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FACILE REDUCTION OF SULFOXIDES AND SULFILIMINES TO SULFIDES BY USING METAL/CHLOROMETHYLSILANES

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A number of significant developments on the synthetic methodology in organic sulfur chemistry have been undertaken so far, in particular, mainly for sulfoxides which being important intermediates in various transformation due to their activation characteristics of an adjacent C-H bond for alkylation or condensation and to a lesser extent for sulfilimines, since recognition of the possibilities that sulfur compounds afforded for synthesis of non-sulfur types proceeded at ever swift pace. As part of a program in our laboratory on the organosulfur chemistry, at this time, we have presented that dichlorodimethylsilane and chlorotrimethylsilane in the presence of metals, in which Zinc being by far the best, both reduce quickly below room temperature a wide range of the following sulfoxides and sulfilimines to the corresponding sulfides in good to excellent isolated yields(60-95%), even in the presence of double bond, ketone and ethylene ketal function.

Y= 0 and NSO_2-$C_6H_5CH_3$-p

R-S(→Y)-R′

R	R′
CH_3	CH_3
n-Pr	n-Pr
CH_2=CH-CH_2	CH_3
C_6H_5	CH_3
$C_6H_5CH_2$	$C_6H_5CH_2$
C_6H_5	C_6H_5