
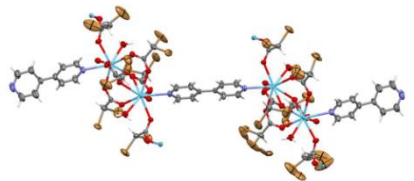
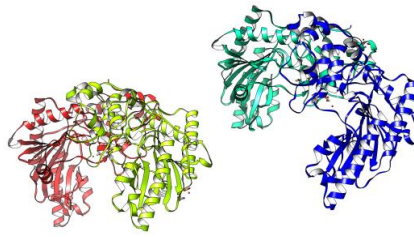




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name of the unit: COORDINATION AND CRYSTALLOGRAPHY RESEARCH GROUP Institute of General and Ecological Chemistry, Lodz University of Technology		symbol: I-31 http://www.ichoie.p.lodz.pl
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scope of activities: Our Research Group is focused on the synthesis of new, solid coordination compounds of d ⁿ -electron metals and biologically active ligands. These compounds are then characterized physicochemically using advanced analytical techniques: Single-Crystal- or Powder X-Ray Diffraction (SC-XRD, P-XRD), Thermogravimetric Analysis (TG-DTG-DTA), Fourier-Transform Infrared Spectroscopy (FTIR) and Ultraviolet-Visible Spectroscopy (UV-VIS). We use ADMET analysis to predict the biological properties for free ligands and coordination compounds. These compounds are then tested for biological activity against cancer cell lines, bacteria, viruses or yeasts. Such approach allows us to draw valuable conclusions about the relationship between structure and biological activity, which is a very important issue in terms of novel drug design.		graphic material   
present activities: Our present activities include investigations of biologically active ligands, like thiosemicarbazones, benzimidazoles, triazoles, imidazole and imipramine, their derivatives and coordination compounds. Until now conducted research resulted in the series of scientific articles published in prestigious journals. We conduct these research in collaboration with both foreign research centres (National Research University of Electronic Technology, Russia), as well as domestic ones (Polish Academy of Sciences, University of Warsaw, Medical University of Gdańsk, Medical University of Lodz, Medical University of Lublin). After the synthesis, the obtained complexes were characterized physicochemically and structurally. Then, their biological activity was investigated against bacteria, yeasts and cancer cell lines: G361, A375, A549, SK-MEL-28, U87 MG, Ln229.		
Future activities: In the future we plan to continue and extend our research. We plan to investigate the effect of coating obtained compounds with silver nanoparticles on their biological activity.		
Keywords: <i>coordination chemistry, analytical chemistry, X-ray crystallography, biological activity, antitumor activity, antibacterial activity, antiviral activity, antifungal activity, thermogravimetric analysis, infrared spectroscopy</i>		
List of internship proposal in this research team:		



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List of attachments:

- Rogalewicz, B.; Maniecki, T.; Ciesielski, R.; Czyłkowska, A. *Materials* 2022, 15, 142. <https://doi.org/10.3390/ma15010142>
- Rogalewicz, B.; Szczesio, M.; Poleszak, E.; Kowalczyk, J.; Szewczyk, B.; Camargo, B.C.; Szczytko, J.; Witkowski, M.; Fruziniński, A.; Raducka, A.; Banasiak, R.; Czyłkowska, A. *Int. J. Mol. Sci.* 2021, 22, 12909. <https://doi.org/10.3390/ijms222312909>
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- Raducka, A.; Czyłkowska, A.; Gobis, K.; Czarnecka, K.; Szymański, P.; Świątkowski, M. *Materials* 2021, 14, 2958. <https://doi.org/10.3390/ma14112958>
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- Pitucha, M.; Korga-Plewko, A.; Czyłkowska, A.; Rogalewicz, B.; Drozd, M.; Iwan, M.; Kubik, J.; Humeniuk, E.; Adamczuk, G.; Karczmarzyk, Z.; Fornal, E.; Wysocki, W.; Bartnik, P. *Int. J. Mol. Sci.* 2021, 22, 3104. <https://doi.org/10.3390/ijms22063104>
- Czyłkowska, A.; Pietrzak, A.; Szczesio, M.; Rogalewicz, B.; Wojciechowski, J. *Materials* 2020, 13, 4274. <https://doi.org/10.3390/ma13194274>