1,3,5-Triphosphorinane. Synthese und Struktur der Isomeren des 1,3,5-Triphenyl-1,3,5-triphosphorinans

1,3,5-Triphosphorinanes. Synthesis and Structure of the Isomers of 1,3,5-Triphenyl-1,3,5-triphosphorinane

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The reaction of lithiated Ph(H)PCH$_2$P(H)Ph with (ClCH$_2$)$_2$PPh yields 1,3,5-Triphenyl-1,3,5-triphosphorinane (**1**) as a mixture of two isomers. The isomers have been separated by column chromatography and characterized by NMR spectroscopy and single crystal X-ray diffraction as the *eq-eq-eq* (**1a**) and *eq-eq-ax*-isomers (**1b**). (**1a**) crystallizes with $a = 1326.9(3)$ pm and $c = 933.4(3)$ pm in the rhombohedral space group $R3$ and displays 3-fold symmetry, showing an *eq-eq-eq* conformation. (**1b**) crystallizes in the monoclinic space group $P2_1/c$ with $a = 984.09(12)$ pm, $b = 1757.5(2)$ pm, $c = 1083.13(12)$ pm, $\beta = 93.329(2)^\circ$ and displays an *ax-eq-eq* conformation.

Key words: Triphosphorinanes, Synthesis, Crystal Structures