

Short Note

3-Hydroxy-4-{[(4-chlorophenyl)imino]methyl}phenyl Octadecanoate

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Abstract: A new Schiff base ester, 3-hydroxy-4-{[(4-chlorophenyl)imino]methyl}phenyl octadecanoate, was synthesized and its IR, ¹H NMR, ¹³C NMR and MS spectroscopic data are presented.

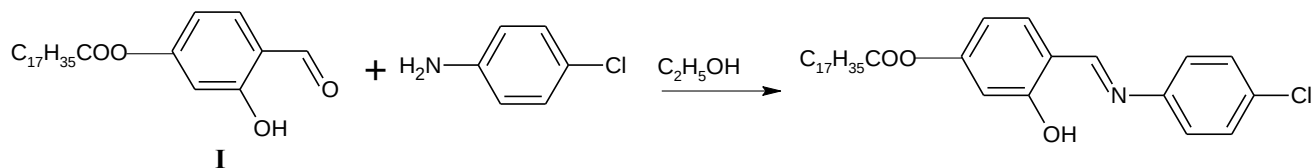
Keywords: 3-hydroxy-4-{[(4-chlorophenyl)imino]methyl}phenyl octadecanoate; Schiff base; alkyl chain

Schiff bases have attracted overwhelming attentions from many researchers owing to their importance in exhibiting thermochromism and photochromism [1–4]. The presence of a long alkyl chain at the *para* position of the aldehyde or aniline fragment of *N*-benzylideneanilines has been regarded as one of the important elements which favours the existence of liquid crystal phases [5–9].

Synthesis

4-Formyl-3-hydroxyphenyl octadecanoate was previously prepared *via* Steglich esterification [10]. In a round-bottom flask, a mixture of the aldehyde **I** (1.74 g, 5.0 mmol), 4-chloroaniline (0.64 g,

5.0 mmol) and absolute ethanol (40 mL) was refluxed with stirring for 3 h. The reaction mixture was filtered and the solvent was removed from the filtrate by evaporation. Recrystallization from absolute ethanol gave the title compound as a yellow solid (0.87 g, 34%).



Melting point: 116.1 °C

MS (EI): m/z = 514 (M^+)

IR (KBr, cm^{-1}): 3435 (O-H), 2951, 2917, 2847 (C-H aliphatic); 1759 (C=O ester); 1624 (C=N); 1605, 1471 (C=C aromatic), 1095 (C-Cl).

^1H NMR (400 MHz, CDCl_3): δ/ppm 0.91 (t, 3H, J = 6.9 Hz, CH_3), 1.28-1.44 {m, 28H, $\text{CH}_3(\text{CH}_2)_{14-}$ }, 1.78 (quint, 2H, J = 7.3 Hz, $-\text{CH}_2\text{CH}_2\text{COO}-$), 2.58 (t, 2H, J = 7.4 Hz, $-\text{CH}_2\text{COO}-$), 6.71 (dd, 1H, J = 2.1, 8.4 Hz, Ar-H), 6.78 (d, 1H, J = 2.1 Hz, Ar-H), 7.21 (dd, 2H, J = 2.0, 8.6 Hz, Ar-H), 7.37 (dd, 2H, J = 2.3, 8.3 Hz, Ar-H), 7.39 (d, 1H, J = 8.4 Hz, Ar-H), 8.58 (s, 1H, $\text{CH}=\text{N}$), 13.31 (s, 1H, OH).

^{13}C NMR (100 MHz, CDCl_3): δ/ppm 171.8 (COO), 162.9 ($\text{CH}=\text{N}$), 162.4, 155.3, 147.3, 133.6, 133.0, 129.9, 122.7, 117.3, 113.3, 110.8 (aromatic carbons), 34.8 ($-\text{CH}_2\text{COO}-$), 25.3 ($-\text{CH}_2\text{CH}_2\text{COO}-$), 32.3, 30.1, 30.0, 29.9, 29.8, 29.7, 29.6, 29.4, 23.0 ($\text{CH}_3(\text{CH}_2)_{14-}$), 14.4 (CH_3).

Elemental analysis: Calculated for $\text{C}_{31}\text{H}_{44}\text{ClNO}_3$ C, 72.42%, H, 8.63%, N, 2.72%; Found: C, 72.30%, H, 8.71%, N, 2.75%.

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