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$^3$mol$^{-1}$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$_I$, 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$_{LL}$ = 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


Sample availability: available from authors and MDPI.

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