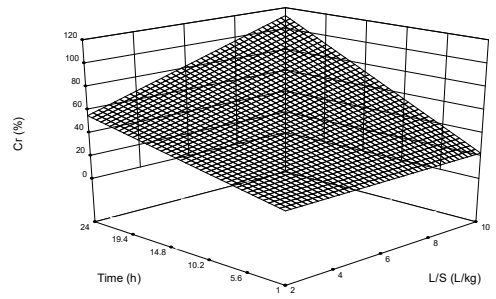
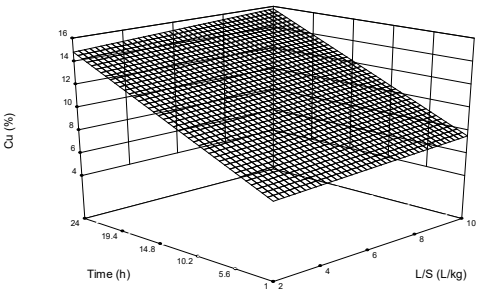
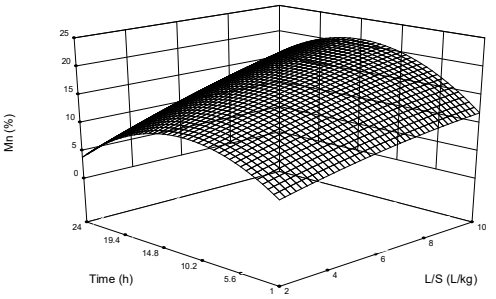
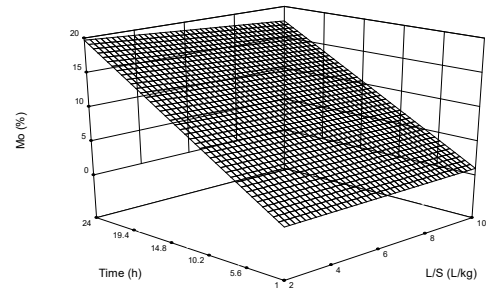
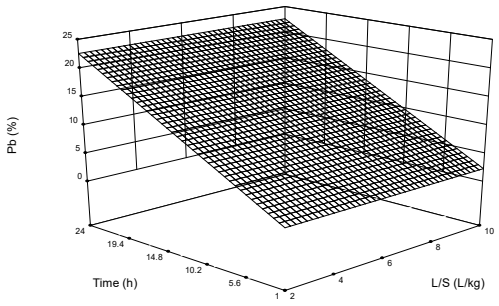
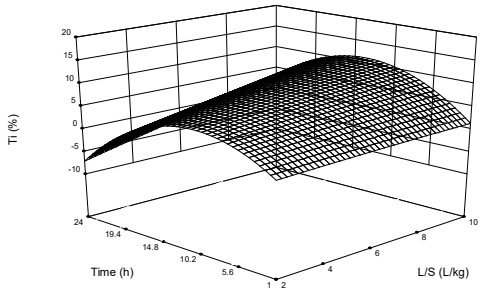
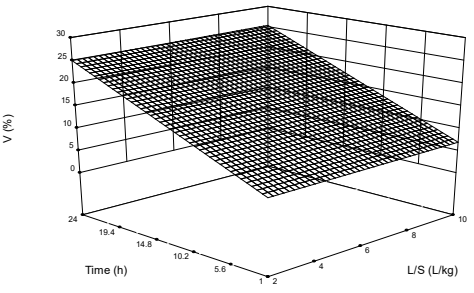
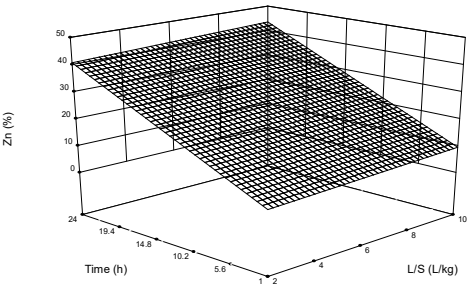
	$Cr = 19.86 - 0.0973 \cdot \frac{L}{S} + 0.904 \cdot t + 0.300 \cdot \frac{L}{S} \cdot t$ $R^2 = 0.9277$
	$Cu = 6.045 + 0.118 \cdot \frac{L}{S} + 0.36 \cdot t$ $R^2 = 0.9197$
	$Mn = 2.77 + 1.23 \cdot \frac{L}{S} + 1.17 \cdot t$ $R^2 = 0.9564$
	$Mo = -0.102 + 0.037 \cdot \frac{L}{S} + 0.85 \cdot t + 0.012 \cdot \frac{L}{S} \cdot t$ $R^2 = 0.9940$

	$$Pb = 1.30 + 0.0107 \cdot \frac{L}{S} + 0.887 \cdot t$$ $$R^2 = 0{,}7523$$
	$$Ti = -1.25 + 0.19 \cdot \frac{L}{S} + 1.31 \cdot t + 0.05 \cdot \frac{L}{S} \cdot t - 0.0095 \cdot \frac{L^2}{S} - 0.07 \cdot t^2$$ $$R^2 = 0.9901$$
	$$V = 5.712 + 0.048 \cdot \frac{L}{S} + 0.804 \cdot t$$ $$R^2 = 0.7733$$
	$$Zn = 4.72 + 0.34 \cdot \frac{L}{S} + 1.48 \cdot t$$ $$R^2 = 0.9301$$

