UNIVERSIDADE ESTADUAL DE CAMPINAS
INSTITUTO DE QUÍMICA

PROGRAMS AND BIBLIOGRAPHY

Subject	
Code	**Name**
QI542	Experimental Inorganic Chemistry II

Vector
OF:S-1 T:000 P:000 L:006 O:002 D:000 HS:008 SL:006 C:008 AV:N EX:S FM:75%

Pre requirement	QG564 QI545

Summary

Synthesis of transition metal complexes (coordination and organometallic compounds), bioinorganic model compounds and oxides and/or sulfides. Characterization of the synthesized metal complexes exploring the nephelauxetic series, including measurements of electronic spectra, magnetic properties, circular dichroism, vibrational spectroscopy, nuclear magnetic resonance, electrochemical properties and luminescence. Kinetics of ligands substitution in transition metal complexes. Intercalation reactions. Catalysis (homogeneous and heterogeneous).

Program

Preparation and characterization of coordination complexes from d and f-blocks and/or bionorganic model compounds.
Preparation and characterization of organometallic compounds of d-block elements.
Preparation of extended inorganic solids. Impact of size effects in solids. Surface modification of solids.
Characterization of the synthesized compounds, exploring several techniques and properties such as X rays diffraction, electronic spectroscopy, circular dichroism, vibrational spectroscopies, nuclear magnetic resonance, electrochemical, luminescence and magnetic properties.
Application of inorganic compounds in: catalysis, photocatalysis, energy conversion, magnetism, sensors, electrochemistry, optics, among others.

Bibliography

Textbooks and Supplemental Readings
Textbooks and reference materials selected by the Professor.

Evaluation criteria

For grading policy, see: Regimento Geral de Graduação, Seção I – Normas Gerais, Capítulo V – Da Avaliação do Aluno na Disciplina. Students are required to attend 75 % of the lectures. For further details, see: Regimento Geral de Graduação, capítulo VI, seção X, artigo 72.