

STUDIES DIRECTED TOWARD THE TOTAL SYNTHESIS OF (+)-GRISEOVIRIDIN

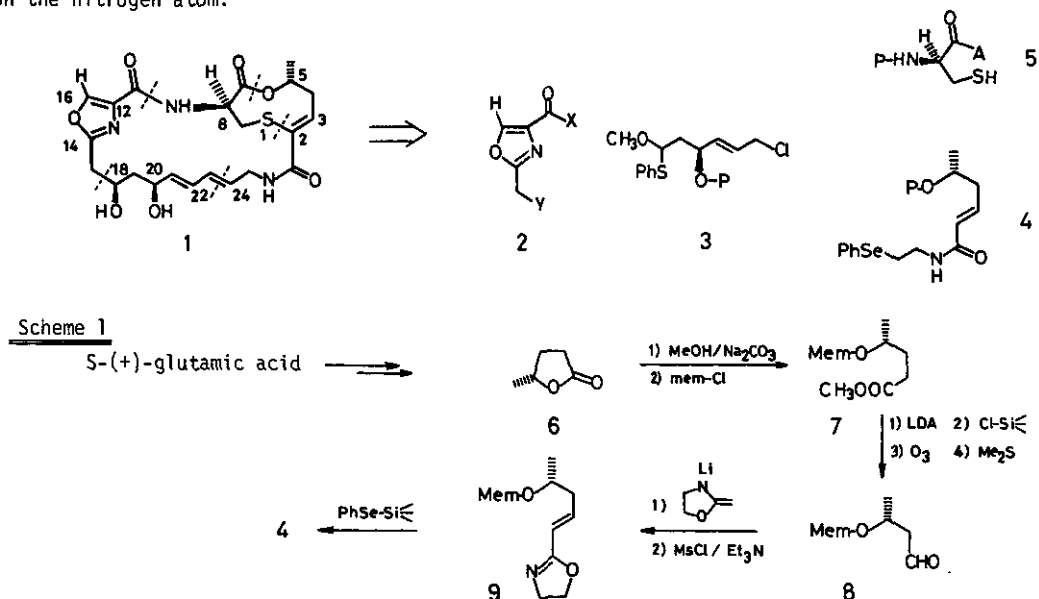
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Recent approaches to the convergent total synthesis of (+)-griseoviridin (**1**), one of the streptogramin family of antibiotics, which requires four fragments **2**, **3**, **4**, and **5**, are described. The fragment **4** corresponding to O(6)-C(5)-C(2)-C(27)-C(24) framework was prepared as outlined in Scheme 1, starting from (S)-(+)-glutamic acid as chiral template. An optically pure γ -methyl- γ -butyrolactone, derived from the amino acid through well-known procedures, was successfully converted to aldehyde **8**, which was subsequently condensed with lithio-oxazoline to afford key intermediate **9**. The final step in Scheme 1 can be realized in terms of an imidatonium-initiated nucleophilic ring opening reaction by PhSe^- anion. This reaction has been developed recently in our laboratory as a convenient method for the synthesis of secondary amide carrying a functionalized substituent on the nitrogen atom.



The fragment **3** was also elaborated by the use of glutamic acid as chiral template. Easily available γ -hydroxymethyl- γ -butyrolactone from R-(-)-glutamic acid was converted to the desired fragment **3** in eight steps. Not only a detail for such transformation but also a chemistry about combination between the fragments **3** and **4** will be presented.