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(54) Title: CHITOSAN HYDROGEL DERIVATIVES AS A COATING AGENT WITH BROAD SPECTRUM OF ANTIMICROBIAL ACTIVITIES

(57) Abstract: The present invention relates to water soluble quaternized chitosan derivatives which from hydrogel matrix with broad antimicrobial properties for the protection and coating of medical device. In order to achieve hydrogel formation, quaternized chitosan can be grafted with polymerizable groups, especially photocrosslinkable groups, such as methacrylates, PEG derivatives and be converted into hydrogels through a thermal or UV polymerization process. Hydrogels are hydrated cross-linked polymeric systems that contain water in an equilibrium state forming cushion water shield. The present invention is widely used in many medical devices for example biomedical devices such as contact lenses, bio-implants. This invention describes the formation of novel hydrogels based on quaternized ammonium chitosan derivatives which has been grafted with photocrosslinkable groups, hence providing hydrogels as antimicrobial water shield coating agent.



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