

A SYNTHESIS OF MIXED TETRAHYDROISOQUINOLINE DIMERS

via p-QUINOL ACETATE

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A mixture of p-quinol acetate (1), obtained from corypalline (2) by lead tetraacetate oxidation, and isocorypalline (3) (1 eq.) was treated with trifluoroacetic acid in methylene chloride at room temperature for 1 hr to give mixed tetrahydroisoquinoline dimer (4) (54 %). Similarly, the reaction of 1 with 5 yielded a pair of diastereomers (6a and 6b), formation of which was attributable to the presence of axial dissymmetry and asymmetric carbon at 1'-position, and stereostructure of the former (6a) was determined by X-ray analysis. On the other hand, 6- or 7-hydroxytetrahydroisoquinoline (7 or 8) reacted with 1 to afford two regioisomers (9 and 10, or 11 and 12), respectively. However, the reaction of 1-phenyl p-quinol acetate (13) with 2 gave corypalline dimer (14) (17 %) and 1-phenyl corypalline (15). In this case such a bulky phenol as 2 could not attack on 8-position owing to the severe hindrance caused by the 1-phenyl group in 13. Therefore, 13 acted as an oxidant to change corypalline (2) into its dimer (14).

[Compound (9-12 and 14) were isolated as diacetates.]