Title:	Co(II), Ni(II) and Cu(II) complexes of sterically encumbered N-arylimidoylamidine based [N,N′] chelating ligands
Authors:	Prashanth, B. (/jspui/browse?type=author&value=Prashanth%2C+B.) Singh, Sanjay (/jspui/browse?type=author&value=Singh%2C+Sanjay) Verma, Aditya (/jspui/browse?type=author&value=Verma%2C+Aditya)
Keywords:	mesitylamine (2,4,6-Me3C6H2NH2) imidoylchloride ArNC(Cl)Me (Ar = 2,4,6-Me3C6H2 or 2,6-iPr2C6H3)
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Abstract:	Abstract The reaction of mesitylamine (2,4,6-Me3C6H2NH2) with two equivalents of imidoylchloride, ArNC(Cl)Me (Ar = 2,4,6-Me3C6H2 or 2,6-iPr2C6H3) in the presence of Et3N yields neutral [N,N′] chelating ligands, [2,4,6-Me3C6H2N{C(Me)N(2,4,6-Me3C6H2)}2] (L1) and a pair of ligand isomers; symmetrical [2,4,6-Me3C6H2N{C(Me)N(2,6-iPr2C6H3)}2] (L2a) & unsymmetrical [2,6-iPr2C6H3NC(Me)N(2,6-iPr2C6H3)C(Me)N(2,4,6-Me3C6H2)] (L2b). An exclusive synthesis of the unsymmetrical isomer L2b has also been optimized by the reaction of a preformed amidine (2,6-iPr2C6H3)NH{C(Me)N(2,6-iPr2C6H3)} with the mesityl imidoylchloride. The three ligands have been thoroughly characterized by spectroscopic and X-ray diffraction methods (for L2a and L2b). The reaction of equimolar quantities of L1 with CoCl2·6H2O, NiBr2·xH2O, Cu(NO3)2·3H2O yields the corresponding mononuclear complexes, L1·CoCl2 (1), L1·NiBr2 (2) and L1·Cu(NO3)2 (3). Similarly, reaction of unsymmetrical ligand isomer L2b with CoCl2·6H2O, NiBr2·xH2O, or CuCl2 affords the complexes L2b·CoCl2 (4), L2b·NiBr2 (5) and L2b·CuCl2 (6), respectively. The solid state structures of complexes 1-6 have been investigated by single crystal X-ray structural analysis
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