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Title:	Luminescent, Helical and Highly Stable Zn(II) and Cd(II) Coordination Polymers: Structural Diversity and Selective Sensing of 4-Nitroaniline in Water
Authors:	Chand, Alokandana (/jspui/browse?type=author&value=Chand%2C+Alokandana) Mandal, Sanjay K. (/jspui/browse?type=author&value=Mandal%2C+Sanjay+K.)
Keywords:	Luminescent 4-Nitroaniline
Issue Date:	2021
Publisher:	Chemistry Europe
Citation:	European Journal of Inorganic Chemistry, 2021(26), 2595–2605.
Abstract:	Utilizing a bent bis(naphthalene) and hydroxy-based dicarboxylate linker (mbhna) and two different tridentate polypyridyl ligands (bpma and bpta), four new coordination polymers (CPs) of Zn(II) and Cd(II) namely, [Zn(mbhna)(bpma)] _n (1) {[Cd(mbhna)(bpma)].DMF} _n (2) [Zn(mbhna)(bpta)] _n (3) {[Cd(mbhna)(bpta)(CH ₃ OH)] _n (4), are reported. Based on their solid-state molecular structures determined by single-crystal X-ray diffractometry, all are found to be helical 1D CP; interestingly, 4 crystallizes in a chiral space group, showcasing the formation of a chiral CP from achiral components. For the presence of naphthalene moieties in mbhna, their excellent emissive nature is studied in different solvents and further utilized to selectively detect aromatic amines, particularly 4-nitroaniline in water with detection limits at the ppm level. Utilizing the Stern-Volmer plots, spectral overlap, and competitive test, their mechanism of action has been established. Furthermore, these are recyclable with good stability after sensing experiments.
Description:	Only IISERM authors are available in the record
URI:	https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/ejic.202100262 (https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/ejic.202100262) http://hdl.handle.net/123456789/4789 (http://hdl.handle.net/123456789/4789)
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