

1. Record Nr.	UNINA9910373948303321
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Titolo	Nitroxides : Brief History, Fundamentals, and Recent Developments / / by Gertz I. Likhtenshtein
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-34822-9
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XI, 316 p.)
Collana	Springer Series in Materials Science, , 0933-033X ; ; 292
Disciplina	547.041
Soggetti	Magnetism Magnetic materials Polymers Proteins Biophysics Optical materials Electronics - Materials Pharmaceutical technology Magnetism, Magnetic Materials Polymer Sciences Protein Science Biological and Medical Physics, Biophysics Optical and Electronic Materials Pharmaceutical Sciences/Technology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Preface -- Chapter 1. Short survey of 145 years of nitroxide history -- Chapter 2 Physical properties. Quantum chemistry. -- Chapter 3. Preparation and basic chemical reactions -- Chapter 4. Physicochemical methods of investigation -- Chapter 5. Theoretical background of nitroxide application as spin ruler, spin viscosity meter, spin polarity meter, spin pH meter, spin oximetry, spin electric potential meter, and spin redox probe -- Chapter 6. Nitroxides in physical chemistry -- Chapter 7. Nitroxides in materials science -- Chapter 8. Spin labeling in

Sommario/riassunto

Written by a pioneer in the development of spin labeling in biophysics, this expert book covers the fundamentals of nitroxide spin labeling through cutting-edge applications in chemistry, physics, materials science, molecular biology, and biomedicine. Nitroxides have earned their place as one of the most popular organic paramagnets due to their suitability as inhibitors of oxidative processes, as a means to polarize magnetic nuclei, and, in molecular biology, as probes and labels to understand molecular structures and dynamics as drugs for cancer and other diseases. Beginning with an overview of the basic methodology and nitroxides' 145-year history, this book equips students with necessary background and techniques to undertake original research and industry work in this growing field.