

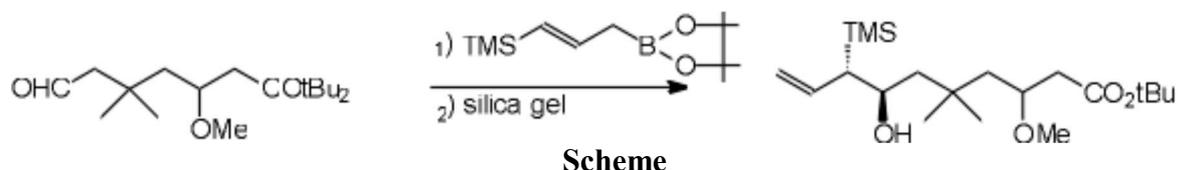
Molecules **1997**, *2*, M33

tert-Butyl-3-methoxy-5,5-dimethyl-7-hydroxy-8-trimethylsilyl-9-decenoate

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The crude aldehyde, *tert*-butyl-3-methoxy-5,5-dimethyl-7-oxo-heptanoate [1] was treated with pinacol *E*-1-trimethylsilyl-1-propene-3-boronate [2] in petroleum ether at room temperature to provide a 50% yield of the diastereomeric boronic esters, which were simultaneously cleaved to the alcohols and readily separated by flash chromatography.

Following the procedure of Tsai and Matteson [2] the crude aldehyde and pinacol *E*-1-trimethylsilyl-1-propene-3-boronate were stirred at room temperature in ether for 40 hours and then concentrated. The title compound was obtained as a colorless oil as an 1 : 1 mixture of separable (flash chromatography, 10 : 1 pet ether : ether) diastereoisomers in 50% yield.

Less polar diastereoisomer.

¹H NMR (CDCl₃): d: 5.83 (dt, *J* = 17.1, 10.5Hz, 1H), 4.93 (dd, *J* = 10.5, 2.3Hz, 1H), 4.83 (dd, *J* = 17.1, 2.3Hz, 1H), 4.0 (m, 1H), 3.68 (m, 1H), 3.33 (s, 3H), 2.54 (dd, *J* = 14.8, 4.4Hz, 1H), 2.17 (dd, *J* = 14.8, 8.4Hz, 1H), 1.96 (dd, *J* = 15.2, 10.2Hz, 1H), 1.7 (dd, *J* = 14.9, 10.2Hz, 1H), 1.42 (s, 10H), 1.2 - 1.0 (m, 3H), 0.94 (s, 3H), 0.91 (s, 3H), 0.01 (s, 9H).

IR (CDCl₃): 3450, 2965, 1720, 1460, 1370, 1255, 1060, 880.

MS (*m/e*): 316, 315, 284, 283, 226, 203, 194, 171, 157, 143, 127 (100).

HRMS: calc. for C₁₆H₃₂O₄Si (M - C₄H₈): 316.2070; found: 316.2070.

More polar diastereoisomer.

¹H NMR (CDCl₃): d: 5.81 (dt, 17.1, 10.5Hz, 1H), 5.00 (dd, *J* = 10.5, 2.2Hz, 1H), 4.88 (dd, *J* = 17.1, 2.2Hz, 1H), 3.98 (m, 1H), 3.64 (m, 1H), 3.26 (s, 3H), 2.53 (dd, *J* = 15.0, 4.9Hz, 1H), 2.19 (dd, *J* = 15.0, 7.9Hz, 1H), 1.89 (d, *J* = 5.2Hz, 1H), 1.7 - 1.2 (m, 4H), 1.42 (s, 9H), 1.15 - 1.05 (m, 1H), 0.96 (s, 3H), 0.94 (s, 3H), 0.02 (s, 9H).

IR (CDCl₃): 3400, 2950, 1715, 1460, 1365, 880.

MS (*m/e*): 316, 315, 284, 283, 226, 203, 194, 171, 157, 143, 127 (100).

Anal. calc. for C₁₆H₃₂O₄Si (M - C₄H₈): 316.2070; found: 316.2070.

References and Notes

1. Smith, D. *tert*-Butyl-3-methoxy-5,5-dimethyl-7-oxo-heptanoate, *Molecules* **1997**, *2*, M32.
2. Tsai, D. J. S.; Matteson, D. S., *Tetrahedron Lett.* **1981**, *22*, 2751.

Sample Availability: No sample available.

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