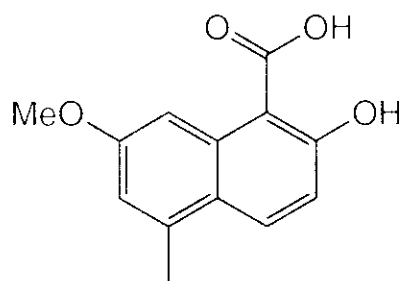
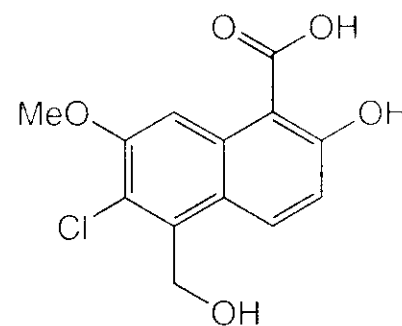


Method for the Rapid Synthesis of Highly Functionalized 2-Hydroxy-1-naphthoates. Syntheses of the Naphthoic Acid Components of Neocarzinostatin Chromophore and N1999A2



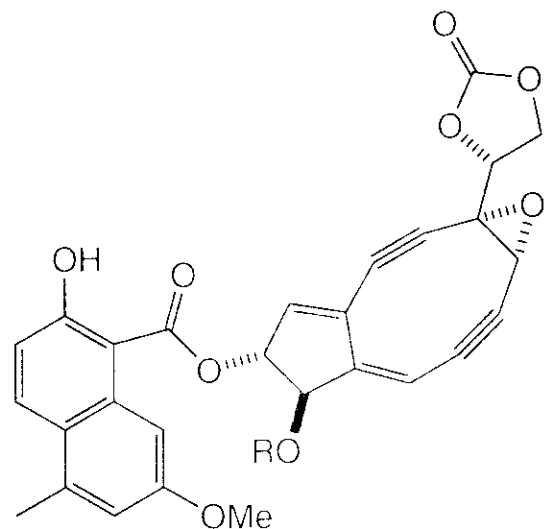
NCS Naphthoic Acid (1)



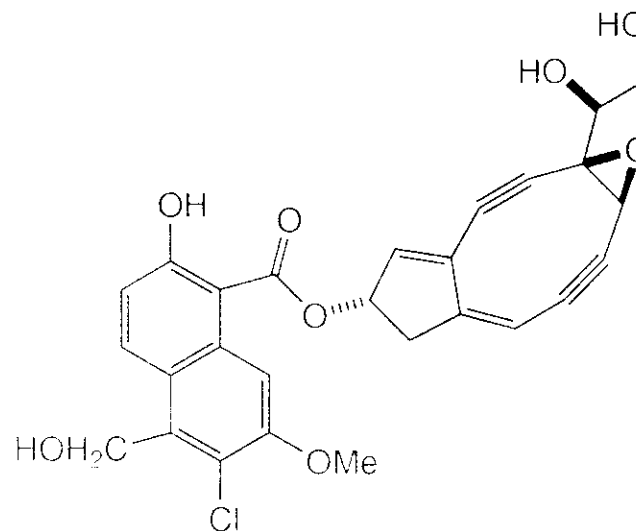
N1999A2 Naphthoic Acid (2)

Ji, N.; Rosen, B. M.; Myers, A. G. *Org. Lett.* **2004**, *6*, 4551.

