

**Supporting Information for**

**How the soil microbial communities and activities response  
to long-term heavy metal contamination in electroplating  
contaminated site**

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**Table S1.** The soil PH and enzyme activities with different sampling sites.

site	MBC (mg/kg)	UA (U/g)	PHA (U/g)	DHA (U/g)	pH
S0-1	69.928	0.2154	0.0612	0.0098	8.79
S0-2	115.963	0.4192	0.2453	0.0259	8.79
S0-3	99.676	0.4539	0.3617	0.0260	8.96
S0-4	94.602	0.3902	0.3311	0.0158	8.92
S0-5	26.762	0.3574	0.3188	0.0235	8.9
S1-1	74.987	0.0573	0.0503	0.0246	8.91
S1-2	120.397	0.0769	0.0719	0.0243	8.81
S1-3	54.859	0.0772	0.1042	0.0342	8.26
S1-4	105.014	0.0653	0.0395	0.0433	8.08
S1-5	29.126	0.1299	0.3832	0.0742	8.65
S2-1	23.939	0.0672	0.0179	0.0389	6.14
S2-2	22.920	0.0688	0.0069	0.0642	4.69
S2-3	30.834	0.0554	0.0178	0.1113	4.24
S2-4	88.080	0.0485	0.0180	0.2073	6.23
S2-5	31.854	0.0668	0.0182	0.0188	8.26
S3-1	86.901	0.0731	0.0500	0.0097	8.68
S3-2	12.124	0.0529	0.0394	0.0095	8.87
S3-3	61.353	0.0550	0.0287	0.0073	8.63
S3-4	55.432	0.2173	0.0830	0.0074	8.62
S3-5	77.284	0.4371	0.2232	0.0075	8.86
S4-1	58.798	0.1190	0.0506	0.0177	8.56
S4-2	89.693	0.0543	0.0180	0.0239	8.54
S4-3	83.892	0.0563	0.0289	0.0260	8.96
S4-4	59.096	0.0493	0.0071	0.0283	8.79
S4-5	132.535	0.0639	0.0398	0.0346	8.81
S5-1	139.263	0.3998	0.2764	0.0161	8.51
S5-2	91.854	0.1275	0.5341	0.0056	8.36
S5-3	87.887	0.2127	0.1263	0.0072	8.66
S5-4	78.068	0.0622	0.0505	0.0177	8.89
S5-5	38.924	0.0465	0.0288	0.0245	9.08
NC	187.922	0.2786	0.2656	0.0297	9.02

Note: NC: non-contaminated soil

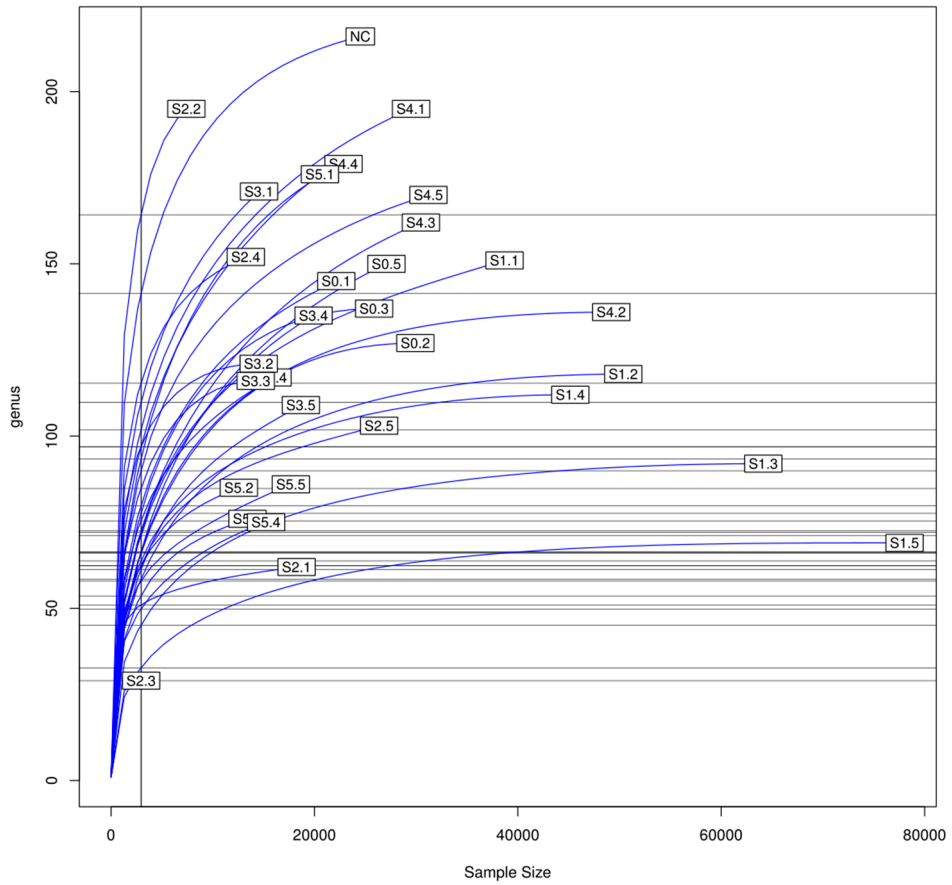
**Table S2.** The soil  $\alpha$ -diversity with different sampling sites.

