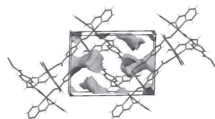


MS26-P4 1D polymeric materials based on Mn(II), Zn(II), and Cd(II) pyridine-2-aldoxime Lilia Croitor,^a Eduard B. Coropceanu,^b Marina S. Fonari,^a ^a*Institute of Applied Physics Academy of Sciences of R. Moldova, Academy str., 5 MD2028, Chisinau, Moldova*; ^b*Institute of Chemistry Academy of Sciences of R. Moldova, Academy str., 3 MD2028, Chisinau, Moldova*;
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Pyridine-*n*-aldoximes (*n*=2, 3, 4) are popular ligands nowadays for a variety of research objects including polymeric and cluster chemistry [1–3]. Of these three isomeric oximes, pyridine-2-aldoxime is the most widely exploited ligand system, as the numerous examples demonstrate its excellent coordination abilities towards the formation of multinuclear homo- and heterometallic clusters with magnetic properties. Pyridine-2-aldoxime can act either in neutral or in monodeprotonated anionic form giving rise to the different coordination modes even within the same multinuclear aggregate [1]. Novel isomorphous 1D coordination polymers with the general formula $\{[M_2(bdc)_2(py)C(H)NOH]_4\} \cdot xDMF\}_n$, where M=Mn(II), Zn(II), Cd(II), *bdc*=1,4-benzenedicarboxylate, *pyC(H)NOH*=pyridine-2-aldoxime and *DMF*=*N,N*-dimethylformamide, have been synthesized and structurally characterized by X-ray crystallography. The coordination polyhedron of each metal atom comprises two *pyC(H)NOH* molecules and two *bdc* anions that display in perpendicular planes. The neutral oxime molecules coordinate in chelate bidentate mode, while *bdc* anions coordinate in monodentate bridging mode to two metal centers. The structure extension results in the zigzag chains. The crystal packing of these chains reveals the voids filled by the DMF molecules (Fig.), being oriented to maximize the stacking interactions between the planar π -delocalised systems. To the best of our knowledge, these compounds represents the first examples of combination of dicarboxylic anion with pyridine-2-aldoxime giving rise to the 1D polymers.



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Keywords: coordination polymer, **crystallographic analysis, porous solids.**

MS26-P5 Novel hybrid inorganic-organic one-dimensional chain systems tailored with monocarboxylic acids. Igor Djerdj,^a Jasminka Popović,^a Jernej Stare,^b Gabriela Ambrožič,^b Srečo D. Škapin,^c Bojan Kozlevčar,^d Damir Pajić,^{e,f} Zvonko Jagličić,^{e,g} Zorica Crnjak Orel^b ^a*Ruđer Bošković Institute, Bijenička 54, 10000 Zagreb, Croatia*, ^b*National Institute of Chemistry, Hajdrihova 19, 1000 Ljubljana, Slovenia*, ^c*Institute Jožef Stefan, Jamova 39, 1000 Ljubljana, Slovenia*, ^d*Faculty of Chemistry and Chemical Technology, University of Ljubljana, Aškerčeva 5, 1000 Ljubljana, Slovenia*, ^e*Institute of Mathematics, Physics and Mechanics, Jadranska 19, 1000 Ljubljana, Slovenia*, ^f*Department of Physics, Faculty of Science, University of Zagreb, Bijenička 32, 10000 Zagreb, Croatia*, ^g*Faculty of Civil and Geodetic Engineering, University of Ljubljana, Jamova 2, 1000 Ljubljana, Slovenia*
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Two novel nanosized hybrid inorganicorganic frameworks, $VO(C_{14}H_9COO)_2$, and $VO(C_{10}H_7COO)_2$ have been solvothermally synthesized and their structures elucidated using a combination of powder XRD and DFT geometry optimization [1]. They contain one-dimensional chain of corner-sharing tetrahedra in the case of $VO(C_{10}H_7COO)_2$, and corner-sharing octahedra for $VO(C_{14}H_9COO)_2$ oriented along orthorhombic/monoclinic *c*-axis, respectively. While $VO(C_{14}H_9COO)_2$ exhibits bidentate bridging binding of organic moiety to the metal center, $VO(C_{10}H_7COO)_2$ shows monodentate mode as evidenced from DFT and infrared spectroscopy. Both hybrids exhibit fiber-like morphology, consisting of smaller individual single crystals aligned in parallel to the growth direction along the *c*-axis. They are thermally stable up to 350 °C having even more stable impurities containing vanadium in its highest oxidation state. The magnetic properties have been also investigated and indicate antiferromagnetic ordering along the chains characterized by rather low spin exchange parameters.

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