

## LIST OF ABBREVIATIONS

|                      |   |   |
|----------------------|---|---|
| AOT                  | - | Dioctyl Sulfosuccinate Sodium Salt                |
| BSA                  | - | Bovine Serum Albumin                              |
| CAR                  | - | Carvedilol  |
| CDHA                 | - | Calcium Deficient Hydroxyapatite                  |
| $\beta$ -CD          | - | $\beta$ -Cyclodextrin                             |
| $^{13}\text{C}$ -NMR | - | Carbon-13 Nuclear Magnetic Resonance Spectroscopy |
| CTAB                 | - | Cetyl Trimethyl Ammonium Bromide                  |
| ChS                  | - | Chondroitin Sulfate                               |
| DCPA                 | - | Dicalcium Phosphate Anhydrous                     |
| DCPD                 | - | Dicalcium Phosphate Dihydrate                     |
| DP                   | - | Dodecyl Phosphate                                 |
| DEA                  | - | Diethanol Amine                                   |
| 1-DHAP               | - | 1-D Hydroxyapatite                                |
| DMSO                 | - | Dimethyl Sulphoxide                               |
| DSC                  | - | Differential Scanning Calorimetric Analysis       |
| DTA                  | - | Differential Thermal Analysis                     |
| E. coli              | - | Escherichia coli                                  |
| EDAX                 | - | Energy Dispersive X-ray Analysis                  |
| EDTA                 | - | Ethylene Diamine Tetraacetic Acid                 |
| EG                   | - | Ethylene Glycol                                   |
| FT-IR                | - | Fourier Transform Infrared Spectroscopy           |
| FWHM                 | - | Full Width Half Maximum                           |
| GLY-AA               | - | Glycine-Acrylic Acid                              |
| GSP                  | - | Grape Seed Polyphenol                             |
| HAP                  | - | Hydroxyapatite                                    |
| HPLC                 | - | High Performance Liquid Chromatography            |
| $^1\text{H}$ -NMR    | - | Proton-1 Nuclear Magnetic Resonance Spectroscopy  |

|               |   |  |
|---------------|---|--|
| HTCC          | - | N-[(2-hydroxy-3-trimethylammonium)propyl]Chitosan Chloride |
| HNPs          | - | Hollow nano particles                                      |
| n-HAP         | - | Nanohydroxyapatite   |
| ICDD          | - | International Centre for Diffraction Data                  |
| LC-MS         | - | Liquid Chromatography Mass Spectrometry                    |
| Mg-HAP        | - | Magnesium Substituted Hydroxyapatite                       |
| m/z           | - | Mass to Charge Ratio                                       |
| NP5           | - | (Poly(oxyethylene)5 nonyl phenyl ether)                    |
| N12           | - | (Poly(oxyethylene)12 nonyl phenyl ether)                   |
| PEG600        | - | Poly Ethylene Glycol                                       |
| PLA           | - | Polylactide  |
| PMMA          | - | Poly(methylmethacrylate)                                   |
| PTFE          | - | Poly Tetra Fluoro Ethylene                                 |
| PVA           | - | Poly(vinyl alcohol)  |
| SBF           | - | Simulated Body Fluid                                       |
| SEM           | - | Scanning Electron Microscopy                               |
| SDS           | - | Sodium Dodecyl Sulphate                                    |
| STPP          | - | Sodium Tri Poly Phosphate                                  |
| TA            | - | Tartaric Acid  |
| $\beta$ -TCP  | - | $\beta$ -Tricalcium Phosphate                              |
| $\beta$ -TCMP | - | $\beta$ -Tricalcium Meta Phosphate                         |
| TEA           | - | Triethanol Amine   |
| TEM           | - | Transmission Electron Microscopy                           |
| TGA           | - | Thermogravimetric Analysis                                 |
| USDA          | - | United State Department of Agriculture                     |
| XRD           | - | X-ray Diffraction  |