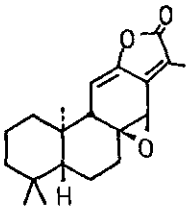
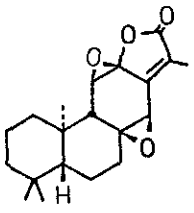
TOTAL SYNTHESIS OF JOLKINOLIDE A,B AND E

Shigeo Katsumura and Sachihiko Isoe
Institute of Organic Chemistry, Faculty of Science, Osaka City University
Sugimoto 3-3-138, Sumiyoshi-ku, Osaka, 558 Japan

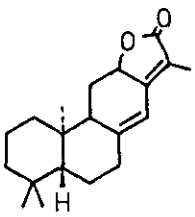
Jolkinolide B has a novel epoxybutenolide function and its cytotoxicity has been reported. The first efficient synthesis of jolkinolide A,B, and E is reported. Jolkinolide A was synthesized starting from 9-carbomethoxy-$\Delta^{6(7)}$-4,4,10-trimethyl decalone via enone 1 and diosphenol 2. The key step is the esterification of diosphenol 2 by means of mixed anhydride of trichloroacetic acid and α-phosphonopropionic acid in the aid of 4-dimethylaminopyridine followed by intramolecular Wittig-Emmons reaction. The above method promises to be useful in the synthesis of cyclic γ-alkylidene-α,β-substituted butenolides. Jolkinolide E was also synthesized from 1 via α-hydroxy compound of 1 by the same reaction sequences.



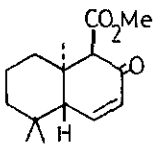
Jolkinolide A



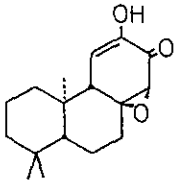
J. B



J. E



1



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