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4-(5-Methyl-2-furfuryl)iden-2-furfurylaminobutanolide

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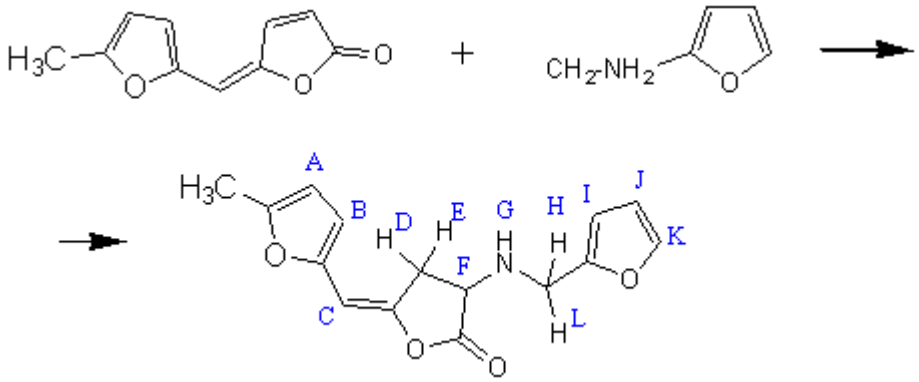

4-(5-Methyl-2-furfuryl)iden-2-furfurylaminobutanolide was prepared by the reaction of 4-(5-methyl-2-furfuryl)iden-2-butenolide and furfurylamine according to a literature procedure [1]. A mixture of 4-(5-methyl-2-furfuryl)iden-2-butenolide (1.76 g, 0.01 mol) and furfurylamine (2.94 g, 0.03 mol) was allowed to stand at room temperature for 24 h and then cooled to 0 °C for crystallization. The precipitate obtained was collected by filtration, washed with cold ethanol and recrystallized from ethanol to give 1.31 g (48 %) of the titled product.

M.p. 172-173 ° C (ethanol).

IR (nujol, cm^{-1}): 3200 (NH), 1680 (C=O), 1650 (C=C).

UV [l_{max}(nm), log e ($dm^3mol^{-1}cm^{-1}$)] (ethanol): 318 (4.48).

^{1}H NMR ($CDCl_3$, 250 MHz): 7.37 (dd, 1H, H_K, J_{KJ} = 1.3 Hz; J_{KI} = 1.0 Hz); 6.32 (m, H_J, H_I); 7.08 (t, H_C, J_{CD} = J_{CE} = 2.5 Hz); 6.43 (dd, 1H, H_B, J_{BA} = 3.5 Hz); 6.06 (dd, 1H, H_A, J_{AB} = 3.52 Hz); 5.26 (ddd, 1H, H_F, J_{FG} = 9.0 Hz; J_{FD} = 7.0 Hz; J_{FE} = 2.0 Hz); 4.85 (d, 1H, H_H, J_{HL} = 15.5 Hz); 4.38 (d, 1H, H_L, J_{LH} = 15.5 Hz); 3.48 (d, 1H, H_G, J_{GF} = 9.0 Hz); 3.31 (ddd, 1H, H_D, J_{DE} = 19.0 Hz; J_{DF} = 7.0 Hz; J_{DC} = 2.5 Hz); 2.93 (ddd, 1H, H_E, J_{ED} = 19.0 Hz; J_{EF} = 2.0 Hz; J_{EC} = 2.5 Hz); 2.33 (d, 3H, CH_3).

Anal. calc. for $C_{15}H_{14}NO_4$ (234,25): C 65.93, H 5.49, N 5.12. Found: C 65.60, H 5.60, N 4.98.

Reference

1. Sorotskaya L.N., Badovskaya L.A., Nen'ko N.I., Arustamova I.S. *Khimiya i tekhnologiya furanovykh soedineniy* (*Chemistry and technology of furan compounds*, Collection of scientific transactions, Russia) **1997**, 126-133.

Sample availability: available from authors and MDPI.