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Title:	Helically Chiral Peptides That Contain Ferrocene-1,1'-diamine Scaffolds as a Turn Inducer
Authors:	Adhikari, B. (/jspui/browse?type=author&value=Adhikari%2C+B.)
Keywords:	Helically Chiral Peptides Ferrocene-1,1'-diamine
Issue Date:	2017
Publisher:	Wiley-VCH Verlag
Citation:	Chemistry - A European Journal, 23 (43)
Abstract:	A series of peptides that contain homo- and heterochiral Ala-Pro sequences attached to the turn-inducing ferrocene-1,1'-diamine scaffold were synthesized. The effects of the backbone chirality and the N-terminal group (Boc/Ac) on the conformational properties of the novel peptidomimetics were thoroughly explored by IR, NMR, and CD spectroscopy and the experimental observations were corroborated by DFT studies in solution. The most stable conformers of the homochiral peptides adopted the interstrand hydrogen-bond patterns, realized through ten- and thirteen-membered rings. The common feature of the most stable conformers of the heterochiral peptides was the adoption of the turn-like structures that feature the simultaneous intra- (seven-membered) and interstrand (sixteen-membered) hydrogen-bonded rings. An exchange of two N-terminal groups had a somewhat larger influence on the distribution of the hydrogen-bond patterns in homochiral than in heterochiral derivatives. The homochiral peptides that contain pyridine moieties as metal coordination sites formed 1:1 complexes with divalent metal ions, which included Zn ²⁺ , Cd ²⁺ , Cu ²⁺ and Fe ²⁺ .
Description:	Only IISERM authors are available in the record.
URI:	https://chemistry-europe.onlinelibrary.wiley.com/doi/full/10.1002/chem.201701602 (https://chemistry-europe.onlinelibrary.wiley.com/doi/full/10.1002/chem.201701602) http://hdl.handle.net/123456789/1879 (http://hdl.handle.net/123456789/1879)
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