Short Communication

Investigation of Electrochemical Property and Crystal Structure of Schiff Base Cobalt(III) Complex

Liyan You, Hui Jiang, Xianwu Dong and Chaohong Ma^{*}

Department of Chemistry, College of Arts and Science, Jilin Agricultural Science and Technology University, No.77 Hanlin Rd, Jilin Economic and Technological Development Zone, Jilin, 132101, P.R China

^{*}Email: chaohongma_jast@qq.com

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A Co(III) complex (CoL)Cl·4H₂O was successfully synthesized with a new Schiff base L. Structure analysis reveals that mononuclear cationic complex unit (CoL)⁺ with approximate octahedral geometry of central Co (III) ion existed in the as-prepared cobalt complex. The diameter of cobalt complex nanoparticles after the deposition on glass substrate was found to be around 63nm. In the cyclic voltammetry curves of cobalt(III) complex, two reversible redox waves ascribed to the consecutive redox processes of Co (III)/Co (II) and Co (II)/Co (I) pairs were found, suggesting the successful formation of Co^{III} complex.

Keywords: Cobalt(III) complex; Schiff base; Electrochemical property; Crystal structure; FT-IR

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