

Structure Data of Free Polyatomic Molecules

14	ArAuCl	Argon – gold monochloride (1/1)	C_{∞v}
MW		(weakly bound complex)	(effective symmetry class) (large-amplitude motion)
			Ar · AuCl

r_0	Å ^{a)}
Ar...Au	2.4693(30)
Au–Cl	2.1983(10)

The complex is linear and is relatively rigid in the ground vibrational state. The Ar...Au stretching wavenumber is estimated to be 198 cm⁻¹ and the stretching force constant to be 78.5 N m⁻¹. The Ar...Au bond is weakly covalent.

^{a)} Uncertainties were not estimated in the original paper.

Evans, C.J., Lesarri, A., Gerry, M.C.L.: J. Am. Chem. Soc. **122** (2000) 6100.