The mechanism of 1,2-addition of disilene and silene. 1. Water and alcohol addition

DOI: 10.1021/ja0040823
Journal of the American Chemical Society, 2001, 123, 6629-38

#	Paper	IF	Citations
45	Role of initial complexes in 1,2-addition reactions of disilene derivatives. *Molecular Physics*, **2002**, 100, 1703-1712	1.7	8
44	Mechanism of the addition of nonenolizable aldehydes and ketones to (Di)metallenes (R(2)X=YR(2), X = Si, Ge Y = C, Si, Ge): a density functional and multiconfigurational perturbation theory study. *Journal of the American Chemical Society*, **2002**, 124, 13306-21	16.4	38
43	Structures and Stabilities of Heteroatom-Substituted Disilenes and Related Compounds: Four-Center Systems. *Organometallics*, **2002**, 21, 4212-4216	3.8	15
42	Addition of Nucleophiles to Silenes. A Theoretical Study of the Effect of Substituents on Their Kinetic Stability. *Organometallics*, **2002**, 21, 3930-3939	3.8	28
41	Methylamine Adsorption on and Desorption from Si(100). *Journal of Physical Chemistry B*, **2003**, 107, 5491-5502	3.4	45
40	Steric Effects on Silene Reactivity. The Effects ofortho-Methyl Substituents on the Kinetics and Mechanisms of the Reactions of 1,1-Diarylsilenes with Nucleophiles. *Organometallics*, **2003**, 22, 5518-5525	3.8	8
39	Isolable silylene, disilenes, trisilaallene, and related compounds. *Journal of Organometallic Chemistry*, **2004**, 689, 4475-4488	2.3	148
38	Two Geminal Delocalizations Affect the Structural Preference of Disilyne and Its Derivatives. *Journal of Physical Chemistry A*, **2004**, 108, 5710-5714	2.8	15
37	Ab Initio Study of the Photochemistry of c-C2H2Si. *Journal of Physical Chemistry A*, **2004**, 108, 7301-7305	2.8	12
36	1,2-Addition Reaction of Monosubstituted Disilenes: An Ab Initio Study. *Organometallics*, **2004**, 23, 5768-5778	3.8	18
35	Direct Detection of 1,1-Diphenyl-2-neopentylsilene and the Effects of Solvent Polarity on Its Reactivity with Nucleophiles. *Organometallics*, **2005**, 24, 2307-2318	3.8	10
34	Progress in the Chemistry of Stable Disilenes. *Advances in Organometallic Chemistry*, **2006**, 54, 73-148	3.8	199
33	A combined experimental and theoretical study of the kinetics and mechanism of the addition of alcohols to electronically stabilized silenes: a new mechanism for the addition of alcohols to the Si=C bond. *Journal of the American Chemical Society*, **2006**, 128, 10772-83	16.4	26
32	From Silaallene to Cyclotrisilanylidene. *Organometallics*, **2006**, 25, 1480-1484	3.8	38
31	Theoretical proposal of planar silicon oligomer and silicon benzene. *Computational Materials Science*, **2006**, 36, 30-35	3.2	11
30	Ab initio quantum chemical investigation of several isomers of anionic Si6. *Chemical Physics Letters*, **2006**, 418, 475-480	2.5	16
29	Theoretical study of the hydroboration reaction of disilenes with borane. *Chemical Physics Letters*, **2006**, 421, 36-41	2.5	11

