3.50	Savanna soil, loamy sand (Namibia)
	<i>Stenotrophobacter roseus</i>	SOI	0.00	0.00	0.01	0.00	0.01	0.08	0.62	0.16	1.34	Semi-arid old flood plain fallow soil (Namibia)
	<i>Stenotrophobacter terraee</i>	SOI	0.00	0.00	0.00	0.01	0.22	0.34	2.63	0.09	0.32	Old agricultural flood plain soil of the Savannah (Namibia)
	<i>Arenimicrobium luteum</i>	SOI	0.00	0.00	0.00	0.00	0.02	0.06	1.06	0.01	0.05	Old agricultural flood plain soil of the Savannah (Namibia)
Actinobacteria												
Corynebacteriales	<i>Skermania piniformis</i>	TAE	0.00	0.00	0.00	3.18	0.76	0.01	0.00	0.00	0.00	Surface foam, sewage treatment plant (Bellbowrie, Australia)
Geodermatophilales	<i>Geodermatophilus africanus</i>	SOI	0.00	0.00	0.02	0.46	0.12	0.00	0.00	0.00	0.04	Desert sand (Chad)
	<i>Geodermatophilus siccanus</i>	SOI	0.06	0.06	0.04	0.11	0.50	0.42	0.37	0.02	0.22	Desert sand (Chad) [1]
Kineosporiales	<i>Kineococcus siccus</i>	SOI	2.27	4.46	5.99	0.09	0.01	0.00	0.01	0.06	0.00	Nearby the tabernas desert (Almería, Spain) [2]
Micrococcales	<i>Yaniella halotolerans</i>	SOI	0.00	0.00	0.00	0.27	0.09	0.28	0.00	0.00	0.00	Saline soil (Xijiang, China)
Nakamurellales	<i>Nakamurella sp. PSY079</i>	TAE	1.37	0.02	0.42	0.03	0.00	0.00	0.01	0.00	0.01	Signy Island, maritime Antarctic
Propionibacteriales	<i>Nocardiooides sp.</i>	SOI	0.07	0.02	0.08	2.46	3.19	2.98	2.47	1.40	1.20	Soil contaminated with nitroaromatic compounds (Germany)
Pseudonocardioidales	<i>Pseudonocardia sp. Tü6257</i>	SOI	0.00	0.00	0.01	0.35	0.12	0.08	0.21	0.04	0.07	Soil (Joinville, Brasil)
	<i>Pseudonocardia sp. I12A-02602</i>	SOI	0.00	0.00	0.00	0.00	0.00	0.00	3.33	0.00	0.00	Shapotou National Desert Ecological Reserve, Tengger Desert (China)
Bacteroidetes												
Chitinophagales	<i>Flavisolibacter sp. MDT2-37</i>	TAE	0.00	0.00	0.01	0.04	0.18	0.13	1.81	0.17	1.21	Four glaciers (China)
Cytophagales	<i>Dyadobacter alkalitolerans</i>	SOI	0.00	0.00	0.00	0.00	0.15	0.17	0.06	0.10	0.21	Desert soil (Xijiang, China)

Bacillales	<i>Planomicrobium glaciei</i>	TAE	0.00	0.00	0.00	0.71	0.00	0.08	0.00	0.29	0.28	Frozen soil from a glacier (Xinjiang, China)
	<i>Staphylococcus sp.</i>	TAE	0.00	0.00	0.00	0.68	0.40	0.15	0.00	0.00	0.00	Salt tolerant
Planctomycetes												
Planctomycetales	<i>Caulifigura coniformis</i>	TAE	0.00	0.00	0.00	0.11	0.00	1.60	0.21	0.19		Red biofilm sampled in a hydrothermal area (island Panarea, Sicily, Italy) [5]
Proteobacteria												
Caulobacterales	<i>Brevundimonas sp.</i>	TAE	0.00	0.00	0.00	0.22	0.24	0.52	0.06	0.17	0.03	Resistant to UV irradiation
	<i>Phenylobacterium sp.</i>	SOI	0.00	0.00	0.01	0.29	0.06	0.09	0.13	0.07	0.17	Growing on chloridazon–mineral salts, extremely limited nutritional spectrum
Hyphomonadales	<i>Asprobacter aquaticus</i>	MFW	0.00	0.00	0.00	0.12	0.01	0.12	0.77	0.06	0.15	Fresh water sample at a depth of 22 m (Daechung Reservoir; Korea)
Rhizobiales	<i>Methylobacterium sp. L1B49</i>	SOI	0.00	0.00	0.00	0.67	0.12	0.00	0.00	0.12	0.00	Desert Biological Soil Crust (Canyonlands National Park, Utah, USA)
	<i>Microvirga sp. ES3-14</i>	SOI	0.00	0.00	0.00	0.01	0.02	0.02	1.23	0.06	0.18	Se-enriched soils (China)
Rhodobacterales	<i>Falsirhodobacter deserti</i>	SOI	0.00	0.00	0.01	0.01	0.51	0.14	0.00	0.03	0.00	Enrichment culture of Tamarix ramosissima rhizosphere soil from Xinjiang desert (China) [6]
	<i>Rubellimicrobium rubrum</i>	SOI	0.01	0.03	0.23	1.32	3.52	9.74	4.53	1.59	9.45	Lichens
	<i>Rubellimicrobium sp.</i>	SOI	0.00	0.25	0.34	1.56	3.34	6.77	2.24	3.59	6.28	Lichens
	<i>Acidisphaera sp.</i>	TAE	0.22	0.04	0.11	0.02	0.00	0.00	0.06	0.00	0.00	Acidic environments
	<i>Roseomonas pecuniae</i>	SOI	0.00	0.00	0.00	0.01	0.47	1.68	0.00	0.00	0.49	Surface of a copper-alloy coin
	<i>Roseomonas radiodurans</i>	SOI	0.00	0.09	0.03	0.24	0.03	0.68	0.05	0.05	0.45	Irradiated soil (Korea)
	<i>Roseomonas sp.</i>	SOI	0.50	0.33	0.55	1.04	0.20	0.49	0.18	0.70	0.51	Hydrocarbon-contaminated soil
	<i>Roseomonas sp. Atb2</i>	SOI	0.04	0.22	0.29	0.00	0.02	0.00	0.00	0.05	0.01	Soil from Tianshan Mountains (China)
	<i>Roseomonas sp. BZ31r</i>	SOI	0.00	0.00	0.04	0.00	0.01	0.53	0.02	0.01	0.00	Soil from an industrial site containing high amounts of heavy oil and heavy metals (South Tyrol, Italy)
	<i>Roseomonas sp. L2D36B</i>	SOI	0.24	0.05	0.08	0.09	0.06	0.17	0.03	0.01	0.06	Desert Biological Soil Crust (Canyonlands National Park, Utah, USA)
Acetobacteraceae	<i>Acetobacteraceae bacterium</i>	SOI	0.73	0.23	0.41	0.11	0.37	0.21	0.08	0.03	0.09	Lead zinc ore tailing in Guangdong Province (China)
	<i>Acetobacteraceae GIMN 1.016</i>	SOI	0.00	0.00	0.00	0.00	0.40	0.31	0.04	0.02	0.12	Lead zinc ore tailing in Guangdong Province (China)

