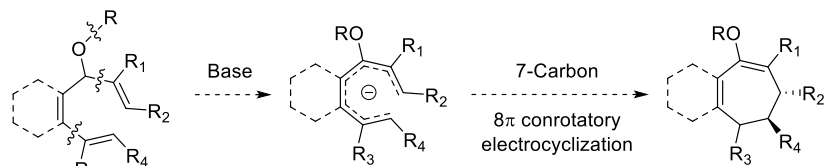


Synthesis of Hepta-1,3,6-trien-5-ols for Potential 8π Electrocyclizations

Bryce J. Kirk and Dr. Owen Scadeng*

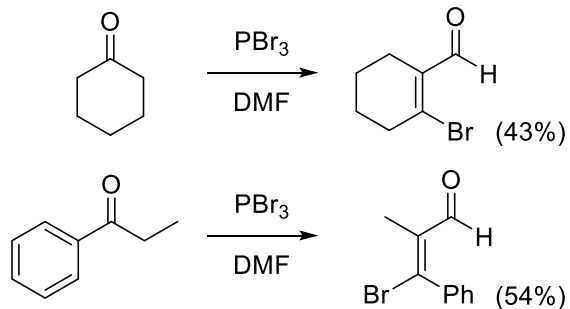


Introduction

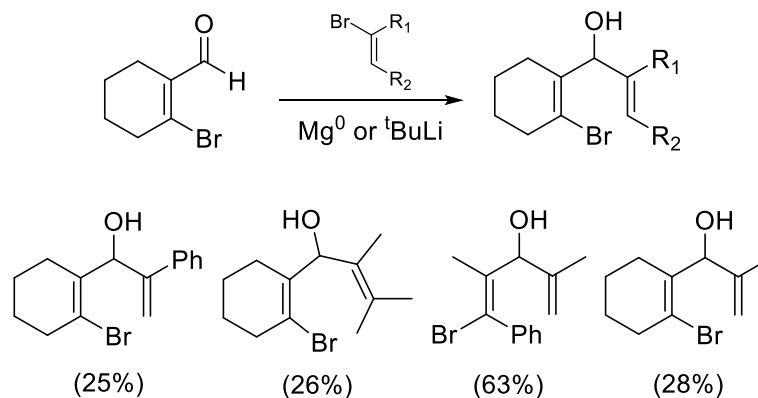


Hepta-1,3,6-trien-5-ols have the potential to act as electrocyclization precursors in anionic 7 carbon / 8π conrotatory transformations¹. We explored a sequence to produce the precursor with diversity available at three key connection. The 4-step procedure involved a Vilsmeier Haack type reaction, a 1,2-vinyl addition, and a Suzuki coupling². The final step was the functionalization of the alcohol³ to facilitate deprotonation leading to the desired electrocyclization.