28	The Relative Stabilities of 1,3-Diphospha-2-silaallene and Some of Its Isomers. *European Journal of Inorganic Chemistry*, **2006**, 2006, 4570-4576	2.3	9
27	Direct detection of methylphenylgermylene and 1,2-dimethyl-1,2-diphenyldigermene Kinetic studies of their reactivities in solution. *Canadian Journal of Chemistry*, **2006**, 84, 934-948	0.9	17
26	Silylenes: a unified picture of their stability, acid-base and spin properties, nucleophilicity, and electrophilicity via computational and conceptual density functional theory. *Journal of Physical Chemistry A*, **2007**, 111, 10815-23	2.8	39
25	Stable cyclic silenes from reaction of disilenides with carboxylic acid chlorides. *Angewandte Chemie - International Edition*, **2007**, 46, 3349-52	16.4	53
24	Stabile cyclische Silene durch Reaktion von Disileniden mit Carbonsurechloriden. *Angewandte Chemie*, **2007**, 119, 3413-3416	3.6	29
23	Reactions of trisilaallene and 2-germadisilaallene with various reagents. *Journal of Organometallic Chemistry*, **2007**, 692, 263-270	2.3	25
22	A new mechanism for the addition of alcohols to disilenes revealed by DFT and ONIOM calculations. *Journal of Organometallic Chemistry*, **2008**, 693, 1335-1345	2.3	9
21	Metal-Substituted Disilynes with Linear Forms. *Organometallics*, **2008**, 27, 4829-4832	3.8	9
20	Mechanism of Water Addition to Silatriafulvenes and Silapentafulvenes. *Organometallics*, **2008**, 27, 2723-2729	3.8	7
19	Theoretical Prediction of the NH and OH Bonds Cleavage Catalyzed by the Single-Walled Silicon Carbide Nanotube. *Journal of Physical Chemistry C*, **2009**, 113, 16736-16740	3.8	38
18	Formation and hydrogen bonding of a novel POSS-trisilanol. *Dalton Transactions*, **2009**, 163-7	4.3	38
17	Unsuccessful attempts to add alcohols to transient 2-amino-2-siloxy-silenes - leading to a new benign route for base-free alcohol protection. *Dalton Transactions*, **2010**, 39, 9379-85	4.3	8
16	Mechanisms for the Reaction of Water, Butadiene, and Palladium Complex with 1,2-Dimetallacyclohexene (R2M?MR2, M = C, Si, Ge, Sn, Pb). A Theoretical Study. *Organometallics*, **2011**, 30, 4862-4872	3.8	7
15	Theoretical investigation of the mechanisms for the reaction of fused tricyclic dimetallenes containing highly strained E?E (E = C, Si, Ge, Sn, and Pb) double bonds. *Journal of Physical Chemistry A*, **2012**, 116, 4222-32	2.8	10
14	Mechanistic investigation of the reactivity of disilene with nitrous oxide: A DFT study. *Journal of Molecular Graphics and Modelling*, **2014**, 51, 50-63	2.8	6
13	Theoretical study on the addition reactions of MeOH, PhOH and PhSH to silastannenes. *Computational and Theoretical Chemistry*, **2015**, 1058, 12-20	2	2
12	Comparative theoretical study on the addition reactions of MeOH to silabenzenes and germabenzenes. *Computational and Theoretical Chemistry*, **2016**, 1078, 88-95	2	0
11	Computational Investigation on the Role of Disilene Substituents Toward NO Activation. *Journal of Physical Chemistry A*, **2017**, 121, 401-417	2.8	9

10	Temperature Dependence in the Terahertz Spectrum of Nicotinamide: Anharmonicity and Hydrogen-Bonded Network. *Journal of Physical Chemistry A*, **2017**, 121, 2558-2564	2.8	16
9	Reactivity of sulfonyl-containing compounds with ditetrelenes. *Dalton Transactions*, **2017**, 46, 15451-15457	4.3	0
8	Intermolecular hydrogen bond stretching vibrations observed in terahertz spectra of crystalline vitamins. *CrystEngComm*, **2018**, 20, 1960-1969	3.3	15
7	Addition Reactions of H2O to Germastannenes: A Computational Study. *Russian Journal of Physical Chemistry A*, **2018**, 92, 1699-1705	0.7	2
6	The Dual Role of Gold(I) Complexes in Photosensitizer-Free Visible-Light-Mediated Gold-Catalyzed 1,2-Difunctionalization of Alkynes: A DFT Study. *Chemistry - A European Journal*, **2018**, 24, 14119-14126	4.8	19
5	Comparative Theoretical Study on the Reactivity of Digermenes and Disilenes in Addition Reactions. *Russian Journal of Physical Chemistry A*, **2020**, 94, 800-805	0.7	1
4	Intermolecular Interactions Involving Heavy Alkenes HSi=TH (T = C, Si, Ge, Sn, Pb) with HO and HCl: Tetrel Bond and Hydrogen Bond. *ACS Omega*, **2020**, 5, 30210-30225	3.9	5
3	Temperature-Dependent Low-Frequency Vibrations of Thiamine Crystal Containing Hydrated Ions. *Journal of Physical Chemistry A*, **2021**, 125, 1837-1844	2.8	1
2	NH bond activation of ammonia and amines by ditetrelenes: key insights into the stereochemistry of nucleophilic addition. *Dalton Transactions*, **2021**, 50, 17734-17750	4.3	0
1	Electronic Effects of Substituents on the Reactivity of Silenes: A Computational Analysis.		0