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Cross-Coupling Reactions; D. Acyl Derivatives as Coupling Partners; E. Iron-Catalyzed C-O, C-S, and C-N Cross-Coupling Reaction; F. Iron-Catalyzed Mizoraki-Heck Reaction; G. Iron-Catalyzed Negishi Coupling Reaction; H. Suzuki-Miyaura Coupling Reaction; I. Sonogashira Reaction; J. Mechanism of Cross-Coupling Reactions; K. Hydrocarboxylation; L. Enyne Cross-Coupling Reaction; VI. DIRECT C-N BOND FORMATION VIA C-H OXIDATION; VII. IRON-CATALYZED AMINATION; A. Allylic Aminations; B. Intramolecular Allylic Amination VIII. SULFOXIDATIONS AND SYNTHESIS OF SULFOXIMINES, SULFIMIDES, AND SULFOXIMIDES. Sulfoxidation; B. Synthesis of Sulfoximines, Sulfimides, and Sulfoximides; 1. Mechanism; IX. REDUCTION REACTIONS; A. Hydrosilylation of Alkenes; B. Hydrosilylation of Aldehydes and Ketones; C. Hydrogenation of C-C Unsaturated Bonds; D. Hydrogenation of Ketones; E. Hydrogenation of Imines; F. Reduction of Nitroarene to Anilines; G. Hydrogenation of Carbon Dioxide and Bicarbonate; H. Amide Reduction; I. Reductive Aminations; X. TRIFLUOROMETHYLATION; XI. CONCLUSION; ACKNOWLEDGMENTS; ABBREVIATIONS; REFERENCES

Chapter 2: A New Paradigm for Photodynamic Therapy Drug Design: Multifunctional, Supramolecular DNA Photomodification Agents Featuring Ru(II)/Os(II) Light Absorbers Coupled to Pt(II) or Rh(III) Bioactive Sites. I. INTRODUCTION; A. Scope and Limitations; B. Cancer; C. Deoxyribonucleic Acid as a Target; II. PHOTODYNAMIC THERAPY; A. Requirements; B. Traditional PDT Agents; C. Ruthenium(II) Light Absorbers as PDT Agents; III. PLATINUM AND RHODIUM CENTERS AS BIOACTIVE SITES; A. Platinum(II) Based Chemotherapeutics; 1. Cisplatin; 2. Second and Third Generation Pt(II) Drugs  
B. Rhodium as a Bioactive Site

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Sommario/riassunto

This series provides inorganic chemists and materials scientists with a forum for critical, authoritative evaluations of advances in every area of the discipline. Volume 59 continues to report recent advances with a significant, up-to-date selection of contributions by internationally-recognized researchers. The chapters of this volume are devoted to the following topics: Iron Catalysis in Synthetic Chemistry A New Paradigm for Photodynamic Therapy Drug Design: Multifunctional, Supramolecular DNA Photomodification Agents Featuring Ru(II)/Os(II) Light Absorbers Coupled t

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