

Short Note

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

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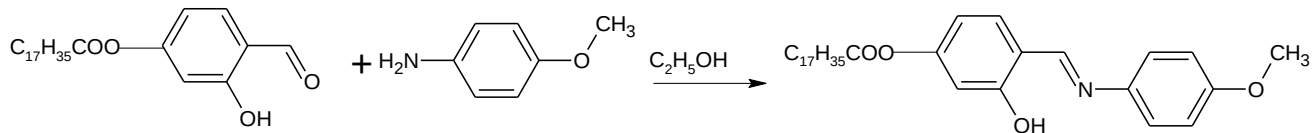
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Abstract: A new Schiff base ester, 3-hydroxy-4-{[(4-methoxyphenyl)imino]methyl}phenyl octadecanoate, was synthesized and its IR, ¹H NMR, ¹³C NMR and MS spectroscopic data are presented.

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

Schiff bases have attracted overwhelming attention from many researchers owing to their importance in exhibiting thermochromism and photochromism [1–5]. 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 [6–8]. Different alkyl chain length can significantly influence the anisotropic properties of liquid crystals [6]. Thus, we report here another new derivative containing an octadecanoyloxy chain, 3-hydroxy-4-{[(4-methoxyphenyl)imino]methyl}phenyl octadecanoate.

Scheme 1. Synthesis of 3-hydroxy-4-[[[(4-methoxyphenyl)imino]methyl]phenyl octadecanoate.**Experimental**

4-Formyl-3-hydroxyphenyl octadecanoate was previously prepared *via* Steglich esterification [9]. In a round-bottom flask, a mixture of the aldehyde (1.74 g, 5.0 mmol), 4-methoxyaniline (0.62 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 (1.10 g, 43%).

Melting point: 100.1 °C

MS (EI): m/z (rel. int. %) = 509 (1) (M^+), 243 (100).

IR (KBr, cm^{-1}): 3449 (O-H), 2955, 2918, 2849 (C-H aliphatic); 1759 (C=O ester); 1624 (C=N); 1605, 1510 (C=C aromatic).

^1H NMR (400 MHz, CDCl_3): δ /ppm 0.91 (t, 3H, $J = 7.0$ Hz, CH_3), 1.27–1.44 {m, 28H, $\text{CH}_3(\text{CH}_2)_{14}$ }, 1.78 (quint, 2H, $J = 7.4$ Hz, $-\text{CH}_2\text{CH}_2\text{COO}-$), 2.58 (t, 2H, $J = 7.5$ Hz, $-\text{CH}_2\text{COO}-$), 3.85 (s, 3H, OCH_3), 6.70 (dd, 1H, $J = 2.2, 8.4$ Hz, Ar-H), 6.76 (d, 1H, $J = 2.2$ Hz, Ar-H), 6.96 (dd, 2H, $J = 2.1, 8.9$ Hz, Ar-H), 7.28 (dd, 2H, $J = 2.1, 8.9$ Hz, Ar-H), 7.37 (d, 1H, $J = 8.3$ Hz, Ar-H), 8.60 (s, 1H, $\text{CH}=\text{N}$), 13.76 (s, 1H, OH).

^{13}C NMR (100 MHz, CDCl_3): δ /ppm 172.2 (COO), 159.9 ($\text{CH}=\text{N}$), 162.8, 159.3, 154.5, 141.5, 133.1, 122.7, 117.7, 115.0, 113.1, 110.7 (aromatic carbons), 55.93 (Ar- OCH_3), 34.85 ($-\text{CH}_2\text{COO}-$), 25.31 ($-\text{CH}_2\text{CH}_2\text{COO}-$), 32.33, 30.10, 30.07, 30.01, 29.87, 29.78, 29.67, 29.50, 23.10 ($\text{CH}_3(\text{CH}_2)_{14}$), 14.53 ($\text{CH}_3(\text{CH}_2)_{14}$).

Elemental analysis: Calculated for $\text{C}_{32}\text{H}_{47}\text{NO}_4$ C, 75.40%, H, 9.29%, N, 2.75%; Found: C, 75.29%, H, 9.37%, N, 2.81%.

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