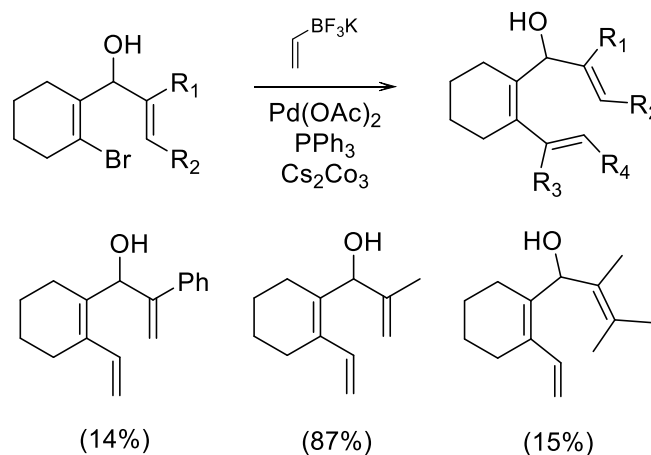
Vilsmeier Haack



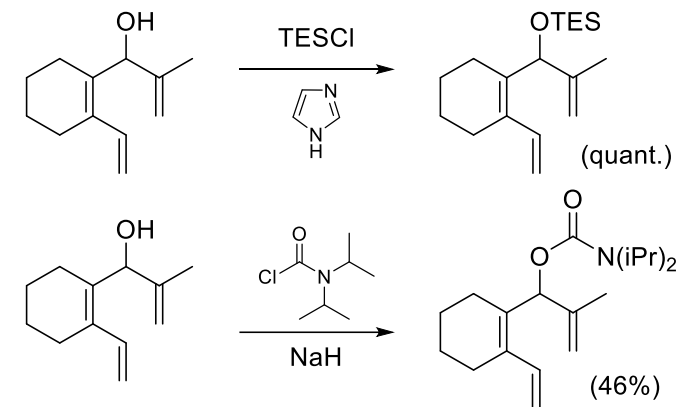
1,2 – Vinyl Addition



Suzuki Coupling



Alcohol Functionalization



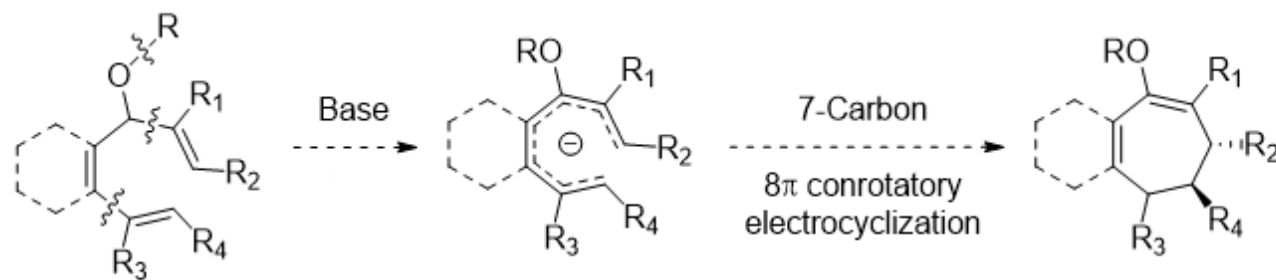
Acknowledgements

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References

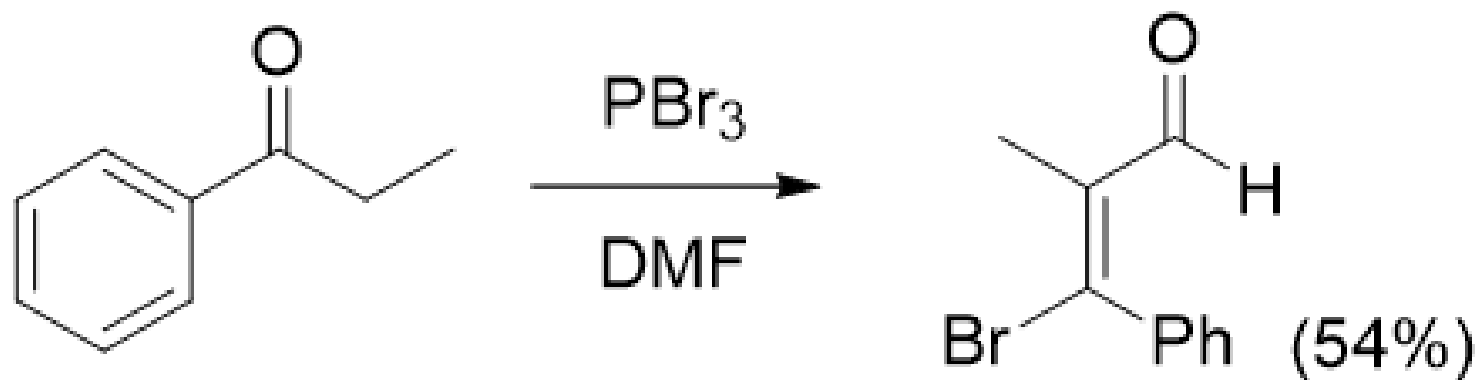
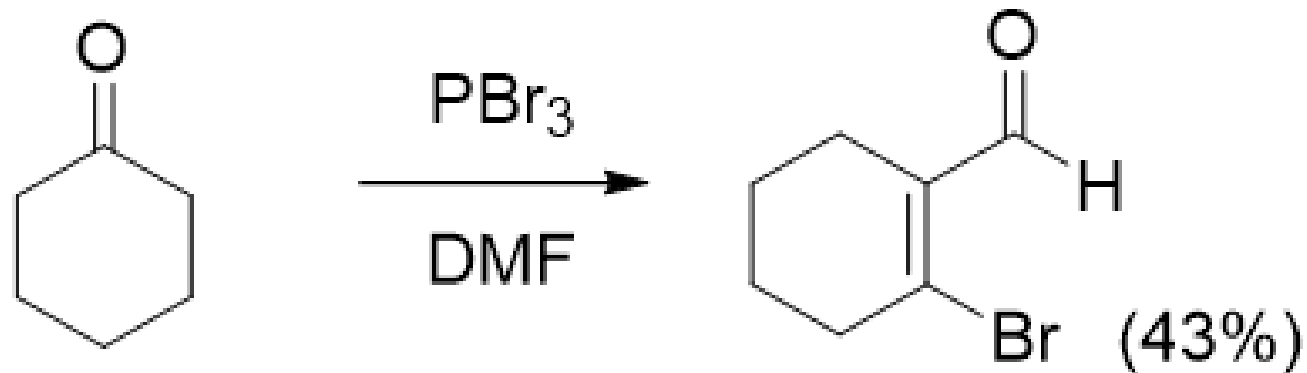
