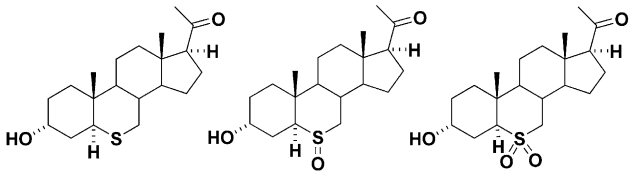
ELSEVIER

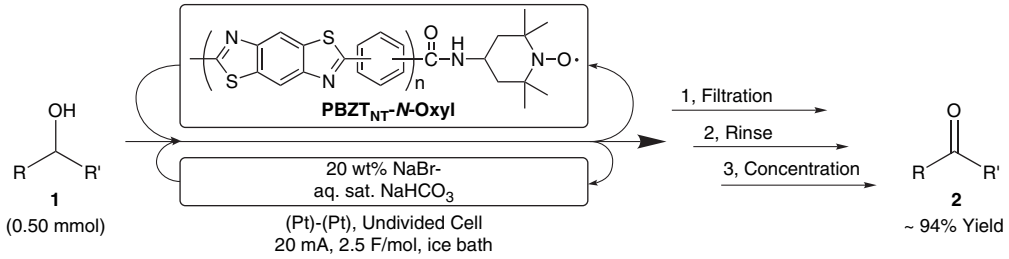
Tetrahedron

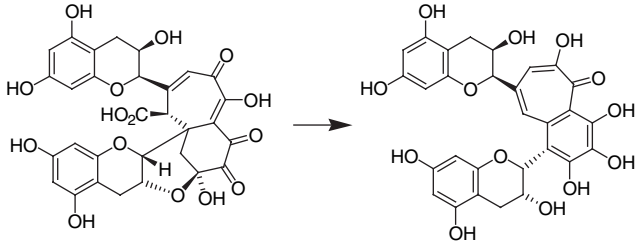
Tetrahedron Vol. 62, No. 20, 2006

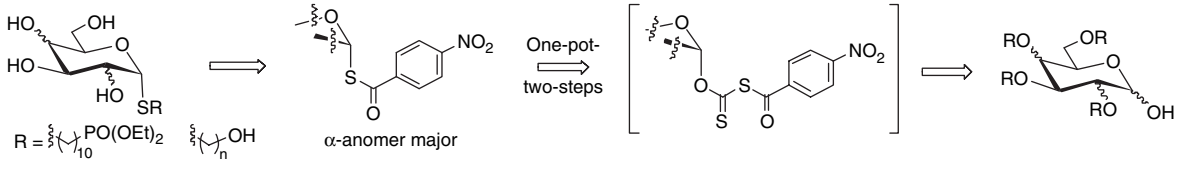
Contents

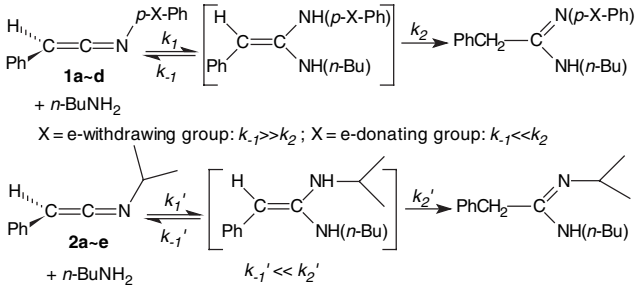
ARTICLES

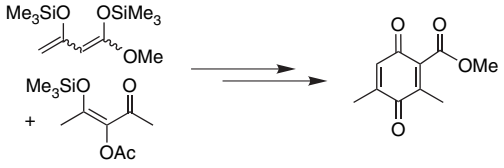


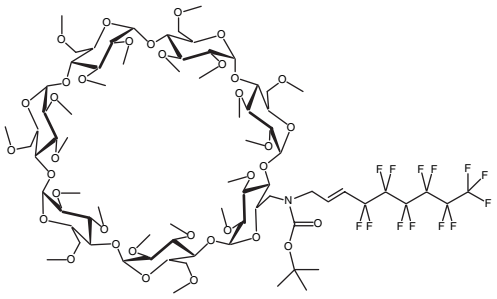


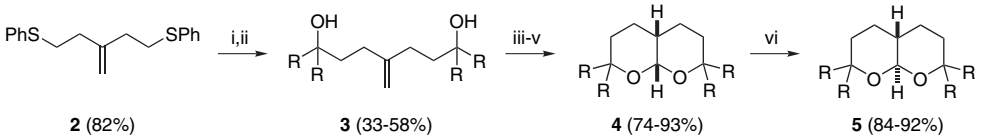




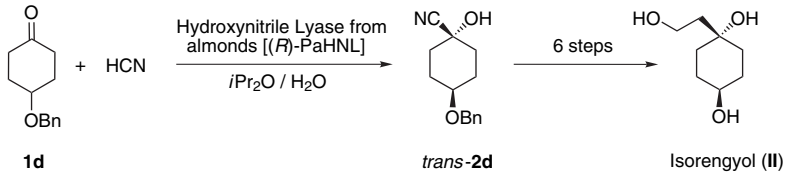


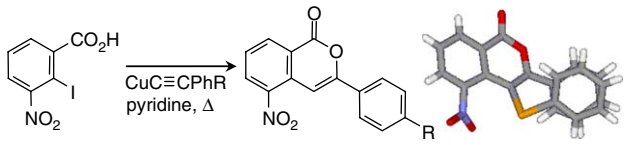


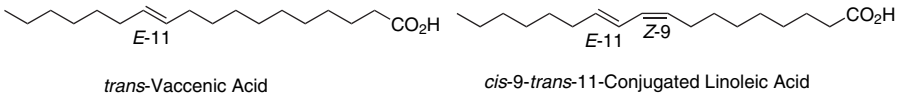


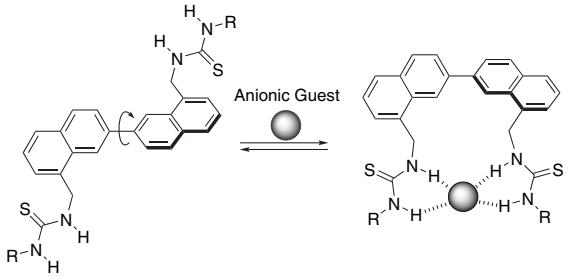


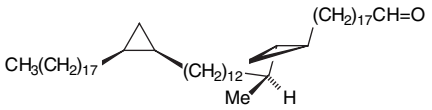
