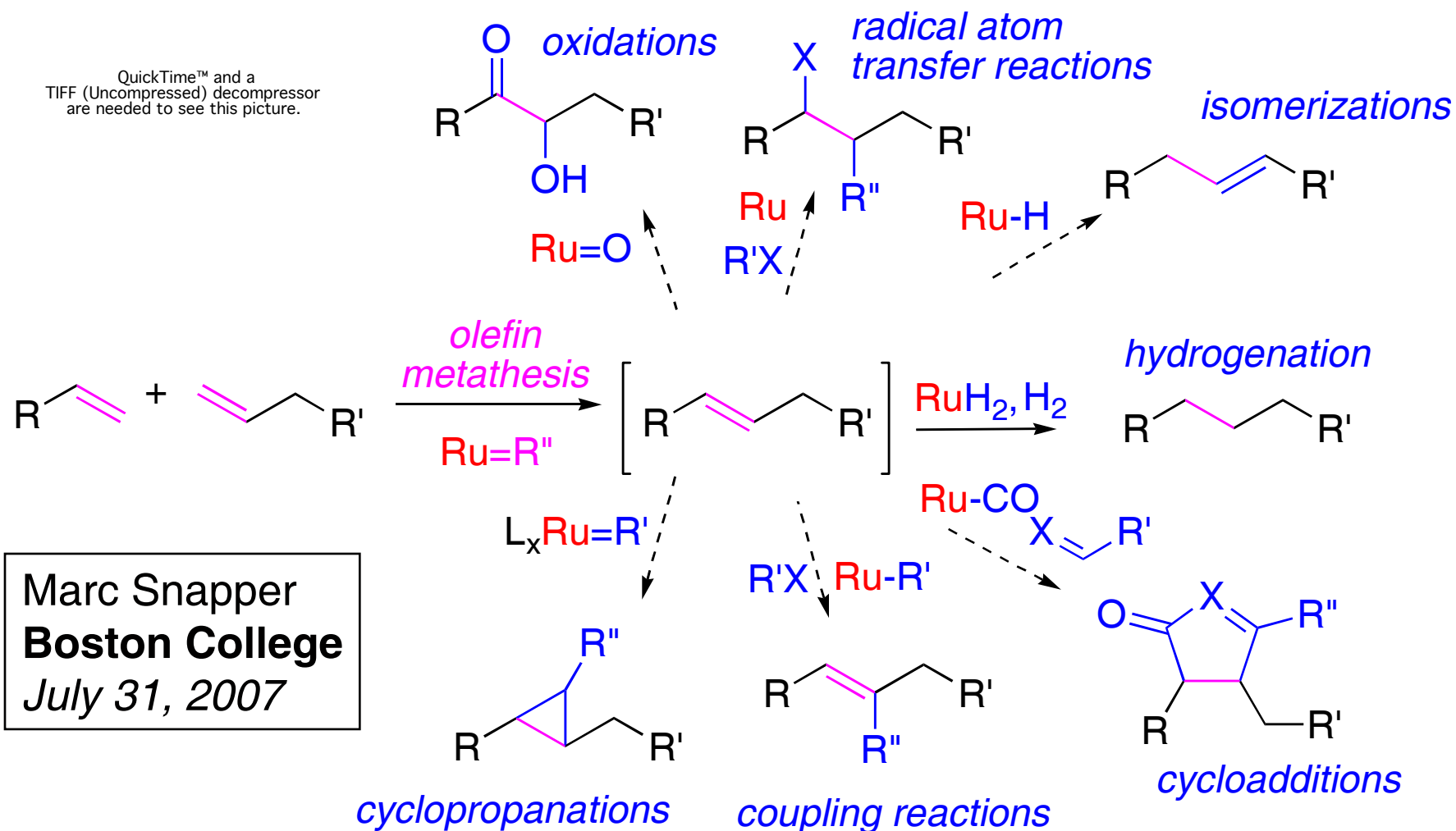


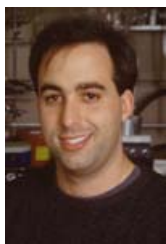
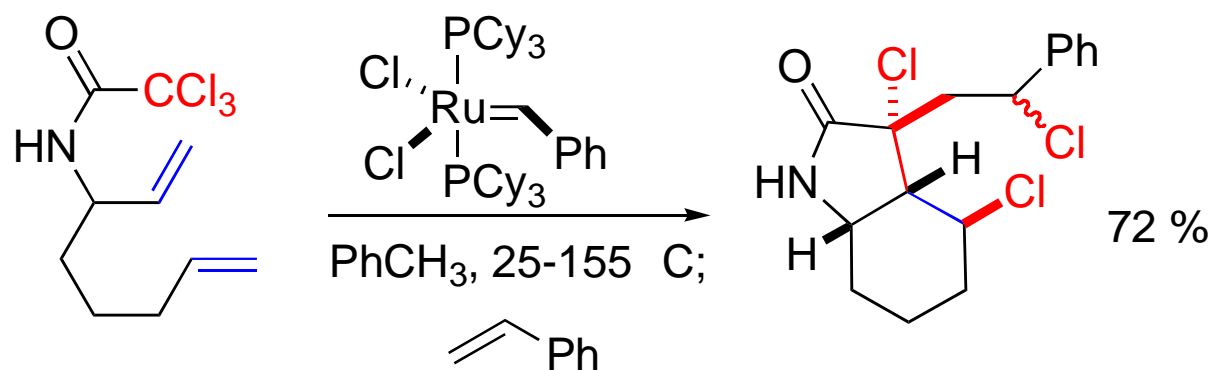
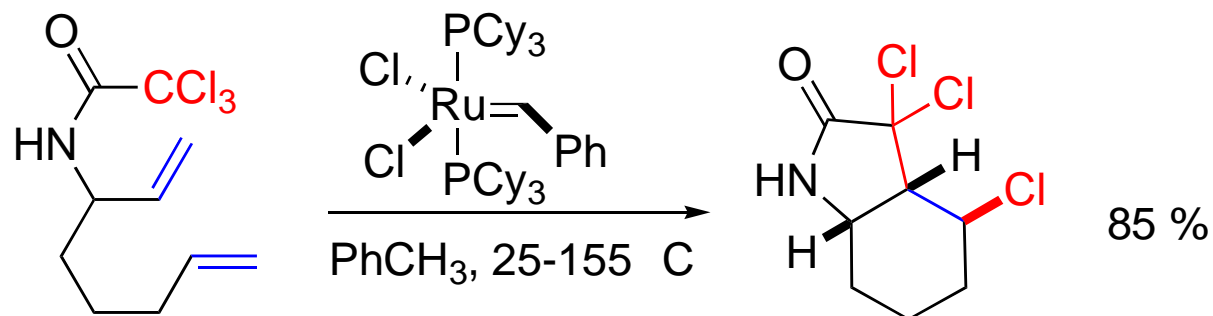
