GENERAL REMARKS

- $^1$H-NMR and $^{13}$C spectra were recorded on BrukerAC-200 MHz, Varion MSL-300, BrukerMSL-300 MHz and BrukerDRX-500 MHz spectrometer using tetramethylsilane (TMS) as an internal standard. Chemical shifts have been expressed in ppm units downfield from TMS.
- EI Mass spectra were recorded on Finnigan MAT-1020 spectrometer at 70 eV using a direct inlet system.
- Infrared spectra were scanned on Perkin–Elmer FT-IR-1710 spectrometers with sodium chloride optics and are measured in cm$^{-1}$.
- Microanalysis data were obtained using a Carlo-Erba CHNS-O EA 1108 elemental analyzer within the limits of accuracy ($\pm$ 0.4%).
- Microwave oven used was LG microwave MOD-MG-1742WE, Raga modified microwave with reflux condenser 2450MHz and 700 W maximum output was used.
- During optimization of reaction in different chapters, the wattage of microwave oven was finalized to obtain highest yield. In chapter IIa, IIb, IIIa, IIIb, IVa, IVb, Va, Vb, the wattage used was 700, 360, 360, 140, 420, 320, 280, 280 respectively.
- Melting points were measured in open capillary and are uncorrected.
- All reactions are monitored by Thin Layer chromatography (TLC).
- All solvents and reagents were purified and dried according to procedures given in Vogel’s Text Book of Practical Organic Chemistry.
- Silica gel (60–120) used for column chromatography was purchased from ACME Chemical Company, Mumbai, India.
- Numbering of schemes, Figures, Tables and compounds has been done independently in each chapter.
- Nomenclatures of all compounds are done by using ChemDraw software.
- The numbering of schemes and compounds in the thesis abstract is different from the individual chapters.