

PHOTOREACTIONS OF 1-o-SUBSTITUTED-AMINOPHENYL-2-(PENTAMETHYLDISILANYL) ETHYNES

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It is well known that the photolysis of alkynyl-substituted disilanes affords a convenient route to the highly strained silacyclopropenes and these silacyclopropenes react readily with methanol or acetone in the presence of methanol or acetone as trapping agents. Silacyclopropenes also react with unsaturated functional groups to give five-membered cyclic organosilicon products in which C=O, C=C, CC or C=N bonds are inserted into the Si-C bond of the silacyclopropene ring. Along with the studies on the reactions of silacyclopropenes formed from the photolysis of various phenylethynylpentamethyldisilane systems, we would like to describe, in this report, a detailed photochemical study of 1-o-substituted-aminophenyl-2-(pentamethyldisilanyl) ethynes. For example, the photolysis of 1-o-acetylamino-phenyl-2-(pentamethyldisilanyl)ethyne in benzene provides a novel intramolecular cycloaddition product via 1-sila-1,2-propadiene intermediate.