Molecular Tectonics : from Tectons to Networks

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Molecular crystals are compact and periodic entities. They are defined by the nature of their molecular components and interactions between them in the solid state. Although a crystal is described by translation of the unit cell into three directions of space, one may describe it as a network by considering intermolecular interactions as specific recognition patterns. The approach dealing with such an analysis is called molecular tectonics [1]. The latter is based on tectons which are construction units bearing within their backbone assembling programmes. The design and formation of molecular networks with predefined dimensionality and connectivity may be ensured by the nature and localisation of recognition sites within the structure of tectons.

The strength of molecular tectonics is related to the fact that not only it allows to describe a given crystal in terms of networks but, also and more interestingly, this approach allows to conceive molecular networks through the specific design of tectons [2].

A variety of tecons and molecular networks based on diverse intermolecular interactions will be presented.

[1] Hosseini M. W., *Acc. Chem. Res.,* 2005, **38**, *in press*. [2] Hosseini M. W., *Cryst. Eng. Comm,* 2004*,* **6**, 318.

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