

Public Abstract

First Name:Nebiat

Middle Name:

Last Name:Sisay

Adviser's First Name:Silvia

Adviser's Last Name:Jurisson

Co-Adviser's First Name:Cathy

Co-Adviser's Last Name:Cutler

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Title:SELECTION OF SMALL PRETARGETING PEPTIDES WITH AFFINITY FOR RADIOCHELATES AND SEPARATION AND PURIFICATION OF RADIOLANTHANIDES

Two projects are described in this dissertation related to radiopharmaceuticals, drugs containing a radioactive atom, with potential applications to nuclear medicine. The first project describes an alternative method for delivering a radioactive drug to its target site in the body while potentially minimizing the radiation dose to non-target tissues. This method involved the development of radiolabeled chelates capable of forming a strong bond with synthetically modified antibodies. The stability of the synthesized radiolabeled chelates were evaluated in animal models, and demonstrated that the radiolabeled chelates are ideal candidates this application.

The second project described in this dissertation involves the separation and purification of radiolanthanides that are commonly used in nuclear medicine for cancer treatment. This study proposes an effective separation method, which minimizes the processing time and offers an alternative approach which saves time and money.