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***Stimuli-Responsive Single & Double-Stranded Foldamers***

**Abstract.** Foldamers constitute a class of oligomers that can fold into conformationally ordered architectures. Such compact conformations show structural and functional similarities with biopolymers, mimicking their highly ordered structures and functions. This notably explains the intensively growing interest regarding their supramolecular chemistry.
A wide variety of building blocks (*e.g.* peptides, ureas,…) have been reported to fold through weak intramolecular interactions and have displayed remarkable properties in the context of chiral materials, molecular recognition or catalysis, for instance. While important efforts have been devoted to the study of these dynamic structures and their conformational changes, π-functional helical foldamers have focused less attention to date.
In this context, we have recently developed various light or redox responsive foldamers, which hybridize to form double helical structures. These systems were designed to afford dynamic architectures with appealing optical and electronic properties, and have allowed for controlling their single or double state in a reversible manner, or their helical chirality.

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