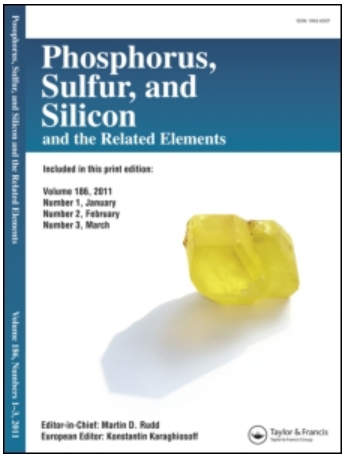

Phosphorus, Sulfur, and Silicon and the Related Elements

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The First Stable P-Phosphoranyl Substituted Phosphaalkene

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The First Stable P-Phosphoranyl Substituted Phosphaalkene

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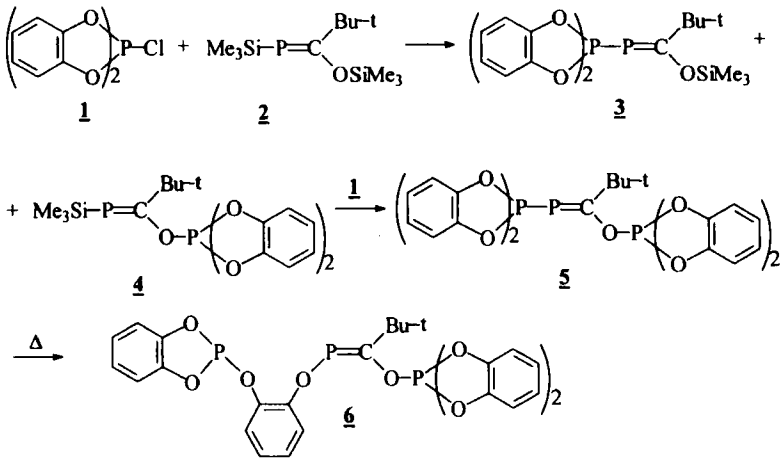
Interaction of bis(catechol)chlorophosphorane (**1**) with two-coordinated phosphorus derivative (**2**) has been studied by dynamic ^{31}P NMR method. The compounds react under soft conditions in methylene chloride with formation of phosphaalkene (**5**) - the first stable representative of P^{II}-P^{V} structure derivatives.



The formation of intermediate O- and P-phosphoranylated phosphaalkenes (**3**,**4**) and has been revealed also by ^{31}P NMR method [(**3**), δ_P 119.6 (d), 10.7 (d) ppm, $^1J_{PP}$ 447.1 Hz; (**4**), 116.3 (s), -31.6 (s) ppm]. The structure of isolated crystals (**5**) has been confirmed by ^{13}C, ^{31}P NMR and IR spectroscopy methods [(**5**), δ_P 123.8 (d), 11.5 (d), -31.8 (s) ppm, $^1J_{PP}$ 266.8 Hz). Compound (**5**) converts preferably into phosphaalkene (**6**) [δ_P 136.8 (s), 127.6 (s), -31.8 (s) ppm,] under heating.

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