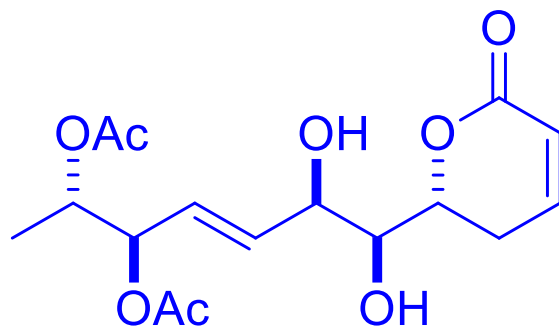


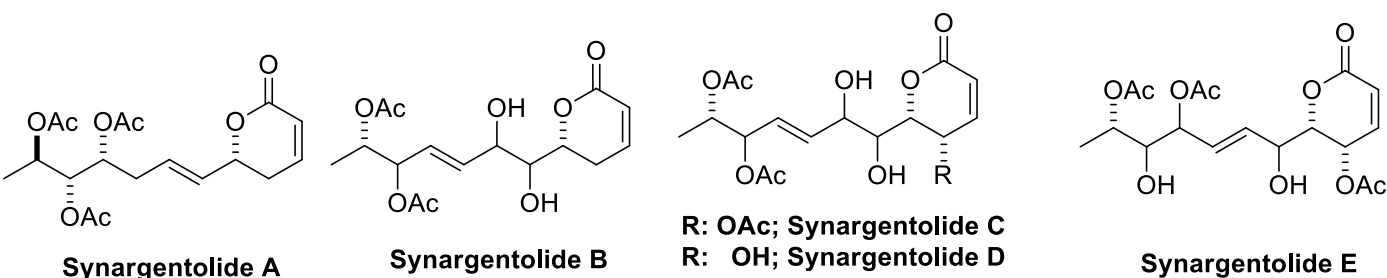
Total Synthesis and Determination of the Absolute Configuration of 5,6-Dihydro- α -pyrone Natural Product Synargentolide B

Kavirayani R. Prasad and Phaneendra Gutala
J. Org. Chem. 2013, 78, 3313–3322



Synargentolide B

Mustafa Kazancioglu
Current Literature
20 April 2013



Synargentolide B is such a pyrone isolated from *Syncolostemon argenteus* by Rivett's group in 1998 along with other synargentolides A, C, D, and E.

Also, a natural product isolated in 1990 by Pereda-Miranda et al., nine years prior to the isolation of Synargentolide B, whose structure was proposed based on the natural product 4-deacetoxy-10-*epi*-olguine, proved to be identical to Synargentolide B as shown by the synthesis of Prasad and Gutala.

They exhibit a range of potent biological properties, anticancer activity, cytotoxic and anti-tumor.

