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## Phosphorus, Sulfur, and Silicon and the Related Elements

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## P-Functionalized $\eta^1$ -P Phosphole Tungsten Complex as Intermediates for Cycloaddition Reactions and Phosphinidene Formation

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## P-Functionalized $\eta^1$ -P Phosphole Tungsten Complex as Intermediates for Cycloaddition Reactions and Phosphinidene Formation

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The reaction of 3,4-dimethylphospholyl anion  $\underline{1}$  with W(CO)<sub>6</sub> yields the  $\eta^1$ -P complexed anion  $\underline{2}$  which reacts with electrophiles to give the new-P-functionalized complexes  $\underline{3}$ . Their ability to give cycloaddition reactions has been compared.

The phosphanorbornadienes  $\underline{4}$  obtained in some cases by cycloaddition with dimethylacetylene dicarboxylate lead to the P-functionalized phosphinidenes  $\underline{5}$  which are trapped by tolane as phosphirenes 6.

$$Y = Co_{2}Et, C-C_{3}\emptyset_{3},$$

$$C=C\emptyset, CN, SMe...$$

$$\frac{1}{(CO)_{5}W} P Y$$

$$Co_{2}Me$$

$$Co_{2}Me$$

$$Co_{2}Me$$

$$Co_{2}Me$$

$$Co_{2}Me$$

$$Co_{2}Me$$

$$Co_{3}WPY$$

$$Co_{2}Me$$

$$Co_{3}WPY$$

$$Co_{5}WPY$$

$$Co_{5}WPY$$

$$Co_{5}WPY$$