	<i>Acetobacteraceae</i> GIMN 1.017	SOI	0.02	0.04	0.07	0.21	0.07	0.46	0.04	0.06	0.97	Lead zinc ore tailing in Guangdong Province (China)
	<i>Geminicoccus sp. roseus</i>	MFW	0.00	0.00	0.01	0.00	0.08	0.12	0.19	0.11	0.26	Marine aquaculture biofilter [7]
	<i>Skermanella sp.</i>	SOI	0.00	0.00	0.00	0.51	0.56	1.03	1.12	1.06	0.57	Coal-mining soil
Sphingomonadales	<i>Sphingomonas guangdongensis</i>	SOI	0.03	0.00	0.02	0.00	0.20	0.44	0.01	0.22	0.16	Abandoned lead-zinc ore (Guangdong Province, China)
	<i>Sphingomonas lenta</i>	SOI	0.04	0.00	0.04	0.05	0.34	0.23	0.01	0.02	0.13	Abandoned lead-zinc ore (Guangdong Province, China)
	<i>Sphingomonas solaris</i>	OTHER	0.30	1.21	0.90	0.31	0.10	0.36	0.03	0.06	0.10	Solar panel surface (Boston, USA) [8]
	<i>Sphingosinicella humi</i>	SOI	0.09	0.03	0.24	0.19	0.04	0.01	0.09	0.05	0.09	Arsenic-contaminated farmland soil (Hubei province, China) [9]
Burkholderiales	<i>Acidovorax sp.</i>	SOI	0.00	0.00	0.01	0.00	0.07	0.29	0.06	0.22	0.11	Nitroaromatic compound-degrader organism from nitrobenzene-contaminated sediment.
	<i>Ramlibacter sp.</i>	SOI	0.00	0.00	0.02	0.14	0.15	0.54	1.10	0.45	0.43	Sub-desert soil (Tunisia)
	<i>Ramlibacter tataouinensis</i>	SOI	0.00	0.00	0.00	0.00	0.03	0.32	1.06	0.15	0.13	Sub-desert soil (Tunisia)
	<i>Variovorax sp.</i>	SOI	0.38	0.15	0.11	0.19	0.09	0.17	0.20	0.12	0.07	Garbage dumped soil (Australia)
	<i>Herbaspirillum sp. 9NM-7</i>	SOI	0.00	0.00	0.03	0.18	0.04	0.23	0.17	0.05	0.10	Lead-zinc ore and tungsten sand tailings (China)
	<i>Janthinobacterium sp.</i>	SOI	0.00	0.00	0.02	0.17	0.16	0.17	0.12	0.14	0.29	Tolerant to cold, ultraviolet radiation, and other environmental stressors
	<i>Massilia alkalitolerans</i>	SOI	0.08	0.04	0.10	0.06	0.06	0.22	0.00	0.09	0.04	Tolerant to alkalin conditions (Yunnan, China)
Pseudomonadales	<i>Acinetobacter sp. KSL5401-022</i>	TAE	0.00	0.00	0.01	0.00	0.01	0.46	0.00	0.01	0.20	Sewage sludge (Korea)
	<i>Alkanindiges illinoiensis</i>	SOI	0.00	0.00	0.00	0.05	0.28	0.18	0.00	0.05	0.07	Crude oil-contaminated soil (Illinois, USA)
	<i>Alkanindiges sp. H11</i>	SOI	0.00	0.00	0.00	0.00	0.93	0.00	0.00	0.00	0.00	Crude oil-contaminated soil (Illinois, USA)
Xanthomonadales	<i>Lysobacter xinjiangensis</i>	SOI	0.00	0.00	0.00	0.18	0.26	0.02	0.00	0.59	0.44	Sandy soil from an abandoned gold mine (Xinjiang desert, China)

Table S4. List of 83 extremotolerant fungi detected in three sample types, Leaf Surface, Aerosol (PM₁₀) and Road Dust, collected in the Urban Park (Park), Residential (Res) and Road Traffic (Traf) sites of Rome. “Type-classification” was assigned from MycoBank and NCBI nucleotide databases.

