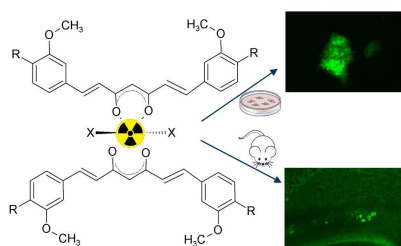
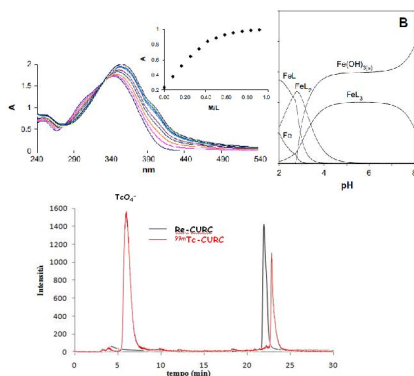
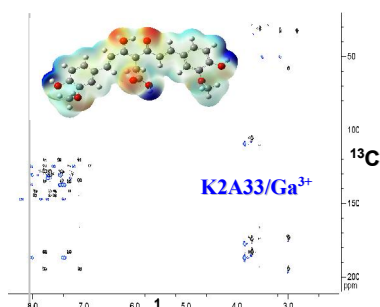


Inorganic Medicinal Chemistry

Erika Ferrari, Monica Saladini



The research interests are focused on **coordination chemistry**, in particular bio-inorganic and inorganic medicinal chemistry; the research covers different aspects showing a strong interdisciplinary approach though maintaining inorganic chemistry as fundamental pillar around which developing research activities. We have expertise in the design and characterization of metal-ligand systems of both natural and synthetic origin, in the solution study of metal complexes and in the development of chelators for therapeutic purposes. We are expert in the study of metal trafficking in vitro in order to evaluate and predict the efficacy of metal-sequestering agents in relation to metal homeostasis in biological systems.

In particular, the research covers the following topics:

- Organic, inorganic and metal-organic synthesis
- Development of novel metal-chelating agents, especially radio-pharmaceuticals
- Metal trafficking in vitro (thermodynamic characterization of metal complexes in solution)
- Development of advanced NMR techniques for complex matrices
- Inorganic Drug Delivery Systems (IDDS)

Through the last years, we have focused her interests on the synthesis and characterization of naturally occurring molecules, among which Curcumin, with the purpose of biological metals trafficking, in view of therapeutic application, ranging from toxic metals removal to radio-imaging (PET).

Skills

- Thermodynamic characterization of Metal/ligand systems in solution by means of NMR spectroscopy, potentiometry, UV-Vis spectroscopy and polarography.
- Characterization of Metal/ligand systems in the solid state by x-ray crystallography, FT-IR spectroscopy, thermal analysis.
- Theoretical *ab initio* calculations.

External Collaborations

Prof. Frank Roesch (Mainz University)

Prof.ssa Hanne Hjorth Tønnesen (Department of Pharmaceutics, University of Oslo)

Dr. Mattia Asti (Head Radiochemist – Ospedale Santa Maria Nuova – IRRCS di Reggio Emilia)

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RESEARCH TOPICS: gallium-68, curcumin-based ligands, positron emission tomography.