Total Synthesis of the Chlorinated Pentacyclic Indole Alkaloid (+)-Ambiguine G
Lingbowei Hu, Viresh H. Rawal


1) Name the starting material. (S)-Carvone.
2) Propose a mechanism. See second page.
3) Name the reaction. Appel reaction.
4) Give the structure of Comins’ reagent.
5) Name the reaction. Stille cross coupling.
6) Classify the reaction. (4+3) cycloaddition.
7) Name the reaction. Friedel–Crafts alkylation.
8) Give the role of P(OMe)$_3$. Reduction of the intermediate hydroperoxide.
9) Give the role of PPTS. Induces tautomerization.
10) Provide the structure of dba.
Mechanistic proposal for step 2: