

研究快报

## 锰(III)Corrole配合物催化DNA氧化断裂

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摘要 报道了这类单羟基Corrole锰(III)配合物对DNA的催化氧化断裂作用。

关键词 [锰](#) [Corrole](#) [DNA](#) [氧化断裂](#)

分类号 [O611.3](#)

## Oxidative DNA Cleavage Catalyzed by Mn(III) Corroles

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**Abstract** Several Mn(III) 10-(hydroxyphenyl)-5,15-bis(pentafluoro-phenyl)corroles with the hydroxyl at *ortho*-, *meta*- and *para*-position of 10-phenyl group were used as the catalysts in the oxidative cleavage of plasmid DNA in the presence of H<sub>2</sub>O<sub>2</sub>. The catalytic system was composed of 10 μL 0.5 mg/mL pC DNA 6 in TE buffer solution (pH=8.0, 4.0×10<sup>-2</sup> mol/L Tris, 1.0×10<sup>-3</sup> mol/L EDTA), 10 μL 1.0×10<sup>-5</sup> mol/L Mn(III) corrole in DMSO and 10 μL 0.3% H<sub>2</sub>O<sub>2</sub>. After 8 h incubation at room temperature, significant oxidative DNA damage could be observed with the *ortho*-hydroxyl Mn(III) corrole showing a better activity as detected by agarose-gel electrophoresis. Plasmid DNA was completely damaged after 12 h incubation. These observations show Mn(III) corrole can be used as an artificial model of nuclease.

**Key words** [Manganese](#) [Corrole](#) [DNA](#) [Oxidative cleavage](#)

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