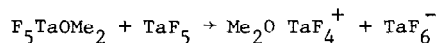
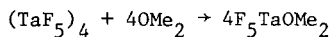


## YLIDE REACTIONS OF TANTALUM PENTAFLUORIDE

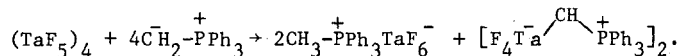
William C. Kaska\* and Margaret A. Mooney

Chemistry Department, University of California, Santa Barbara, Santa Barbara, CA 93196 (U.S.A.)

Brownstein<sup>1</sup> et al. showed that the TaF<sub>5</sub> tetramer interacts with Lewis Bases (i.e. dimethyl ether and trimethyl amine) to give 1:1 monomeric Lewis Acid/Base adducts with fluentional fluorine atoms at room temperature. He found through temperature dependent NMR that at -100°C the apical and equatorial fluorine atoms are distinguishable.



We report that carbon bases in the form of methylene phosphoranes cleave the tetramer to form Lewis-Acid/Base adducts.



The  $\text{CH}_3\text{P}^+\text{Ph}_3\text{TaF}_6^-$  was isolated and characterized by x-ray diffraction. Fluorine-19NMR showed that the fluorine atoms in the ylide adduct were fluentional at room temperature and the chemical shift of the methylene hydrogen atom in the tantalum carbide adduct was found at  $\delta\text{H} = 1.7$ . The bis-phosphorane  $\text{C}(\text{PPh}_3)_2$  also gave a Lewis-Acid Base adduct with TaF<sub>5</sub> in dichloromethane.

1 S. Brownstein & M. J. Farrall, *Canad. J. Chem.*, 52 1958 (1974).