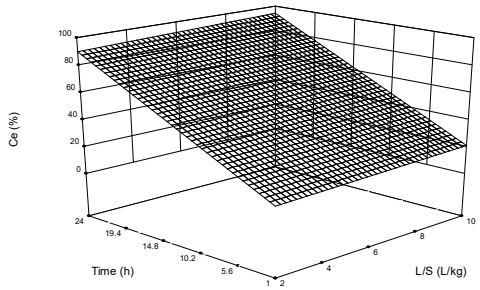
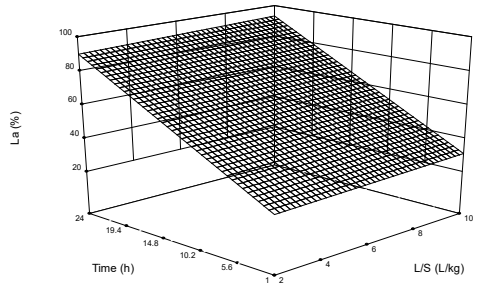
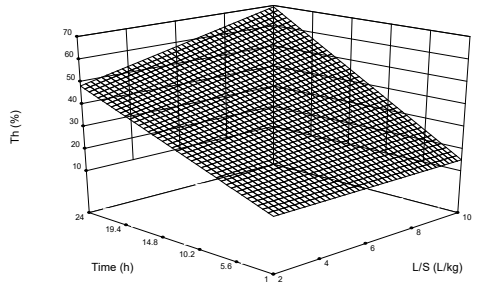
	$Ce = 12.7 + 0.55 \cdot \frac{L}{S} + 3.18 \cdot t$ $R^2 = 0.7880$
	$La = 24.16 + 0.417 \cdot \frac{L}{S} + 2.71 \cdot t$ $R^2 = 0.8484$
	$Th = 13.32 - 0.059 \cdot \frac{L}{S} + 1.25 \cdot t + 0.11 \cdot \frac{L}{S} \cdot t$ $R^2 = 0.8722$

Figure S1. Metal leaching yields: mathematical model and response surfaces.

Table S1. Statistical analyses of metal leaching yields mathematical models. 4

Source	Sum of squares	df	Mean of squares	F-value	P-value
Cr-Model	0.5902	3	0.1967	48.07	<0.0001
L/S ratio	0.0773	1	0.0773	18.90	0.0025
Leaching time	0.4078	1	0.4078	99.63	<0.0001
L/S-time	0.0372	1	0.0372	9.08	0.0167
Residual error	0.0327	8	0.0041		
Total	0.6230	11			
Cu-Model	5372.01	3	1790.67	68.82	<0.0001
L/S ratio	2359.24	1	2359.24	90.67	<0.0001
Leaching time	977.7	1	977.70	37.58	0.0003
L/S-time	718.20	1	718.20	27.60	0.0008
Residual error	208.15	8	26.02		
Total	5580.17	11			
Mn-Model	50.39	2	25.19	25.09	0.0002
L/S ratio	33.80	1	33.80	33.66	0.0003
Leaching time	16.58	1	16.58	16.51	0.0028
Residual error	9.04	9	1.00		
Total	59.43	11			
Mo-Model	185.08	5	37.02	24.49	0.0006
L/S ratio	44.15	1	44.15	23.21	0.0017
Leaching time	0.0165	1	0.0165	0.0109	0.9201
L/S-time	4.45	1	4.45	2.94	0.1370
L/S²	17.86	1	17.86	11.82	0.0138
Leaching time²	1.70	1	1.70	1.13	0.3295
Residual error	9.07	6	1.15		
Total	194.15	11			
Pb-Model	75.65	3	25.22	443.44	<0.0001
L/S ratio	2.39	1	2.39	42.00	0.0002
Leaching time	74.11	1	74.11	1303.16	<0.0001
L/S-time	1.57	1	1.57	27.69	0.0008
Residual error	0.4550	8	0.0569		
Total	76.11	11			
Ti-Model	129.93	5	25.99	22.57	0.0008
L/S ratio	0.1268	1	0.1268	0.1101	0.7513
Leaching time	3.09	1	3.09	2.68	0.1525
L/S-time	8.05	1	8.05	6.99	0.0383
L/S²	0.2804	1	0.2804	0.2435	0.6392
Leaching time²	12.91	1	12.91	11.21	0.0155
Residual error	6.91	6	1.15		
Total	136.83	11			
V-Model	182.12	5	36.43	158.72	<0.0001
L/S ratio	23.13	1	23.13	100.79	<0.0001
Leaching time	0.0513	1	0.0513	0.2234	0.6531
L/S-time	23.98	1	23.98	104.47	<0.0001

L/S²	0.6902	1	0.6902	3.01	0.1336
Leaching time²	2.84	1	2.84	12.39	0.0125
Residual	1.38	6	0.2295		
Cor Total	183.53	11			
Zn-Model	97.46	2	48.73	29.81	0.0001
L/S ratio	13.09	1	13.09	8.01	0.0197
Leaching time	84.38	1	84.38	51.62	<0.0001
Residual error	14.71	9	1.63		
Total	112.18	11			
Ce-Model	462.10	2	231.05	6.66	0.0168
L/S ratio	175.55	1	175.55	5.06	0.0511
Leaching time	286.55	1	286.55	8.26	0.0184
Residual error	312.29	9	34.70		
Total	774.39	11			
La-model	1910.02	2	955.01	53.02	<0.0001
L/S ratio	589.17	1	589.17	32.71	0.0003
Leaching time	1320.85	1	1320.85	73.33	<0.0001
Residual error	162.11	9	18.01		
Total	2072.13	13			
Th-Model	1765.66	2	882.83	25.35	0.0002
L/S ratio	805.01	1	805.01	23.12	0.0010
Leaching time	960.65	1	960.65	27.58	0.0005
Residual error	313.44	9	34.83		
Total	2079.10	11			