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3-Benzyl-4-(N-benzylcarbamoylmethyl)-2-(3-pyridyl)-1,3-oxazolidine

Marina A. Tlekhusezh, Roman V. Makuilov and Larisa A. Badovskaya

Research Laboratory of Furan Chemistry, Kuban State Technological University, Moskovskaya st. 2, Krasnodar, 350072, Russian Federation; E-mail: strog@kuban.net

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The title compound was synthesized by the reaction of N-benzyl-3-benzylamino-4-hydroxybutanamide with 3-pyridinecarboxaldehyde using the procedure described in [1]. A mixture of N-benzyl-3-benzylamino-4-hydroxybutanamide (2.98 g, 0.01 mol), 3-pyridinecarboxaldehyde (nicotinaldehyde) (1.02 g, 0.01 mol), molecular sieves (Na-A, 20 g), p-TsOH (0.02 g) and dry chloroform (50 ml) was heated to reflux for 4 h. The reaction mixture was then filtered, and the solvent was evaporated. The residue was dissolved in ethyl acetate (10 ml) and cooled to 0 °C for crystallization of desired product. The crystals obtained was separated with filtration and recrystallized from ethanol to yield 3.33 g (86 %) of 3-benzyl-4-(N-benzylcarbamoylmethyl)-2-(3-pyridyl)-1,3-oxazolidine.

M.p. 93 °C (ethanol)

IR (vaseline oil, cm\(^{-1}\)): 3310 (N-H); 1650 (C=O); 1550 (N-H); 1605 (C=C).

\(^1\)H NMR (CDCl\(_3\), 250 MHz): 2.25, 2.31 (dd, dd, 2H, CH\(_2\)CO, J = 16.0 Hz); 2.41, 2.51 (d, d, 2H, NCH\(_2\)), J = 14.0 Hz); 3.5 (m, 1H, NCH); 4.07, 4.26 (dd, dd, 2H, OCH\(_2\)); 6.23 (broad s, 1H, NH); 7.18 (m, 11H, Ph, 5-H Py); 7.72 (dd, 1H, 6-H Py); 8.20 (dd, dd, 2H, NHCH\(_2\)\(_2\)), 8.50 (dd, 2H, 2,4-H Py).

Anal. calcd. for C\(_{24}\)H\(_{25}\)N\(_3\)O\(_2\) (387.48): C 74.51; H 6.62; N 10.78; Found: C 74.39; H 6.50; N 10.85.

References:


Sample availability: Available from authors and MDPI.

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