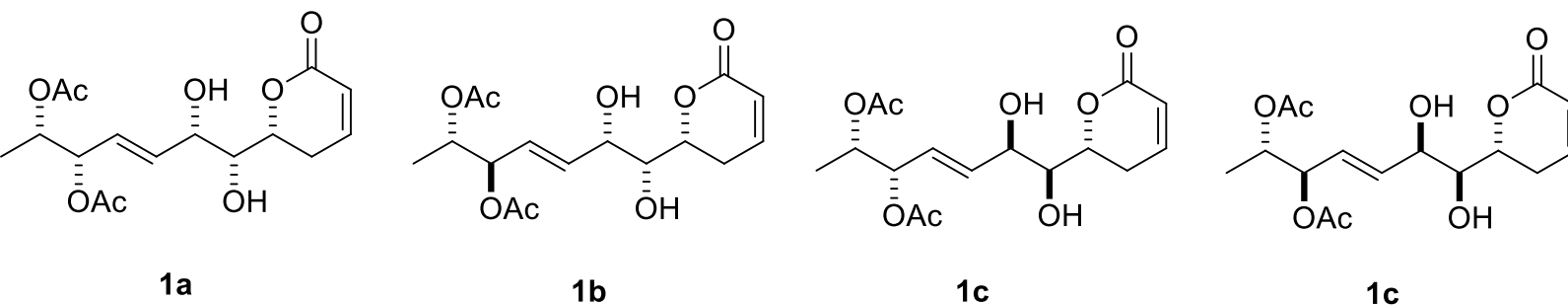
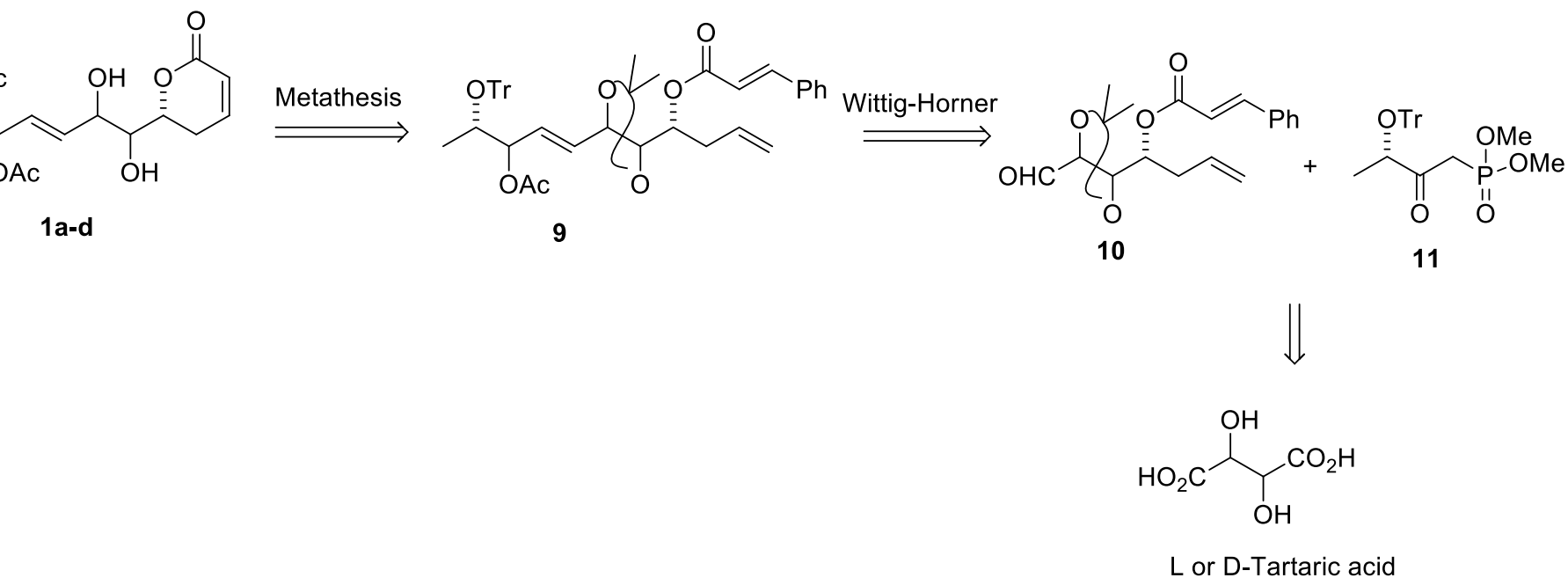
Also, they inhibit HIV protease, induce apoptosis, and have proven to be anti-leukemic, along with having many other relevant pharmacological properties.

opal, P.; Reddy, C. N.;Yadav, J. S. *Tetrahedron Lett.* **2009**, 50, 6298.

Carda, M.; Murga, J.; Falomir, E. *Tetrahedron* **2007**, 63, 2929.

