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Sommario/riassunto

Volume 22, entitled Metal Ions in Bio-Imaging Techniques, of the series Metal Ions in Life Sciences deals with metal ions as tools in imaging. This dates back to the first half of the past century, when barium sulfate was orally given to patients undergoing X-ray examination. The use of contrast agents has since developed into a large interdisciplinary field encompassing not only medicine, but also chemistry, material sciences, physics, biology, engineering, and computer sciences. MILS-22 provides deep and current insights in 17 stimulating chapters on the new research frontiers of this fast growing field on bio-imaging . and beyond. For example, adding bio-sensing yields theranostic agents, meaning diagnosis and therapy linked in the same molecule; ions of Gd, Mn, Fe, Co, Ir, 99mTc, etc., are involved. Other important topics are, e.g., metal complexes in paramagnetic Chemical Exchange Transfer (paraCEST), radiometals for Positron Emission Tomography (PET) imaging, or paramagnetic metal ion probes for 19F magnetic resonance imaging. MILS-22 is written by 57 internationally recognized experts from 12 countries, that is, from the US via Europe to China. The impact of this vibrant research area is manifested by more than 2300 references and nearly 120 figures, mostly in color, and several informative tables. To conclude, Metal Ions in Bio-Imaging Techniques is an essential resource for scientists working in the wide range from material sciences, enzymology, analytic, organic, and inorganic biochemistry all the way through to medicine including the clinic . not forgetting that also excellent information for teaching is provided.