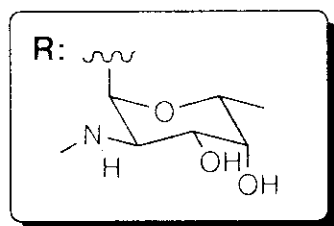
Complex 2-Hydroxy-1-naphthoates



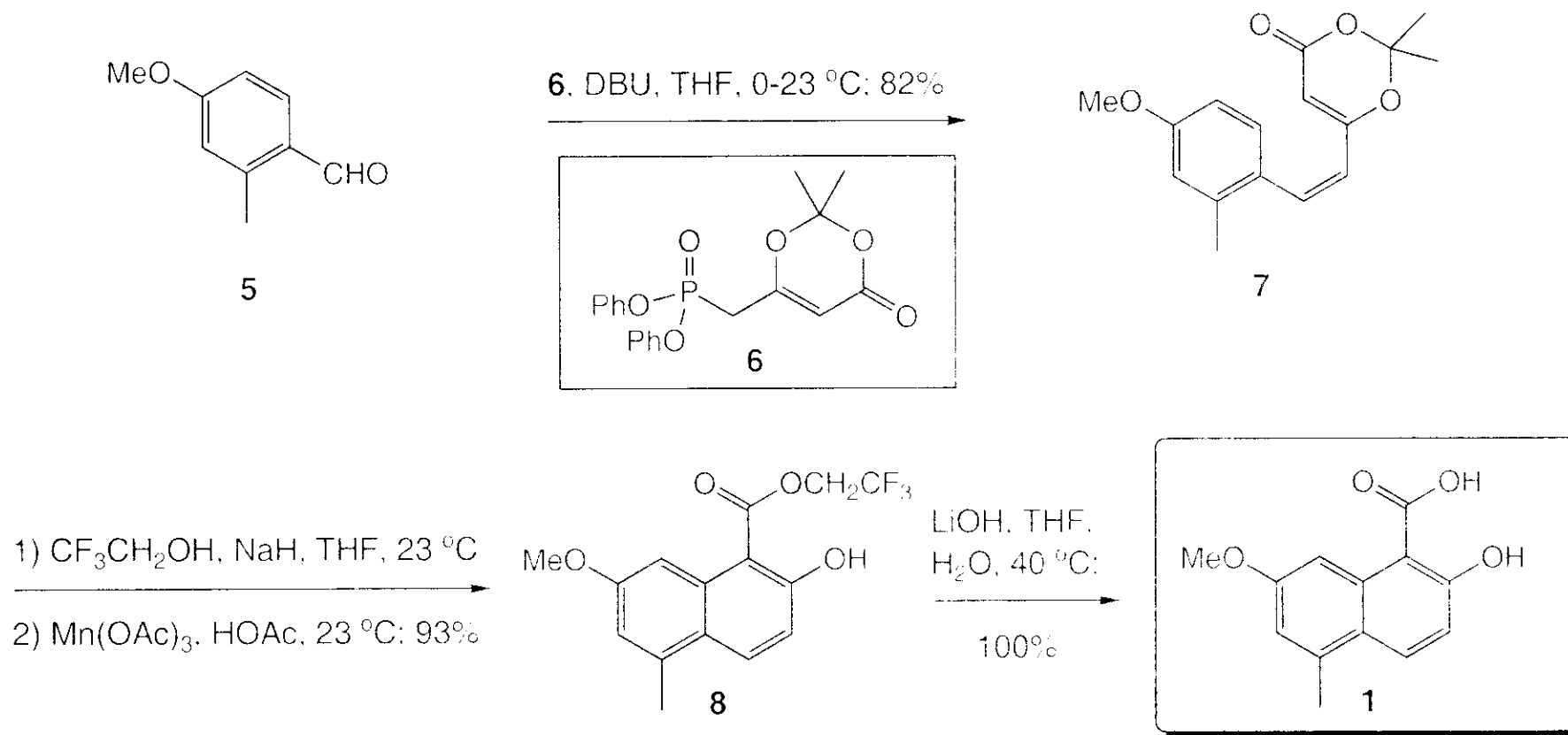
NCS Chromophore (3)



N1999A2 (4)



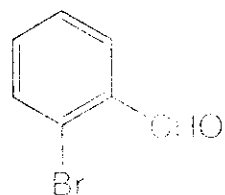
Synthesis of Complex 2-Hydroxy-1-naphthoic Acids from Benzaldehyde Derivatives



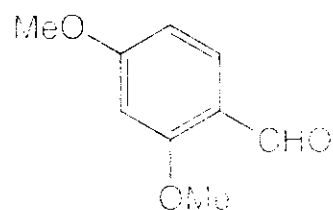
4 steps; 76% (from **5**)

Ji, N.; Rosen, B. M.; Myers, A. G. *Org. Lett.* **2004**, *6*, 4551.

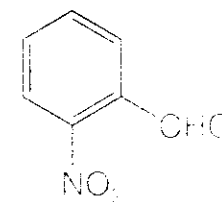
Synthesis of Differentially Substituted Trifluoroethyl 2-Hydroxy-1-naphthoic Acid Esters



