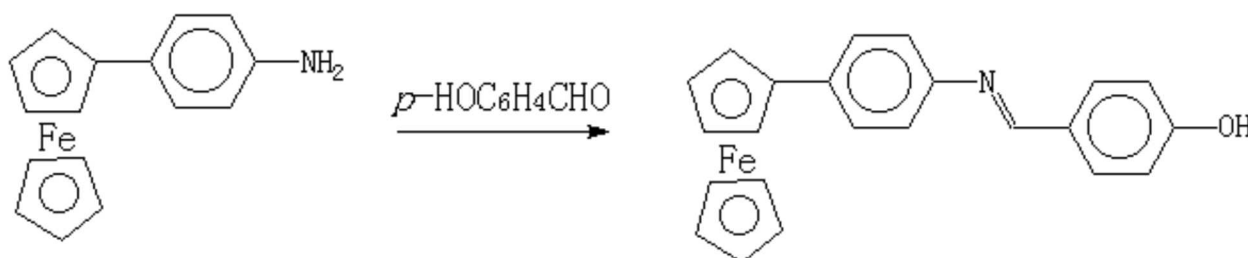# (4-hydroxybenzylidene)-4-ferrocenylaniline

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(4-Hydroxybenzylidene)-4-ferrocenylaniline has a free hydroxyl group and it can react with carboxylic acids to form esters and it is thus a key intermediate for the synthesis of mono-substituted ferrocene-containing liquid crystal [1] with Schiff's base and ester group. It can be synthesized by the condensation reaction of 4-ferrocenylaniline with 4-hydroxybenzaldehyde.

A stirred mixture of 4-ferrocenylaniline [2] (8.31g, 30mmol) and 4-hydroxybenzaldehyde(3.73 g, 30mmol) in 50 ml ethanol is heated under reflux for 2 h. The mixture is cooled and the precipitated product is collected by filtration as a yellow powder (10.5 g, 91%). The product is pure enough for analysis and for further use without further purification.

M.p: ca. 270°C (blackens and decomposes before melting).

IR(KBr, cm^{-1}): 3465, 3070, 1645, 1584, 1530.

^{1}HNMR (DMSO-d_6, 300Hz): 10.11(1H, s, OH), 8.53(1H, S, CH=N), 4.02(5H, s, C_5H_5), 4.35-4.79(4H, d, C_5H_4), 6.88-7.80(4H, dd, J=9.0Hz, C_6H_4-OH), 7.16-7.56(4H, dd, J=8.9Hz, Fc-C_6H_4).

Elemental analysis for $C_{23}H_{19}FeNO$, calculated: C, 71.88; H, 4.95; N, 3.65%.

Found: C, 71.23; H, 4.84; N, 3.55%.

References

1. Espinet, P.; Esteruelas, M. A.; Oro, L. A.; Serrono, J. L.; Sola, E. *Coor. Chem. Rev.* **1992**, **117**, 215.
2. Hu, P.; Zhao, K.-Q.; Xu, H.B. *Molecules* **2001**, *6*, M250.

Sample Availability: Available from the authors and from MDPI.