

Table of contents

Acknowledgements.....	iii
Funding.....	vii
Summary	ix
Zusammenfassung	xi
1. Chapter: General Introduction	5
1.1 From fossil to renewable feedstocks	6
1.2 Advances in biotechnology.....	9
1.3 New biocatalysts for the bioeconomy: Pseudomonads.....	11
1.4 Building blocks of the bioeconomy	13
1.5 Scope of the dissertation.....	16
2. Chapter: Results.....	19
2.1 Complete genome sequence of solvent-tolerant <i>Pseudomonas putida</i> S12 including megaplasmid pTTS12.....	19
2.1.1 Introduction	21
2.1.2 Materials and methods	23
2.1.3 Results and discussion.....	26
2.1.4 Conclusions and outlook	42

2.2	Metabolic engineering of <i>Pseudomonas putida</i> KT2440 to produce anthranilate from glucose	45
2.2.1	Introduction	47
2.2.2	Materials and methods	49
2.2.3	Results and discussion.....	56
2.2.4	Conclusions and outlook	65
2.3	Metabolic engineering of <i>Pseudomonas putida</i> S12 for the production of styrene	67
2.3.1	Introduction	69
2.3.2	Materials and methods	71
2.3.3	Results and discussion.....	77
2.3.4	Conclusions and outlook	88
3.	Chapter: General Discussion and Outlook.....	91
3.1	Thriving for true sustainability	92
3.2	Challenges in aromatics production from glucose	94
4.	References.....	99
	Curriculum Vitae	117
	Publications	118