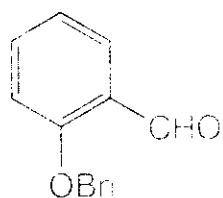
78%



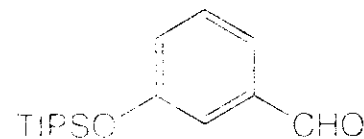
70%



78%



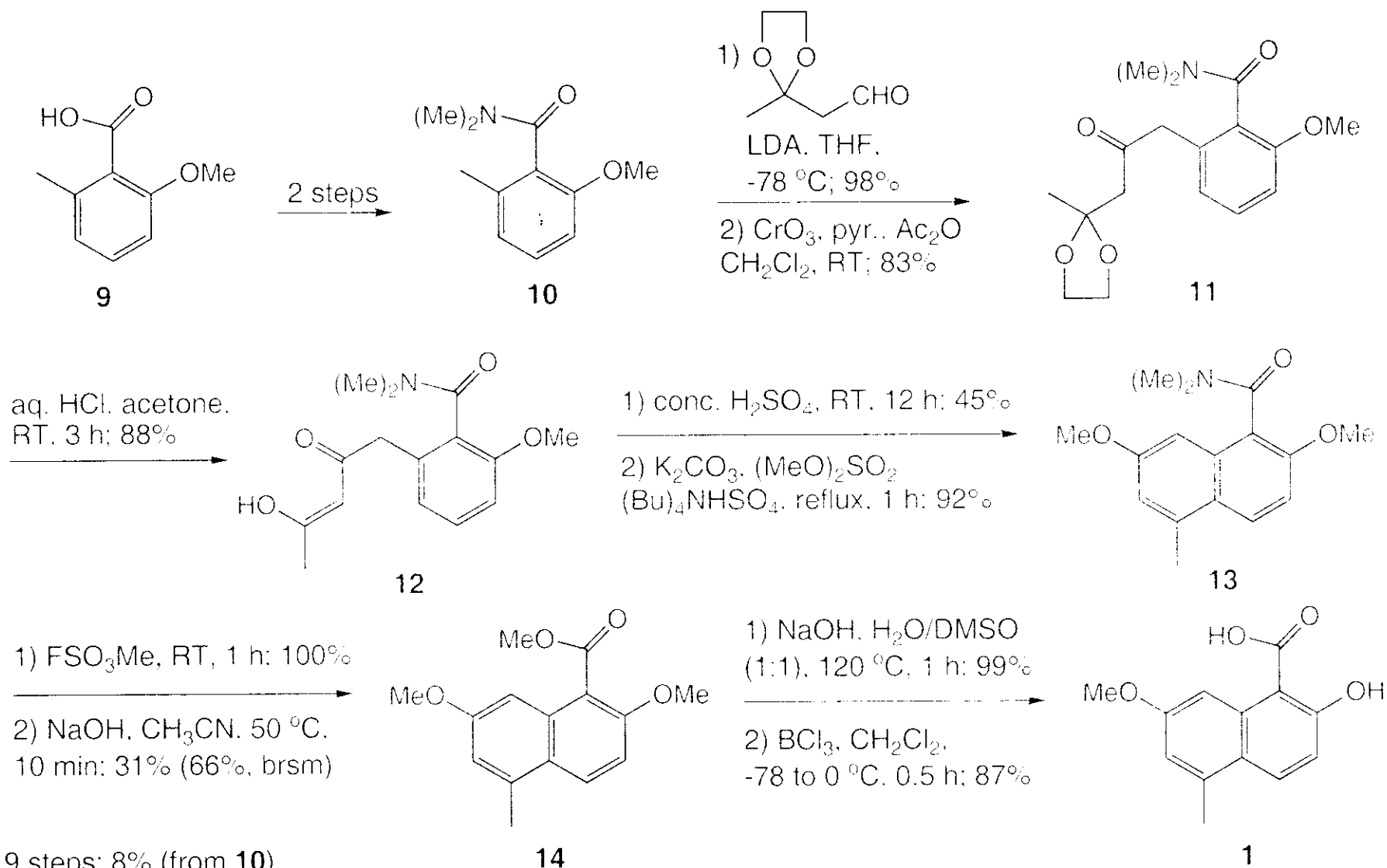
75%



62%

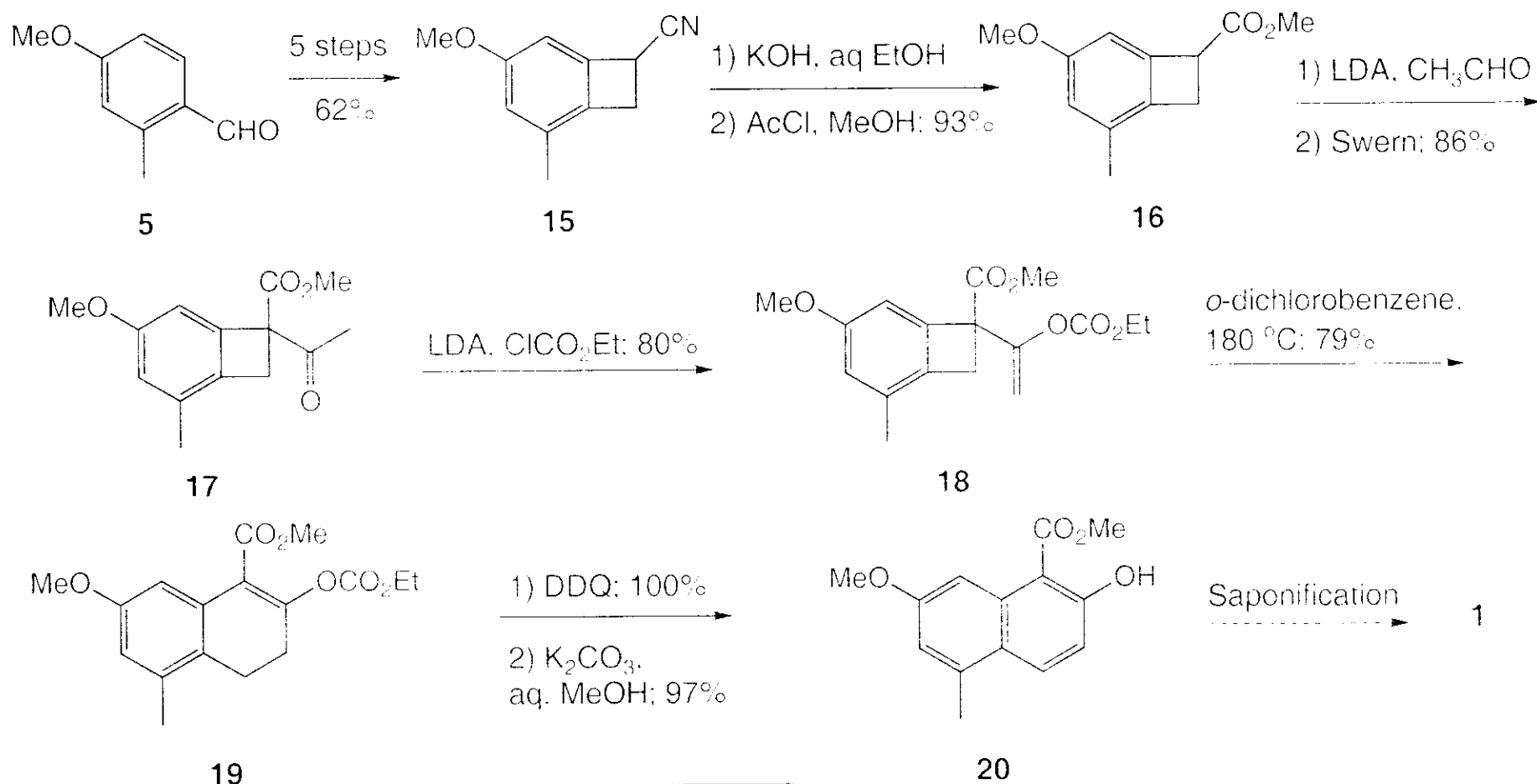
Ji, N.; Rosen, B. M.; Myers, A. G. *Org. Lett.* 2004, 6, 4551.

