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ONIUMME THOD FOR EXTRACTION AND SPECTRO PHOTO METRIC DETERMINATION OF ZN(II) AND CO(II)

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ABSTRACT

UV-Vis.spectrumforcomplexesofZn(II)andCo(II)extractedaccordingtooniumsystemfromacidicHCLsolutionbyuse2,4-dimethylpentan-3-one(2,4-DMP)asoniumcomplexwas(262nm)forZn(II)butoniumcomplexforCo(II)was(243nm),thismethodshowneed0.5MHCLforextractionZn^{2+}and0.8MHCLforCo^{2+},aswellgivingobeytoBeer-Lambertrelationatthe(1-20µg)forZn^{2+}and(1-50µg)forCo^{2+}.Theoniumcomplexextractedhavestructure$H(H_2O)(2,4\text{-}DMP)_3^+$;$HZnCl_4^-$,$H(H_2O)(2,4\text{-}DMP)_3^+$;$HCoCl_4^-$.ThismethodobeytoBeer-Lambertrelationattherange(1-20µg)forZn^{2+}ε=16893.56L.mol^{-1}.cm^{-1},D.L=6.33×10^{-6}µg/Ml,RSD%=0.0069µg/Ml,Sandell'ssensitivity=3.87×10^{-9}µg/cm^{2}and(5-50µg)forCo^{2+},ε=8918.77L.mol^{-1}.cm^{-1},D.L=3.38×10^{-5}µg/Ml,RSD%=0.00664µg/Ml,Sandell'ssensitivity=7.33×10^{-9}µg/cm^2.Aswellasthisresearchinvolvedmanystudiesandapplyfordetermination Zn^{2+} and Co^{2+} indifferentsamples.

KEYWORDS: OniumSpecies,Zinc,Cobalt,SpectrophotometricDetermination