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Nanoemulsions as candidate vehicles for natural phenolic compound curcumin

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Curcumin is a very well-known natural polyphenolic compound, prevalent as the major ingredient of the familiar spice turmeric. Numerous studies have established its interesting immunomodulatory attributes, ranging from those of anticancer, antioxidant, antidiabetic, anti-inflammatory and several others. However, the most crucial hurdle has been the poor bioavailability of this bioactive compound, which is because of its poor aqueous solubility. Realizing this, we prepared the nanoemulsions of cottonseed oil with cationic, anionic and nonionic surfactants as potential carriers of curcumin with an aim to augment its antioxidant ability. The prepared nanoemulsions were characterized via density, surface tension and viscosity measurement from (298.15 to 303.15) K. The antioxidant efficacy of curcumin loaded nanoemulsions was screened *via* DPPH free radical scavenging assay, wherein an RSA of more than 90% was observed. The reduced surface tension and increased viscosities signified efficient curcumin dispersion, enabled via characteristic thermodynamic shift.

Biography

Parth Malik is presently working for his PhD in the domain of biocompatible nanoemulsions for improving the structural efficacy of bioactive compound curcumin. He is a specialist in Nanobiotechnology and has papers is reputed *Elsevier*, *Wiley Science* and *Hindawi Journals*. He has also actively taught the subjects of Nanobiotechnology, Bioprocess Engineering and Genetic Engineering to graduate and post-graduate students.

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