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New Perspective for the Synthetic Application of Some α -Sulfenylated Benzylic Sulfones, Synthesis of Vinyl Sulfides

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NEW PERSPECTIVE FOR THE SYNTHETIC APPLICATION OF SOME α-SULFENYLATED BENZYLIC SULFONES, SYNTHESIS OF VINYL SULFIDES.

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Abstract - Some α-sulfenylated para-substituted benzylic sulfones, obtained by sulfenylation of the corresponding sulfones, were submitted to reaction with CCl₄-KOH-t-BuOH to give the corresponding para-substituted α-methylthio-dimethyl styrenes.

This communication describes the sulfenylation reactions of some new parasubstituted benzyl i-propyl sulfones, employing the procedures described previously. 1-3 The influence of the electronic effects of the substituents is discussed.

α-Methylthio benzyl i-propyl sulfones (1a-e) are reported to undergo the Ramberg-Bäcklund rearrangement under Meyers⁴ conditions, in which the corresponding α-chloro sulfones (2a-e) are formed "in situ" to give the corresponding vinyl sulfides (3a-e).

Y — CH-SO₂CH(Me)₂ CCl₄·K OH tr BuOH
$$Y$$
 — SMe

1

 Y — CH-SO₂CH(Me)₂ SMe

 Y — Y

The reactivity of the sulfones (1a-e) is discussed considering the mechanistic steps of the reaction.⁵

In order to check the generality of this reaction some other a-sulfenylated benzyl sulfones (4a-c) were investigated. In all cases the corresponding alkenedichlorocarbene adducts were identified, in 4b and 4c as secondary products (6b) and (6c) besides the vinyl sulfides (5a) and (5b) but in the case of (4a) as the only reaction product (6a).

$$R = R' = H(a)$$
; $R = H$, $R' = CH_3(b)$; $R = H$, $R' = Ph(c)$

These results are different from those for the non-sulfenylated sulfones⁵ and may be explained by electronic interaction between double bond and SMe group.

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