



CONTENTS

Title	i
Statement of Anti Plagiarism	ii
Approval Form	iii
Acknowledgement	iv
Abstract	v
Contents	vi
List of Figures	vii
List of Tables	viii
List of Abbreviations	ix
1. Introduction	1
1.1 IMT Atlantique	1
1.2 SUBATECH and Radiochemistry Group	1
1.3 Background	2
1.4 Scope	3
1.5 Objectives	4
2. Literature Review	4
2.1 Crystallographic Zirconium Dioxide	4
2.2 Solubility	4
2.3 Constant Solubility Product	4
2.4 The Gibbs Energy	6
3. Methodology	7
3.1 Treating the Solubility Data	7
3.2 Sample Hydration	8
4. Results and Discussion	11
4.1 Constant Solubility Product	11
4.2 The Gibbs Energy (ΔG)	14
4.3 Hydrated Zirconia	16
5. Conclusion and Recommendations	17
References	18
Appendix: TGA Graph Results	20

