molecules

Selective Co(II) and Ni(II) Separation using the Trihexyl(tetradecyl)phosphonium Decanoate Ionic Liquid

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Supplementary Information

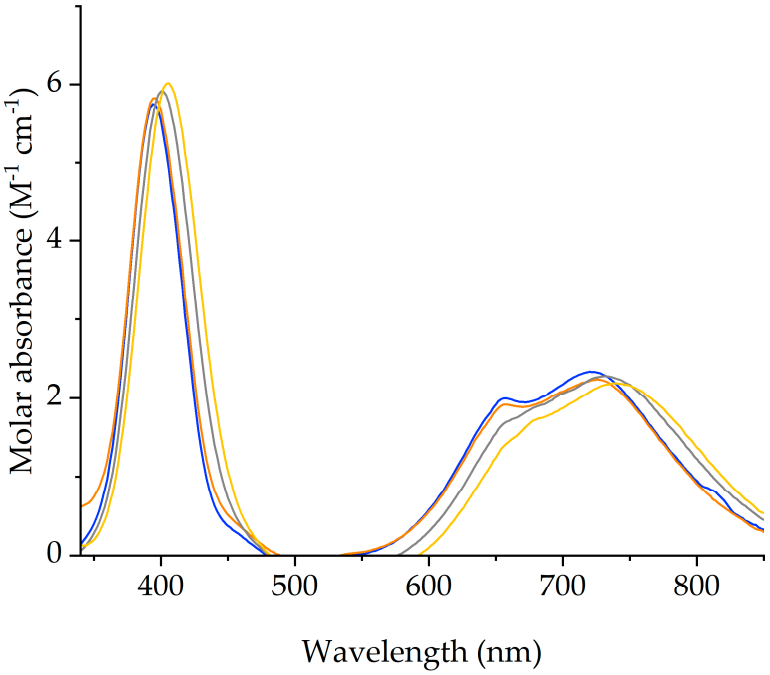


Figure S1. Absorption spectrum of Ni(II) aqueous phase in 0 M HCl (blue), 2 M HCl (orange), 6 M HCl (grey) and 8 M HCl (yellow).

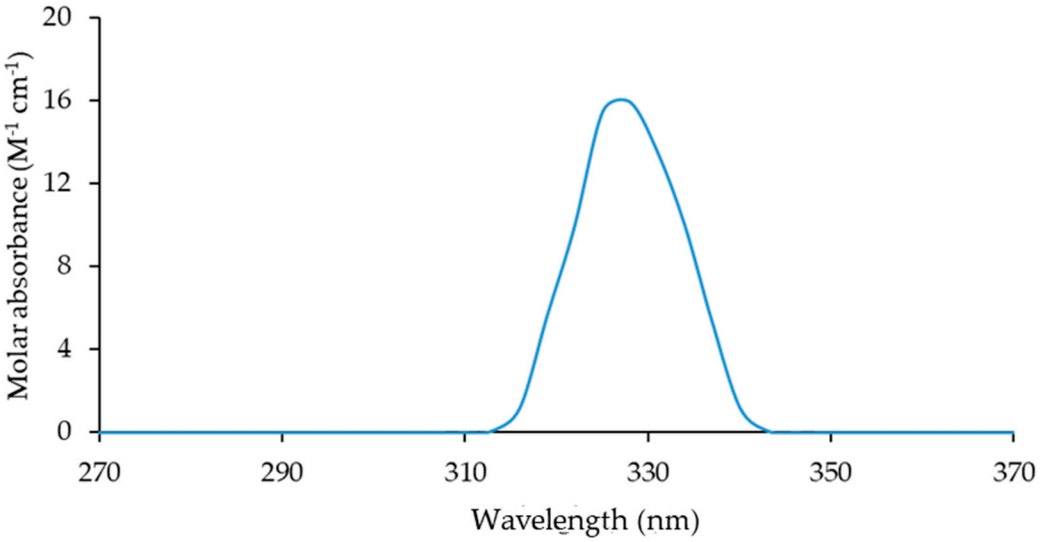


Figure S2. Ni(II) in [P_{66614}][Dec] IL phase after extraction from 0 M HCl.

