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2-[(2-Hydroxy-benzylidene)-amino]-5,6-dihydro-4H-cyclopenta [b] Thiophene-3-carboxylic Acid Methyl Ester

Abdullah Mohamed Asiri *

Chemistry Department, Faculty of Science, King Abdul-Aziz University, Jeddah 21413, P.O. Box 9028, Saudi Arabia
* Author to whom correspondence should be addressed. Tel: (+966)-2-6952293; Fax: (+966)-2-6952293; E-mail: aasiri2@kaau.edu.sa

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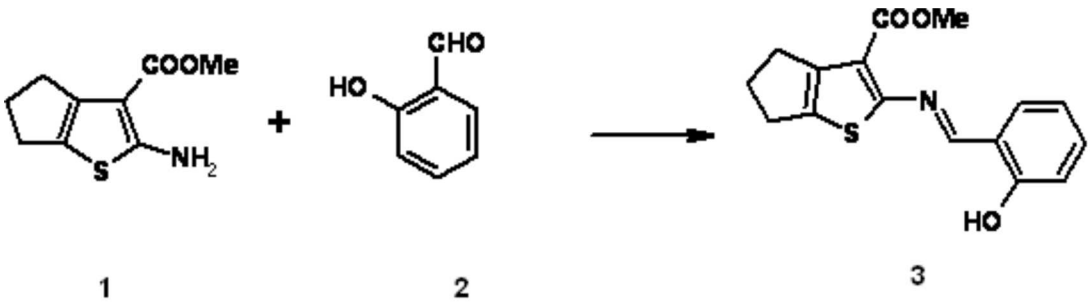
Schiff bases from 2-hydroxy-1-naphthaldehyde have often been used as chelating ligands in the field coordination chemistry [1]. The Schiff base compounds can be classified by their photochromic and thermochromic characteristics [2].



A solution of 2-Amino-5,6-dihydro-4H-cyclopenta[b]thiophene-3-carboxylic acid methyl ester **1** (2.5g, 0.0125mol) and 2-hydroxynaphthaldehyde **2** (1.53g, 0.0125 mol) in absolute ethanol (50 mL) was heated under reflux for 3 hrs. Cooling the mixture, filtering the precipitate and recrystallization from ethanol gave the Schiff base **3** as brown crystals (3.76g, 99%).

Melting Point: 135-137ºC. (EtOH).

IR (KBr; cm^{-1}); 1706.1 (C=O), 1602.1 (C=N), 1445.1 (C=C), 1209.3 (C-O) and 1033 (C-N).

^{1}H NMR (400 MHz;$CDCl_3$) δ; 12.67 (s, 1H, OH), 9.19 (s, 1H, $CH_{olefinic}$), 7.58 (d, 1H, $CH_{aromatic}$), 7.27 (dd, 1H, $CH_{aromatic}$), 6.92 (d, 1H, $CH_{aromatic}$), 6.84 (dd, 1H, $CH_{aromatic}$), 3.88 (s, 3H, COOMe), 3.05-3.04 (t, 2H, CH_2), 2.93-2.60 (t, 2H, CH_2), and 2.52-2.45 (m, 2H, CH_2).

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