

عنوان مقاله:

Polypyrrole-Graphene Quantum dots Nanocomposite Layer for Detection of Uric Acid Using Plasmonic Sensor

محل انتشار:

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خلاصه مقاله:

A polypyrrole-graphene quantum dots nanocomposite layer was prepared on the surface of the gold layer for detection of the uric acid using the surface plasmon resonance technique. The X-ray diffraction spectrum and the field emission scanning electron microscopy image for polypyrrole-graphene quantum dots layer confirmed the graphene quantum dots scattered on the surface of the polymer and the nanocomposite layer formed on the surface of thin gold layer in the thickness of ۱۳.۳ nm. The minimum concentration of uric acid that was detected by the sensing layer was about ۱ ppm and the affinity constant of polypyrrole-graphene quantum dots for detection of uric acid was larger than the affinity constant for detection of ascorbic acid and glucose. The response of the polypyrrole-graphene quantum dots is larger than the response of polypyrrole for the detection of uric acid.

کلمات کلیدی:

Surface plasmon resonance, polypyrrole-graphene quantum dots, Uric acid, glucose, Ascorbic acid

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