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"STM observation of molecular chirality and alignment on solid surface."

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Two-dimentional adlayer of a helically shaped aromatic compound, [11]thiaheterohelicene ([11]TH), which consists of alternating benzene and thiophene rings, was prepared on Au(1 1 1), Au(1 1 0) and polycrystalline gold under UHV condition. LEED and STM were used for characterization of alignment, ordering and chirality of [11]TH on these Au substrates. A [11]TH monolayer on Au(1 1 1) showed the presence of an adlayer lattice with six-fold symmetry, while [11]TH on Au(1 1 0) did align along (1 -1 0) direction, and [11]TH adsorbed on a step bunching area formed chiral sensitive arrays, being one-dimensionally aligned chains. These observations are discussed in terms of stereoselective interaction among [11]TH's.