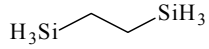
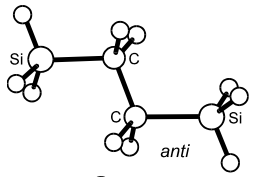
320 **$C_2H_{10}Si_2$** **1,2-Ethanediylbissilane** **C_{2h}** assumed (*anti*)
ED, *ab initio* calculations 1,4-Disilabutane 1,2-Disilylethane **C_2** (*gauche*)

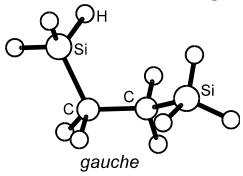


r_g	Å [a])	
	anti	*gauche*
C–C	1.563(5)	1.563(5) [b])
C–Si	1.882(1)	1.885(1) [b])
C–H	1.141(2)	1.141(2)
Si–H	1.499(3)	1.499(3)

θ_g	deg [a])	
	anti	*gauche*
C–C–Si	110.7(2)	114.4(5) [c])
H–C–H	108.1(16)	108.1(5)
C–Si–H	112.1(7)	112.4(6)
Si–C–H	108.2(5)	108.2(4)
τ [d])	180 [e])	78.5(21)
twist(SiH_3) [f])	180 [e])	153.9 [g])

The molecule exists as a mixture of *gauche* (24(2)%) and *anti* (76(2)%) conformers with a Gibbs energy difference of 4.6(2) kJ mol^{-1}. Local C_{3v} symmetry was assumed for the $CSiH_3$ groups.
The nozzle was at 293 K.





[a]) Estimated standard errors.
[b]) Difference to the *anti* conformer was assumed at the value from MP2/6-311G* calculations.
[c]) Difference to the *anti* conformer refined, then fixed.
[d]) Si–C–C–Si torsional angle, $\tau = 0°$ for the *syn* position.
[e]) Assumed.
[f]) H–Si–C–C torsional angle from the *syn* position.
[g]) Refined, then fixed.

Mitzel, N.W., Smart, B.A., Blake, A.J, Robertson, H.E., Rankin, D.W.H.: J. Phys. Chem. **100** (1996) 9339.