

TABLE OF CONTENTS

Licensing

1: Chapters

- 1.1: Introduction to Symmetry
- 1.2: Symmetry Operations and Symmetry Elements
- 1.3: Symmetry Classification of Molecules- Point Groups
- 1.4: Symmetry and Physical Properties
- 1.5: Combining Symmetry Operations - 'Group Multiplication'
- 1.6: Constructing higher groups from simpler groups
- 1.7: Mathematical Definition of a Group
- 1.8: Review of Matrices
- 1.9: Transformation matrices
- 1.10: Matrix Representations of Groups
- 1.11: Properties of Matrix Representations
- 1.12: Reduction of Representations I
- 1.13: Irreducible representations and symmetry species
- 1.14: Character Tables
- 1.15: Reduction of representations II
- 1.16: Symmetry Adapted Linear Combinations (SALCs)
- 1.17: Determining whether an Integral can be Non-zero
- 1.18: Bonding in Diatomics
- 1.19: Bonding in Polyatomics- Constructing Molecular Orbitals from SALCs
- 1.20: Calculating Orbital Energies and Expansion Coefficients
- 1.21: Solving the Secular Equations
- 1.22: Summary of the Steps Involved in Constructing Molecular Orbitals
- 1.23: A more complicated bonding example
- 1.24: Molecular Vibrations
- 1.25: Summary of applying group theory to molecular motions
- 1.26: Group theory and Molecular Electronic States
- 1.27: Spectroscopy - Interaction of Atoms and Molecules with Light
- 1.28: Summary
- 1.29: Appendix A
- 1.30: Appendix B- Point Groups

Index

Glossary

Glossary

Detailed Licensing