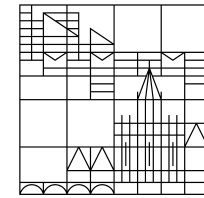
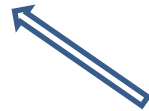


US next generation

Universität
Konstanz



Tom J. Maimone



Tim R. Newhouse



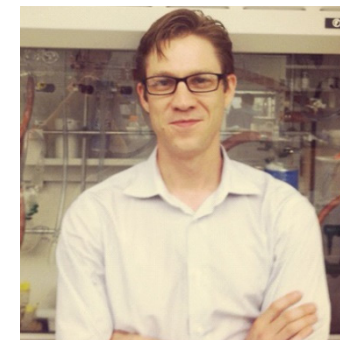
Phil S. Baran



Ryan A. Shenvi



Michael Breunig
Literature Talk
02.08.2017



Noah Z. Burns

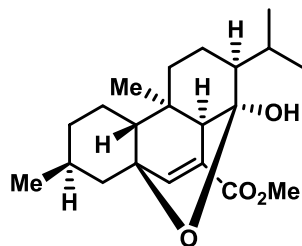


Tom J. Maimone

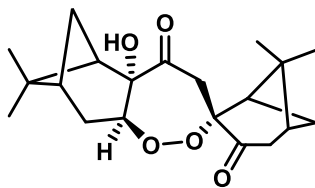


http://www.cchem.berkeley.edu/tjm/Lab_website/tom_maimone.html

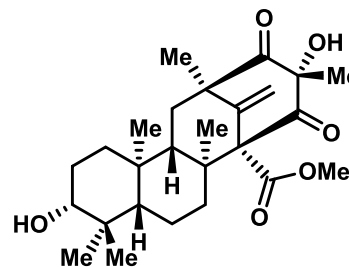
- University of California, Berkeley
- Assistant Professor since July 2012



