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(54) Title of the invention : OPTIMIZATION AND CHARACTERIZATION OF SELF  
NANO EMULSIFYING DRUG DELIVERY SYSTEM LOADED WITH 18- $\beta$   
GLYCERRHETINIC ACID

<p>(51) International classification :A61K0009107000, A61K0009480000, A61K0047140000, B01F0013000000, A61K0009510000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : <b>1)Ms. Heena Farooqui</b> Address of Applicant :Assistant Professor, School of Pharmaceutical Sciences, Faculty of Pharmacy, IFTM University, Moradabad, Uttar Pradesh-244102 ----- <b>2)Dr. Prashant Upadhyay</b> <b>3)Dr. Sukirti Upadhyay</b> <b>4)Dr. Sushil Kumar</b></p> <p>(72)Name of Inventor : <b>1)Ms. Heena Farooqui</b> Address of Applicant :Assistant Professor, School of Pharmaceutical Sciences, Faculty of Pharmacy, IFTM University, Moradabad, Uttar Pradesh-244102 ----- <b>2)Dr. Prashant Upadhyay</b> Address of Applicant :Associate Professor, School of Pharmaceutical Sciences, Faculty of Pharmacy, IFTM University, Moradabad, Uttar Pradesh-244102 ----- <b>3)Dr. Sukirti Upadhyay</b> Address of Applicant :Associate Professor, School of Pharmaceutical Sciences, Faculty of Pharmacy, IFTM University, Moradabad, Uttar Pradesh-244102 ----- <b>4)Dr. Sushil Kumar</b> Address of Applicant :Director(Professor), School of Pharmaceutical Sciences, Faculty of Pharmacy, IFTM University, Moradabad, Uttar Pradesh-244102 -----</p>
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(57) Abstract :

The present invention relates to prepare, optimize and evaluate self-nano emulsifying drug delivery system (SNEDDS) containing 18-  $\beta$  glycerrhetinic acid which enhances the dissolution profile or bioavailability. Formulations were prepared by using pseudo ternary phase diagram and Box-Behnken experimental design was used to optimize the different formulations. Optimized formulations were characterized for self-emulsifying time, globule size, zeta potential, and drug release. The mean droplet size and PDI of the optimized

formulation were found to be in a variation of 93.42 nm and 0.401 respectively. The encapsulation efficiency of optimized 18-  $\beta$  glycerrheticinic acid SNEDDS was found  $80.12 \pm 1.52\%$  , % transmittance was found  $99.34 \pm 0.134\%$  and the viscosity of all the formulations was found 0.8872 cp.

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