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λ^5 -Diphosphacyclobutadienes and Their Reactions

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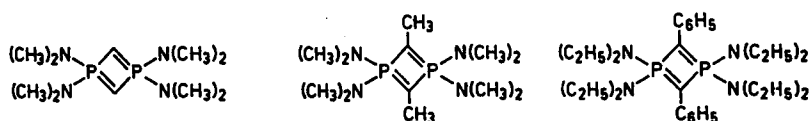
λ^5 -DIPHOSPHACYCLOBUTADIENES AND THEIR REACTIONS

E. FLUCK, B. NEUMÜLLER^a, W. PLASS^a und M. SPAHN^a

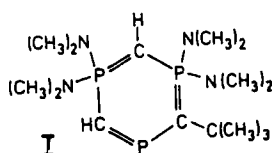
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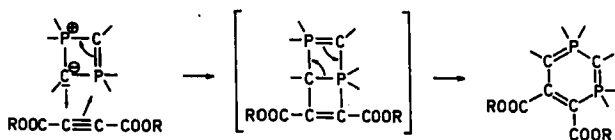
In earlier work the synthesis of λ^5 -diphosphacyclobutadienes (diphosphetes) has been described:^{1,2}



They can be conceived as twofold cyclic ylides with highly carbanionic carbon atoms³ and their chemical behaviour can best be interpreted on this basis. With $R-C\equiv P$ ($R=t\text{-bu}$), the $1\lambda^5, 3\lambda^5, 5\lambda^3$ -triphosphinine **I**



is formed⁴, while reaction with acetylenedialkoxycarboxylates yields the first $1\lambda^5, 3\lambda^5$ -diphosphinines⁵:



Reactions of diphosphetes with $HC\equiv C-COOR$, $(F_5C_6)-C\equiv N$ and $ROOC-C\equiv N$ also yield new heterocyclic systems.

¹J. Svara, E. Fluck and H. Riffel, Z. Naturforsch. **40b**, 1258 (1985)

²B. Neumüller and E. Fluck, Phosphorus and Sulfur **29**, 23 (1986)

³T. Veszprémi, R. Gleiter, E. Fluck, J. Svara and B. Neumüller, Chem. Ber., in print

⁴E. Fluck, G. Becker, B. Neumüller, R. Knebl, G. Heckmann and H. Riffel, Z. Naturforsch. **42b**, 1213 (1987)

⁵E. Fluck, B. Neumüller, G. Heckmann, W. Plass and P. G. Jones, New Journal of Chemistry, in print.