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# Synthesis of 4-[4-(4-nitrobenzylideneiminophenylene)phenyleneimino methylidene] phenol

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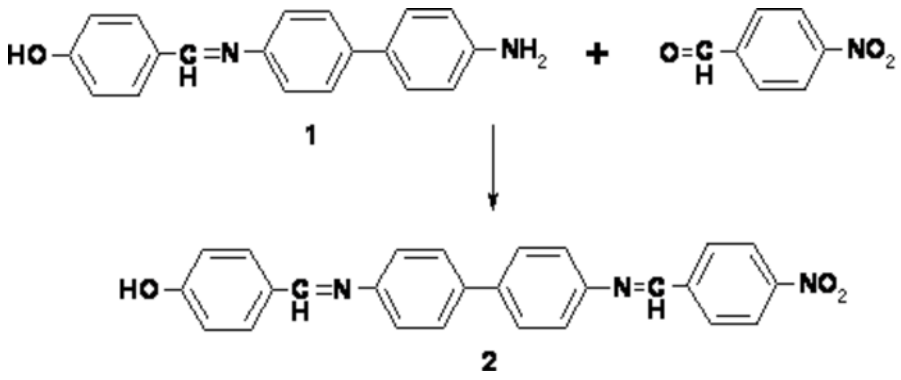
The azomethine **1** was prepared as described elsewhere [1]. The 4-[4-(4-nitrobenzylidene-iminophenylene)phenyleneimino methylidene] phenol (**2**) was obtained in a similar manner [2] by reacting the azomethine **1** with 4-nitrobenzaldehyde in stoichiometric ratio:




A mixture of 0.8 g (2.88 mmol) **1** and 0.42 g (2.77 mmol) 4-nitrobenzaldehyde was dissolved in 10 mL DMSO. The mixture was stirred under heating at 90 $^{o}$C for 30 min. The reaction product was isolated by pouring the reaction mixture into water, washing with water and then with methanol. The purity was tested by the thin layer chromatography. IR spectra and elemental analysis confirmed that synthesised compound had the correct structure with a good degree of purity. The azomethine **2** has an orange-ochre powder aspect , yield 80 %.

**Mp.** 213 $^{o}$C (by polarization light microscopy), 212 $^{o}$C (by thermooptical analysis), 215 $^{o}$C (by DSC method). In the melting state the product exhibit liquid crystalline behavior displaying a typical schlieren texture (see Figure 1). The isotropisation temperature could not be measured, because the decomposition started before (decomposition temperature $T_o$ = 256$^{o}$C)

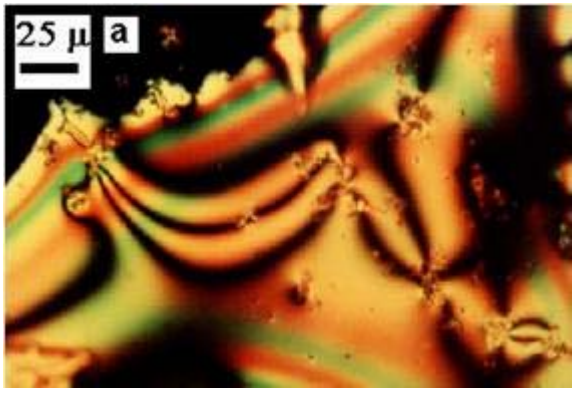


**Figure 1.** The schlieren texture of azomethine **2** at 246 $^{o}$C, between crossed polarizers

**UV** (DMF) 286, 382 nm

**Anal.** calc. for $C_{26}H_{19}N_3O_3$ (421.45): N % 9.97; found: N % 9.52

**IR** (KBr, $cm^{-1}$): 3450 (O-H), 1625 (CH=N), 1600, 1580 (C=C), 1520 ($NO_2$ asym.), 1450 (C=C), 1350 ($NO_2$ sym.), 1240 (C-O, asym.), 1160 (C-O, sym.), 855, 840 (1,4-phenylene ring).

**References:**

1. V. Cozan, E. Avram *Eur. Polym. J.* **2003**, 39, 107-114.
2. C. Racles, V. Cozan, *High Performance Polymers* **2002,** 14, 169-181.