Main Group Catalysis: Molecular Compounds for Organic Transformations

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Abstract:

In recent years, an attractive area of homogenous catalysis involves main group metal (or element) based catalysts for organic transformations.[1] This is due to being cheaper, non-toxic and the large abundance of main group elements, which probably could replace precious transition metal catalysts in the near future. Particularly, the application of molecular compounds containing main group elements in catalysis is an emerging area of recent research interest, in which chemistry did occur in the coordination sphere of metal center. Normally, in main group catalysis Lewis acidic properties of main group cations (Mg^{2+}, Al^{3+} etc.) have been used, and the actual chemistry did not occur in the coordination site of metal center.[2]

In this talk I will focus on the synthesis and characterization of main group metal complexes. In addition, main group metal -catalyzed organic transformations such as hydroboration of carbonyl compounds,[3] guanylation reaction[4] etc. will be discussed.

References and Notes:

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