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SUPPLEMENTARY DATA

List of Supplementary Tables

Table S1

List of experiments in the factorial design (actual values) for MSPME optimization and the responses

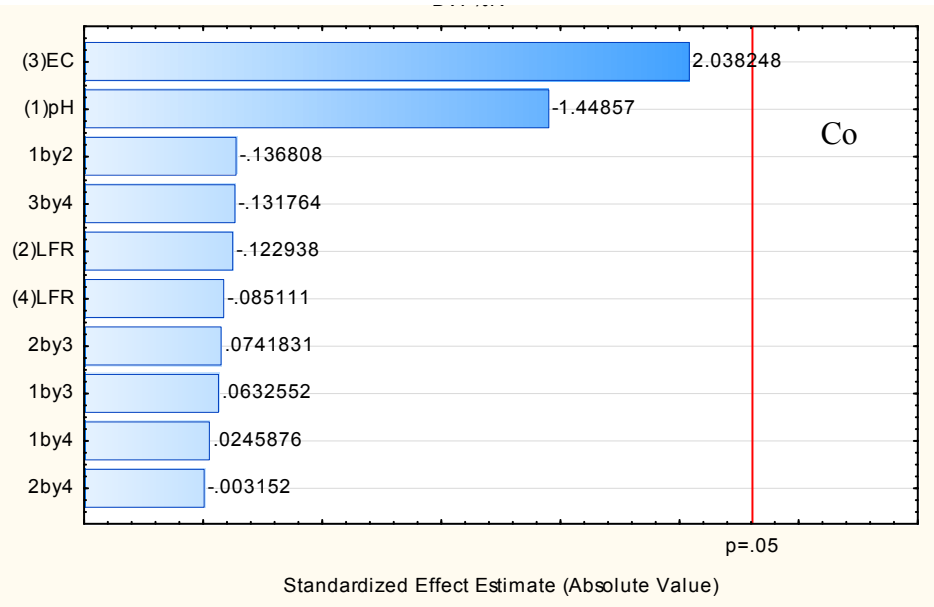
Run	pH	EC	ET	EV	Co	Cr	Mo	Ni	Sb	V
					Recovery (%)					
1	-1	-1	-1	-1	70.73	61.84	75.15	66.00	72.50	72.76
2	1	-1	-1	-1	63.81	58.77	71.37	60.73	68.91	65.55
3	-1	1	-1	-1	71.01	63.14	76.44	67.24	70.69	73.94
4	1	1	-1	-1	60.11	57.81	70.53	59.17	69.17	66.15
5	-1	-1	1	-1	83.14	77.87	85.00	78.75	90.33	95.91
6	1	-1	1	-1	75.22	71.87	80.32	67.46	83.79	88.62
7	-1	1	1	-1	84.12	78.93	86.13	79.35	90.92	96.76
8	1	1	1	-1	74.81	70.72	79.17	68.03	80.83	90.03
9	-1	-1	-1	1	71.11	64.45	74.66	64.24	71.68	70.80
10	1	-1	-1	1	62.91	58.56	68.94	56.18	69.55	64.97
11	-1	1	-1	1	71.35	65.01	75.26	65.62	71.59	73.66
12	1	1	-1	1	61.40	57.98	69.58	57.34	68.56	65.44
13	-1	-1	1	1	82.55	79.14	86.09	80.15	90.21	97.81
14	1	-1	1	1	74.38	67.57	73.73	70.65	79.83	90.78
15	-1	1	1	1	81.38	77.67	83.41	81.96	92.12	98.98
16	1	1	1	1	73.82	62.39	72.18	71.11	80.79	91.55
17	0	0	0	0	93.83	81.93	95.63	88.12	96.33	97.72
18	0	0	0	0	93.67	82.03	95.45	87.79	96.40	97.54
19	0	0	0	0	93.74	81.88	95.57	87.81	96.22	97.98

Table S2

List of experiments in the central composite design (actual values) for MSPME optimization and the responses

