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## Cu(I) COMPLEXES WITH BULKY BIPODAL SCORPIONATE LIGANDS

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Cu(I) complexes possess a broad range of applications in catalysis, photo-luminescent materials and in biological sciences. In this regard, the development of proper ligands systems that can stabilize Cu(I) metal will contribute to the coordination chemistry and applications of this metal. The salt metathesis reaction of CuI with two sodium precursors (NaBb and NaBb-1) of bipodal scorpionate type ligands [Bb = dihydrobis(2-mercapto-benzimidazolyl)borate, (Bb-1 = dihydrobis(2-mercapto-benzothiazolyl)borate)], has been explored in the presence of selected phosphine ligands (PPh<sub>3</sub>, PCy<sub>3</sub>, PPh<sub>2</sub>Me, PPh<sub>2</sub>Py),

Figure 1. All of the resulting Cu(I) complexes were formed as predominantly a single monomeric isomer and were characterized using a combination of <sup>1</sup>H, <sup>13</sup>C{<sup>1</sup>H}, <sup>31</sup>P{<sup>1</sup>H} NMR spectroscopy, and in two cases by X-ray crystallography. In the X-ray crystal structure of complex 1 and 6, the Cu(I) center adopts a distorted tetrahedral geometry. The complexes 1 and 6 exhibit a (B)H Cu distances of 2.008 Å and 1.866 Å length, respectively. Based on IR spectroscopy and X-ray crystallography data, 1 and 6 adopt a k<sup>3</sup>-S,S,H coordination mode in solid state.

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