Bioinorganic Chemistry

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The research of the lab is at the interface between inorganic chemistry, biology and medicine.
Our experience covers the synthesis of coordination compounds, the use of several spectroscopic techniques to characterize the newly synthesized complexes, the biological investigation of the anticancer/antinflammatory activity of the compounds both *in vitro* and *in vivo*. Our researches include also the study of the in-solution properties of the new medicinal agents under physiological-like conditions, their mechanism of action and interaction with biomolecules. To achieve our goals, we exploit a highly interdisciplinary strategy which combines and merges different backgrounds and professional expertise encompassing aspects of inorganic and organic chemistry, biology, pharmacology and medicine.

- *New comprehensive studies of a gold(III) Dithiocarbamate complex with proven anticancer properties: Aqueous dissolution with cyclodextrins, pharmacokinetics and upstream inhibition of the ubiquitin-proteasome pathway,* European J. Med. Chem.,**2017,** 138, 115-127.
- *Cell and Cell-Free Mechanistic Studies on Two Gold(III) Complexes with Proven Antitumor Properties,* European J. Inorg. Chem., **2017,** 12, 1737-1744.
- *Ru(III) anticancer agents with aromatic and non-aromatic dithiocarbamates as ligands: Loading into nanocarriers and preliminary biological studies,* J. Inorg. Biochem., **2017**, 165, 159-169.
- *Gold Complexes for Therapeutic Purposes: an Updated Patent Review (2010-2015),* Curr. Med. Chem., **2016**, 23, 3374-3403.
- *Is matching ruthenium with dithiocarbamato ligands a potent chemotherapeutic weapon in oncology?,* Future Med. Chem., **2016,** 8, 211-226.