

Reactions of trialkoxynitridomolybdenum with low-coordinate phosphorus compounds containing a P=N double bond.

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The reactions of NMo(OR)_3 ($\text{R} = \text{tBu}, \text{iPr}$) with $(\text{Me}_3\text{Si})_2\text{NPNSiMe}_3$ (**1**), $(\text{Me}_3\text{Si})_2\text{NPN}^{\text{tBu}}$ (**2**), $(\text{Me}_3\text{Si})_2\text{NPS}(\text{N}^{\text{tBu}})$ (**3**) and $(\text{Me}_3\text{Si})_2\text{NP}(\text{NSiMe}_3)_2$ (**4**) have been studied. Reported complexes were synthesized via 1,2-addition of an Mo–OR bond across the PN bond, resulting in four-membered metallacycles of the corresponding $\sigma^2\lambda^3$ -iminophosphine or $\sigma^3\lambda^5$ -iminophosphorane with trialkoxynitridomolybdenum. The structure of all new compounds was elucidated by ^1H , ^{13}C and ^{31}P NMR spectroscopy. Compounds $[(\text{Me}_3\text{Si})_2\text{N–P}(\text{NSiMe}_3)(\text{O–tBu})]\{(\text{tBuO})_2\text{MoN}\}$ (**5**), $[(\text{Me}_3\text{Si})_2\text{N–PS}(\text{N}^{\text{tBu}})(\text{O–tBu})]\{(\text{tBuO})_2\text{MoN}\}$ (**7**), $[(\text{Me}_3\text{Si})_2\text{N–P}(\text{NSiMe}_3)_2(\text{O–tBu})]\{(\text{tBuO})_2\text{MoN}\}$ (**8**) and $[(\text{Me}_3\text{Si})_2\text{N–P}(\text{NSiMe}_3)_2(\text{O–iPr})]\{(\text{iPrO})_2\text{MoN}\}$ (**12**) were also characterized by single X-ray analysis and shown to be metallacycles containing the Mo atom with an intact terminal nitrido ligand.

Adres publiczny

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<https://www.rsc.org/>