पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 1/2025	शुक्रवार	दिनांक: 03/01/2025
ISSUE NO. 1/2025	FRIDAY	DATE: 03/01/2025

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :12/12/2024

(21) Application No.202411098136 A
(43) Publication Date : 03/01/2025

(54) Title of the invention : FORMULATION AND EVALUATION OF ASCORBIC ACID LOADED NANOPARTICLES

(51) International classification :B82Y5/00, B82Y30/00, A61K31/375, A61K9/00, A61K47/14, A61K47/34, A61K47/12, A61K47/10
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)**Name of Applicant :**
1)Diksha
Address of Applicant :Pharmacy Academy, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 ---------- ----------
2)Rajdeep Singh
3)Prof. Navneet Verma
4)Dr. Prevesh Kumar
5)Swati Gautam
6)Alok Singh
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Diksha
Address of Applicant :Pharmacy Academy, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 ---------- ----------
2)Rajdeep Singh
Address of Applicant :School of Pharmaceutical Sciences, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 ---------- ----------
3)Prof. Navneet Verma
Address of Applicant :Pharmacy Academy, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 ---------- ----------
4)Dr. Prevesh Kumar
Address of Applicant :Pharmacy Academy, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 ---------- ----------
5)Swati Gautam
Address of Applicant :Pharmacy Academy, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 ---------- ----------
6)Alok Singh
Address of Applicant :Research Scholar, School of Pharmaceutical Sciences, IFTM University, Moradabad, Uttar Pradesh, Pin Code: 244102 ---------- ----------

(57) Abstract :
This present invention relates to the preparation and characterization of ascorbic acid-loaded nanoparticles for controlled drug delivery. The nanoparticles are formulated using a solvent evaporation method, incorporating glyceryl monostearate (GMS) and stearic acid as lipid components, and Poloxamer 188 as a surfactant. The resulting nanoparticles exhibit a particle size range of 483 to 534 nm, with high encapsulation efficiency (77.86% to 86.43%) and a negative zeta potential of approximately -24.43 mV, indicating good colloidal stability. Drug content is measured through UV-Vis spectroscopy, with values ranging from 84.69% to 98.85%. In vitro drug release studies, performed using a dialysis membrane method, reveal a controlled release profile, which can be modeled using Korsmeyer-Peppas and Higuchi models. Transmission Electron Microscopy (TEM) confirms the spherical shape and size of the nanoparticles. This formulation holds potential for enhanced stability and sustained release of ascorbic acid in therapeutic applications.

No. of Pages : 16 No. of Claims : 4