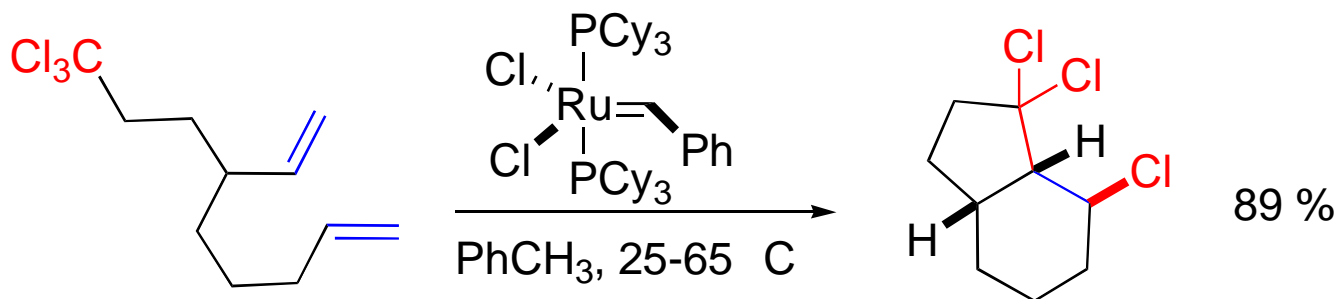
New Tandem Processes: Getting More from your Ruthenium

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.



