Molbank 2002, M297

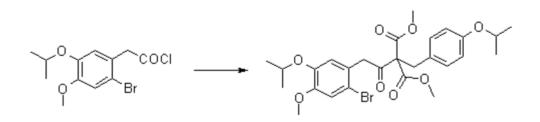
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2-[2-[2-Bromo-4-methoxy-5-(1-methylethoxy)phenyl]-1-oxoethyl]-2-[4-(1-methylethoxy)phenylmethyl]propanedioic Acid Dimethyl Ester

Matthias Treu and Ulrich Jordis*

Institute of Applied Synthetic Chemistry, Vienna University of Technology, Getreidemarkt 9/163OC, A-1060 Vienna, Austria Tel. +43 (1) 58801.15460, Fax +43(1)58801.15499, Email: ujordis@pop.tuwien.ac.at

Received: 20 December 2001 / Accepted: 8 May 2002 / Published: 27 February 2003



To a suspension of NaH (685 mg, 15.7 mmol, 55% in oil, purified by trituration with dry petroleum ether (3 x 30 mL)) in dry THF (30 mL) [[4-(1-methylethoxy)phenyl]methyl]propanedioic acid dimethyl ester [1] (4.00 g, 14.3 mmol) in dry THF (10 mL) was added at 0 °C and stirred for 1 h at ambient temperature. 2-Bromo-4-methoxy-5-(1-methylethoxy)benzeneacetyl chloride [2] (4.59 g, 14.3 mmol) in dry THF (10 mL) was added and stirred for 24 h at ambient temperature. Satd. NH4Cl (30 mL) was added, and the mixture was concentrated in vacuo to a volume of 25 mL. The residue was partitioned between water (200 mL) and Et₂O (200 mL). The aqueous layer was extracted with Et₂O (3 x 50 mL), and the combined organic layer was washed with water (4 x 150 mL) and brine (1x 200 mL), dried over Na₂SO₄, filtered and evaporated in vacuo. The residue was purified by flash chromatography (450 g SiO₂, petroleum ether : EtOAc = 95 : 5). Yield: colorless, viscous oil (5.56 g, 69%).

TLC: petroleum ether : EtOAc = 80 : 20, $R_f = 0.35$.

Anal. Calcd for C₂₇H₃₃BrO₈: C, 57.35; H, 5.88. Found: C, 57.08; H, 5.83.

¹H NMR (CDCl₃): d 7.09 (d, J = 7.9 Hz, 2H), 7.00 (s, 1H), 6.74 (d, J = 7.9 Hz, 2H), 6.62 (s, 1H), 4.62 - 4.32 (m, 2H), 4.08 (s, 2H), 3.81 (s, 3H), 3.70 (s, 6H), 3.49 (s, 2H), 1.32 (d, J = 6.5 Hz, 6H), 1.28 (d, J = 6.5 Hz, 6H).

¹³C NMR (CDCl₃): d 198.3 (s), 167.4 (s), 156.9 (s), 150.1 (s), 146.4 (s), 131.3 (d), 127.0 (s), 125.7 (s), 118.5 (s), 115.9 (d), 115.5 (d), 115.4 (d), 72.3 (d), 71.6 (d), 69.6 (s), 56.0 (q), 52.8 (q), 47.3 (t), 37.6 (t), 21.9 (q), 21.8 (q).

References and Notes

1. Jordis, U.; Froehlich, J.; Treu, M.; Hirnschall, M.; Czollner, L.; Kaelz, B.; Welzig, St. Preparation of galanthamine analogs for pharmaceutical use as acetyl- and butyrylcholinesterase inhibitors. WO 0174820, **2001** [Chemical Abstracts Nr.: 135:304054]

2. Treu, M.; Jordis, U. Molbank 2002, M296.

Samples Availability: Available from the authors.

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