• Independent numbers have been used for the compounds, schemes, figures and references etc. in the abstract and each Chapter (1–3).
• All reactions were carried out under argon atmosphere using freshly distilled solvents, unless otherwise specified. Petroleum ether used was of the 60–80 °C boiling range. Yields refer to the isolated products. Column chromatographic separations were carried out on silica gel (100–200 or 230–400 mesh) by gradient elution.
• TLC was performed on E-Merck pre-coated silica gel 60 F254 plates and the spots were rendered visible by exposing to UV light, iodine and charring or staining with ninhydrin, p-anisaldehyde or phosphomolybdic acid solutions.
• All the melting points were recorded using Buchi B-540 electro thermal melting point apparatus and are uncorrected.
• IR spectra were recorded on Shimadzu FTIR instrument using nujol or chloroform for forming films of solids while that of liquids were recorded as neat and are measured in cm$^{-1}$.
• All $^1$H NMR spectra were recorded on Bruker AV 200 MHz spectrometer using tetramethylsilane (TMS) as an internal standard in CDCl$_3$. Chemical shifts have been expressed in ppm on δ scale downfield from TMS. The abbreviations s, br s, d, t, q, quin., sep. and m refer to the singlet, broad singlet, doublet, triplet, quartet, quintet, septet and multiplet respectively.
• All $^{13}$C NMR spectra were recorded at 50 MHz with CDCl$_3$ (δ 77 ppm) or MeOH (δ 49 ppm) as the reference.
• Micro analysis was done on Carlo-Erba CHNS-O EA 1108 Elemental Analyzer.
• LCMS were recorded on Thermo Finnigan Surveyor MSQ LC-MS while HRMS were recorded on ThermoScientific Q EXACTIVE mass spectrometer.
• Optical rotations were obtained on Bellingham & Stanley ADP-220 Polarimeter. Specific rotations, $[\alpha]_D$ are reported in degree, and the concentration ($c$) is given in g/100 mL in the specific solvent.
• Preliminary enantiomeric excesses were determined by comparison of the optical rotations with literature values which were then confirmed by HPLC analysis (performed on Simadzu instrument) using a chiral column and reverse phase technique. The peaks are integrated as the area% values.