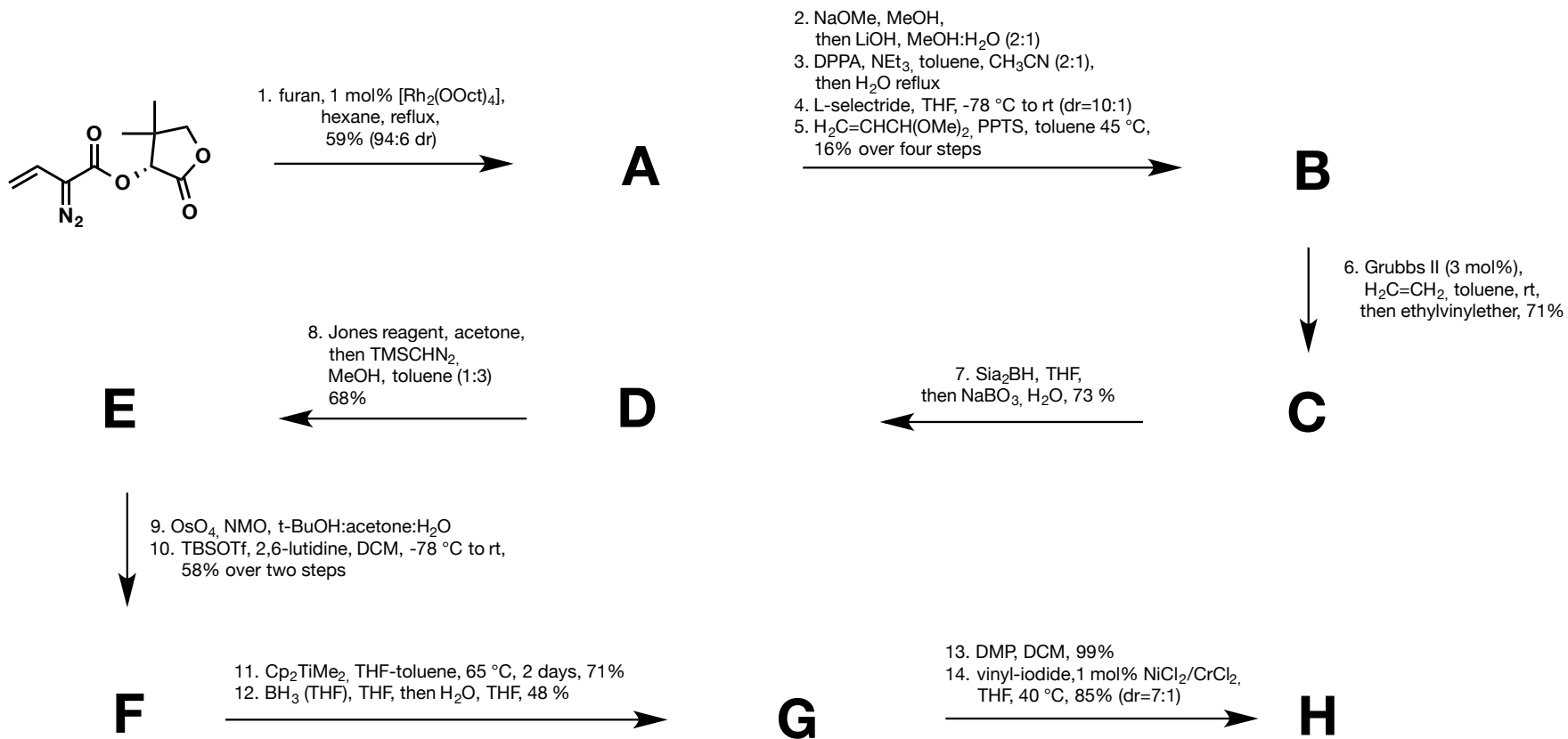


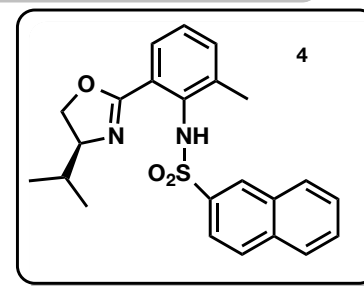
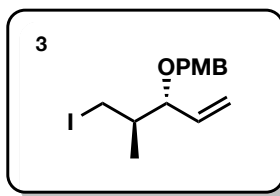
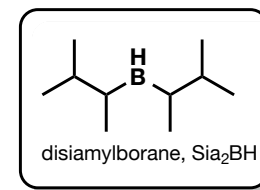
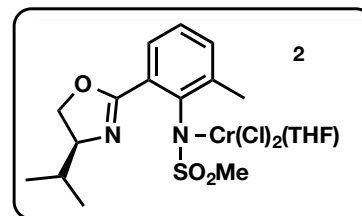
