

Some New Nickel 1,2-Dichalcogenolene Complexes as Single-component Semiconductors

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The complexes Ni(dmets)(dmit), Ni(dmect)(dmit), Ni(dpedit)(dsit), Ni(dpedit)(dmit), and Ni(dcdt)(dmit) (where dmets is dimethylethylenediselenolate, dmect is dimethylethylenedithiolate, dpedit is diphenylethylenedithiolate, dcdt is 1,2-bis-decylsulfanyl-ethene-1,2-dithiolate, dmit is 1,3-dithiol-2-thione-4,5-dithiolate, and dsit is 1,3-dithiol-2-thione-4,5-diselenolate) were prepared and characterized. The new complexes exhibit semiconducting behavior, with band gap values around 0.8 eV.

Key words: Metal 1,2-Dichalcogenolenes, Single-component Semiconductors