

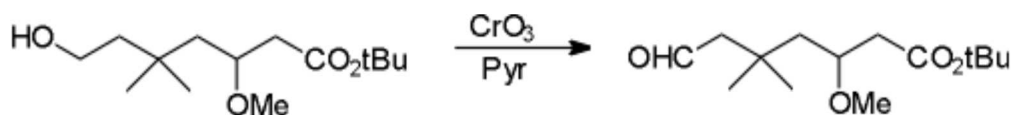
Molecules **1997**, *2*, M32

tert-Butyl-3-methoxy-5,5-dimethyl-7-oxo-heptanoate

Douglas A. Smith

The DASGroup, Inc., 1732 Lyter Drive, 2nd Floor, Johnstown, Pennsylvania 15905-1206, USA, and Department of Chemistry, University of Toledo, Toledo, Ohio 43606-3390, USA. Tel. +1 814 255 7859, Fax +1 814 255 3517, Email dsmith@dasgroup.com

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Scheme

Hydroboration of tert-butyl-3-methoxy-5,5-dimethyl-6-heptenoate [1] with either $\text{BH}_3 \dots \text{THF}$ or $\text{BH}_3 \dots \text{Me}_2\text{S}$ provided the terminal alcohol tert-butyl-3-methoxy-5,5-dimethyl-7-hydroxy-heptanoate, in unoptimized, nonreproducible and disappointingly low 30% yield [2]. The poor yield is presumably due to isolation problems. Typically, this alcohol was not isolated but was directly oxidized as follows without purification.

To a room temperature solution of pyridine (6.2 ml, 77 mmol) and CrO_3 (3.9g, 39 mmol) in CH_2Cl_2 (60 ml), the title compound (1.65g, 6.4 mmol) in CH_2Cl_2 (15 ml) was added. After stirring for 30 minutes, the reaction was poured into ether (400 ml), then filtered through Florisil and concentrated to give, after flash chromatography (4 : 1 pet ether : ether) the title aldehyde as a colorless oil, 1.12g, in 75 percent yield. This aldehyde was unstable and typically used immediately and without purification.

^1H NMR (CDCl_3): d: 9.87 (t, $J = 2.8\text{Hz}$, 1H), 3.75 (m, 1H), 3.23 (s, 3H), 2.68 (dd, $J = 14.7, 4.1\text{Hz}$, 1H), 2.52 (dd, $J = 12.7, 2.8\text{Hz}$, 1H), 2.25 - 2.21 (m, 2H), 1.78 (dd, $J = 12.3, 7.4\text{Hz}$, 1H), 1.42 (s, 9H), 1.5 - 1.3 (m, 1H), 1.04 (s, 6H).

References and Notes

1. Smith, D. tert-Butyl-3-methoxy-5,5-dimethyl-6-heptenoate, *Molecules* **1997**, *2*, M30.
2. Smith, D. tert-Butyl-3-methoxy-5,5-dimethyl-7-hydroxy-heptanoate, *Molecules* **1997**, *2*, M31.

Sample Availability: No sample available.

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