

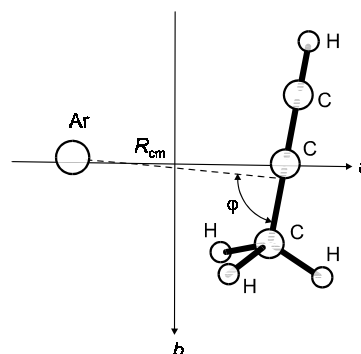
**1132**     **C<sub>3</sub>H<sub>4</sub>Ar**  
MW, IR

**Methylacetylene – argon (1/1)**  
Propyne – argon (1/1)  
(weakly bound complex)

**C<sub>s</sub>**  
(effective symmetry class)  
**H<sub>3</sub>C–C≡CH · Ar**

$r_0$	$\text{\AA}$	$\theta_0$	deg
$R_{\text{cm}}$	3.733 (2)	$\varphi$	82.6(10)

The structure of the complex is determined from the rotational constants of three isotopomers. The complex is T-shaped.  $R_{\text{cm}}$  is the distance between the Ar atom and the center of mass of the propyne subunit.  $\varphi$  is the angle between the CCC symmetry axis and the line connecting the centers of mass, with the Ar atom closer to the methyl group. The structure of C<sub>3</sub>H<sub>4</sub> is assumed to be unchanged on complex formation.



Blake, T.A., Eggers, D.F., Tseng, S.-H., Lewerenz, M., Swift, R.P., Beck, R.D., Watts, R.O.,  
Lovas, F.: J. Chem. Phys. **98** (1993) 6031.