5. MATERIALS

5.1. Instruments

- Melting points of all compounds were determined in programmable melting point apparatus, microprocessor based, VEEGO.
- TLC was performed on microscopic slides (2×7.5 cms) coated with silica-gel-G and pre-coated silica gel strip. Spots were visualized under UV light and by exposure to iodine vapour.
- IR spectra of all compounds were recorded in IR Prestige-21 FTIR Spectrophotometer, Shimadzu using potassium bromide.
- Mass spectra were recorded on LCMS 2010 EV S Shimadzu Mass spectrometer.
- $^1$HNMR and $^{13}$CNMR spectra were obtained in DMSO on Bruker Advance-II 400 MHz instrument and chemical shift were measured as parts per million downfield from tetramethylsilane (TMS) as internal standard.

5.2. Chemicals

- Anthranilamide, Potassium carbonate, Chloracetyl chloride, P-Chloro aniline, Potassium thiocynate, Piperazine, N-Methyl piperazine, N-Phenyl piperazine were used of Loba chemical Pvt. Ltd. Wodehouse road, Mumbai.
- Benzene, Triethylamine, Glacial acetic acid, 3,5-dinitro benzoyl chloride, 3,5-Dichloro benzoyl chloride, 2,4-Dichloro benzoyl chloride, 2,3-Dichloro benzoyl chloride, Benzoyl chloride, Acetonitrile were used of Merck, Lloyds centre point, Appasaheb marathe marg, Prabhadevi, Mumbai.
- Methanol was used of SD fine limited, industrial estate, Mumbai.
- 4-Methoxy benzoyl chloride, 4-Nitro benzoyl chloride, 4-Chloro benzoyl chloride, 3-Methoxy benzoyl chloride, 2-Flouro benzoyl chloride, 2-Chloro benzoyl chloride were used of Sigma aldrich chemicals pvt ltd , E-City Tower 2, Symbiosis - CGI Rd, Electronics city Phase 1, Electronics city, Bangalore
- Benzene, Toluene, Petroleum ether was used of Otto Chemie Pvt. Ltd., Mumbai.

5.3 Apparatus:

- The glasswares used in the reactions are made of borosil. All the glasswares were cleaned by using chromic acid and acetone before use