Abstract

The crystal structure of a mononuclear nickel(II)-phen-dione complex, [Ni(bpy)2(phen-dione)](PF6)2, (where bpy = 2,2′-bipyridine and phen-dione = 1,10-phenanthroline-5,6-dione), was reported. The complex has been characterized by elemental analysis, IR and electronic absorption spectroscopy (UV-vis) and cyclic voltammetry (CV). The electrochemical behavior and electronic spectrum of the acetate salt of the complex has also been studied in buffered solutions at pH between 1 and 8. ORTEP drawing of the complex shows that the coordination geometry around the Ni(II) is a distorted octahedron, with bite angles of 78.1–78.8° for all three bidentate ligands and the two pyridyl rings of the bpy ligands are nearly co-planar, as are the two pyridyl rings of phen-dione.