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## 论文

### 蚕沙叶绿素锌配合物对DNA的光断裂作用

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摘要:

利用从蚕沙中提取的叶绿素(CHL)制得了锌叶绿素Z(n-CHL)配合物. 采用紫外-可见光谱、CD光谱和黏度法研究了Zn-CHL与小牛胸腺DNA(ct-DNA)的相互作用, 并采用琼脂糖凝胶电泳研究了光照条件下Zn-CHL对pBR322 DNA的切割能力. 结果表明, Zn-CHL与ct-DNA的作用方式属于外部结合模式, 其结合常数为  $2.32 \times 10^5$  L/mol, Zn-CHL在可见光照射下具有切割DNA的能力.

关键词: 蚕沙; 叶绿素; DNA; 光断裂

### Effect of Zn-Chlorophyll Prepared from Silkworm Faeces on DNA Photocleavage

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Abstract:

Zinc chlorophyll(Zn-CHL) complex was prepared using chlorophyll extracted from silkworm faeces. Relative viscosity, UV-Visible and CD spectra were used to study the interaction between Zn-CHL and ct-DNA. Agarose gel electrophoresis was also carried out to investigate the photocleavage ability of Zn-CHL to pBR 322 DNA. The results suggested that the binding mode of Zn-CHL and ct-DNA was outside binding, the binding constant was  $2.32 \times 10^5$  L/mol. Agarose gel electrophoresis picture showed that Zn-CHL could induce DNA cleavage upon irradiation.

Keywords: Chlorophyll; Silkworm faeces; DNA; Photocleavage

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