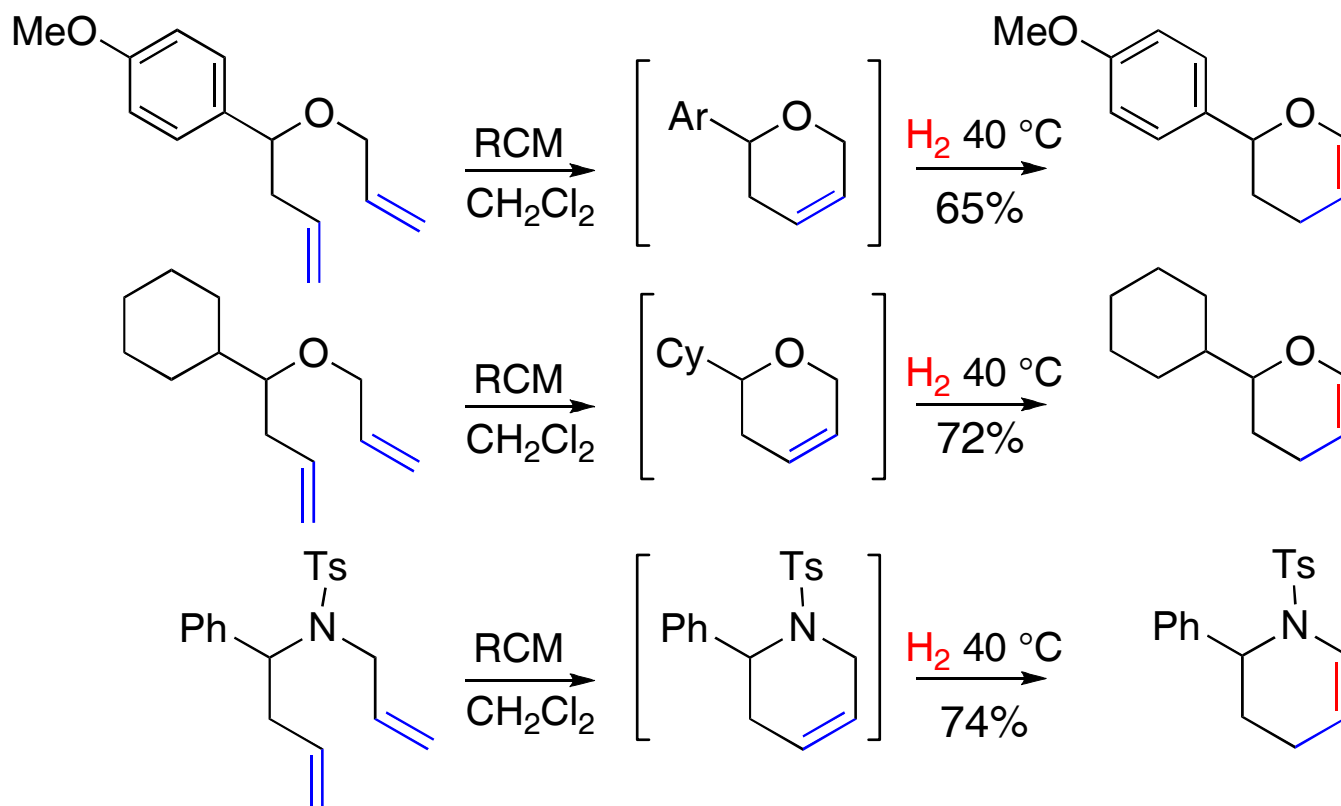
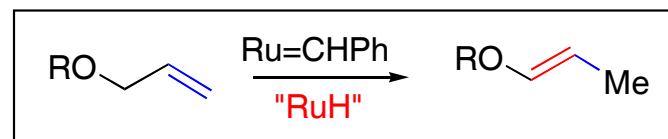
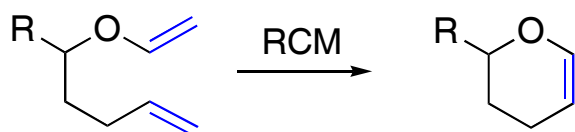
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Tandem Olefin Metathesis-Kharasch addition



