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SYNTHESIS AND COORDINATION CHEMISTRY OF N-(DIPHENYLPHOSPHINO) DIALLYLAMINE

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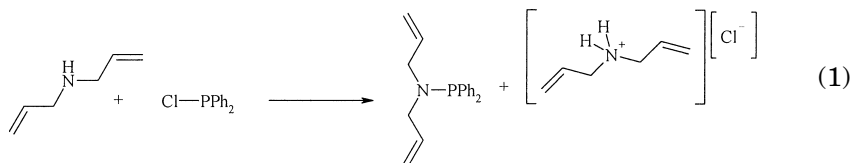
SYNTHESIS AND COORDINATION CHEMISTRY OF *N*-(DIPHENYLPHOSPHINO) DIALLYLAMINE

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N-(diphenylphosphino)diallylamine (**1**) is a potential tridentate ligand containing both phosphorus and olefinic donor sites. Its preparation is straightforward and involves the addition of chlorodiphenylphosphine to a 2-fold excess of diallylamine in toluene.¹



A study of the coordination chemistry of **1** has shown some interesting results. Reactions of **1** with [PtCl₂(cod)] and [PdCl₂(cod)] (cod = 1,5-cyclooctadiene) has furnished a variety of complexation products. Analysis of these products by multi-nuclear NMR, FAB mass spectra, and elemental analysis has provided suggested structures of the complexes formed. Single crystal x-ray crystallographic analysis of the 1:1 [PdCl₂(cod)]:**1** product shows that the ligand adopts a bidentate P/η² allyl coordination mode resulting in the formation of a five-membered PdPNC₂ metallacycle.

REFERENCE

- [1] H. H. Sisler and N. L. Smith, *J. Org. Chem.*, **26**, 611 (1961).

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