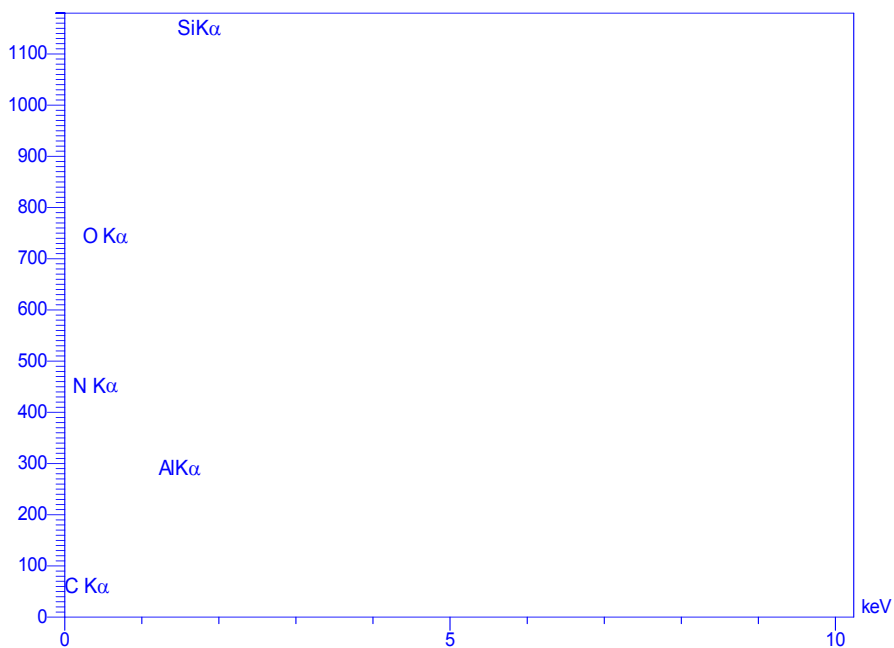
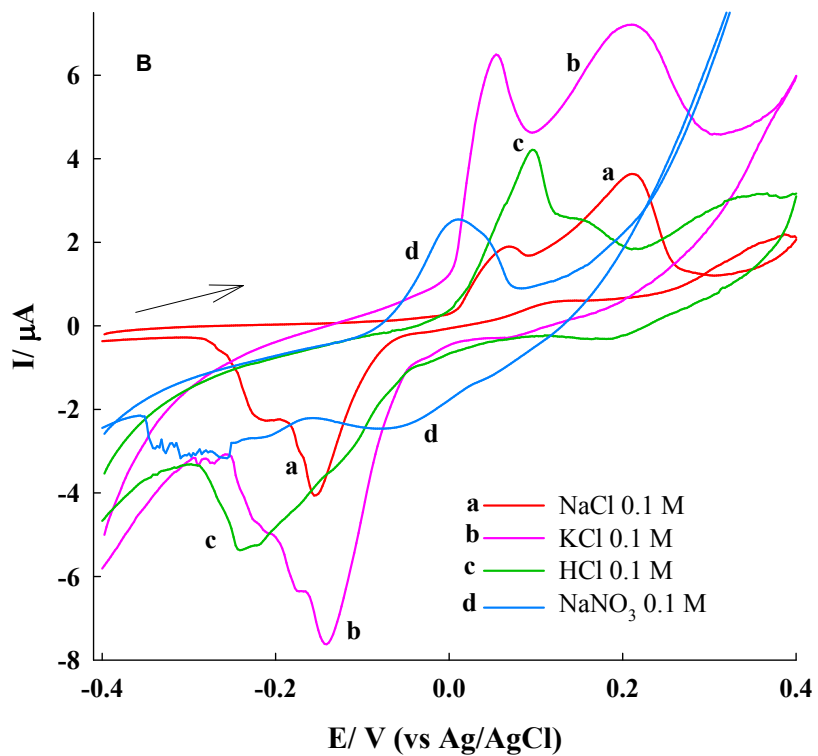
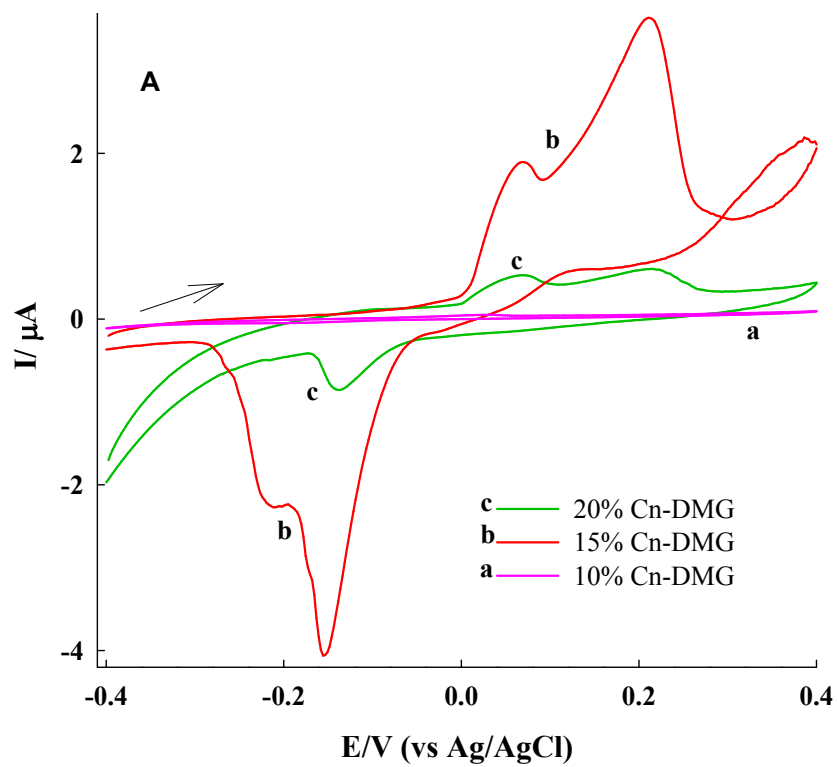


