The Reactions of Some Alkyl(thio)-Substituted 2-Nitrodienes with Piperazines and a Structural Study

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Thiosubstituted nitrodiene compound 1a was obtained from 2-nitropentachlorobutadiene and dodecanethiol. Compound 1b was prepared from 2-nitropentachlorobutadiene and hexadecanethiol. Monosubstituted diene compounds 1a and 1b reacted with piperazines such as derivatives of 2 and 4 in CH$_2$Cl$_2$ and gave the novel compounds. 2-Nitro-3,4,4-trichloro-1-dodecylthio-1-(2-fluorophenylpiperazinyl]-1,3-butadiene (3d) was synthesized and its crystal structure was determined.

**Key words:** Thiosubstituted Nitrodiene, N,S-Substituted Nitrodienes, Piperazine Derivatives