

Supplementary Material

Table S1. Concentrations of metal(loid)s extracted from the Neves Corvo waste rock by *T. cyclica* via one-step bioleaching (1SB), two-step bioleaching (2SB), spent medium bioleaching (SMB), and Abiotic control (AC). Values are the average of duplicate flasks \pm standard deviations.

Metal(loid)s	Days	Concentration ($\mu\text{g/L}$)			
		1SB	2SB	SMB	AC
Cu	Day-7	11537.4 \pm 70.7	1227.4 \pm 28.3	1492.4 \pm 35.4	13.9 \pm 6.9
	Day-14	8487.4 \pm 84.9	2887.4 \pm 99	1472.4 \pm 35.4	8 \pm 2.1
	Day-21	7142.4 \pm 35.4	3522.4 \pm 77.8	1112.4 \pm 7.1	18.2 \pm 2.5
	Day-28	5517.4 \pm 70.7	3707.4 \pm 28.3	903.4 \pm 90.5	16.6 \pm 6.3
Pb	Day-7	1657.9 \pm 254.6	2167.9 \pm 14.1	2057.9 \pm 198	5.4 \pm 0.4
	Day-14	846.4 \pm 36.1	714.9 \pm 39.6	609.4 \pm 62.9	5.4 \pm 2
	Day-21	541.4 \pm 34.6	293.4 \pm 10.6	289.4 \pm 7.8	6 \pm 1
	Day-28	253.4 \pm 7.8	149.9 \pm 2.8	132.3 \pm 63.1	4.7 \pm 2.8
Zn	Day-7	2273.1 \pm 834.4	149.6 \pm 6.4	254.1 \pm 17	440 \pm 39.6
	Day-14	2033.1 \pm 56.6	543.6 \pm 46	249.1 \pm 21.2	778 \pm 384.7
	Day-21	2073.1 \pm 28.3	724.1 \pm 36.8	312.6 \pm 12	748 \pm 193.7
	Day-28	1468.1 \pm 247.5	868.1 \pm 53.7	173.1 \pm 11.3	1379.5 \pm 806.8
Co	Day-7	1.5 \pm 8.5	101.5 \pm 5.7	119 \pm 2.1	71.5 \pm 7.7
	Day-14	30 \pm 0.7	143 \pm 7.8	218 \pm 13.4	101.8 \pm 35.7
	Day-21	58.5 \pm 4.2	201.5 \pm 12.7	292.5 \pm 15.6	100.3 \pm 23.7
	Day-28	89.5 \pm 4.2	261 \pm 9.2	255 \pm 6.4	152.5 \pm 72.8
As	Day-7	15700 \pm 989.9	6370 \pm 155.6	10850 \pm 70.7	<10
	Day-14	17100 \pm 282.8	12700 \pm 141.4	13850 \pm 495	28 \pm 12.7
	Day-21	17700 \pm 707.1	15350 \pm 70.7	13850 \pm 495	<100
	Day-28	16950 \pm 1060.7	16250 \pm 70.7	12800 \pm 0	<100
Cd	Day-7	18.3 \pm 1.5	2.8 \pm 0.3	3.8 \pm 0.2	6.1 \pm 0.9
	Day-14	14 \pm 0.8	4.3 \pm 0.3	3 \pm 0.6	8.7 \pm 2.8
	Day-21	14.1 \pm 0.7	5 \pm 0.2	2.9 \pm 0.3	9.2 \pm 2.2
	Day-28	10.4 \pm 1.4	4.9 \pm 0.4	2.1 \pm 0.5	12.3 \pm 4.1
K	Day-7	225500 \pm 7778.2	203000 \pm 0	44000 \pm 8485	13000 \pm 848.5
	Day-14	90500 \pm 6364	70500 \pm 6364	0 \pm 0	11550 \pm 70.7
	Day-21	120500 \pm 6364	80500 \pm 9192	358000 \pm 33941	14500 \pm 2262.7
	Day-28	68000 \pm 5656.9	43500 \pm 6364	126000 \pm 4242.6	12850 \pm 1060.7
Sb	Day-7	597 \pm 12	145.5 \pm 8.5	271.5 \pm 9.9	8.9 \pm 0.9
	Day-14	711.5 \pm 22.6	325.5 \pm 14.1	374 \pm 3.5	6.9 \pm 1
	Day-21	827.5 \pm 15.6	461 \pm 23.3	501 \pm 13.4	6.7 \pm 0.6
	Day-28	924 \pm 12	579 \pm 27.6	478 \pm 0.7	5 \pm 1.2
Ag	Day-7	126 \pm 1.4	<1	3.6 \pm 1.4	<1
	Day-14	129 \pm 1.4	13 \pm 0.9	<1	<1
	Day-21	96.5 \pm 3.3	50.9 \pm 2.3	2.1 \pm 0.1	10.8 \pm 1.3
	Day-28	67.5 \pm 6.2	50.6 \pm 2.1	<1	6.9 \pm 2.7
Mn	Day-7	29.6 \pm 4.7	3.3 \pm 0.4	0 \pm 0	249 \pm 21.2
	Day-14	0 \pm 0	0 \pm 0	0 \pm 0	3090 \pm 353.6
	Day-21	0 \pm 0	0 \pm 0	0 \pm 0	3310 \pm 438.4
	Day-28	0 \pm 0	0 \pm 0	0 \pm 0	3665 \pm 700

Table S2. Concentrations of metal(loid)s extracted from the Neves Corvo waste rock by *T. thiocyanaticus* via one-step bioleaching (1SB), two-step bioleaching (2SB), spent medium bioleaching (SMB), and Abiotic control (AC). Values are the average of duplicate flasks \pm standard deviations.

