



Library Indian Institute of Science Education and Research Mohali



DSpace@IISERMohali (/jspui/)

/ Publications of IISER Mohali (/jspui/handle/123456789/4)

/ Research Articles (/jspui/handle/123456789/9)

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/5129>

Title:	Introduction of Ferrocene as a Facilitator for the Construction of Supramolecular Polymers
Authors:	Roy, Raj Kumar (/jspui/browse?type=author&value=Roy%2C+Raj+Kumar) Lone, Mohammad Umer (/jspui/browse?type=author&value=Lone%2C+Mohammad+Umer)
Keywords:	Ferrocene as a Facilitator Supramolecular Polymers
Issue Date:	2022
Publisher:	John Wiley & Sons
Citation:	Chemistry-A European Journal, 29(1), 2202711.
Abstract:	Proper monomer design is the key to enhancing the strength of noncovalent interactions between the molecules toward the efficient formation of supramolecular polymers (SPs). We have designed and synthesized 1,n'-disubstituted ferrocene-azobenzene-long alkyl chains, Fc(CONH-Azo-TDP) ₂ , to afford SPs with a high probability. The design exploits the "molecular ball-bearing" property of the ferrocene core, which allows two azobenzene arms to rotate in the planes of cyclopentadienyl rings, generating the most suitable molecular conformation required for SP formation. This ferrocene monomer formed a supergel consisting of SPs supported by strong intermolecular (H-bonding and π - π stacking) interactions and higher enthalpy gain than the reference molecules, where the central ferrocene core was replaced by flexible aliphatic as well as rigid benzene linkers. The molecular conformation involved in SPs, the strength of noncovalent interactions, and the process of supramolecular polymerization were investigated through NMR, UV-Vis, XRD and TEM studies. The results demonstrate that ferrocene may act as a good modulator for constructing efficient SPs.
Description:	Only IISER Mohali authors are available in the record.
URI:	https://doi.org/10.1002/chem.202202711 (https://doi.org/10.1002/chem.202202711) http://hdl.handle.net/123456789/5129 (http://hdl.handle.net/123456789/5129)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format
Need To Add...Full Text_PDF. (/jspui/bitstream/123456789/5129/1/Need%20To%20Add%e2%80%a6Full%20Text_PDF.)		15.36 kB	Unknown

[View/Open \(/jspui/\)](#)

[Show full item record \(/jspui/handle/123456789/5129?mode=full\)](#)

[Statistics \(/jspui/handle/123456789/5129/statistics\)](#)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.

