

Abstract for the 2017 Pepperdine Research Symposium

One-pot dialkylation of cycloalkanones and their ring-closing metathesis to make bridged bicyclic compounds

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2,6-Disubstituted cyclohexanones **3-6** and 2,5-disubstituted cyclopentanones **7-9** were prepared via a one-pot procedure involving sequential deprotonation, alkylation, deprotonation, alkylation and hydrolysis of the imines **1** and **2**. The stereochemistry of the major diastereomer from each dialkylation reaction was determined from sodium borohydride reduction of the ketone. The dialkylated cyclohexanones and cyclopentanones products **3-8** were also subjected to ring-closing metathesis (RCM) under infinite dilution conditions and several of these substrates were found to undergo successful RCM.

