

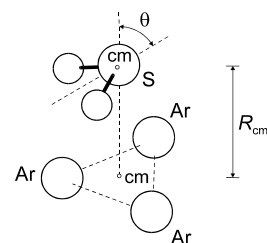
47  
MW $\text{Ar}_3\text{H}_2\text{S}$ **Hydrogen sulfide – argon (1/3)**  
(weakly bound complex) $\text{C}_{3v}$   
(effective symmetry class)  
(large-amplitude motion)  
 $\text{H}_2\text{S} \cdot 3\text{Ar}$ 

$r_s$	$\text{\AA}^a$	$\theta_s$	$\text{deg}^a$
Ar...Ar	3.865(5)	$\theta^b$	13(2)
Ar...cm( $\text{H}_2\text{S}$ )	4.112(5)		

The barrier for the pseudorotation in which the protons hop between the argons is determined to be about  $8\text{ cm}^{-1}$  making the  $\text{H}_2\text{S}$  moiety very mobile and effectively making the complex a symmetric top.

<sup>a</sup>) Uncertainties were not estimated in the original paper.

<sup>b</sup>) Angle between the  $C_2$  axis of the  $\text{H}_2\text{S}$  and the  $C_3$  axis of the complex.



Arunan, E., Emilsson, T., Gutowsky, H.S., Dykstra, C.E.: J. Chem. Phys. **114** (2001) 1242.