



Síntesis total de (β)-herboxidieno a partir de dos cetonas quirales derivadas del lactato

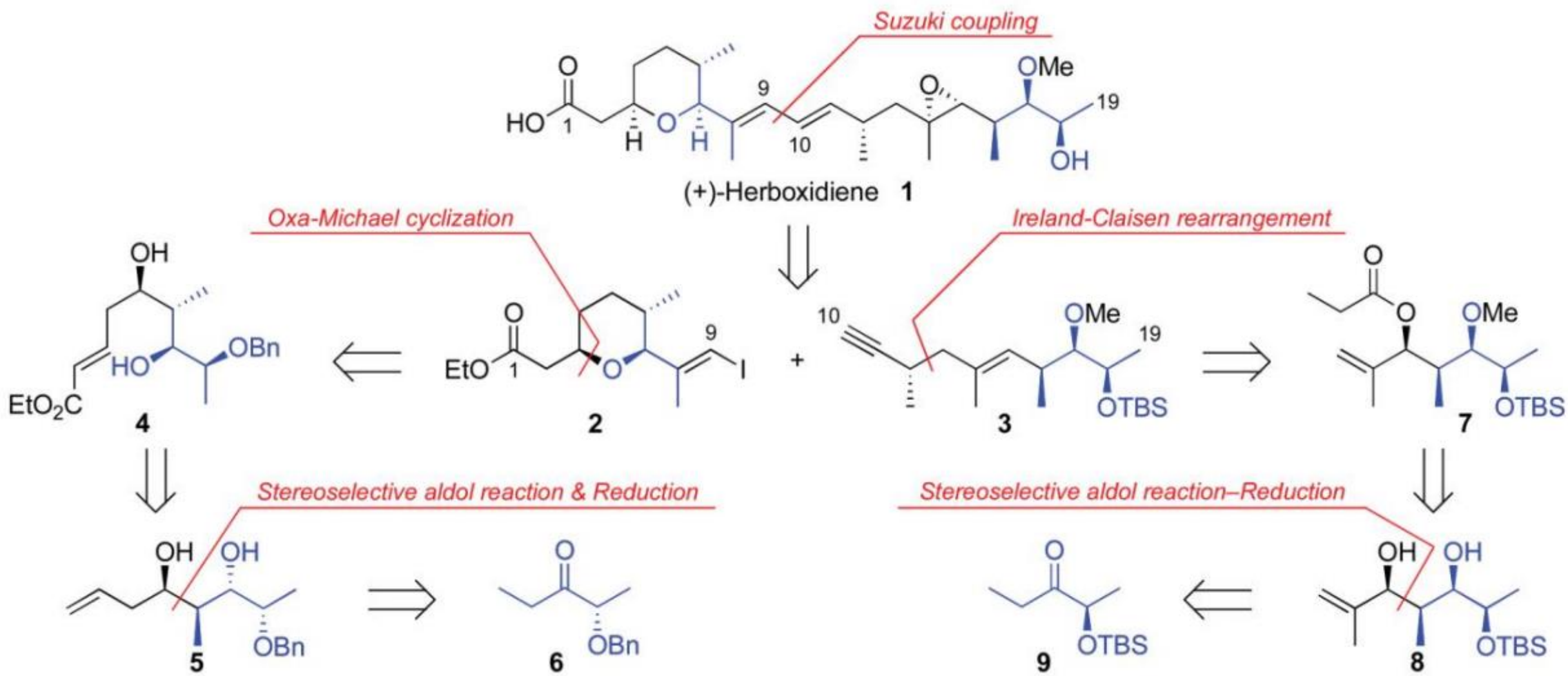
Q. Maria Laura Pescoso Garrido

Pellicena, M., Krämer, K., Romea, P., & Urpí, F. (2011). Total synthesis of (+)-Herboxidiene from two chiral lactate-derived ketones. Organic Letters, 13(19), 5350–5353.
<https://doi.org/10.1021/ol202210k>