i, Li, DTBB (cat.), R_2CO, THF; ii, H_2O; iii, BH_3·THF; iv, H_2O_2, 3M NaOH; v, PCC, CH_2Cl_2; vi, *p*-TsOH (cat.), THF.





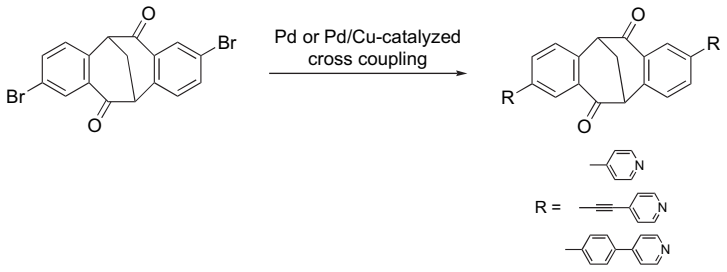


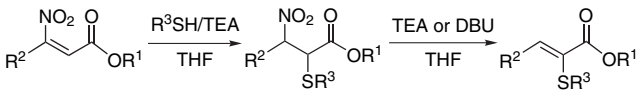


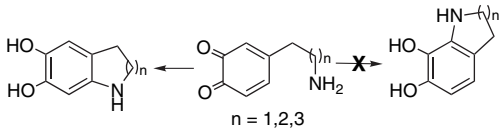


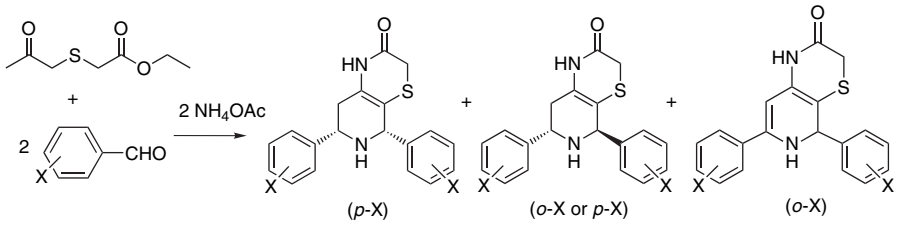
We report the synthesis of a single enantiomer of a meromycolate that contains one *cis*-1,2-dialkylcyclopropane and one alpha-methyl-*trans*-1,2-dialkylcyclopropane.

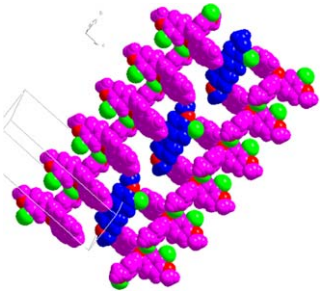
N represents a pyridine or a secondary alicyclic amine. Both reactions are stepwise, through a zwitterionic tetrahedral intermediate.

