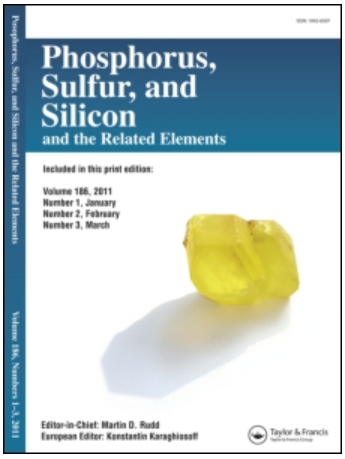

Phosphorus, Sulfur, and Silicon and the Related Elements

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^{1}H, ^{13}C and ^{31}P NMR Studies of the Stereochemistry of Chiral 2-Substituted (4R,6R)-Dimethyl-1,3,2-dioxaphosphorinanes

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^{1}H, ^{13}C and ^{31}P NMR Studies of the Stereochemistry of Chiral 2-Substituted (4R,6R)-Dimethyl-1,3,2-dioxaphosphorinanes

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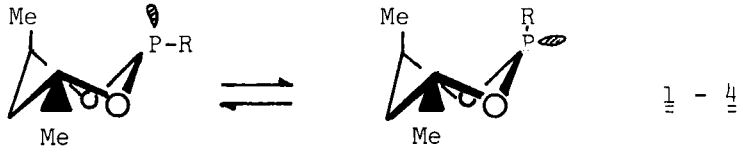
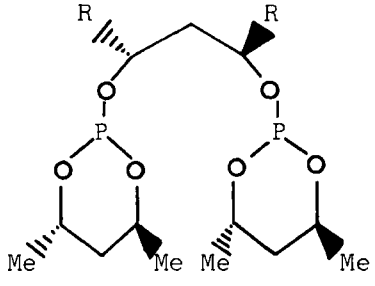
^{13}C, ^{1}H and ^{31}P NMR investigations have been carried out to determine the ring stereochemistry and phosphorus configuration for four chiral (4R,6R)-2R-4,6-dimethyl-1,3,2-dioxaphosphorinane derivatives, 1-4 (2R=Cl, Ph, OMe and Ot-Bu, respectively).



1 - 4

^{1}H NMR spectra, DR, 2D-J experiments and spin-simulation proved the chair character of the ring. Depending on the position of R, two diastereomers may exist, but in most cases only one predominating form was detected.
Dynamic processes were observed for compounds 1 and 2. Saturation transfer experiments proved the existence of ring and/or phosphorus inversions.
The stereochemistry of two novel bisphosphites, 5 and 6 were also studied. The chair character of the rings was confirmed.



R	
Me	5
Ph	6

At room temperature "through-space" coupling has been found between P atoms six bonds apart suggesting spatially close position of them.