(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :21/03/2024

(21) Application No.202441021559 A
(43) Publication Date : 29/03/2024

(54) Title of the invention : PHOSPHORYLATED CHITOSAN-BASED CAVITY DISINFECTION

(51) International classification :A61Q0011000000, C08L0005080000, A61C0005500000, C08B0037080000, A61C0005400000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
ABSTRACT PHOSPHORYLATED CHITOSAN-BASED CAVITY DISINFECTION This invention presents a novel cavity disinfectant composition featuring phosphorylated chitosan (p-chitosan), designed to reduce bacterial load and promote remineralization of dentin, thereby enhancing the longevity of dental restorations. Derived from chitin found in crustacean shells, chitosan undergoes phosphorylation to yield p-chitosan, amplifying its antimicrobial properties. The composition, in aqueous solution form, is topically applied within dental cavities using an applicator tip. Beyond cavity disinfection, p-chitosan exhibits versatility, potentially treating early carious lesions and serving as a root canal irrigant. The detailed embodiments encompass the synthesis process, formulation, application method, and potential extended applications, providing a comprehensive overview of this biocompatible, minimally invasive, and multifunctional dental innovation.

No. of Pages : 21 No. of Claims : 8