

## Accepted Manuscript

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PII: S0144-8617(17)31262-6  
DOI: <https://doi.org/10.1016/j.carbpol.2017.10.098>  
Reference: CARP 12947

To appear in:

Received date: 29-8-2017  
Revised date: 29-10-2017  
Accepted date: 31-10-2017

Please cite this article as: Mukhopadhyay, Piyasi., Maity, Subhajit., Mandal, Sudipto., Chakraborti, Abhay Sankar., Prajapati, AK., & Kundu, P.P., Preparation, characterization and *in vivo* evaluation of pH sensitive, safe quercetin-succinylated chitosan-alginate core-shell-corona nanoparticle for diabetes treatment. *Carbohydrate Polymers* <https://doi.org/10.1016/j.carbpol.2017.10.098>

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# Preparation, characterization and *in vivo* evaluation of pH sensitive, safe quercetin-succinylated chitosan-alginate core-shell-corona nanoparticle for diabetes treatment

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## Highlights:

- Preparation of pH sensitive succinyl chitosan/alginate core-shell nanoparticles.
- Nanoparticles used diabetes treatment show 90nm size with -24mV zeta potential.
- ~95% quercetin encapsulation with self-sustained release following non-fickian trend.
- Pronounced hypoglycaemic effect and maintenance of glucose homeostasis in diabetics
- Safe, non-toxic, polymeric drug carriers for diabetes treatment

## ABSTRACT

The study aims for development of an efficient polymeric carrier for evaluating pharmaceutical potentialities in modulating the drug profile of quercetin (QUE) in anti-diabetic research. Alginate and succinyl chitosan are focused in this investigation for encapsulating quercetin into core-shell nanoparticles through ionic cross linking. The FT-IR,

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