

The influence of the intermolecular hydrogen bond on the 1,3-*N,S*- and 1,5-*O,S*-coordination of *N*-phosphoryl-*N'*-(*R*)-thioureas with Ni(II) and Pd(II).

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Streszczenie

Reaction of the potassium salts of *N*-phosphorylated thioureas of common formula $R^1-N(H)-C(S)-N(H)-P(O)(OiPr)_2$ (**HA**) with Ni^{II} and Pd^{II} cations leads to $[MA_2]$ chelate complexes ($M = Ni^{II}$, $R^1 = p\text{-MeOC}_6\text{H}_4$, $p\text{-BrC}_6\text{H}_4$, $t\text{-Bu}$, $c\text{-Hex}$; $M = Pd^{II}$, $R = iPr$). In both the Ni^{II} and Pd^{II} complexes, the metal center is found in a square-planar N_2S_2 environment formed by the CS sulfur atoms and the P–N nitrogen atoms of two deprotonated ligands **A**[−]. The Pd^{II} atoms in $[PdB_2]$ complexes with deprotonated thioureas of common formula $R^2-C(S)-N(H)-P(O)(OiPr)_2$ (**HB**) ($R^2 = Et_2N$, morpholine-*N*-yl) are coordinated in a square-planar fashion by the CS sulfur atoms and the PO oxygen atoms of two anionic ligands. Molecular structures of four complexes $[M(A-N,S)_2]$ ($M = Ni^{II}$, $R^1 = p\text{-MeOC}_6\text{H}_4$, $p\text{-BrC}_6\text{H}_4$, $t\text{-Bu}$; $M = Pd^{II}$, $R^1 = iPr$) and the palladium(II) 1,5-*O,S*-chelate of formula $[Pd(B-O,S)_2]$ ($R^2 = \text{morpholine-}N\text{-yl}$) were elucidated by X-ray diffraction.

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