

Structure Data of Free Polyatomic Molecules

19	ArClH	Argon – hydrogen chloride (1/1)	C_{∞v}
MW		(weakly bound complex)	(effective symmetry class)
			(large-amplitude motion)
			Ar · HCl

Isotopic species	$r_0[\text{Ar}\dots\text{Cl}] [\text{\AA}]^{\text{a)}}$	$\theta_0(\theta) [\text{deg}]^{\text{a) b)}$
$^{36}\text{Ar} \cdot \text{H}^{35}\text{Cl}$	4.0142(5)	41.55(50)
$^{40}\text{Ar} \cdot \text{H}^{35}\text{Cl}$	4.0131(5)	41.53(50)
$^{40}\text{Ar} \cdot \text{H}^{37}\text{Cl}$	4.0121(5)	40.97(50)

The intermolecular stretching force constant is 1.164 N m^{-1} .

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

^{b)} Average angle between the a inertial axis and the HCl molecular axis.

Kisiel, Z., Pszczółkowski, L.: Chem. Phys. Lett. **291** (1998) 190.

[II/25A\(2, 23\)](#)