

Controlling the folding of aromatic oligoamide into well-defined 3D molecular architectures.

Functions and properties of molecules are intimately related to their shape. This is particularly true in Nature where biomolecules functions often only arise from the folding of linear oligomeric peptides or nucleotides into 3-D architectures. With the objective of mimicking functional natural biomolecules, chemists have developed synthetic oligomeric molecules named as “foldamers” that are designed to fold into compact architectures.

In this presentation, efforts done in our group to synthesize oligomers that fold into helical and/or sheet structures, based on aromatic oligoamides, will be presented. Design principles and our quest to produce higher order assemblies, mimicking tertiary structures of biomolecules, will be emphasized during this talk.