1. Cardenas, C. G. *J. Org. Chem.* **1970**, *35*, 264
2. Molander, G.; Felix, L. *J. Org. Chem.* **2005**, *70*, 3950-3956
3. Chedid, R. B.; Frohlich, R.; Wibbeling, B.; Hoppe, D. *Eur. J. Org. Chem.* **2007**, 3179-3190

Introduction

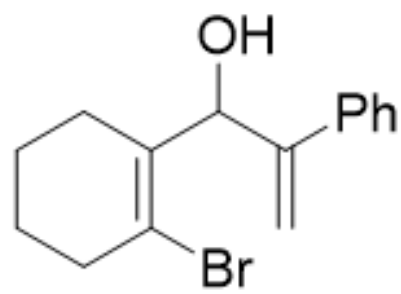
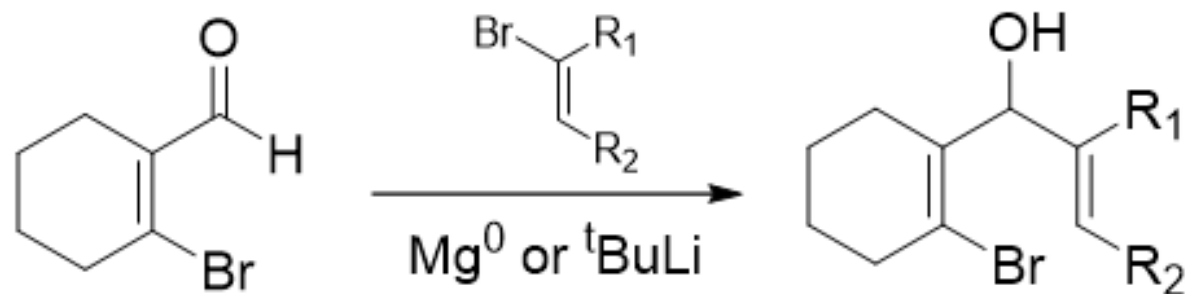


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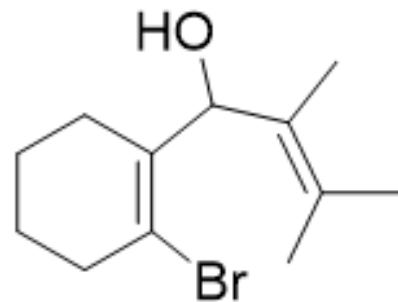
Vilsmeier Haack



