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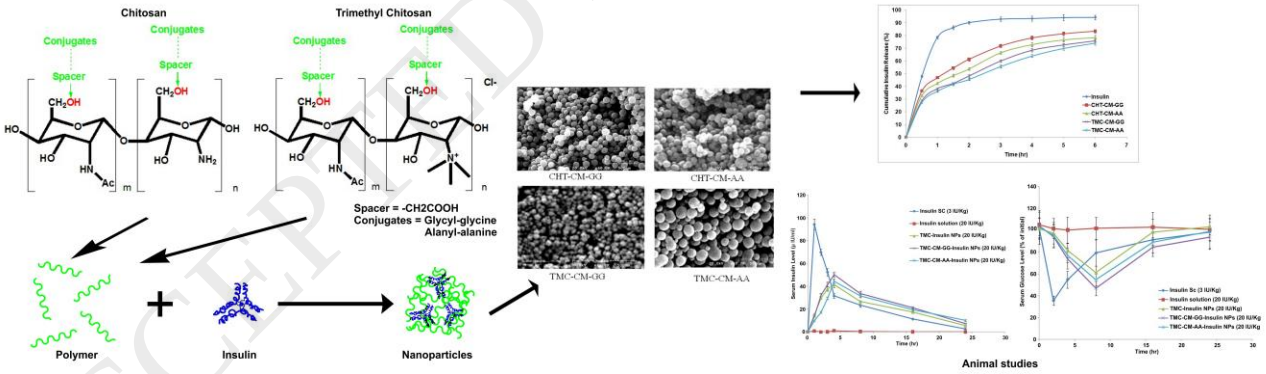
Graphical abstract



Abstract

Purpose: The aim of this research work was to explore the possibility of providing multifunctional oral insulin delivery system by conjugating several types of dipeptides on chitosan and trimethyl chitosan to be used as drug carriers.

Method: Conjugates of Glycyl-glycine and alanyl-alanine of chitosan and trimethyl chitosan (on primary alcohol group of polymer located on carbon 6) were synthesized and nanoparticles