Metal(loid)s	Days	Concentration ($\mu\text{g/L}$)			
		1SB	2SB	SMB	AC
Cu	Day-7	6674.7 \pm 70.7	960.7 \pm 19.8	922.2 \pm 60.1	11.2 \pm 9.3
	Day-14	2249.7 \pm 7.1	1319.7 \pm 91.9	868.7 \pm 101.8	31.4 \pm 19
	Day-21	1734.7 \pm 56.6	1814.7 \pm 127.3	733.7 \pm 99	19.2 \pm 1.2
	Day-28	1524.7 \pm 14.1	1964.7 \pm 410.1	790.7 \pm 89.1	6.1 \pm 1.1
Pb	Day-7	114.9 \pm 11.3	122.4 \pm 2.1	175.4 \pm 17.7	4 \pm 1.3
	Day-14	58.1 \pm 2.4	54.5 \pm 6.6	36.5 \pm 13.9	4.9 \pm 1.4
	Day-21	35.2 \pm 7.1	33.4 \pm 0.7	15.1 \pm 4.5	3.2 \pm 0.4
	Day-28	39.6 \pm 6.7	43 \pm 3.7	11.5 \pm 3.3	3.1 \pm 0.3
Zn	Day-7	213.4 \pm 18.4	55.5 \pm 28.1	97.9 \pm 4.9	289 \pm 28.3
	Day-14	84.4 \pm 11.3	130.4 \pm 5.7	42.7 \pm 3.8	338 \pm 63.6
	Day-21	109.9 \pm 9.2	19.4 \pm 10.2	27 \pm 34.4	308.5 \pm 53
	Day-28	89.9 \pm 3.5	5.2 \pm 6.8	43.8 \pm 20.6	369.5 \pm 171.8
Co	Day-7	56.9 \pm 1.4	53.9 \pm 1.4	32.8 \pm 3.4	51.5 \pm 3.5
	Day-14	47.9 \pm 4.2	13.3 \pm 7.4	0 \pm 0	51.5 \pm 16.3
	Day-21	45.4 \pm 0.7	0 \pm 0	24.4 \pm 10.5	39.3 \pm 10.2
	Day-28	41.5 \pm 10.5	0 \pm 0	25.1 \pm 7	51.6 \pm 23.5
As	Day-7	280.5 \pm 51.6	418 \pm 15.6	432.5 \pm 12	<10
	Day-14	1035 \pm 35.4	554 \pm 8.5	604 \pm 12.7	<100
	Day-21	1009.5 \pm 43.1	611.5 \pm 13.4	596.5 \pm 14.8	<100
	Day-28	1032.5 \pm 95.5	551.5 \pm 123.7	646.5 \pm 0.7	<100
Cd	Day-7	14.7 \pm 1.8	12.2 \pm 0.1	14.5 \pm 2.1	4.5 \pm 0.4
	Day-14	8.3 \pm 0.4	6 \pm 0.4	14.3 \pm 4	4.6 \pm 1.6
	Day-21	10.1 \pm 0.1	5.6 \pm 0.7	11.6 \pm 3.3	4.1 \pm 0.9
	Day-28	8 \pm 1	5.7 \pm 1.2	10.7 \pm 3.1	4.6 \pm 1.4
K	Day-7	37500 \pm 2121.3	32000 \pm 5656.9	0 \pm 0	11200 \pm 565.7
	Day-14	52000 \pm 2828.4	39000 \pm 5656.9	366500 \pm 50204.6	11900 \pm 141.4
	Day-21	43000 \pm 11313.7	45500 \pm 707.1	85500 \pm 28991.4	12450 \pm 212.1
	Day-28	0 \pm 0	0 \pm 0	149000 \pm 33941.1	9590 \pm 325.3
Sb	Day-7	597 \pm 12	145.5 \pm 8.5	271.5 \pm 9.9	8.9 \pm 0.9
	Day-14	711.5 \pm 22.6	325.5 \pm 14.1	374 \pm 3.5	6.9 \pm 1
	Day-21	827.5 \pm 15.6	461 \pm 23.3	115.5 \pm 11.3	6.7 \pm 0.6
	Day-28	924 \pm 12	579 \pm 27.6	114 \pm 10.6	5 \pm 1.2
Ag	Day-7	40.5 \pm 4.4	<1	0.3 \pm 0	<1
	Day-14	90.6 \pm 1.8	57.3 \pm 4.8	4.2 \pm 2.3	9.8 \pm 0.9
	Day-21	42.8 \pm 4.6	32 \pm 1.3	4.5 \pm 2.9	6.6 \pm 3.3
	Day-28	64.6 \pm 1.1	38.7 \pm 8.2	4.5 \pm 2.9	3 \pm 1
Mn	Day-7	0 \pm 0	4.7 \pm 2.4	95.5 \pm 14.1	2330 \pm 127.3
	Day-14	0 \pm 0	0 \pm 0	143 \pm 26.2	2390 \pm 268.7
	Day-21	0 \pm 0	0 \pm 0	98.5 \pm 21.2	2230 \pm 367.7
	Day-28	0 \pm 0	0 \pm 0	119.5 \pm 19.8	2425 \pm 558.6

Table S3. Concentrations of metal(loid)s extracted from the Neves Corvo waste rock by *T. electrotropha* via one-step bioleaching (1SB), two-step bioleaching (2SB), spent medium bioleaching (SMB), and Abiotic control (AC). Values are the average of duplicate flasks \pm standard deviations.

Metal(loid)s	Days	Concentration ($\mu\text{g/L}$)			
		1SB	2SB	SMB	AC
Cu	Day-7	2000 \pm 226.3	1615 \pm 233.3	1660 \pm 254.6	3.8 \pm 0.6
	Day-14	4525 \pm 233.3	3600 \pm 254.6	2050 \pm 169.7	9.4 \pm 2.3
	Day-21	6200 \pm 339.4	4125 \pm 346.5	4085 \pm 700	12.6 \pm 0.8
	Day-28	8010 \pm 664.7	6425 \pm 1449.6	6685 \pm 912.2	22.6 \pm 0.7
Pb	Day-7	190.8 \pm 23.3	1357.8 \pm 522.6	6.8 \pm 2.1	2.9 \pm 0.1
	Day-14	3102.3 \pm 77.8	5667.3 \pm 325.3	6.5 \pm 0.3	2.6 \pm 0.4
	Day-21	3917.3 \pm 28.3	4077.3 \pm 42.4	4137.3 \pm 1074.8	2.4 \pm 1.1
	Day-28	4067.3 \pm 155.6	3957.3 \pm 14.1	5122.3 \pm 275.8	2.4 \pm 0.4
Zn	Day-7	8893.7 \pm 516.2	13058.7 \pm 636.4	220.7 \pm 50.9	434 \pm 113.1
	Day-14	14958.7 \pm 353.6	15608.7 \pm 141.4	25 \pm 16.5	597.5 \pm 200.1
	Day-21	18408.7 \pm 141.4	16508.7 \pm 424.3	15758.7 \pm 1626.3	600.5 \pm 277.9
	Day-28	21808.7 \pm 707.1	18408.7 \pm 1838.5	22758.7 \pm 3747.7	1300 \pm 113.1
Co	Day-7	954.5 \pm 4.9	963 \pm 9.9	408 \pm 26.9	65.3 \pm 10.2
	Day-14	1025 \pm 7.1	1065 \pm 21.2	318.5 \pm 40.3	76 \pm 14.7
	Day-21	1060 \pm 28.3	1019.5 \pm 57.3	887.5 \pm 102.5	61.6 \pm 22.1
	Day-28	1055 \pm 35.4	995.5 \pm 62.9	1032.5 \pm 81.3	82.3 \pm 13.4
As	Day-7	187 \pm 24	216.5 \pm 21.9	116.5 \pm 10.6	<10
	Day-14	359.5 \pm 10.6	277 \pm 1.4	157 \pm 29.7	<10
	Day-21	698 \pm 56.6	1250 \pm 212.1	250.5 \pm 40.3	<10
	Day-28	1265 \pm 77.8	1840 \pm 282.8	814.5 \pm 516.9	<10
Cd	Day-7	59.7 \pm 1.7	59.6 \pm 1.6	21.4 \pm 3.6	4.7 \pm 1.1
	Day-14	63.5 \pm 2.4	59.3 \pm 1.9	9.6 \pm 1.2	5.7 \pm 1.6
	Day-21	63.7 \pm 3.6	58.1 \pm 3	56.9 \pm 4	5.5 \pm 2
	Day-28	72.1 \pm 5.2	61.7 \pm 8.1	76.3 \pm 11.1	10 \pm 1.6
K	Day-7	0 \pm 0	0 \pm 0	43500 \pm 5656.9	14800 \pm 282.8
	Day-14	0 \pm 0	0 \pm 0	0 \pm 0	14200 \pm 282.8
	Day-21	66500 \pm 2828.4	55500 \pm 2828.4	0 \pm 0	15250 \pm 2192
	Day-28	0 \pm 0	0 \pm 0	152000 \pm 72832	15300 \pm 282.8
Sb	Day-7	28.4 \pm 1.2	20 \pm 1.3	28.3 \pm 0.1	16.6 \pm 0.2
	Day-14	38.5 \pm 1.4	21.7 \pm 1	52.8 \pm 1.5	16.3 \pm 0.4
	Day-21	38.9 \pm 0.1	31.9 \pm 4	34.9 \pm 8.8	21.8 \pm 0.4
	Day-28	51.2 \pm 6.1	42.2 \pm 12.6	37.9 \pm 6.7	50.8 \pm 20.9
Ag	Day-7	<1	2.1 \pm 1.4	<1	<1
	Day-14	9.4 \pm 0.5	14 \pm 1.5	2.4 \pm 0.3	<1
	Day-21	8.8 \pm 0.8	15.2 \pm 2.8	13.5 \pm 6.1	<1
	Day-28	11.4 \pm 1.1	10.3 \pm 0.9	14.7 \pm 3.5	<1
Mn	Day-7	4782.3 \pm 49.5	4562.3 \pm 7.1	2772.3 \pm 106.1	2000 \pm 113.1
	Day-14	4867.3 \pm 14.1	5162.3 \pm 63.6	1242.3 \pm 190.9	2240 \pm 198
	Day-21	4937.3 \pm 226.3	4957.3 \pm 226.3	4272.3 \pm 714.2	2200 \pm 537.4
	Day-28	4652.3 \pm 63.6	4582.3 \pm 162.6	5047.3 \pm 254.6	2545 \pm 289.9

