Hypercoordinate Diorganosilanes Featuring an ⟨*ONO*⟩ Tridentate Ligand. A Surprising Equilibrium Between Penta- and Tetracoordination

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The reaction of the tridentate ligand-precursor molecule **1**, *o*-HO-*p*-MeO-C_6H_3-C(Ph)=N-(*o*-C_6H_4)-OH, with diorganodichlorosilanes Me_2SiCl_2, Ph_2SiCl_2 and $PhAllSiCl_2$ yields pentacoordinate silicon complexes R,R′Si[*o*-O-*p*-MeO-C_6H_3-C(Ph)=N-(*o*-C_6H_4)-O] (**2a′**: R, R′ = Me; **2b**: R, R′ = Ph; **2c**: R = Ph, R′ = All). **2b** and **2c** have pentacoordinate silicon atoms in the solid state as well as in chloroform solution. Surprisingly, for **2a** an isomer **2a′** with Si-tetracoordination is preferred in the solid state, while the Si-pentacoordinated isomer **2a** may dominate in solution. The hypercoordinate allylsilane **2c** with a C=X → Si moiety is stable in solution and does not undergo a 1,3-allyl-shift-reaction.

Key words: Allyl, Chelate, Equilibrium, Hypercoordination, Silicon