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Complexes of heteroscorpionate trispyrazolylborate anionic ligands. Part II. The X-ray crystallographic and ^{1}H NMR studies on thiocyanato[hydrobis(3-phenylpyrazolyl)(3,5-di-*tert*-butylpyrazolyl)-borato]cobalt(II) and thiocyanato[hydrobis(3-phenyl,5-methylpyrazolyl)(3-methyl,5-phenylylpyrazolyl)borato]cobalt(II) complexes.

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Streszczenie

Synthesis of two heteroscorpionate tris(pyrazolyl)borate anionic ligands (Tp′) was described; the sterically demanding [hydrobis(3-phenylpyrazolyl)(3,5-di-*tert*-butylpyrazolyl)borate]$^-$ obtained by condensation of KBH_4 with 3-phenylpyrazole and 3,5-di-*tert*-butylpyrazole and [hydrobis(3-phenyl,5-methylpyrazolyl)(3-methyl, 5-phenylylpyrazolyl)borate]$^-$ formed in similar reaction between $NaBH_4$ and 3(5)-methyl,5(3)-phenylpyrazole. The ligands were converted into tetracoordinate [HB(3,5-di-*t*Bupz)(3-Phpz)$_2$]Co(NCS) and pentacoordinate [HB(3-Me,5-Phpz)(3-Ph,5-Mepz)$_2$]Co(NCS)(THF)·THF complexes, which molecular structures were determined by X-ray crystallographic method. The reactivity of high-spin cobalt(II) complexes was studied by the ^{1}H NMR spectroscopy in solution. The reactive [HB(3-Me,5-Phpz)(3-Ph,5-Mepz)$_2$]Co(NCS) complex readily underwent conversions into pentacoordinate [HB(3-Me,5-Phpz)(3-Ph,5-Mepz)$_2$]Co(OOCCH(OH)CH$_3$) and hexacoordinate [HB(3-Me,5-Phpz)(3-Ph,5-Mepz)$_2$]Co[HB(pz)$_3$] complexes.

Słowa kluczowe

Heteroscorpionate tris(3-R-pyrazolyl)borate cobalt(II) complexes, Structures, NMR

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