

A CONVENIENT PREPARATION OF  
8,9-DEHYDRO-9-(TOLUENE-p-THIO) - CARVONE :  
A USEFUL INTERMEDIATE IN NATURAL PRODUCT SYNTHESIS

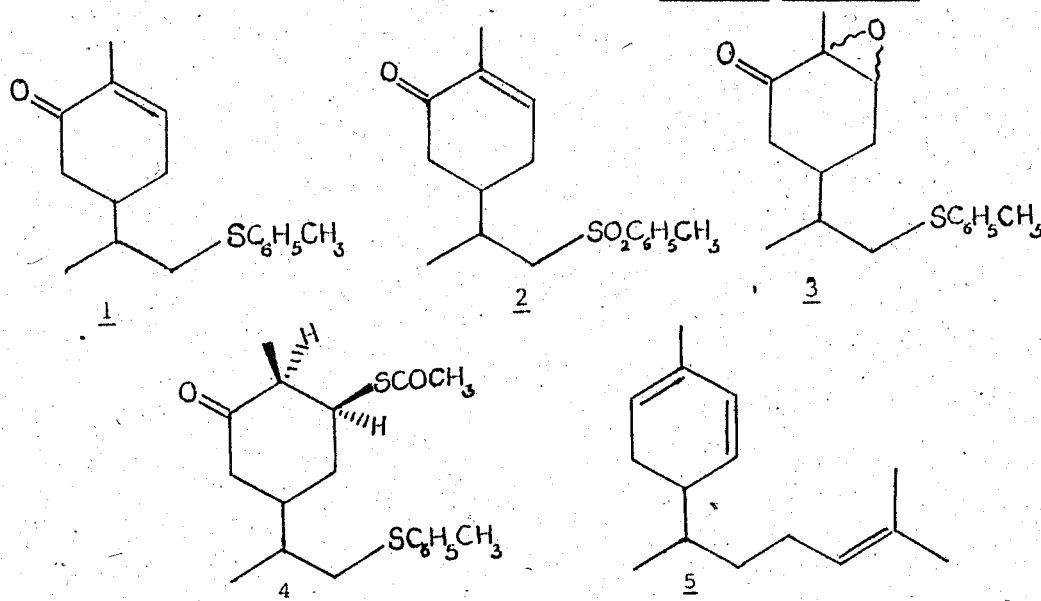
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One area in which there has been much recent activity in organic synthesis involves the utilization of multifunctional organic synthons. Complimentary to this trend is the recognition given to organosulphur compounds as versatile synthetic reagents, mainly due to their ability to stabilize reactive carbon species. This report describes the efficient preparation of the synthon 1, a potentially useful intermediate in natural product synthesis.

Treatment of (-)-carvone with toluene-p-thiol at 70-80°C in the presence of 2,2'-azobisisobutyronitrile under a nitrogen atmosphere yielded 1 (62%) with high regioselectivity. Oxidation of compound 1 with H<sub>2</sub>O<sub>2</sub>/tungstic acid produced the sulphone 2 in 75% yield. The carbon bearing the sulphone moiety in this case would be a potential donor center.

The sulphide 1 upon treatment with 30% H<sub>2</sub>O<sub>2</sub>/OH<sup>-</sup> yielded the corresponding epoxide 3 in 48% yield. Furthermore, 1 underwent smooth conjugate addition with potassium thiolacetate to produce the adduct 4 (80%).

The above mentioned reactions demonstrate the utilization of synthon 1 as a multifunctional reagent. This synthon can be perceived to be a key intermediate in an expedient synthesis of zingiberene 5, a natural product isolated from the essential oil of the rhizomes of *Zingiber officinale* Roscoe.



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## References:

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