Synthesis of the NCS Naphthalenecarboxylic Acid



Shibuya, M.; Toyooka, K.; Kubota, S. *Tetrahedron Lett.* **1984**, *25*, 1171.

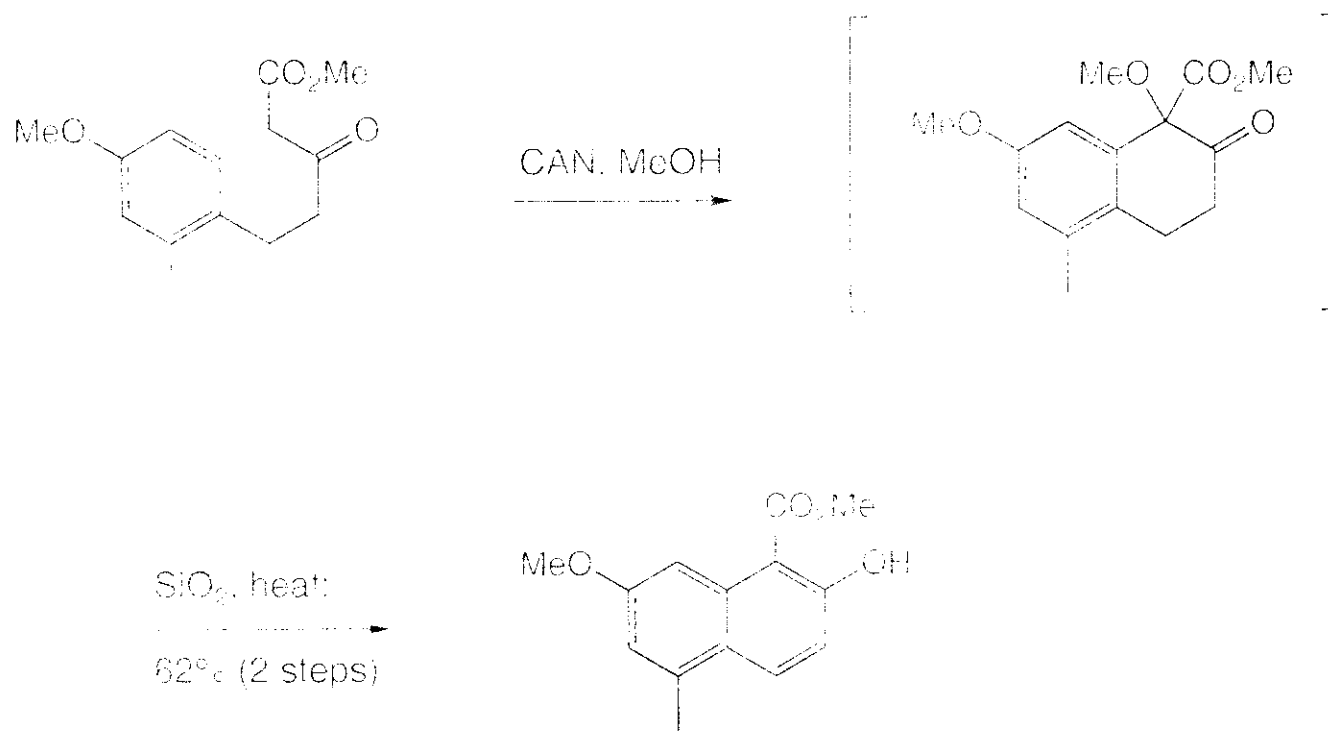
Synthesis of the Naphthalene Moiety of the Neocarzinostatin Chromophore



8 steps; 51% (from **15**)
 13 steps; 32% (from **5**)

