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1-Ethyl 4-(2-methoxyethyl) 2-(1,2,3,4-Tetrahydro-1,3-dimethyl-2,4-dioxopyrimidin-5-yl)butanedioate

Jin-Cong Zhuo* and Hugo Wyler

Institute of Organic Chemistry, University of Lausanne, BCH, CH-1015 Lausanne-Dorigny, Switzerland. Fax: ++ 41 21 692 3955 (jincong.zhuo@ico.unil.ch)

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Scheme

The diester **2** was prepared by the addition of 2-methoxyethanol to **1** according to the reported procedure [1].

2-Methoxyethanol (0.16 ml, 2 mmol) was added to a solution of 1 (293 mg, 1 mmol) in CH₂Cl₂ (5 ml). The mixture was left at r.t. for 30 min and filtered through a pad of silica gel (EtOAc) afforded the title compound 2, a colourless oil: 340 mg (99 %).

IR (neat): 3070m, 1733vs, 1702vs, 1660vs, 1640vs, 1480s, 1460s, 1375s, 1345s, 1270s, 1255s, 1155s, 1128s, 1095s, 1030s, 920s, 860s, 780s, 755s.

¹H-NMR (CDCl₃): 7.26 (s, 1H, H-6'); 4.24 and 4.20 (2x dt, $J = 12.0, 4.6, CO_2CH_2CH_2OMe$); 4.20 and 4.17 (2x dq, $J = 11.0, 7.1, CO_2CH_2Me$), 3.91 (dd, J = 7.8, 6.0, H-2); 3.58 (t, $J = 4.6, CO_2CH_2CH_2OMe$); 3.40 (s, Me-1'); 3.37 (OMe); 3.34 (s, Me-3'); 3.12 (dd, J = 17.2, 6.0, 1H, H-3); 2.86 (dd, J = 17.2, 7.8, 1H, H-3); 1.24 (t, $J = 7.1, CO_2CH_2Me$).

¹³C-NMR (CDCl₃): 171.1 (C-4), 171.0 (C-1), 161.9 (C-4'), 151.0 (C-2'), 141.6 (C-6'), 109.7 (C-5'), 69.7 (OCH₂CH₂OMe), 63.2 (OCH₂CH₂OMe), 60.8 (CO₂CH₂Me), 58.3 (OCH₃), 39.7 (C-2), 36.5 (Me-3'), 34.7 (C-3), 27.4 (Me-1'), 13.5 (CO₂CH₂CH₃).

EI-MS: 342 (M⁺, 4), 297(7), 296 (20), 268 (19), 267 (8), 266 (17), 239 (8), 238 (33), 237 (14), 194 (15), 193 (100), 167 (8), 166 (26), 165 (19), 110 (5), 81 (28), 80 (15), 69 (4), 68 (7), 59 (29), 56 (2).

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References

1. Zhuo, J.-C.; Wyler, H. Helv. Chim. Acta 1993, 76, 1916.

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