physicochemical aspects of the interactions between the anticancer drug mitoxantrone and different surfactants. Mitoxantrone-micelle binding constants, partitions coefficient of the drug between aqueous and micellar phases and the corresponding Gibbs free energy for the above processes, and the probable location of drug molecules in the micelles are discussed.

Gala, U. and H. Chauhan (2015). "Principles and applications of Raman spectroscopy in pharmaceutical drug discovery and development." *Expert Opin Drug Discov* 10(2):187–206.

INTRODUCTION: In recent years, Raman spectroscopy has become increasingly important as an analytical technique in various scientific areas of research and development. This is partly due to the technological advancements in Raman instrumentation and partly due to detailed fingerprinting that can be derived from Raman spectra. Its versatility of applications, rapidness of collection and easy analysis have made Raman spectroscopy an attractive analytical tool. AREAS COVERED: The following review describes Raman spectroscopy and its application within the pharmaceutical industry. The authors explain the theory of Raman scattering and its variations in Raman spectroscopy. The authors also highlight how Raman spectra are interpreted, providing examples. EXPERT OPINION: Raman spectroscopy has a number of potential applications within drug discovery and development. It can be used to estimate the molecular activity of drugs and to establish a drug's physicochemical properties such as its partition coefficient. It can also be used in compatibility studies during the drug formulation process. Raman spectroscopy's immense potential should be further investigated in future.

Gurram, A. K. et al. (2015). "Role of components in the formation of self-microemulsifying drug delivery systems." *Indian J Pharm Sci* 77(3):249–257.

Pharmaceutical research is focused in designing novel drug delivery systems to improve the bioavailability of poorly water-soluble drugs. Self-microemulsifying drug delivery systems, one among the lipid-based dosage forms were proven to be promising in improving the oral bioavailability of such drugs by enhancing solubility, permeability and avoiding first-pass metabolism via enhanced lymphatic transport. Further, they have been successful in avoiding both inter and intra individual variations as well as the dose disproportionality. Aqueous insoluble drugs, in general, show greater solubility in lipid-based excipients, and hence they are formulated as lipid-based drug delivery systems. The extent of solubility of a hydrophobic drug in lipid excipients, i.e., oil, surfactant and cosurfactant (components of self-microemulsifying drug delivery systems) greatly affects the drug loading and in producing stable self-microemulsifying drug delivery systems. The present review highlighted the influence of physicochemical factors and structural features of the hydrophobic drug on its solubility in lipid excipients and an attempt was made to explore the role of each component of self-microemulsifying drug delivery systems in the formation of stable microemulsion upon dilution.

Heger, M. et al. (2014). "The molecular basis for the pharmacokinetics and pharmacodynamics of curcumin and its metabolites in relation to cancer." *Pharmacol Rev* 66(1):222–307.

This review addresses the oncopharmacological properties of curcumin at the molecular level. First, the interactions between curcumin and its molecular targets