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Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713618290>

Reactivity of Ferriphosphaalkenes ($\eta^5\text{-C}_5\text{Me}_5$)(CO) $_2$ Fe--P=C(R)NMe $_2$ [R=Ph (I), *t*-Bu (II)]: The Way from Normally Polarized to Inversely Polarized Phosphaalkenes

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Online publication date: 27 October 2010

To cite this Article Kleinebeker, Stefan and Weber, L.(2002) 'Reactivity of Ferriphosphaalkenes ($\eta^5\text{-C}_5\text{Me}_5$)(CO) $_2$ Fe--P=C(R)NMe $_2$ [R=Ph (I), *t*-Bu (II)]: The Way from Normally Polarized to Inversely Polarized Phosphaalkenes', *Phosphorus, Sulfur, and Silicon and the Related Elements*, 177: 8, 2173 — 2174

To link to this Article: DOI: 10.1080/10426500213351

URL: <http://dx.doi.org/10.1080/10426500213351>

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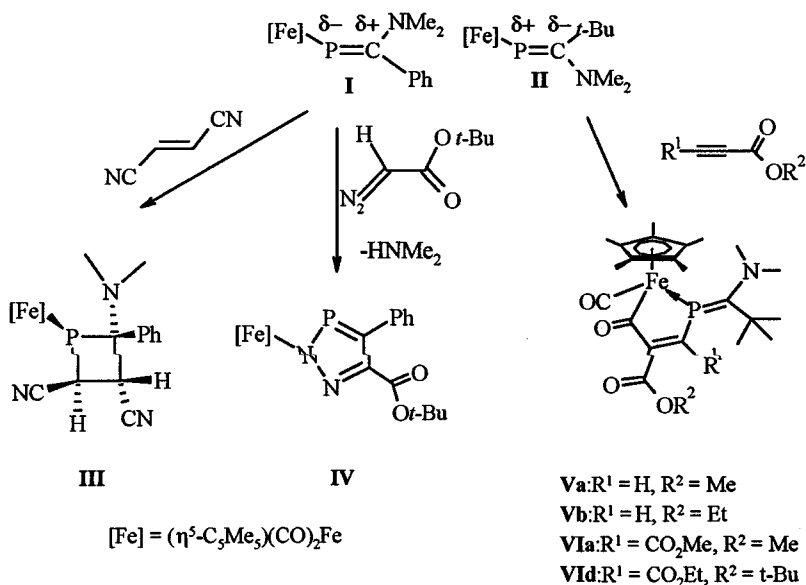
REACTIVITY OF FERRIOPHOSPHAALKENES $(\eta^5\text{-C}_5\text{Me}_5)(\text{CO})_2\text{Fe-P}=\text{C}(\text{R})\text{NMe}_2$ [$\text{R}=\text{Ph}$ (I**), $t\text{-Bu}$ (**II**): THE WAY FROM *NORMALLY* POLARIZED TO *INVERSELY* POLARIZED PHOSPHAALKENES**

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(Received July 29, 2001; accepted December 25, 2001)

Keywords: Iron; phosphaaalkenes

The formally analogous compounds **I** and **II** differ significantly in their ^{31}P -NMR spectra. Singlets at $\delta = 232$ ppm for **I** and $\delta = 411$ ppm for **II** can be explained by a different distribution of π -electron density. According to x-ray data **I** exhibits a 4π -NCP-unit, whereas in **II** for



SCHEME 1

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steric reasons such a conjugation is absent. Phosphaalkenes **I** and **II** differ also in their chemical reactivities. Only **I** is involved in a [2 + 2]-cycloaddition with fumarodinitrile and a [3 + 2]-cycloaddition with diazoacetates, whereas only **II** underwent a [3 + 2]-cycloaddition with electron deficient alkynes.