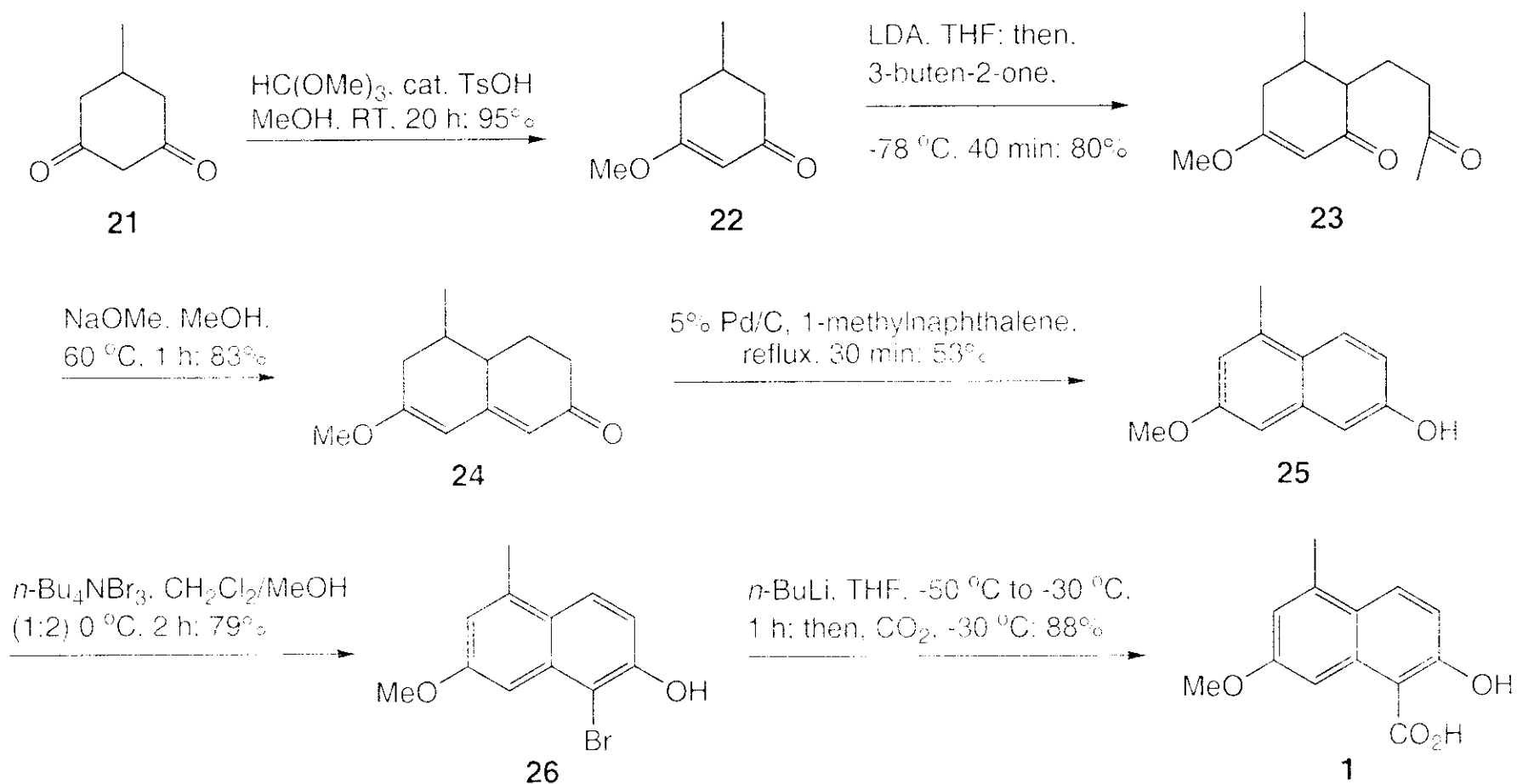
Shishido, K.; Yamashita, A.; Hiroya, K.; Fukumoto, K.; Kametani, T. *Tetrahedron Lett.* **1989**, *30*, 111.

Synthesis of 2-Hydroxy-1-naphthoic Acid Derivatives by Oxidative Cyclization of Esters



Citterio, A.; Pesce, L.; Sebastiano, R.; Santi, R. *Synthesis* **1990**, 142.

