

TABLE OF CONTENTS

Abbreviations and symbols.....	II
Executive Summary.....	IV
Kurzfassung.....	VII
1 Introduction and Motivation	10
1.1 Surfactants.....	10
1.2 Microbial biosurfactants	12
1.3 Mannosylerythritol lipids (MEL)	15
2 Aim and Structure of the Dissertation.....	23
3 Main Results and Discussion	25
3.1 Systematic analysis of MEL structures produced with different microorganisms and substrate oils and discovery of exotic MEL variants	25
3.2 Evaluation of a defined mineral salt medium for growth and MEL production with different Ustilaginaceae species	37
3.3 Establishing a model-based fed-batch strategy for the fermentative production of MEL with <i>Moesziomyces aphidis</i>	44
4 Conclusion and Outlook for Future Research Questions	54
5 References.....	56
6 List of Figures	66
7 List of Tables.....	68
8 Appendix	69
8.1 Curriculum vitae	69
8.2 List of publications and scientific contributions	71
8.3 Supervised students theses	72
8.4 Copies of publications and contribution statement	73