Run	pH	EC	Co	Cr	Mo	Ni	Sb	V
			Recovery (%)					
1	5	10	42.1	51.7	67.4	51.4	64.6	62.3
2	11	10	41.3	50.3	62.2	49.2	61.9	60.1
3	5	40	82.4	83.6	87.9	85.7	86.7	85.6
4	11	40	76.8	78.2	83.6	80.8	78.0	90.5
5	8	25	99.1	97.1	98.6	98.1	95.5	99.9
6	8	25	99.4	97.4	98.5	98.0	95.7	99.7
7	8	25	99.3	96.7	98.4	98.2	95.6	99.8
8	3.76	25	50.8	61.2	75.3	53.3	70.9	67.5
9	12.24	25	41.9	57.3	69.8	48.7	63.2	63.5
10	12.24	3.79	40.8	50.8	63.7	46.3	65.3	58.4
11	8	46.21	100.3	97.9	98.7	98.5	97.2	100.2
12	8	25	99.2	97.1	98.5	98.3	95.4	99.8
13	8	25	99.1	97.2	98.6	98.3	95.7	99.7
14	8	25	99.3	97.2	98.5	96.9	95.6	99.8

List of supplementary figures



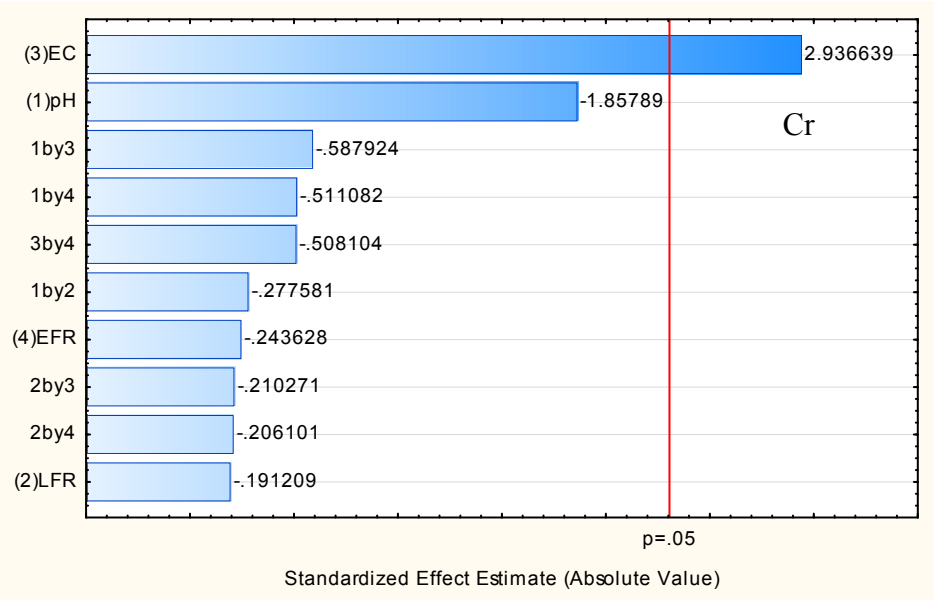
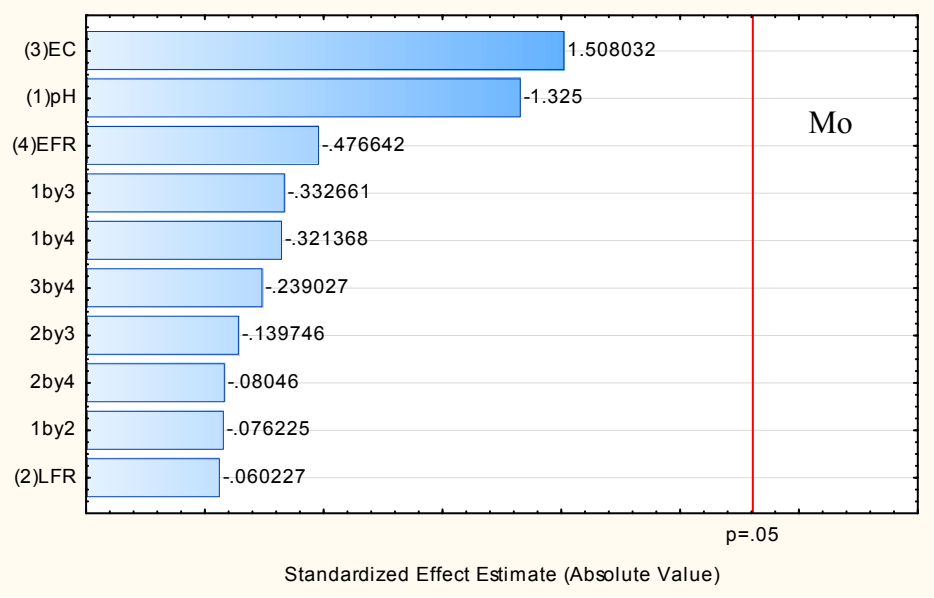


Fig. S1 Pareto charts of standardized effects for variables in the cobalt and chromium preconcentration.