Order	Species	Type	Leaf Surface			Aerosol (PM ₁₀)			Road Dust		
			Park	Res	Traf	Park	Res	Traf	Park	Res	Traf
Basidiomycota											
<i>Agaricostilbales</i>	<i>Kondoa sp. AS483</i>	Alps psychrophilic	0.000	0.089	0.023	0.028	0.039	0.039	0.000	0.237	0.008
	<i>Kondoa yuccicola</i>	Psychrophilic	0.030	0.600	0.878	0.003	0.000	0.000	0.000	0.415	0.031
<i>Cystobasidiomycetes(c)</i>	<i>Symmetrospora gracilis</i>	Rock inhabiting	0.495	0.018	0.009	0.000	0.012	0.000	0.007	0.010	0.000
	<i>Buckleyzyma aurantiaca</i>	Antarctic psychrophilic	2.051	10.891	8.588	0.003	0.015	0.011	0.201	6.226	0.462
	<i>Buckleyzyma salicina</i>	Osmotolerant	0.211	1.101	1.583	0.000	0.000	0.004	0.042	0.178	0.008
	<i>Pseudomicrostoma phylloplanum</i>	Osmotolerant/irradiation	12.617	9.567	24.140	0.000	0.048	0.071	0.588	3.934	1.015
<i>Cystofilobasidiales</i>	<i>Cystofilobasidium macerans</i>	Osmotolerant	0.000	0.000	0.000	0.000	0.000	0.004	0.519	0.003	0.015
<i>Tremellales</i>	<i>Bullera alba</i>	Osmotolerant	0.013	0.009	0.005	0.116	0.096	0.046	0.028	0.003	0.000
	<i>Vishniacozyma heimaeyensis</i>	Rock inhabiting	0.186	0.009	0.009	0.028	0.021	0.011	0.270	0.023	0.092
	<i>Vishniacozyma victoriae</i>	Rock inhabiting	1.822	0.009	0.050	0.015	0.051	0.103	0.706	0.046	0.092
	<i>Wallemia mellicola</i>	Osmotolerant	0.000	0.000	0.000	0.021	0.108	0.099	0.014	0.057	0.023
<i>Wallemiales</i>	<i>Wallemia sebi</i>	Osmotolerant	0.004	0.000	0.000	0.175	0.485	0.555	0.028	0.072	0.015
Mucoromycota											
<i>Mortierellales</i>	<i>Mortierella alpina</i>	Psychrophilic	0.008	0.000	0.000	0.003	0.000	0.004	2.104	0.067	0.072
<i>Mucorales</i>	<i>Rhizopus oryzae</i>	Osmotolerant	0.004	0.000	0.005	0.009	0.166	0.127	0.637	0.003	0.034
Ascomycota											
<i>Lichenostigmatales</i>	<i>Phaeococomyces sp. MA 4712</i>	Rock inhabiting	0.004	0.027	0.005	0.000	0.006	0.000	2.416	0.033	0.076
<i>Capnodiales</i>	<i>Chaetocapnodium placitae</i>	Rock inhabiting	0.613	0.036	0.005	0.000	0.003	0.000	0.028	0.000	0.015
<i>Cladosporiales</i>	<i>Cladosporium allicinum</i>	Osmotolerant	0.110	0.000	0.032	0.028	0.018	0.025	0.014	0.013	0.076
	<i>Cladosporium aphidis</i>	Osmotolerant	0.051	0.143	0.196	0.077	0.157	0.212	0.014	0.229	0.210
	<i>Cladosporium austrohemisphaericum</i>	Osmotolerant	0.030	0.072	0.173	0.015	0.006	0.042	0.042	0.224	0.084
	<i>Cladosporium cladosporioides</i>	Osmotolerant	0.389	0.260	0.200	0.126	0.087	0.909	0.422	0.201	0.488
	<i>Cladosporium herbarum</i>	Osmotolerant	0.140	0.036	0.082	0.040	0.033	0.032	0.048	0.000	0.000
	<i>Cladosporium perangustum</i>	Osmotolerant	0.245	0.045	0.096	0.000	0.042	0.035	0.325	0.000	0.011
	<i>Cladosporium pulvericola</i>	Osmotolerant	0.008	0.295	0.036	0.028	0.039	0.025	0.076	0.142	0.015
	<i>Cladosporium ramotenerellum</i>	Osmotolerant	0.178	0.134	0.100	0.021	0.012	0.007	0.090	0.039	0.008

