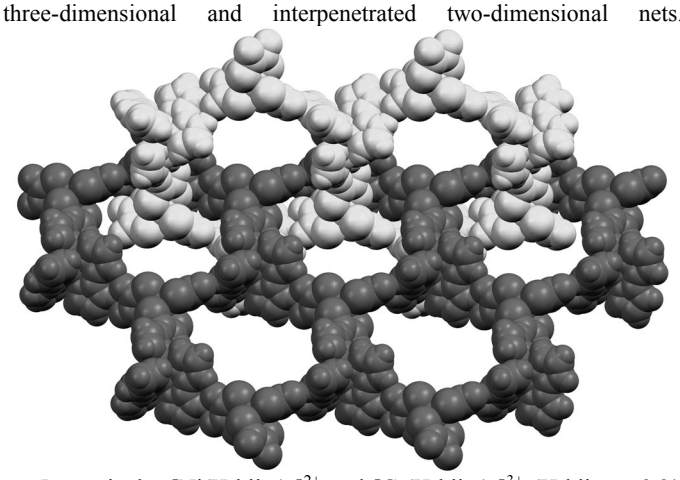
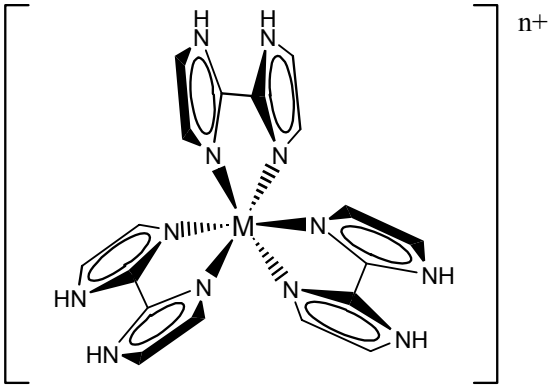
Synthesis of 2D and 3D Nets using Biimidazole Complexes

Alexandra M. E. Griffin, A. Guy Orpen, *School of Chemistry, University of Bristol, Bristol BS8 1TS.* E-mail: a.griffin@bristol.ac.uk

The use of hydrogen-bonding to control the arrangements of cations and anions has been well documented in previous research.[1] [2] Here we report tris-chelated metal complexes containing the biimidazole ligand, which are capable of hydrogen-bonding to form three-dimensional and interpenetrated two-dimensional nets.



In particular $[Ni(H_2biim)_3]^{2+}$ and $[Cr(H_2biim)_3]^{3+}$ (H_2biim = 2,2′-biimidazole) have been crystallized with a variety of anionic tectons capable of hydrogen bonding to these cations.



[1] Podesta T. J., Orpen A. G., *CrystEngComm.*, 2002, **4**, 336. [2] Angeloni A., Orpen A. G., *Chem. Commun*., 2001, **4**, 343.

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