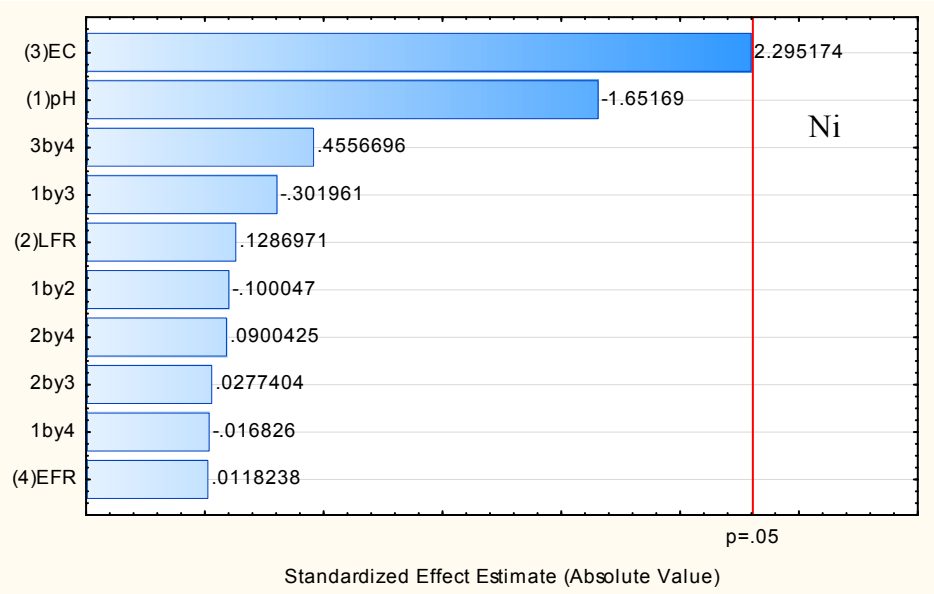
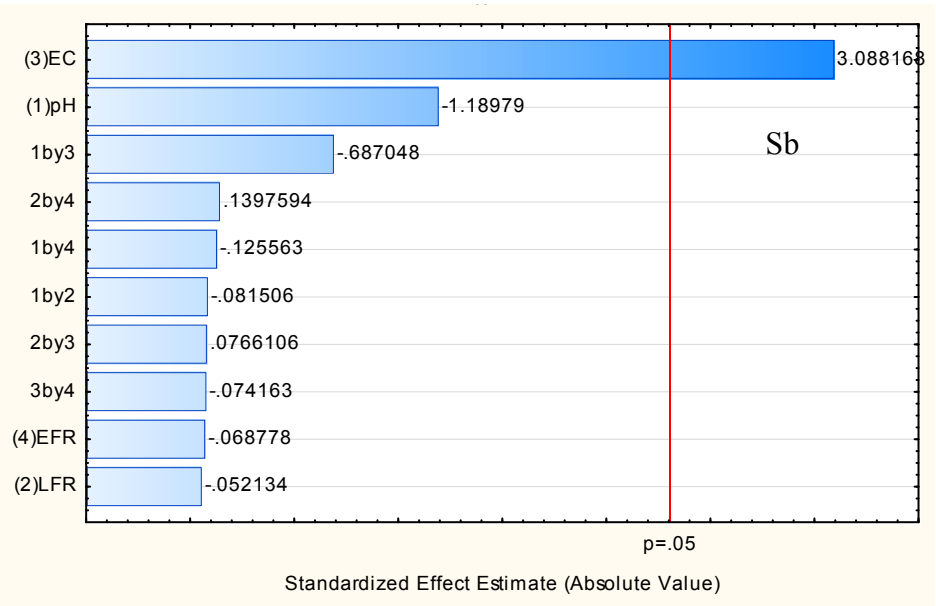


Fig. S2 Pareto charts of standardized effects for variables in the molybdenum and nickel preconcentration.



