



PROGRAMS AND BIBLIOGRAPHY

Subject	
Code	Name
QG122	Experimental Chemistry

Vector
OF:S-5 T:000 P:000 L:002 O:000 D:000 HS:002 SL:002 C:002 AV:N EX:S FM:75%

Pre requirement	None
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Summary
Thermodynamic functions; Chemical equilibria; Solutions; Electrochemistry; Materials.

Program
<p>Selected experiments to introduce the concepts related to thermodynamic functions, chemical equilibria, solutions, electrochemistry and materials, seeking to stimulate the development of the capacity to understand the phenomena, the application of the scientific method and the presentation and analysis of experimental results.</p> <p>EXPERIMENTS:</p> <ul style="list-style-type: none">- Solutions<ul style="list-style-type: none">• Aqueous solution reactions• Conductivity of ionic solutions• pH• Solubility equilibrium- Electrochemistry<ul style="list-style-type: none">• Galvanic cells• Corrosion under stress• Galvanic corrosion• Sacrifice electrodes- Thermodynamic applied to materials<ul style="list-style-type: none">• Resistivity of materials and temperature• Joule effect and calibration of a styrofoam calorimeter• Calorimetry using styrofoam cup• Experimental determination of the metal radius and molar mass• Aqueous solution reactions• Experimental determination of the metal radius and molar mass• pH• Solubility equilibrium• Corrosion under stress• Galvanic corrosion• Sacrifice electrodes• Conductivity of ionic solutions• Materials and temperature resistivity

- Joule effect and calibration of a styrofoam calorimeter
- Styrofoam cup thermochemistry
- Reverse current variation of a diode with temperature
- Determination of band gap

Bibliography

The specific bibliography for each experiment is indicated in the experimental script.

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.