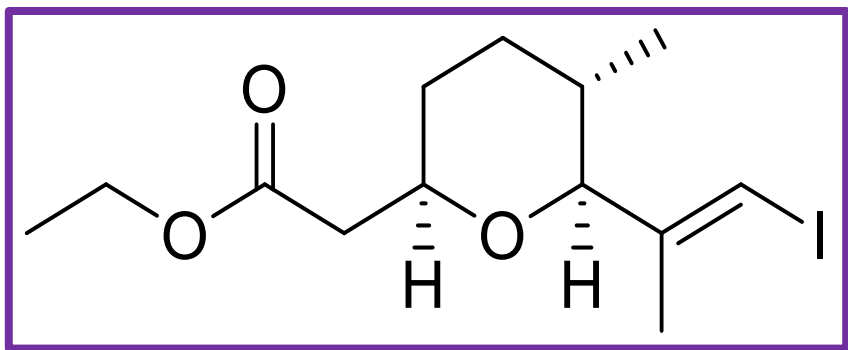
ORGANIC
LETTERS

2011
Vol. 13, No. 19
5350–5353

Análisis retrosintético



Síntesis del compuesto 2



Adición aldólica mediada por titanio

Reducción de Evans-Saksena

Metátesis cruzada

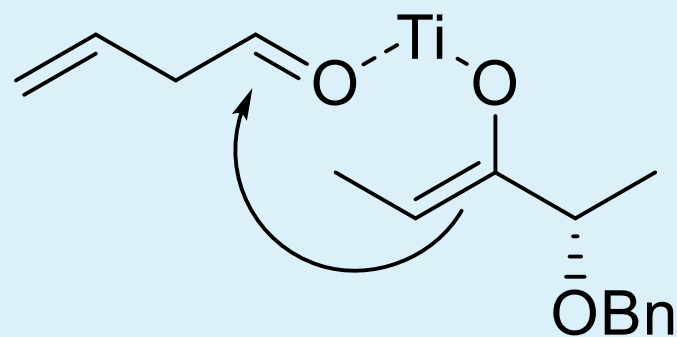
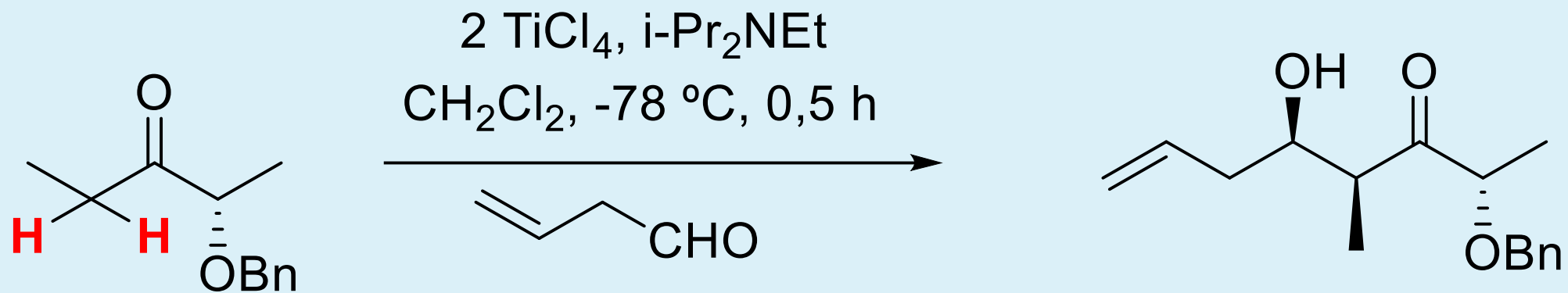
Ciclación Oxa-Michael

Eliminación Barton McCombie

Hidrogenólisis y oxidación de Swern

Olefinación de Takai

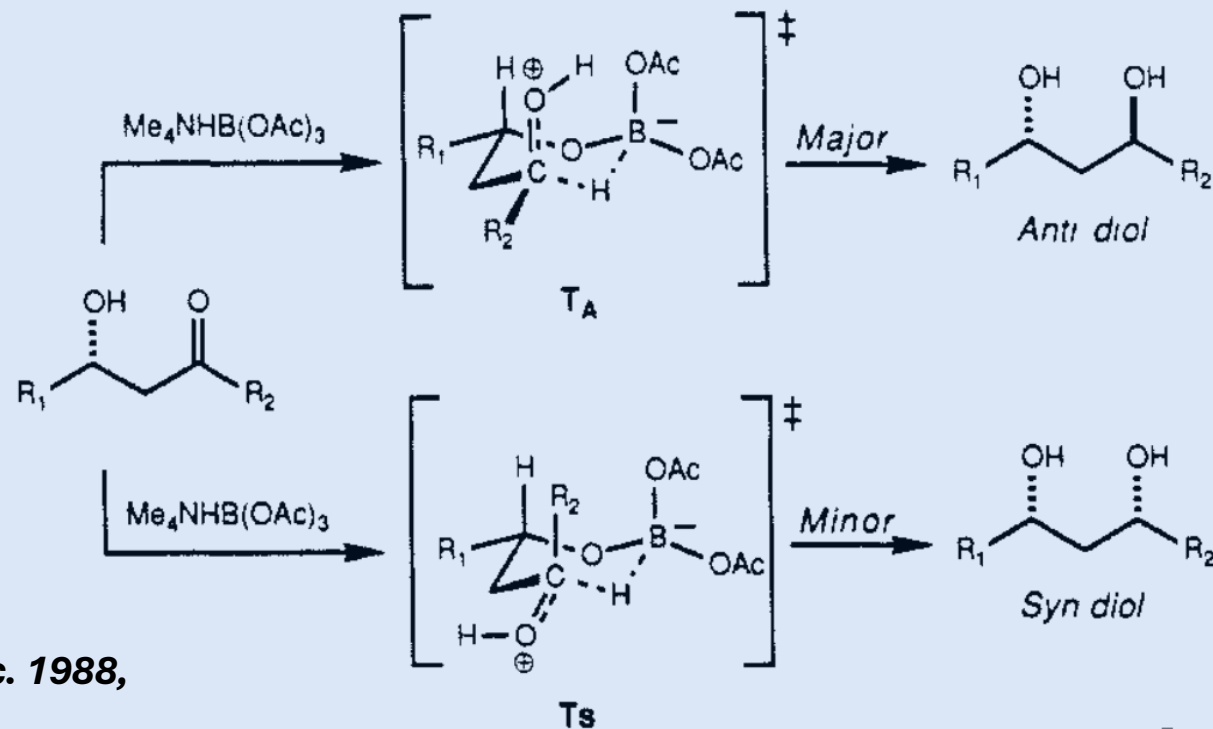
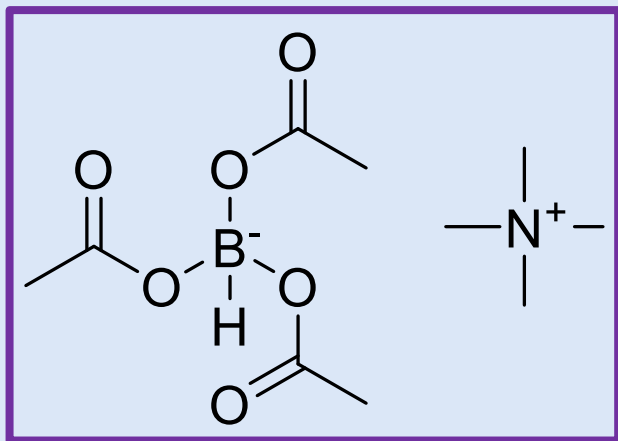
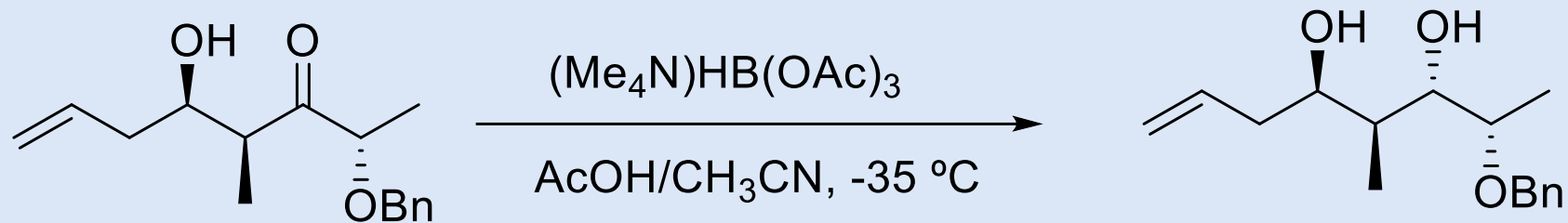
Adición aldólica mediada por titanio



