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3,8-Diethynyl-[1,10]-phenanthroline

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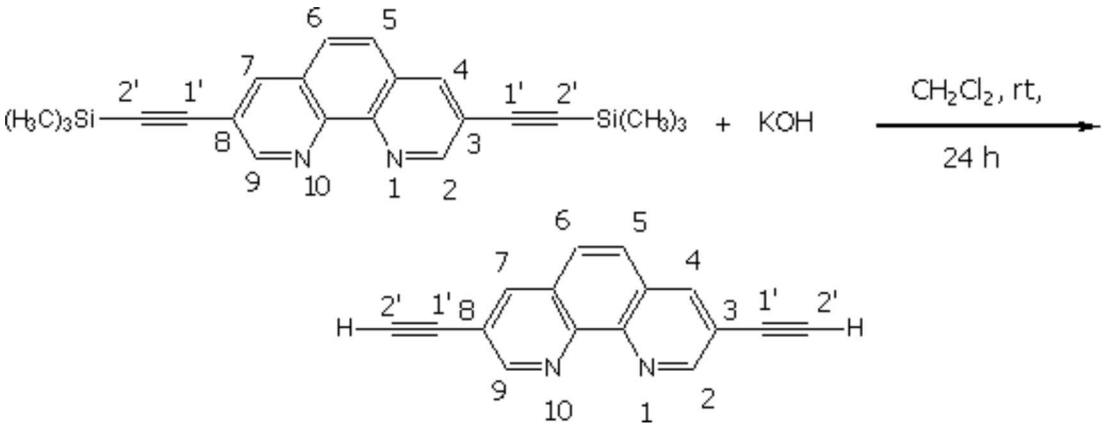

The experimental procedure follows a protocol developed by Eaborn [1]. To a solution of 3,8-bis-trimethylsilanylethynyl-[1,10]-phenanthroline (372.5 mg, 1.0 mmol), dissolved in THF (20 mL), was added 1 M KOH in methanol (20 mL). The resultant solution was stirred for 24 hours at room temperature. After addition of water (50 mL), the product was extracted with CH_2Cl_2 (3x 30 mL). Removal of the solvent *in vacuo* afforded 228 mg (1.0 mmol) of 3,8-diethynyl-[1,10]- phenanthroline (100%) as a colorless solid.

Melting Point: ~ 295-300 °C.

IR (KBr, cm^{-1}): 3140, 2086, 1588, 1551, 1499, 1418, 1264, 1222, 1096, 904, 838, 729.

^{1}H-NMR (250 MHz, $CDCl_3$,): δ= 3.0 (2H, 2'-H); 7.5 (2H, 5-H & 6-H); 8.2 (2H, 4-H & 7-H); 9.0 (2H, 2-H & 9-H).

Elemental Analysis: Calculated for $C_{16}H_8N_2$: C, 84.19%; H, 3.53%; N, 12.27%. Found: C, 84.0%; H, 3.4%; N, 12.5%.

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References
1. Eaborn, C.; Walton, D. R. M. *J. Organometal. Chem.* **1965**, *4*, 217.