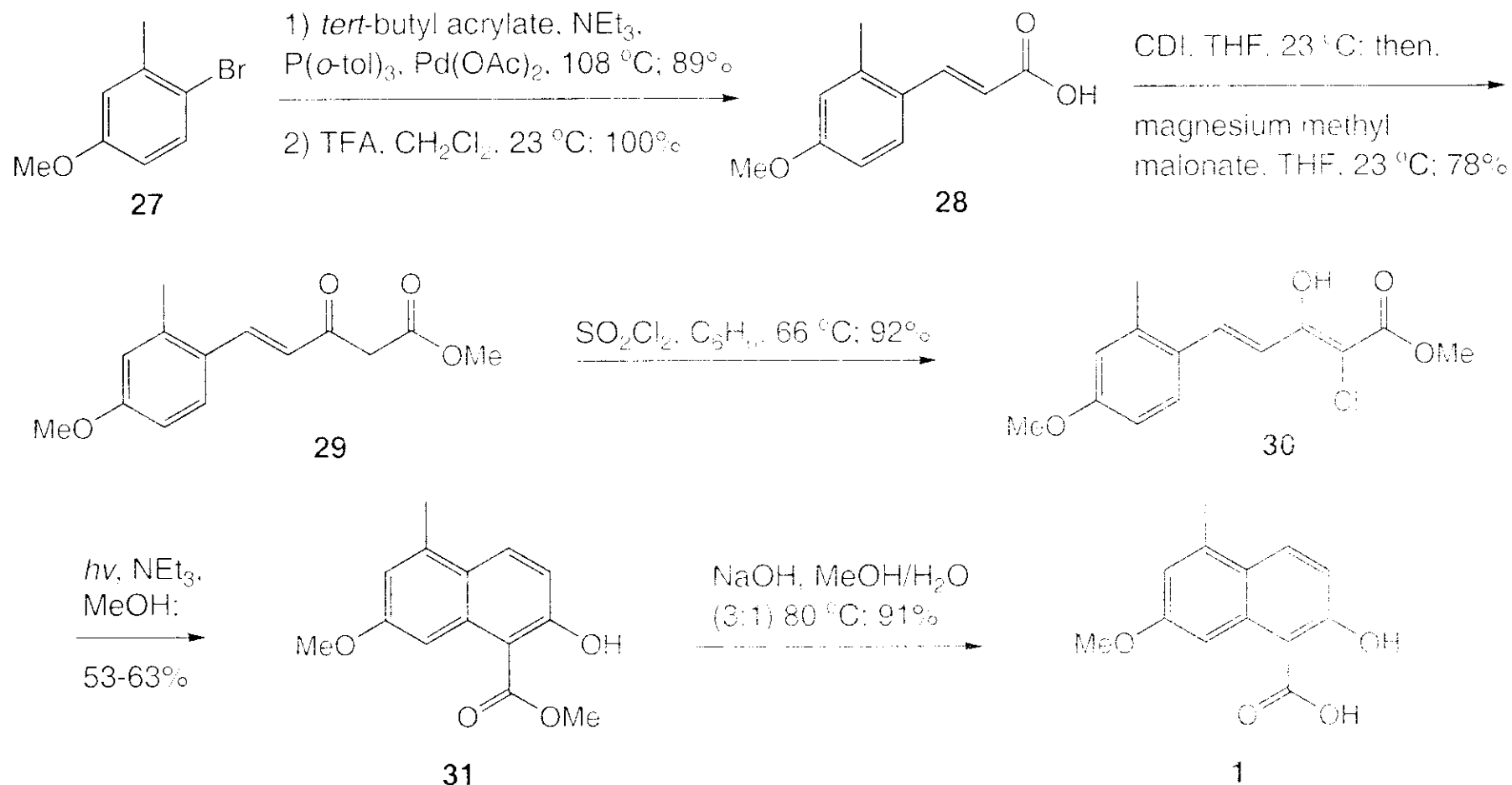
Synthesis of the Naphthoate Moiety of the Neocarzinostatin Chromophore



6 steps; 23%

Takahasi, K.; Suzuki, T.; HIRAMA, M. *Tetrahedron Lett.* **1992**, *33*, 4603.

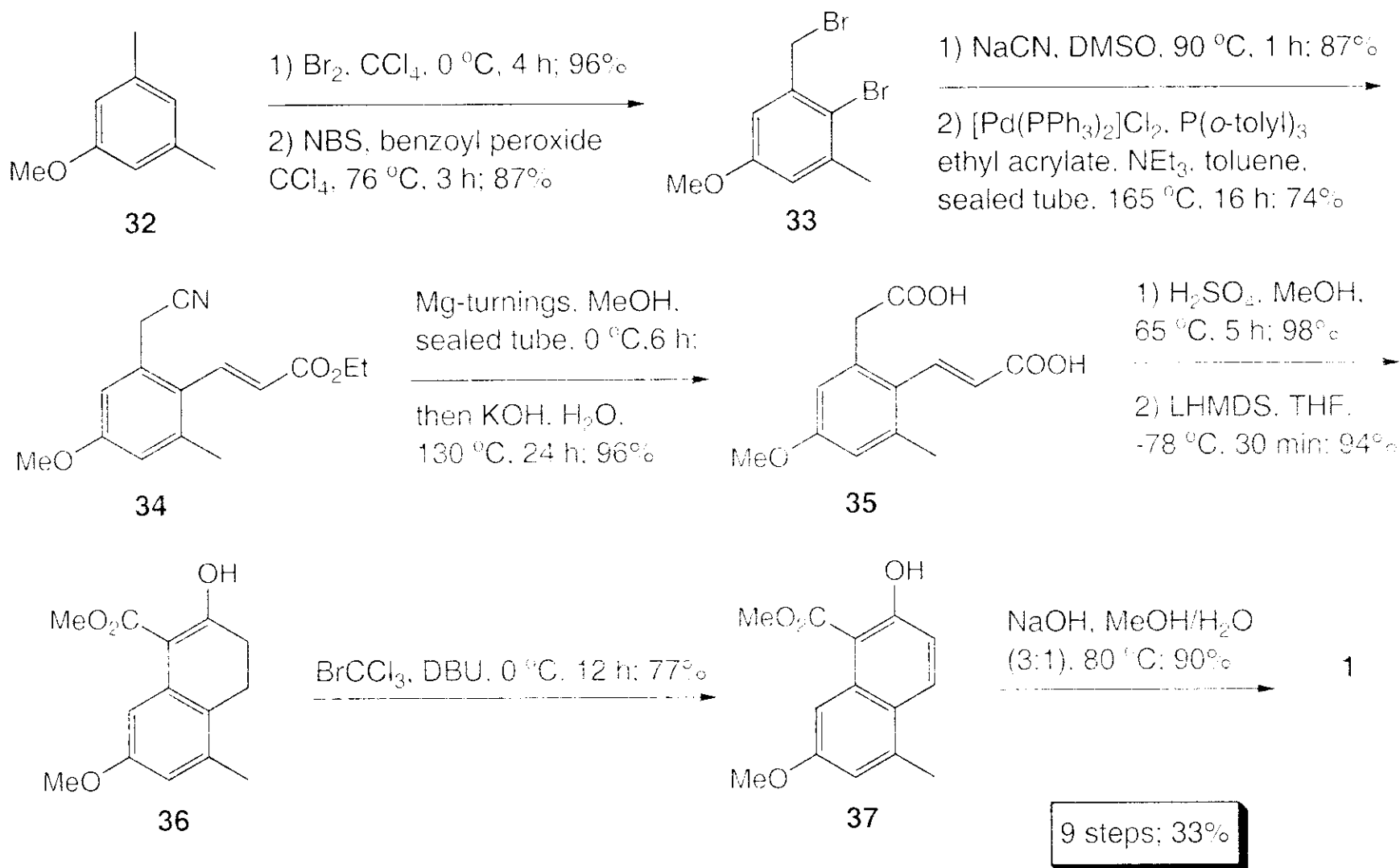
Synthesis of the Naphthoic Acid Component of Neocarzinostatin Chromophore