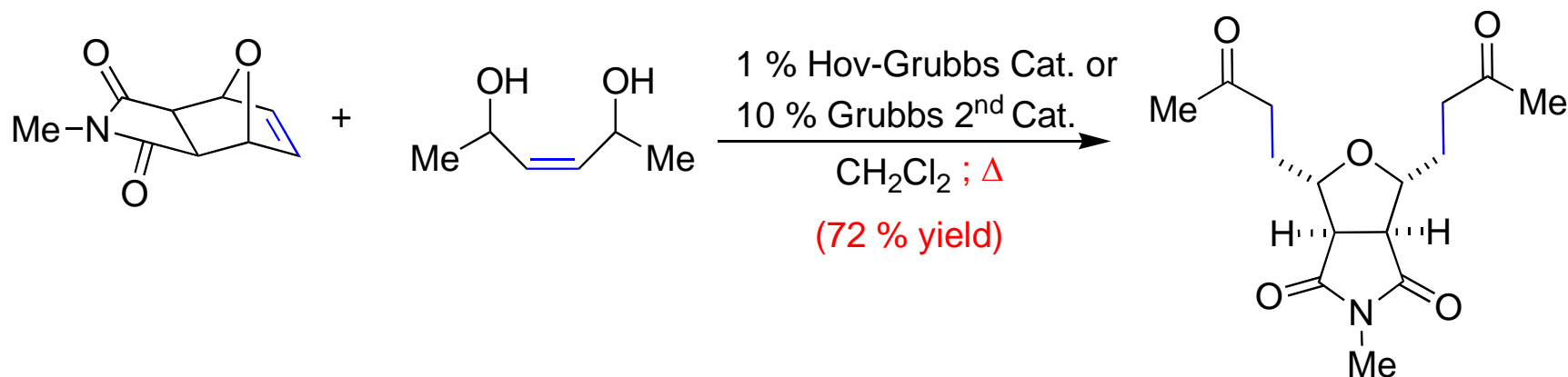
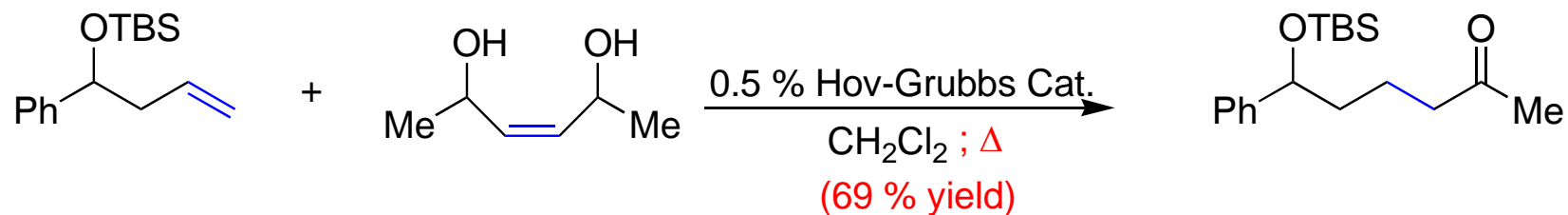
Seigal, B.A.; Fajardo, C.; Snapper, M.L. **2005**, *J. Am. Chem. Soc.* **127**, 16329.
For a related work, see: Schmidt, Pohler *J. Organomet. Chem.* **2005**, **690**, 5552.

New Tandem Reactions: Olefin Metathesis/Isomerizations



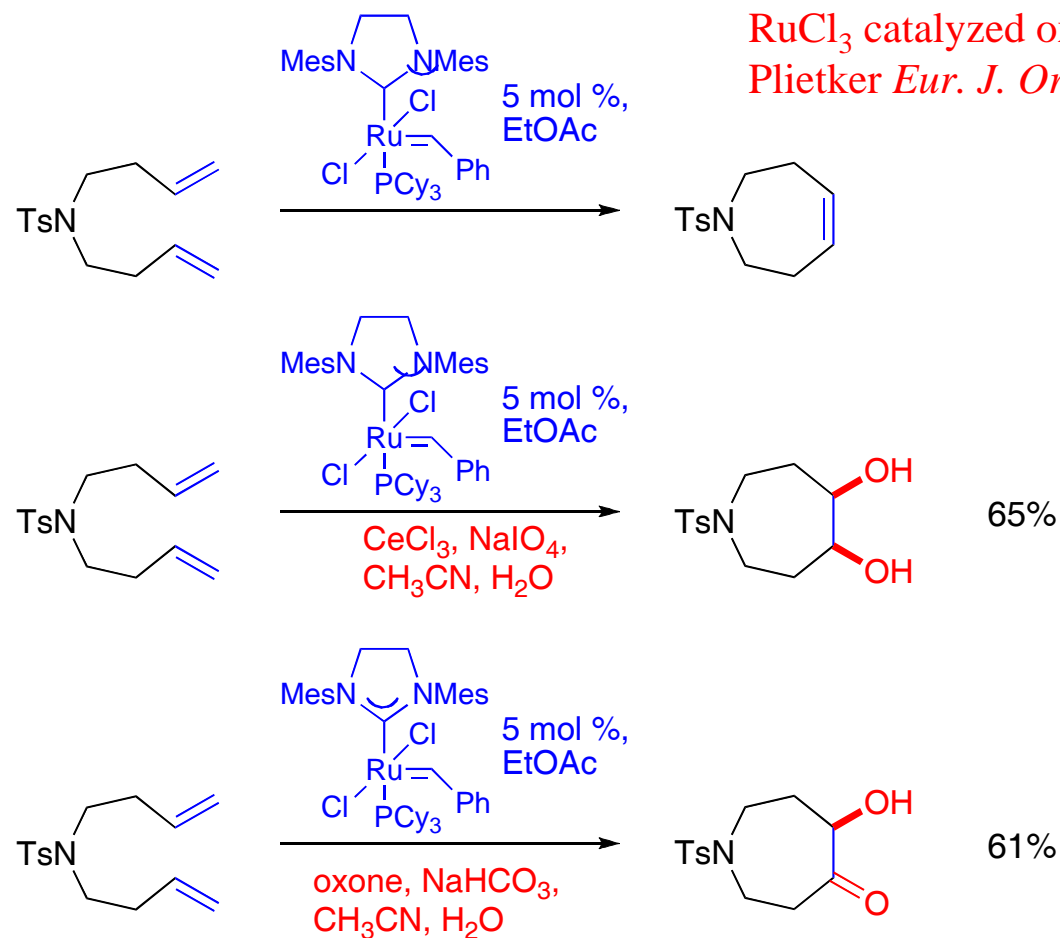
Sutton, Seigal, Finnegan, Snapper *J. Am. Chem. Soc.* **2002**, *124*, 13390.
For related studies, see: Schmidt, *J. Org. Chem.* **2004**, *69*, 7672.

