

عنوان مقاله:

Binding Properties of Ruthenium-complexes to DNA Nanostructures

محل انتشار:

دومین همایش ملی فناوری نانو از تئوری تا کاربرد (سال: 1392)

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خلاصه مقاله:

Absorption and emission spectroscopy as well as time-resolved luminescencespectroscopy have been used to investigate of the Δ enantiomer of $[\text{Ru}(\text{phen})_2 \text{DPPZ CH}_3]\text{P}^{2+}$ with different DNA nanostructures. The pure enantiomers, which were difficult to separate by traditional resolving methods, were synthesized via a chiral precursor. Changes in luminescence, isotropic absorption, emission and excited state lifetimes upon binding provide detailed information about the DNA binding of the enantiomers. The maximum luminescence intensity was reached at a stoichiometry of one Ru-complex molecule per 2 basepairs. The mixture of the Ru-complex and single stranded DNA produced the light switch effect when the oligonucleotide was longer than six bases, also the intensity of Hexagonal DNA was always a little higher than linear form.

کلمات کلیدی:

Ruthenium complexes, DNA nanostructures, Absorption, Emission, Light switch effect

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