
Chapter 3

Plan of Study

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3.1 Synthesis of Gelatin Folate

3.2 Characterization of Gelatin Folate

Nuclear Magnetic Resonance Spectroscopic (NMR) analysis

Fourier Transform Infra Red (FTIR) analysis

Differential Scanning Calorimeters (DSC) Analysis

X-ray Diffraction (XRD) Analysis

Morphological study using SEM

3.3 HPLC analytical methods

3.4 Fabrication of Gelatin /Gelatin folate nanoparticles

One step desolvation method

Two step desolvation method

3.4.1 Optimization of variable

Selection of fabrication methods

Percentage of polymer

Degree of cross-linking

Duration of crosslinking

Volume of acetone

3.4.2 Characterization of Gelatin nanoparticles

Particle size, PDI, Zeta potential

Total drug content and Drug loading (%DL)

In vitro release

Drug release mechanism

FTIR spectral studies

Solid state characterization using DSC and XRD

Morphological characterization using SEM

3.5 Determination of Residual Solvents by GCHS**3.6 Pharmacodynamics Pharmacokinetics studies****3.6.1. Animal Study protocol****3.6.2. Pharmacodynamics through *in vivo* method**

Maximal electroshock method

3.6.3. HPLC bioanalytical method**3.6.4. Pharmacokinetics studies**