Two New Hemidirected Lead(II) Complexes: 

$[\text{Pb(pcih)(bha)}]$ and $[\text{Pb(pcih)(NO}_3\text{)}]$ 

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Two new lead(II) complexes $[\text{Pb(pcih)(bha)}]$ (1) and $[\text{Pb(pcih)(NO}_3\text{)}]$ (2, Hpci = 1,4-bis(3-pyridyl)-2,3-diazo-1,3-butadiene, Hbha = 2-hydroxybenzoic acid) have been synthesized by solvothermal methods and structurally characterized. The single-crystal X-ray data show that the coordination spheres of the Pb$^{2+}$ ions in 1 and 2 are hemidirected with stereochemically active electron lone pairs. There are some significant secondary Pb···N and Pb···O interactions which produce two different extended structures, namely a 1D chain in 1 and a 2D layer in 2. Both 1 and 2 exhibit fluorescence properties at room temperature. 

Key words: Lead(II) Complex, Crystal Structure, Solvothermal Synthesis, Hemidirected