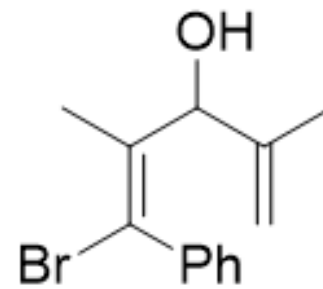
1,2 – Vinyl Addition



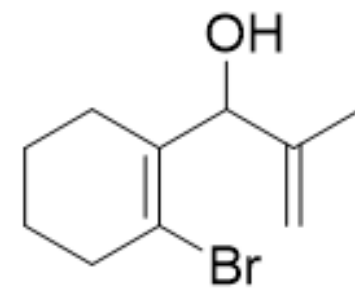
(25%)



(26%)

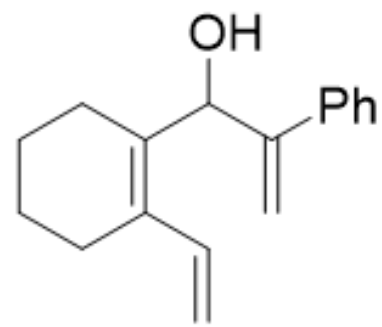
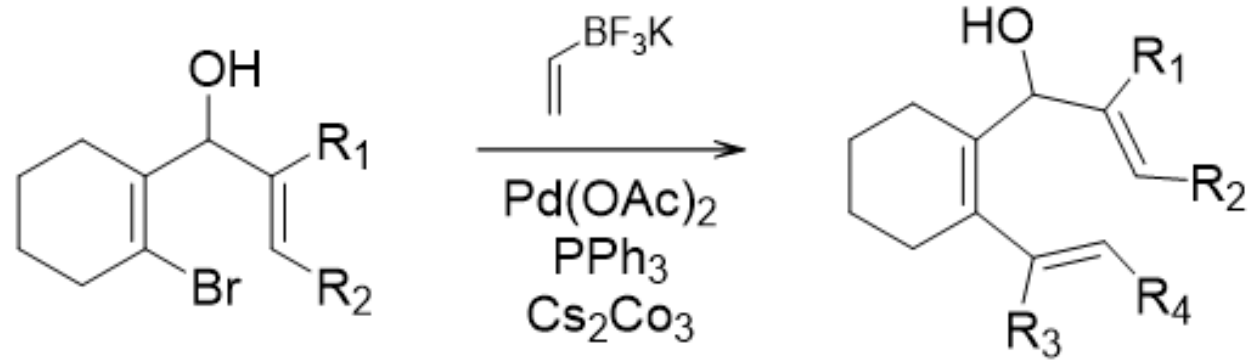


(63%)

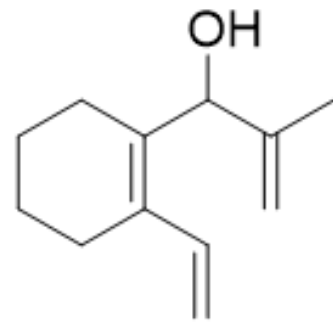


(28%)

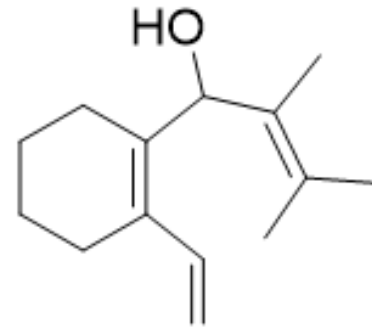
Suzuki Coupling



(14%)

