First Example of Aerobic Oxidation of Silyl Ethers to Carbonyl Compounds Catalyzed with *N*-Hydroxy phthalimide (NHPI) and Lipophilic Co(II) Complexes

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General Remarks: Chemicals were either prepared in our laboratories or purchased from Merck, Fluka and Aldrich Chemical Companies. All yields refer to isolated products unless otherwise stated. The products were characterized by comparison of their physical data with those of known samples or by their spectral data. ^1H -NMR and ^{13}C -NMR spectra were recorded on a 500 MHz spectrometer in CDCl_3 as the solvent and TMS as internal standard. Most of the products are known and all of the isolated products gave satisfactory IR and NMR spectra..

General Procedure for Aerobic Oxidation of Silyl Ethers: A solution of NHPI (1 mmol, 10 mol%) and cobalt benzoate(**1c**, 0.05 mmol, 0.5 mol%) in CH_3CN (50 mL) was prepared in a two-necked flask. The flask was then evacuated (water aspirator) and refilled with oxygen for three times (balloon filled). To this solution silyl ether (10 mmol) was then added and the resulting pale yellow solution was stirred at room temperature under an oxygen atmosphere (for the indicated optimized time in the Table 2. After completion of the reaction, the excess of solvent was removed under reduced pressure; the products were purified by chromatography through a short pad of silica gel to give the corresponding carbonyl compounds (Table 2).

NMR- Chemical shifts for New Products

4-(*tert*-Butyldimethylsilyloxy)-benzaldehyde: ^1H -NMR (500 MHz, CDCl_3 , 25 °C, TMS): δ = 7.63 (s, 1H), 7.38-7.40 (d, J = 8.5 Hz, 2H), 6.84-6.85 (d, J = 8.5 Hz, 2H), 0.98 (s, 9H), 0.20 (s, 6H); ^{13}C -NMR(125 MHz, CDCl_3 , 25 °C, TMS): δ = 191.66, 156.92, 128.46, 128.14, 120.09, 20.85, 18.21, -4.38.

4-(*tert*-Butyldimethylsilyloxy)-benzaldehyde: ^1H -NMR (500 MHz, CDCl_3 , 25 °C, TMS): δ = 9.95 (s, 1H), 7.48-7.46 (dd, J = 1Hz, 7.5 Hz, 1H), 7.41-7.38 (t, J = 7.5 Hz, 1H), 7.33 (s, 1H), 7.11-7.09 (m, 1H), 0.99 (s, 9H), 0.22 (2, 6H); ^{13}C -NMR (125 MHz,

CDCl₃, 25 °C, TMS): δ = 196.57, 140.98, 130.05, 121.12, 120.50, 120.36, 120.04, 26.16, 25.40, -4.15.

Proposed Mechanism Base on previously reported Ishii's Mechanism