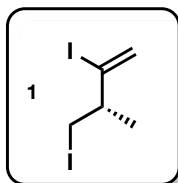
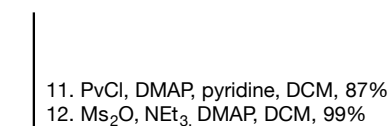
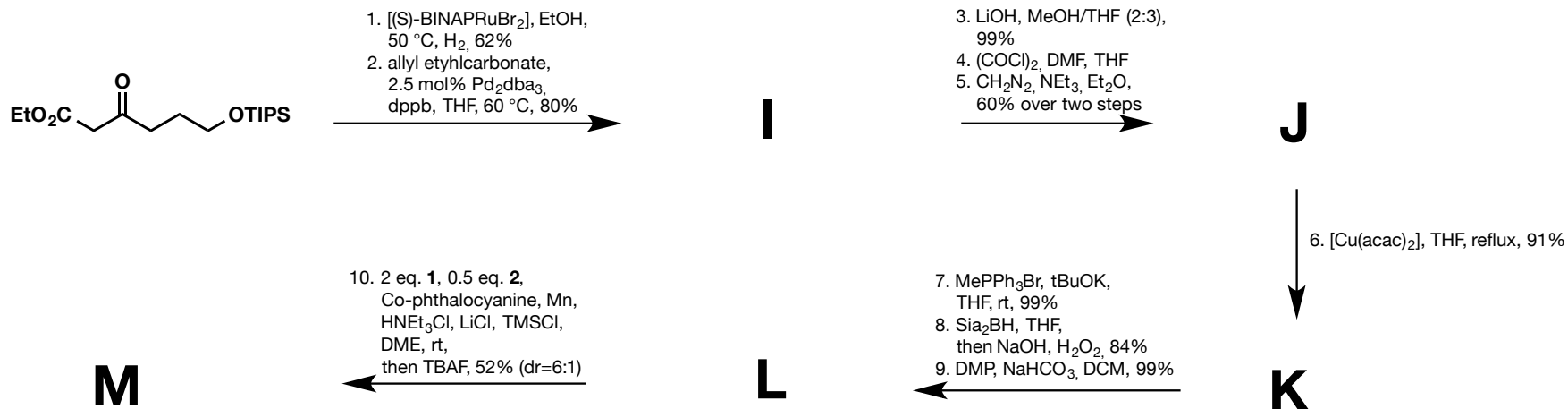
# Total synthesis of Norhalichondrin B - Fragment A

