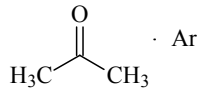
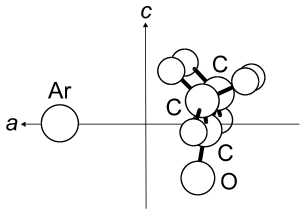
388 **C_3H_6ArO** **Acetone – argon (1/1)** **C_s**
MW (weakly bound complex) (effective symmetry class)
(large-amplitude motion)



r_0	Å [a])
r [b])	3.520(10)
Ar...O	3.604(10)
Ar...C [c])	3.549(10)

Atom	a_0 [Å]	b_0 [Å]	c_0 [Å]
Ar	2.109	–0.022	0.006



The three-fold barrier to internal rotation of the two methyl groups is determined to be 260 cm^{-1}, 2% less than the 266 cm^{-1} barrier in acetone itself. The structure of the complex has the argon atom above the heavy atom plane of the acetone and approximately in the C_s plane, which is perpendicular to the C–C–C plane of acetone.

[a]) Uncertainties were not estimated in the original paper.
[b]) The perpendicular distance of Ar from the C=O bond.
[c]) The carbonyl carbon atom.

Kang, L., Keimowitz, A.R., Munrow, M.R., Novick, S.E.: J. Mol. Spectrosc. **213** (2002) 122.