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RING OPENING OF FERROCENYL LAWESSONS AND WOOLLINS REAGENTS; SYNTHESIS OF NOVEL PHOSPHONODITHIOATO AND PHOSPHONODISELENOATO METAL COMPLEXES

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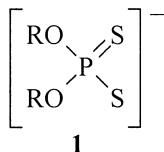
RING OPENING OF FERROCENYL LAWESSONS AND WOOLLINS REAGENTS; SYNTHESIS OF NOVEL PHOSPHONODITHIOATO AND PHOSPHONODISELENOATO METAL COMPLEXES

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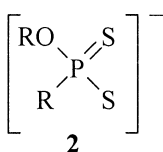
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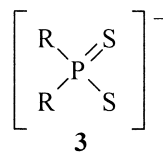
There is a great deal of literature available detailing the synthesis, chemistry, and structural studies of the complexes of (1) and (3) ligands.¹ The same cannot be said for compounds of (2). Aragoni et al. have reported several monomeric structures involving two organodithiophosphonate ligands attached to a metal center (Ni^{2+} , Pd^{2+} , and Pt^{2+}) in a square planar conformation. They have achieved this via a ring opening reaction of the well known thionation compound Lawessons Reagent.² Here we report the synthesis of phosphonodithioate ligands and phosphodiselenoate ligands by the ring opening of Ferrocenyl Lawessons and Woollins reagents respectively. Reactions of these ligands were carried out with a variety of metal (2+) salts of the form MX_2 (where M = Ni, Pd, Pt, Cd, Zn, Hg, Pb, and Sn) forming metal complexes exhibiting a number of different structural motifs including square planar monomers, dimers, and even polymeric structures.



Phosphorodithioate



Phosphonodithioate



Phosphinodithioate

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