Electronic Supporting Information (ESI)

Spectroscopic data for the intermediates and the ligand

5-Nitro-2,9-dichloro-1,10-phenanthroline (IV) : *IR*: ν = 792 cm^{-1} (C-Cl stretching), 1298 cm^{-1} (intense N=O symmetric stretching), 1339 cm^{-1} (intense N=O antisymmetric stretching), 1625 cm^{-1} (intense C=C stretching), 1685 cm^{-1} (intense C=N stretching), 3095 cm^{-1} (aromatic C-H stretching); *MS (EI)* m/z = 294 (100%) [M^+, with Cl^{35}], 296 [M^+, with Cl^{37}] [M^+ on +ve mode]; *^{1}H NMR* (300 MHz, $CDCl_3$, 25°C) δ 9.05 (d, *J* = 12 Hz, 1H, arom-H), δ 8.73 (s, 1H, arom-H), δ 8.39 (d, *J* = 12 Hz, 1H, arom-H), δ 7.84 (d, *J* = 12 Hz, 1H, arom-H), δ 7.8 (d, *J* = 9 Hz, 1H, arom-H) (Fig. S1).

5-Amino-2,9-dichloro-1,10-phenanthroline (V) : *IR*: ν = 792 cm^{-1} (C-Cl stretching), 1346 cm^{-1} (C-N stretching in aromatic amines), 1617 cm^{-1} (intense C=C stretching), 1685 cm^{-1} (intense C=N stretching), 3105 cm^{-1} (aromatic C-H stretching), 3398 cm^{-1} (aromatic amines N-H stretching); *MS (EI)* m/z = 264 (100%) [M^+, with Cl^{35}], 266 [M^+, with Cl^{37}] [M^+ on +ve mode]; *^{1}H NMR* (300 MHz, $CDCl_3$, 25°C) δ 8.29 (d, *J* = 3 Hz, 1H, arom-H), δ 8.27 (d, *J* = 3 Hz, 1H, arom-H), δ 7.58 (d, *J* = 3 Hz, 1H, arom-H), δ 7.57 (d, *J* = 3 Hz, 1H, arom-H), δ 6.66 (s, 1H, arom-H) (Fig. S2).

5-Amino-2,9-diphenoxy-1,10-phenanthroline (VI) : *IR*: ν = 852 cm^{-1} (aromatic C-H out of plane bending), 1105 cm^{-1} (C-O-C stretching), 1620 cm^{-1} (aromatic C=C stretching), 1641 (C=N stretching), 3058-3070 (aromatic C-H stretching), 3445 cm^{-1} (aromatic amines N-H stretching); *MS (EI)* m/z = 380 $[M+1]^+$, 363 $[M\text{-}NH_3]^+$, 286 $[M\text{-}OPh]^+$ [M^+ on +ve mode]; ^{1}H NMR (300 MHz, $CDCl_3$, 25°C) δ 7.95 (d, *J* = 3 Hz, 1H, arom-H), 7.09 (dd, 1H, arom-H), δ 6.91 (d, *J* = 3 Hz, 1H, arom-H), δ 6.90 (d, *J* = 3 Hz, 1H, arom-H), δ 6.82 (d, *J* = 3 Hz, 1H, arom-H), δ 6.73 (d, *J* = 3 Hz, 1H, arom-H), δ 6.55 (s, 1H, arom-H) (Fig. S3).