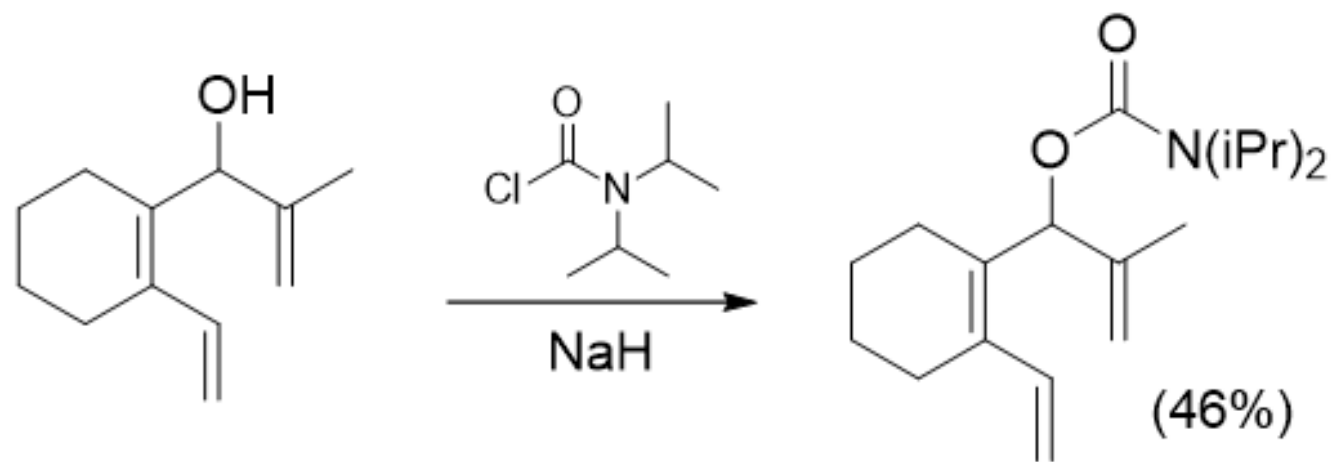
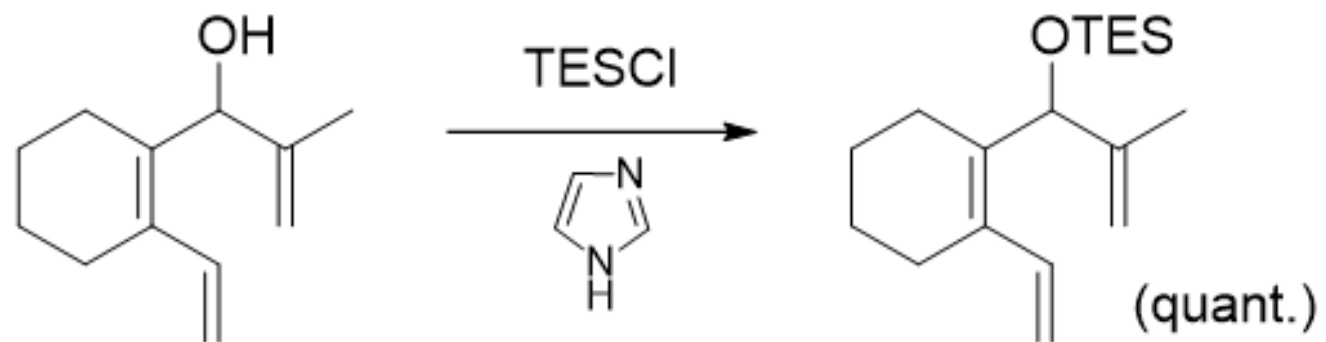


(87%)



(15%)

Alcohol Functionalization

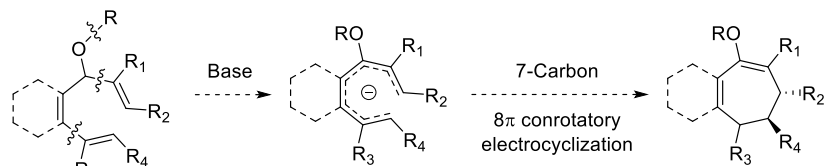


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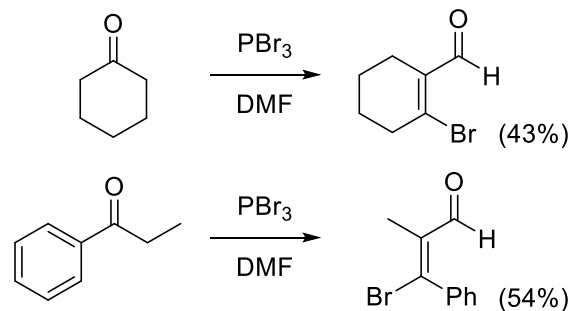