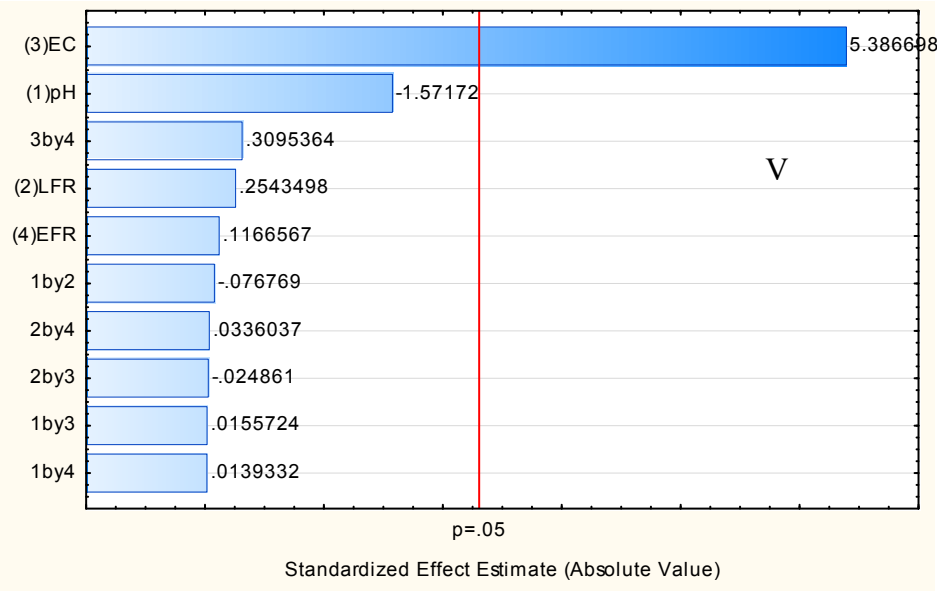
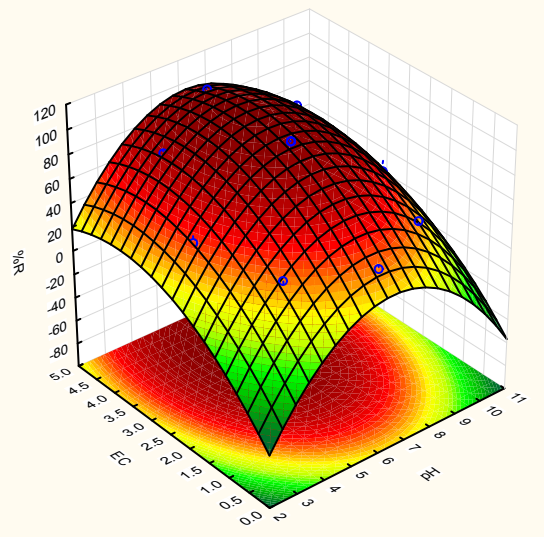