Table S4. Concentrations of metal(loid)s extracted from the Neves Corvo waste rock by *T. pacifica* via one-step bioleaching (1SB), two-step bioleaching (2SB), spent medium bioleaching (SMB), and Abiotic control (AC). Values are the average of duplicate flasks \pm standard deviations.

Metal(loid)s	Days	Concentration ($\mu\text{g/L}$)			
		1SB	2SB	SMB	AC
Cu	Day-7	2154.1 \pm 91.9	1229.1 \pm 141.4	1874.1 \pm 35.4	3.8 \pm 0.6
	Day-14	4559.1 \pm 707.1	1719.1 \pm 169.7	2229.1 \pm 70.7	9.4 \pm 2.3
	Day-21	6014.1 \pm 756.6	3369.1 \pm 325.3	3984.1 \pm 21.2	12.6 \pm 0.8
	Day-28	7414.1 \pm 431.3	4619.1 \pm 1032.4	6694.1 \pm 176.8	22.6 \pm 0.7
Pb	Day-7	123.5 \pm 42.1	1862.3 \pm 21.2	120.8 \pm 2.1	2.9 \pm 0.1
	Day-14	3657.3 \pm 707.1	140.3 \pm 17	112.3 \pm 8.5	2.6 \pm 0.4
	Day-21	4072.3 \pm 388.9	3602.3 \pm 459.6	5282.3 \pm 91.9	2.4 \pm 1.1
	Day-28	4072.3 \pm 318.2	4157.3 \pm 707.1	5387.3 \pm 169.7	2.4 \pm 0.4
Zn	Day-7	3943.7 \pm 1492	12008.7 \pm 141.4	3828.7 \pm 240.4	434 \pm 113.1
	Day-14	16058.7 \pm 1767.8	1228.7 \pm 424.3	1218.7 \pm 367.7	597.5 \pm 200.1
	Day-21	19408.7 \pm 3394.1	14408.7 \pm 0	16458.7 \pm 70.7	600.5 \pm 277.9
	Day-28	21558.7 \pm 2333.5	16758.7 \pm 1343.5	22458.7 \pm 1767.8	1300 \pm 113.1
Co	Day-7	796.5 \pm 60.1	925 \pm 7.1	884 \pm 11.3	65.3 \pm 10.2
	Day-14	1095 \pm 7.1	578.5 \pm 27.6	563 \pm 49.5	76 \pm 14.7
	Day-21	1130 \pm 42.4	1004 \pm 22.6	1010 \pm 14.1	61.6 \pm 22.1
	Day-28	1100 \pm 0	1020 \pm 14.1	1130 \pm 42.4	82.3 \pm 13.4
As	Day-7	315.5 \pm 4.9	250.5 \pm 3.5	133.5 \pm 4.9	<10
	Day-14	405 \pm 75	207 \pm 2.8	141.5 \pm 4.9	<10
	Day-21	610.5 \pm 190.2	242 \pm 19.8	277.5 \pm 2.1	<10
	Day-28	1039 \pm 383.3	668 \pm 83.4	952.5 \pm 194.5	<10
Cd	Day-7	55.6 \pm 2.6	60.7 \pm 0.5	48.1 \pm 0.4	4.7 \pm 1.1
	Day-14	68 \pm 3.7	32.7 \pm 3.9	31.3 \pm 3.5	5.7 \pm 1.6
	Day-21	67.6 \pm 4.7	54.3 \pm 0.2	57.4 \pm 1.6	5.5 \pm 2
	Day-28	75.6 \pm 3.9	59 \pm 2	74.4 \pm 6.3	10 \pm 1.6
K	Day-7	0 \pm 0	0 \pm 0	38000 \pm 4949.7	14800 \pm 282.8
	Day-14	0 \pm 0	0 \pm 0	0 \pm 0	14200 \pm 282.8
	Day-21	56500 \pm 4242.6	49500 \pm 8485.3	0 \pm 0	15250 \pm 2192
	Day-28	0 \pm 0	0 \pm 0	67000 \pm 14849.2	15300 \pm 282.8
Sb	Day-7	38.5 \pm 4.2	21.3 \pm 0.4	26.7 \pm 0.7	16.6 \pm 0.2
	Day-14	34.8 \pm 1.5	29.9 \pm 0.2	47.1 \pm 1.9	16.3 \pm 0.4
	Day-21	38.9 \pm 2	22.5 \pm 1.5	27.3 \pm 0.8	21.8 \pm 0.4
	Day-28	51.9 \pm 1	26.9 \pm 4	38.3 \pm 6.9	50.8 \pm 20.9
Ag	Day-7	<1	<1	7.8 \pm 1.6	<1
	Day-14	6 \pm 0.1	<1	<1	<1
	Day-21	10.3 \pm 0.8	8.9 \pm 0.1	14.3 \pm 4.5	<1
	Day-28	12.5 \pm 1.9	8.1 \pm 0.6	10.9 \pm 0.4	<1
Mn	Day-7	3557.3 \pm 509.1	4277.3 \pm 113.1	4152.3 \pm 21.2	2000 \pm 113.1
	Day-14	4242.3 \pm 318.2	2557.3 \pm 183.8	2622.3 \pm 304.1	2240 \pm 198
	Day-21	4397.3 \pm 141.4	4182.3 \pm 134.4	4427.3 \pm 169.7	2200 \pm 537.4
	Day-28	4097.3 \pm 226.3	4242.3 \pm 162.6	4827.3 \pm 127.3	2545 \pm 289.9