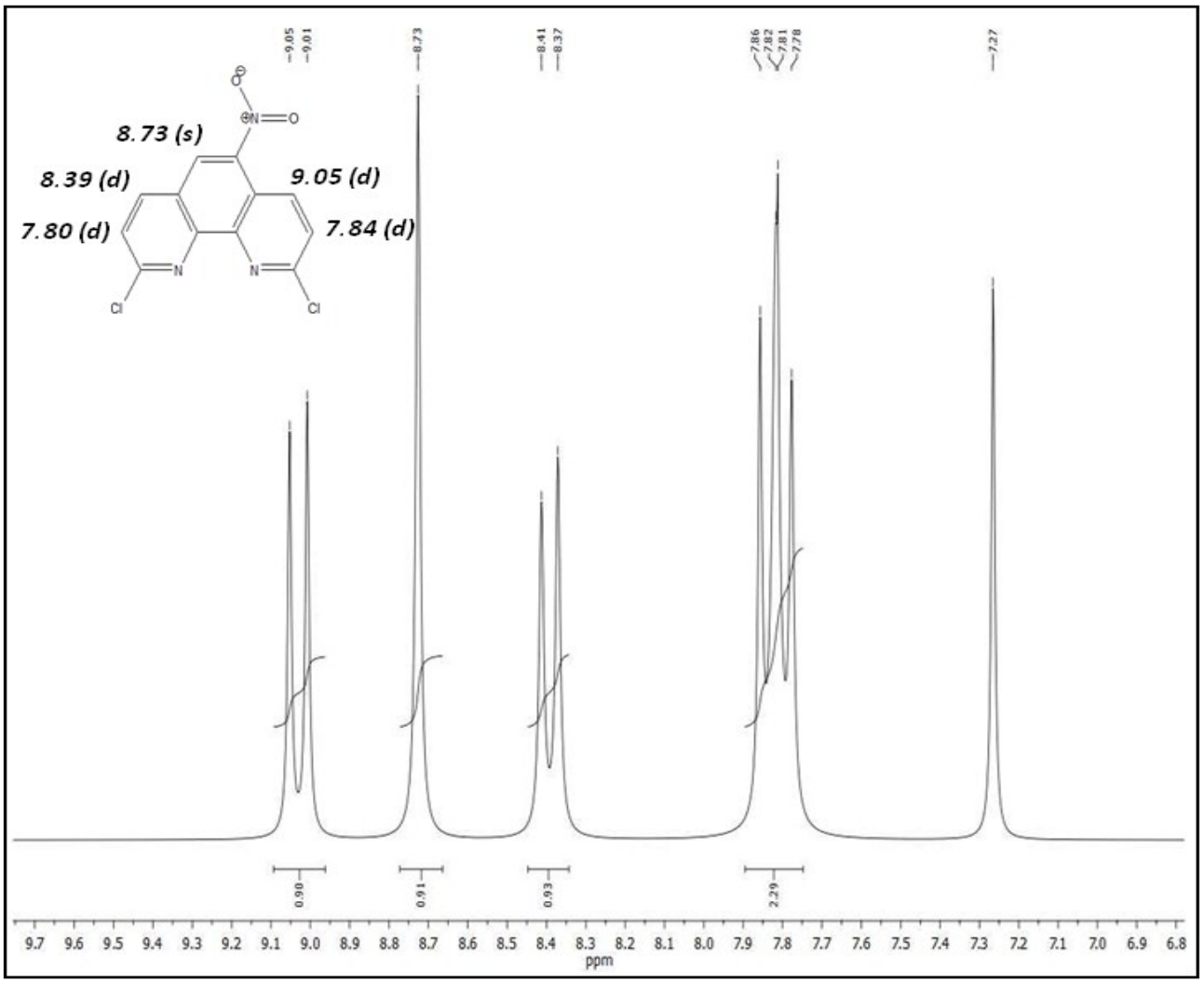

Figure S1: ^{1}H NMR spectrum (300 MHz) of ***(IV)*** in $CDCl_3$

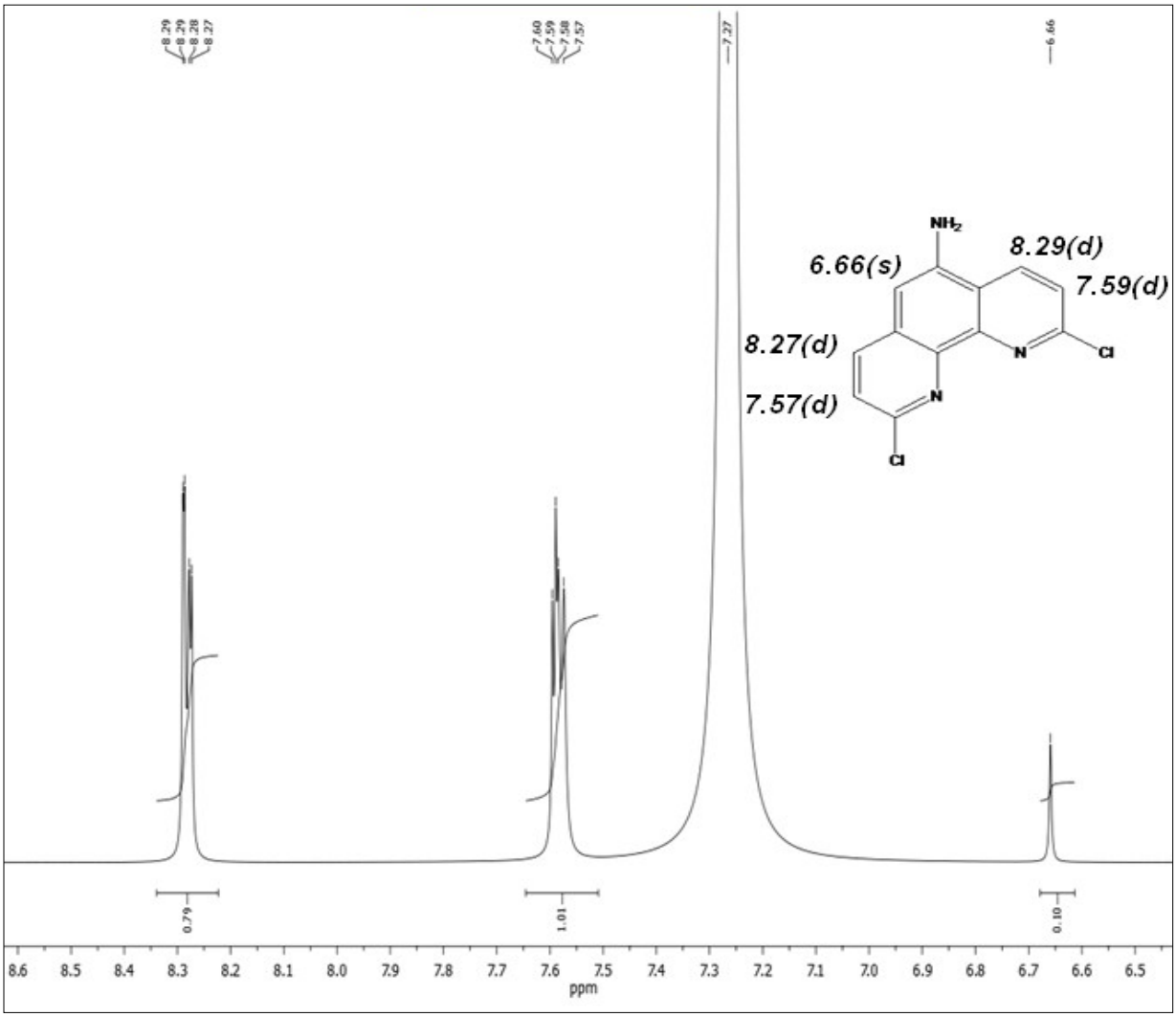