6 steps: 31-37% (from 27)

Myers, A. G.; Subramanian, V.; Hammond, M. *Tetrahedron Lett.* **1996**, *37*, 587.

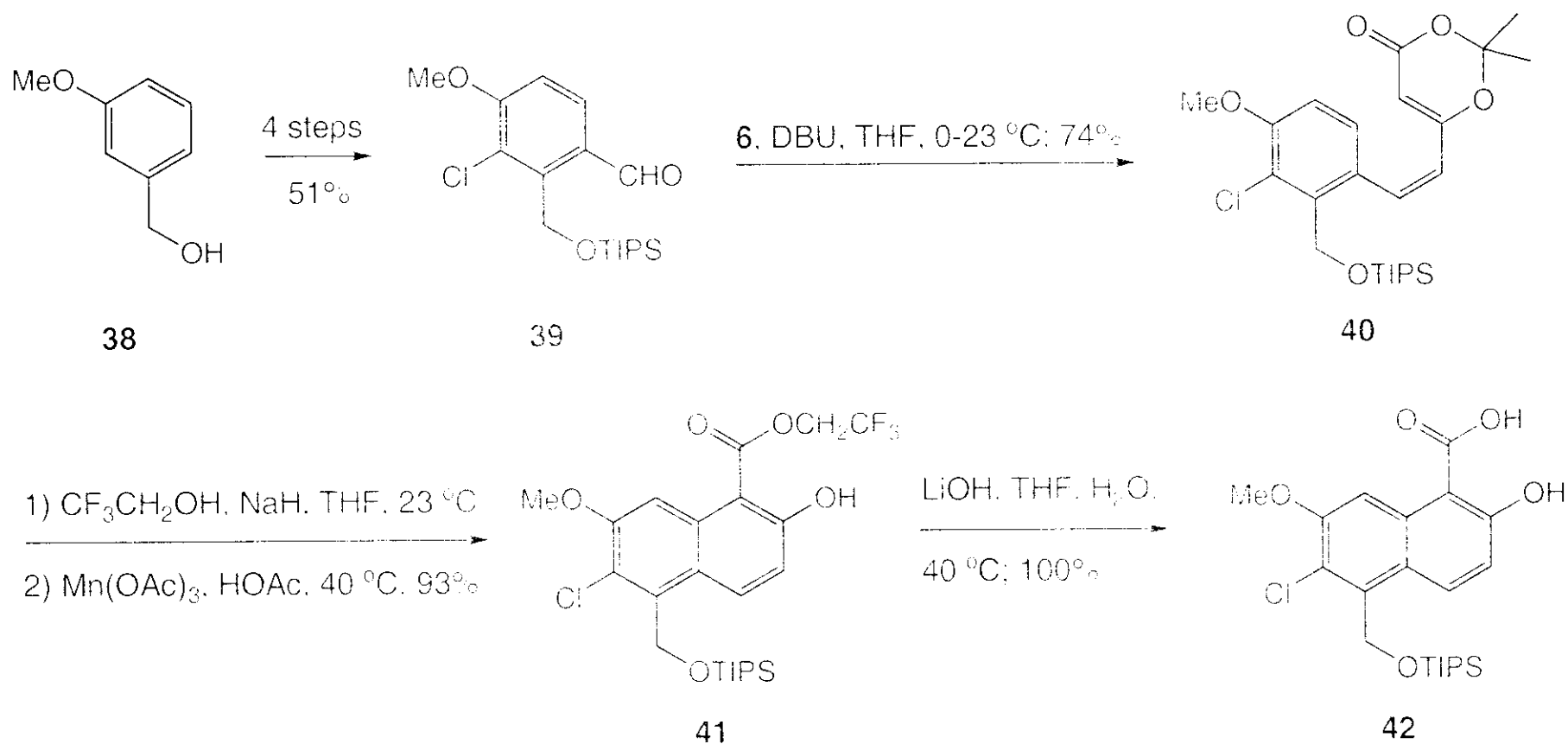
Synthesis of the Naphthoate Moiety of the Neocarzinostatin Chromophore



Rucker, M.; Bruckner, R. *Synlett* **1997**, 1187.