	<i>Preussia flanaganii</i>	Xerotolerant	0.000	0.000	0.000	0.000	0.000	0.000	0.609	0.026	0.053
	<i>Preussia sp. (in: Fungi)</i>	Xerotolerant	0.000	0.000	0.005	0.055	0.117	0.025	0.187	0.021	0.031
	<i>Pleosporales sp. MSW</i>	Mn-oxide-rich cave	0.000	0.000	0.000	0.123	0.151	0.078	0.014	0.000	0.000
Dothideomycetes(c)	<i>Coniosporium apollinis</i>	Rock inhabiting	0.000	0.009	0.009	0.000	0.000	0.000	0.007	0.286	1.870
	<i>Coniosporium sp. MA4567</i>	Xerotolerant	0.000	0.018	0.000	0.018	0.030	0.042	1.467	0.183	3.400
	<i>Coniosporium sp. MA4783</i>	Xerotolerant	0.000	0.000	0.000	0.000	0.000	0.007	0.228	0.070	0.488
Chaetothyriales	<i>[Coniosporium] sp. MA4666</i>	Xerotolerant	0.021	0.072	0.100	0.012	0.111	0.198	0.388	11.252	32.116
	<i>Exophiala bonariae</i>	Rock inhabiting	0.000	0.000	0.000	0.000	0.000	0.000	0.478	0.000	0.000
	<i>Exophiala sp.</i>	Rock inhabiting	0.025	0.072	0.014	0.003	0.006	0.004	0.194	0.054	0.019
	' <i>Anthracinomyces petraeus'</i>	Rock inhabiting	0.000	0.000	0.000	0.003	0.000	0.000	1.052	0.003	0.031
	<i>Knufia epidermidis</i>	Rock inhabiting	0.000	0.009	0.005	0.000	0.000	0.000	0.014	0.036	0.881
	<i>Knufia marmoricola</i>	Rock inhabiting	0.000	0.000	0.000	0.000	0.000	0.000	0.021	1.170	0.061
	<i>Knufia mediterranea</i>	Rock inhabiting	0.000	0.063	0.000	0.000	0.000	0.004	0.000	1.368	0.866
	<i>Knufia petricola</i>	Rock inhabiting	0.008	4.985	0.314	0.000	0.018	0.014	0.069	6.249	1.107
	<i>Lithohyppha guttulata</i>	Rock inhabiting	0.000	0.063	0.023	0.003	0.015	0.011	0.069	0.392	6.357
	<i>Sarcinomyces sp. MA 4638</i>	Rock inhabiting	0.000	0.215	0.005	0.000	0.009	0.000	0.000	1.376	0.710
Eurotiales	<i>Aspergillus amstelodami</i>	Osmotolerant	0.000	0.000	0.000	0.395	0.876	0.000	0.048	0.000	0.000
	<i>Aspergillus chevalieri</i>	Osmotolerant	0.000	0.000	0.000	0.000	0.000	1.588	0.000	0.005	0.000
	<i>Aspergillus flavus</i>	Osmotolerant	0.008	0.036	0.023	0.018	0.045	0.046	0.145	0.160	0.019
	<i>Aspergillus niger</i>	Osmotolerant	0.004	0.000	0.018	0.086	0.123	0.092	2.367	0.214	0.046
	<i>Aspergillus ruber</i>	Osmotolerant	0.000	0.000	0.000	0.046	0.075	0.269	0.000	0.005	0.000
	<i>Aspergillus sp.</i>	Osmotolerant	0.004	0.000	0.018	0.031	0.232	0.032	0.035	0.100	0.015
Teloschistales	<i>Xanthoria parietina</i>	Xerotolerant	0.000	0.009	0.005	0.187	0.169	0.198	0.090	0.052	0.008
Umbilicariales	<i>Umbilicaria africana</i>	Xerotolerant	0.013	0.036	0.000	0.187	0.099	0.375	0.083	0.057	0.031
Leotiomycetes(c)	<i>Hypozyma variabilis</i>	Psychrophilic	0.021	0.000	0.014	0.003	0.003	0.000	0.623	0.023	0.134
	<i>Leotiomycetes sp. AFCN865</i>	Rock inhabiting	0.000	0.430	0.168	0.000	0.000	0.014	0.064	0.004	

Table S5. The opportunistic human pathogenic fungi isolated in the investigated type of samples (Leaf, Surface, aerosol PM₁₀ and Road Dust) in three urban sites of Rome (Urban Park, Residential and Road Traffic). The identification of human pathogenic fungi, Biosafety Levels (BSL) classification and the description of the human pathogenicity were performed using MycoBank Database and the Atlas of Clinical Fungi [10].

Phylum/Order	Species	Leaf Surface			Aerosol (PM ₁₀)			Road Dust			Human pathogenicity		
		Park	Res	Traf	Park	Res	Traf	Park	Res	Traf			
(BSL1) Basidiomycota													
Agaricales	<i>Coprinellus domesticus</i>	0.008	0.000	0.014	2.236	2.349	2.567	0.083	0.013	0.031	Inducing Hemagglutination		
	<i>Coprinopsis cinerea</i>	0.000	0.000	0.000	0.175	0.145	0.110	0.021	0.003	0.000	Opportunistic infections and respiratory tract infections		
	<i>Schizophyllum commune</i>	0.004	0.000	0.005	0.616	0.979	0.835	0.007	0.003	0.000	Associated with allergic bronchopulmonary mycosis and cutaneous infectious granuloma		
Polyporales	<i>Bjerkandera adusta</i>	0.000	0.000	0.009	0.150	0.169	0.064	0.000	0.000	0.000	Lung inflammation, chronic cough		
	<i>Cystofilobasidium macerans</i>	0.000	0.000	0.000	0.000	0.000	0.004	0.519	0.003	0.015	Oral infections		
Filobasidiales	<i>Filibasidium magnum</i>	0.355	0.895	0.341	0.000	0.000	0.127	0.166	3.179	1.438	A colonizer of the nasal cavity of pediatric patients suffering from cancer and as a cause of vulvovaginitis; Otomycosis		
	<i>Naganishia albida</i>	0.000	0.018	0.009	0.006	0.000	0.042	0.215	1.564	3.468	Variety of diseases ranging from superficial to deep-seated infections; Otomycosis		
Trichosporonales	<i>Cutaneotrichosporon dermatis</i>	0.000	0.000	0.000	0.003	0.000	0.007	0.007	0.322	0.000	Trichosporon dermatitis		
Ustilaginales	<i>Moesziomyces aphidis</i>	0.000	0.206	0.023	0.000	0.000	0.000	0.007	0.178	0.000	Pulmonary infection		
Wallemiales	<i>Wallemia sebi</i>	0.004	0.000	0.000	0.175	0.485	0.555	0.028	0.072	0.015	Species associated to subcutaneous infections and “Farmer’s lung disease”		
(BSL1) Ascomycota													
Cladosporiales	<i>Cladosporium cladosporioides</i>	0.389	0.260	0.200	0.126	0.087	0.909	0.422	0.201	0.488	Hemorrhagic pneumonia, pulmonary phaeohyphomycosis, cutaneous phaeohyphomycosis, mostly in immunodeficient individuals		
	<i>Cladosporium herbarum</i>	0.140	0.036	0.082	0.040	0.033	0.032	0.048	0.000	0.000	Keratitis, allergic pulmonary mycosis, skin lesions		
	<i>Cladosporium sphaerospermum</i>	0.004	0.000	0.050	0.025	0.051	0.067	0.021	0.072	0.027	Human corneal ulcer, bronchial lesion, isolated in skin lesions and onychomycoses		
	<i>Cladosporium velox</i>	0.000	0.000	0.023	0.009	0.033	0.035	0.042	0.106	0.046	Pneumonia with empyema caused in a patient with rheumatoid arthritis.		
Dothideales	<i>Aureobasidium melanogenum</i>	0.152	0.277	0.136	0.000	0.003	0.000	0.014	0.067	0.015	Several strains causing human infections		