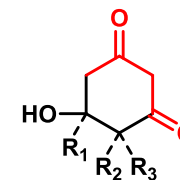
(+)-chatancin



cardamom peroxide

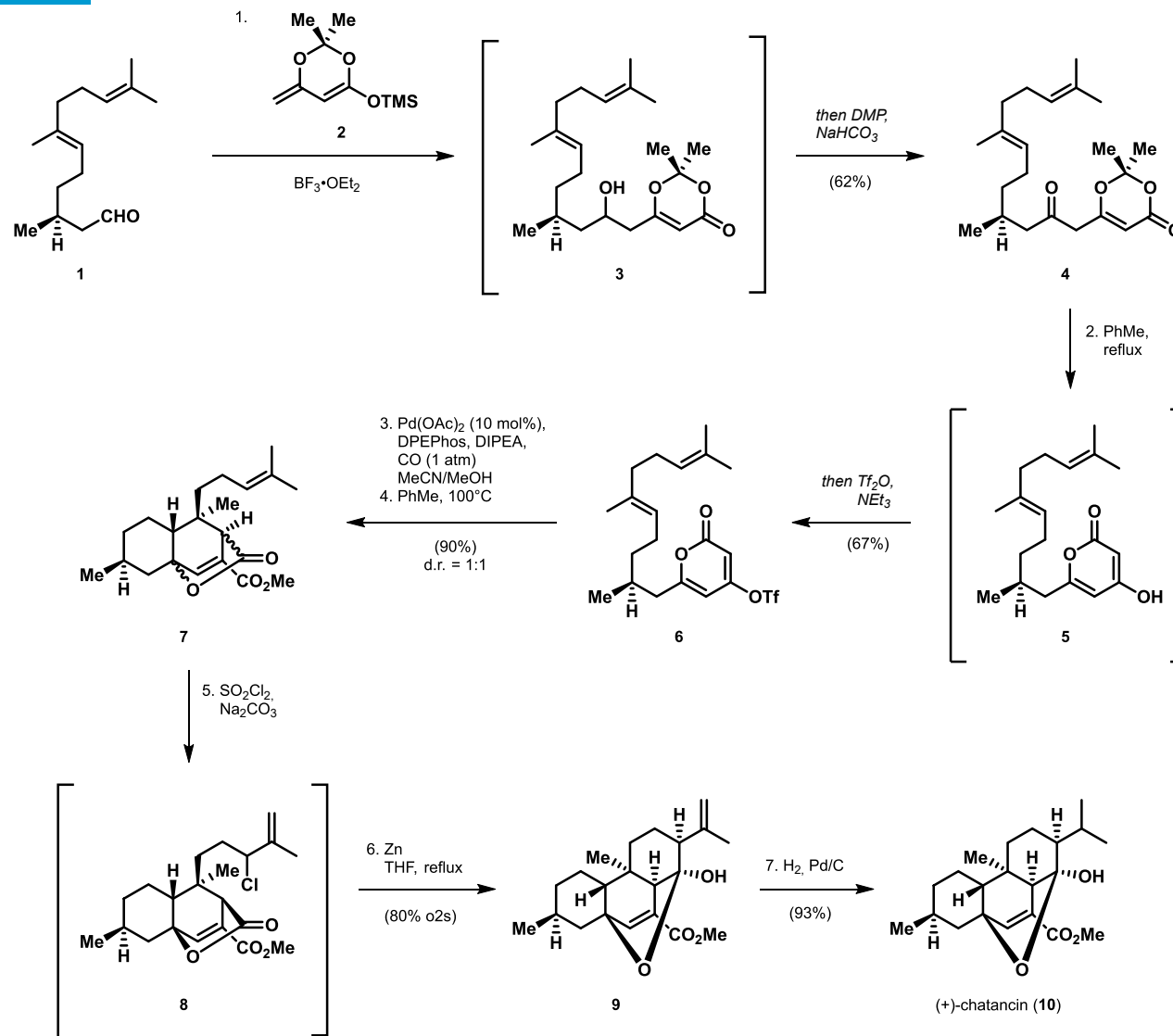


berkeleyone A



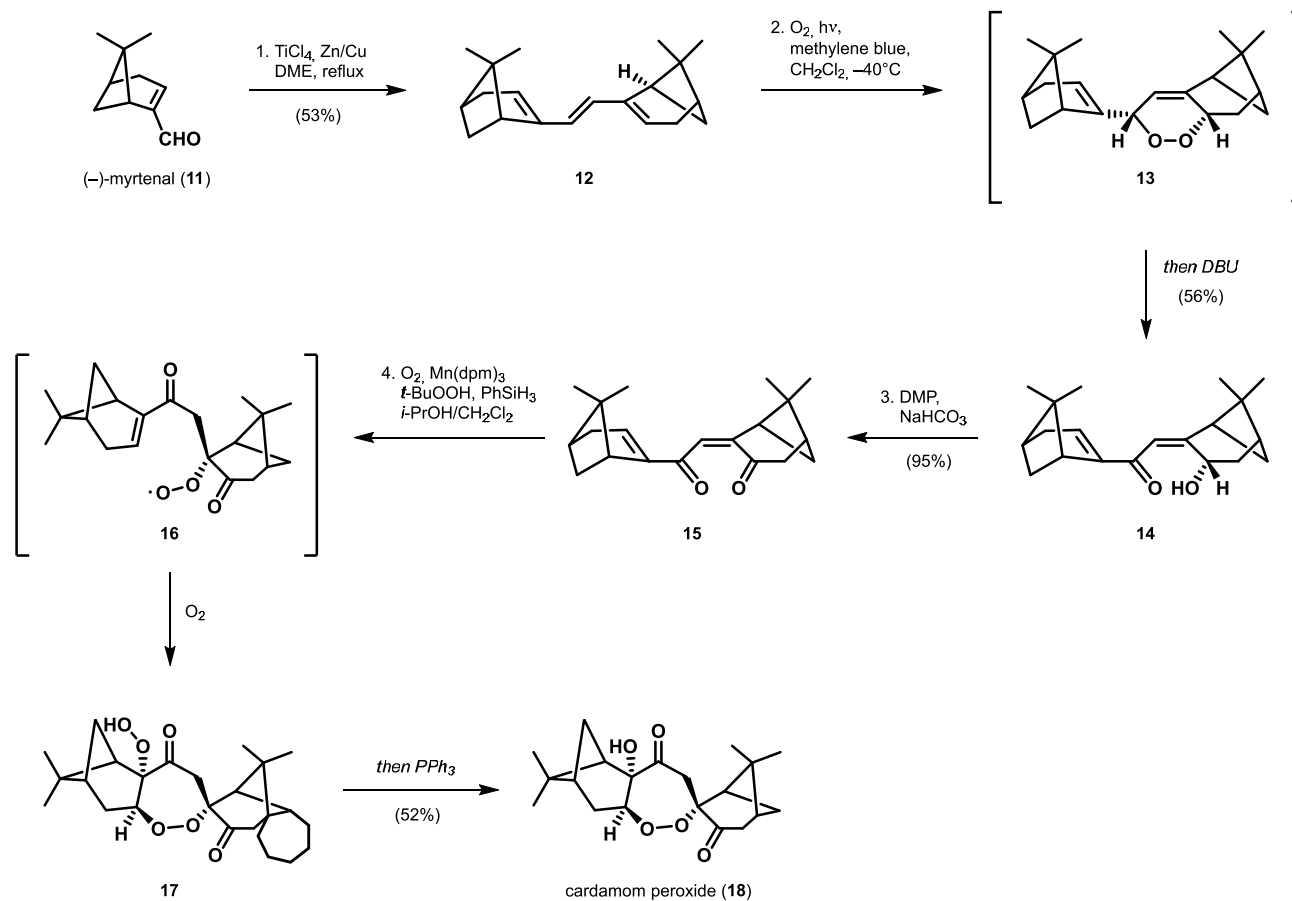
cyclic 1,3-diketones

(+)-Chatancin



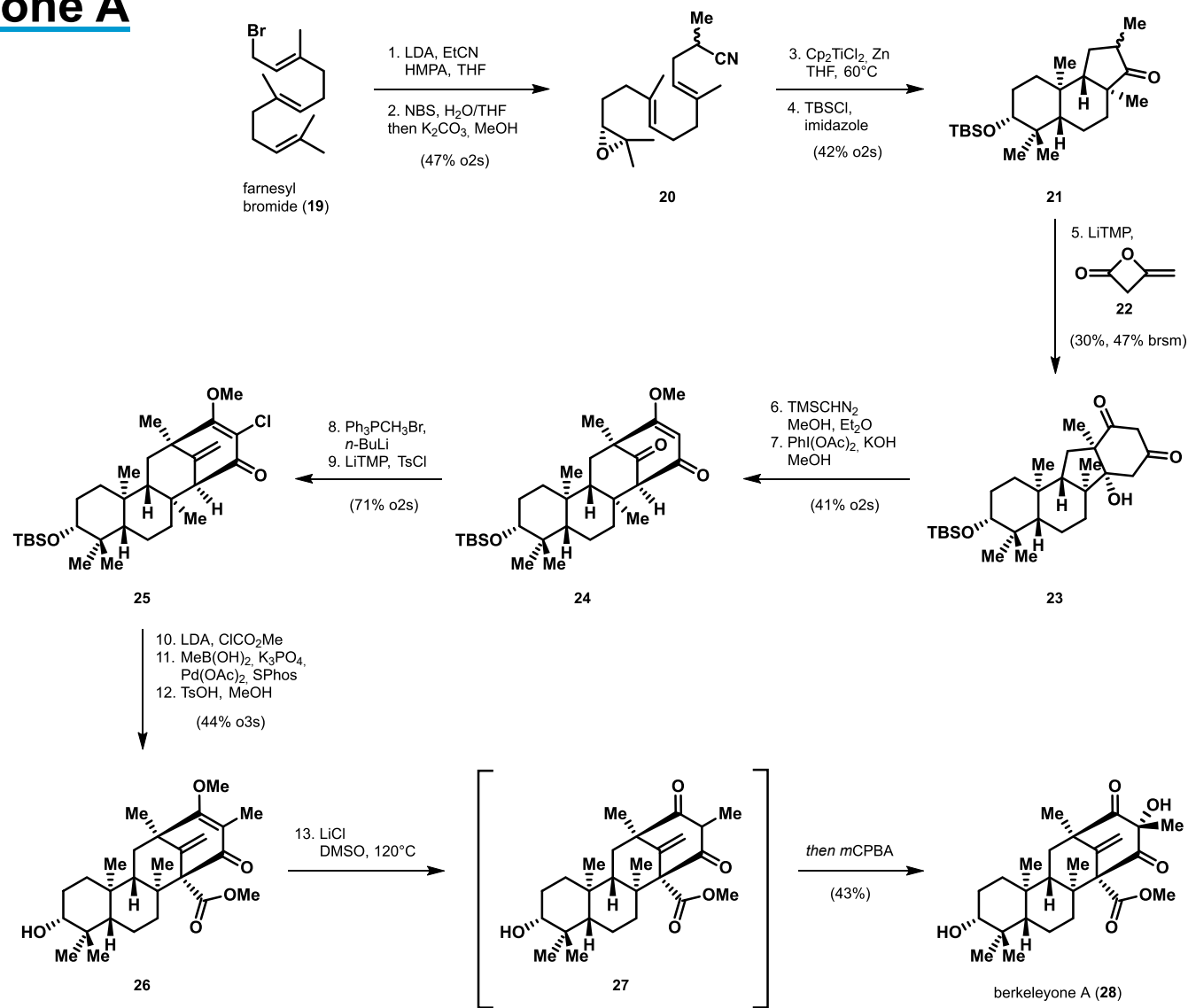
Y.-M.-Zhao, T. J. Maimone, *Angew. Chem. Int. Ed.* **2015**, *54*, 1223–1226.