Table S5. Concentrations of metal(loid)s extracted from the Neves Corvo waste rock by the *Thioclava* consortium via one-step bioleaching (1SB), two-step bioleaching (2SB), and spent medium bioleaching (SMB). Values are the average of duplicate flasks \pm standard deviations.

Metal(loid)s	Days	Concentration ($\mu\text{g/L}$)		
		1SB	2SB	SMB
Cu	Day-7	2904.1 \pm 63.6	1684.1 \pm 459.6	1549.1 \pm 678.8
	Day-14	4469.1 \pm 42.4	1944.1 \pm 134.4	2259.1 \pm 183.8
	Day-21	6409.1 \pm 42.4	3334.1 \pm 120.2	4424.1 \pm 728.3
	Day-28	8444.1 \pm 685.9	4869.1 \pm 466.7	8309.1 \pm 1400.1
Pb	Day-7	390.3 \pm 0	302.3 \pm 0	408.3 \pm 0
	Day-14	920.8 \pm 475.9	4.3 \pm 2.1	1445.8 \pm 2038.6
	Day-21	4282.3 \pm 63.6	4037.3 \pm 198	5332.3 \pm 629.3
	Day-28	4427.3 \pm 339.4	5527.3 \pm 749.5	7682.3 \pm 323.2
Zn	Day-7	12408.7 \pm 2121.3	12858.7 \pm 3606.2	13908.7 \pm 1838.5
	Day-14	12758.7 \pm 1343.5	13041.7 \pm 0	14163.2 \pm 77.1
	Day-21	17958.7 \pm 1626.3	15558.7 \pm 495	17708.7 \pm 1131.4
	Day-28	22958.7 \pm 2616.3	18208.7 \pm 141.4	24358.7 \pm 3747.7
Co	Day-7	1045 \pm 21.2	1002.5 \pm 81.3	1024 \pm 79.2
	Day-14	933.5 \pm 37.5	288 \pm 53.7	1070 \pm 0
	Day-21	1022.5 \pm 38.9	917.5 \pm 21.9	1110 \pm 70.7
	Day-28	1100 \pm 56.6	992.5 \pm 38.9	1255 \pm 148.5
As	Day-7	774.5 \pm 85.6	186.5 \pm 24.7	306 \pm 182.4
	Day-14	486 \pm 1.4	144.5 \pm 20.5	227 \pm 134.4
	Day-21	651 \pm 69.3	218 \pm 72.1	1494.5 \pm 176.1
	Day-28	1044 \pm 79.2	763 \pm 181	916 \pm 345.1
Cd	Day-7	54.6 \pm 0.7	53.8 \pm 1.9	48.7 \pm 1.3
	Day-14	56.2 \pm 1.3	11.9 \pm 2.3	58.4 \pm 0
	Day-21	65 \pm 4.2	56.5 \pm 0.1	62.8 \pm 2.9
	Day-28	77.4 \pm 10.3	63.1 \pm 1.8	90.7 \pm 13.2
K	Day-7	26000 \pm 7778.2	24000 \pm 707.1	0 \pm 0
	Day-14	0 \pm 0	0 \pm 0	55000 \pm 7778.2
	Day-21	0 \pm 0	0 \pm 0	122000 \pm 89802.6
	Day-28	45000 \pm 3535.5	44500 \pm 7071.1	142000 \pm 9192.4
Sb	Day-7	31.6 \pm 2.5	23.2 \pm 8.1	40.3 \pm 2.3
	Day-14	48.4 \pm 5.7	46 \pm 8.4	60.1 \pm 11.7
	Day-21	47.4 \pm 4.4	32 \pm 2.5	45.1 \pm 1.1
	Day-28	59.4 \pm 9.7	30.4 \pm 2.4	75.5 \pm 1.2
Ag	Day-7	<1	3.1 \pm 1.1	2.8 \pm 0.4
	Day-14	8.4 \pm 1.3	<1	5.1 \pm 0
	Day-21	11.2 \pm 1.5	15.6 \pm 2.9	13.6 \pm 5.2
	Day-28	10.7 \pm 2	17.3 \pm 0.1	8.8 \pm 1.4
Mn	Day-7	5342.3 \pm 77.8	4742.3 \pm 275.8	4937.3 \pm 14.1
	Day-14	4677.3 \pm 339.4	1562.3 \pm 190.9	5117.3 \pm 0
	Day-21	4917.3 \pm 381.8	4437.3 \pm 56.6	5272.3 \pm 304.1
	Day-28	5092.3 \pm 431.3	5017.3 \pm 14.1	5332.3 \pm 205.1

Table S6. Concentrations of metal(loid)s extracted from the Neves Corvo waste rock (NC_01) via one-step bioleaching and two-step bioleaching by *T. electrotropha* (E-1SB & E-2SB), as well as one-step bioleaching and two-step bioleaching by *T. pacifica* (P-1SB & P-2SB). Results of weekly serial addition of NC_01 and partial nutrient replacement. Values are the average of duplicate flasks \pm standard deviations.