K. L. Jackson, J. A. Henderson, H. Motoyoshi, A. J. Phillips, *ACIE*, 2009, 48, 2346-2350



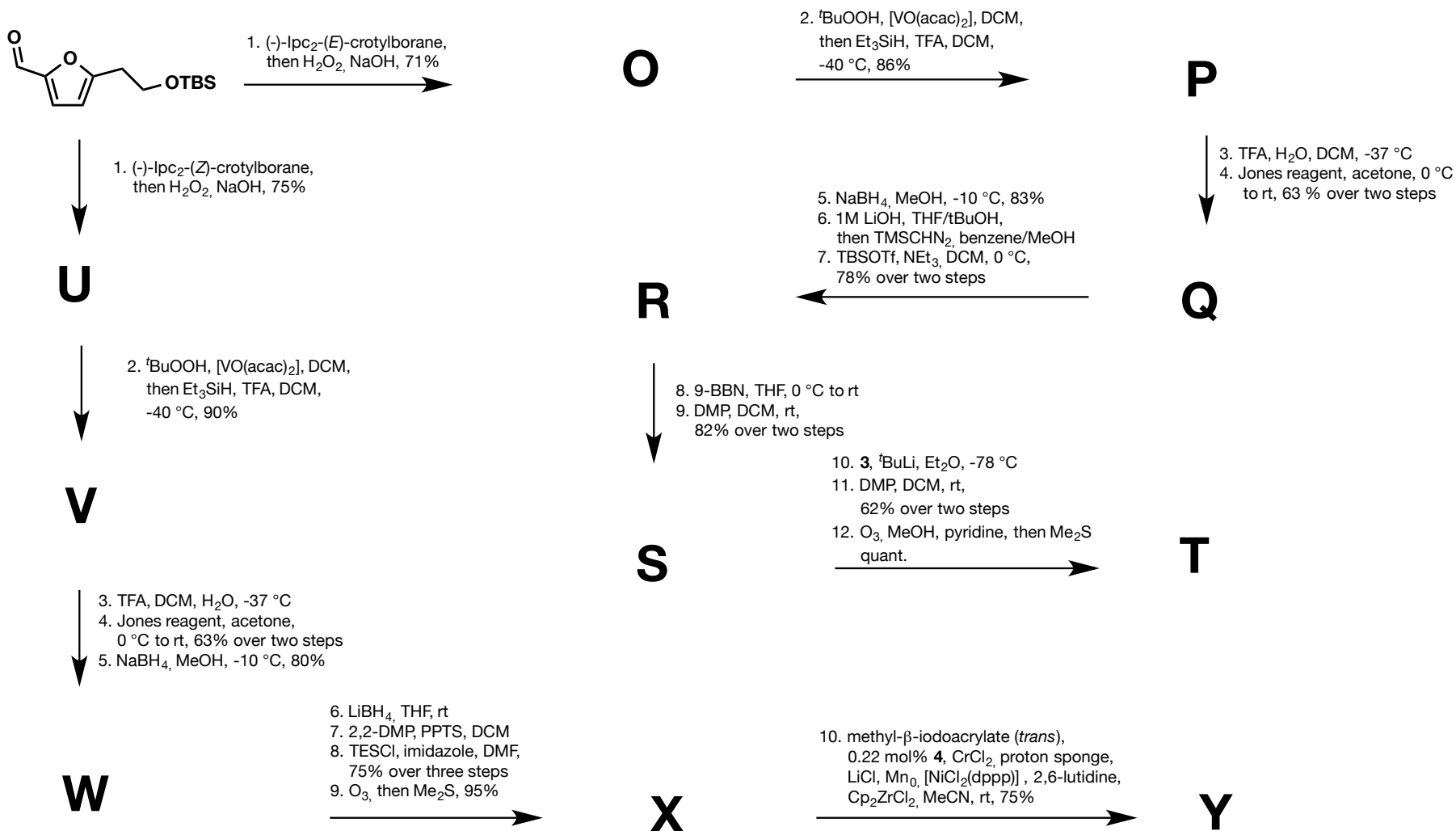
# Total synthesis of Norhalichondrin B - Fragment B

K. L. Jackson, J. A. Henderson, H. Motoyoshi, A. J. Phillips, *ACIE*, **2009**, *48*, 2346-2350



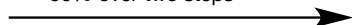
# Total synthesis of Norhalichondrin B - Fragment C&D

