بسمه تعالی

**فرم چکیده سخنرانی ژورنال کلاب دانشجویان دکترا ورودی**

دانشکده بهداشت – گروه مهندسی بهداشت محیط

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| **عنوان مقاله :****Aptamer-based fluorescent detection of ochratoxin A by quenching of gold nanoparticles** |
| **چکیده :** A simple, rapid, low cost and highly sensitive method for the detection of ochratoxin A (OTA) was developed based on the principle that dispersed AuNPs show a better fluorescence quenching effect than aggregated AuNPs. In the absence of OTA, the aptamer is adsorbed onto the surface of AuNPs, which helps to enhance the stability of AuNPs against salt-induced aggregation, and also enhances the fluorescence quenching of the fluorescein-labeled aptamer. With the addition of OTA, the conformation of the aptamer changed, which induced aggregation of AuNPs in the presence of high-salt conditions. The fluorescence intensity was clearly recovered. The assay showed a linear response toward OTA concentration in the range of 25 nM to 300 nM with a correlation coefficient of 0.9957. The limit of detection for OTA was experimentally determined to be 22.7 nM. This method has the advantages of simple operation, low-cost and high sensitivity compared to conventional methods and can be applied to the detection of real samples. |