Mediated electrochemical reduction study of $[Ni(II)(CN)_4]^{2-}$ complex in the 1-butyl-3-methylimidazolium hexafluorophosphate RTIL

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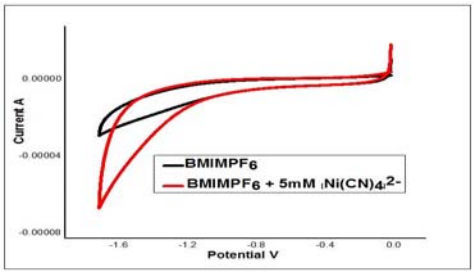
Redox behavior of transition complex like Ni(Salen), Co(Salen), Ni(byp) have been reported earlier but cyano complex yet to be revealed before. Therefore the main objective of this work focused on the study of electrochemical redox behavior of Ni^{2+} to Ni^{+} through the $[Ni(II)(CN)_4]^{2-}$ complex in $bmimpf_6$ RTIL. The cyclic Voltammogram of 5 mM $[Ni(II)(CN)_4]^{2-}$ complex at 50 mV s^{-1} shows an irreversible redox behavior at −1.4V (red color), which is more positive than the without Ni-mediator tells mediator effect.



Key words: RTIL, bmim PF_6 IL, $[Ni(CN)_4]^{2-}$ complex, redox behavior.