



INTELLECTUAL PROPERTY INDIA



ORIGINAL
क्रम सं/ Serial No. : 179357



पेटेंट कार्यालय, भारत सरकार | The Patent Office, Government Of India

डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

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प्रमाणित किया जाता है कि संतान प्रति में वर्णित डिजाइन जो ELECTROACTIVE POLYMER BIOSENSOR DEVICE FOR TARGETED DRUG DELIVERY से संबंधित है, का पंजीकरण, श्रेणी 24-01 में 1 Dr.

1.Girendra Kumar Gautam 2. Dr. Ashish Dixit 3.Dr. Gajendra Kumar 4.Dr. Shoma Devi 5.Dr. Vimal Kumar Bharti 6.Dr. Rahul Arya 7.Dr. Rishabh Bhardwaj 8.Dr. Hariom Sharma 9.Mr. Rajdeep Saharawat 10.Ms. Meenal Maan के नाम में उपर्युक्त संख्या और तारीख में

कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 24-01 in respect of the application of such design to *ELECTROACTIVE POLYMER BIOSENSOR DEVICE FOR TARGETED DRUG DELIVERY* in the name of 1.Dr. Girendra Kumar Gautam 2. Dr. Ashish Dixit 3.Dr. Gajendra Kumar 4.Dr. Shoma Devi 5.Dr. Vimal Kumar Bharti 6.Dr. Rahul Arya 7.Dr. Rishabh Bhardwaj 8.Dr. Hariom Sharma 9.Mr. Rajdeep Saharawat 10.Ms. Meenal Maan.

डिजाइन अधिनियम 2000 तथा डिजाइन नियम, 2001 के अध्यधीन प्रावधानों के अनुसरण में।

In pursuance of and subject to the provisions of the Designs Act, 2000 and the
Designs Rules, 2001.



Bernard ::

प्रान्तिक पेटेंट, डिजाइन और व्यापार चिन्ह
General of Patents, Designs and Trade Marks.

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ELECTROACTIVE POLYMER BIOSENSOR DEVICE FOR TARGETED DRUG DELIVERY



Electroactive polymers have gained significant attention in biomedical applications due to their unique properties, such as flexibility, biocompatibility, and the ability to change shape or size in response to electrical stimulation. One of the emerging applications of these materials is in the development of biosensor devices for targeted drug delivery. These devices can revolutionize how drugs are administered, providing more precise, controlled, and efficient therapeutic outcomes.

Advantages of Drug Delivery Systems Using Electroactive Polymers

- **Targeted Delivery:** These devices can be designed to release drugs only at specific sites within the body, reducing systemic side effects and improving drug efficacy.
- **Controlled Release:** The release rate of the drug can be precisely controlled by adjusting the electrical stimulus, allowing for on-demand therapy.

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- **Biocompatibility:** Many of these polymers are biocompatible, making them suitable for long-term implantation.

Applications

Biosensors based on electroactive polymers are particularly useful in treating chronic diseases, such as cancer, diabetes, and cardiovascular conditions, where targeted and controlled drug delivery is crucial. For example:

- **Cancer Therapy:** These devices can deliver chemotherapeutic agents directly to tumors, minimizing damage to healthy tissues.
- **Diabetes Management:** They can deliver insulin in response to glucose levels, providing better glycemic control.