

DETECTION OF DYE MOLECULES IN SOLUTION USING SURFACE PLASMON RESONANCE TECHNIQUE

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ABSTRACT

Surface plasmon resonance technique has been utilized as a sensitive optical sensor for detection of dye molecule in water. Three dye solutions were chosen for this study, such as methylene blue, rhodamine B and rhodamine 6G. All samples were prepared by dissolving dye powder in distilled water and the solution was diluted several times to produce sample solutions in the range of 0.001 to 0.01 mol/L. The shift of SPR angle ($\Delta\theta_{spr}$) was monitored and characterized as sensor sensitivity and responsivity. The kinetic behaviour of the dye molecules was also discussed.

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