Measurement of copper nanoparticle concentration using surface plasmon resonance

ABSTRACT

In this work, the concentration of copper nanoparticles in virgin coconut oil were measured using surface plasmon resonance technique, and the gold layer was modified by using Polypyrrole Multi-Walled Carbon Nanotube composite layer. The concentration of nanoparticles and angle of resonance shifted from 0.066 mg/L to 0.71 mg/L and from 64.779° to 64.96°, respectively, and the sensitivity of sensor is about 0.01 mg/L.

Keyword: Copper nanoparticle; Multi-walled carbon nanotube; Surface plasmon resonance