In order to introduce an oxygen functional group to the 4-position on 6- or 7-hydroxy-tetrahydroisoquinoline moiety in several isoquinoline alkaloids, lead tetraacetate oxidation in acetic acid was applied.

Oxidation of 1-hydroxy-aporphines and 1-hydroxy-homoaporphines gave directly and stereospecifically 4β-acetoxy derivatives, an acetate (1) of which was transformed into (+)-cataline (2).

Similar oxidation of 1-hydroxy-homoproaporphine yielded a p-quinol acetate, which was treated with Ac₂O-H₂SO₄ giving 1,4β-diacetoxy compound stereospecifically.

Similarly, 2- or 10-hydroxy-tetrahydroprotoberberine was oxidized to afford a p-quinol acetate, acid treatment of which gave the corresponding 2,5β-diacetate stereospecifically or 10,13α- and 10,13β- (3) diacetates.

On the other hand, 3-hydroxy congener was oxidized to give 5α- or 5β-monoacetate, but in the case of 11-hydroxy congener a novel rearranged product (4) was obtained mainly, together with a minority of 13β-acetoxy derivative (5).

Among others, the reaction leading to 13β-acetoxy compounds (3 and 5) could be referred as biomimetic.