

Penetration enhancer accelerated solubilization of curcumin by poly(vinylpyrrolidone)

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Curcumin (CUR), a well-known Indian cooking ingredient is now an established pharmaceutical agent. The medicinal qualities of CUR vary from being a simple anti-inflammatory agent to anti-cancer and anti-HIV agent. Recently, CUR is also tried as a photosensitizer in photodynamic therapy for the treatment of cancer. For the effective administration of a PS molecule, transdermal route of drug administration has profound advantage and to have a better penetration of the drug molecule, it is possible to use a penetration enhancer. CUR is fluorescent in nature and owing to its hydrophobicity, dissolution studies with various drug delivery systems are carried out using fluorescence spectroscopic techniques. The solubilization of CUR is achieved by using poly(vinylpyrrolidone) (PVP) as the drug delivery media. To accelerate the solubilization and transdermal penetration, myristic acid (MA), a fatty acid is used as a penetration enhancer. The pre-formulation studies of ternary system of CUR-PVP-MA show that it is a feasible system.

Keywords: Curcumin, poly(vinylpyrrolidone), myristic acid, penetration enhancer.