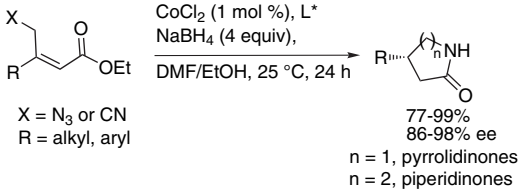


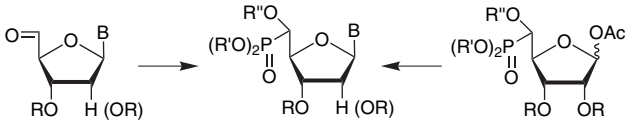


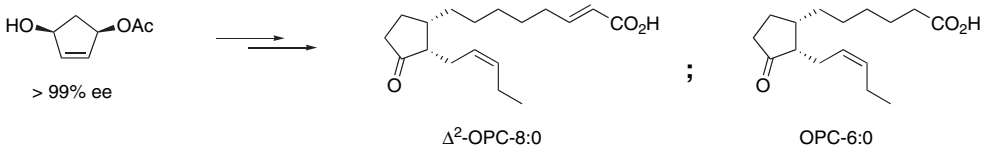




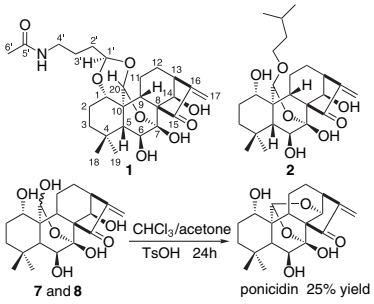


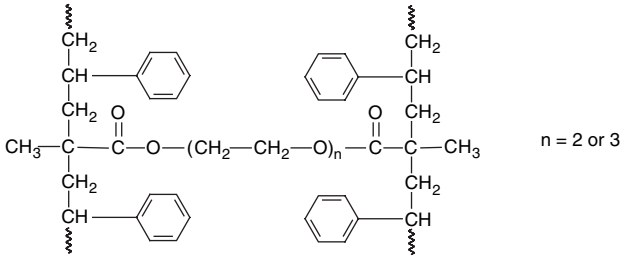


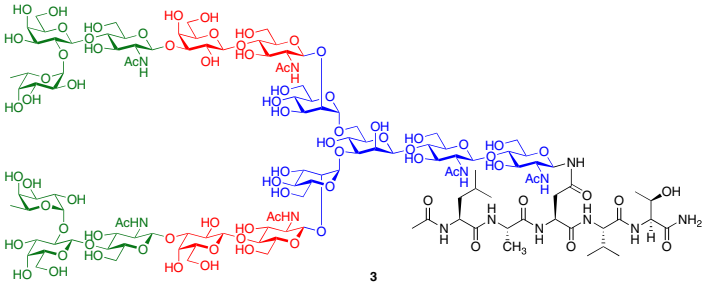




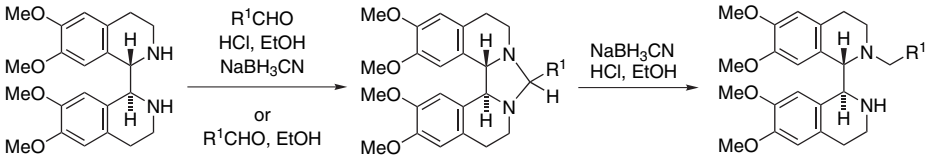
An extensive study of the diterpenoids produced by the species of *Isodon rubescens*, has led to the isolation of 12 new *ent*-kaurane diterpenoids, hebeirubescensins A–L (**1**–**12**), and 19 known analogues. Their structures were determined on the basis of spectroscopic analysis. Selected compounds were assayed for their inhibitory ability against human A549, HT-29, and K562 cells. Among them, hebeirubescensins B and C exhibited significant cytotoxicity with IC_{50} values of <2.0 μM. The structure–activity relationships were discussed.

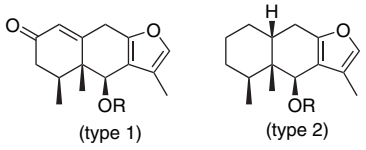






3





Ligularia virgaurea var. *virgaurea* of the title area was found to be divided into two types based on the furanoeremophilane composition and the ITS sequences.

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

The total synthesis of an H-type blood group determinant in a model biological setting is described. The construct is comprised of a high mannose core structure with projecting lactose spacers, culminating in a two-copy presentation of the H-type blood group determinant itself. The pentadecasaccharide was assembled via a '5+2+3' coupling strategy and then further elaborated to generate the shown glycopeptide. *Tetrahedron* **2006**, *62*, 4954–4978.

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