Acknowledgements

Firstly, I would like to thank my two supervisors, Dr John McGeehan and Prof. Geoff Kneale for their amazing support over the last three years. I am extremely privileged to have had two outstanding scientists guiding me through my Ph.D. John, I would like to thank you for your enthusiasm for science, your willingness to form new and exciting collaborations and for appreciating that a cheddar shandy goes a long way! Geoffrey, I would like to thank you for your patience and time helping me understand the ways of physics and grammar, your attention to detail and for amusing me with your schmutzig sense of humour. Most of all I would like to thank you both for being such good friends, making me smile when all was doomed and taking me to the pub when it was even worse!

I would like to thank all of my colleagues within biophysics who have plied me with cups of tea, knowledge and inspiration. I would especially like to thank Neil for making the days fun and the evenings drunk, Cookie for solving scientific problems by interpretive dance and, of course, amusing me over LUNCHTIME! I would also like to thank Alan and Colyn who, have very graciously, put up with a barrage of chromatin related questions and who have shared their extensive knowledge with me.

I would like to take this opportunity to thank my collaborators for their contribution to my Ph.D. Prof John Baldwin has supplied endless amounts of native histones which were used in preliminary experiments when recombinant histones were sparse. The beamline scientists involved in data collection were of great help, in particular Dr Phil Callow, who gave me much support through tricky data analysis. I would also like to thanks Dr Ian Taylor for inviting me to Mill Hill to use the SEC-MALLS and giving me his time to explain the technique and analysis.

Finally, but certainly not least I would like to thank Peter and my family. Peter, thank you for giving me a roof over my head, making sure I was well fed through my final months (especially for the sausages and butter!) and for generally making me laugh and being a fantastic boyfriend. I would like to thank my family for providing me with support throughout my education, encouraging me to strive for my potential and for their overwhelming love.

Thank you all for making my Ph.D. experience a genuine pleasure.