

Metals in Medicine

A course within the SecreJoint Doctoral Programme in Chemistry
Università Ca' Foscari Venezia - Università di Trieste

Learning goals

Principles of medicinal inorganic chemistry, application of metals in therapeutics and diagnostics, mechanism of action of toxic, therapeutic and diagnostic metal ions in cells/in the body.

Topics

- Introduction
- Examples of metal-based therapeutics
- Platinum anticancer drugs
- Photodynamic therapy

Recommended textbooks (or respective chapters)

- ***Metals in Medicine***
James C. Dabrowiak
1st ed. 2009, John Wiley & Sons, Ltd., ISBN 978-0-470-68196-1
- ***Metallotherapeutic Drugs and Metal-Based Diagnostic Agents: The Use of Metals in Medicine***
M. Gielen, E. R. T. Tiekink (Eds)
1st ed. 2005, John Wiley & Sons, Ltd., ISBN 978-0-470-86403-6
- ***Bioinorganic Chemistry***
W. Kaim, B. Schwederski, A. Klein
2nd ed. 2013, Wiley, ISBN 978-0-470-97523-7
- ***Biological Inorganic Chemistry***
R. R. Crichton
2nd ed. 2012, Elsevier, ISBN 978-0-444-53782-9

Review articles

- ***Metals in Medicine***
Z. Guo, P. J. Sadler
Angew. Chem. Int. Ed. **1999**, 38, 1512–1531.
- ***Metal-based Drugs***
C. Frank Shaw III
Encyclopedia of Inorganic and Bioinorganic Chemistry **2006**
DOI: 10.1002/9781119951438.eibc0254.