Ataque por la cara Si

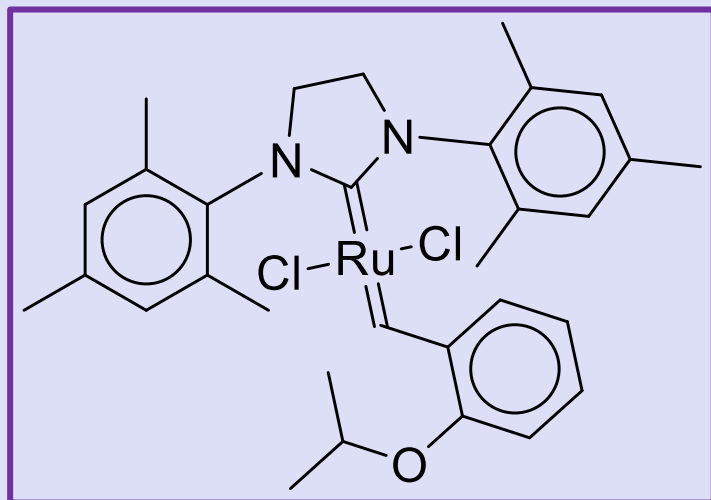
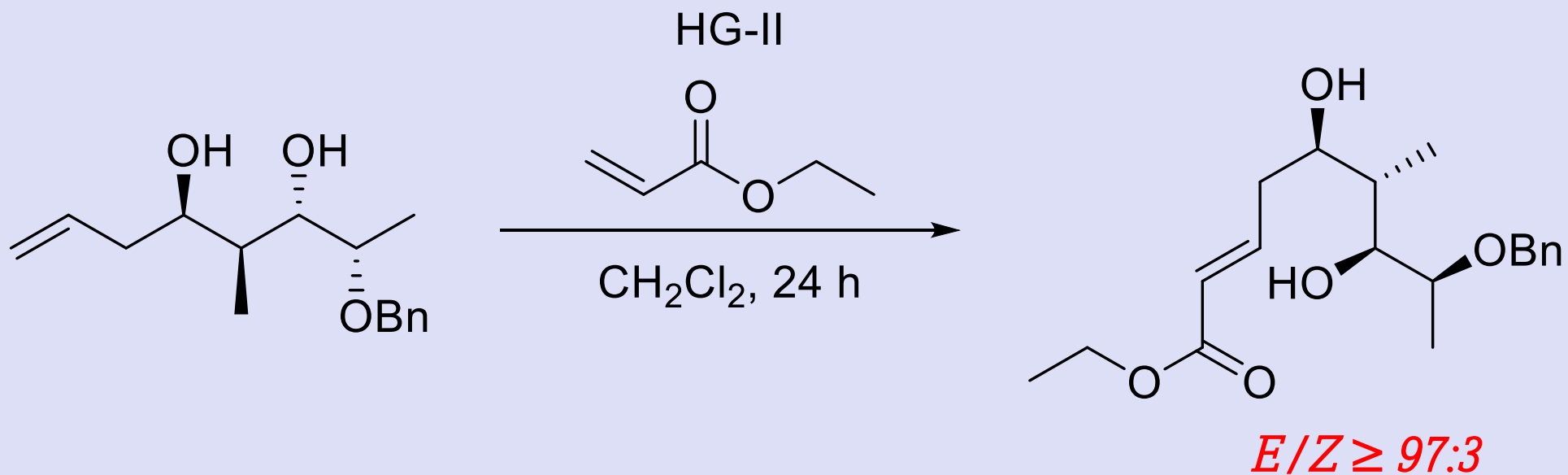
Reducción de Evans-Saksena

Reducción diastereoselectiva de β -hidroxicetonas a los correspondientes dioles anti, empleando el reactivo triacetoxiborohidruro de tetrametilamonio.