Gorth, F. C.; Rucker, M.; Eckhardt, M.; Bruckner, R. *Fur. J. Org. Chem.* **2000**, 2605.

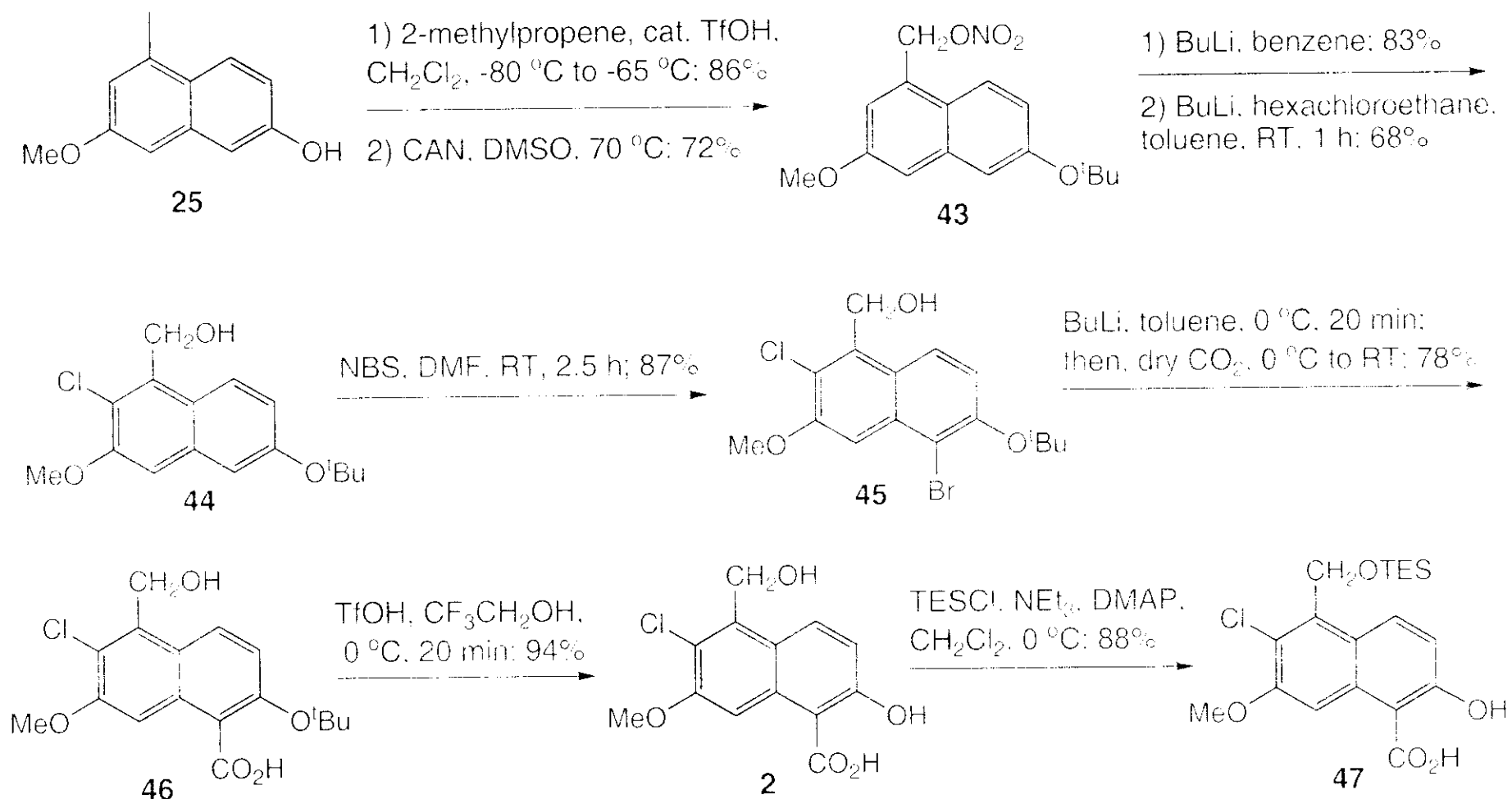
Synthesis of Protected N1999A2 Naphthoic Acid



4 steps; 69% (from 39)
8 steps; 35% (from 38)

Ji, N.; Rosen, B. M.; Myers, A. G. *Org. Lett.* **2004**, *6*, 4551.

Synthesis of the Naphthoate Component of N1999-A2



8 steps: 20% (from **25** to **2**)

Takahashi, K.; Hagiwara, M.; Ashizawa, S.; Hiramama, M. *Synlett* **1999** 71.