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Ladderphanes

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A polymeric ladderphane is defined as multiple layers of cyclophanes where the tethers are part of the polymeric backbones. Both double and triple stranded ladderphanes are obtained by ring opening metathesis polymerization reaction. The linkers in these ladderphanes are orthogonal to the polymeric strands and can be planar aromatic, antiaromatic, macrocyclic metal complexes, or three-dimensional organic or organometallic moieties. The spacing separating the adjacent linkers ranges from 4 to 6 Å depending on the nature of the polymeric backbones. Strong interactions between linkers are evidenced by various photophysical properties as well as microscopic images. One of the unique features of ladderphanes is to exhibit the well-assembled patterns on highly ordered pyrolytic graphite, which not only offer the structural information of these duplex polymers, but also furnish a useful entry to assemble linker moieties coherently on graphite surface.

Biography

Tien-Yau Luh obtained PhD degree from the University of Chicago and did his Postdoctoral research at the University of Minnesota before joining the Chinese University of Hong Kong in 1976. He returned to his Alma Mater, National Taiwan University in 1988, where his is now NTU Chair Professor. He has published more than 270 papers in prestigious chemistry and biomedical journals and served as a member of advisory boards of several reputed chemistry journals.

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