	<i>Aureobasidium pullulans</i>	32.241	34.661	37.982	0.655	0.910	2.224	12.051	7.002	9.749	Hypersensitivity pneumonitis (extrinsic allergic alveolitis) or "humidifier lung", dyspnea, cough, fever, chest infiltrates, and acute inflammatory reaction.
Pleosporales	<i>Boeremia exigua</i>	0.008	0.224	0.014	0.000	0.015	0.000	0.491	0.067	0.034	Lung mass in a patient with acute myeloid leukaemia and diabetes
	<i>Didymella glomerata</i>	0.013	0.036	0.000	0.000	0.018	0.000	0.042	0.278	0.069	Keratitis
	<i>Didymella microchlamydospora</i>	0.000	0.063	0.005	0.000	0.036	0.025	0.000	4.232	0.404	Pulmonary infection
	<i>Phoma herbarum</i>	0.021	0.358	0.032	0.021	0.024	0.000	1.024	0.659	1.851	Skin and nail foot mycosis
	<i>Alternaria alternata</i>	0.093	0.107	0.100	0.021	0.015	0.028	0.201	0.111	0.164	Rhinitis, asthma, pneumonia, sinusitis, osteomyelitis, peritonitis, keratitis and granulomatous lung disease
	<i>Alternaria infectoria</i>	0.393	0.098	0.136	0.067	0.105	0.127	0.138	0.144	0.202	Rhinitis, asthma, pneumonia, sinusitis, osteomyelitis, peritonitis, keratitis and granulomatous lung disease
	<i>Alternaria tenuissima</i>	0.317	0.260	0.305	0.083	0.075	0.074	1.689	0.374	0.710	Plurifocal cutaneous infection
Chaetothyriales	<i>Knufia epidermidis</i>	0.000	0.009	0.005	0.000	0.000	0.000	0.014	0.036	0.881	Superficial skin lesions
Eurotiales	<i>Aspergillus chevalieri</i>	0.000	0.000	0.000	0.000	0.000	1.588	0.000	0.005	0.000	Cutaneous aspergillosis
	<i>Aspergillus niger</i>	0.004	0.000	0.018	0.086	0.123	0.092	2.367	0.214	0.046	Lung disease, aspergillosis and otomycosis
	<i>Penicillium brevicompactum</i>	0.000	0.009	0.005	0.187	0.169	0.198	0.090	0.052	0.008	Produce mycophenolic acid, the immunosuppressive compound which is increasingly associated with cases of allergenic and pulmonary fibrosis
Leotiomycetes(c)	<i>Scytalidium lignicola</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.616	0.018	0.031	Skin and nail infections
(BSL2) Basidiomycota											
Microstromatales	<i>Quambalaria cyanescens</i>	0.004	0.000	0.437	0.000	0.000	0.014	0.062	0.000	0.004	Isolated from skin, and nosocomial infections in patients with pneumonia
(BSL2) Ascomycota											
Pleosporales	<i>Neocucurbitaria unguis-hominis</i>	0.000	0.009	0.005	0.003	0.003	0.000	0.014	0.031	0.332	Infection in human skin and nail
Eurotiales	<i>Aspergillus flavus</i>	0.008	0.036	0.023	0.018	0.045	0.046	0.145	0.160	0.019	Chronic granulomatous sinusitis, keratitis, cutaneous aspergillosis, wound infections and osteomyelitis following trauma and inoculation.
Saccharomycetales	<i>Clavispora lusitaniae</i>	0.000	0.000	0.000	0.003	0.000	0.000	0.007	0.003	0.622	Nosocomial colonization of the digestive and urinary systems.

Table S6. The human pathogenic bacteria isolated in the investigated type of samples (Leaf, Surface, aerosol PM₁₀ and Road Dust) in three urban sites of Rome (Urban Park, Residential and Road Traffic). The identification of human pathogenic fungi, Biosafety Levels (BSL) classification and the description of the human pathogenicity were performed using BacDive database (<https://bacdive.dsmz.de/>) and NCBI nucleotide database (<https://www.ncbi.nlm.nih.gov/nucleotide/>).

