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पेटेंट कार्यालय का एक प्रकाशन  
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(54) Title of the invention : NOVEL BIOACTIVE PHYTO-SYNTHETIC FORMULATIONS AND THEIR PHARMACOLOGICAL APPLICATIONS IN DRUG DELIVERY SYSTEMS

<p>(51) International classification</p> <p>(31) Priority Document No</p> <p>(32) Priority Date</p> <p>(33) Name of priority country</p> <p>(86) International Application No Filing Date</p> <p>(87) International Publication No</p> <p>(61) Patent of Addition to Application Number Filing Date</p> <p>(62) Divisional to Application Number Filing Date</p>	<p>:A61K 9/14, A61P 35/00, A61K 9/51, A61K 9/16, A61K 31/192</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:</p> <p>:01/01/1900</p> <p>: NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p> <p>:NA</p>	<p>(71)Name of Applicant :</p> <p><b>1)Dr. Pawan Singh</b> Address of Applicant :Associate Professor, Pharmacy Academy, IFTM University, Moradabad, Uttar Pradesh, India, Pin Code- 244001 Uttar Pradesh India</p> <p>(72)Name of Inventor :</p> <p><b>1)Dr. Pawan Singh</b> <b>2)Ms. Rachana Belwal</b> <b>3)Ms. Priya Pandey</b> <b>4)Dr. Vipin Kumar Sharma</b> <b>5)Dr. Hemendra Gautam</b> <b>6)Dr. Pragya Prashant Gupta</b> <b>7)Dr. Jatin Jaiswal</b> <b>8)Dr. Gyanendra Kumar Sharma</b> <b>9)Ms. Malavika P.S</b> <b>10)Ms. Santoshi Shah</b> <b>11)Mr. Shobhit Sharma</b> <b>12)Dr. Javed Siddiqui</b></p>
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## (57) Abstract :

The present invention relates to novel bioactive phyto-synthetic formulations comprising plant-derived bioactive compounds integrated with synthetic polymeric carriers for enhanced drug delivery systems. The formulations utilize phytochemicals extracted from medicinal plants combined with biodegradable synthetic polymers to create hybrid nano-particulate systems exhibiting superior bioavailability, controlled release kinetics, and targeted therapeutic action. The invention encompasses methods of preparing these formulations through green synthesis techniques, resulting in stable colloidal dispersions with particle sizes ranging from 50 to 500 nanometers. The phyto-synthetic composites demonstrate enhanced solubility of hydrophobic drugs, improved cellular uptake, reduced toxicity, and prolonged circulation time in biological systems. The formulations find applications in treating various diseases including cancer, diabetes, inflammatory disorders, and microbial infections. The invention provides pharmaceutical compositions with improved therapeutic efficacy compared to conventional drug delivery systems while maintaining biocompatibility and environmental sustainability through the use of natural plant-based components and biodegradable synthetic materials.

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