Acknowledgments

I would firstly like to thank my supervisor John Blacker for the opportunity to work on such an exciting and multidisciplinary project. Although I found difficulty in understanding the complex chemical engineering and biochemistry, John was always available, with a profound patience and depth of knowledge. Irrespective of results John continued to push me, helping me strive for excellence when I could not see it. I would also like to thank my co-supervisor Andrew Ross, whose biochemical and life-cycle assessment knowledge proved invaluable throughout the project. A special thanks also to Nikil Kapur, who supported me throughout my fourth chapter. I would like to thank all the people I had the pleasure of collaborating with throughout this project. The team at Biome (Krisztina, Paul, Paul and Pierre) who assisted me in my first two years. The academics at the University of Liverpool (Andrew and Chris) who made me feel welcome and taught me the basics of microbiology during my one-month placement. The Bioenergy CDT for giving me this wonderful opportunity and Mark Howard for his NMR expertise.

All present and past members of the iPRD, especially Alistair Baker who always made time to give me feedback and advice. Everyone else in the lab who made my days in the basement brighter than the sun ever could: Mary, Adam, Chris, Connor, Micaela, Alvaro, Luke, Brendan, Ricardo, Jamie, James, Ollie, Becky, Ilias, Holly, Matt, Sarah, Tom, Rosie, Sam, Alison, Nisha.

Thank you to all the members of Leeds Dancesport for providing me with an assortment of brilliant distractions (Richard, Alice, Natalie, Imogen, Matt and Sarah). You guys made my time at Leeds my most memorable and I am forever grateful. Thank you to all my online friends, who were always up for an adventure (Kienan, John, Alex, Tiff, Dave, Jack and Nathan). Thank you to all my family (Linda, Ashley and Kai), your continued support helped me more than you know. I love you all dearly. A final thanks to food, without its delicious qualities' life wouldn't be the same.