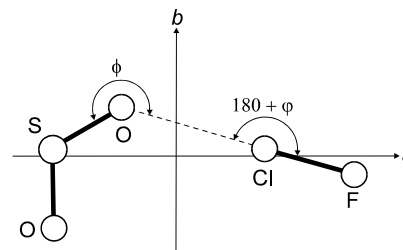


119  
MW**ClFO<sub>2</sub>S****Chlorine fluoride – sulfur dioxide (1/1)**  
(weakly bound complex)**C<sub>s</sub>**  
(effective symmetry class)  
(large-amplitude motion)  
ClF · SO<sub>2</sub>

$r_0$	$\text{\AA}$		$\theta_0$	deg	
	SO <sub>2</sub> · <sup>35</sup> ClF	SO <sub>2</sub> · <sup>37</sup> ClF		SO <sub>2</sub> · <sup>35</sup> ClF	SO <sub>2</sub> · <sup>37</sup> ClF
O...Cl	2.732(11)	2.733(11)	$\phi^a$	228.4(6)	228.4(6)
			$\varphi^a$	-0.70(19)	-0.77(19)
			$\alpha_{az}^b$	16.65(2)	16.65(2)

Interpretation of the spectroscopic constants shows that the complex has a planar geometry with ClF forming a weak bond to one of the O atoms of SO<sub>2</sub> in a *cis* arrangement with respect to the S=O double bond. The O...Cl–F nuclei deviate from collinearity by only  $\varphi = -0.7(2)^\circ$ .



<sup>a</sup>) See figure for the definition.

<sup>b</sup>) Angle between the *a*-inertial axis and the *z*-principal axis of the Cl-nuclear quadrupole coupling constant.

Cotti, G., Holloway, J.H., Legon, A.C.: Chem. Phys. Lett. **255** (1996) 401.