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2-Chloro-3-(4-morpholino)-1,4-naphthoquinone

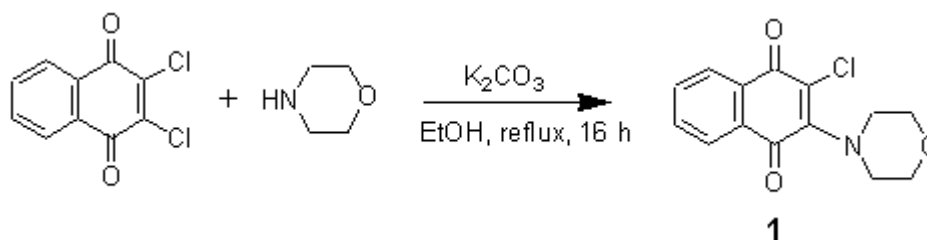
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The title compound, a novel electron donor-acceptor system [1] was prepared [2] by refluxing a suspension of commercially available 2,3-dichloro-1,4-naphthoquinone in absolute ethanol and morpholine in the presence of anhydrous potassium carbonate. A mixture of 2,3-dichloro-1,4-naphthoquinone (0.90 g, 4 mmol), morpholine (0.52 ml, 6 mmol) and anhydrous potassium carbonate (0.69 g, 5 mmol) in 15 ml of absolute ethanol was refluxed for 16 h under an atmosphere of nitrogen. The mixture was then cooled to ambient temperature, 10 ml of water was added and the resulting deep violet crystals were filtered. The precipitate was washed with 1:1 ethanol and water mixture (3 x 5 ml). The crude product was further crystallized from a mixture of ethanol and dichloromethane to afford analytically pure sample of **1** as violet crystals (0.75 g, 68 %).

Mp: 150-152 °C.

IR (KBr, cm^{-1}): 2969, 2922, 2869, 1669, 1649, 1582, 1559, 1456, 1442, 1392, 1319, 1275, 1239, 1202, 1125, 1112, 1062, 982.

^1H NMR (300 MHz, CDCl_3): 3.63 (t, 4H, $J = 4.8$ Hz), 3.87 (t, 4H, $J = 4.8$ Hz), 7.68-7.74 (m, 2H), 8.02 (dd, 1H, $J = 8.2$ and 1.8 Hz), 8.12 (dd, 1H, $J = 8.2$ and 1.8 Hz).

^{13}C NMR (75.5 MHz, CDCl_3): 51.8, 67.5, 126.6, 127.0, 131.3, 133.2, 134.2, 178.0, 181.8.

Anal. Calc. for $\text{C}_{14}\text{H}_{12}\text{NClO}_3$: C 60.55, H 4.36, N 5.04. Found: C 60.32, H 4.49, N 5.16.

References

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Sample Availability: Available from the author.

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