Phylum/Order	Species	Leaf Surface			Aerosol (PM ₁₀)			Road Dust			Human pathogenicity
		Park	Res	Traf	Park	Res	Traf	Park	Res	Traf	
(BSL1) Actinobacteria											
Corynebacteriales	<i>Corynebacterium kroppenstedtii</i>	0.000	0.000	0.010	1.094	0.187	0.013	0.009	0.000	0.000	Opportunistic human pathogen
	<i>Dietzia sp.</i>	0.000	0.000	0.000	0.000	0.237	0.211	0.000	0.200	0.000	It can cause acute infections
Propionibacteriales	<i>Arachnia sp.</i>	0.000	0.000	0.005	0.102	0.056	0.320	0.000	0.120	0.175	Causing human gingival sulcus
Pseudonocardiales	<i>Saccharopolyspora rectivirgula</i>	0.000	0.000	0.000	1.297	0.896	2.899	0.000	0.000	0.000	It can cause the disease farmer's lung, a type of hypersensitivity pneumonitis.
(BSL1) Bacteroidetes											
Bacteroidales	<i>Prevotella copri</i>	0.000	0.000	0.000	0.017	0.504	0.570	0.000	0.017	0.000	Rheumatoid Arthritis
(BSL1) Firmicutes											
Clostridiales	<i>Lachnospiraceae bacterium</i>	0.000	0.004	0.000	1.083	1.083	0.755	0.000	0.029	0.000	Human gut infection
(BSL1) Proteobacteria											
Caulobacterales	<i>Caulobacter sp.</i>	0.007	0.000	0.018	0.350	0.156	0.173	0.312	0.069	0.297	It was recovered from the dialysis fluid of a patient undergoing peritoneal dialysis.
Burkholderiales	<i>Massilia sp.</i>	9.891	0.541	8.636	1.049	1.064	1.767	0.347	0.897	1.582	Otitis media
	<i>Massilia timonae</i>	0.091	0.038	0.068	0.000	0.062	0.058	0.232	0.069	0.015	Generalized Lymphadenopathy
Pseudomonadales	<i>Pseudomonas sp.</i>	0.027	0.034	0.118	0.181	0.890	0.384	0.178	0.188	0.618	Most <i>Pseudomonads</i> known to cause disease in humans are associated with opportunistic infections.
(BSL2) Actinobacteria											
Corynebacteriales	<i>Corynebacterium bovis</i>	0.003	0.004	0.003	0.406	0.174	0.230	0.009	0.000	0.000	Causing bovine mastitis and rancidity in cream. In multiple occasions this organism has been reported to cause human disease. In two patients the nervous system was involved; two patients had bacterial endocarditis; one had

Propionibacteriales	<i>Cutibacterium acnes</i>	0.000	0.008	0.030	2.815	0.853	0.448	0.000	0.000	0.000	chronic otitis media; and one had a persistent leg ulcer. Isolated from acne lesion in human facial skin.
(BSL2) Fusobacteria											
Fusobacteriales	<i>Fusobacterium mortiferum</i>	0.000	0.000	0.000	0.000	0.025	0.192	0.000	1.085	0.000	Human maxillary abscess
(BSL2) Proteobacteria											
Campylobacterales	<i>Arcobacter cryaerophilus</i>	0.000	0.000	0.000	2.042	1.674	0.032	0.000	0.000	0.000	Mesophilic human pathogen that was isolated from brain of aborted bovine fetus.

Table S7. Mean concentration \pm standard deviation (ng/cm^2) of 34 elemental components of PM deposited on the *Quercus ilex* leaf surfaces collected at the three sampling sites.

Chemical markers	Leaf Surface of <i>Quercus ilex</i> (ng/cm^2)		
	Urban Park \ddagger	Residential \ddagger	Road Traffic \ddagger
Al	139 \pm 90	178 \pm 26	138 \pm 38
As	0.2 \pm 0.2	0.3 \pm 0.1	0.152 \pm 0.009
B	8 \pm 2	11 \pm 3	9 \pm 3
Ba	11 \pm 5	14 \pm 5	12 \pm 3
Be	0.03 \pm 0.03	0.033 \pm 0.002	0.024 \pm 0.008
Bi	0.04 \pm 0.03	0.06 \pm 0.02	0.10 \pm 0.05
Ca	565 \pm 314 ^a	1090 \pm 94 ^b	667 \pm 141 ^{ab}
Cd	0.014 \pm 0.004	0.02 \pm 0.02	0.020 \pm 0.009
Ce	4 \pm 3	4.5 \pm 0.5	3 \pm 1
Co	0.5 \pm 0.2	0.7 \pm 0.2	0.5 \pm 0.1
Cr	0.8 \pm 0.5 ^a	2.3 \pm 0.8 ^b	1.8 \pm 0.2 ^{ab}
Cs	0.1 \pm 0.1	0.10 \pm 0.01	0.09 \pm 0.03
Cu	5 \pm 4	7 \pm 2	8 \pm 2
Fe	219 \pm 145 ^a	757 \pm 292 ^b	418 \pm 147 ^{ab}
La	0.4 \pm 0.3	0.48 \pm 0.05	0.4 \pm 0.1
Li	0.1 \pm 0.1	0.17 \pm 0.04	0.11 \pm 0.05
Mg	185 \pm 96	216 \pm 31	149 \pm 40
Mn	16 \pm 1 ^a	13 \pm 3 ^{ab}	7 \pm 2 ^b
Mo	0.1 \pm 0.1	0.25 \pm 0.08	0.26 \pm 0.06
Na	368 \pm 163	368 \pm 127	442 \pm 178
Nb	0.05 \pm 0.04	0.07 \pm 0.01	0.05 \pm 0.01
Ni	0.4 \pm 0.2	1.1 \pm 0.4	0.6 \pm 0.2
Pb	1.3 \pm 0.8	2.4 \pm 0.4	1.6 \pm 0.2
Rb	11 \pm 6	7 \pm 2	4 \pm 1
Sb	0.09 \pm 0.04	0.19 \pm 0.07	0.26 \pm 0.08
Sn	0.2 \pm 0.1	0.4 \pm 0.3	0.4 \pm 0.1
Sr	4 \pm 2	5.79 \pm 0.07	5 \pm 1
Ti	6 \pm 4	7 \pm 1	5 \pm 1
Tl	0.2 \pm 0.3	0.1 \pm 0.2	0.1 \pm 0.1
U	0.03 \pm 0.03	0.042 \pm 0.005	0.032 \pm 0.009
V	0.5 \pm 0.4	0.59 \pm 0.09	0.5 \pm 0.1
W	0.03 \pm 0.02	0.03 \pm 0.02	0.03 \pm 0.01
Zn	15 \pm 10	31 \pm 7	24 \pm 10
Zr	0.5 \pm 0.4	1.1 \pm 0.1	0.66 \pm 0.05

