

## عنوان مقاله:

The magnetic  $\text{Co}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$  nanostructure interaction with DNA molecule study by multiple spectroscopies

## محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین‌المللی زیست‌شناسی ایران (سال: ۱۳۹۷)

تعداد صفحات اصل مقاله: ۱

## نویسندگان:

Samaneh Montazery - Department of Biology, Science and Research Branch, Islamic Azad University, Tehran, Iran

Azadeh Hekmat - Department of Biology, Science and Research Branch, Islamic Azad University, Tehran, Iran

Adeleh Divsalar - Department of Cell and Molecular Biology, Faculty of Biological Sciences, Kharazmi University, Tehran, Iran

Alireza Iranbakhsh - Department of Biology, Science and Research Branch, Islamic Azad University, Tehran, Iran

## خلاصه مقاله:

Over the past few years, magnetic nanoparticles (NPs) have become more and more significant for applications in biomedicine and biotechnology. Cobalt ferrites NPs are appropriate for the isolation and purification of genomic DNA and particularly in hyperthermia treatment. In this research, we have studied the interaction between synthesized  $\text{Co}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$  nanostructure and DNA molecule using UV-Visible spectroscopy, Fluorescence spectroscopy and Fourier-transform infrared spectroscopy (FTIR) at  $37^\circ\text{C}$ . The UV-Visible spectroscopy results suggested that after adding different concentrations of the  $\text{Co}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$  nanostructure to the DNA solution, the DNA structure changed. Furthermore, the fluorescence studies revealed the strong interaction between DNA and  $\text{Co}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$  nanostructure occurred. The FTIR studies displayed the variations in bending and stretching bonds of functional groups of DNA due to the interaction with  $\text{Co}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$ . The results obtaining from this present study probably provide useful information to design more efficiency magnetic anti-cancer drugs in the future.

## کلمات کلیدی:

DNA, Cobalt-Zinc Ferrite Nanostructure, Spectroscopy, Magnetic nanostructure

## لینک ثابت مقاله در پایگاه سیویلیکا:

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