Toward the Total Synthesis of (+)-trans-Trikentrin A

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INTRODUCTION

The alkaloid (+)-trans-trikentrin A is a marine natural product isolated in 1986 whose racemic synthesis has already been achieved by our group through a ring contraction key step. Herein we describe our recent efforts toward the total synthesis of (+)-trans-trikentrin A (Scheme 1).

RESULTS AND DISCUSSION

An asymmetric conjugate addition was our first attempt to define the stereocenter. As it could not be achieved on 2 (Scheme 2), we decided to perform the coupling of a substituted indoline ring (3, Scheme 3) with an iron complex obtained from a lactic acid derivative. This coupling would occur in a diastereoselective manner, allowing the synthetic route to be more convergent than the previous approach.

CONCLUSION

The first stereocenter of our target molecule could not be achieved by a conjugate addition. A diastereoselective coupling that would lead to a more convergent route is being tested. In parallel, a kinetic resolution of the stereocenter performed by lipase is under investigation.

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