New Tandem Reactions: Olefin Metathesis/Allylic Alcohol Isomerizations



Finnegan, Seigal, Snapper *Org. Lett.* **2006**, *8*, 2603.

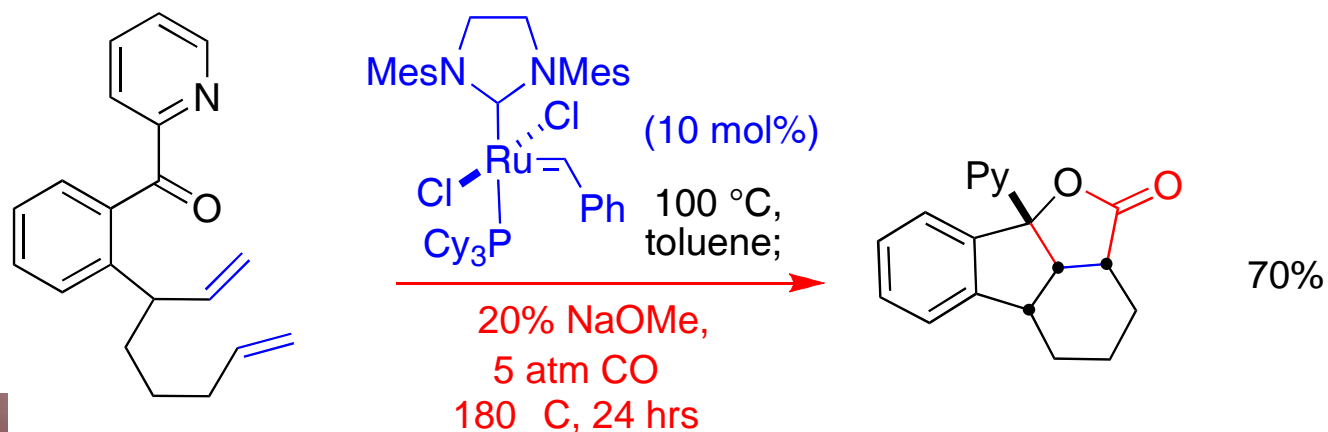
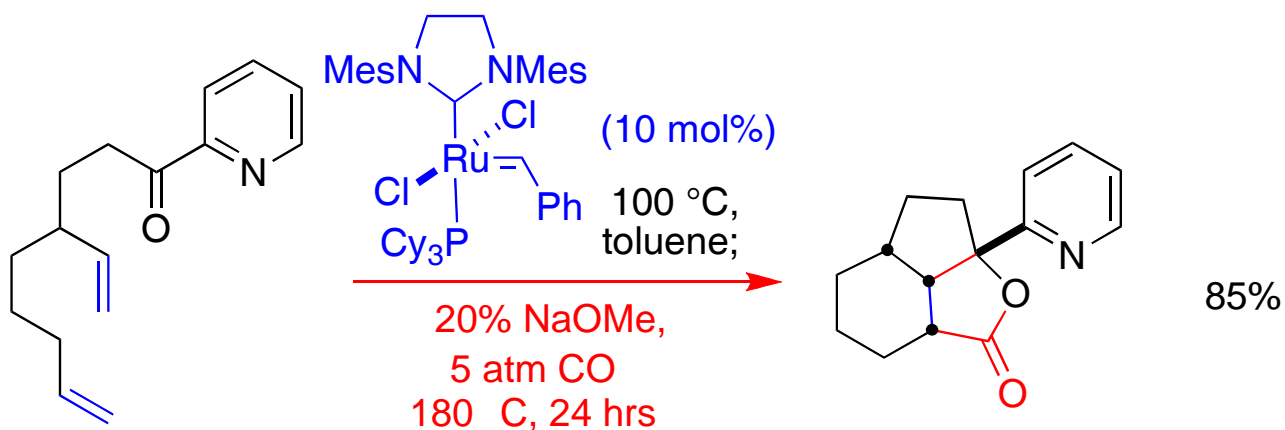
Tandem Ring-Closing Metathesis/Oxidation



Scholte, An, Snapper *Org. Lett.* **2006**, *8*, 4759.

