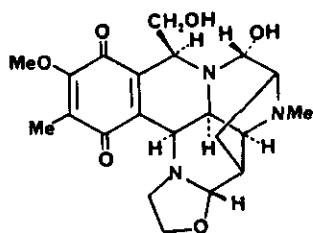


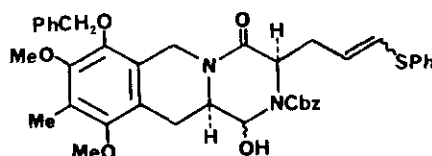
SYNTHETIC APPROACH TOWARD NAPHTHYRIDINOMYCIN

Tohru Fukuyama, R. Keith Frank, Alison A. Laird, and George A. Krudy
Department of Chemistry, Rice University, Houston, Texas 77251, U. S. A.

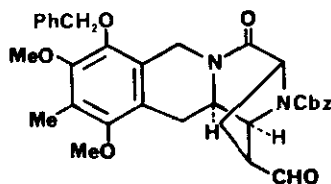
Naphthyridinomycin 1 was isolated from cultures of *Streptomyces lusitanus*. The antibiotic has been shown to be active against a large number of both gram-positive and gram-negative bacteria. It also exhibits strong antitumor activities. The structure of naphthyridinomycin was determined by an X-ray diffraction analysis. It is a hexacyclic compound with eight chiral centers, containing such labile functional groups as quinone, aminal, and oxazolidine. Our synthetic approach toward this formidable molecule involves the acyliminium ion-mediated cyclization of 2 to construct the tetracyclic ring system 3 ((1) HCOOH, HgCl₂; (2) NaOH, MeOH). The aldehyde 3 was converted to the aminophenol 4 in two steps ((1) H₂NCO₂Bu^t, CSA, quinoline, xylene; (2) H₂, Pd-C, EtOAc). Attempts to cyclize 4 to the desired pentacyclic system will be discussed.



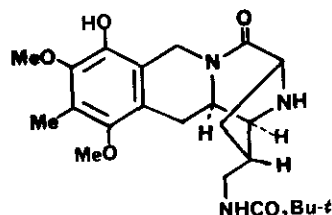
1



2



3



4