Chirality in Supramolecular Systems and New Molecular Materials

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The transfer of chirality from the molecular to the nanoscopic level is a phenomenon whose explanation is difficult to rationalise, especially in different groups of materials. Our aim is to correlate the origins of conformational chirality in monolayers, crystals, and polymers, and to explore the upshots of chirality in the properties they display.\[1,2\] Here, we present STM studies of self-assembled monolayers of formamide derivatives of phenyl benzoates with both chiral and non-chiral alkyl chains pendent to them on graphite (the figure compares the supramolecular tapes observed by STM and by X-ray crystallography of the compounds). These STM studies have been extended to functional aromatic compounds, derivatives of tetrathiafulvalene.\[3\] Mention will also be made of our investigation of chirality in some magnetic molecular materials.\[4\]

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