For related studies, see: Beligny, Eibauer, Maechling, Blechert *Angew. Chem. Int. Ed.* **2006**, *45*, 1900.

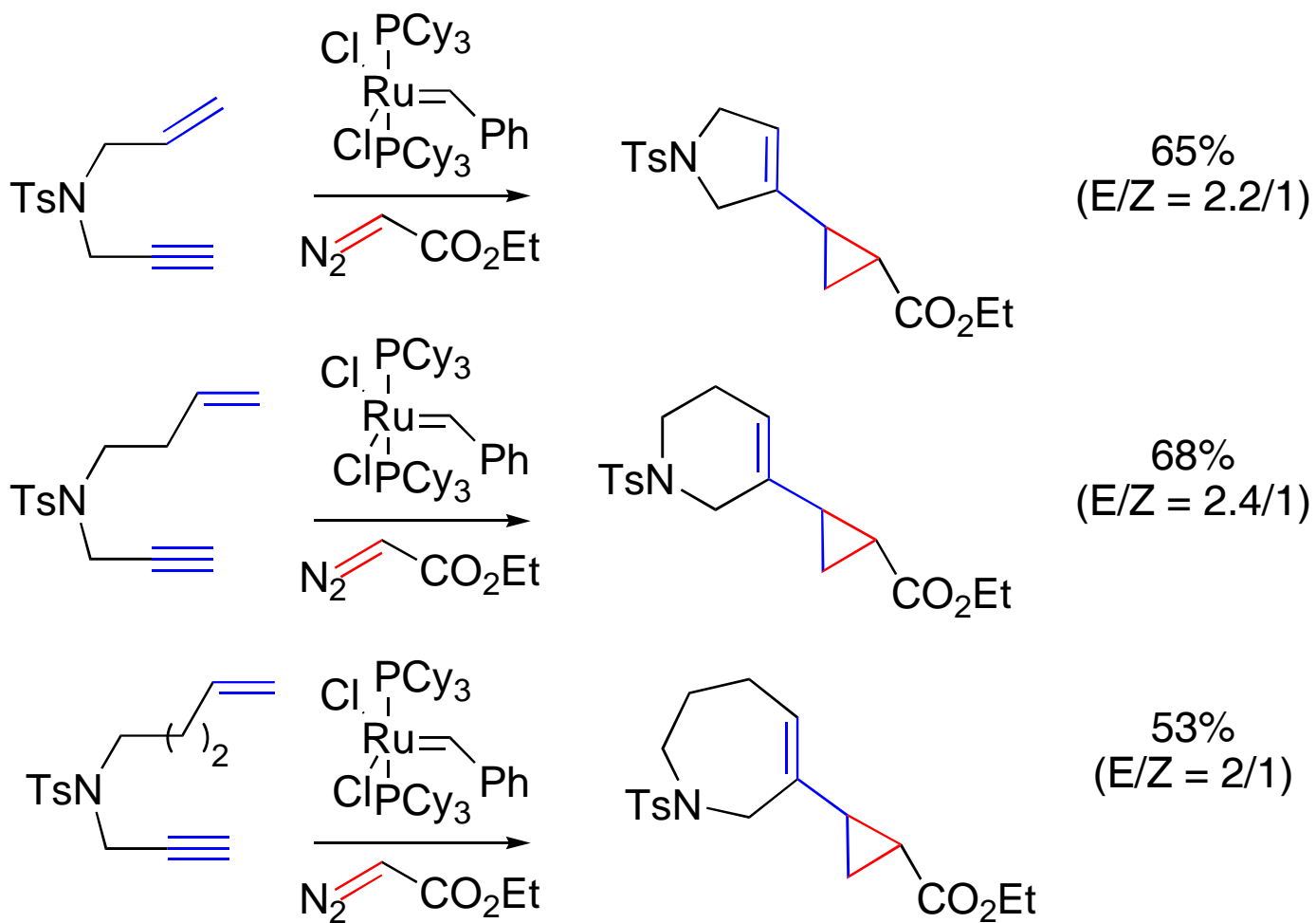
Ruthenium-Catalyzed Tandem Ring-Closing Metathesis/[2+2+1] Cycloaddition



