

**Tri(1-cyclohepta-2,4,6-trienyl)-
phosphane, P(C₇H₇)₃, as a Tripodal
Tetradentate Ligand in Cationic,
Five-coordinate Complexes of
Platinum(II) and Palladium(II)**

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Platinum, Palladium, Olefinic Phosphanes

Chloride abstraction, using AgPF₆, from tri(1-cyclohepta-2,4,6-trienyl)phosphane platinum and palladium dichloride, [P]MCl₂ [M = Pt (**1**), Pd (**2**)], affords the complexes {[P]MCl}PF₆ [M = Pt (**3**), Pd (**4**)] in good yields. The central metal is coordinated by the chloro ligand, the phosphorus atom and by three η²-C=C units, one of each C₇H₇ ring. This assignment of a highly symmetrical C_{3v} structure is based on a consistent set of NMR data (¹H, ¹³C, ³¹P, ¹⁹⁵Pt NMR), in agreement with NMR data of the corresponding known neutral iridium and rhodium complexes [P]MCl [M = Ir (**5**), Rh (**6**)]. The chemical shift δ¹⁰³Rh of **6** was determined, and a nearly linear relationship δ¹⁹⁵Pt / δ¹⁰³Rh was established.