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Patent Search

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Abstract:

The present invention relates to a fluorescent nano-sensor of 4,4'-diaminodiphenyl sulfone coated silver nanoparticles. The present invention also relates to a process preparation of 4,4'-diaminodiphenyl sulfone coated silver nanoparticles. The chemical sensor is constructed by adding silver coated nanoparticles of Phyllanthus amarus extract and ethanolic solution of 4,4'-diaminodiphenyl sulfone. The chemical sensor can be used to detect the presence or concentration of Hg(II) ions in a sample. The also includes selective and sensitive determination of the presence of Hg(II) ions in the sample.

Complete Specification**Description: Technical Field of the Invention**

The present invention relates to a fluorescent nano-sensor. The present invention also relates to an improved process for the preparation of fluorescent nano-sensor nano-sensor can be used to detect Hg(II) ions in a sample. The nano-sensor of present invention can selectively and sensitively determine presence of Hg(II) ions in t sample.

Background of the Invention

Mercury is widely used in many areas for the preparation of several measuring instruments like thermometer, barometer etc. Heavy metal toxicity of mercury is ma caused by the industrial workers inhaling mercury while working in manufacturing places. Poisoning from exposure to heavy metals such as mercury leads to most i serious threat for human. Sensitive and selective detection of heavy metals from environment is a highly needed objective (Ye, B. J., Kim, B. G., Jeon, M. J., Kim, S. Y., k C., Jang, T. W., Chae, H. J., Choi, W. J., Ha, M. N., & Hong, Y. S. (2016). Evaluation of mercury exposure level, clinical diagnosis and treatment for mercury intoxication. A occupational and environmental medicine, 28, 5). Nano-sensors based on green plants are gaining more attention for detecting heavy metal ions. Fluorescent ion pr are emerging for the metal ion detection in biological samples. Low-cost production of chemical sensors which can detect several analytes with high stability and ser are desirable. There is a need for easily available chemical sensors for the selective and sensitive detection of mercury ions.

Objects of the Invention

The main object of the present invention is to provide a nano-sensor of 4,4'-diaminodiphenyl sulfone coated silver nanoparticles.

Another object of the invention is to provide a fluorescent nano-sensor of 4,4'-diaminodiphenyl sulfone coated silver nanoparticles for the detection of Hg(II) ions.

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