A. VELIAN, M. NAVA, M. TEMPRADO, Y. ZHOU, R. W. FIELD, C. C. CUMMINS*
(MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, USA AND UNIVERIDAD DE
ALCALÁ, MADRID, SPAIN)
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.