

二维网状冠醚配合物—苯并15—冠—5、二苯并18—冠—6与Na<sub>2</sub>[Pt(SCN)<sub>6</sub>]配合物的合成与结构

朱德中,王彤,宋兴民,窦建民,李大成,王大奇,武梅梅,高玉芹

聊城师范学院化学系,聊城(252000);青岛大学师范学院化学系,青岛(266071)

收稿日期 修回日期 网络版发布日期 接受日期

**摘要** 合成了苯并15-冠-5、二苯并18-冠-6与Na<sub>2</sub>[Pt(SCN)<sub>6</sub>]的配合物: [Na(B15-C-5)]<sub>2</sub>[Pt(SCN)<sub>6</sub>] (1), [Na(DB18-C-6)]<sub>2</sub>[Pt(SCN)<sub>6</sub>] (2), 并通过元素分析、红外光谱、单晶X射线衍射进行了表征。1为单斜晶系, 空间群P2<sub>1</sub>/c, a = 1.0974(5) nm, b = 1.5187(7) nm, c = 1.3632(6) nm, β = 96.407(7)°, V = 2.2568(18) nm<sup>3</sup>, Z = 2, D<sub>(calcd)</sub> = 1.746 g/cm<sup>3</sup>, F(000) = 1184, R<sub>1</sub> = 0.0357, wR<sub>2</sub> = 0.0868。2为三斜晶系, 空间群 P1-bar, a = 1.2500(3) nm, b = 1.2825(3) nm, c = 1.9342(4) nm, α = 106.82(3)°, β = 102.51(3)°, γ = 103.04(3)°, V = 2.7562 nm<sup>3</sup>, Z = 2, D<sub>(calcd)</sub> = 1.579 g/cm<sup>3</sup>, F(000) = 1316, R<sub>1</sub> = 0.0364, wR<sub>2</sub> = 0.0771。配合物分别由两个[Na(B15-C-5)]<sup>+</sup>, [Na(DB18-C-6)]<sup>+</sup>配阳离子和一个[Pt(SCN)<sub>6</sub>]<sup>2-</sup>配阴离子组成。配阳离子和配阴离子通过Na-N键形成二维网状结构。

**关键词** [冠式化合物](#) [铂络合物](#) [网状结构](#) [元素分析](#) [红外分光光度法](#)

分类号 [0611.662](#)

## Crown Ether Complexes with a Two-dimensional Network-Synthesis and Crystal Structure of B15-C-5, DB18-C-6 Complexes with Na<sub>2</sub>[Pt(SCN)<sub>6</sub>]

Zhu Dezhong, Wang Tong, Song Xingmin, Dou Jianmin, Li Dacheng, Wang Daqi, Wu Meimei, Gao Yuqin

Department of Chemistry, Liaocheng Teachers' University, Liaocheng (252000); Department of Chemistry, Qingdao Teachers' College, Qingdao University, Qingdao(266071)

**Abstract** The novel benzo-15-crown-5 (B15-C-5), dibenzo-18-crown-6 (DB18-C-6) complexes: [Na(B15-C-5)]<sub>2</sub>[Pt(SCN)<sub>6</sub>] (1) and [Na(DB18-C-6)]<sub>2</sub>[Pt(SCN)<sub>6</sub>] (2) have been synthesized and characterized by elemental analysis, IR spectroscopy and X-ray diffraction analysis. Complex 1 belongs to monoclinic, space group P2<sub>1</sub>/c with cell dimensions: a = 1.0974(5) nm, b = 1.5187(7) nm, c = 1.3632(6) nm, β = 96.407(7)°, V = 2.2568(18) nm<sup>3</sup>, Z = 2, D<sub>(calcd)</sub> = 1.746 g/cm<sup>3</sup>, F(000) = 1184, R<sub>1</sub> = 0.0357, wR<sub>2</sub> = 0.0868. Complex 2 is in triclinic crystal system, space group P1-bar with cell dimensions: a = 1.2500(3) nm, b = 1.2825(3) nm, c = 1.9342(4) nm, α = 106.82(3)°, β = 102.51(3)°, γ = 103.04(3)°, V = 2.7562 nm<sup>3</sup>, Z = 2, D<sub>(calcd)</sub> = 1.579 g/cm<sup>3</sup>, F(000) = 1316, R<sub>1</sub> = 0.0364, wR<sub>2</sub> = 0.0771. Each complex shows a two-dimensional network structure of [Na(B15-C-5)]<sup>+</sup> or [Na(DB18-C-6)]<sup>+</sup> cations and [Pt(SCN)<sub>6</sub>]<sup>2-</sup> anions bridged by Na-N interactions between adjacent [Na(B15-C-5)]<sup>+</sup> or [Na(DB18-C-6)]<sup>+</sup> and [Pt(SCN)<sub>6</sub>]<sup>2-</sup> units.

**Key words** [CROWN ETHER COMPOUNDS](#) [PLATINUM COMPLEX](#) [RETICULAR FORMATION](#) [ELEMENTAL ANALYSIS](#) [IR](#)

DOI:

通讯作者

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(0KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“冠式化合物”的相关文章](#)

▶ 本文作者相关文章

- [朱德中](#)
- [王彤](#)
- [宋兴民](#)
- [窦建民](#)
- [李大成](#)
- [王大奇](#)
- [武梅梅](#)
- [高玉芹](#)