Introduction

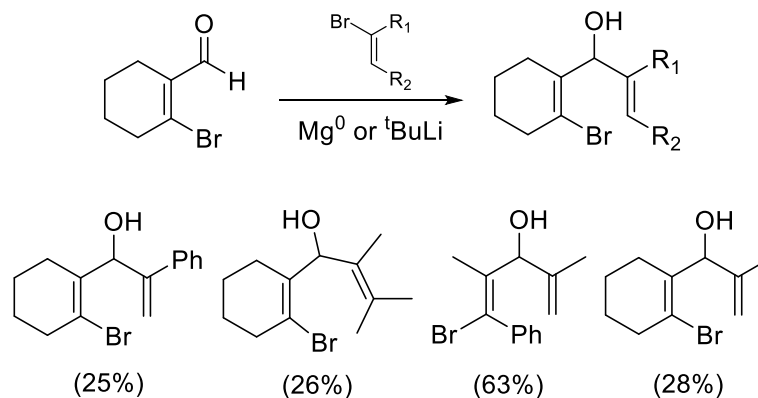


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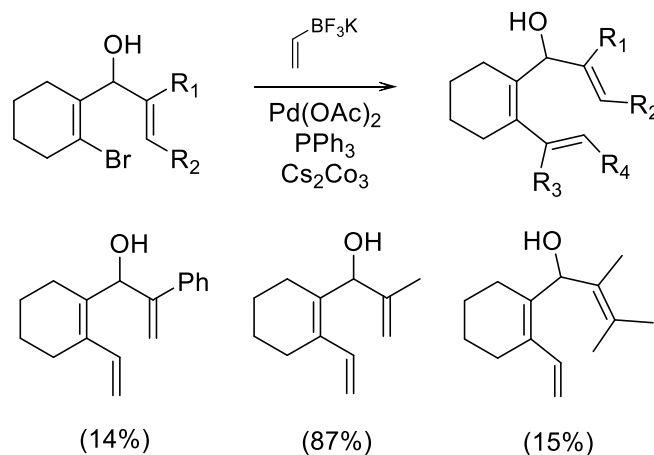
Vilsmeier Haack



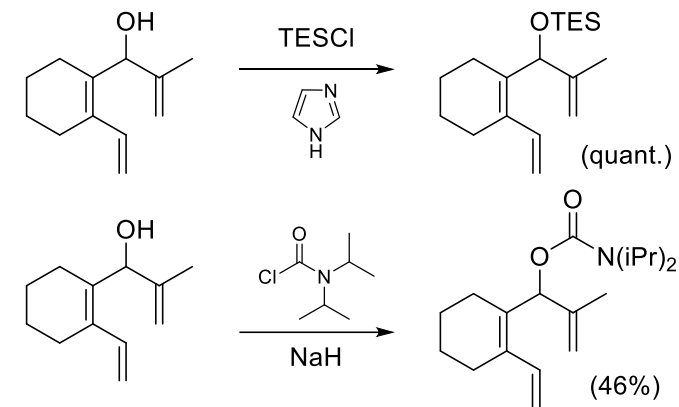
1,2 – Vinyl Addition



Suzuki Coupling



Alcohol Functionalization



Acknowledgements

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References

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2. Molander, G.; Felix, L. *J. Org. Chem.* **2005**, *70*, 3950-3956
3. Chedid, R. B.; Frohlich, R.; Wibbeling, B.; Hoppe, D. *Eur. J. Org. Chem.* **2007**, 3179-3190