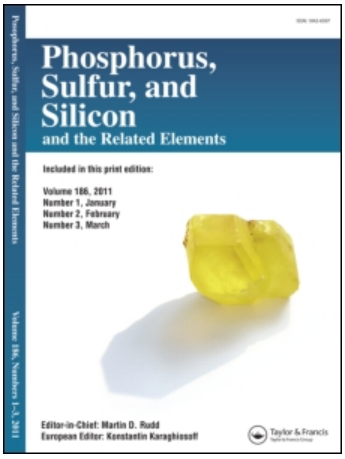

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REACTION OF SULFUR-CONTAINING HETEROCUMULENES WITH DIPHENYL-CYCLOPROPENONE IN THE PRESENCE OF NICKEL TETRACARBONYL

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REACTION OF SULFUR-CONTAINING HETEROCUMULENES WITH DIPHENYL-CYCLOPROPENONE IN THE PRESENCE OF NICKEL TETRACARBONYL

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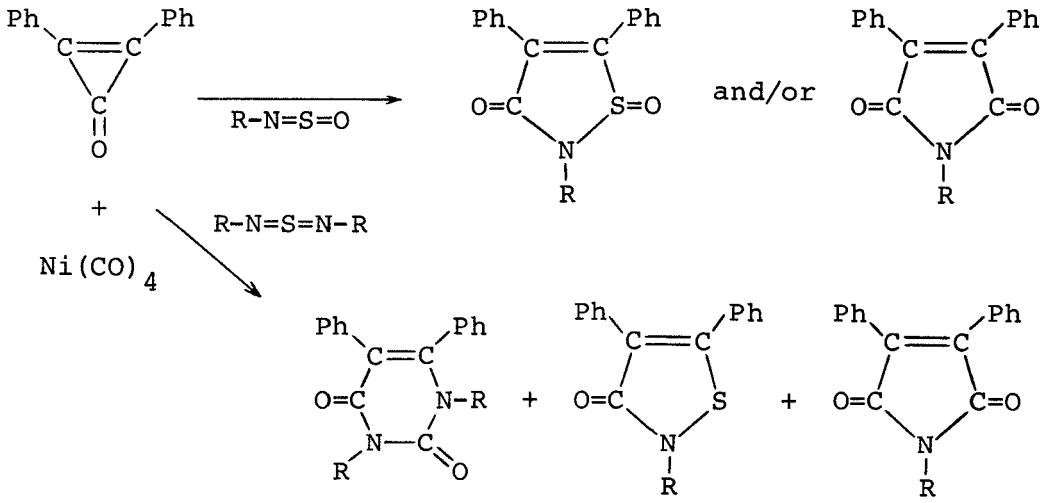
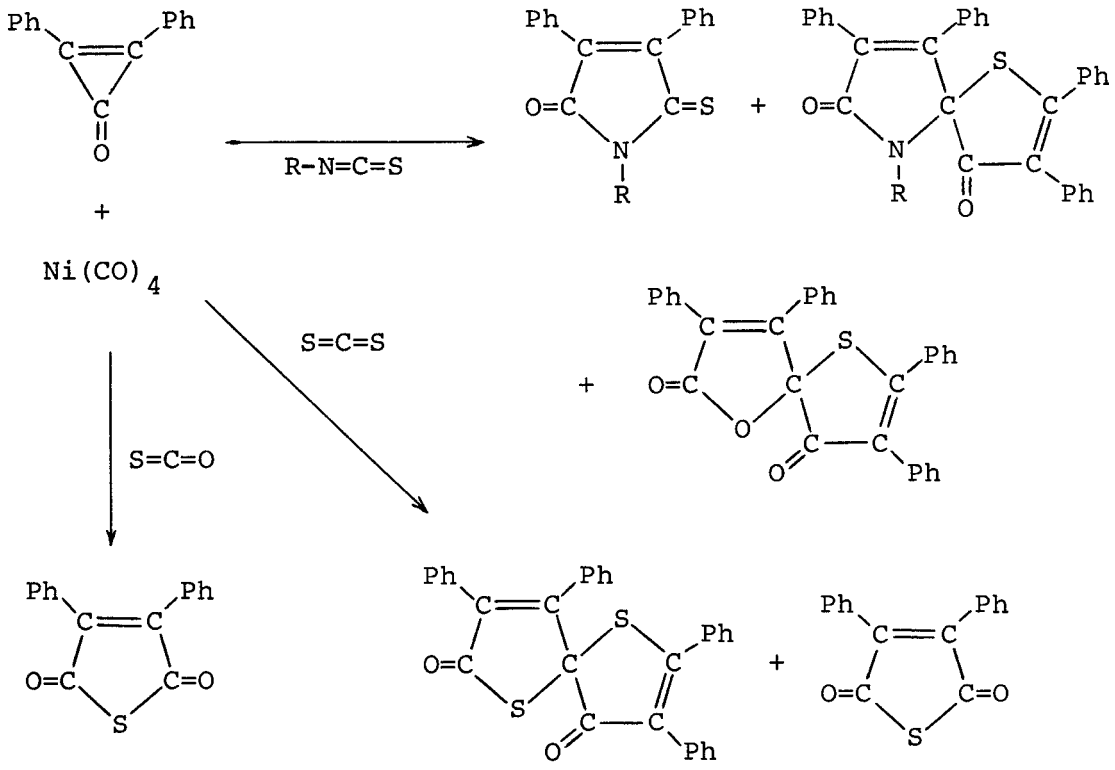
No reaction of diphenylcyclopropenone (DCP) with heterocumulenes has been found except for sulfonyl isocyanates in spite of high reactivity of DCP toward nucleophiles. We, however, found that ketenes react with DCP in the presence of nickel tetracarbonyl, and the reaction seems to be initiated by DCP-$Ni(CO)_n$ complex to give cyclopentene-1,2-dione derivatives.

In the case of sulfur-containing heterocumulenes, we can expect that affinity of sulfur atom toward nickel affects the reaction mode.

In this paper, we studied the reaction of sulfur-containing heterocumulenes such as N-sulfinylamines, sulfur diimides, thiocyanates, carbonyl sulfide, and carbon disulfide in the presence of nickel tetracarbonyl.





The reaction products suggest the intermediacy of $Ni(CO)_4$-hetero-cumulene complexes whose predominant formation over $Ni(CO)_4$-DCP complex is expected.

Details of the results and the reaction mechanisms shall be presented.