

研究论文

## 磺化双酞菁钴自组装膜结构的表面增强拉曼光谱

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**摘要** 采用自组装的方法构建了双核磺化酞菁钴轴向配位有序排列的膜层结构. 结合双核磺化酞菁钴分子体系自身所具有的性质及其和桥联分子四巯基吡啶之间相互作用的信息, 对其自组装膜的表面增强拉曼光谱进行了分析, 探讨了其自组装行为, 合理地解释了本自组装体系的膜层结构. 研究表明, 双核磺化酞菁钴分子(Bi-CoPc)在这种自组装膜中是以与基底平面存在一定夹角的倾斜的方式排列的.

**关键词** [磺化双酞菁钴](#) [表面增强拉曼光谱](#) [自组装](#)

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## Study of Self-assembled Membrane Structure of Binuclear Cobalt Phthalocyaninehexasulfonate by SERS

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**Abstract** We selected a Bi-CoPc(binuclear cobalt phthalocyaninehexasulfonate) and 4MPY(4-mercaptopyridine) as the building units. The ordered self-assembly membrane(SAM) of Bi-CoPc was constructed with 4MPY as an axial ligand link *via* self-assembly method. The structure and orientation of the SAMs were characterized by UV-Vis spectrum, Raman spectrum and SERS spectrum. Through studying the change of SERS spectrum of SAMs, self-assembly mechanism is discussed and the structure of self-assembled membrane is supposed rationally. The results reveal that 4MPY is assembled onto the silver surface, and ligated to Co *via* 4-position nitrogen along its axial direction. In the SAMs, the Bi-CoPc molecules are arranged slantwise to the substrate of the self-assembled membrane.

**Key words** [Binuclear cobalt phthalocyaninehexasulfonate](#) [SERS](#) [Self-assembly](#)

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