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Short Note

4-[(Pyridin-3-ylmethylene)amino]phenyloctadecanoate

Sie-Tiong Ha[1,*], Lay-Khoon Ong [1], Yip-Foo Win [1], Teck-Ming Koh [1] and Guan-Yeow Yeap [2]

[1] Faculty of Engineering & Science, Universiti Tunku Abdul Rahman, Jln Genting Kelang, 53300 Kuala Lumpur, Setapak 53300 Kuala Lumpur, Malaysia

[2] Liquid Crystal Research Laboratory, School of Chemical Sciences, Universiti Sains Malaysia, Minden 11800 Minden, Penang, Malaysia

* Author to whom correspondence should be addressed; E-mail: hast@mail.utar.edu.my

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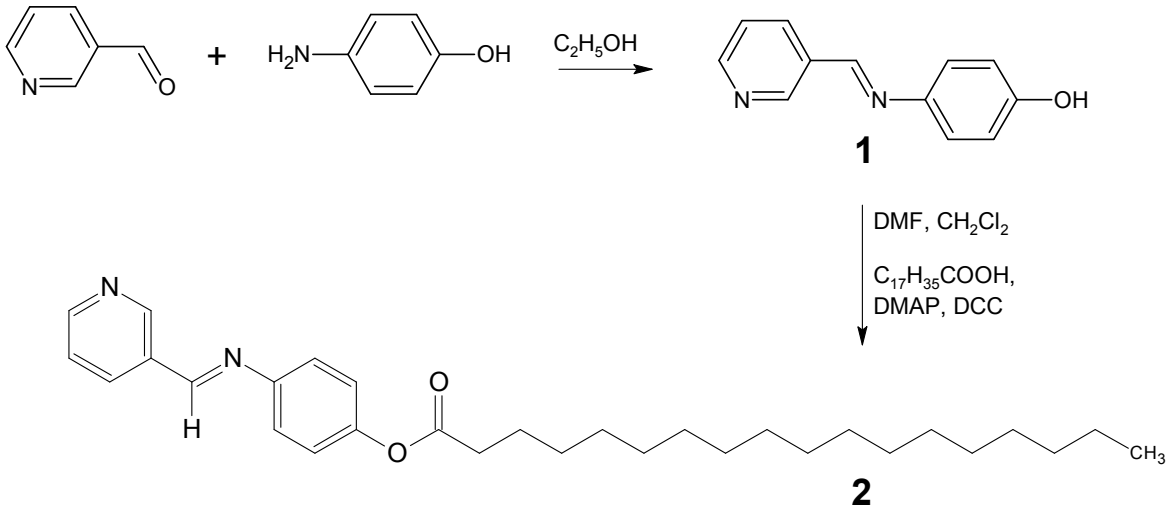
Abstract: A new Schiff base 4-[(pyridin-3-ylmethylene)amino]phenyloctadecanoate was synthesized and its IR, ^{1}H NMR, ^{13}C NMR and MS spectroscopic data are presented.

Keywords: 4-[(Pyridin-3-ylmethylene)amino]phenyloctadecanoate; Schiff base, alkyl chain.

Schiff bases have received a considerable amount of attention from many researchers owing to their importance in exhibiting thermochromism and photochromism [1-4].



In analogy to a recently published procedure [5-7], a solution of 3-pyridinecarbaldehyde (4.28 g, 40 mmol) and 4-aminophenol (4.37g, 40 mmol) in absolute ethanol (70 mL) was heated under reflux for 3 hours. Schiff base **1** thus obtained was recrystallized from absolute ethanol. Then, Schiff base **1** (3.96 g, 20 mmol) in dimethylformamide (DMF) (4 mL), was added into a solution of stearic acid (5.69g, 20 mmol) and 4-dimethylaminopyridine (DMAP) (1.22 g, 10 mmol) in dichloromethane (70 mL). The resulting mixture was stirred in an ice bath. To this solution, N,N'-dicyclohexylcarbodiimide (DCC) (4.12 g, 20 mmol) dissolved in dichloromethane (20 mL) was added dropwise while stirring in the ice bath for an hour. The resulting mixture was subsequently stirred at room temperature for another 3 hours. Then, the reaction mixture was filtered and the excess solvent was removed from the filtrate by evaporation. Recrystallization from absolute ethanol gave the Schiff base **2** as gray solid (3.72g, 40%).

Melting Point: 92.2^{o}C.

MS(EI): M^{+} (m/z) = 464

IR (KBr, cm^{-1}): 2954, 2916, 2848 (C-H aliphatic); 1754 (C=O ester); 1626 (C=N); 1595, 1499 (C=C aromatic).

^{1}H NMR (400 MHz, $CDCl_3$): δ/ppm 0.89 (3H, t, CH_3), 1.23-1.45 {m, 28H, $CH_3(C\underline{H}_2)_{14}$-}, 1.76 (qt, 2H, -$C\underline{H}_2CH_2COO$-), 2.58 (t, 2H, -$C\underline{H}_2COO$-), 7.13 (d, 2H, Ar-H), 7.25 (d, 2H, Ar-H), 7.41 (dd, 1H, Ar-H), 8.28 (d, 1H, Ar-H), 8.50 (s, 1H, CH=N), 8.71 (dd, 1H, Ar-H), 9.01 (d, 1H, Ar-H).

^{13}C NMR (100 MHz, $CDCl_3$): δ/ppm 172.7 (COO), 157.6 (CH=N), 152.5, 151.4, 149.8, 149.3, 135.3, 132.2, 124.2, 122.7 and 122.2 (aromatic carbons), 34.8 (-$\underline{C}H_2COO$-), 25.3 (-$\underline{C}H_2CH_2COO$-), 32.3, 30.1, 30.0, 29.9, 29.8, 29.7, 29.5, 25.3 and 23.1 ($CH_3(C\underline{H}_2)_{14}$-), 14.5 ($CH_3$).

Elemental analysis: Calculated for $C_{30}H_{44}N_2O_2$: C, 77.54%, H, 9.54%, N, 6.03%; Found: C, 77.65%, H, 9.59%, N, 5.92%.

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