REACTION OF METHYL 12-HYDROXY-ABIETAN-8,11,13-TRIENE-19-OATE WITH THALLIUM(III) PERCHLORATE. FORMATION OF A LACTONE WITH A NEW REARRANGED SKELETON.

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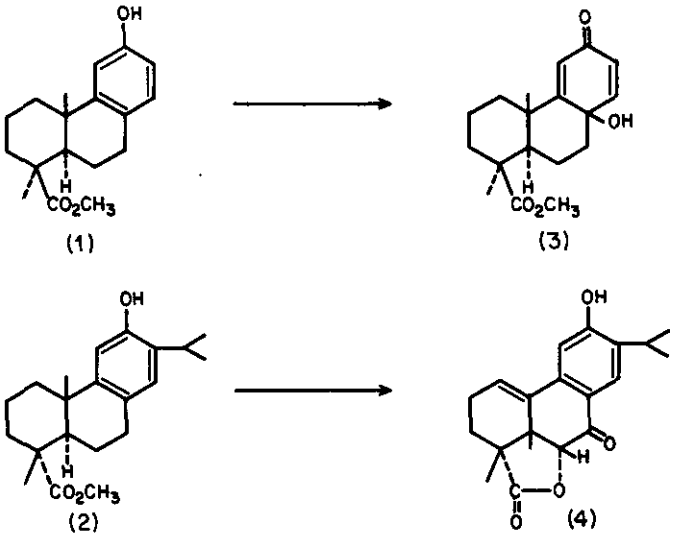
The organic reactions making use of the oxidizing ability of thallium(III) derivatives[1] are now receiving much attention especially in the field of natural products chemistry. In an attempt to transform podocarpic acid and its related compounds to other biologically active derivatives, we were interested in the oxidations of methyl podocarpate (1) and methyl 12-hydroxy-abietan-8,11,13-triene-19-oate (2) with thallium(III) perchlorate.[2] While in the case of compound (1), the expected p-quinol (3) was obtained as the major product, compound (2) was lactonized under the same conditions to a compound of a new skeletal type. This lactone was formulated as (4) on the basis of spectroscopic evidence and its structure and stereochemistry were established unequivocally by a single-crystal X-ray analysis. In this Congress, the details of this unusual reaction and a possible mechanism for the formation of compound (4) will be discussed.



[1] A. McKillop, E. C. Taylor, Advanc. Organomet. Chem., 11, 147 (1973).

[2] Y. Yamada, K. Hosaka, T. Sawahata, Y. Watanabe, and K. Iguchi, Tetrahedron Lett., 2675 (1977).