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Nota di contenuto	Introduction -- Quantitative description ofsupramolecular binding -- Nuclear magnetic resonancespectroscopy -- UV/vis spectroscopy -- Singular value decomposition -- Chromic and binding propertiesof OxP derivatives -- Dynamic processes and chemicalexchange in OxP derivatives -- Conclusion.
Sommario/riassunto	Macrocyclic oxoporphyrinogen molecules combine the ability to form strong supramolecular complexes with organic compounds and the ability to absorb light. These properties allow high-sensitivity colorimetric detection of acids in solution in the presence of oxoporphyrinogen. Moreover, protonated oxoporphyrinogens show various molecular dynamic processes on the millisecond timescale. This book offers deep analyses of colorimetric, binding and kinetic properties of oxoporphyrinogen-acid complexes. A detailed introduction is given for: theory of supramolecular binding and

chemical kinetics; NMR spectroscopy with emphasis on multi-state chemical exchange including derivation of analytical spectral lineshapes; UV/vis spectroscopy and analysis of UV/vis spectra, using singular value decomposition (SVD). Implementation of the derived models in Mathematica is also provided. The experimental part addresses SVD analysis of UV/vis spectra illuminating the effect of protonation on various oxoporphyrinogen derivatives and explaining the colorimetric response. Furthermore, analysis of chemical exchange lineshapes offers insight into the dynamic processes present in protonated oxoporphyrinogens. The various models and techniques described in this book are widely applicable for other systems.