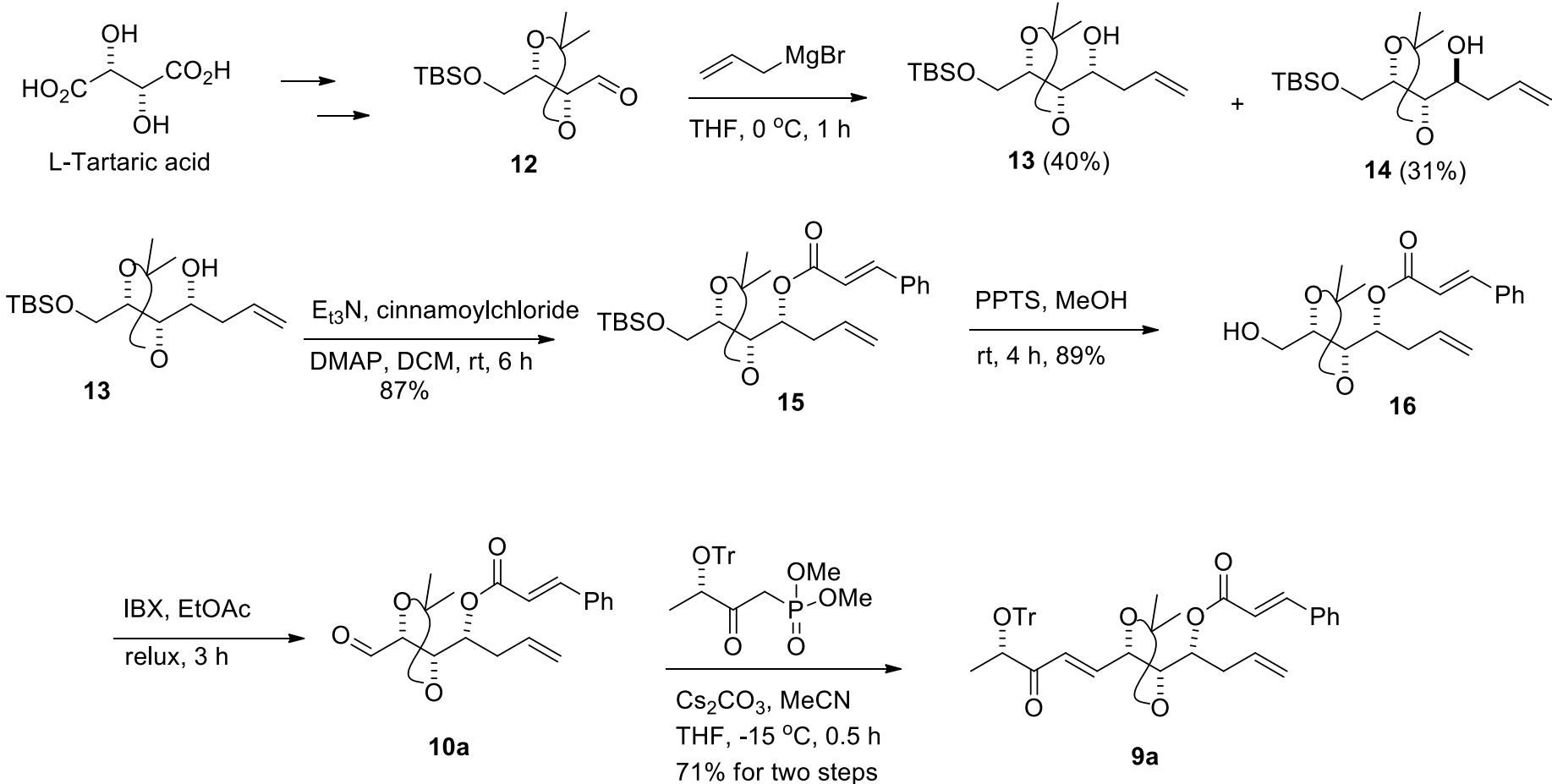
Penchalaiah, K. J. *Org. Chem.* **2011**, 76, 6889.

