

稀土(III)-冠醚配位反应的热力学性质: II. 镧系(III)高氯酸盐与二苯并18-冠-6  
在无水乙腈中配位反应的量热滴定研究

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摘要 用滴定量热计于298.15K测定了除铈、镨以外的全部十三种镧系(III)高氯酸盐与二苯并-18-冠-6  
在无水乙腈中的配位作用。借助计算机自编程序算出了配位反应的生成常数和焓变,  
进而算出了配位反应的自由能变化和熵变化。探讨了镧系(III)阳离子对配位反应的影响。此外,  
还比较了几种不同冠醚与高氯酸镧在无水乙腈中配位反应的热力学性质。

关键词 [配位反应](#) [乙腈](#) [二苯并化合物](#) [高氯酸盐](#) [镧系](#) [热力学性质](#) [冠醚](#) [稀土](#)

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### Thermodynamic properties of rare earth(III)-crownether coordination reactions: II. Calorimetric titration studies on coordination reactions of lanthanide perchlorates with dibenzo-18-crown-6 in anhydrous acetonitrile

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**Abstract** The coordination reactions of dibenzo-18-crown-6 with lanthanide perchlorates except Pm, Lu in anhydrous  
acetonitrile were investigated at 298.15K by titration calorimeter. The formation constants and enthalpies of coordination  
reactions were calculated using computer program made by ourselves. The changes of free energy and entropy of every  
coordination reaction were obtained. The influences of lanthanide cations(III) on the coordination reactions were  
discussed. Comparisons were also made on the thermodynamic properties for coordination reaction of lanthanum  
perchlorate with dibenzo-18-crown-6 and with other crowns in anhydrous acetonitrile, respectively.

**Key words** [COORDINATION REACTION](#) [ACETONITRILE](#) [DIBENZO COMPOUNDS](#) [PERCHLORATE](#)  
[THERMODYNAMIC PROPERTIES](#) [CROWN ETHER](#) [RARE EARTH](#)

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