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From a Phosphanomethanide to the Methylenephosphonium Ion: X-Ray Structures, Electron Transfer and Computational Studies

Christian K. G. Boelsen^a; Martin Nieger^a; Wolfgang W. Schoeller^b; Ulrich Zenneck^c; Edgar Niecke^a

^a Institut für Anorganische Chemie der Universität Bonn, Germany ^b Fakultät für Chemie der Universität Bielefeld, Germany ^c Institut für Anorganische Chemie, Universität Erlangen, Germany

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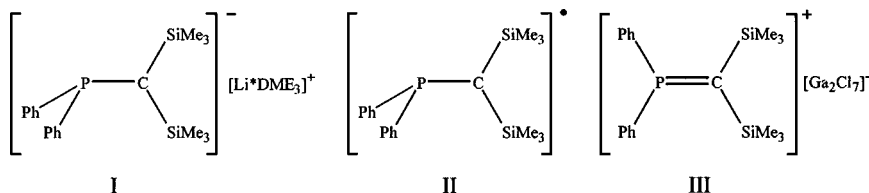
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FROM A PHOSPHANOMETHANIDE TO THE METHYLENEPHOSPHONIUM ION: X-RAY STRUCTURES, ELECTRON TRANSFER AND COMPUTATIONAL STUDIES

Christian K. G. Boelsen,^a Martin Nieger,^a Wolfgang W. Schoeller,^b Ulrich Zenneck,^c and Edgar Niecke^a
Institut für Anorganische Chemie der Universität Bonn, Germany;^a Fakultät für Chemie der Universität Bielefeld, Germany;^b and Institut für Anorganische Chemie der Universität Erlangen, Germany^c

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The chemistry of phosphanomethanides¹ as well as methylene-phosphoniumions^{2,3} has been the subject of several studies. The X-ray structure of the ion separated lithium-bis-(trimethylsilyl)-diphenylphosphanomethanide **I** and the corresponding bis-(trimethylsilyl)-methyl-diphenylphosphonium heptachlorogallanat **III** are reported. The bis-(trimethylsilyl)-diphenylphosphanyl-methyl radical **II** has been detected by ESR-spectroscopy. The results of the investigations are correlated with density functional calculations.



SCHEME 1

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Address correspondence to Edgar Niecke, Institut für Anorganische Chemie der Universität Bonn, Bonn D-53121, Germany. E-mail: e.niecke@uni-bonn.de