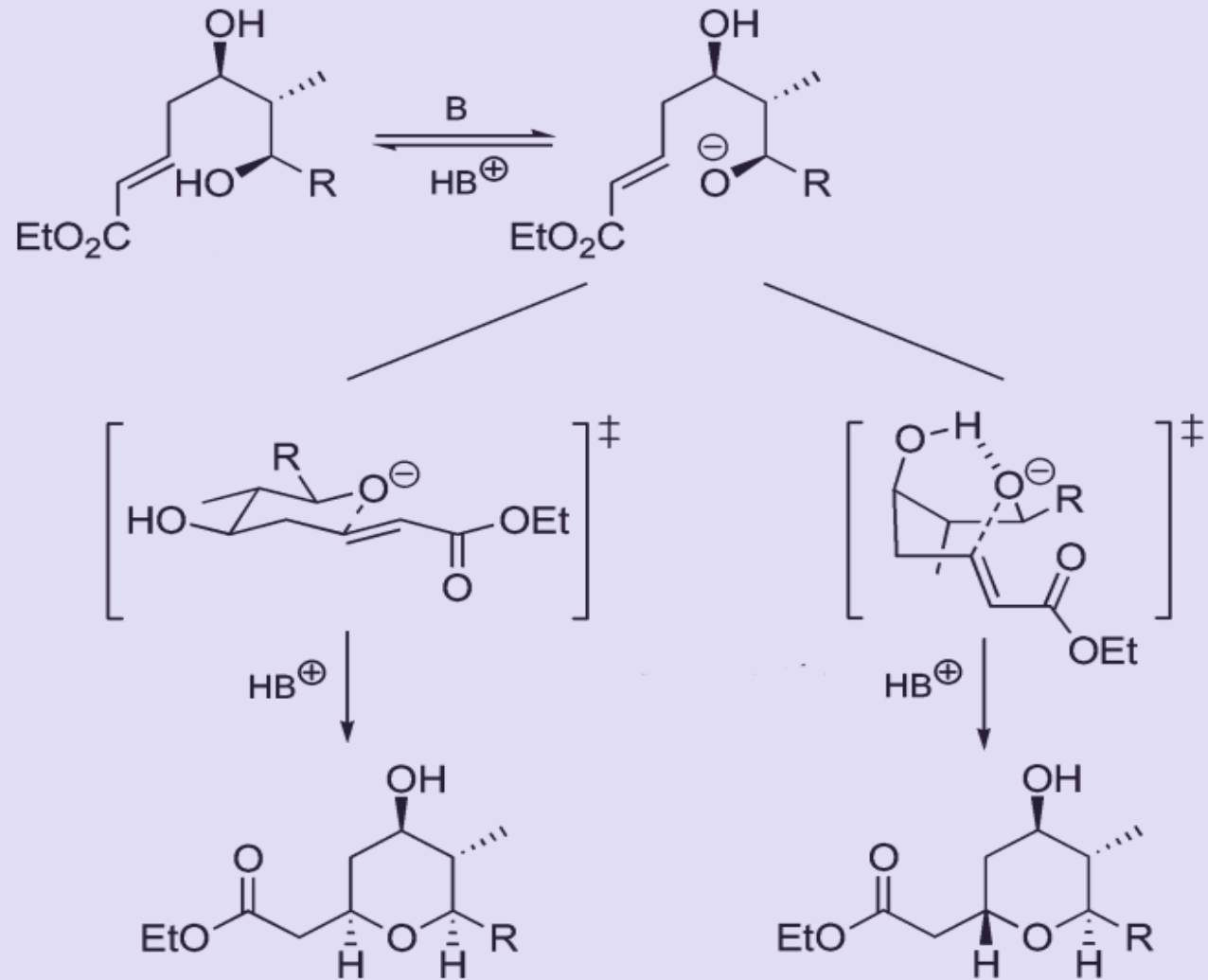


Evans, D. A.; Chapman, K. T.; Carreira, E. M. *J. Am. Chem. Soc.* 1988, 110, 3560–3578

Metátesis cruzada

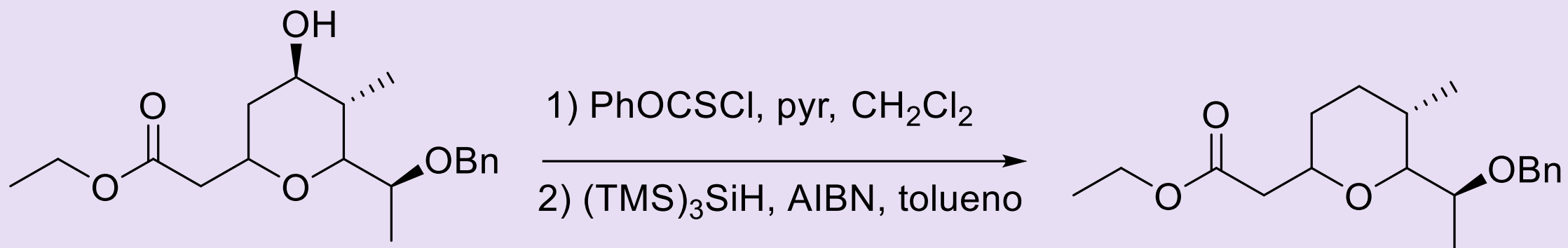


Ciclación Oxa-Michael

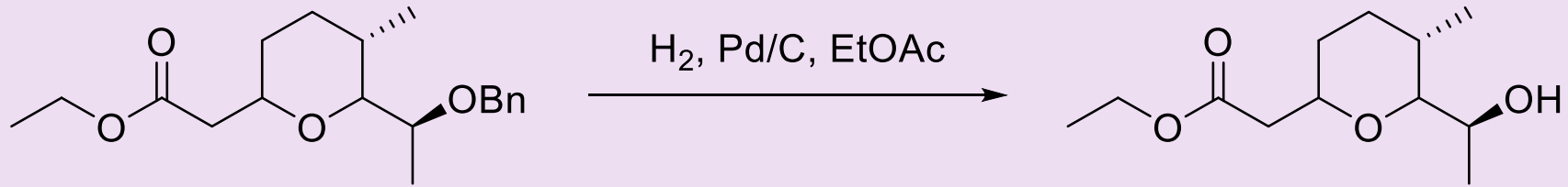


Eliminación Barton McCombie

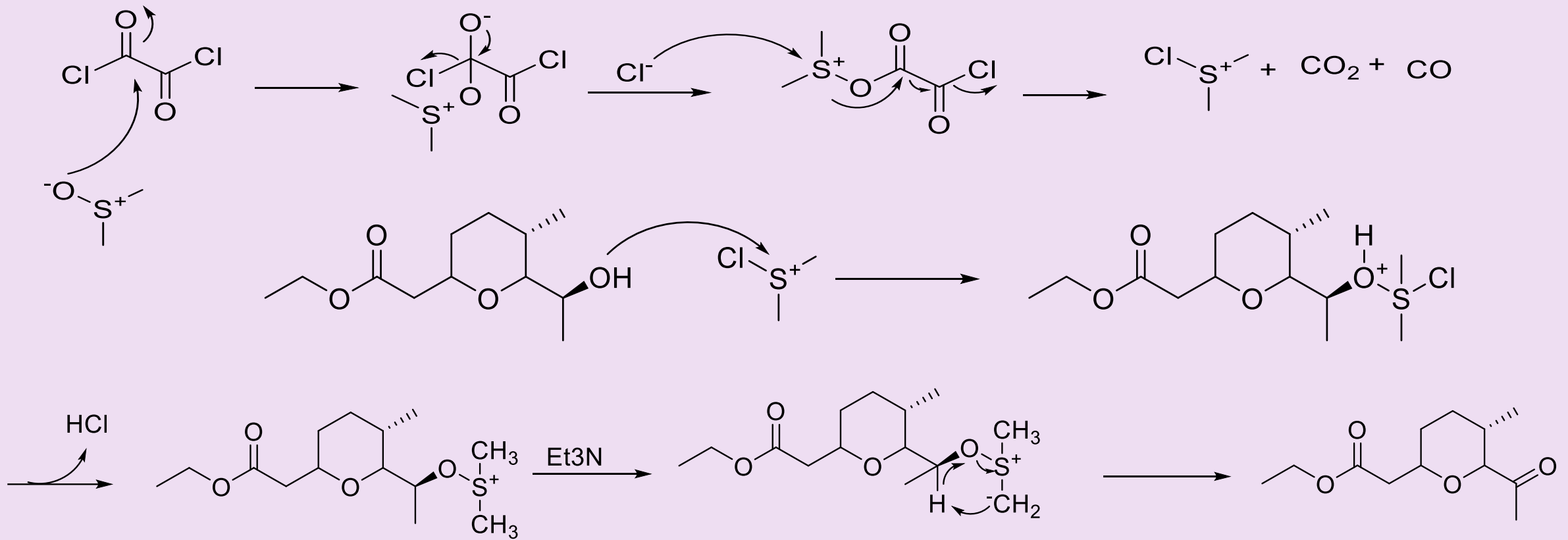
Desoxigenación de alcoholes para dar hidrocarburos mediante xantatos



