二**(N,N-**二乙基二硫代氨基甲酸)烷基黄原酸合钴(Ⅲ)与二丙胺和二丁胺反应的动力学

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摘要　本文采用分光光度法研究了在甲醇介质中二(N,N-二乙基二硫代氨基甲酸)烷基黄原酸合钴(Ⅲ)与二丙胺,二正丁胺在298.2K～313.2K(R=Me,Et,n-Pr) 的反应动力学及机理.结果表明对配合物是准一级反应,对二正丁胺是分数级. 反应速率随着基团R的增加而减小,随着温度的增加而增加,随着溶剂中水含量的增大而增加.提出了一种含有前期平衡的反应机理.据此导出了一个能够解释实验事实的速率方程,求得了速控步骤的速率常数,并给出了相应的活化参数

关键词　分光光度法　反应机理　反应动力学　甲醇　钴络合物　反应速度常数　黄原酸盐　二丙胺　二丁胺

Kinetics and mechanism of substitution reactions of bis(N,N -diethyldithiocarbamato) alkylxanthatocobalt(Ⅲ) with dipropylamine and di-n-butylamine in methanol

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Abstract The title reactions with Co(S2CNEt2)(S2COR) (R = Me, Et, n-Pr) were studied in a temperature range of 25~40?by spectrophotometry. The rate with respect to [complex] is unity and that to [amine] is fractional. A linear relationship between [amine]/Kobs and [amine] was observed, where Kobs stands for pseudo-first-order rate constant The rate increases with the increase in water content of the solvent. A mechanism involving a preequil. of an adduct formation between the complex and amine was proposed. The equation derived from the mechanism explained all the experimental results and the preequil. constants, rate consts of the rate-detg. step along with the activation parameters were evaluated.

Key words SPECTROPHOTOMETRY REACTION MECHANISM REACTION KINETICS METHANOL COBALT COMPLEX REACTION RATE CONSTANT XANTHOGENATE DI-N-BUTYLAMINE

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