

GENERAL REMARKS

All reactions were performed in flame- or oven-dried glassware under a positive pressure of nitrogen or argon. Pd(OAc)₂, Pd₂(dba)₃, BINAP, DPPF, CAN, and imiazole-2-carbaldehyde were purchased from Aldrich. Solvents were distilled and dried immediately prior to use. Tetrahydrofuran (THF) and ether were distilled from sodium and benzophenone. Methylene chloride (CH₂Cl₂) was distilled from phosphorous pentoxide. Ethyl acetate, ethanol, methanol, dimethylformamide (DMF), and toluene were distilled from potassium carbonate, Mg(OEt)₂, Mg(OMe)₂, CaH₂, and sodium respectively. Petroleum ether used generally refers to the fraction having boiling point range 60-80 °C unless otherwise stated. Reactions were monitored by thin layer chromatography (TLC) using Merck 60 F₂₅₄ precoated silica gel plates (0.2 mm thickness). Components were visualized by illumination with ultraviolet light (254 nm) or staining with iodine. For routine column chromatography, silica gel of mesh sizes 60-120 or 100-200 (SRL, India) was used and for flash chromatography, product of mash size 230-400 (SRL, India) was employed. Reactions at room temperature generally imply a temperature of 25 °C. Cooling was performed using ice-water (0 °C) bath (unless otherwise mentioned). Organic extracts were dried with anhydrous sodium sulphate. Solvents were concentrated in a rotary evaporator using water aspirator. All melting points (m.p.) were checked on a Thomas-Hoover capillary melting point apparatus and are uncorrected. NMR spectra of CDCl₃ solutions of compounds were recorded with Bruker DPX-300 or Bruker AVANCE-600 spectrometer. NMR data are reported as chemical shifts in parts per million (ppm) using Tetramethyl silane (δ 0.0) as internal standard on the δ scale, *J* values are given in Hz, and multiplicity is quoted as follows: s, singlet; d, doublet; t, triplet; dd, doublet of doublets; dt, doublet of triplets; q, quartet; br, broad; m, multiplet; etc. ¹³C NMR spectra were recorded on a Bruker DPX model (75 MHz) or Bruker AVANCE (150 MHz) spectrometer

and chemical shift values are given in ppm using the mid-point of CDCl_3 peaks as internal standard (δ 77.0). DI-EIMS were recorded on a Shimadzu GCMS (model no QP5050A) and ESIMS were done on a Waters Micromass Q-TOF microTM Mass Spectrometer. IR spectra were obtained using JASCO FT/IR model 410 instruments. Elemental analysis was done in a C, H, N analyzer. A SHIMADZU (model UV-1700) UV-vis Spectrophotometer was used for recording UV-vis Spectra. The corrected fluorescence spectra were recorded with SPEX Fluorolog II spectrofluorometer at right angle configuration. Fluorescence lifetimes were determined from the time resolved fluorescence decays by the method of time-correlated single photon counting (TCSPC) using Horiba Jobin Yvon Fluorocube spectrofluorometer with excitation source NanoLED-03 at 370 nm and TBX-04 detector. The instrument response time was \sim 1 ns.