

Design and synthesis of fluorescent dye for measuring ethanol/iso-propanol content in the alcohol based sanitizing liquids

A new dye has been synthesized indigenously. New synthetic methodology has been developed to tune its colour, fluorescence and solubility in different polar solvents. The dye is colourless and non-fluorescent in water, but after addition of ethanol/isopropanol, it develops green colour and becomes bright red fluorescent under UV irradiation which is easily detectable by spectrophotometric/fluorimetric methods. Interestingly, the colour change is easily visible by naked eyes (Figure A). Importantly, the sensor is applicable for 0 to 100% (v/v) of ethanol/isopropanol in the mixtures with the response time less than few seconds. In conclusion, A new sensor has been developed indigenously to measure ethanol and isopropanol in alcohol-water mixtures including hand sanitizers.

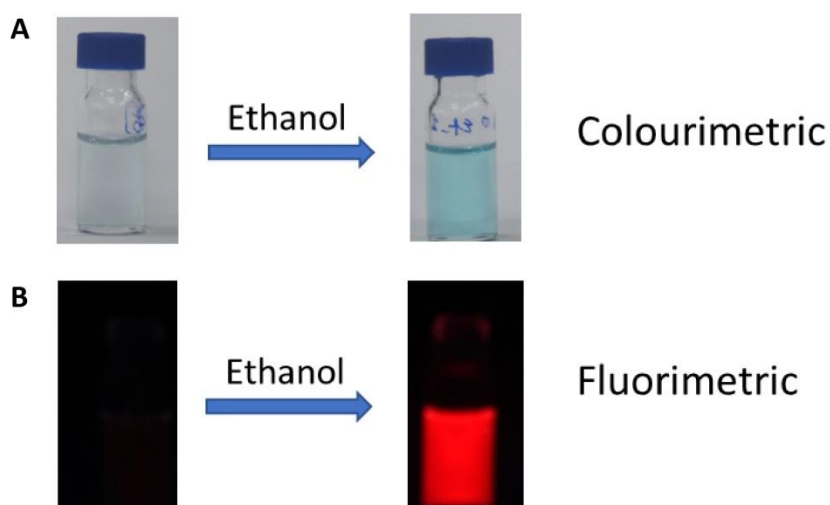


Figure (A) Visual and spectrophotometric detection of ethanol **(B)** Visual and spectrofluorometric detection of ethanol.