Hidrogenólisis

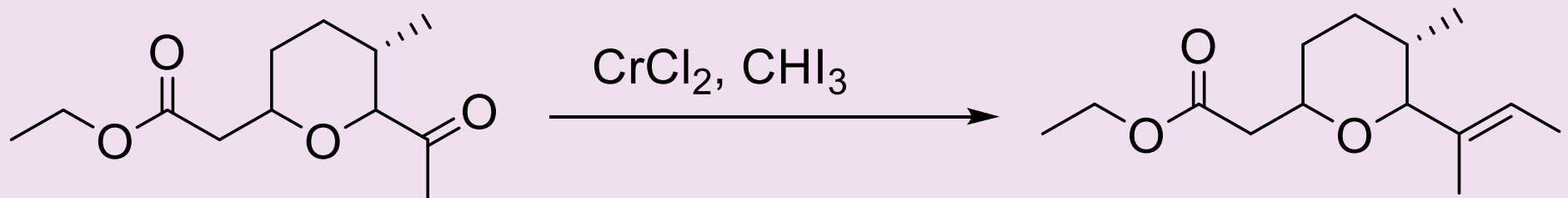


Oxidación de Swern

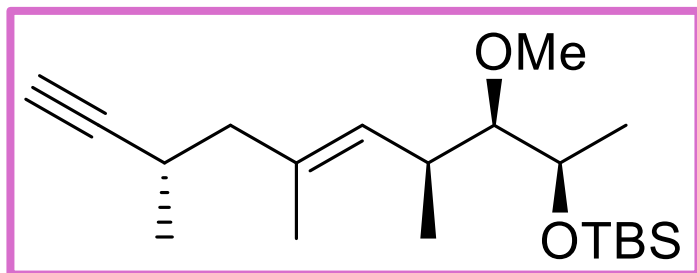


Olefinación de Takai

Homologación de un carbono de compuestos carbonílicos mediada por cromo (II) utilizando haloformas para producir los correspondientes haluros de (E)- alqueno



