Enantioselective Allene Addition to Aryl and Alkyl Imines

Significance: Hoveyda and co-workers report a highly efficient method for the enantioselective preparation of aryl-, heteroaryl-, and alkyl-substituted homoallenylamides. The addition of an allenyl unit to various Boc-protected imines proceeds with high yield and very good enantioselectivity.

Comment: The application of this new protocol shows its relevance in the total syntheses of the natural products anisomycin and epicytoxazone. Furthermore, it is shown that the allenyl addition performed on gram scale proceeds with high efficiency and selectivity, providing the corresponding product in excellent yield.

Selected examples:

1. \( \text{NHBOc} \)
   - 86% yield, \( \text{er} = 98:2 \)
2. \( \text{NHBOc} \)
   - 74% yield, \( \text{er} = 97:3 \)
3. \( \text{NHBOc} \)
   - 88% yield, \( \text{er} = 97:3 \)
4. \( \text{NHBOc} \)
   - 89% yield, \( \text{er} = 95:5 \)
5. \( \text{NHBOc} \)
   - 77% yield, \( \text{er} = 84:16 \)
6. \( \text{NHBOc} \)
   - 80% yield, \( \text{er} = 98:1 \)
7. \( \text{NHBOc} \)
   - 75% yield, \( \text{er} = 98:1 \)
8. \( \text{NHBOc} \)
   - 91% yield, \( \text{er} > 99:1 \)

\( \text{R} = \text{(Het)Ar}, \text{Alk} \)