

Chemistry of Contrast Media

Small Molecules

Chelate Chemistry for Molecular Imaging

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Learning Objectives:

- Selection of metal ions for imaging modality
- Understanding of multifunctional chelating agent platforms
- Potential new uses as physiological probes

Chelating agents have played an integral role in the development of contrast enhancement agents for magnetic resonance imaging (MRI) and diagnostic radiopharmaceuticals for PET and CT applications. In addition, luminescent probes based on novel chelating agents are being developed for optical imaging modalities. For these and many new applications on the horizon, the chelating agent is relied upon to form a highly stable complex with the metal ion, provide a point of attachment to bio-targeting molecules such as monoclonal antibodies, and to enhance the functionality and biodistribution for new contrast agent applications. This talk will present an overview of chelate based contrast agents in the field of molecular imaging with emphasis on emerging technologies.

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