

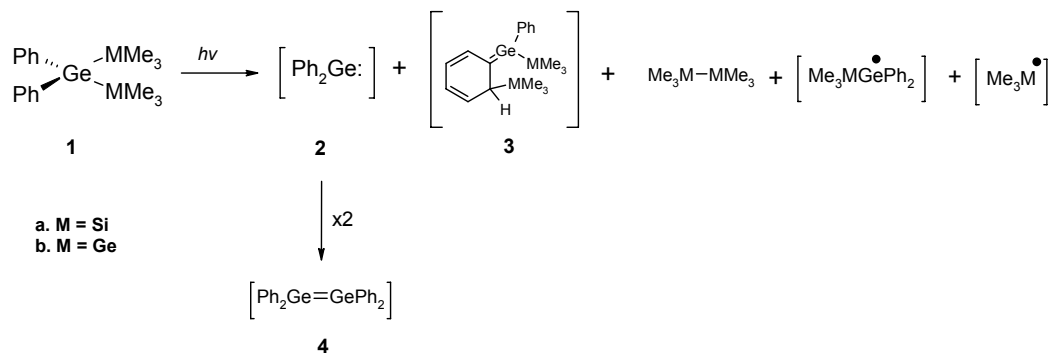
The Photochemistry of Diarylgermanium Compounds. Photolysis of *Bis(trimethylsilyl)diphenylgermane*

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Germynes, the heavy analogues of carbenes, are one of the most common reactive intermediates in organogermanium chemistry. In order to gain a better understanding of their chemical behaviour, a number of compounds have been used as precursors for the generation of germynes by photolysis.

In previous studies by other workers, *bis(trimethylsilyl)diphenylgermane* (**1a**) and *bis(trimethylgermyl)diphenylgermane* (**1b**) were reported to be efficient precursors of diphenylgermylene (**2**). Flash photolysis of **1a** and **1b** afforded transients that absorb strongly at 440-460nm, which were assigned to diphenylgermylene.^{1,2} However, recent studies (from our laboratory) employing clean, selective germylene or germene precursors suggest the 440-460nm transient is actually significantly more complicated and probably composed of at least three species: 1-germahexatriene (**3**) or germanium-centered radicals, diphenylgermylene (**2**) and tetraphenyldigermene (**4**), the dimer of diphenylgermylene.³



The kinetic and spectral characteristics of the reactive intermediates in the photolysis of **1a** were studied by laser flash photolysis techniques. The results and their implications on the assignment of the 440-460nm transient(s) will be discussed.

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(3) Leigh, W.J.; Toltl, N.P. *Organometallics* **2000**, 19, 3232-3241