[§]Mean values showing different letters were significantly different at $P < 0.05$ according to the post-hoc Tukey's test after providing significance within the ANOVA analysis, or Mann-Whitney pairwise test after providing significance using the non-parametric Kruskal Wallis test.

Table S8. Concentration (ng/m³) in the water-soluble and insoluble fractions of 38 elemental components of atmospheric PM10 samples collected at the three sampling sites. The limit of detection (LOD) for each element was also reported (- = under the limit of detection).

Chemical markers	Aerosol PM ₁₀ (ng/m ³)							
	Water-soluble fraction				Insoluble fraction			
	LOD	Urban Park	Residential	Road Traffic	LOD	Urban Park	Residential	Road Traffic
Al	10	-	-	10	7	309	175	543
As	0.3	0.7	0.9	0.8	0.04	0.8	0.8	3
B	0.4	17	16	14	0.04	22	23	38
Ba	1	12	13	14	4	23	26	77
Be	0.0003	0.0009	0.0005	0.001	0.001	0.02	0.01	0.05
Bi	0.0002	0.01	0.01	0.01	0.07	0.2	0.2	1
Ca	72	486	816	607	2831	-	-	3268
Cd	0.03	1	0.2	0.1	10	-	-	-
Ce	0.004	0.1	0.09	0.1	0.2	4	2	11
Co	0.003	0.2	0.2	0.2	0.03	0.9	0.5	2
Cr	0.3	0.6	0.7	0.6	7	13	12	33
Cs	0.001	0.01	0.01	0.01	0.005	0.06	0.03	0.2
Cu	0.4	9	4	6	3	19	18	75
Fe	8	52	57	56	93	924	582	2977
Ga	0.003	0.004	0.004	0.003	0.004	0.07	0.03	0.2
K	26	291	309	276	214	1355	1285	3433
La	0.004	0.02	0.01	0.01	0.1	0.4	0.2	1
Li	0.01	0.05	0.08	0.1	0.04	0.2	0.1	0.4
Mg	10	143	172	154	48	99	72	273
Mn	0.1	2	3	3	1	9	5	27
Mo	0.01	0.5	0.7	0.5	0.1	1	1	4
Na	122	1154	1540	1228	673	691	-	1542
Nb	0.0002	0.0008	0.001	0.001	0.005	0.08	0.05	0.2
Ni	1	-	-	-	2	3	2	7
Pb	0.01	0.5	0.4	0.2	0.6	4	4	6
Rb	0.02	0.4	0.5	0.2	0.2	0.7	0.3	2
Sb	0.004	2	0.6	0.4	0.7	2	3	5
Se	0.2	0.3	0.3	-	0.2	0.3	-	1
Sn	0.003	0.2	0.2	0.1	0.5	4	4	18
Sr	0.2	2	3	3	1	3	3	11
Te	0.01	-	-	0.01	0.009	0.04	0.04	0.02
Ti	0.1	0.2	0.2	0.2	2	10	5	23
Tl	0.001	0.03	0.03	0.01	0.001	0.03	0.02	0.06
U	0.0002	0.001	0.002	0.001	0.004	0.02	0.01	0.07
V	0.1	0.4	0.5	0.3	0.2	0.9	0.5	2

W	0.01	0.01	0.02	0.02	0.06	0.09	0.1	0.2
Zn	0.2	16	20	13	27	34	50	98
Zr	0.002	0.01	0.01	0.02	0.1	2	1	7

Table S9. Mean concentration \pm standard deviation (ng/mg) in the water-soluble and insoluble fractions of 31 elemental components of road dust samples collected in three sampling sites.