Cardamom peroxide



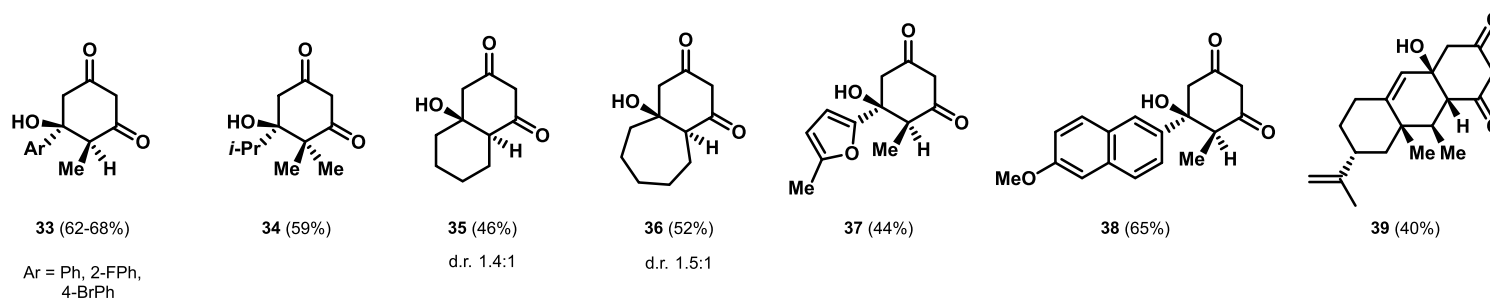
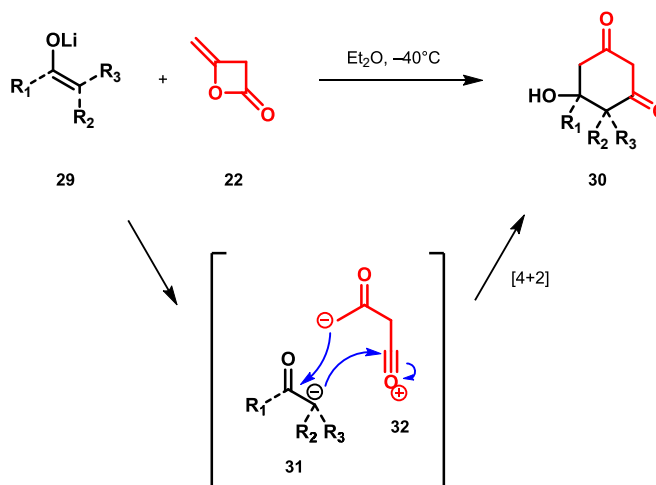
X. Hu, T. J. Maimone, *J. Am. Chem. Soc.* **2014**, *136*, 5287–5290.

Berkeleyone A



C. P. Ting, G. Xu, X. Zeng, T. J. Maimone, *J. Am. Chem. Soc.* **2016**, *138*, 14868–14871.

Cyclic 1,3-diketones by formal [4+2] annulation with diketene



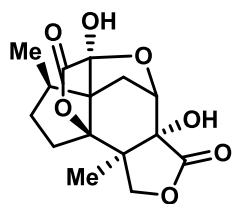
C. P. Ting, G. Xu, X. Zeng, T. J. Maimone, *J. Am. Chem. Soc.* **2016**, *138*, 14868–14871.

Ryan A. Shenvi

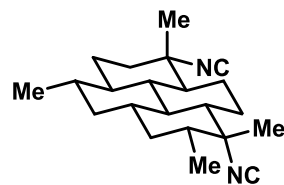


https://pubs.rsc.org/image/article/2015/NP/c4np00109e/c4np00109e-p2_hi-res.gif

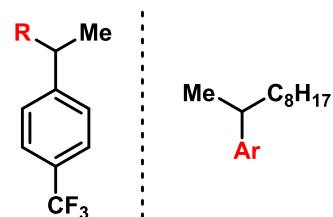
- The Scripps Research Institute, La Jolla
- Associate Professor since 2014, before Assistant Professor