Dave Finnegan

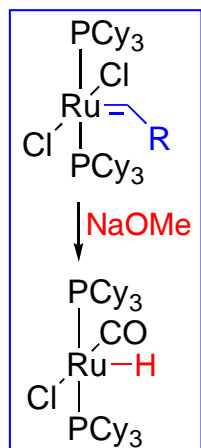
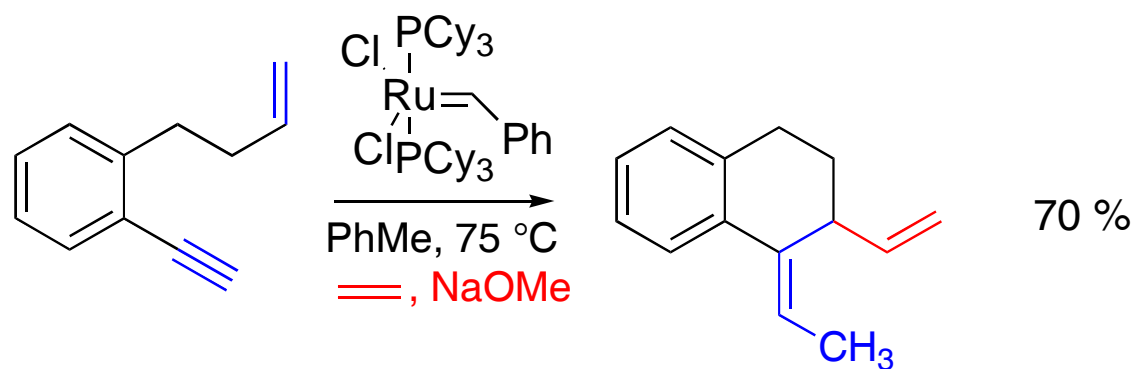
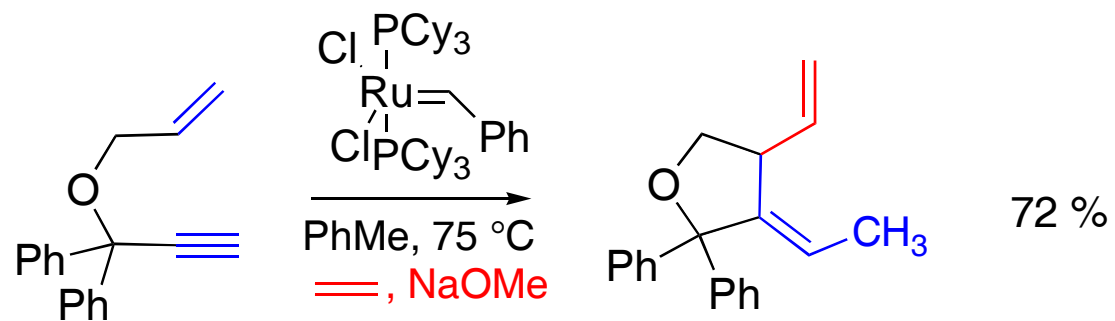
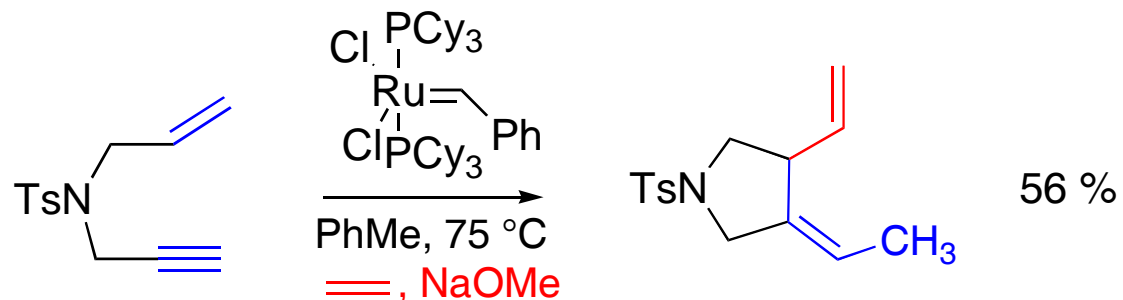
For $\text{Ru}_3(\text{CO})_{12}$ catalyzed [2+2+1] cycloadditions, see:
Tobisu, M; Chatani, N.; Asaumi, T.; Amako, K; Ie, Y.;
Fukumoto, Y; Murai, S; *J. Am. Chem. Soc.* **2000**, *122*, 12663.

Tandem Enyne RCM/Cyclopropanation



Kim, B.G.; Snapper, M.L. *J. Am. Chem. Soc.* **2006**, *128*, 52.

