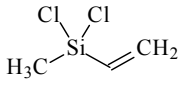
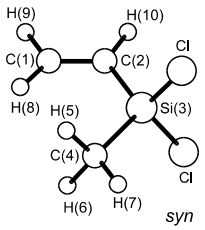
395 **$C_3H_6Cl_2Si$** **Dichloro(ethenyl)methylsilane** **C_s** (*syn*)
ED, *ab initio* calculations Dichloro(methyl)vinylsilane **C_1** (*gauche*)



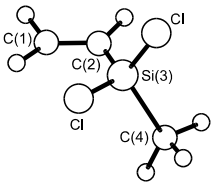
r_g	Å [a])
C=C	1.341(6)
C(2)–Si	1.843(4)
Si–C(4)	1.855(4)
C(2)–H	1.112 [b])
C(1)–H(8)	1.113 [b])
C(1)–H(9)	1.104 [b])
Si–Cl	2.051(2)
C(4)–H	1.140 [b])

θ_α	deg [a])
C=C–Si	123.3(17)
C–Si–C	111.6(17)
C(2)–Si–Cl	110.8(7)
Si–C(4)–H	110.7 [b])
Cl–Si–Cl	108.1(7)
Cl–Si–C(4)	107.7(11)
Si–C(2)–H	118.0(17)
H–C(4)–H	108.2 [b])
C=C–H(8)	122.6 [b])
C=C–H(9)	121.9 [b])
C=C–H(10)	118.7 [b])
H–C(1)–H	115.5 [b])
τ_1(C=C–Si–C)	0.0 [b])
τ_2[H–C(4)–Si–C(2)] [c])	60.0 [b])

The molecule exists as a mixture of *syn* (45(64)%) and *gauche* (55(64)%) conformers. The conformational energy difference $\Delta E° = E°(gauche) - E°(syn)$ was estimated to be 0.3(18) kcal mol^{-1}. The structural differences between corresponding bond distances and bond angles of the two conformers were assumed at the values from HF/6-311G(d) calculations. Torsional angle τ_1(C=C–Si–C) of the *gauche* conformer was found to be 121(16)°. The parameters are listed for the *syn* conformer.
The nozzle temperature was 297...298 K.



syn



gauche

[a]) Twice the estimated standard errors including a systematic error.
[b]) Fixed in the final refinement.
[c]) $\tau_2 = 0°$ for the *syn* position.

Johansen, T.H., Hagen, K., Stølevik, R., Hassler, K.: J. Phys. Chem. A **101** (1997) 3580.
Replaces II/25C (**3**, 1247)