*Molbank* **2009**, M632

OPEN ACCESS

*molbank*

**ISSN 1422-8599**

www.mdpi.com/journal/molbank

*Short Note*

# 3-Hydroxy-4-[(phenylimino)methyl]phenyl Myristate

**Sie-Tiong Ha [1,*], Siew-Teng Ong [1], Yee-Ting Chong [2] and Guan-Yeow Yeap [3]**

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

[2] Department of Science & Engineering, Centre for Foundation Studies, Universiti Tunku Abdul Rahman, Building PE, No. 1 Jalan 13/4, 46200 Petaling Jaya, Selangor, Malaysia

[3] 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@utar.edu.my or hast_utar@yahho.com.

*Received: 26 August 2009 / Accepted: 13 October 2009 / Published: 14 October 2009*

---

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

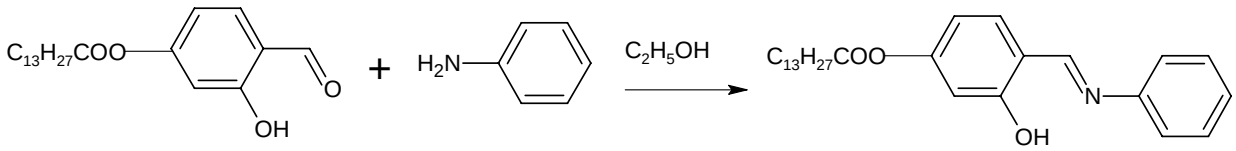
**Keywords:** 3-hydroxy-4-[(phenylimino)methyl]phenyl myristate; Schiff base; alkyl chain

---

Schiff bases have received a considerable amount of attention from many researchers owing to their importance in exhibiting thermochromism and photochromism [1–4]. Aromatic Schiff bases possessing long alkyl chain have received much attention due to their possibility to exhibit liquid crystalline properties such as smectic and nematic phases [5–9].

## Synthesis

4-Formyl-3-hydroxyphenyl tetradecanoate was previously prepared via Steglich esterification [10]. In a round-bottom flask, a mixture of the 4-formyl-3-hydroxyphenyl tetradecanoate (1.74 g, 5.0 mmol), aniline (0.47 g, 5.0 mmol) and absolute ethanol (50 mL) was refluxed with stirring for three hours. The reaction mixture was filtered and the solvent removed from the filtrate by evaporation. Recrystallization from absolute ethanol gave the title compound as yellow solid (1.14 g, 54%).




Melting point: 103.4 $^{o}$C.

MS(EI): $M^{+}$ (m/z) = 423 (4) $[M]^{+}$, 213 (100).

IR (KBr, $cm^{-1}$): 3435 (O-H), 2952, 2917, 2848 (C-H aliphatic); 1754 (C=O ester); 1629 (C=N); 1594, 1499 (C=C aromatic).

$^{1}$H NMR (400 MHz, $CDCl_3$): δ/ppm 0.90 (t, 3H, *J* = 6.9 Hz, $CH_3$), 1.30-1.46 {m, 20H, $CH_3(CH_2)_{10}$-}, 1.75 (q, 2H, *J* = 7.5 Hz, -$CH_2CH_2COO$-), 2.57 (t, 2H, *J* = 7.5 Hz, -$CH_2COO$-), 6.71 (dd, 1H, *J* = 2.2, 8.4 Hz, Ar-H), 6.79 (d, 1H, *J* = 2.2 Hz, Ar-H), 7.28 (m, 3H, Ar-H), 7.39 (d, 1H, *J* = 8.4 Hz, Ar-H), 7.42 (m, 2H, Ar-H), 8.62 (s, 1H, CH=N), 13.60 (s, 1H, OH).

$^{13}$C NMR (100 MHz, $CDCl_3$): δ/ppm 172.1 (COO), 162.2 (CH=N), 163.0, 154.9, 148.6, 133.5, 129.8, 127.4, 121.6, 117.5, 113.3, 110.9 (aromatic carbons), 34.86 (-$CH_2COO$-), 25.30 (-$CH_2CH_2COO$-), 32.34, 30.10, 30.07, 30.02, 29.88, 29.78, 29.67, 29.50, 23.11 ($CH_3(CH_2)_{14}$-), 14.54 ($CH_3$).

Elemental analysis: Calculated for $C_{27}H_{37}NO_3$ C, 76.56%, H, 8.80%, N, 3.31%; Found: C, 76.45%, H, 8.87%, N, 3.44%.

**Acknowledgements**

The main author (S.T. Ha) would like to thank Universiti Tunku Abdul Rahman for the financial support and research facilities.

**References and Notes**

1. Hadjoudis, E.; Vittorakis, M. Moustakali-Mavridis, I. Photochromism and thermochromism of schiff bases in the solid state and in rigid glasses. *Tetrahedron* **1987**, *43*, 1345–1360.
2. Hadjoudis, E.; Rontoyianni, A.; Ambroziak, K.; Dziembowska, T.; Mavridis, I.M. Photochromism and thermochromism of solid *trans-N,N'*-bis(salicylidene)-1,2-cyclohexanediamines and *trans-N,N'*-bis-(2-hydroxynaphylidene)-1,2-cyclohexanediamine. *J. Photochem. Photobiol. A: Chem.* **2004**, *162*, 521–530.
3. Oshima, A.; Momotake, A.; Arai, T. Photochromism, thermochromism, and solvatochromism of naphthalene-based analogues of salicylideneaniline in solution. *J. Photochem. Photobiol. A: Chem.* **2004**, *162*, 473–479.

4. Yeap, G.Y.; Ha, S.T.; Ishizawa, N.; Suda, K.; Boey, P.L.; Mahmood, W.A.K. Synthesis, crystal structure and spectroscopic study of para substituted 2-hydroxy-3-methoxybenzalideneanilines. *J. Mol. Struct.* **2003**, *658*, 87–99.
5. Ha, S.T.; Ong, L.K.; Wong, J.P.W.; Yeap, G.Y.; Lin, H.C.; Ong, S.T.; Koh, T.M. Mesogenic Schiff's base ether with dimethylamino end group. *Phase Transitions* **2009**, *82*, 387–397.
6. Ha, S.T.; Ong L.K.; Ong, S.T.; Yeap, G.Y.; Wong, J.P.W.; Koh, T.M.; Lin, H.C. Synthesis and mesomorphic properties of new Schiff base esters with different alkyl chains. *Chin. Chem. Lett.* **2009**, *20*, 767–770.
7. Ha, S.T.; Koh, T.M.; Ong, S.T.; Beh, J.K.; Ong, L.K. Synthesis of a new liquid crystal, 3-hydroxy-4-{[(6-methoxy-1,3-benzothiazol-2-yl)imino]methyl}phenyl palmitate. *Molbank* **2009**, *2009*, M608.
8. Ha, S.T.; Ong, L.K.; Win, Y.F.; Koh, T.M. 4-[(Pyridin-3-ylmethylene)amino]phenyltetradecanoate. *Molbank* **2009**, *2009*, M585.
9. Ha, S.T.; Ong, L.K.; Win, Y.F.; Koh, T.M. 4-[(Pyridin-3-ylmethylene)amino]phenylhexadecanoate. *Molbank* **2009**, *2009*, M584.
10. Ha, S.T.; Ong, S.T.; Chong, Y.T.; Yeap, G.Y. 4-{[(3-Chlorophenyl)imino]methyl}-3-hydroxyphenyl myristate. *Molbank* **2009**, *2009*, M629.