Síntesis del compuesto 3



Obtención del intermediario 7

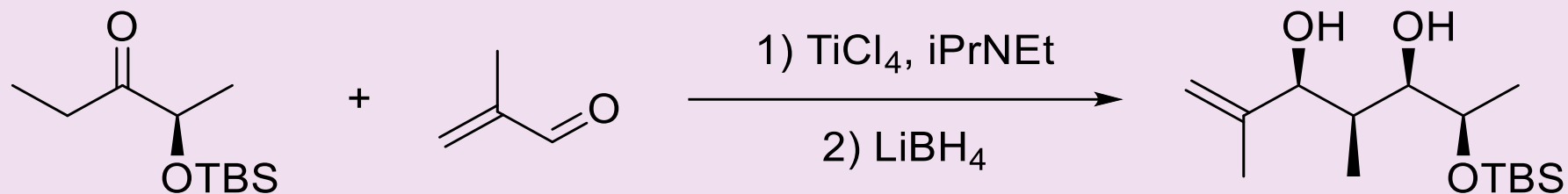
Reordenamiento de Ireland - Claisen

Oxidación de Swern

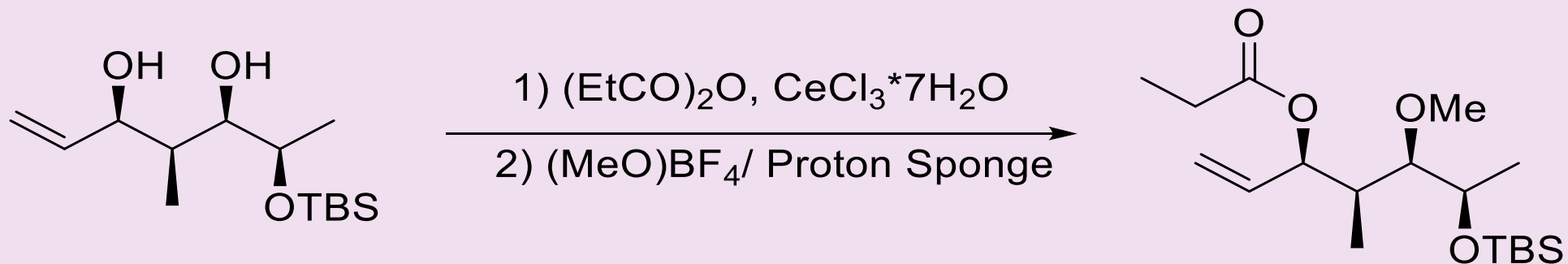
Ohira – Bestmann

Obtención del intermediario 7

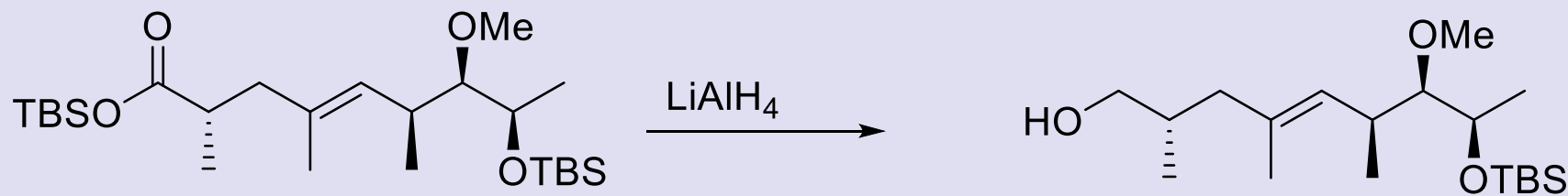
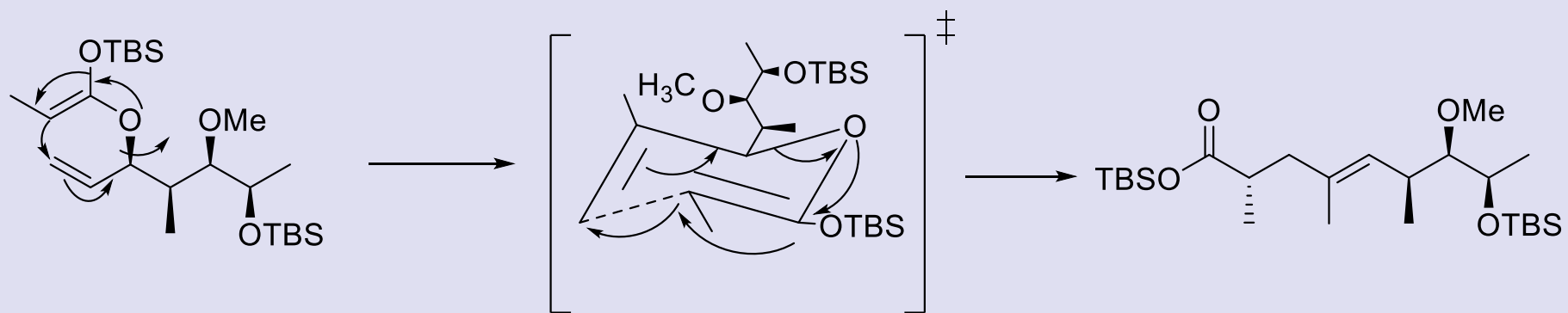
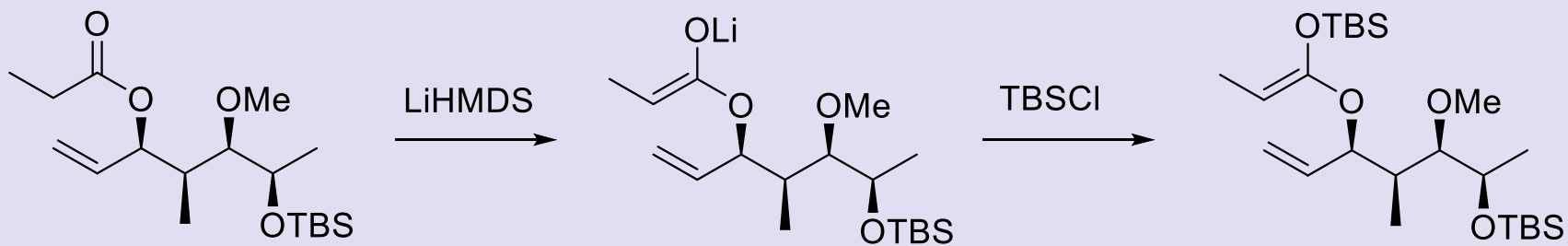
Adición aldólica mediada por Ti



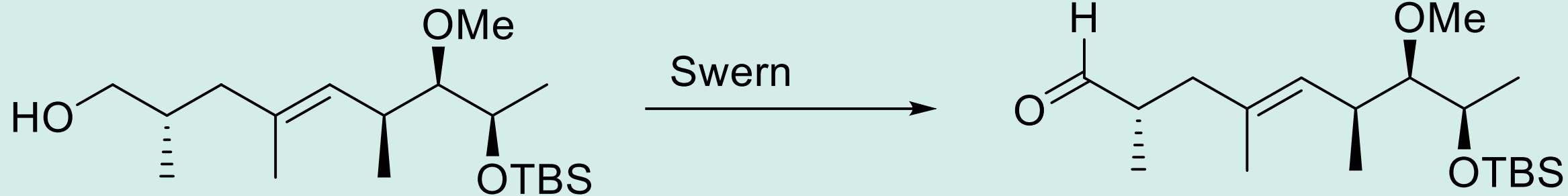
Acilación y metilación



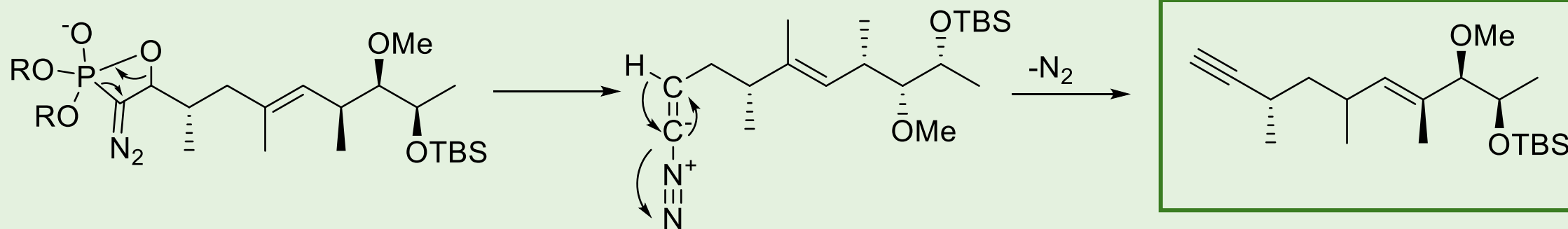
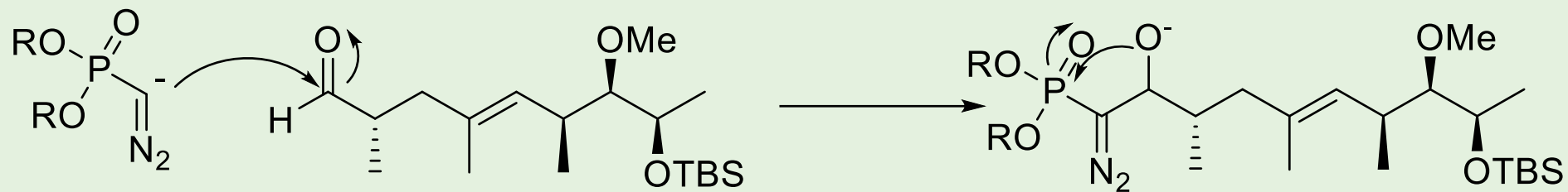
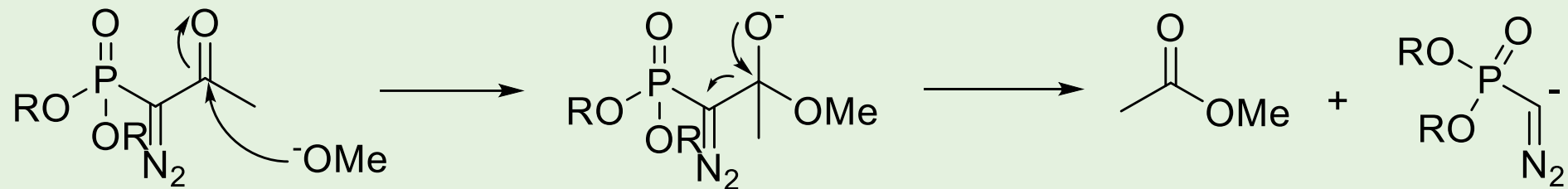
Reordenamiento de Ireland - Claisen



