

UNIVERSITÀ DEGLI STUDI DI TRIESTE

CHITOSAN OLIGOSACCHARIDE-BASED HOMOGENEOUS HYDROGELS AND THEIR APPLICATIONS

Procedures for the preparation of chitosan oligosaccharide-based hydrogels to obtain homogeneous matrices and viscoelastic materials.



Brief description

The invention concerns the procedures for the preparation of chitosan oligosaccharide-based hydrogels and boric acid to obtain homogeneous hydrogels through homogenising reagents.

It also comprises the description of the uses of hydrogels in biomedical and pharmaceutical sectors, in viscosupplementation applications, as a substitute for extracellular matrices and as a drug delivery device.

Innovative aspects and applications

As is known, after the addition of boric acid, chitosan oligosaccharide derivatives form pH-neutral inhomogeneous precipitates unless an intense mechanical agitation is applied.

The inventors identified a procedure for the preparation of hydrogels that involves the use of homogenising reagents to obtain homogeneous matrices and viscoelastic materials from chitosan oligosaccharide derivatives.

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Main advantages

- Provides hydrogels and viscoelastic materials without the disadvantages connected to the presence of precipitates
- ✓ Quick
- ✓ Inexpensive
- ✓ Versatile

Potential market

Biomedical, food and cosmetic industries.

Development status

Available for the market.