Fig. S3 Pareto charts of standardized effects for variables in the preconcentration of antimony and vanadium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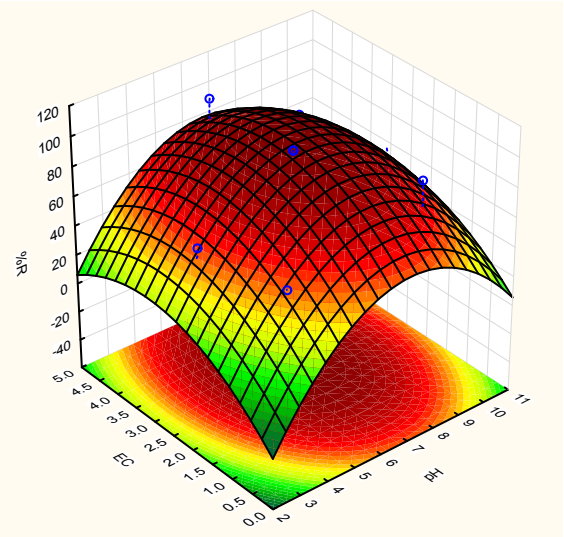
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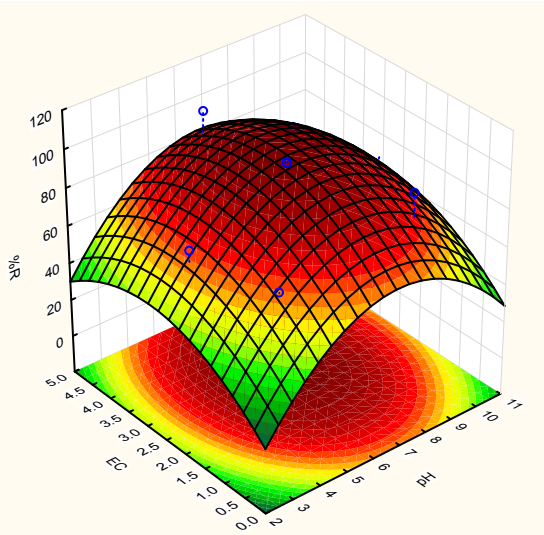
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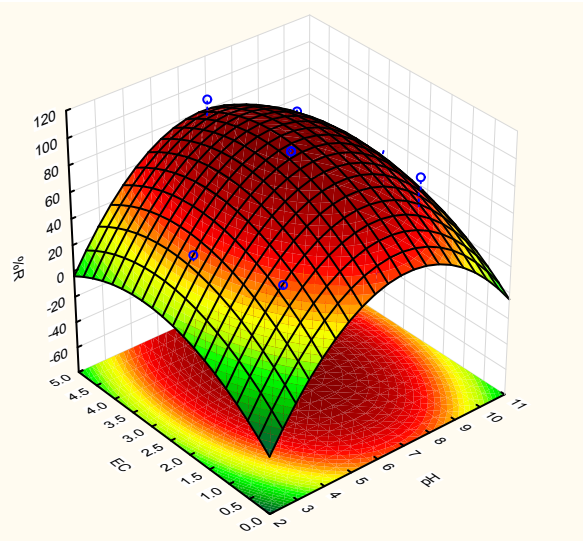
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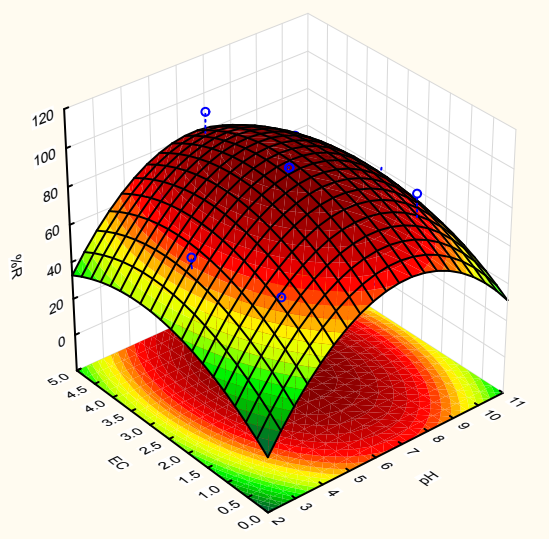
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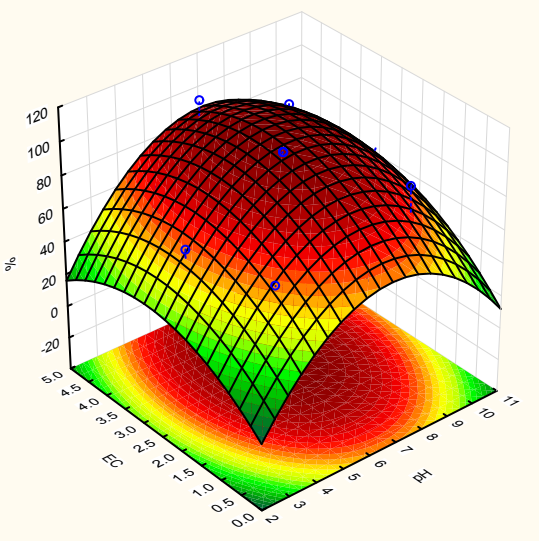
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Fig. S4 Response surface for percentage recovery of Cr (A), Co (B), (C), Mo (D), Ni (E) and V (F) as function of extraction time (ET), min.