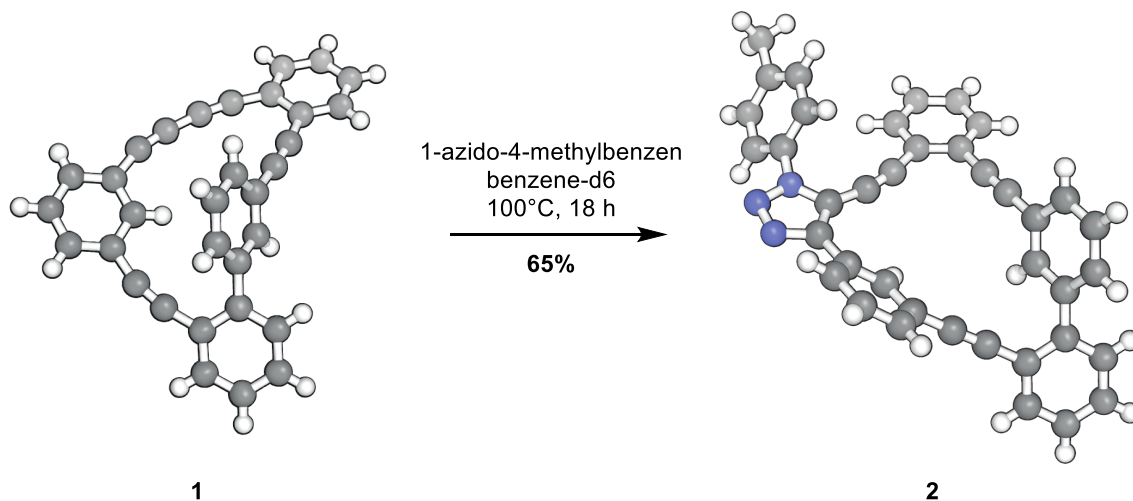


A Phenyl- Ethynyl- Macrocycle: A Model Compound for “Geländer” Oligomers Comprising Reactive Conjugated Bannisters

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A new class of atropisomers was introduced in 1998 by Fritz Vögtle: the Geländer oligomers.^[1] In the classical Geländer-oligomers the optically inactive *meso* form is more stable than its enantiomers. Recently, our group reported novel types of terphenyl Geländer-oligomers that do not have a *meso* form, but still undergo racemization.^[2–4] To enhance the conformational stability of such Geländer-oligomers, we designed a series of rigidly bridged biphenyls. For this purpose an oligo-*para*-phenylene-di-ethynylene (OPDE) seemed especially attractive as helically wrapped bannister around a biphenyl backbone. The conjugated OPDE bridge consists only of sp and sp^2 hybridized carbons and should therefore have less degrees of freedom and be more rigid, thereby enhancing the conformational stability of the whole oligomer. On the other hand, the biphenyl backbone is expected to have lower conjugation due to the torsion angle reducing the π -overlap between neighbouring phenyl units. The poster will present the synthesis and further studies on diacetylene bridged biphenyl **1** and triazole-acetylene bridged biphenyle **2**.^[5]



Diacetylene bridged biphenyl **1** and triazole-acetylene bridged biphenyle **2**.

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