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## Phosphorus, Sulfur, and Silicon and the Related Elements

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## Ferrocene as Substituent in Organophosphorus Chemistry

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## FERROCENE AS SUBSTITUENT IN ORGANOPHOSPHORUS CHEMISTRY

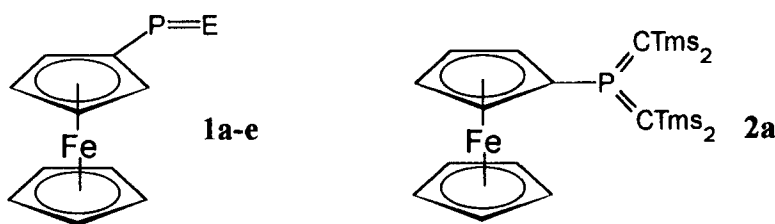
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**Abstract** Synthesis and spectroscopic properties of ferrocenyl phosphanes and phosphoranes in low coordination are presented and discussed.

One of the most interesting features of the ferrocenyl substituent is its remarkable ability to stabilize a positive charge on an adjacent atom. Therefore the subject of our investigations is the synthesis of neutral ferrocenylphosphanes in low coordination in order to examine the influence of the ferrocenyl group on the P=E system.

Following common procedures we synthesized a ferrocenyldiphosphene <sup>1)</sup> **1a**, ferrocenyliminophosphanes **1b,c** and ferrocenylmethylenephosphanes **1d,e**. Moreover we extended our investigations also to  $\sigma^3\lambda^5$ -ferrocenylphosphoranes and gained **2a** as well as the related phosphirane depending on temperature.



E: **1a** =P-Mes\*, **1b** =N-Mes\*, **1c** =N-Tms, **1d** =C(OTms)tBu, **1e** =C(OTms)Fc

## REFERENCES

- 1) E. NIECKE and R. PIETSCHNIG Organometallics, in press