		Concentration ($\mu\text{g/L}$)			
	Days	E-1SB	E-2SB	P-1SB	P-2SB
Cu	Day-7	931.1 \pm 2.8	691.6 \pm 235.5	892.6 \pm 14.8	434.6 \pm 64.3
	Day-14	1319.1 \pm 84.9	1299.1 \pm 84.9	2144.1 \pm 855.6	1244.1 \pm 120.2
	Day-21	4479.1 \pm 466.7	2179.1 \pm 311.1	2529.1 \pm 0	2924.1 \pm 1180.9
	Day-28	5554.1 \pm 332.3	3554.1 \pm 49.5	3559.1 \pm 0	2849.1 \pm 0
	Day-35	4884.1 \pm 912.2	4124.1 \pm 247.5	4509.1 \pm 0	7434.1 \pm 544.5
	Day-42	4379.1 \pm 466.7	3719.1 \pm 664.7	5329.1 \pm 1032.4	5794.1 \pm 275.8
Pb	Day-7	684.3 \pm 166.9	1712.3 \pm 64.35	191.3 \pm 0	196.3 \pm 0
	Day-14	128.3 \pm 181	2.1 \pm 0.6	830.3 \pm 844.3	130.3 \pm 18.4
	Day-21	3962.3 \pm 898	3127.3 \pm 70.7	488.3 \pm 425.7	451.3 \pm 76.4
	Day-28	2577.3 \pm 183.8	2252.3 \pm 261.6	2022.3 \pm 601	1167.3 \pm 1131.4
	Day-35	1472.3 \pm 374.8	1642.3 \pm 148.5	1492.3 \pm 318.2	1637.3 \pm 495
	Day-42	1087.3 \pm 84.9	1322.3 \pm 332.3	1012.3 \pm 233.3	1138.8 \pm 323.1
Zn	Day-7	3598.7 \pm 0	3638.7 \pm 99	2559.7 \pm 114.6	2623.7 \pm 799
	Day-14	4298.7 \pm 0	0 \pm 0	454.7 \pm 0	219.7 \pm 22.6
	Day-21	17108.7 \pm 0	14408.7 \pm 141.4	16653.2 \pm 219.9	12208.7 \pm 2404
	Day-28	16758.7 \pm 70.7	12958.7 \pm 212.1	18058.7 \pm 4313.4	18508.7 \pm 933
	Day-35	13359 \pm 2758	11458.7 \pm 777.8	15208.7 \pm 989.9	18258.7 \pm 1626
	Day-42	11358.7 \pm 636	10173.7 \pm 1181	12408.7 \pm 282.8	12408.7 \pm 707.1
Co	Day-7	263.5 \pm 0.7	259.5 \pm 6.4	255 \pm 18.4	250 \pm 29.7
	Day-14	332 \pm 0	234.5 \pm 26.2	218.5 \pm 6.4	196.5 \pm 55.9
	Day-21	881.5 \pm 7.8	796.5 \pm 17.7	688.5 \pm 94	657 \pm 1.4
	Day-28	690 \pm 8.5	642.5 \pm 0.7	710 \pm 2.8	541 \pm 148.5
	Day-35	465.5 \pm 65.8	455 \pm 14.1	557 \pm 25.5	516 \pm 32.5
	Day-42	319 \pm 21.2	302.5 \pm 38.9	394.5 \pm 4.9	362 \pm 12.7
As	Day-7	379 \pm 9.9	257.5 \pm 38.9	338.5 \pm 19.1	156 \pm 18.4
	Day-14	377.5 \pm 37.5	344 \pm 43.8	236 \pm 93.3	265 \pm 14.1
	Day-21	1516 \pm 76.4	419.5 \pm 24.7	408 \pm 50.9	341.5 \pm 98.3
	Day-28	2545 \pm 162.6	1990 \pm 127.3	663.5 \pm 320.3	411.5 \pm 78.5
	Day-35	2730 \pm 127.3	2595 \pm 49.5	2498.5 \pm 535.3	543 \pm 99
	Day-42	2435 \pm 558.6	2160 \pm 282.8	2340 \pm 56.6	827 \pm 43.8
Cd	Day-7	11.1 \pm 0.2	10.8 \pm 0.4	9.8 \pm 1.3	9.4 \pm 0.8
	Day-14	7.6 \pm 0	5.4 \pm 0.5	12.5 \pm 0	9.6 \pm 0
	Day-21	55.5 \pm 5.3	52.9 \pm 0.1	69.3 \pm 0	61.9 \pm 8.8
	Day-28	50.1 \pm 1.4	41.5 \pm 1.8	54.4 \pm 11.1	63.5 \pm 1.7
	Day-35	38.7 \pm 6.9	33.8 \pm 2.7	42.2 \pm 2.1	46.9 \pm 0.9
	Day-42	36 \pm 0.4	32.4 \pm 3.7	37.6 \pm 1.6	34.8 \pm 2.5
K	Day-7	25500 \pm 7071	27500 \pm 0	22500 \pm 4242.6	16500 \pm 1414.2
	Day-14	0 \pm 0	0 \pm 0	0 \pm 0	0 \pm 0
	Day-21	0 \pm 0	0 \pm 0	0 \pm 0	0 \pm 0
	Day-28	51500 \pm 0	52000 \pm 6364	48000 \pm 707.1	44000 \pm 707.1
	Day-35	41500 \pm 0	47500 \pm 1414.2	44500 \pm 5656.9	34000 \pm 2121.3
	Day-42	123500 \pm 4243	116000 \pm 7778	116000 \pm 3535.5	100500 \pm 15556
Sb	Day-7	11.4 \pm 0.5	16.3 \pm 2.2	12.4 \pm 0.1	7.9 \pm 0.2
	Day-14	41.8 \pm 3.9	49.6 \pm 5.8	30.4 \pm 12.2	38.8 \pm 6

	Day-21	48.8 ± 0	20.8 ± 2	49.4 ± 0	66.6 ± 0
	Day-28	36.9 ± 9.3	20.1 ± 0.1	22.9 ± 0	104 ± 0
	Day-35	36.5 ± 3.8	20.2 ± 1.1	24.1 ± 0	41.2 ± 0
	Day-42	39.1 ± 14.6	25.3 ± 1.8	29.6 ± 0	31.7 ± 0
Ag	Day-7	3.9 ± 0.4	2.3 ± 0.6	1.9 ± 0.3	<1
	Day-14	6 ± 0	6.7 ± 0	1.9 ± 0	<1
	Day-21	8.6 ± 1.8	10.3 ± 1.4	32.1 ± 1.6	33.3 ± 0
	Day-28	8.8 ± 1	9.2 ± 0.4	6.2 ± 0	11.6 ± 0
	Day-35	11.5 ± 2	10.8 ± 1.1	6.6 ± 0	33.1 ± 3.4
	Day-42	10.7 ± 2.3	15.8 ± 6	7.3 ± 0	23.9 ± 5.6
Mn	Day-7	1307.3 ± 14.1	1332.3 ± 63.6	981.8 ± 6.4	912.8 ± 190.2
	Day-14	1755.8 ± 115.3	537.8 ± 146.4	2727.3 ± 0	312.3 ± 103.2
	Day-21	4297.3 ± 113.1	3947.3 ± 282.8	2937.3 ± 0	2802.3 ± 21.2
	Day-28	3127.3 ± 155.6	3002.3 ± 106.1	2837.3 ± 594	1922.3 ± 403.1
	Day-35	1977.3 ± 282.8	1952.3 ± 77.8	2062.3 ± 388.9	1852.3 ± 219.2
	Day-42	1262.3 ± 91.9	1187.3 ± 99	1397.3 ± 56.6	1377.3 ± 226.3

Table S7. Concentrations of metal(loid)s extracted from the microwave-roasted (at 400, 500 and 600°C) Neves Corvo waste rock (NC_01) by *T. electrotropha* via one-step bioleaching (1SB), two-step bioleaching (2SB) and Abiotic control (AC). Values are the average of duplicate flasks \pm standard deviations.