site	chao	shannon	simpson
S0-1	1542	5.09	0.0294
S0-2	1361	3.01	0.1834
S0-3	1384	3.01	0.1973
S0-4	1142	5.33	0.0175
S0-5	1576	4.71	0.0588
S1-1	1008	2.89	0.3047
S1-2	725	2.49	0.2541
S1-3	542	2.31	0.2160
S1-4	227	2.59	0.2922
S1-5	453	1.09	0.6926
S2-1	122	3.28	0.0577
S2-2	889	4.29	0.0388
S2-3	63	2.92	0.0819
S2-4	601	4.67	0.0300
S2-5	622	3.75	0.1129
S3-1	1005	3.19	0.2724
S3-2	733	1.82	0.5308
S3-3	654	1.76	0.5275
S3-4	1243	5.14	0.0138
S3-5	1007	3.25	0.2178
S4-1	1000	4.37	0.0456
S4-2	705	3.20	0.1038
S4-3	928	3.88	0.0627
S4-4	1184	5.10	0.0168
S4-5	1138	4.30	0.0536
S5-1	1778	4.97	0.0633
S5-2	908	5.48	0.0080
S5-3	725	4.48	0.0476
S5-4	501	3.78	0.0945
S5-5	578	4.28	0.0509
NC	1467	5.87	0.0109

Note: NC: non-contaminated soil



**Figure S1.** The location of sampling sites.



**Figure S2.** Rarefaction curves for the number of OTUs with more than 97% similarity threshold.

### Abbreviated instructions

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abbreviation	instruction
S0-1	electroplating laboratory 0.0-0.4m soil
S0-2	electroplating laboratory 0.4-0.8m soil
S0-3	electroplating laboratory 0.8-1.4m soil
S0-4	electroplating laboratory 1.4-2.2m soil
S0-5	electroplating laboratory 2.2-3.0m soil
S1-1	chrome bath 0.0-0.4m soil
S1-2	chrome bath 0.4-0.8m soil
S1-3	chrome bath 0.8-1.4m soil
S1-4	chrome bath 1.4-2.2m soil
S1-5	chrome bath 2.2-3.0m soil
S2-1	decorative chrome tank 0.0-0.4m soil
S2-2	decorative chrome tank 0.4-0.8m soil
S2-3	decorative chrome tank 0.8-1.4m soil
S2-4	decorative chrome tank 1.4-2.2m soil
S2-5	decorative chrome tank 2.2-3.0m soil
S3-1	post-plating treatment room 0.0-0.4m soil
S3-2	post-plating treatment room 0.4-0.8m soil
S3-3	post-plating treatment room 0.8-1.4m soil
S3-4	post-plating treatment room 1.4-2.2m soil
S3-5	post-plating treatment room 2.2-3.0m soil
S4-1	galvanizing bath 0.0-0.4m soil
S4-2	galvanizing bath 0.4-0.8m soil
S4-3	galvanizing bath 0.8-1.4m soil
S4-4	galvanizing bath 1.4-2.2m soil
S4-5	galvanizing bath 2.2-3.0m soil
S5-1	sewage treatment tank 0.0-0.4m soil
S5-2	sewage treatment tank 0.4-0.8m soil
S5-3	sewage treatment tank 0.8-1.4m soil
S5-4	sewage treatment tank 1.4-2.2m soil
S5-5	sewage treatment tank 2.2-3.0m soil
MBC	microbial biomass carbon
PHA	phosphatase
DHA	dehydrogenase
UA	urease
EAs	enzyme activities
HMs	heavy metals
NC	Non-contaminated soil

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