

Reaction of Group 13 Compounds with Diimines

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Abstract:

Reaction of Group 13 compounds with various substituted diazabutadiene ligands afforded both coordination and rearrangement products. Group 13 compounds react with various substituted diazabutadiene ligands giving a five-membered chelate ring, which undergo an intramolecular rearrangement. Me_2GaCl , GaMe_3 and Me_2AlCl react with 1,4-di-substituted aryl-1,4-diazabutadienes to give intramolecular rearrangement products. Coordination products are produced with the reaction of MeGaCl_2 and GaCl_3 with 1,4-di-substituted aryl-1,4-diazabutadienes. The reaction of Me_2GaCl with 1,4-di-alkyl-1,4-diazabutadienes afford cationic species. Several of the single crystal rearrangement products exhibit multichromic properties. EPR data has also been collected which indicates the presence of a ligand based radical. Further investigation of the optical and physical properties of these single crystals could lead to the production of new optical materials.

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