PREFACE

Drug absorption from the gastrointestinal tract can be limited by various factors with the most common one being poor aqueous solubility and poor permeability of a drug molecule. Solubility behaviour of a drug plays a key role for its oral bioavailability. For some drugs solubility presents a challenge to the development of a suitable formulation for oral administration. Therefore solid dispersion technologies are particularly promising for improving the oral absorption and bioavailability of BCS class II drugs.

Recent advances in novel drug delivery systems aim to enhance safety and efficacy of drug molecules by formulating a convenient dosage form for administration and to achieve better patient compliance. One such approach was fast dissolving tablets which have gained acceptance and popularity in the recent time. Several pharmaceutical industries prepared fast dissolving tablets by direct compression technique by selecting suitable super disintegrants.

The research work embodied in this thesis was planned to enhance the solubility, dissolution rate and oral bioavailability of poorly soluble drugs Atorvastatin Calcium and Rosuvastatin Calcium by formulating it as solid dispersions using various techniques with PEG-6000 as a carrier and subsequent preparation of fast dissolving tablets with the prepared solid dispersions using different concentrations of super disintegrants and comparing them with that of the marketed product.