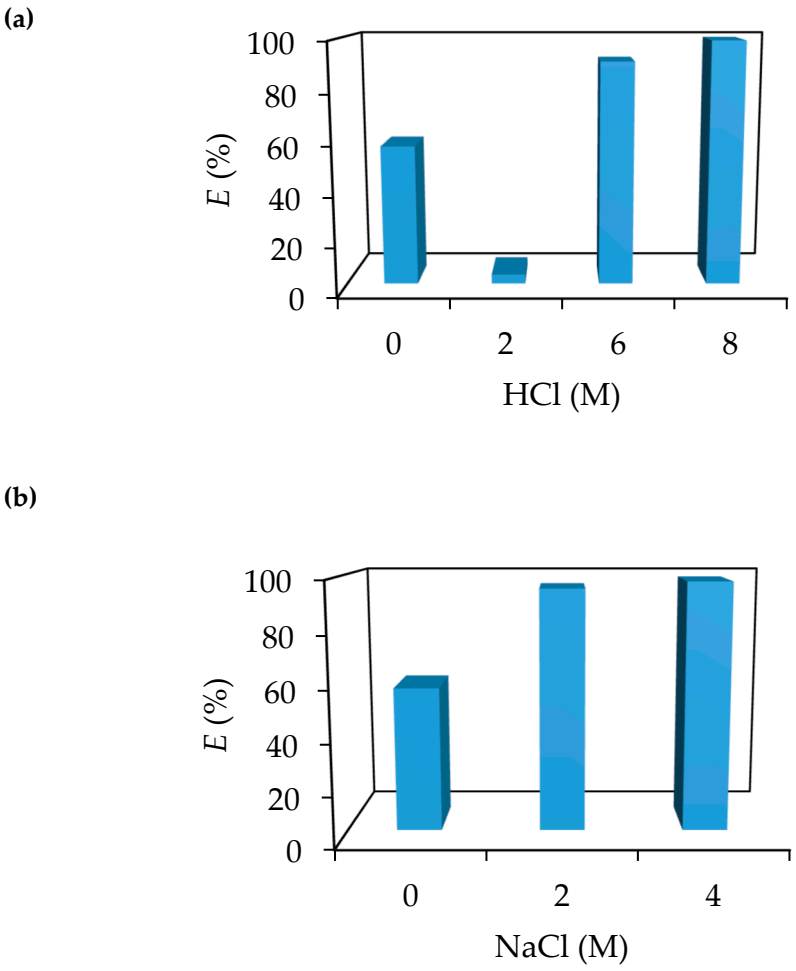


Figure S3. *E*(%) of Co(II) in [P_{66614}][Dec] from the aqueous solutions containing variable concentrations of HCl (a) and NaCl (b). $[Co]_{aq}$= 50 mM.

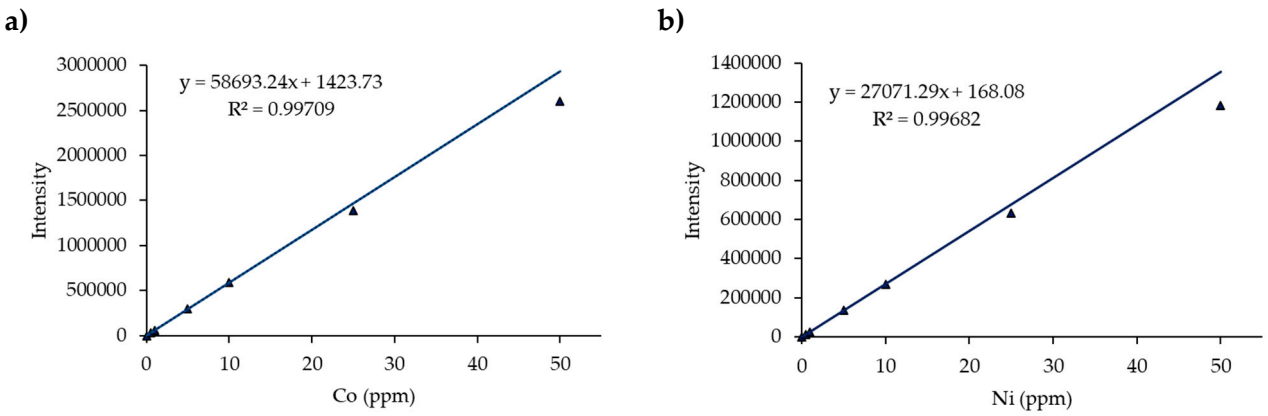


Figure S4. ICP-OES calibration curves for (a) Co(II), (b) Ni(II).

Table S1. *D* of Co(II) and Ni(II) after extraction with [P_{66614}][Dec] from HCl and NaCl media.

	HCl		NaCl	
	Co(II)	Ni(II)	Co(II)	Ni(II)
0 M	13.3	8.7	13.3	8.7
2 M	1.9	0.0	43.3	23.4
4 M	-	-	264.9	195.1
6 M	299.2	0.0	-	-
8 M	531.7	0.0	-	-

Table S2. Cumulative stripping (*S* %) of Co(II) from [P_{66614}][Dec] extracted from different HCl feeds (M HCl) utilizing only water.

S (%)	1st step	2nd step
0 M HCl	36.2	56.3
2 M HCl	45.6	60.1
6 M HCl	79.6	91.1
8 M HCl	89.9	100.0