Acknowledgement

I give my deepest thanks to Prof. Dr. Ulf Diederichsen for his patience, guidance and support throughout my graduate career. I would particularly like to point out that his unique inspiration, training and trust have been the major thrust for the completion of this study. I am really indebted to his leadership which helped me enter into a fantastic area of bioorganic chemistry / chemical biology. In addition, I am much obliged to him for the valuable discussions, suggestions, unrestricted support and encouragement. His candor and obvious love of chemistry and teaching were always well appreciated and will be well remembered.

As I look back over the days at this university, I can not forget the members of Diederichsen's research group who have all helped me in their own special ways. I thank all the members of this group, particularly I give thanks to Dr. Markus F. Hoffmann and Dr. Stefan Gröschel for supervising me on the solid phase peptide synthesis. I also can not forget the help I received from Dr. Daniel P. Weicherding and Dr. Elke Vockelmann during my first year with this group in Würzburg. It is hard for me to forget the common time spent in a laboratory with Stefan Gröschel, Matthias Decke, Nicola Diezemann, Olga Avrutina and Thorsten Stafforst, and work with Brigitte Worbs, Pradip Chakraborty, Sabine Freitag. Special thanks also go to Andrea Küsel, Björn Dietrich for the correction part of my thesis, to Eduard Liebler also for the help with the computer, to Ansgar Stoll for the use of UV and to Roberto Roda Bravo for the use of HPLC.

I would like to thank Prof. George M. Sheldrick and Jose Cuesta for the fruitful cooperation and discussion on the crystallization attempts, Prof. Franc Meyer and Miguel Alvarino Gil for the catalytic hydrolytic reaction experiments of phosphoesters.

For the always first-class support I have received I thank all coworkers of the service departments of the Chemical Institutes, in particular I give thanks to Mr. Martin Weitemeyer, Mrs. Christiane Siebert, Mrs. Carola Zolke and Mr. Reinhard Machinek for the measurement of NMR spectra as well as Mrs Dr. S. Diem and Dr. H. Frauendorf for the measurement of MS spectra.

During my stay in Göttingen, I had taken one-year intensive courses of biochemistry and molecular biology with professors from the University of Göttingen, Max-Planck Institute of Biophysical Chemistry, Max-Planck Institute of Experimental Medicine and Göttingen Centre of Bioscience. Their inspirational lectures and friendliness left me a very deep impression which would not fade away with the passing time, among them I should especially refer to Prof. Hans-Joachim Fritz for teaching me molecular genetics.

Finally I would like to thank my family for their undying love and many of my previous teachers, classmates and friends for their understanding and constant support for my study abroad.