Chemical markers	Road dust (ng/mg)					
	Water-soluble fraction			Insoluble fraction		
	Urban Park	Residential	Road Traffic	Urban Park	Residential	Road Traffic
As	0.3 \pm 0.1	0.18 \pm 0.05	0.08 \pm 0.07	18 \pm 2	10 \pm 4	11 \pm 5
B	0.2 \pm 0.1	2 \pm 1	0.9 \pm 0.8	39 \pm 24	28 \pm 9	35 \pm 10
Ba	3 \pm 2	4 \pm 1	3 \pm 2	921 \pm 582	634 \pm 188	675 \pm 246
Be	0.002 \pm 0.001	0.001 \pm 0.001	0.002 \pm 0.001	6 \pm 2	3 \pm 1	4 \pm 1
Bi	0.01 \pm 0.01	0.1 \pm 0.1	0.005 \pm 0.004	0.4 \pm 0.2 ^a	0.7 \pm 0.3 ^a	2.0 \pm 0.4 ^b
Cd	0.03 \pm 0.02	0.2 \pm 0.1	0.03 \pm 0.02	0.4 \pm 0.2	0.4 \pm 0.3	0.4 \pm 0.4
Ce	0.2 \pm 0.1	0.2 \pm 0.1	0.3 \pm 0.2	588 \pm 345	448 \pm 136	454 \pm 176
Co	0.07 \pm 0.02	0.3 \pm 0.1	0.2 \pm 0.1	45 \pm 27	41 \pm 7	38 \pm 10
Cr	0.003 \pm 0.002	0.004 \pm 0.003	0.1 \pm 0.1	23 \pm 6 ^a	56 \pm 7 ^b	81 \pm 18 ^c
Cs	0.007 \pm 0.004	0.02 \pm 0.01	0.01 \pm 0.01	13 \pm 5	10 \pm 3	11 \pm 4
Cu	0.2 \pm 0.1 ^a	1.6 \pm 0.5 ^b	1.8 \pm 0.8 ^b	41 \pm 23 ^a	107 \pm 82 ^{ab}	177 \pm 54 ^b
Ga	0.010 \pm 0.005	0.01 \pm 0.01	0.01 \pm 0.01	7 \pm 4	6 \pm 2	6 \pm 2
La	0.03 \pm 0.02	0.02 \pm 0.01	0.04 \pm 0.08	69 \pm 43	50 \pm 15	49 \pm 19
Li	0.06 \pm 0.02 ^a	0.22 \pm 0.03 ^b	0.12 \pm 0.03 ^c	24 \pm 11	18 \pm 5	18 \pm 6
Mn	0.16 \pm 0.02 ^a	1.6 \pm 0.7 ^b	0.7 \pm 0.6 ^{ab}	373 \pm 106	399 \pm 36	356 \pm 53
Mo	0.10 \pm 0.05 ^a	0.26 \pm 0.07 ^b	0.06 \pm 0.02 ^a	1.0 \pm 0.5 ^a	2.3 \pm 0.3 ^a	4 \pm 1 ^b
Nb	0.002 \pm 0.001	0.003 \pm 0.001	0.003 \pm 0.003	5 \pm 2	4 \pm 1	4 \pm 1
Ni	0.2 \pm 0.1	0.2 \pm 0.1	0.1 \pm 0.4	17 \pm 6	27 \pm 4	30 \pm 8
Pb	0.04 \pm 0.02	0.2 \pm 0.1	0.2 \pm 0.3	78 \pm 41	112 \pm 65	123 \pm 41
Rb	0.7 \pm 0.1 ^a	2.2 \pm 0.7 ^b	0.8 \pm 0.2 ^a	135 \pm 85	110 \pm 30	117 \pm 37
Sb	0.02 \pm 0.01	0.05 \pm 0.02	0.05 \pm 0.02	0.8 \pm 0.7 ^a	1.4 \pm 0.3 ^a	6 \pm 1 ^b
Sn	0.18 \pm 0.01 ^a	0.17 \pm 0.01 ^a	0.150 \pm 0.005 ^b	6 \pm 3 ^a	8 \pm 7 ^a	23 \pm 4 ^b
Sr	10 \pm 4	15 \pm 9	6.6 \pm 0.9	407 \pm 95 ^a	260 \pm 14 ^b	266 \pm 46 ^{ab}
Te	0.0003 \pm 0.0001	0.002 \pm 0.001	0.004 \pm 0.001	0.04 \pm 0.03	0.03 \pm 0.03	0.02 \pm 0.01
Ti	0.2 \pm 0.1	0.19 \pm 0.07	0.3 \pm 0.4	1508 \pm 936	1176 \pm 281	1066 \pm 387
Tl	0.002 \pm 0.001	0.001 \pm 0.001	0.0001 \pm 0.0001	0.8 \pm 0.3	0.8 \pm 0.1	0.9 \pm 0.4
U	0.03 \pm 0.02	0.02 \pm 0.01	0.01 \pm 0.01	7 \pm 5	4 \pm 1	4 \pm 2
V	0.3 \pm 0.1	0.9 \pm 0.4	0.23 \pm 0.07	99 \pm 66	82 \pm 21	79 \pm 26
W	0.05 \pm 0.03	0.05 \pm 0.02	0.03 \pm 0.02	3 \pm 1 ^a	1.5 \pm 0.3 ^b	1.4 \pm 0.6 ^b
Zn	0.6 \pm 0.5	1.0 \pm 0.5	3 \pm 2	316 \pm 274	668 \pm 451	695 \pm 231
Zr	0.013 \pm 0.005	0.02 \pm 0.01	0.03 \pm 0.03	114 \pm 69	72 \pm 18	75 \pm 30

§ Mean values showing different letters were significantly different at $P < 0.05$ according to the post-hoc Tukey's test after providing significance within the ANOVA analysis, or Mann-Whitney pairwise test after providing significance using the non-parametric Kruskal Wallis test.

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