

## **Study of EDC/NHS immobilization for plumbous detection using surface plasmon resonance**

### **ABSTRACT**

The presence of plumbous ( $Pb^{2+}$ ) in Irrigation water is harmful for the environment as well as human health. Herein, a simple yet effective sensor for  $Pb^{2+}$  detection is presented utilizing a surface plasmon resonance technique. The proposed sensor consists of a combination of 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride (EDC) and N-hydroxysuccinimide (NHS) were attached to a gold layer offers a new option for heavy metal detection. The EDC/NHS works as a sensing layer that able to detect  $Pb^{2+}$  down to 15 ppm that matches with the United States Environment Protection Agency.

**Keyword:** Heavy metal; Plumbous detection; Surface plasmon