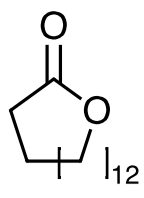


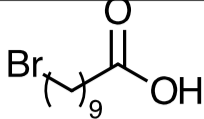
Synthesis Challenge #84  
AG Wegner  
19.3.2020

7)



1-3

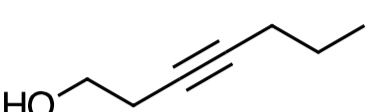
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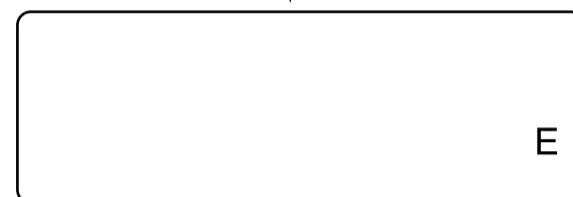
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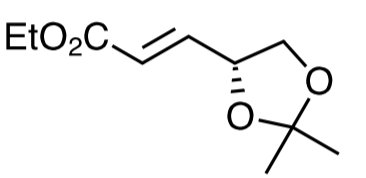
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11-14



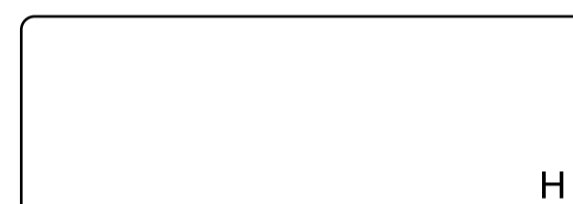
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19-22



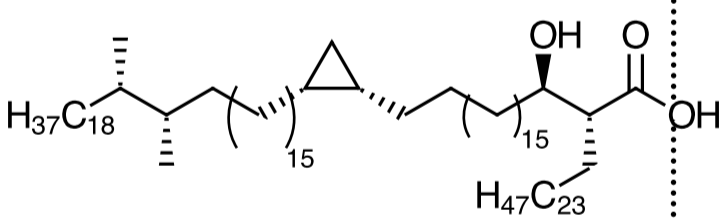
23-26



27-30



31-34



1) DIBAL, CH<sub>2</sub>Cl<sub>2</sub>, -78°C, 1 h  
2) **I**, THF/toluene (2:1), 75°C, 16 h  
3) Et<sub>3</sub>SiH, Pd/C, acetone, 0°C to rt

4) (COBr)<sub>2</sub>, **II**, pyridine, CH<sub>2</sub>Cl<sub>2</sub>, 0°C to rt, 3 h  
5) Cy<sub>2</sub>BOTf, NEt<sub>3</sub>, THF, -78°C, then **B**  
6) 2M HCl<sub>aq</sub>, THF, rt, 2 h

7) TBSOTf, 2,6-lutidine, CH<sub>2</sub>Cl<sub>2</sub>, 0°C to rt, 3 h  
8) 1-hexadecene, 9-BBN, Pd(PCy<sub>3</sub>)<sub>2</sub> (10 mol%), K<sub>3</sub>PO<sub>4</sub>·H<sub>2</sub>O, THF, rt, 16 h  
9) pyridine·HF, THF, 0°C to rt, 4 h  
10) DMP, CH<sub>2</sub>Cl<sub>2</sub>, rt 1 h

11) NaH, 1,3-diaminopropane, 70°C  
12) TBDPSCI, CH<sub>2</sub>Cl<sub>2</sub>, 0°C to rt  
13) *n*-BuLi, paraformaldehyde, THF, 0°C to rt  
14) NaBH<sub>4</sub>, Ni(OAc)<sub>2</sub>·4H<sub>2</sub>O, H<sub>2</sub>, ethylenediamine, EtOH, rt

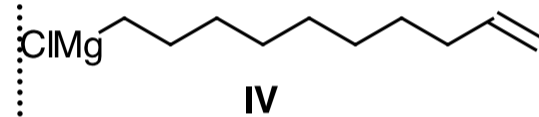
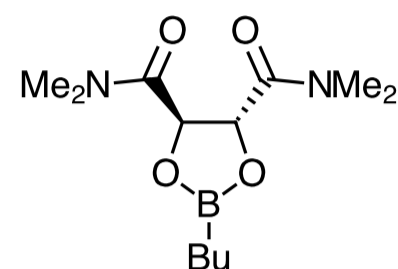
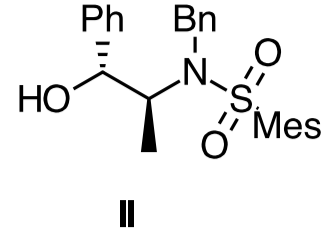
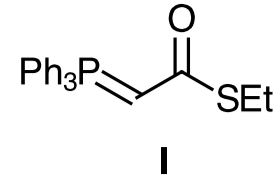
15) 1,2-dimethoxyethane, diethylzinc, diiodomethane, **III**, CH<sub>2</sub>Cl<sub>2</sub>, -15°C to rt  
16) PivCl, DMAP, pyridine, CH<sub>2</sub>Cl<sub>2</sub>, 0°C to rt  
17) TBAF, THF, 0°C to rt, 16 h  
18) CBr<sub>4</sub>, PPh<sub>3</sub>, CH<sub>2</sub>Cl<sub>2</sub>, 0°C to rt

19) MeLi·LiBr, Et<sub>2</sub>O, -78°C  
20) LiAlH<sub>4</sub>, THF, 0°C  
21) CBr<sub>4</sub>, PPh<sub>3</sub>, CH<sub>2</sub>Cl<sub>2</sub>, 0°C to rt  
22) 9-BBN, 1-hexadecene, K<sub>3</sub>PO<sub>4</sub>, cat. Pd(PCy<sub>3</sub>)<sub>2</sub>, THF

23) 2M HCl<sub>aq</sub>, THF, 95°C  
24) NaH, tosylimidazole, THF, rt  
25) **IV**, CuCl (5 mol%), THF, -10°C  
26) MeI, NaH, THF, rt

27) 9-BBN, 1-hexadecene, F, K<sub>3</sub>PO<sub>4</sub>, Pd(PCy<sub>3</sub>)<sub>2</sub> (7 mol%), THF  
28) LiAlH<sub>4</sub>, THF, 0°C, 15 min  
29) phenyl-1H-tetrazole-5-thiol, PPh<sub>3</sub>, DIAD, THF, 0°C to rt  
30) H<sub>2</sub>O<sub>2</sub> (30%), (NH<sub>4</sub>)<sub>6</sub>Mo<sub>7</sub>O<sub>28</sub>·4H<sub>2</sub>O, THF, EtOH, *n*-BuOH, rt

31) LiHMDS, D, -35°C  
32) flavine cat., hydrazine hydrate, THF, EtOH, *n*-BuOH, rt, 5-7 d  
33) HF-pyridine, CHCl<sub>3</sub>, 0°C,  
34) *n*-Bu<sub>4</sub>NOH, (1.5 M in water), THF, rt



For step 32), see:  
*J. Org. Chem.* **2008**, *73*,  
9482 – 9485