

Full Paper

## Solvent Effects on Complexation of Molybdenum(VI) with Nitrilotriacetic Acid in Different Aqueous Solutions of Propanol

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收稿日期 2006-6-22 修回日期 2006-11-10 网络版发布日期 2007-3-15 接受日期

**摘要** By using spectrophotometric and potentiometric techniques the formation constants of the species formed in the systems  $H^+ + Mo(VI) + \text{nitrilotriacetic acid}$  and  $H^+ + \text{nitrilotriacetic acid}$  have been determined in aqueous solutions of propanol at 25 °C and constant ionic strength 0.1 mol·dm<sup>-3</sup> sodium perchlorate. The composition of the complex was determined by the continuous variation method. It was shown that molybdenum(VI) forms a mononuclear 1: 1 complex with nitrilotriacetic acid of the type  $MoO_3L^{-3}$  at  $-\lg[H^+] = 5.8$ . The formation constants in various media were analyzed in terms of Kamlet and Taft's parameters. Linear relationships were observed when  $\lg K_S$  was plotted versus  $p^*$ . Finally, the results were discussed in terms of the effect of solvent on complexation.

**关键词** [solvent effect](#) [molybdenum\(VI\)](#) [nitrilotriacetic acid \(NTA\)](#) [propanol](#)

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**Abstract** By using spectrophotometric and potentiometric techniques the formation constants of the species formed in the systems  $H^+ + Mo(VI) + \text{nitrilotriacetic acid}$  and  $H^+ + \text{nitrilotriacetic acid}$  have been determined in aqueous solutions of propanol at 25 °C and constant ionic strength 0.1 mol·dm<sup>-3</sup> sodium perchlorate. The composition of the complex was determined by the continuous variation method. It was shown that molybdenum(VI) forms a mononuclear 1: 1 complex with nitrilotriacetic acid of the type  $MoO_3L^{-3}$  at  $-\lg[H^+] = 5.8$ . The formation constants in various media were analyzed in terms of Kamlet and Taft's parameters. Linear relationships were observed when  $\lg K_S$  was plotted versus  $p^*$ . Finally, the results were discussed in terms of the effect of solvent on complexation.

**Key words** [solvent effect](#) [molybdenum\(VI\)](#) [nitrilotriacetic acid \(NTA\)](#) [propanol](#)

DOI:

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