		Concentration ($\mu\text{g/L}$)								
	Days	400°C 1SB	400°C 2SB	400°C AC	500°C 1SB	500°C 2SB	500°C AC	600°C 1SB	600°C 2SB	600°C AC
Cu	Day-7	42539.1 ± 70.7	45350 \pm 777.8	47800 \pm 424.3	54439.1 ± 495	56439.1 ± 353.6	53600 \pm 2121.3	42739.1 \pm 70.7	39639.1 \pm 1626.3	10600 \pm 141.4
	Day-14	40989.1 ± 0	46589.1 ± 989.9	46700 \pm 848.5	49389.1 ± 141.4	54089.1 ± 707.1	50250 \pm 1343.5	36439.1 \pm 5161.9	40639.1 \pm 2757.7	5770 \pm 509.1
Pb	Day-7	0 \pm 0	15850 \pm 212.1	2355 \pm 77.8	0 \pm 0	15147.3 ± 212.1	2150 \pm 28.3	7.3 \pm 1.1	10282.3 \pm 445.5	568.5 \pm 115.3
	Day-14	0.4 \pm 0.1	18900 \pm 141.4	2370 \pm 70.7	0 \pm 0	16947.3 ± 212.1	2290 \pm 42.4	11.3 \pm 5.4	11897.3 \pm 1131.4	313 \pm 70.7
Zn	Day-7	839.2 \pm 89.8	45950 \pm 777.8	55750 \pm 353.6	1003.7 \pm 21.2	56608.7 ± 141.4	58800 \pm 2262.7	2313.7 \pm 134.4	77058.7 \pm 1060.7	70350 \pm 919.2
	Day-14	733.2 \pm 112.4	44800 \pm 565.7	60750 \pm 353.6	1058.7 \pm 56.6	53558.7 ± 636.4	54750 \pm 1484.9	1578.7 \pm 0	71858.7 \pm 2192	62500 \pm 989.9
Co	Day-7	812.5 \pm 46	1745 \pm 35.4	1840 \pm 14.1	837.5 \pm 21.9	2080 \pm 14.1	2085 \pm 91.9	1170 \pm 14.1	1355 \pm 35.4	1295 \pm 49.5
	Day-14	698.5 \pm 33.2	1715 \pm 35.4	1775 \pm 7.1	704 \pm 18.4	1965 \pm 7.1	1970 \pm 56.6	982.5 \pm 109.6	1275 \pm 49.5	1240 \pm 0
As	Day-7	40.4 \pm 5.6	266 \pm 18.4	145.5 \pm 31.8	52.3 \pm 10	67.6 \pm 6.9	14.1 \pm 1.7	923.5 \pm 89.8	1220 \pm 28.3	16.7 \pm 1.1
	Day-14	53.7 \pm 6.3	156 \pm 2.8	179.5 \pm 7.8	70 \pm 6.9	31.2 \pm 0.6	18.1 \pm 0.1	1180 \pm 169.7	329 \pm 24	18.1 \pm 0.4
Cd	Day-7	38.9 \pm 1.1	142 \pm 0	168.5 \pm 3.5	49.7 \pm 3.7	165.5 \pm 2.1	171.5 \pm 2.1	81.9 \pm 1.4	210.5 \pm 2.1	210 \pm 7.1
	Day-14	33.9 \pm 3.3	136.5 \pm 0.7	179.5 \pm 3.5	47.7 \pm 3.2	156.5 \pm 2.1	166 \pm 4.2	51.1 \pm 17.3	203 \pm 5.7	188 \pm 1.4
K	Day-7	0 \pm 0	283500 \pm 4949.7	35700 \pm 0	0 \pm 0	0 \pm 0	26200 \pm 0	0 \pm 0	0 \pm 0	20100 \pm 141.4
	Day-14	0 \pm 0	272000 \pm 21213.2	19700 \pm 0	0 \pm 0	0 \pm 0	25200 \pm 707.1	0 \pm 0	0 \pm 0	18150 \pm 70.7
Sb	Day-7	38.1 \pm 1.8	10.9 \pm 0.4	2.3 \pm 0.2	19.6 \pm 1.1	7.1 \pm 0	2 \pm 0	15.3 \pm 0.6	17.2 \pm 1.3	3.5 \pm 0
	Day-14	73.7 \pm 2.1	11.5 \pm 0.1	1.8 \pm 0.2	33.5 \pm 2	6.5 \pm 0.1	1.4 \pm 0.1	17.8 \pm 1	20.7 \pm 1.1	3.5 \pm 0.2
Ag	Day-7	97.8 \pm 0.6	39.8 \pm 2.8	1.6 \pm 0	91.6 \pm 6.5	71.2 \pm 0.3	<1	34.5 \pm 1.9	44.5 \pm 3.8	<1
	Day-14	65.8 \pm 0.8	27.6 \pm 3.8	<1	77.7 \pm 2.1	63.7 \pm 1.3	<1	50.1 \pm 0	43.5 \pm 1.5	<1
Mn	Day-7	4662.3 \pm 162.6	10900 \pm 141.4	11900 \pm 141.4	7627.3 \pm 367.7	15697.3 ± 141.4	16200 \pm 707.1	4297.3 \pm 169.7	15747.3 \pm 353.6	16000 \pm 424.3
	Day-14	4052.3 \pm 304.1	10950 \pm 212.1	11200 \pm 141.4	6822.3 \pm 445.5	14947.3 ± 70.7	15050 \pm 353.6	3272.3 \pm 1152.6	14747.3 \pm 636.4	15250 \pm 70.7
In	Day-7	<1	56.2 \pm 4.5	2.3 \pm 0.1	<1	67.7 \pm 1.3	1.2 \pm 0.1	<1	4.5 \pm 1.1	<1
	Day-14	<1	56.7 \pm 0.6	1.6 \pm 0	<1	64.7 \pm 1.8	1.2 \pm 0.1	<1	3.4 \pm 1.6	<1

Table S8. Concentrations and percentages of metal(loid)s extracted from the Neves Corvo waste rock (NC_01) by the second experiment with *T. electrotopha* via one-step bioleaching (1SB), two-step bioleaching (2SB), spent medium bioleaching (SMB), and Abiotic control (AC). Values are the average of duplicate flasks \pm standard deviations.

