

पेटेंट कार्यालय
शासकीय जर्नल

**OFFICIAL JOURNAL
OF
THE PATENT OFFICE**

निर्गमन सं. 22/2024
ISSUE NO. 22/2024

शुक्रवार
FRIDAY

दिनांक: 31/05/2024
DATE: 31/05/2024

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(54) Title of the invention : "METHOD FOR ENCAPSULATING CLAUSENA ANISATA ESSENTIAL OIL IN BIODEGRADABLE NANOPARTICLES FOR ENHANCED STABILITY AND CONTROLLED RELEASE"

(51) International classification :A61K0009510000, A61K0009500000, A61K0047360000, A23P0010300000, A61K0008920000

(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)HOLY CROSS COLLEGE (AUTONOMOUS), NAGERCOIL
 Address of Applicant :HOLY CROSS COLLEGE (AUTONOMOUS), NAGERCOIL,Roch Nagar, Kurisady, Nagercoil , Tamil Nadu- 629004, India
 NAGERCOIL -----

Name of Applicant : NA
Address of Applicant : NA

(72)Name of Inventor :
1)Ms. M. Manya Das
 Address of Applicant :Department of Botany Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

2)Dr. S. Kala Vetha Kumari
 Address of Applicant :Assistant Professor Department of Botany Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

3)Dr. J. Celin Pappa Rani
 Address of Applicant :Assistant Professor Department of Botany Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

4)Dr. W. Vincy
 Address of Applicant :Assistant Professor Department of Botany Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

5)Dr. A. Anami Augustus Arul
 Address of Applicant :Assistant Professor Department of Botany Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

6)Dr. P. Leema Rose
 Address of Applicant :Vice-Principal Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

7)Dr. Bojaxa A. Rosy
 Address of Applicant :Assistant Professor Department of Botany Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

8)Dr. A.R. Florence
 Address of Applicant :Assistant Professor Department of Botany Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

9)Dr. J. Albino Wins
 Address of Applicant :Assistant Professor Department of Botany Holy Cross College (Autonomous), Nagercoil NAGERCOIL -----

(57) Abstract :
 The present invention relates to a method for encapsulating Clausena anisata essential oil within biodegradable nanoparticles, aiming to enhance the essential oil's stability, controlled release, and bioavailability for applications in pharmaceuticals, cosmetics, and food industries. The method involves dissolving the essential oil in ethanol, emulsifying it in an aqueous solution of sodium alginate containing Pluronic F-127, adding calcium chloride and sonicating the mixture, followed by adding a chitosan solution and stirring to stabilize the emulsion. The stabilized emulsion is then centrifuged to obtain the biodegradable nanoparticles. The resulting nanoparticles are characterized by their mean particle size, polydispersity index, and negative zeta potential, ensuring optimal performance. The encapsulated essential oil exhibits a controlled release mechanism with an initial burst followed by sustained release, significantly improving its stability and effectiveness. Additionally, the encapsulated essential oil demonstrates no significant cytotoxicity on normal cells, making it safe for use in medical and cosmetic products. This environmentally friendly and scalable process offers a novel and effective solution for broadening the applicability and efficacy of Clausena anisata essential oil in various industrial applications.

No. of Pages : 21 No. of Claims : 10