IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 3, Issue 2, April 2023
Impact Factor: 7.301

Synthesis Characterization and Anti Microbial Activity of Polyacrylic Acid Kaaolin Hydrogel using Different Initiator

M. Sumitha[1] and S. Jayapriya[2]
Research Scholar, Department of Chemistry[1]
Assistant Professor, Department of Chemistry[2]
Kamban College of Arts and Science for Women, Tiruvannamalai, Tamil Nadu, India

Abstract: *The swelling kinetics of a series of carboxy methyl chitosan-g-poly(acrylic acid) hydrogels pretreated under acidic buffer media has been studied and Sigmoidal swelling curves are found to be exhibited in the buffer solutions of pH 6.0–7.4 and this phenomenon may be attributed to the disruption of a cooperative physical cross-linking (i.e. the hydrogen bonding and the ionic cross-linking) on the networks, which was proved by the change of FT-IR spectra of hydrogels during swelling. The buffer pH, the pretreating pH and the composition of hydrogels have an obvious influence on the sigmoidal effect. The profile of drug release at pH 7.0 from the hydrogel which was prepared in pH 2.2 buffer containing 5-aminosalicylic acid (5-ASA) exhibitsa sigmoidal release curve, namely, an initial slow release followed by a burst release. The swelling kinetics shows the potential in the design of the colon-specific drug delivery system.*

Keywords: Sigmoidal

DOI: 10.48175/568