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Short Note

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

Sie-Tiong Ha [1,*], Mei-Yoke Ng [2], Teck-Ming Koh [2,†] and Teck-Leong Lee [1,2]

[1] Department of Chemical Science, Faculty of Science, Universiti Tunku Abdul Rahman, Jln Universiti, Bandar Barat, 31900 Kampar, Perak, Malaysia

[2] Department of Science, Faculty of Engineering and Science, Universiti Tunku Abdul Rahman, Jln Genting Jelang, Setapak, 53300 Kuala Lumpur, Malaysia

[†] Present address: Department of Chemistry, National University of Singapore, 3 Science Drive 3, Singapore 117543.

* Author to whom correspondence should be addressed; E-Mails: hast@utar.edu.my or hast_utar@yahoo.com.

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

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

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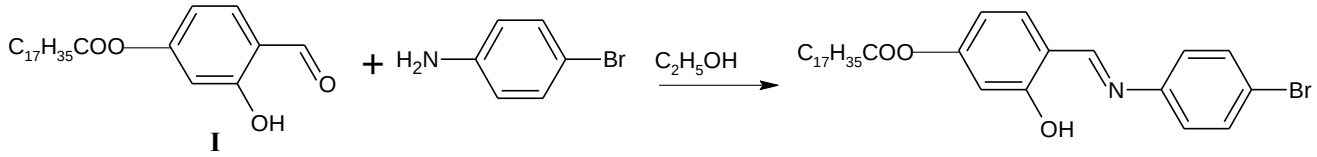
Schiff bases have attracted overwhelming attentions from many researchers owing to their importance in exhibiting thermochromism and photochromism [1–4]. The presence of a long alkyl chain at the *para* position of the aldehyde or aniline fragment of *N*-benzylideneanilines has been regarded as one of the important elements which favours the existence of liquid crystal phases [5–7]. Different terminal chain length can significantly influence the anisotropic properties of liquid crystals [5]. Thus, we report here another new derivative containing an octadecanoyloxy chain, 3-hydroxy-4-{[(4-bromophenyl)imino]methyl}phenyl octadecanoate.

Synthesis

4-Formyl-3-hydroxyphenyl octadecanoate was previously prepared *via* Steglich esterification [8]. In a round-bottom flask, a mixture of the aldehyde **I** (1.74 g, 5.0 mmol), 4-bromoaniline (0.86 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 (1.06 g, 38%).



Melting point: 110.1 °C

MS (EI): *m/z* = 558 (M^+)

IR (KBr, cm^{-1}): 3447 (O-H), 2950, 2917, 2848 (C-H aliphatic); 1758 (C=O ester); 1629 (C=N); 1607, 1471 (C=C aromatic), 1075 (C-Br).

^{1}H NMR (400 MHz, $CDCl_3$): δ/ppm 0.92 (t, 3H, *J* = 7.2 Hz, CH_3), 1.29-1.49 {m, 28H, $CH_3(C\underline{H}_2)_{14}$-}, 1.79 (quint, 2H, *J* = 7.3 Hz, -$C\underline{H}_2CH_2COO$-), 2.57 (t, 2H, *J* = 7.4 Hz, -$C\underline{H}_2COO$-), 6.72 (dd, 1H, *J* = 2.2, 8.4 Hz, Ar-H), 6.79 (d, 1H, *J* = 2.1 Hz, Ar-H), 7.16 (dd, 2H, *J* = 2.7, 8.6 Hz, Ar-H), 7.36 (d, 1H, *J* = 8.5 Hz, Ar-H), 7.54 (dd, 2H, *J* = 2.7, 8.6 Hz, Ar-H), 8.58 (s, 1H, CH=N), 13.13 (s, 1H, OH).

^{13}C NMR (100 MHz, $CDCl_3$): δ/ppm 171.7 (COO), 163.0 (CH=N), 162.5, 155.4, 147.9, 133.5, 132.9, 123.1, 117.3, 113.3, 110.8, 110.0 (aromatic carbons), 34.83 (-$\underline{C}H_2COO$-), 25.25 (-$\underline{C}H_2CH_2COO$-), 32.24, 29.98, 29.95, 29.90, 29.75, 29.63, 29.54, 29.43, 22.95 ($CH_3(C\underline{H}_2)_{14}$-), 14.28 ($CH_3$).

Elemental analysis: Calculated for $C_{31}H_{44}BrNO_3$ C, 66.66%, H, 7.94%, N, 2.51%; Found: C, 66.78%, H, 7.85%, N, 2.53%.

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