

مفردات الكيمياء اللاعضوية ( أ.د. مؤيد يوسف كاظم )

Inorganic Chemistry

- 1- Valence bond theory of the complexes
- 2- Crystal field theory of the complexes
- 3- Molecular orbital theory of the complexes
- 4- Magnetic properties
- 5- Electronic spectra

Organometallic Chemistry

- 1- The 18-Electron Rule
- 2- Types of Metal–Ligand Interactions
- 3- The Carbonyl Ligand

References

- Inorganic Chemistry- Bonding by : Catherine E. Housecroft , Alan G. Sharpe
- Organometallic Chemistry by : Gary O. Spessard , Gary L. Miessler
- مبادئ في الكيمياء العضوية الفلزية تأليف د. طلال العلاف

مفردات الكيمياء الفيزيائية ( أ.د. بهجت علي سعيد )

1. UV-Vis. spectroscopy.
2. NMR spectroscopy.
3. Infrared spectroscopy.
4. Mass spectroscopy.

Reference:

Introduction to Spectroscopy by Donald Pavia, G. M. Lampman, G. S. Kriz and J. R. Vyvyan

5. Thermodynamics and Chemical Equilibrium.
6. The Structure of the Atom.
7. The structure of molecules.
8. Chemical kinetics.

Reference:

Physical Chemistry by Walter J. Moore

- 1- Introduction of polymers: Chapter 1; p(1-36)
- 2- Step polymerization : Chapter 2; p: (39-185)
- 3- Radical chain polymerization : Chapter 3; p (198-295)
- 4- Ionic chain polymerization : Chapter 5 ; p (372-420)
- 5- Chain copolymerization : Chapter 6 ; p (464-485)

Reference

Principles of polymerization by: George Odian

1- Chromatographic Techniques

Recent development in Gas Chromatographic (GC) , Liquid Chromatographic(LC) and High- performance Liquid Chromatographic (HPLC)

Reference

Principal and practice of analytical chemistry by Douglas A.Skoog , Donald M.West

2- Mass spectrometry and its hyphenated techniques

- Hyphenated techniques like GC-MS , LC-MS-MS and LCP-Mass
- Quantitative and qualitative analysis using MS .

Reference

Mass spectrometry :principles and applications by Edmond de Hoffmann and Vincent Stroobant

3- Electro analytical methods

- Voltammetry and amperometry

References

-Electrochemical methods : fundamentals and applications by Allen J.Band and Larry R.Faulkner

- Principles and practice of analytical chemistry by Douglas A. Skoog , Donald M. West

4- Spectroscopic techniques and applications

- \* Recent advancements in Uv-Vis and IR spectroscopy
- \* Applications of fluorescence and phosphorescence in chemical analysis

Reference

Introduction to spectroscopy by Donald L.Pavia

5- Environmental analytical chemistry

- Detection of pollutants and heavy metals in environmental samples

Reference

Environmental chemistry – A global perspective by Gary W. Vanloon and Stephen J.Duffy

- 1- Pyrroles: Reactions and Synthesis
- 2- Thiophenes: Reactions and Synthesis
- 3- Furans: Reactions and Synthesis
- 4- Indoles, Benzo[b]thiophenes, Benzo[b]furans, Isoindoles, Benzo[c]thiophenes and Isobenzofurans ,Reactions and Synthesis
- 5- Reactions and Synthesis of 1,3- and 1,2-Azoles and Benzo-1,3- and -1,2-Azoles
- 6- Purines and pyrimidine: Reactions and Synthesize.
- 7- Heterocycles Containing More Than Two Heteroatoms

Reference

Heterocyclic Chemistry by : John A. Jou le , Keith Mills

مفردات الكيمياء الحياتية ( أ.د.عباس دواس مطر )

- 1- Carbohydrates metabolism

Glucose metabolism , glycogen metabolism , Disaccharides metabolism

- 2- Amino acids metabolism

Their chemical structures , classification and chemical reactions .

Chemical reactions of amino acids catabolism

- 3- Active chemical compounds

Secondary metabolism concept , Classification of secondary active compounds , Biochemical activity of secondary metabolites .

المصادر

1- الكيمياء الحياتية – أ.د. عباس دواس مطر , 2016 , جامعة البصرة .

- 2- Text book biochemistry by T.M.Devlin.2011