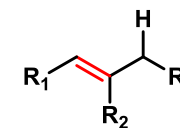
(-)-jiadifenolide



7,20-diisocyanoadociane

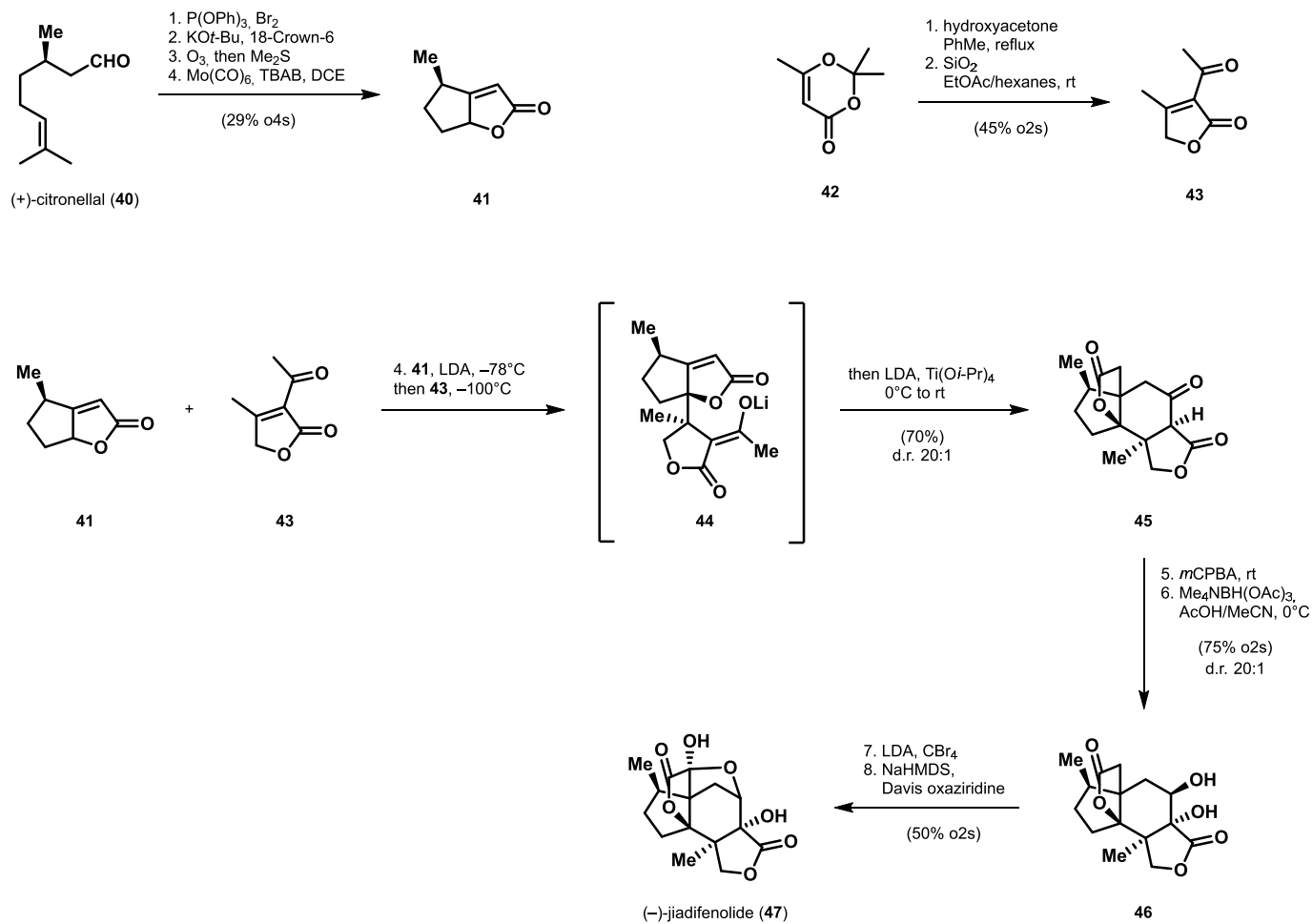


iodoarene-olefin
cross coupling



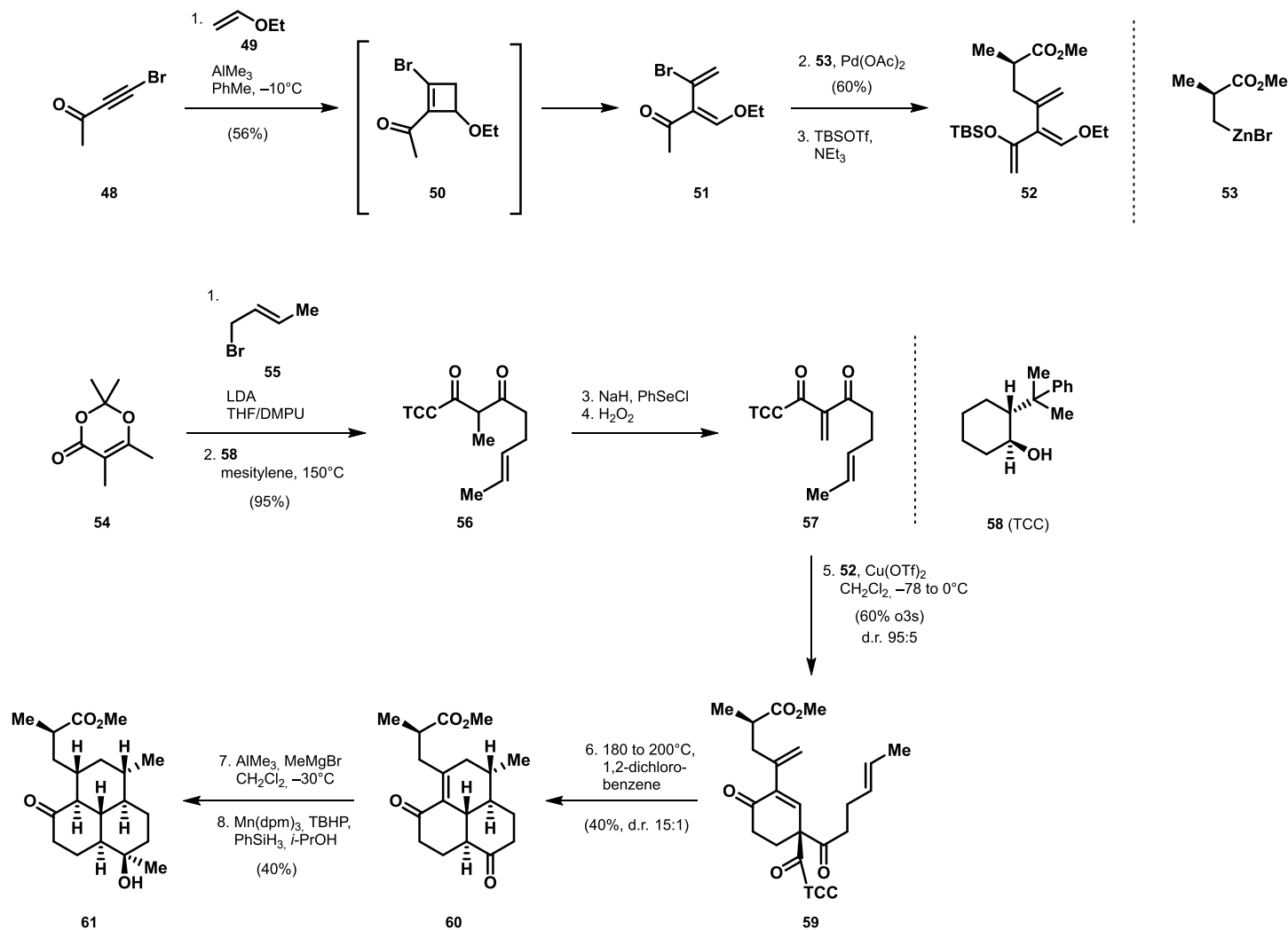
olefin isomerization

(-)-Jiadifenolide



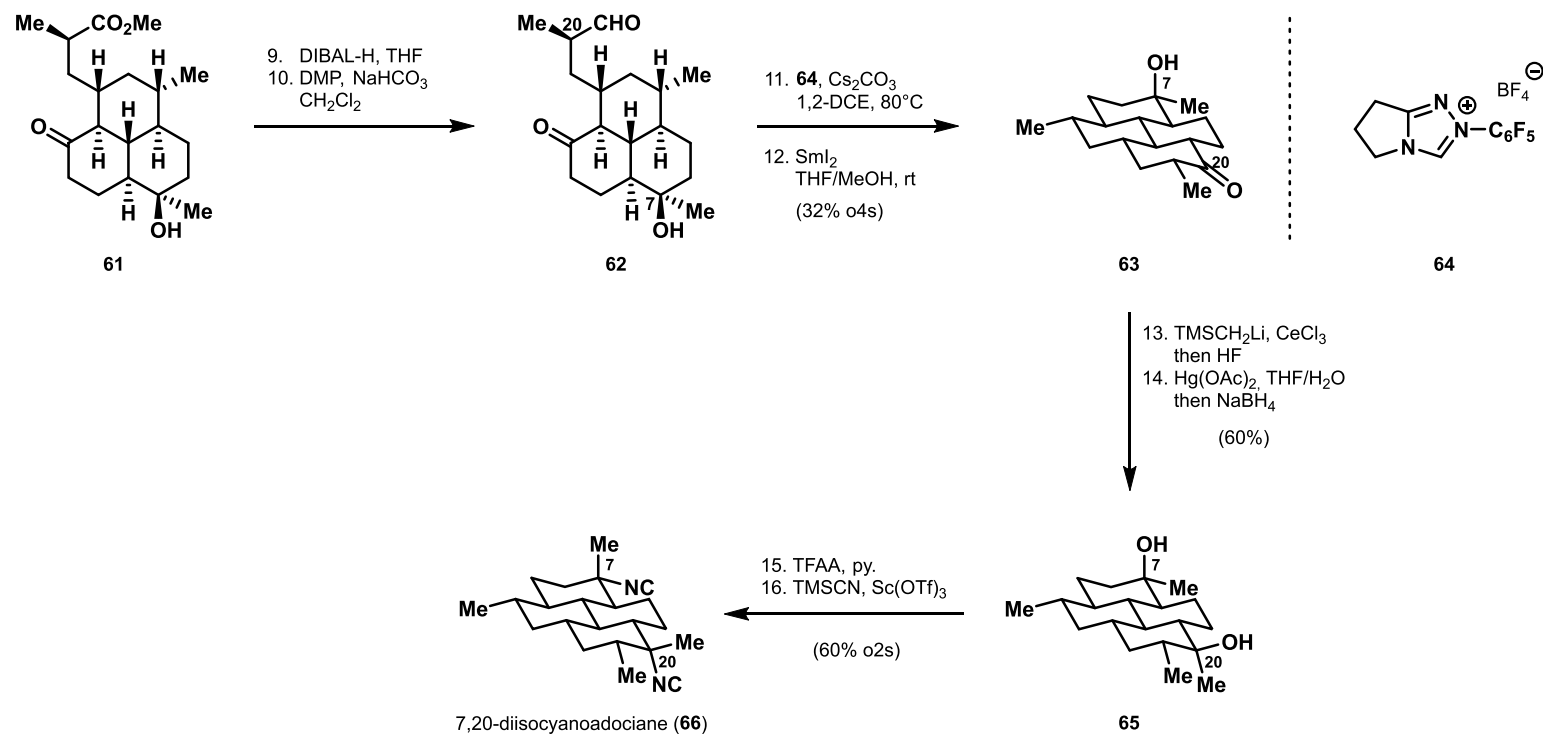
H.-H. Lu, M. D. Martinez, R. A. Shenvi, *Nature Chem.* **2015**, *7*, 604–607.

7,20-Diisocyanoadociane

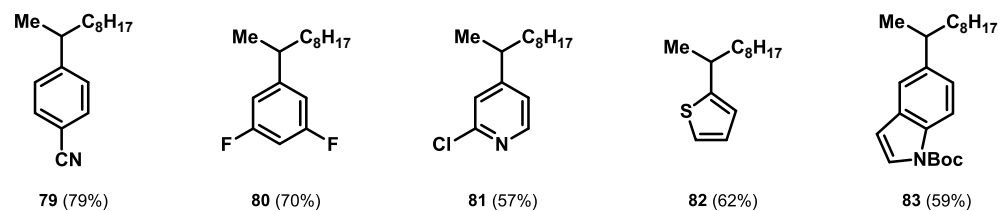
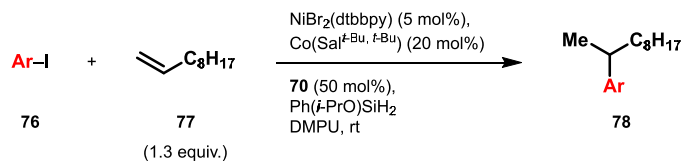
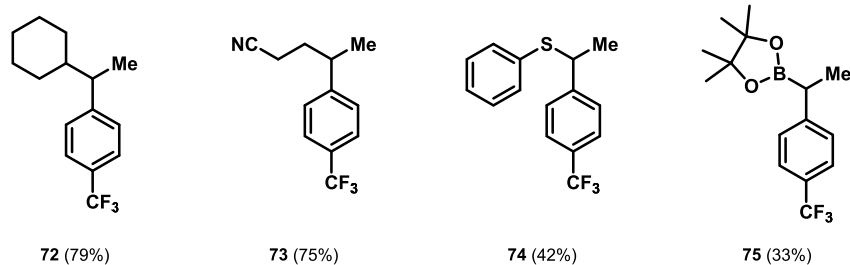
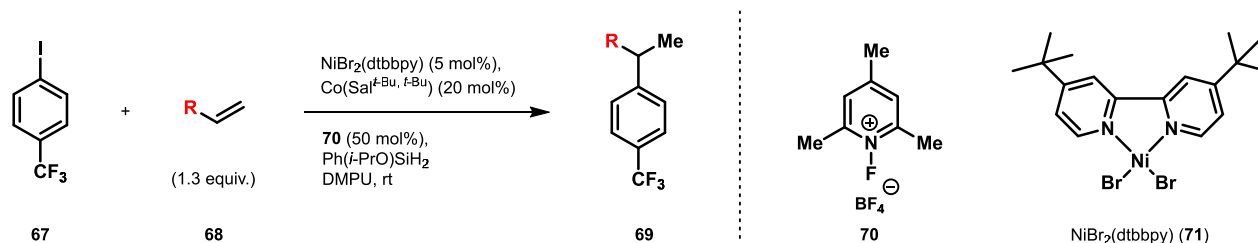


H.-H. Lu, R. A. Shenvi et al., *J. Am. Chem. Soc.* **2015**, *138*, 7268–7271.

7,20-Diisocyanoadociane

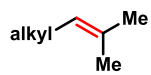
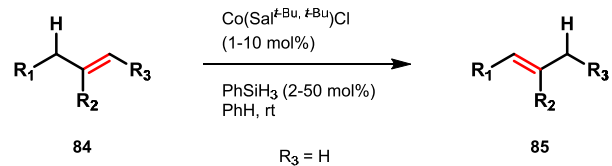


Branch-Selective Hydroarylation: Iodoarene–Olefin cross coupling

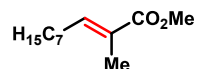


S. A. Green, J. L. M. Matos, A. Yagi, R. A. Shenvi, *J. Am. Chem. Soc.* **2016**, *138*, 12779–12782.

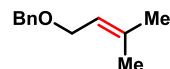
Co-catalyzed, chemoselective olefin (cyclo)isomerization



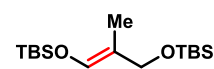
86 (83-91%)



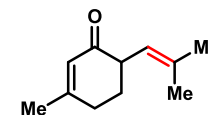
87 (69%)



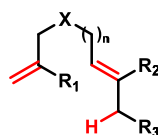
88 (77%)



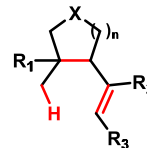
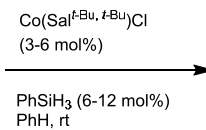
89 (92%)
E/Z = 3:1



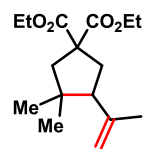
90 (74%)



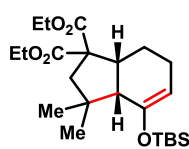
91



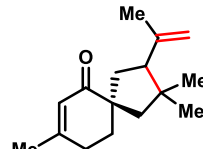
92



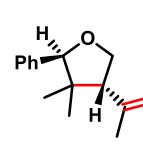
93 (94%)



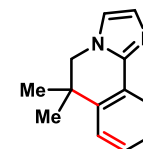
94 (88%)



95 (86%)



96 (89%)
d.r. 2.4:1



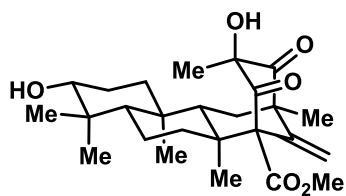
97 (77%)

Tim R. Newhouse

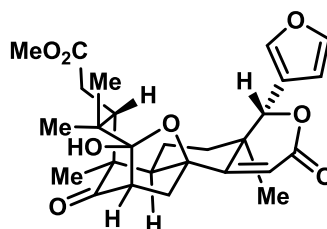


- Yale University, New Haven
- Assistant Professor since 2013

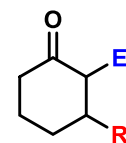
<http://campuspress.yale.edu/newhousegroup/tim-newhouse/>



