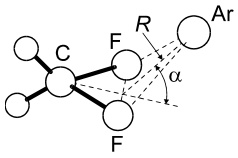
95 **CH_2ArF_2** **Difluoromethane – argon (1/1)** **C_s**
MW (weakly bound complex) (effective symmetry class)
(large-amplitude motion)
$CH_2F_2 \cdot Ar$

r_0	Å
R [a])	3.285(7)
ΔR [b])	0.088(5)
R_{cm}	3.35(1) [c])

θ_0	deg
α [a])	64.5(8)



All of the observed lines are split into two components due to the ring puckering motion of the CF_2Ar four-membered ring, and the corresponding vibrational splitting is 193.51(7) MHz. The barrier to ring puckering has been calculated to be 100(4) cm^{-1}. From centrifugal distortion effects the dissociation energy of the complex has been estimated to be *ca.* 1.5 kJ mol^{-1}. The intermolecular stretching force constant is determined to be 1.45 N m^{-1}.

[a]) See figure for the definition.
[b]) Difference in R between the symmetric and antisymmetric states.
[c]) Uncertainty was not estimated in the original paper.

López, J.C., Favero, P.G., Dell'Erba, A., Caminati, W.: Chem. Phys. Lett. **316** (2000) 81.