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METHODOLOGY AND INSTRUMENTATION

Most of the reagents used in this work were obtained from commercial suppliers and were of LR/AR grade. Solvents were purified before use by standard procedures. All melting points are uncorrected and were obtained using open capillary tubes in sulphuric acid bath. TLC checking was done on glass plates coated with silica gel-G and developing was done using iodine or UV lamp. Yields have been reported throughout this thesis in percent molar based on the immediate precursor of the reaction.

IR spectra were recorded using THERMOCOLET FT-IR AVTAR-330 instrument in KBr phase. $^1$H-NMR spectra were recorded on a Gemini-200 and AV-400 instruments operating at 200 MHz and 400 MHz frequencies respectively. $^{13}$C-NMR spectra were recorded on Varian Model Gemini 2000 instrument operating at 50 MHz. Mass spectra (EI-MS) have been recorded on Shimadzu QP 5050A spectrometer operating at 70eV and under Chemical Ionization conditions on ESI-MS Mass spectrometer. The COX-2 inhibition activity has been checked on HITACHI, Model U-2001, UV/Vis spectrophotometer operating at 603 nm.