Metal(loid)s	Days	Concentration ($\mu\text{g/L}$)				% Recovery			
		1SB	2SB	SMB	AC	1SB	2SB	SMB	AC
Cu	Day-7	975.6 \pm 188.8	1034.1 \pm 7.1	3.6 \pm 0.1	3.8 \pm 0.6	1.1 \pm 0.2	1.1 \pm 0	0 \pm 0	0 \pm 0
	Day-21	4744.1 \pm 2213.2	1534.1 \pm 601	1519.1 \pm 56.6	9.4 \pm 2.3	5.2 \pm 2.4	1.7 \pm 0.7	1.7 \pm 0.1	0 \pm 0
	Day-28	7779.1 \pm 2828.4	3794.1 \pm 855.6	1818.7 \pm 84.4	12.6 \pm 0.8	8.5 \pm 3.1	4.1 \pm 0.9	2 \pm 0.1	0 \pm 0
Pb	Day-7	1739.3 \pm 2245.8	223.8 \pm 24.7	2.7 \pm 3.4	1.4 \pm 0.1	4.2 \pm 5.4	0.5 \pm 0.1	0 \pm 0	0 \pm 0
	Day-21	5452.3 \pm 4560.8	1360.3 \pm 1848.3	79.6 \pm 81.6	3.1 \pm 0.1	13.2 \pm 11	3.3 \pm 4.5	0.2 \pm 0.2	0 \pm 0
	Day-28	8337.3 \pm 5458.9	3237.3 \pm 480.8	21.5 \pm 0.6	4.9 \pm 1.4	20.2 \pm 13.2	7.8 \pm 1.2	0.1 \pm 0	0 \pm 0
Zn	Day-7	7878.7 \pm 3153.7	5143.7 \pm 106.1	100.7 \pm 7.1	330.5 \pm 85.6	4.4 \pm 1.8	2.9 \pm 0.1	0.1 \pm 0	0.2 \pm 0
	Day-21	17158.7 \pm 6576.1	6423.7 \pm 4617.4	3903.7 \pm 3712.3	575.5 \pm 116.7	9.6 \pm 3.7	3.6 \pm 2.6	2.2 \pm 2.1	0.3 \pm 0.1
	Day-28	25808.7 \pm 10323.8	13558.7 \pm 1202.1	9653.7 \pm 2057.7	568.5 \pm 235.5	14.5 \pm 5.8	7.6 \pm 0.7	5.4 \pm 1.2	0.3 \pm 0.1
Co	Day-7	735 \pm 0	571 \pm 2.8	1.1 \pm 0	41.3 \pm 7.4	17.4 \pm 0	13.5 \pm 0.1	0 \pm 0	1 \pm 0.2
	Day-21	1022.5 \pm 109.6	753.5 \pm 70	823.5 \pm 163.3	60.9 \pm 7.6	24.1 \pm 2.6	17.8 \pm 1.7	19.4 \pm 3.9	1.4 \pm 0.2
	Day-28	1210 \pm 169.7	952.5 \pm 6.4	1025 \pm 35.4	56 \pm 20.2	28.6 \pm 4	22.5 \pm 0.2	24.2 \pm 0.8	1.3 \pm 0.5
As	Day-7	196 \pm 45.3	274 \pm 14.1	<10	5.5 \pm 0	0.5 \pm 0.1	0.7 \pm 0	0 \pm 0	0 \pm 0
	Day-21	532 \pm 67.9	383.5 \pm 200.1	154 \pm 11.3	21.6 \pm 0.6	1.4 \pm 0.2	1 \pm 0.5	0.4 \pm 0	0.1 \pm 0
	Day-28	1640 \pm 636.4	1673 \pm 108.9	295 \pm 66.5	34 \pm 10.4	4.3 \pm 1.7	4.4 \pm 0.3	0.8 \pm 0.2	0.1 \pm 0
Cd	Day-7	41.2 \pm 0.3	36.6 \pm 0.5	<1	3.6 \pm 0.6	9.2 \pm 0.1	8.1 \pm 0.1	0 \pm 0	0.8 \pm 0.1
	Day-21	65.3 \pm 15.1	44.6 \pm 5.1	47.2 \pm 7.3	5.5 \pm 1.1	14.5 \pm 3.4	9.9 \pm 1.1	10.5 \pm 1.6	1.2 \pm 0.2
	Day-28	87.2 \pm 25.2	56.3 \pm 4.3	61.1 \pm 1.1	6.3 \pm 2.4	19.4 \pm 5.6	12.5 \pm 1	13.6 \pm 0.3	1.4 \pm 0.5
K	Day-7	16500 \pm 0	12500 \pm 9899.5	62000 \pm 16263.5	15250 \pm 636.4	2.3 \pm 0	1.7 \pm 1.4	8.6 \pm 2.2	2.1 \pm 0.1
	Day-21	69500 \pm 5656.9	58000 \pm 2121.3	50500 \pm 5656.9	17250 \pm 1060.7	9.6 \pm 0.8	8 \pm 0.3	7 \pm 0.8	2.4 \pm 0.1
	Day-28	70500 \pm 9899.5	59000 \pm 2121.3	72500 \pm 11313.7	18550 \pm 3747.7	9.7 \pm 1.4	8.2 \pm 0.3	10 \pm 1.6	2.6 \pm 0.5
Sb	Day-7	26.9 \pm 2.3	26.8 \pm 0.4	<1	16 \pm 1.1	1.1 \pm 0.1	1.1 \pm 0	0 \pm 0	0.7 \pm 0
	Day-21	46 \pm 6.2	32.2 \pm 0.4	30.4 \pm 1.2	14.4 \pm 2	1.9 \pm 0.3	1.3 \pm 0	1.3 \pm 0.1	0.6 \pm 0.1
	Day-28	61 \pm 10.8	40.8 \pm 9.4	37.1 \pm 3.3	14.6 \pm 2.1	2.6 \pm 0.5	1.7 \pm 0.4	1.6 \pm 0.1	0.6 \pm 0.1
Ag	Day-7	<5	<5	<5	<5	0 \pm 0	0 \pm 0	0 \pm 0	0 \pm 0
	Day-21	3.8 \pm 0.7	4.1 \pm 1.1	9.2 \pm 3.7	<1	1.3 \pm 0.2	1.4 \pm 0.4	3.2 \pm 1.3	0 \pm 0
	Day-28	9.9 \pm 4.6	13.3 \pm 5.4	13.7 \pm 6.4	<1	3.5 \pm 1.6	4.7 \pm 1.9	4.8 \pm 2.2	0 \pm 0
Mn	Day-7	3457.3 \pm 56.6	2777.3 \pm 56.6	4.5 \pm 0.1	1670 \pm 240.4	9.5 \pm 0.2	7.7 \pm 0.2	0 \pm 0	4.6 \pm 0.7
	Day-21	4462.3 \pm 275.8	3452.3 \pm 120.2	3842.3 \pm 502	2285 \pm 247.5	12.3 \pm 0.8	9.5 \pm 0.3	10.6 \pm 1.4	6.3 \pm 0.7
	Day-28	4747.3 \pm 480.8	3922.3 \pm 247.5	5102.3 \pm 445.5	2400 \pm 721.2	13.1 \pm 1.3	10.8 \pm 0.7	14.1 \pm 1.2	6.6 \pm 2

Table S9. Concentrations and percentages of metal(loid)s extracted from the Neves Corvo waste rock (NC_01) by the second experiment with *T. pacifica* via one-step bioleaching (1SB), two-step bioleaching (2SB), spent medium bioleaching (SMB), and Abiotic control (AC). Values are the average of duplicate flasks \pm standard deviations.

