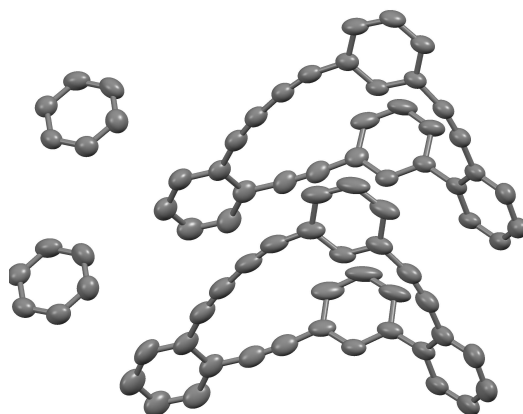


Synthesis of a Diacetylene Bridged Geländer-Type Oligomer

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Atropisomers are chiral compounds that do not contain stereogenic centres, but a stereogenic axis. For example, the configuration around a biphenyl axis is an important factor to control the pharmacological properties of bioactive compounds and their usefulness as catalysts in asymmetric synthesis. A new class of atropisomers was introduced in 1998 by Fritz Vögtle and his team: the Geländer-Oligomers[1]. However, his bridged terphenyls are able to rotate around the terphenyl axis. In the classical Geländer oligomers the optically inactive *meso* form is more stable than its enantiomers. Recently, our group reported a novel type of Geländer oligomers that cannot exist as a *meso* form, but still undergo fast racemization. [2-4] To enhance the stability of our new Geländer oligomers, we designed a series of more rigid bridged biphenyls. Consequently, the racemisation process in these atropisomers molecules should be significantly slower. All of our molecules consists of conjugated bridges and aromatic subunits such as benzene, diacetylenes or thiophenes.



X-ray of the diacetylene bridged biphenyl.

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