Eudistomin H emerged as a suitable synthon for a project in progress in our laboratory. For this project, we needed gram quantities of this compound. A total synthesis leading to the marine alkaloid Eudistomin H has been previously disclosed[1], Scheme 1. The Bischler-Napieralski reaction[2], step 2, afforded a very low yield only. The other steps requested further development to reduce waste streams. In this context, we commenced a development and optimization study involving microwave irradiation as heating source. The introductory results spurred us to conduct a statistical experimental design for detailed investigation and first step optimization of reaction step 2. The obtained multivariate model was graphically presented as a contour map that was used to select optimal reaction conditions for the microwave assisted Bischler-Napieralski reaction. Overall, the total synthesis was substantially improved and optimized.

Scheme 1. Synthesis of Eudistomin H.