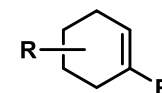
berkeleyone A



andirolide N

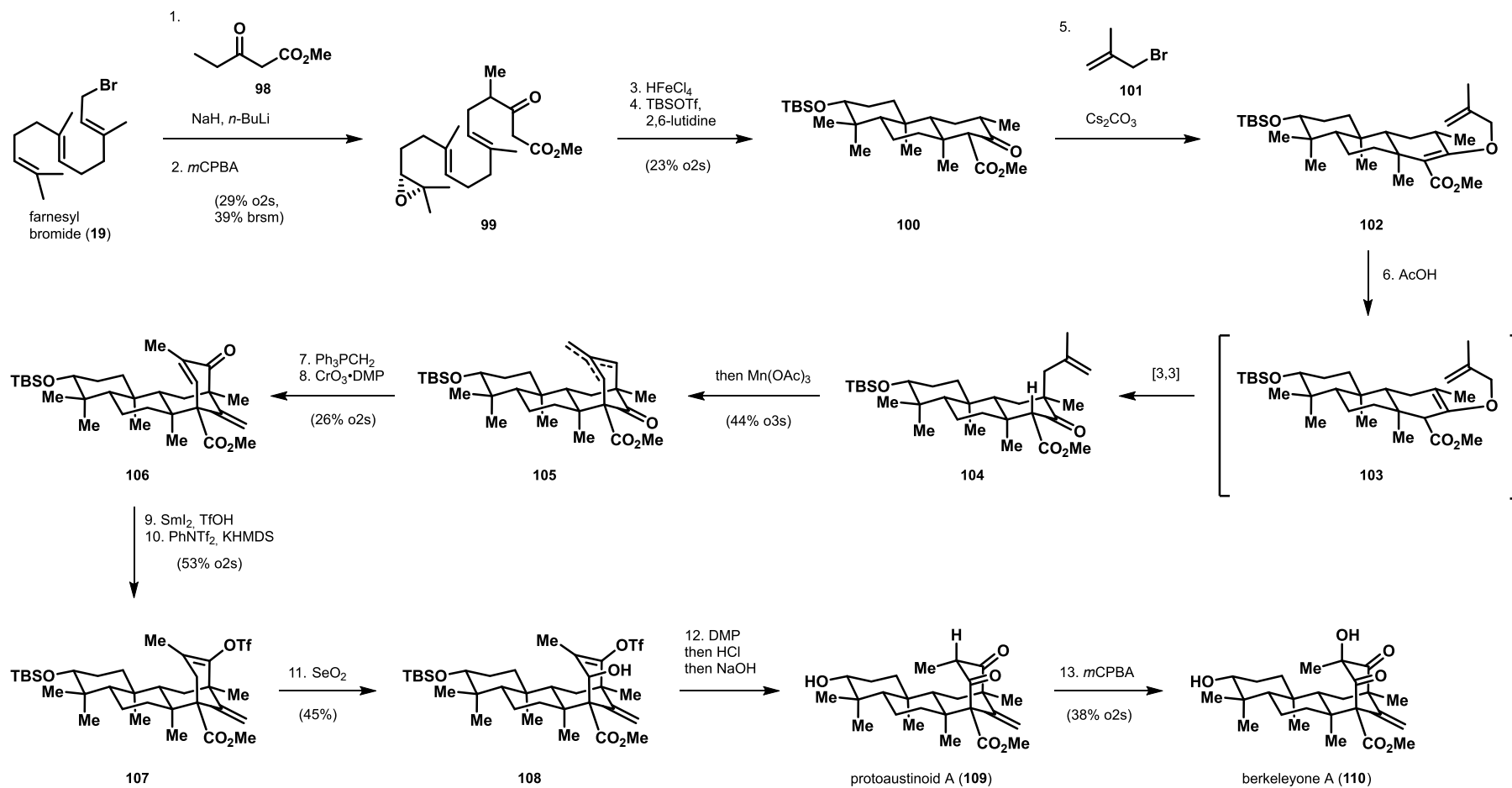


enone α,β -vicinal
difunctionalization



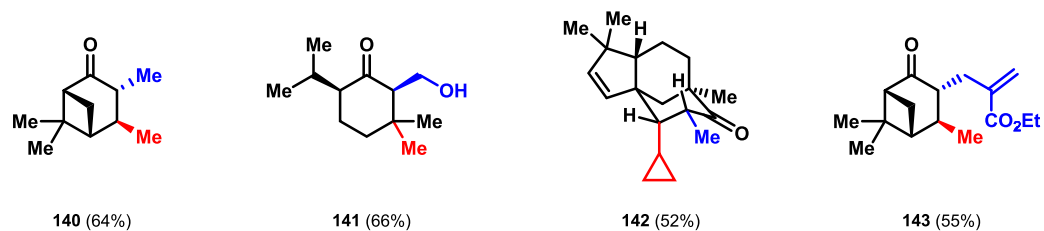
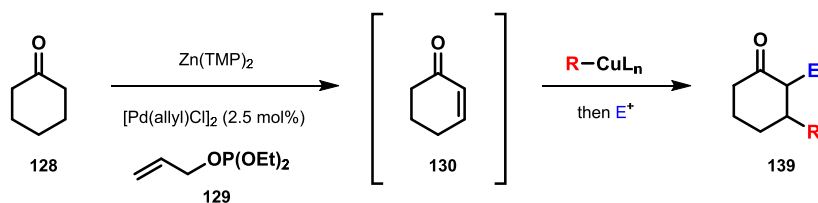
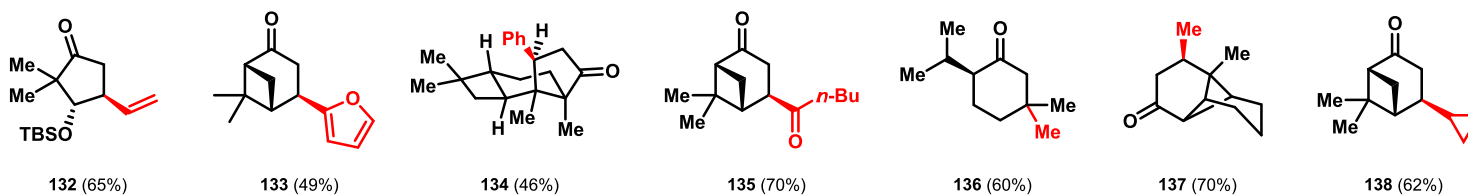
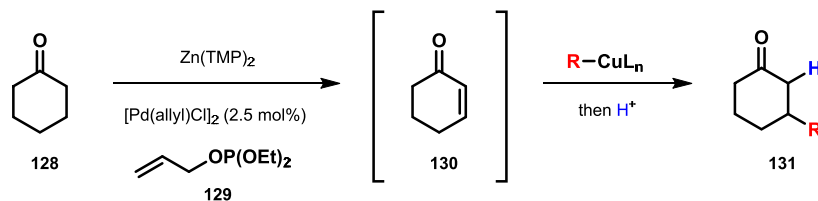
fragmentation of
hydroperoxides

Berkeleyone A



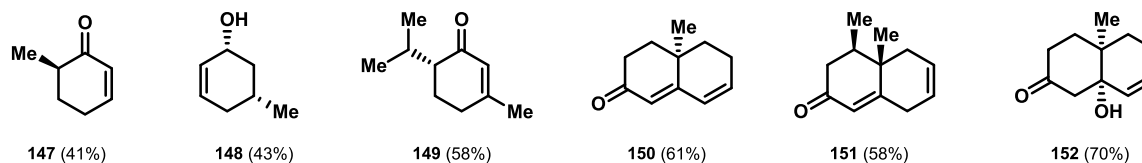
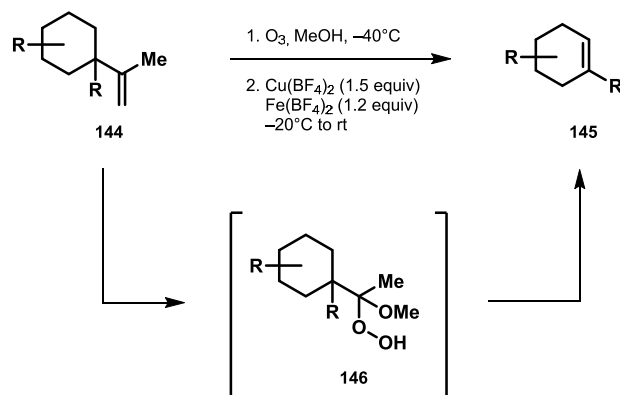
M. Elkin, S. M. Szewczyk, A. C. Scruse, T. R. Newhouse, *J. Am. Chem. Soc.* **2017**, *139*, 1790–1793.

