

## 论文

### 卟啉-脂质体化合物P-GlyL的紫外可见及荧光光谱性质研究

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摘要:

以溴代肽脂质BrC5Gly2C16与5,10,15-三苯基-20-对羟基苯基卟啉(HPTPP)为原料,合成一种可用作新型分子器件的卟啉-脂质体化合物P-GlyL。采用元素分析、紫外可见光谱、红外光谱以及核磁共振等进行表征。并对该化合物在不同浓度的金属离子Zn<sup>2+</sup>溶液中的紫外可见光谱和荧光光谱进行了研究。结果表明,当加入Zn<sup>2+</sup>之后,形成的金属卟啉化合物荧光强度在650.0nm处下降,而在437.0nm和595.8nm处产生新的荧光发射峰,且荧光强度随着Zn<sup>2+</sup>浓度增加而增强,而同时349.0nm和698.5nm处的发射峰发生了0.5nm的红移且荧光强度增强。

关键词: 卟啉-脂质体化合物 荧光光谱 分子器件

### Study of UV-vis and fluorescence spectra properties of the porphyrin-liposome compound P-GlyL

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Abstract:

Using the bromopeptide BrC5Gly2C16 and 5,10,15-triphenyl-20-polyhydroxyphenylporphyrin(HPTPP) as the basic raw materials, the porphyrin-liposome compound P-GlyL was synthesized and characterized by elemental analysis, UV-vis spectra, IR spectra and <sup>1</sup>H NMR spectra, which is available for a novel molecular device. The UV-vis spectra and fluorescence spectra of this compound in the Zn<sup>2+</sup> solution with a variable concentration was studied. The results show that the emission peak at 650.0nm decreases, and two new emission peaks at 438nm and 595nm appear when the Zn<sup>2+</sup> solution is added. The fluorescence intensity is enhanced with an increase of metal ion concentration, while the peaks at 349.0nm and 698.5nm have a small red-shift of 0.5nm with their intensities increasing.

Keywords: porphyrin-liposome compound the fluorescence spectra molecular device

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