

Full Papers

低浓度CTAB对血红蛋白与阿昔洛韦间相互作用与性质的影响

刘天晴*, 郭荣

¹南京大学化学化工学院, 江苏, 200093

²扬州大学化学化工学院, 江苏, 200093

收稿日期 2005-8-22 修回日期 2006-1-11 网络版发布日期 接受日期

摘要 通过紫外、荧光、动电位、电导率和负染-电镜等方法, 研究了在低CTAB浓度下的血红蛋白(Hb)/阿昔洛韦/CTAB体系中, CTAB对Hb性质的影响。随着CTAB浓度增加, Hb的紫外吸收强度(276nm)、荧光强度、动电位和体系的电导率都增加, Hb容易被氧化为氧合血红蛋白和高铁血色原。在Hb/acyclovir/CTAB体系中, CTAB的加入均能使得Hb的紫外、荧光、形貌和体系电导率都有向原有性质恢复的趋势, 但其动电位不能得到恢复。Hb-阿昔洛韦的复合物的吸收峰消失, 由阿昔洛韦引起的Hb的紧密结构得到重新折叠。当CTAB浓度大于 $5 \cdot 10^{-5}$

mol/L时, 536和576nm处的吸收峰又出现, Hb的结构又变得松散。

关键词 [血红蛋白, 十六烷基三甲基溴化铵, 阿昔洛韦, 特性, 作用](#)

分类号

Influence of Low Cetyltrimethylammonium Bromide Concentration on the Interactions and Properties of Hemoglobin with Acyclovir

LIU Tian-Qing¹, GUO Rong*,²

¹ School of Chemistry and Chemical Engineering, Nanjing University, Jiangsu 210093, China

² School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou, Jiangsu 250002, China

Abstract The effects of cetyltrimethylammonium bromide (CTAB) on the properties of hemoglobin (Hb) at low CTAB concentration were studied in Hb/acyclovir/CTAB system by the methods of UV-Vis spectrum, fluorescence, zeta potential, conductivity and negative-staining transmission electron microscope (TEM). With the increase of CTAB concentration, the UV peak intensity at 276 nm, the intrinsic fluorescence, the zeta potential of Hb and the system conductivity were all enhanced. Hb was easily oxidized to oxyHb and hemichrome. In Hb/acyclovir/CTAB system, CTAB made the UV-Vis spectrum, fluorescence, conductivity and conformation of Hb tend to be returned to those of the original Hb but the zeta potential not to do so. The UV absorption peak of Hb-acyclovir complex disappeared, and the tight structure of Hb aroused by acyclovir was refolded. When CTAB concentration was higher than 5×10^{-5} mol/L, the two absorption peaks at 536 and 576 nm appeared again, and the Hb structure became looser again.

Key words [hemoglobin](#) [cetyltrimethylammonium bromide](#) [acyclovir](#) [property](#) [interaction](#)

DOI:

通讯作者 刘天晴 guorong@yzu.edu.cn

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“血红蛋白, 十六烷基三甲基溴化铵, 阿昔洛韦, 特性, 作用” 的相关文章](#)

▶ 本文作者相关文章

· [刘天晴](#)