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Design and Development of Miglitol Loaded PLGA Polymeric Naoparticles

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Abstract: In the present study, Miglitol loaded PLGA Polymeric naoparticles (MNP1-MNP10) were prepared for the controlled release of Miglitol using different concentrations of PLGA. The prepared nanoparticles also coated with Eudragit S100 for intestinal targeting of Miglitol. Miglitol loaded PLGA Polymeric naoparticles (MNP1-MNP10) Nanoparticles were characterized for various physical parameters such as particle size, zeta potential and particle size distribution and chemical parameters such as drug content, entrapment efficiency and *In vitro* drug release studies. The prepared Miglitol loaded PLGA Polymeric nanoparticles with 120 mg of PLGA have shown average particle size 200.2±0.32nm, average zeta potential of -18.4±0.43mV, average entrapment efficiency 90.46±0.81%, average drug content of 98.88±0.62 % and average i*n vitro* drug release 98.16±0.19 % at the end of 24 hrs. DSC and FTIR study concluded that no interaction occurred between the Miglitol and other polymers used in the present study.

Key words: PLGA, Eudragit S 100,Zeta potential, entrapment efficiency.

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