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A Retro Diels–Alder Route to Diphosphorus Chemistry: Molecular Precursor Synthesis, Kinetics of P₂ Transfer to 1,3-Dienes, and Detection of P₂ by Molecular Beam Mass Spectrometry


Pass the P₂

Significance: Cummins and co-workers have developed a novel system for thermally transferring the diphosphorus molecule P₂ from a transannular diphosphorus bisanthracene adduct 4 to various 1,3-dienes via a retro-Diels–Alder reaction.

Comment: Treatment of 4 with platinum ethylene complex [(C₂H₄)Pt(PPh₃)₂] at room temperature furnishes the expected platinum diphosphorus complex (P₂)[Pt(PPh₃)₂]₂, broadening the scope of this P₂ precursor to inorganic complexes.