K. L. Jackson, J. A. Henderson, H. Motoyoshi, A. J. Phillips, *ACIE*, **2009**, *48*, 2346-2350



**Y**

11. PMBOC(=NH)CCl<sub>3</sub>, BF<sub>3</sub>/OEt<sub>2</sub>,  
12. TBAF, MeOAc, THF,  
50% over two steps



**Z**

13. PPTS, MeOH  
14. TBSOTf, NEt<sub>3</sub>, DCM,  
87% over two steps

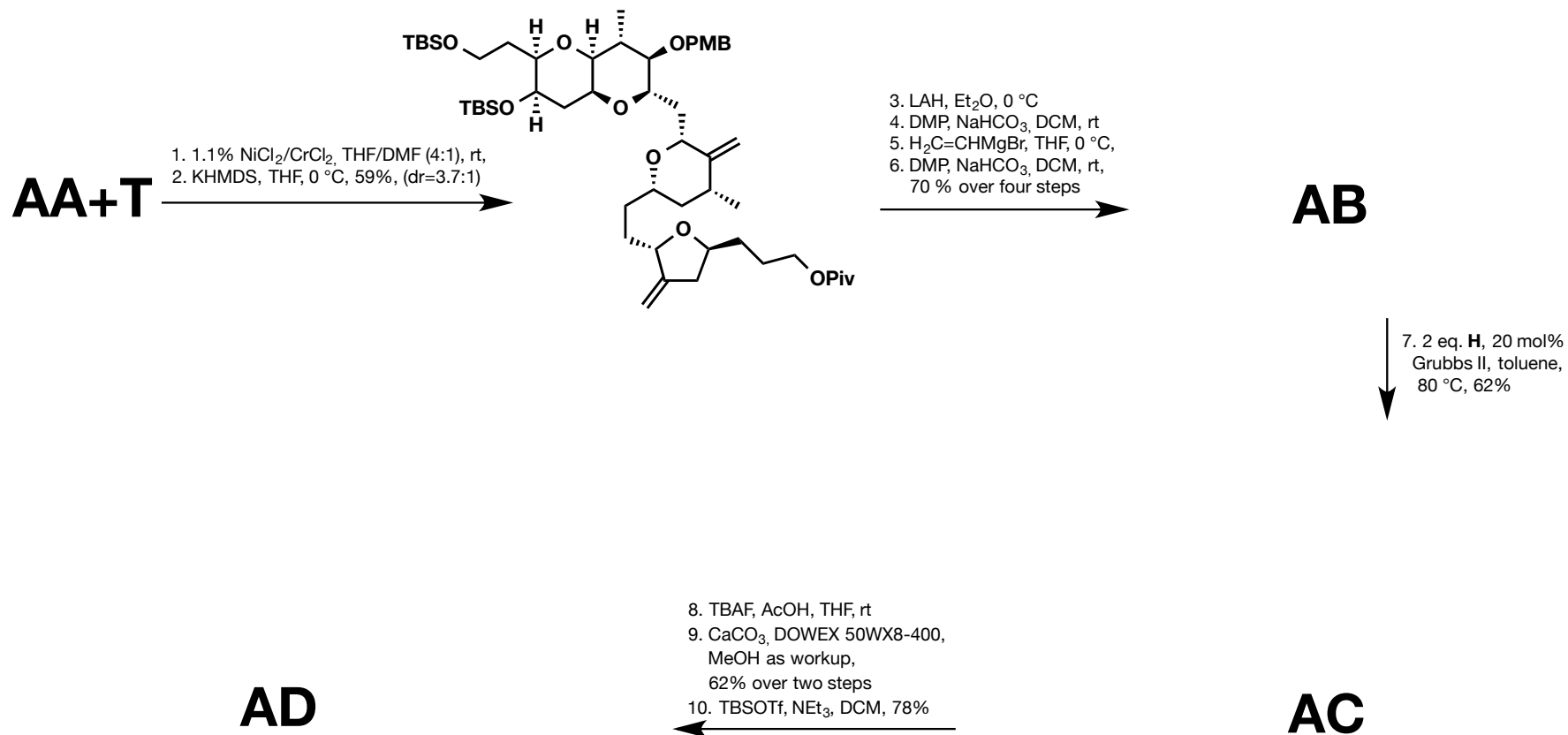


15. LAH, Et<sub>2</sub>O, 0 °C  
16. DMP, DCM,  
90% over two steps

**AA**

## Total synthesis of Norhalichondrin B - Joining Fragments

K. L. Jackson, J. A. Henderson, H. Motoyoshi, A. J. Phillips, *ACIE*, 2009, 48, 2346-2350



**AD**

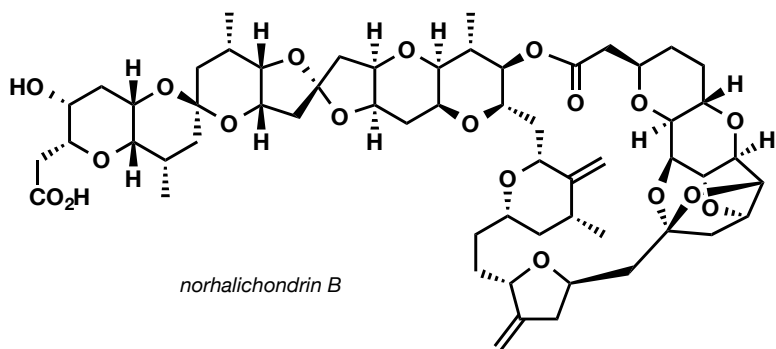
11. DDQ, DCM, PH 7 phosphate buffer, 65%
12. 1M LiOH, THF, rt, quant.
13. 2,4,6-Trichlorobenzoylchloride, NEt<sub>3</sub>, THF, rt, then DMAP, toluene reflux, 92%

14. PPTS, MeOH, 97% brsm (45% conversion, selective monodeprotection)
15. DMP, NaHCO<sub>3</sub>, DCM, rt, 89%

**AE**

16. dimethyl(diazomethyl)-phosphonate (20 eq.), SnCl<sub>2</sub>, DCM, rt, 74%
17. **N** (1eq.), K<sub>2</sub>CO<sub>3</sub>, 18-crown-6, toluene, 60 °C, 83%

**AF**



18. TBAF, AcOH, MeOAc/THF (2:1), rt
19. DDQ, DCM/MeOH (10:1), 65% over two steps
20. LiOH, THF/H<sub>2</sub>O (3:1), 60 %