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Screening factors in design of polymeric dispersed system

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For hydrophobic, instable but also natural drug, the dispersed system seems to be the perfect mean to avoid the disadvantages of the other presentations of drug. Poly (vinyl alcohol) PVA is widely used in pharmaceutical and cosmetic fields as a viscosifiant but also as a co-surfactant. However, increase in proportions may affects the physical properties of the system and then the polymer will precipitate and form a gel layer. The aim of this work is to investigate the relationship between all components of the fomrulation and to screen out the optimum of proportions needed to stabilize the system and have good macroscopic properties without precipitation of the polymer. Firstly, litterature alows us to define the critical factors such concentration of PVA that can influence the attibuts quality of the system namely transparency witch was characterised by visual method, and the thickness of the gel layer.The interaction between PVA macromolecular chain and other components was investigated by FTIR (Fourier Transform Infrared spectroscopy). From there, we start a screening plan of plakett and burman followed by determinsation of a design space with optimum formulations. Reported data showed that both concentration of surfactants presents in the dispersed system and PVA influence the thickeness of the gel layer; on the other hand, the high proportion of aqueous phase gives transparent formulation.

Biography

Kessal Fetta is a pharmacist who has completed postgraduate studies in pharmaceutical technology at Algiers University in the department of pharmacy in Algeria. She is a doctorant student in medical and pharmaceutical science. She runs the pharmaceutical technology laboratory at the faculty of Medecine of Tizi Ouzou since 2012. She directs the theoretical and practical courses in pharmaceutical technology. Its research focuses are dispersed systems, rheology, formulation, pharmaceuticals shaping and controls, process validation and design by experiments. She frames students in pharmacy and pharmaceutical chemistry whith topics of study that are moving towards the formulation by design of experiments, validation but also in the green chemistry specially valorization of the natural resources and waste.

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