

Some Air-stable Unsymmetrical Nickel 1,2-Dithiolenes with Extended Tetrathiafulvalenedithiolato Ligands

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The air-stable unsymmetrical complexes Ni(dt)(dmit), Ni(dt)(dmio), Ni(tmdt)(dmit), Ni(tmdt)(dmio), Ni(etdt)(dmit), Ni(etdt)(dmio), Ni(ptdt)(dmit), and Ni(ptdt)(dmio) (where dmit is 1,3-dithiol-2-thione-4,5-dithiolate, dmio is 1,3-dithiol-2-one-4,5-dithiolate, dt is tetrathiafulvalendithiolate, tmdt is trimethylenetetrathiafulvalenedithiolate, etdt is ethylenedithiotetrathiafulvalenedithiolate, and pt dt is propylenedithiotetrathiafulvalenedithiolate) were prepared and characterized analytically, electrochemically and spectroscopically. In the solid state, the compounds exhibit optical absorption edges between 0.70 and 0.82 eV. Their LUMO and HOMO levels occur at *ca.* 4.5 and 5.3 eV, respectively.

Key words: Metal 1,2-Dithiolenes, Single-component Semiconductors, Thin Films