Supplementary materials:



SM1. EDX spectrum of Cn-DMG sample.



SM2. A) Effect of the modifier percentage on the voltammetric response of the modified Cn-DMG/CPE ($0.1 \text{ mmol L}^{-1} \text{ NaCl} + 0.01 \text{ mmol L}^{-1} \text{ Ni(II)}$ (pH 5.5), scan rate: 30 mV s^{-1}); **B)** Effect of supporting electrolyte on the CV response of the Cn-DMG/CPE electrode (15% modifier, scan rate of 30 mV s^{-1} in different electrolytes with concentration of 0.1 M (a) NaCl, (b) KCl, (c) HCl and (d) NaNO_3 containing $0.01 \text{ mol L}^{-1} \text{ Ni}^{+2}$ solution (pH=5.5)).

SM3. Suggested matrix by the model for the voltammetric determination of Ni(II) by the modified electrode.

Std	Block	Run	A: pH	B : Scan rate	C: C _{DMG}	D: Modifier%	Y (Ip: μ A)
18	1	1	4.25	115	0.15	16	29.59
14	1	2	5.5	70	0.2	19.5	18.713
2	1	3	5.5	70	0.1	12.5	9.5328
5	1	4	3	70	0.2	12.5	38.052
15	1	5	3	160	0.2	19.5	37.665
9	1	6	3	70	0.1	19.5	43.475
3	1	7	3	160	0.1	12.5	29.3
17	1	8	4.25	115	0.15	16	20.335
8	1	9	5.5	160	0.2	12.5	27.217
12	1	10	5.5	160	0.1	19.5	86.546
6	2	11	5.5	70	0.2	12.5	13.582
7	2	12	3	160	0.2	12.5	26.518
19	2	13	4.25	115	0.15	16	8.8282
11	2	14	3	160	0.1	19.5	16.418
10	2	15	5.5	70	0.1	19.5	59.519
16	2	16	5.5	160	0.2	19.5	15.046
20	2	17	4.25	115	0.15	16	5.7681
4	2	18	5.5	160	0.1	12.5	20.944
1	2	19	3	70	0.1	12.5	23.513
13	2	20	3	70	0.2	19.5	9.1553
29	3	21	4.25	115	0.15	16	9.3027
23	3	22	4.25	25	0.15	16	2.0798
25	3	23	4.25	115	0.05	16	7.4171
27	3	24	4.25	115	0.15	9	26.02
24	3	25	4.25	205	0.15	16	28.206
22	3	26	6.75	115	0.15	16	25.946
30	3	27	4.25	115	0.15	16	17.815
28	3	28	4.25	115	0.15	23	15.943
21	3	29	1.75	115	0.15	16	28.134
26	3	30	4.25	115	0.25	16	5.0592