FOREWORD

This PhD thesis has been sponsored by a Carolina MacGillavry PhD Fellowship that was awarded and administered by the Royal Netherlands Academy of Sciences. A stipulation of the Fellowship is that the work be executed in both the home country, South Africa, and the Netherlands in about equal ratios. Another stipulation is that the research is to result in a PhD degree to be awarded in the Netherlands. Because of the significant involvement of the South African supervisors at the University of Cape Town (UCT), first Professor John R. Moss and later Dr. Gregory S. Smith, it was concluded that a joint PhD with the VU University Amsterdam (VUA) would be appropriate. Partnership and PhD agreements between VUA and UCT, signed in early 2013, have made a joint PhD degree possible.

This PhD thesis complies with the different requirements set by both institutions, the UCT and the VUA. In addition, the Department of Chemistry and Pharmaceutical Sciences of the VUA demands three published papers. The results documented in this thesis are formulated in a manner different from the published work in order to comply with UCT regulations that distinguish the MSc and PhD contributions and those made by co-authors. It must be noted that a large part of Chapter 5 is in preparation for publication.

The Carolina MacGillavry PhD Fellowship was awarded in August 2006. The longer than anticipated completion of this thesis for a joint PhD degree was largely caused by the unfortunate passing of Professor John Moss, one of the initial supervisors, health issues in Professor Lammertsma’s family, and the time it took to obtain the agreement between VUA and UCT for a joint PhD degree. The patience of the KNAW during this process has been much appreciated. The substitution by Dr. Gregory S. Smith as UCT co-supervisor is gratefully acknowledged.

Prof. dr. Koop Lammertsma