Synthesis for the Synthesis of Diastereomers 1a-d



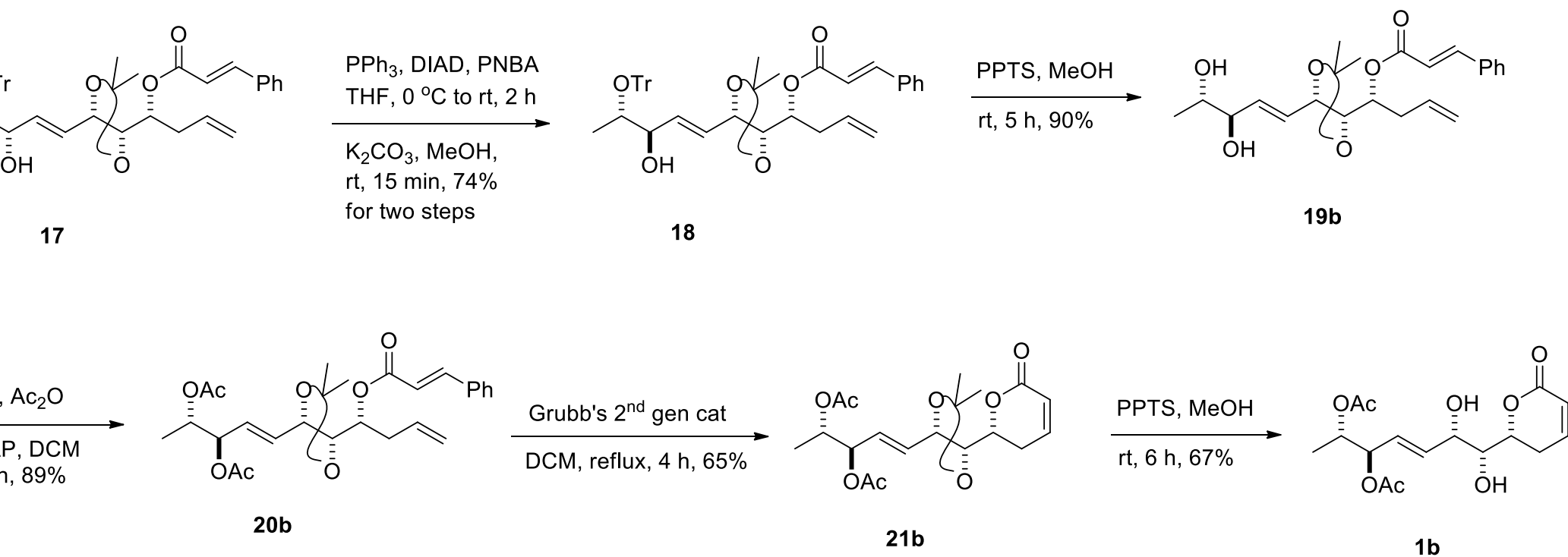
Penchalaiah, K. *J. Org. Chem.* **2011**, 76, 6889.

Synthesis of the Diastereomer 1a:



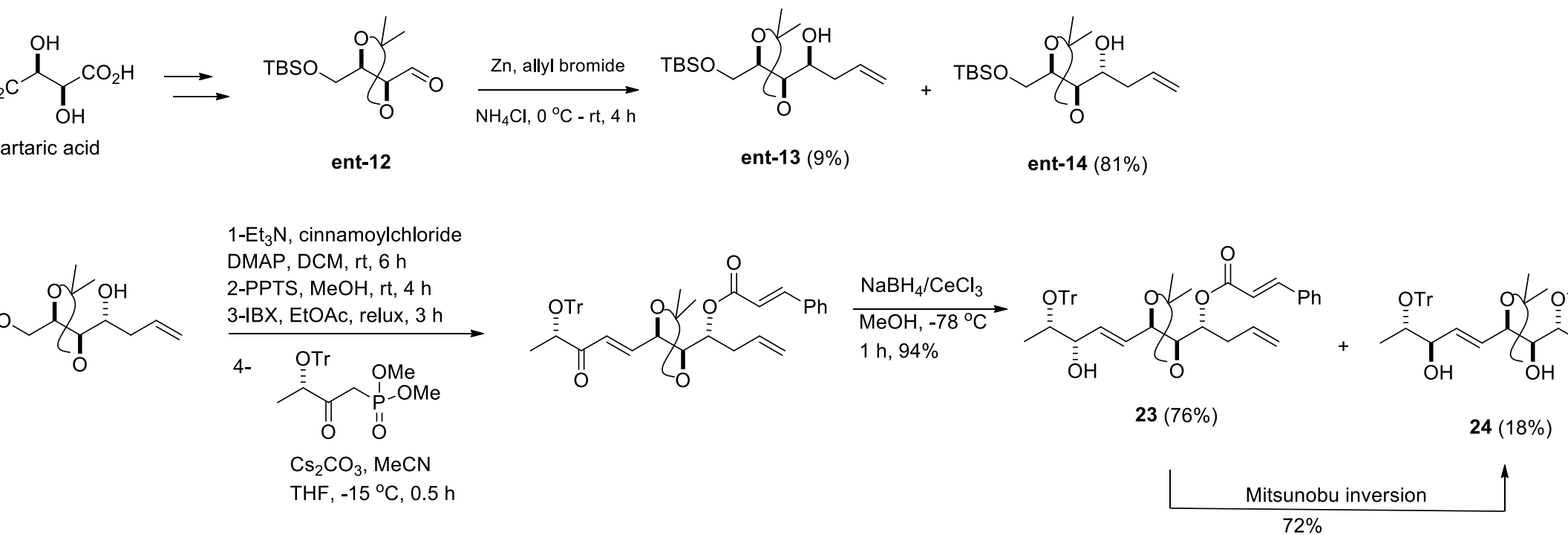
Penchalaiah, K. *J. Org. Chem.* **2011**, *76*, 6889.

Synthesis of the Diastereomer 1b:

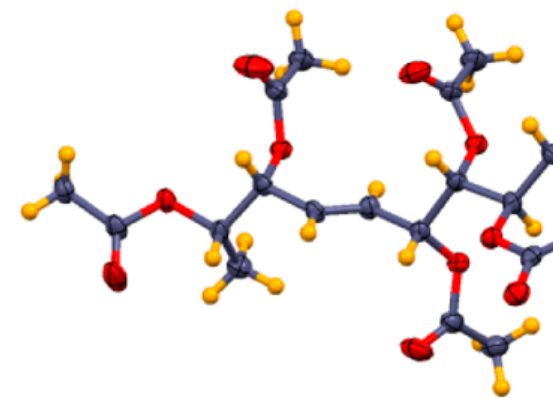
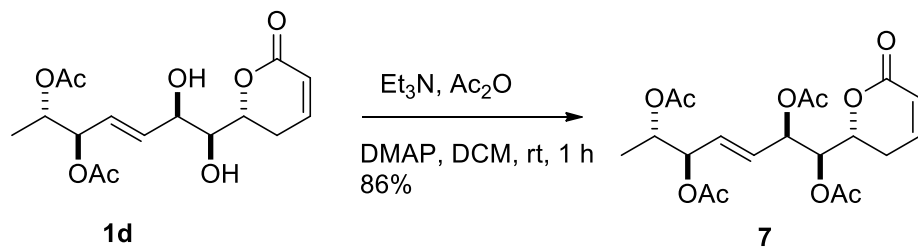
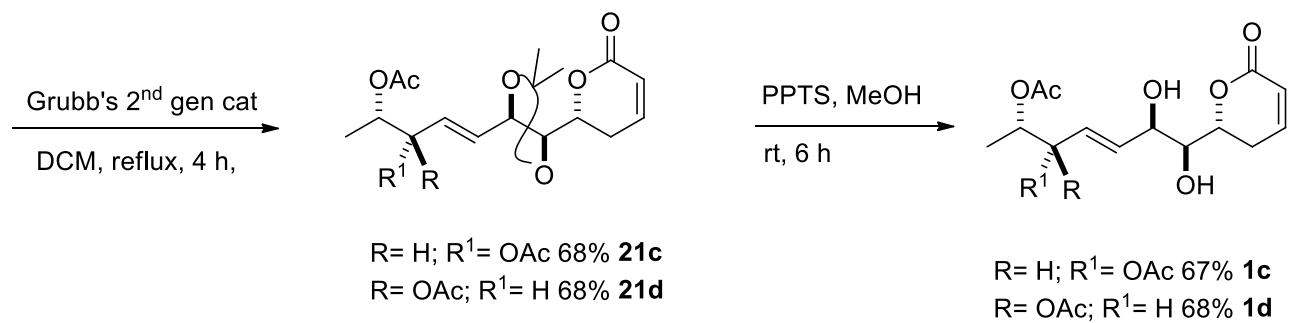
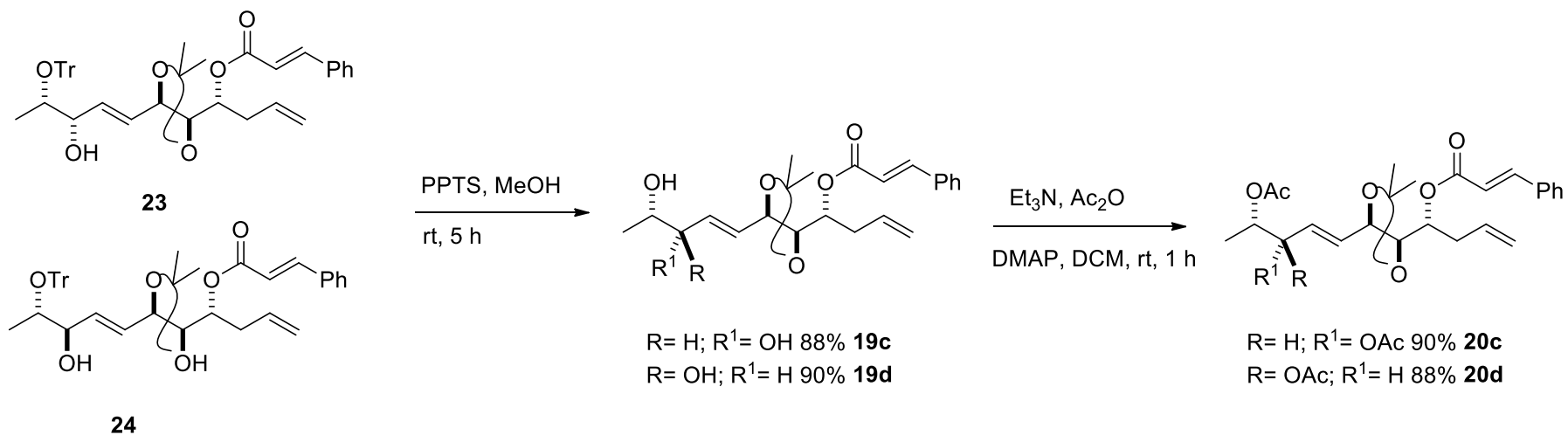


Penchalaiah, K. *J. Org. Chem.* **2011**, 76, 6889.

Synthesis of the Acetals 21c and 21d and the diastereomers 21e and 21f:



Penchalaiah, K. *J. Org. Chem.* **2011**, *76*, 6889.



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Conclusion:

Total synthesis of Synargentolide B(1a-d) was achieved.

The absolute stereochemistry was determined by X-ray crystal structure of the corresponding acetate 7.

One of the diastereomers (1d) NMR spectral data was in agreement with previous works.