Pd-catalyzed ketone dehydrogenation – enone α,β -vicinal difunctionalization



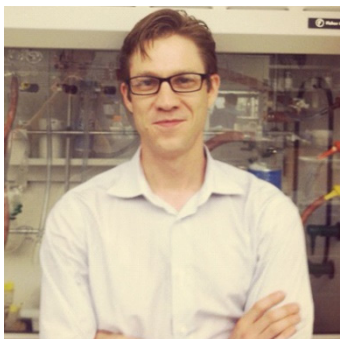
Y. Chen, D. Huang, Y. Zhao, T. R. Newhouse, *Angew. Chem. Int. Ed.* **2017**, *56*, 8258–8262.

Fragmentation of hydroperoxides mediated by $\text{Cu}(\text{BF}_4)_2$ and $\text{Fe}(\text{BF}_4)_2$



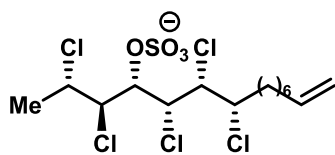
D. Huang, A. W. Schuppe, M. Z. Liang, T. R. Newhouse, *Org. Biomol. Chem.* **2016**, *14*, 6197–6200.

Noah Z. Burns

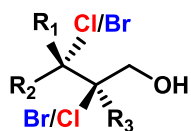


- Stanford University
- Assistant Professor since 2012

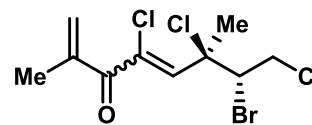
https://events.bc.edu/event/professor_noah_burns_stanford_university



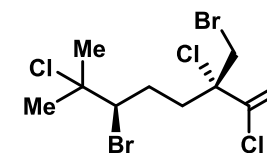
(-)-deschloromylipin A



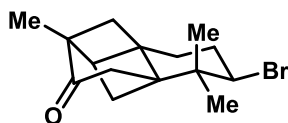
enantioselective dihalogenation



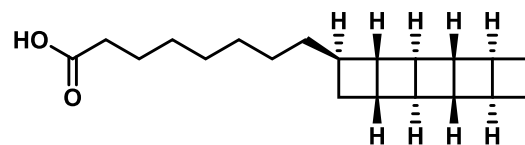
(Z/E)-(-)-isoplocamenone



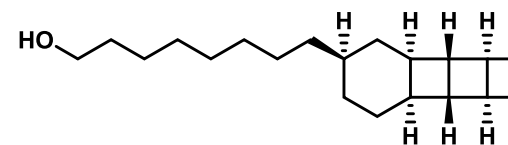
(+)-halomon



(+)-aplydactone

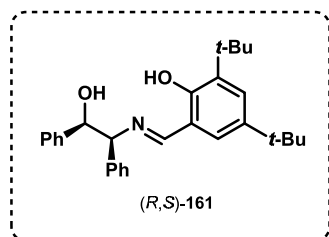
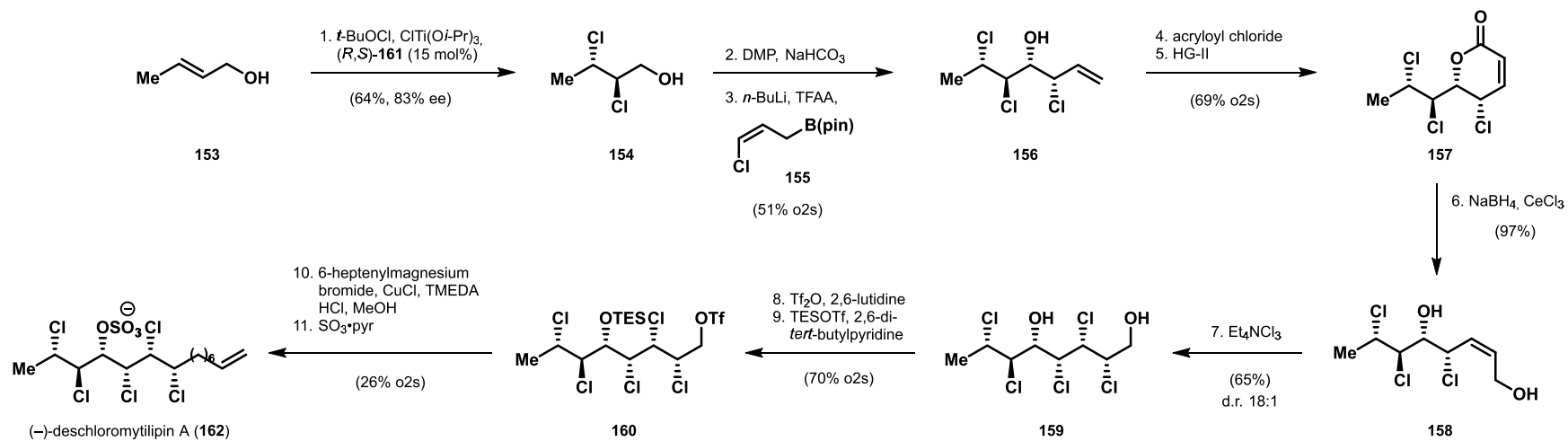