Tandem Enyne Metathesis-Hydrovinylation



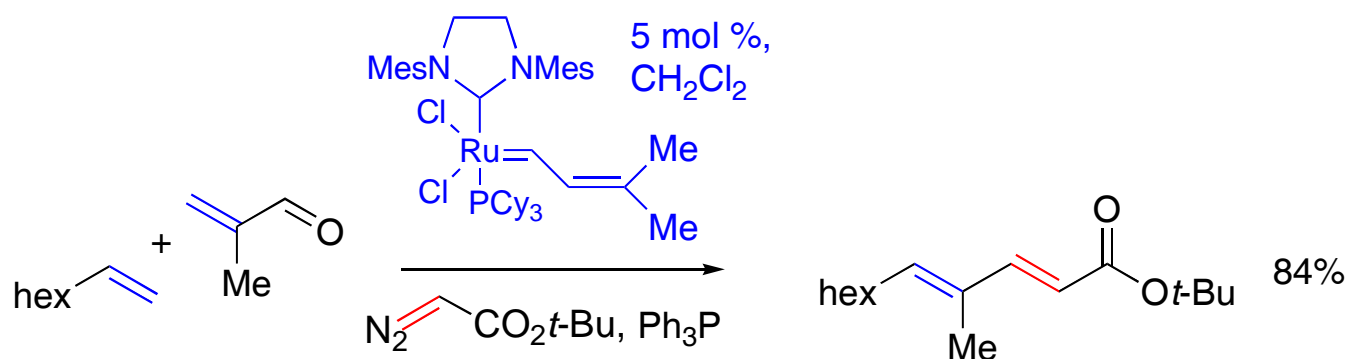
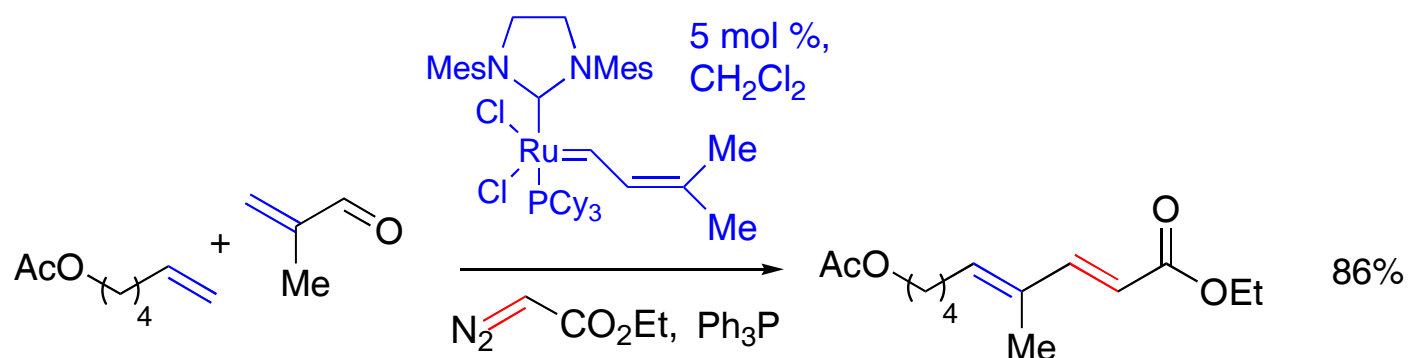
NaOMe: Dinger, M. B.; Mol, J. C. *Organometallics* **2003**, *22*, 1089

1,3-diene hydrovinylation: He, Z.; Yi, C. S.; Donaldson, W. A. *Org. Lett.* **2003**, *5*, 1567.



Jason Gavenonis

Ruthenium-Catalyzed Tandem Cross-Metathesis-Wittig Olefination



Ryan Murelli

For an early example of a Ru-catalyzed Wittig Olefination; see: Fujimura, O.; Honma, T. *Tetrahedron Lett.* **1998**, 39, 625.

For a review of ene-diene cross-metatheses, see: (a) Diver, S. T.; Giessert, A. J. *Chem. Rev.* **2004**, 104, 1317. For recent examples, see: (b) Funk, T. W.; Efskind, J.; Grubbs, R. H. *Org. Lett.* **2005**, 7, 187. (c) Dewi, P.; Randl, S.; Blechert, S. *Tetrahedron Lett.* **2005**, 46, 577. (d) Moura-Letts, G.; Curran, D. P. *Org. Lett.* **2007**, 9, 5. (e) Ferrié, L.; Amans, D.; Reymond, S.; Bellosta, V.; Capdevielle, P.; Cossy, J. *J. Organomet. Chem.* **2006**, 691, 5456.

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