

UNIVERSITI TEKNOLOGI MARA

**COMBINED EFFECT OF CO-SOLVENT AND
SURFACTANT, UPON THE SOLUBILITY OF
NAPROXEN: VOLUMETRIC AND ACOUSTIC
STUDIES**

NOOR ADILAH MD YUSOFF

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ABSTRACT

The present study envisaged studying the combined effect of co-solvent and surfactant and the resultant solubility enhancement of drug Naproxen by volumetric and acoustical studies. Highest solubilization was achieved in the mixed solvent systems containing 0.8%w/v of sodium dodecyl sulfate and 8% of ethanol. The densities and the ultrasonic sound velocity data obtained are duly treated so to find out the thermophysical parameters. The solubility data (presented elsewhere) are well correlated with the findings of the thermophysical parameters related to volumetric and acoustic studies. The most favourable environment as per the volumetric and acoustical analysis being characterized by a strong solute solvent interaction, open packing, less electrostriction, increased isentropic compressibility and decreased internal pressure.