[5]-ladderanoic acid



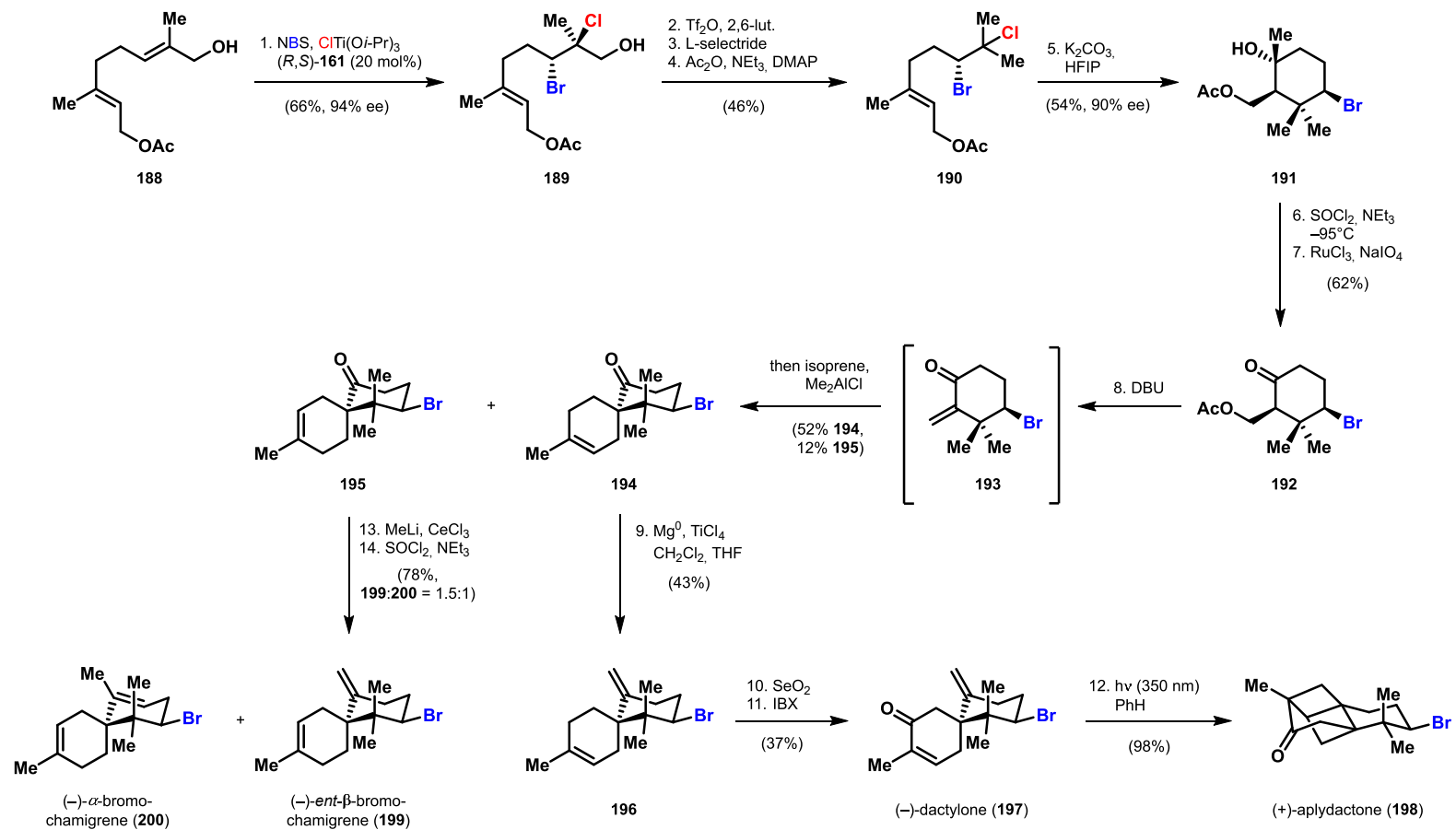
[3]-ladderanol

(-)-Deschloromytilipin A



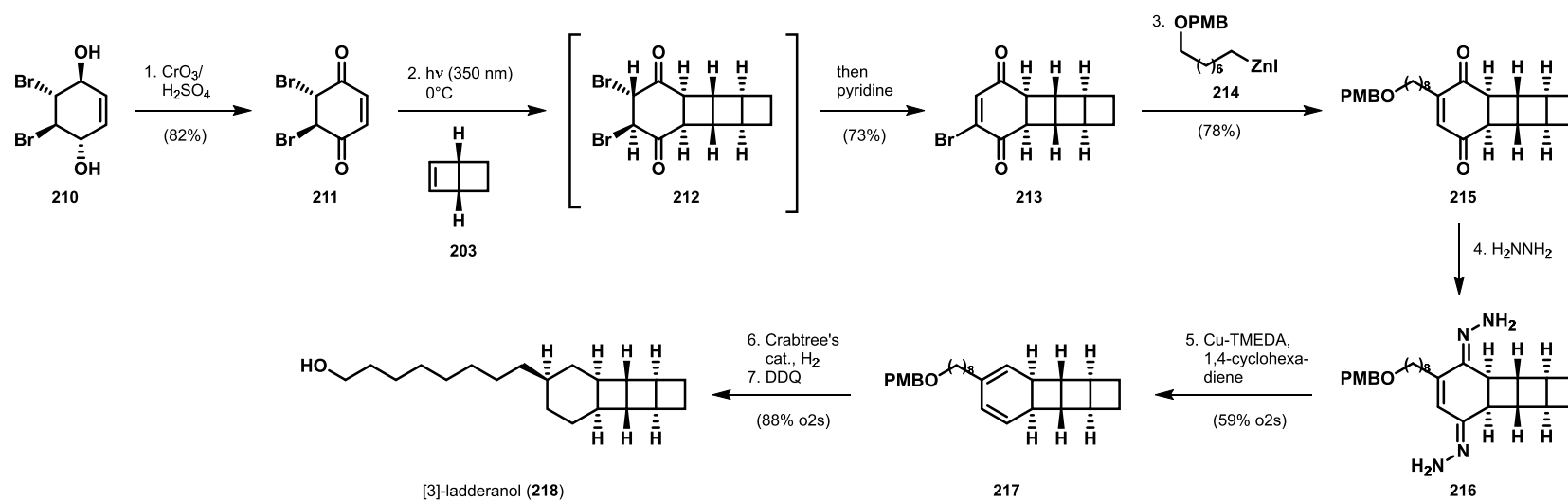
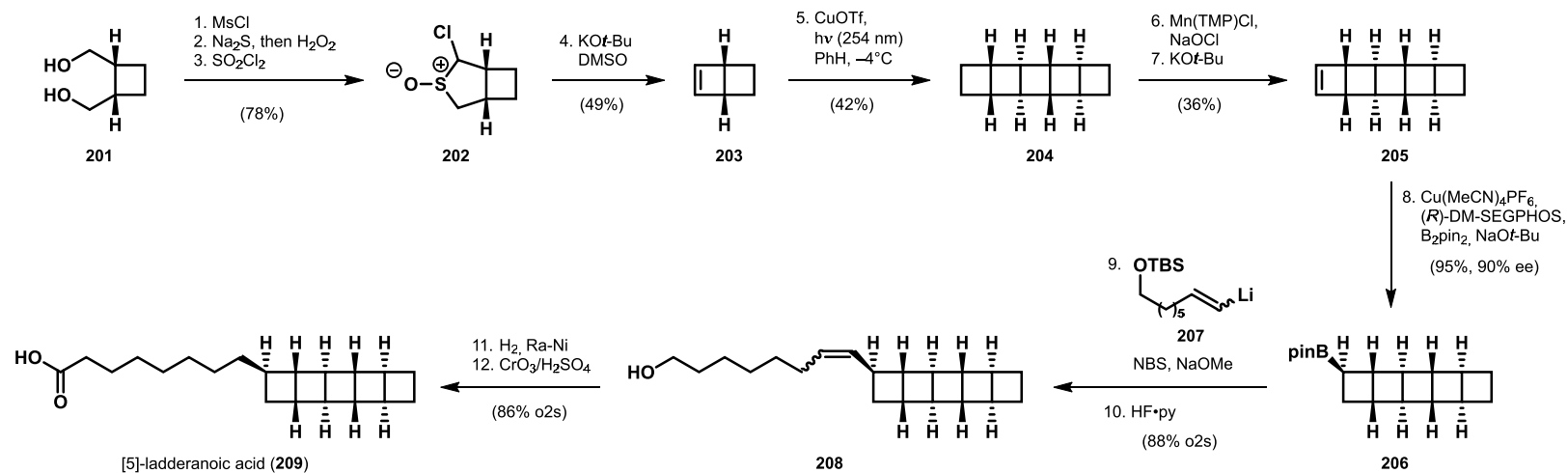
M. L. Landry, D. X. Hu, G. M. McKenna, N. Z. Burns, *J. Am. Chem. Soc.* **2016**, *138*, 5150–5158.

(+)-Aplydactone / (-)- α -Bromo-chamigrene



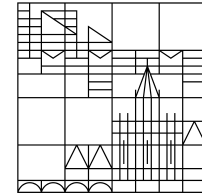
A. J. Burckle, V. H. Vasilev, N. Z. Burns, *Angew. Chem. Int. Ed.* **2015**, *55*, 11476–11479.

[5]-Ladderanoic acid / [3]-Ladderanol



J. A. M. Mercer, N. Z. Burns et al., *J. Am. Chem. Soc.* **2016**, *138*, 15845–15848.

Universität
Konstanz



Questions and Discussion