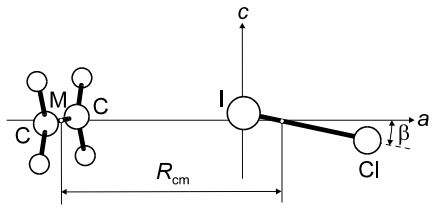
259 **C_2H_4ClI** **Ethylene – iodine chloride (1/1)** **C_{2v}**
MW (weakly bound complex) (effective symmetry class)
(large-amplitude motion)
$H_2C{=}CH_2 \cdot ICl$

r_0	Å		θ_0	deg	
	$C_2H_4 \cdot I^{35}Cl$	$C_2H_4 \cdot I^{37}Cl$		$C_2H_4 \cdot I^{35}Cl$	$C_2H_4 \cdot I^{37}Cl$
M...I [a])	3.0324(18)	3.0336(29)	β [b])	4.5(5) [c])	4.5(5) [c])
R_{cm}	3.5344(18)	3.5578(20)			

The ICl molecule lies along the C_2 axis perpendicular to the nuclear plane of ethene, with the I atom nearer to the π bond than the Cl atom.
The intermolecular stretching force constant is 14.0 N m^{-1}.



[a]) M denotes the center of the π bond.
[b]) See figure for the definition.
[c]) Average value.

Thumwood, J.M.A., Legon, A.C.: Chem. Phys. Lett. **310** (1999) 88.