Figure S2: ^{1}H NMR spectrum (300 MHz) of **(V)** in $CDCl_3$

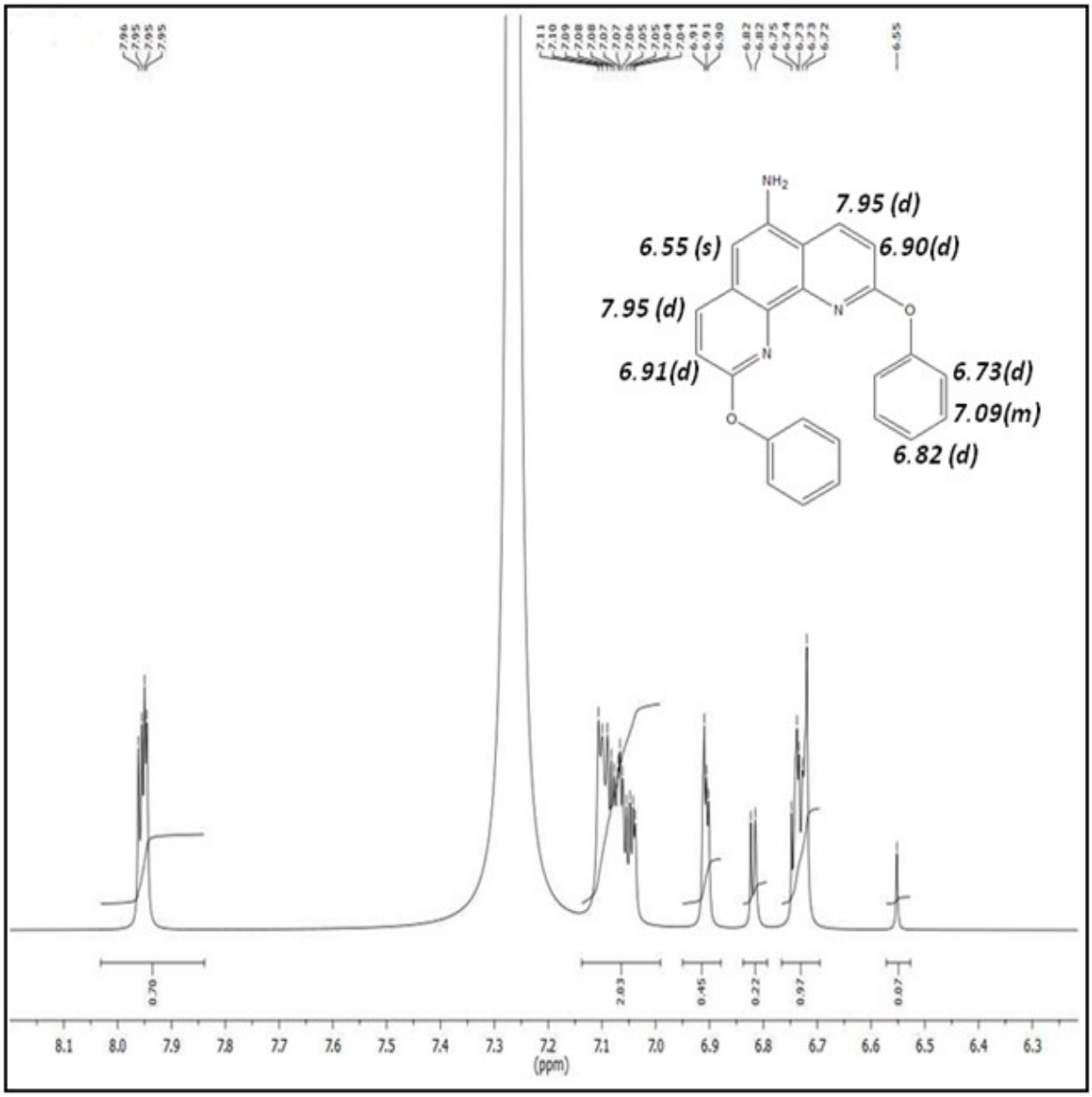

Figure S3: ^{1}H NMR spectrum (300 MHz) of **(VI)** in $CDCl_3$

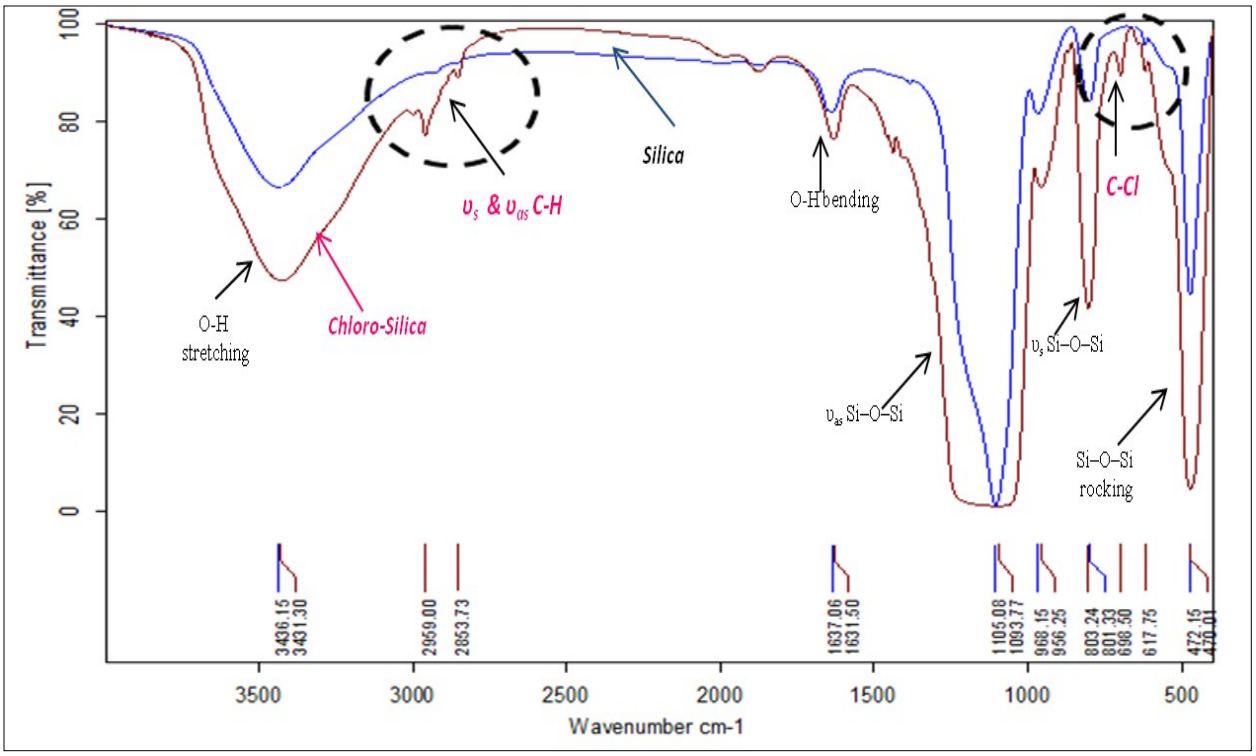

Figure S4: Comparison of the FTIR spectra of Silica and Silica-Cl