

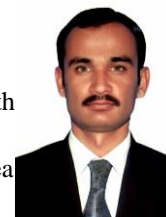


Controlled Drug Delivery Based on Hybrid Crosslinked Hydrogels.

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Abstract

Herein, we developed poly (vinyl phenol) (PVP) and carboxymethyl chitosan (CH) based electron beam crosslinked hydrogels for controlled drug delivery. Hydrogels were crosslinked at 15 kGY, 30 kGY and 45 kGY irradiation dose. Swelling analysis was performed in distilled water, buffer and ionic solutions. Swelling results revealed that 15 kGy hydrogel showed optimum swelling in all solutions whereas as the irradiation was increased networking got severe. In-vitro biodegradation test was performed for one week in phosphate buffered saline (PBS). FTIR analysis exhibited the establishment of physical interactions and confirmed the incorporation of functional groups present in the hydrogel. SEM micrographs depicted porous structure of the hydrogel, which is responsible for swelling and drug loading and release. Antibacterial test exhibited good antimicrobial characteristic against gram positive and negative bacteria. In order to analyze drug release behaviour of hydrogels, PBS (pH= 7.4), SIF (pH= 6.8), SGF (pH= 1.2) were chosen and UV-Vis spectroscopy

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was used to calculate drug release (%).

Biography:

I am Muhammad Asim Raza from Pakistan, I have done bachelors and masters in Polymer Engineering from Pakistan. Now I am doing PhD on scholarship bases in Radiation Science and Technology from University of Science and Technology/Korea Atomic Energy Research Institute, Daejeon, South Korea. I have currently completed coursework and doing research on bio-polymers and synthetic polymers. I have recently published article related to stimuli-responsive hydrogels.

Speaker Publications:

1. A genome-wide analysis in consanguineous families reveals new chromosomal loci in specific language impairment (SLI)