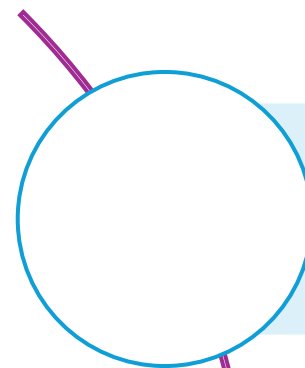
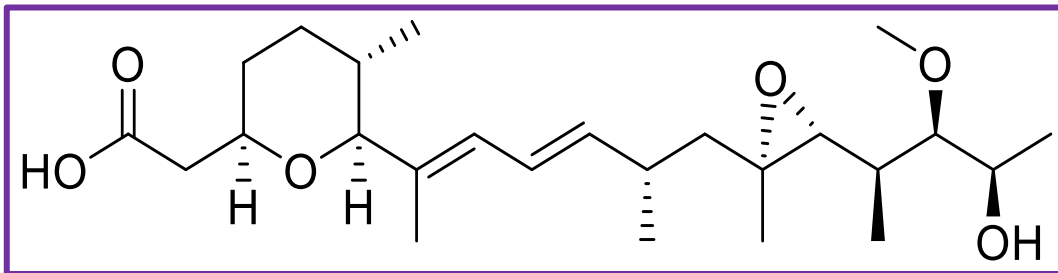
Oxidación de Swern



