METHODOLOGY AND INSTRUMENTATION

All the reagents used in this work were obtained from commercial suppliers. All melting points are uncorrected and were obtained using open capillary tubes in Elico digital melting point apparatus. TLC checking was done on pre-coated silica gel sheets obtained from Merck. Visualization of the spots on TLC plates was achieved either by exposure to Iodine vapour or UV light. Yields have been reported throughout this thesis in percent molar based on immediate precursor of the reaction.

Infrared spectra (IR) were recorded on Perkin Elmer – 337 Infrared Spectrophotometer with Sodium chloride optics. Samples were screened in Potassium bromide (KBr) pellets and the values are expresses in cm$^{-1}$.

$^1$H NMR spectra were recorded on Bruker AMX 400MHz NMR Spectrophotometer using TMS as an internal standard and the values are expressed in δ ppm. The samples were made in DMSO-d$_6$ or CDCl$_3$. The standard abbreviations s, d, t, q, m, dd refer to singlet, doublet, triplet, quartet, multiplet and doublet of doublet respectively.

Mass spectra were recorded on API – ES Mass Spectrometer using positive mode ionization method. Elemental analysis was carried out with Perkin Elmer model 2400 series II apparatus.