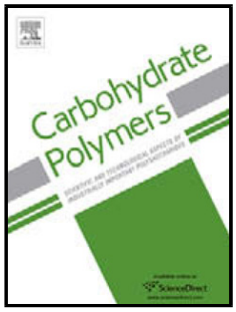

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Preparation, characterization and *in vivo* evaluation of pH sensitive, safe quercetin-succinylated chitosan-alginate core-shell-corona nanoparticle for diabetes treatment

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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,