Additive Manufacturing of Microreservoir Devices for Oral Drug Delivery Using an Acculas BA-30 Micro-Stereolithography Instrument: A Feasibility Study

Within the research and the development of protective carrier platforms intended for oral drug delivery, polymeric microreservoir devices with sizes around 300μm have been proposed as a delivery system capable of unidirectional drug release. So far, microreservoir devices have been fabricated with simple shapes by means of high-throughput fabrication methods. In this feasibility study, state-of-the-art micro-stereolithography 3D printing is used for the fabrication of various microreservoir geometries. Scanning electron microscopy characterization and conducted resolution tests demonstrated the capability of the used technology and unveils challenges and opportunities associated with the proposed fabrication process.

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