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Nota di contenuto	The Chemistry of Molecular Imaging; Copyright; Contents; Preface; List of Contributors; Chapter 1 An Introduction to Molecular Imaging; 1.1 Introduction; 1.2 What is Positron Emission Tomography (PET)?; 1.2.1 Basic Principles; 1.2.2 Advantages and Limitations; 1.3 What is Single Photon Emission Computed Tomography (SPECT)?; 1.3.1 Basic Principles; 1.3.2 Advantages and Limitations; 1.4 What is Computed Tomography (CT) or Computed Axial Tomography (CAT)?; 1.4.1 Basic Principles; 1.4.2 Advantages and Limitations; 1.5 What is Magnetic Resonance Imaging (MRI)?; 1.5.1 Basic Principles; 1.5.2 Advantages and Limitations; 1.6 What is Optical Imaging?; 1.6.1 Basic Principles; 1.6.2 Conventional or Wide-Field Fluorescence Microscopy; 1.6.3 Confocal Microscopy or Confocal Laser Scanning Microscopy; 1.6.4 Advantages and Limitations; 1.7 What is Ultrasound (US)?; 1.7.1 Basic Principles; 1.7.2 Advantages and Limitations; 1.8 Conclusions; References; Chapter 2 Chemical Methodology for Labelling and Bioconjugation; 2.1 Introduction; 2.2 Chemical Methods; 2.2.1 Through Reactions with Aldehydes or Ketones; 2.2.2 Through

Reactions with Azides; 2.2.3 Through Reactions with Alkenes
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5.4.3 Stability of ⁸⁶Yttrium-Based Radiopharmaceuticals

Sommario/riassunto

"Covering all the fundamentals of modern imaging methodologies, including their techniques and application within medicine and industry, The Chemistry of Molecular Engineering focuses primarily on the chemistry of probes and imaging agents, as well as chemical methodology for labelling and bioconjugation. Written by an interdisciplinary team of experts, this book investigates the chemistry of molecular imaging and helps to educate non-chemists already involved in the area of molecular imaging. It addresses all the major modalities and techniques, such as MRI, positron emission tomography, single photon emission computed tomography, ultrasound, and fluorescence/optical imaging"--
