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IONIZING RADIATIONS; THE POISON THEORY; CONCLUSIONS; CHAPTER 5. General Radiation Chemistry; ROLE OF EXCITATION; DIFFERENCE BETWEEN THE REACTIONS IN GASES AND THOSE IN LIQUIDS AND SOLIDS; PROTECTION AND ENERGY TRANSFER; FATE OF FREE RADICALS PRODUCED; CHAPTER 6. The Radiation Chemistry of Aqueous Systems; INTRODUCTION; HISTORICAL DEVELOPMENT; PRIMARY PRODUCTS IN THE RADIOLYSIS OF WATER; REACTIONS OF FREE RADICALS; REACTIONS OF ORGANIC SUBSTANCES DISSOLVED IN WATER
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THE CHEMISTRY OF THE BIOLOGICAL ALKYLATING AGENTSCOMPARISON OF BIOLOGICAL EFFECTS PRODUCED BY THE ALKYLATING AGENTS AND BY RADIATIONS; MECHANISM OF ACTION OF THE ALKYLATING AGENTS; RADIOMIMETIC PROPERTIES OF PEROXIDES AND OXYGEN AT HIGH CONCENTRATIONS; CHAPTER 9. Effects at the Cellular Level; INTRODUCTION; MITOSIS; MEIOSIS; MITOSIS IN A COMPLEX ORGANISM; REVERSIBLE CELL DAMAGE AND MITOTIC DELAY; CELL DEATH; ""BREAKAGE"" OF CHROMOSOMES; GENETIC EFFECTS OF IONIZING RADIATIONS; CHAPTER 10. Biochemical Mechanisms for Cellular Effects-The Enzyme Release Hypothesis; NUCLEUS VERSUS CYTOPLASM CHROMOSOME ""BREAKAGE""

Sommario/riassunto

Fundamentals of Radiobiology presents a clear picture of the effects of radiation to living organisms. It discusses the steps leading from the absorption of energy to death or final injury. The focus of study is the changes induced at the molecular level by absorbing energy. Some of the topics covered in the book are the methods for determining the direct and indirect action in biological systems, the nature of the initial chemical lesion in cellular radiobiology, the definition of target theory and the meaning of poison theory. The subjects on general radiation chemistry are also covered. The