Metal(loid)s	Days	Concentration ($\mu\text{g/L}$)				% Recovery			
		1SB	2SB	SMB	AC	1SB	2SB	SMB	AC
Cu	Day-7	1259.1 \pm 56.6	1804.1 \pm 106.1	1289.1 \pm 169.7	7.2 \pm 0.5	1.4 \pm 0.1	2 \pm 0.1	1.4 \pm 0.2	0 \pm 0
	Day-21	8534.1 \pm 91.9	8154.1 \pm 502	4159.1 \pm 155.6	15.6 \pm 4	9.3 \pm 0.1	8.9 \pm 0.5	4.5 \pm 0.2	0 \pm 0
	Day-28	12089.1 \pm 424.3	9834.1 \pm 360.6	7309.1 \pm 905.1	16.8 \pm 0.8	13.1 \pm 0.5	10.7 \pm 0.4	7.9 \pm 1	0 \pm 0
Pb	Day-7	19.2 \pm 5.3	21.9 \pm 1.1	61.2 \pm 11.6	3.3 \pm 1.5	0 \pm 0	0.1 \pm 0	0.1 \pm 0	0 \pm 0
	Day-21	5397.3 \pm 84.9	4452.3 \pm 247.5	4167.3 \pm 410.1	<1	13.1 \pm 0.2	10.8 \pm 0.6	10.1 \pm 1	0 \pm 0
	Day-28	6912.3 \pm 289.9	4032.3 \pm 134.4	<1	4592.3 \pm 657.6	16.7 \pm 0.7	9.8 \pm 0.3	11.1 \pm 1.6	0 \pm 0
Zn	Day-7	595.7 \pm 159.8	677.7 \pm 72.1	3013.7 \pm 261.6	187.5 \pm 91.2	0.3 \pm 0.1	0.4 \pm 0	1.7 \pm 0.1	0.1 \pm 0.1
	Day-21	26058.7 \pm 212.1	27558.7 \pm 1626.3	15908.7 \pm 0	144.5 \pm 3.5	14.6 \pm 0.1	15.5 \pm 0.9	8.9 \pm 0	0.1 \pm 0
	Day-28	26058.7 \pm 212.1	27558.7 \pm 1626.3	15908.7 \pm 0	144.5 \pm 3.5	17.5 \pm 0.6	16.4 \pm 0.6	12.2 \pm 0.8	0.2 \pm 0
Co	Day-7	470 \pm 0	557 \pm 31.1	824.5 \pm 27.6	33.2 \pm 10	11.1 \pm 0	13.2 \pm 0.7	19.5 \pm 0.7	0.8 \pm 0.2
	Day-21	1315 \pm 21.2	1360 \pm 84.9	1165 \pm 21.2	22.5 \pm 0.3	31.1 \pm 0.5	32.1 \pm 2	27.5 \pm 0.5	0.5 \pm 0
	Day-28	1415 \pm 49.5	1355 \pm 49.5	1355 \pm 91.9	39.9 \pm 0.2	33.4 \pm 1.2	32 \pm 1.2	32 \pm 2.2	0.9 \pm 0
As	Day-7	249 \pm 9.9	341 \pm 1.4	232.5 \pm 19.1	<10	0.6 \pm 0	0.9 \pm 0	0.6 \pm 0	0 \pm 0
	Day-21	1480 \pm 0	1550 \pm 99	576 \pm 148.5	<10	3.9 \pm 0	4 \pm 0.3	1.5 \pm 0.4	0 \pm 0
	Day-28	1325 \pm 35.4	756 \pm 21.2	1166 \pm 712.8	<10	3.5 \pm 0.1	2 \pm 0.1	3 \pm 1.9	0 \pm 0
Cd	Day-7	28.4 \pm 0.8	30.3 \pm 0.7	43.8 \pm 1.7	2.8 \pm 0.9	6.3 \pm 0.2	6.7 \pm 0.2	9.7 \pm 0.4	0.6 \pm 0.2
	Day-21	92.6 \pm 0.8	100.1 \pm 5.6	63.3 \pm 2.1	2.4 \pm 0.1	20.6 \pm 0.2	22.2 \pm 1.2	14.1 \pm 0.5	0.5 \pm 0
	Day-28	105.5 \pm 4.9	101.4 \pm 5.1	80.9 \pm 6.4	4.7 \pm 0.2	23.4 \pm 1.1	22.5 \pm 1.1	18 \pm 1.4	1.1 \pm 0.1
K	Day-7	42500 \pm 1414.2	33500 \pm 14142.1	64500 \pm 21213.2	15650 \pm 353.6	5.9 \pm 0.2	4.6 \pm 2	8.9 \pm 2.9	2.2 \pm 0
	Day-21	108500 \pm 5656.9	120500 \pm 24041.6	141500 \pm 29698.5	18850 \pm 636.4	15 \pm 0.8	16.7 \pm 3.3	19.6 \pm 4.1	2.6 \pm 0.1
	Day-28	98500 \pm 16970.6	70500 \pm 14142.1	161500 \pm 48083.3	17350 \pm 353.6	13.6 \pm 2.3	9.7 \pm 2	22.3 \pm 6.6	2.4 \pm 0
Sb	Day-7	39.4 \pm 1.6	48.5 \pm 1.8	39.2 \pm 0.9	13.1 \pm 0.1	1.6 \pm 0.1	2 \pm 0.1	1.6 \pm 0	0.5 \pm 0
	Day-21	94.5 \pm 1.1	105.5 \pm 6.4	64.9 \pm 12.4	13.2 \pm 0	4 \pm 0	4.4 \pm 0.3	2.7 \pm 0.5	0.6 \pm 0
	Day-28	119 \pm 5.7	119.5 \pm 4.9	89.9 \pm 22.8	12 \pm 0.1	5 \pm 0.2	5 \pm 0.2	3.8 \pm 1	0.5 \pm 0
Ag	Day-7	<1	<1	4.5 \pm 0.2	<1	0 \pm 0	1.6 \pm 0.1	0 \pm 0	0 \pm 0
	Day-21	28.9 \pm 1	27.3 \pm 1.7	21.4 \pm 1.4	<1	10.1 \pm 0.3	9.6 \pm 0.6	7.5 \pm 0.5	0 \pm 0
	Day-28	24.8 \pm 1.3	33.9 \pm 1.6	36 \pm 2.5	<1	8.7 \pm 0.4	11.9 \pm 0.6	12.6 \pm 0.9	0 \pm 0
Mn	Day-7	2807.3 \pm 297	2257.3 \pm 141.4	4282.3 \pm 77.8	1595 \pm 205.1	7.8 \pm 0.8	6.2 \pm 0.4	11.8 \pm 0.2	4.4 \pm 0.6
	Day-21	5282.3 \pm 63.6	4867.3 \pm 282.8	5052.3 \pm 120.2	1315 \pm 21.2	14.6 \pm 0.2	13.4 \pm 0.8	14 \pm 0.3	3.6 \pm 0.1
	Day-28	4862.3 \pm 176.8	4347.3 \pm 155.6	5727.3 \pm 0	1880 \pm 14.1	13.4 \pm 0.5	12 \pm 0.4	15.8 \pm 0	5.2 \pm 0