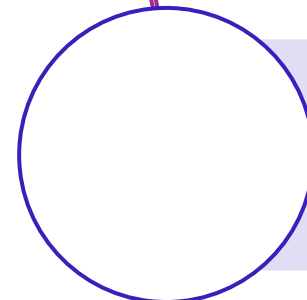
Ohira – Bestmann



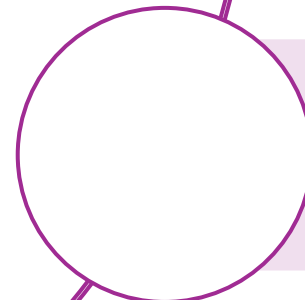
Obtención del Herboxidieno



Hidroboración de 3

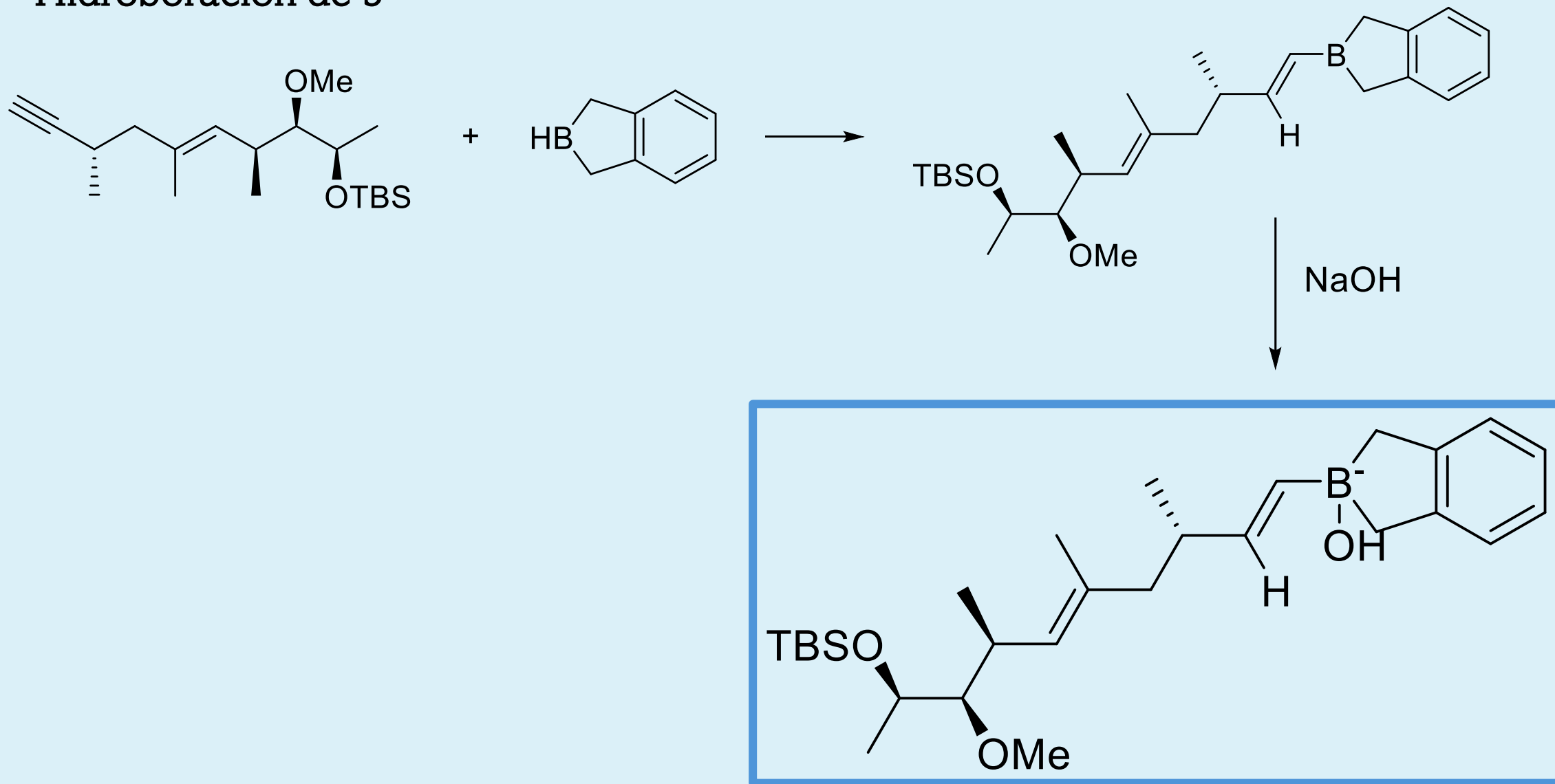


Acoplamiento de Suzuki

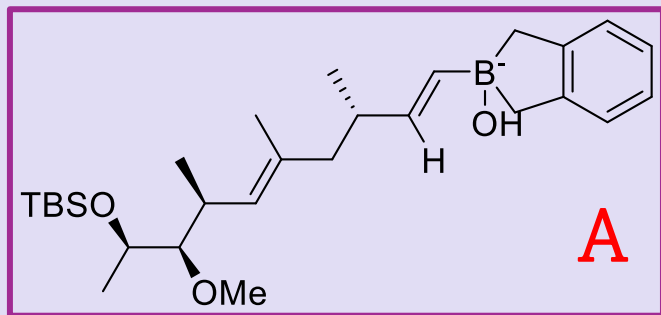
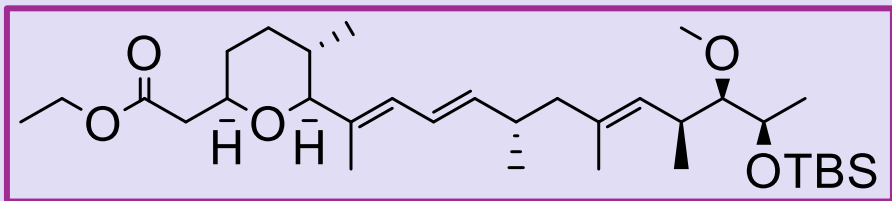


Desprotección, Epoxidación y saponificación

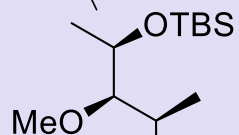
Hidroboración de 3



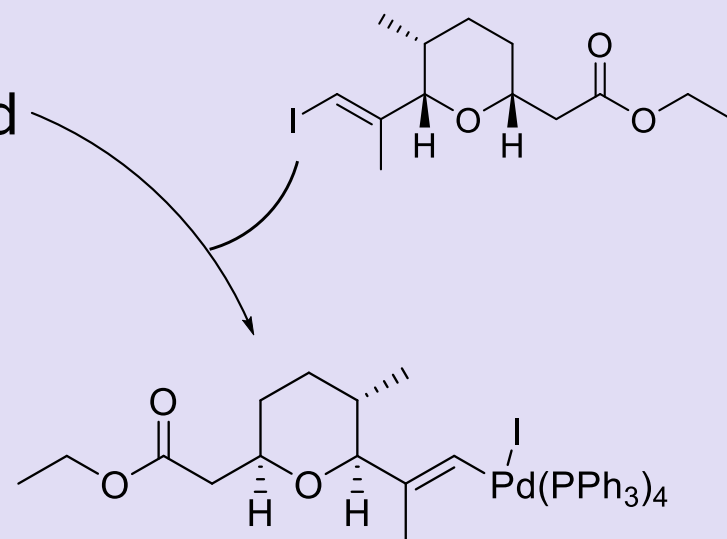
Acoplamiento de Suzuki



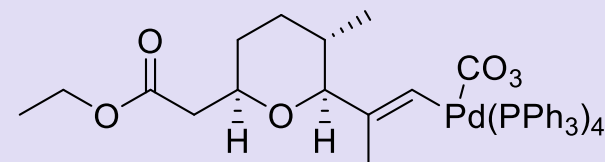
PPh_3



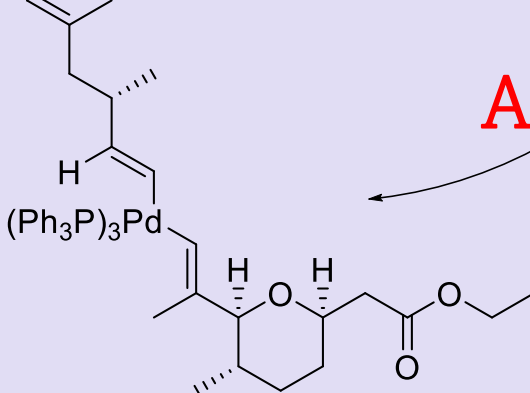
$(\text{Ph}_3\text{P})_4\text{Pd}$



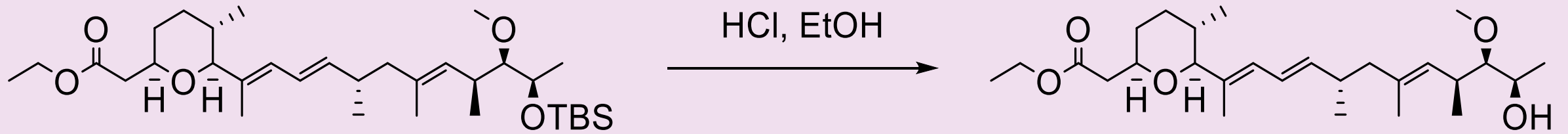
Ti_2CO_3



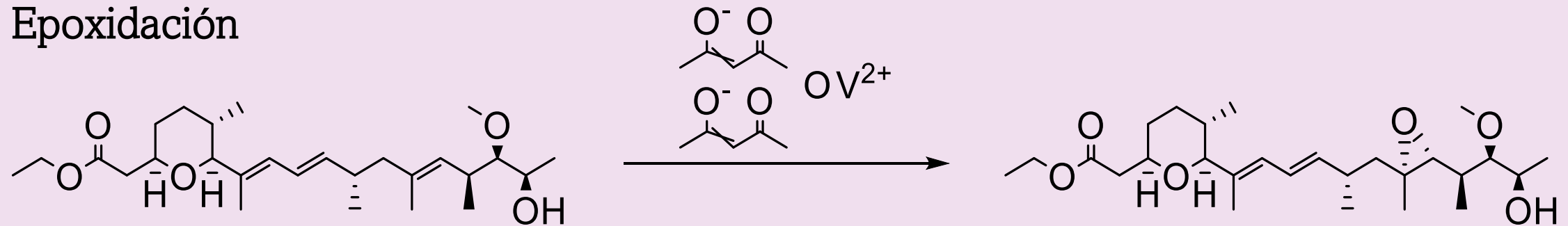
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Desprotección



Epoxidación



Saponificación

