Appendix

General Experimental

Melting and Boiling Points
All melting points (M.pt.) and boiling points (B.pt.) are uncorrected and are expressed in degree centigrade (°C). Melting points were recorded on Buchi R-535 apparatus.

Infrared Spectroscopy
Infrared spectra were recorded on Nicolet iS50 FT-IR spectrometer (Make: Thermoscientific). Only principle peaks of interest are reported and expressed in cm⁻¹.

Nuclear Magnetic Resonance Spectroscopy
¹H NMR (300 MHz), ¹³C NMR (75 MHz) and ²⁹Si NMR (57 MHz) spectra were recorded on JEOL A1 300F MHz spectrophotometer. Chemical shift values are expressed as δ (ppm) downfield from tetramethylsilane (TMS) used as internal standard and J values are reported in Hz.

Mass Spectroscopy
Mass spectra were recorded on Micromass q-Tof Micro (Make: Waters, ESI positive mode).

Elemental Analyses
Elemental analyses were recorded on Flash 2000 Organic Elemental Analyzer CHNS-O (Make: Thermoscientific).

Brunauer-Emmett-Teller and Barrett-Joyner-Halenda studies
BET and BJH studies were recorded on Quantachrome Instruments Nova 2200e surface area and pore size analyzer (All calculations were done using NovaWin software).

Thermogravimetric Analysis and Differential Scanning Calorimetry
TGA and DSC were recorded on TA SDTQ600 instrument. DSC analyses were recorded on TA DSCQ600 instrument.

Scanning Electron Microscopic Analysis
SEM images were recorded on SEM Carlo ZEISS EVO 5 instrument.
Activation of Silica Gel

Silica gel (100-200 mesh) used as solid support was purchased from Merck. It was purified with hot piranha solution (3:1, conc. H₂SO₄:30% H₂O₂) for 1 h, rinsed with water and dried under vacuum at 140 °C. All other chemicals (AR grade) were used without any further purification.

Column Chromatography

The samples were purified by column chromatography using silica gel of 60-120 mesh and neutral alumina. The samples were eluted with an appropriate mixture of solvents.

Thin Layer Chromatography

The samples and reaction mixture were analyzed by Thin Layer chromatography using TLC grade gel. The spots were made visible by exposing to iodine vapours.

Microwave Oven

The microwave assisted reactions were carried out in focused mono-mode Plazmatronika RM 2001 PC (800 W) commercial microwave oven.

Purification and Drying of Nitrogen Gas

Nitrogen gas was dried and purified by passing through columns of copper catalyst (BASF) heated at 200 °C followed by those of CaCl₂, KOH, dry molecular sieves and P₂O₅.

Drying of Solvents

- All organic extracts were dried over anhydrous sodium sulphate (Na₂SO₄), unless otherwise stated.
- THF and diethyl ether were dried by distilling over sodium benzophenone ketyl prior to use.
- Dichloromethane was dried by distilling over P₂O₅ and stored over calcium chloride.
- Pyridine was distilled and stored over KOH pellets.
- 1-methyl imidazole was distilled over KOH.
- Ethanol and methanol were doubly distilled over sodium, finally over magnesium and stored over molecular sieves.