

Halogen Bonding in Crystal Engineering

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Halogen bonding is the non-covalent interaction between halogen atoms (Lewis acids) and neutral or anionic Lewis bases¹. The main features of the interaction will be given and the close similarity with hydrogen bonding will become apparent. Some heuristic principles will be presented in order to develop a rational crystal engineering based on halogen bonding. The focus will be in particular on halogen bonded supramolecular architectures given by halocarbons and related structures. The potential of the interaction will be shown by useful applications in fields as diverse as synthetic chemistry, material science, and bioorganic chemistry.



[1] Metrangolo P., Neukirch H., Pilati T., Resnati G., *Acc. Chem. Res.* 2005, *in press*.

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