

Enantioselective Total Synthesis of (+)-Streptazolin

Streptazolin (**1**) was discovered and first isolated in 1981. It shows limited antibacterial and fungicidal activity and influences the incorporation of thymidine in mouse spleen lymphocytes. The first enantioselective total synthesis was reported by Overman in 1987. In this synthesis, the ethylidene sidechain was introduced with a Wittig reaction, leading to a 1:2 mixture favouring the abnormal E isomer. Kibayashi, in 1996, succeeded in completing the total synthesis of the Z isomer of (+)-streptazoline with a stereochemically defined exocyclic ethylidene sidechain.

Suggest the missing reagents/products and propose possible mechanistic explanations.

