

*Molecules* **2001**, *6*, M248

## 4-Hydroxyphenyl 4-Ferrocenylbenzoate

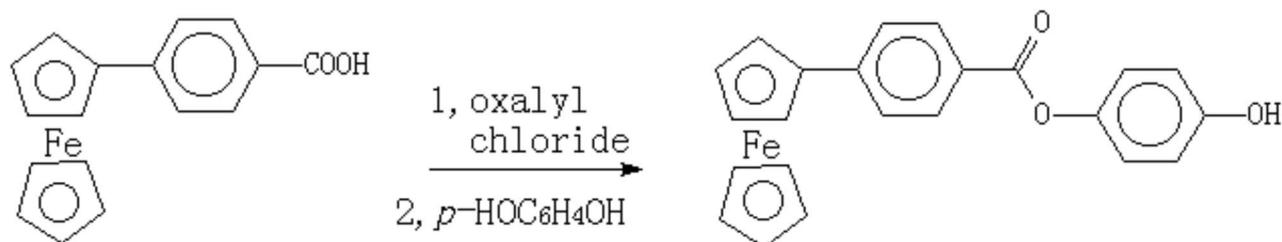
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Received: 12 May 2001 / Accepted: 15 May 2001 / Published: 25 May 2001

**Keywords:** liquid crystal, non-linear optical material, metallomesogen, ferrocene, 4-ferrocenylbenzoic acid, 1,4-dihydroxybenzene, esterification reaction, 4-hydroxyphenyl 4-ferrocenylbenzoate, ester



The reaction of 4-ferrocenylbenzoyl chloride with 1,4-dihydroxybenzene gives 4-hydroxyphenyl 4-ferrocenylbenzoate, which contains a free hydroxyl group and it can be used for the synthesis of ester mono-substituted liquid crystal and hydrogen-bonded supra-molecular liquid crystals [1]. The reaction of acid chloride with 1,4-dihydroxybenzene in extreme diluted solution, or excess of acid chloride often leads to di-esterification of 1,4-dihydroxybenzene. Here we report the method for the selective synthesis of 4-hydroxyphenyl 4-ferrocenylbenzoate.

4-Ferrocenylbenzoyl chloride [2] (2.5 g, 7.7 mmol) is placed in a Soxhlet extractor and 1,4-dihydroxybenzene (1.70 g, 15.4 mmol) and 1 ml pyridine is added to round-bottom flask which contains 100 ml benzene and 50 ml petroleum ether (boiling range 30-60°C). The acid chloride is gradually added to flask while refluxing in about 10 h, then refluxed 2 more hours; a red-orange solid appears. After concentration of the solvent under reduced pressure, the residue is extracted with 50 ml of boiling acetone. The crude product is recrystallized from benzene to obtain an orange solid.

Yield: 2.5 g, 81.7%.

M.p: 222.5-224°C.

IR(KBr,  $\text{cm}^{-1}$ ): 3456, 3090, 1704, 1278, 1605, 1508.

$^1\text{H}$ NMR( $\text{CDCl}_3$ , 400MHz): 4.03(5H, s,  $\text{C}_5\text{H}_5$ ), 4.04-4.73(4H, d,  $\text{C}_5\text{H}_4$ ), 7.54-8.09(4H, dd,  $J=8.4\text{Hz}$ , ArOH), 6.83-7.08(4H, dd,  $J=8.8\text{Hz}$ , Fc-Ar).

Elemental analysis for  $\text{C}_{23}\text{H}_{18}\text{FeO}_3$ : calculated, C, 68.83; H, 4.49%. Found: C, 69.01; H, 4.53%.

### Reference

1. Bruce, D.W.; in: *Inorganic Materials*, 2nd edit., ed. by Bruce D.W. and O'Hare, D. Wiley, Chichester, **1996**.
2. Zhao, K. -Q.; Hu, P.; Xu, H. -B. *Molecules* **2001**, *6*, M247.

*Sample Availability:* Available from the authors and from MDPI.

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