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Solution Thermodynamics of 6-Methylcoumarin in Aqueous Media at Several pH Values

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***SUMMARY*. Based on van't Hoff and Gibbs equations, thermodynamic functions Gibbs energy, enthalpy, and entropy of solution and mixing of 6-methylcoumarin in water at pH 1.2, 6.8, and 7.4, were evaluated from solubility values determined at five temperatures from 293.15 to 313.15 K. The solubility at all pH values was almost the same demonstrating a slight effect of pH on this physicochemical property. All the thermodynamic quantities of solution were positive indicating endothermic and entropy-driving dissolution processes at all pH values studied. The results were discussed in terms of solvent-solute and solvent-solvent interactions, mainly hydrophobic hydration around non-polar groups of this drug.**

KEY WORDS: Aqueous solubility, 6-methylcoumarin, pH, Solution thermodynamics.

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