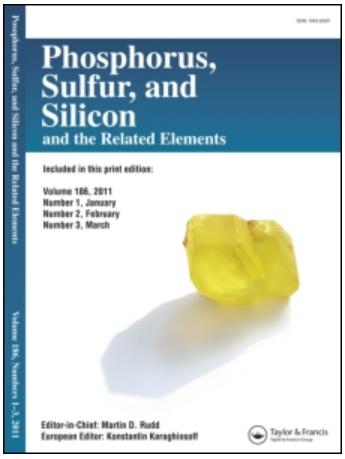

Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

SYNTHESIS OF SULFINES BY ALKYLIDENATION OF SULFUR DIOXIDE

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To cite this Article Zwanenburg, B. , van der Leij, M. , Porskamp, P. A. T. W. and Lammerink, B. H. M.(1979) 'SYNTHESIS OF SULFINES BY ALKYLIDENATION OF SULFUR DIOXIDE', Phosphorus, Sulfur, and Silicon and the Related Elements, 6: 1, 341
To link to this Article: DOI: 10.1080/03086647908080444
URL: http://dx.doi.org/10.1080/03086647908080444

Phosphorus and Sulfur
1979, Vol. 6, p. 341

SYNTHESIS OF SULFINES BY ALKYLIDENATION OF SULFUR DIOXIDE

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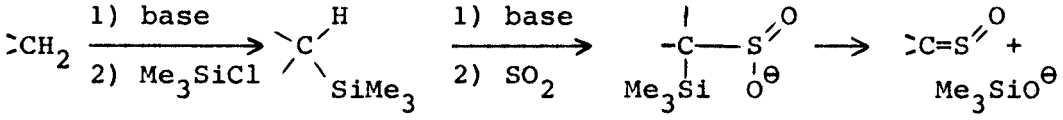
The most important route for the preparation of sulfines (thione-oxides) thusfar is that involving the oxidation of thiocarbonyl containing compounds with peroxycarboxylic acid. A new challenging approach to the synthesis of sulfines is the alkylidenation of sulfur dioxide.

This communication deals with the preparation of sulfines by the reaction of sulfur dioxide with phosphorus ylids (Wittig alkylidenation) and α-silyl carbanions (Peterson alkylidenation), respectively. An attractive feature of the latter reaction is that the required α-silyl carbanions can be obtained from readily available active methylene compounds (see Scheme).

Scheme



Several types of methylene compounds were converted into sulfines using the procedure outlined in the Scheme, e.g. sulfides, sulfones, indene, phosphonates, etc.

Alternatively, α-silyl carbanions can be obtained from vinylsilanes upon reaction with a suitable nucleophile.

The scope of this new synthetic route to sulfines will be discussed. In conjuction herewith the synthetic use of some newly prepared sulfines will be described.