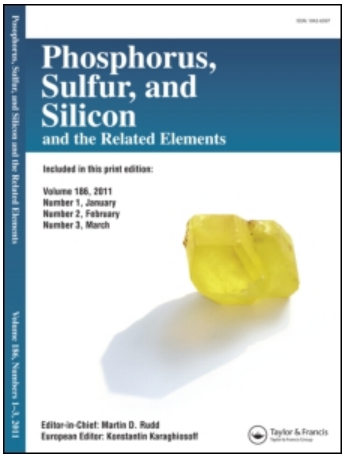

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Diastereoselective Synthesis of a Hydroazulene Derivative by Tandem Michael-Wittig Reactions

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DIASTEREOSELECTIVE SYNTHESIS OF A HYDROAZULENE DERIVATIVE BY TANDEM MICHAEL-WITTIG REACTIONS

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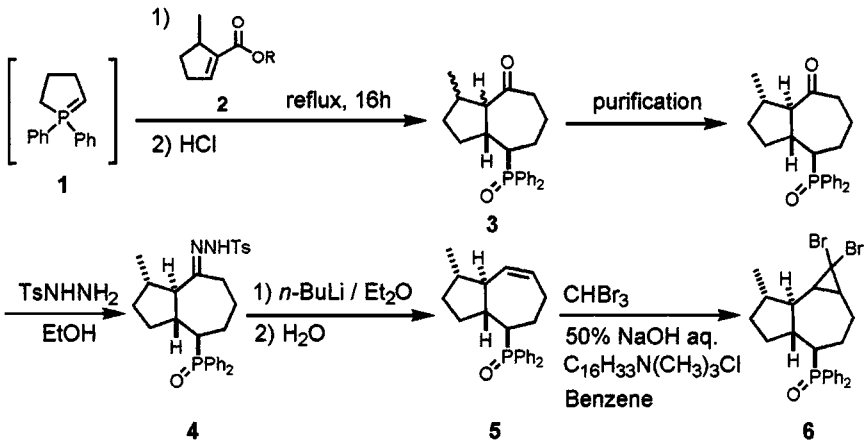
*The reaction of a cyclic phosphonium ylide [**1**] with enoate **2** gives a hydroazulene derivative with stereoselectivity.*

The reaction of phosphonium ylide [**1**] generated by use of *t*-BuOK as a base with ethyl ester **2**(R=Et) was attempted. After the hydrolysis of the crude product, the hydroazulene derivative **3** was obtained in 40% yield as a mixture of stereoisomers. The proportion of the stereoisomers was determined to be 65: 16: 14: 5 by ^{31}P NMR analysis. Moreover,



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the reaction of [**1**] with *t*-butyl ester **2**(R=*t*-Bu) was carried out under the same reaction conditions. Consequently, the desired hydroazulene derivative **3** was obtained in 60% yield with similar stereoselectivity.

A pure isomer among ketone **3** was converted into the tricyclic compound **6** which is an intermediate for the synthesis of a sesquiterpene.

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