

Donor-acceptor complexes of main group elements with unusual bonds

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The lecture will focus on three classes of donor-acceptor complexes of main-group elements which possess unusual bonds. One topic are divalent E(0) compounds EL_2 of group-14 elements $E = C - Pb$ where L is a σ -donor ligand. The topic includes an extension to complexes $(EH)L_2$ of group-13 atoms $B - Tl$ and group-15 complexes $(ER)L_2$ where $E = N - Bi$. The second topic concerns complexes of diatomic species $E_2(NHC)_2$ where $E = Si - Pb, P - Bi$ and $NHC = N$ -heterocyclic carbene. Finally, the third topic focuses on complexes with the formula $D-C_6F_4-BF_3$ where D is a donor species Xe, N_2, CO .