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## Synthesis and Structure of Some 1,3,2-Oxazaphospholenes

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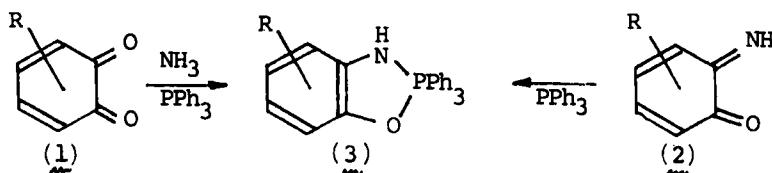
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# Synthesis and Structure of Some 1,3,2-Oxazaphospholenes

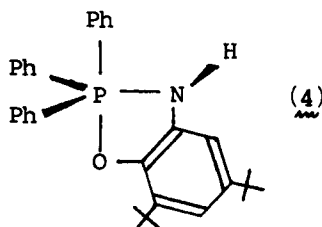
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The reaction of trialkyl phosphites and phosphines with *o*-quinones result in the formation of oxyphosphoranes [1]. In an effort to prepare *o*-quinone monoimine metal complexes with amine [2] and phosphine ligands it has been found that in the reaction either of *o*-quinones (1) with phosphines in the presence of ammonia or of *o*-quinone monoimines (2) with phosphines 1,3,2-oxazaphospholenes (3) are formed in good yields.



The X-ray structure determination of the adduct of 3,5-di-*t*-butyl-*o*-benzoquinone monoimine and triphenylphosphine reveals a trigonal bipyramidal structure (4), where the oxazaphospholene ring is in the apical-equatorial plane accommodating the oxygen atom in the apical and the nitrogen atom in the equatorial position.



The formation of 1,3,2-oxazaphospholenes (3) is not a concerted 1,4-cycloaddition reaction. Evidences support the presence of intermediate species during the reaction suggesting a stepwise mode of ring formation.

- [1] F. Ramirez, Pure Appl. Chem., 9, 337 (1964)
- [2] É. Balogh-Hergovich and G. Speier, Inorg. Chim. Acta 84, 129 (1984)