Effect of different cation moiety of RTIL on electrochemical behavior of $CoCl_2$

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The Ionic liquids are widely used in the fields of battery, sensor, electroorganic synthesis due to the unique characters such as green solvent, non-Volatile and having wide electrochemical window. Among them NTF^{2-} anion contained RTIL have wide potential window about 6 V by which many metal ions can be able to soluble under this potential window. The influence of RTIL's cationic moiety can control the electrochemical behavior of the dissolved metal. With this idea, we performed the electrochemical behavior of $CoCl_2$ in 1-butyl-3-methylimidazolium bis(trifluoromethyl)sulfonyl imide ([bmim]ntf_2) and N-butyl -N-methylpyrrolidinium bis(trifluoromethyl)sulfonyl imide ([$Py_{14}ntf_2$]) by cyclic voltammetry method. The electrochemical parameters and redox properties of Co^{2+}/Co^{3+} were analyzed by effect of scan rate, temperatures, and different electrodes like Pt, Ti and DSA.