



## Irbesartan Loaded Self Emulsifying Drug Delivery System: Pseudoternary Phase Diagram, Formulation, Characterization and *In Vitro* Dissolution Studies

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**SUMMARY.** A self-emulsifying drug delivery system (SEDDS) of a poorly water soluble drug, irbesartan (IRB), was designed. The aim was to improve the solubility as well as dissolution rates of IRB. Solubility of IRB in different vehicles were determined and a pseudoternary phase diagram was constructed as preliminary studies to formulate SEDDS. From the pseudoternary plot it was observed that the microemulsion existence area increased as the surfactant-cosurfactant ratio (Smix) increased and increasing the surfactant ratio, loss of flowability was observed. Smix of 3:1 and 4:1 were selected for formulating SEDDS. After formulation emulsification, dispersibility test and thermodynamic stability studies were performed. From dissolution results, it was observed that increasing oil-surfactant ratio, the rate of dissolution of IRB was decreased and the dissolution rate was increased with the increasing the Smix ratio. Dispersibility test showed that most of the formulations falls within the grade B. Least emulsification time was found for F-1 and all the formulations were found to be thermodynamically stable with slightly deviations.

**KEY WORDS:** Dissolution studies, Irbesartan, Pseudoternary phase diagram, SEDDS.

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