

Introduction.....	314
1. From the “Pigments of Life” to Synthetic Macroheterocycles.....	314
2. Synthesis of Porphyrin-Azamacrocyclic Conjugates <i>via</i> Pd-Catalyzed Amination Reactions.....	318
3. New Advances in the Application of Phthalocyanines and Their Analogues	323
4. Design of Single Molecule Magnets Based on Binuclear Lanthanide Complexes with Tetrapyrrolic Ligands.....	330
5. Influence of Axial Coordination and Functional Cations on Optical and Magnetic Properties of the Reduced Metal Phthalocyanines	334
6. Synthesis of Paramagnetic Metalloporphyrins as Promising Materials with Magnetocaloric Activity	341
7. Functional Porphyrins as Specific Probes of Surface Morphology, Optical Properties, and Exciton Relaxation Processes for Semiconductor Quantum Dots	351
8. Tetrapyrroles and Related Compounds for Photovoltaics.....	358
9. 1,2,5-Chalcogenadiazole Analogues of Phthalocyanines – Perspective Acceptors for Organic Electronics.....	362
10. Luminescence of Lanthanides in Complexes with Polytopic Tetrapyrrole Macrocycles.....	367
11. Porphyrin Polymers in Optoelectronics, Photo- and Electrocatalysis	371
12. Phthalocyanine Based Molecular Systems for Catalytic Purposes	376
13. Recent Advances in Electrochemistry of Cobalamins	380
14. Macrocyclic Receptors for Recognition and Selective Binding of Substrates of Different Nature.....	383
15. Porphyrin Based Optical Sensors for Detection of Some Gases	388
16. Macroheterocyclic Inducers and Selectors	392
17. Application of Macroheterocyclic Compounds in Medicine.....	401
17.1. Photosensitisers Based on Chlorophyll <i>a</i> for PDT	401
17.2. Fundamental and Applied Aspects of Bacteriochlorophyll Derivatives Chemistry	408
17.3. The Porphyrinoid-Based Conjugates as a New Paradigm in Targeted Photodynamic Therapy of Cancer	421
17.4. Photodynamic Inactivation of Pathogenic Microorganisms with the Chlorin <i>e</i> ₆ -Type Sensitizers: from <i>in vitro</i> to <i>in vivo</i> Studies	427
17.5. Polymeric Porphyrin-Containing Systems for Antimicrobial Photodynamic Therapy	433
17.6. Attenuation of <i>in vivo</i> Toxicity of the Organotin Compound by the Porphyrin Modified with Peripheral 2,6-Di- <i>tert</i> -butylphenol Antioxidant Groups.....	436
17.7. Interaction of Macroheterocycles with Globular Proteins.....	438
17.8. Thermal Stabilization of Protein by Macroheterocycles	442
References.....	445