

Accepted Manuscript

Title: Effect of carboxymethylation on rheological and drug release characteristics of *Terminalia catappa* gum

Authors: Radhika Sharma, Vikas Rana

PII: S0144-8617(17)30924-4

DOI: <http://dx.doi.org/doi:10.1016/j.carbpol.2017.08.047>

Reference: CARP 12654



To appear in:

Received date: 24-5-2017

Revised date: 13-7-2017

Accepted date: 9-8-2017

Please cite this article as: Sharma, Radhika., & Rana, Vikas., Effect of carboxymethylation on rheological and drug release characteristics of *Terminalia catappa* gum. *Carbohydrate Polymers* <http://dx.doi.org/10.1016/j.carbpol.2017.08.047>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Effect of carboxymethylation on rheological and drug release characteristics of *Terminalia catappa* gum

Radhika Sharma and Vikas Rana*

Pharmaceutics Division, Department of Pharmaceutical Sciences and Drug Research, Punjabi University, Patiala, India-147002

***Address for correspondence:-**

Dr. Vikas Rana, Department of Pharmaceutical sciences and drug research, Punjabi University, Patiala (India), E mail: vikas_pbi@rediffmail.com, vikas@pbi.ac.in, Phone no.: +91-9872023038

Highlights

- QbD approach for carboxymethylation of *Terminalia catappa* gum (CMTC).
- Changes in rheological properties after carboxymethylation.
- Drug release from polysaccharide gel formulation.
- Correlation of rheological changes with drug release.

Abstract

The carboxymethylation of galactomannans, arabinogalactans, arbinoxylan, etc is known to modify solubility, swelling index, rheological behaviour, powder characteristics, etc. Therefore, an attempt had been made to study the effect of carboxymethylation on *Terminalia catappa* (TC) gum. For this, modified Williamson synthesis reaction was utilized employing Quality by Design (QbD) approach. Grafting of carboxymethyl group on *Terminalia catappa* was confirmed by ATR-FTIR, ¹H NMR and DSC analyses. The rheological attributes revealed that the carboxymethylation of TC lowers the viscosity, enhance thermal stability

Download English Version:

<https://daneshyari.com/en/article/5156670>

Download Persian Version:

<https://daneshyari.com/article/5156670>

[Daneshyari.com](https://daneshyari.com)