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Nota di contenuto	Introduction -- Materials and Methods -- Substrate Specificity of Ketosynthase Domains Part I: -Branched Acyl Chains -- Substrate Specificity of Ketosynthase Domains Part II: Amino Acid-Containing Acyl Chains -- Synthesis of Acyl-Acyl Carrier Proteins and their use in Studying Polyketide Synthase Enzymology -- Substrate Specificity of Ketosynthase Domains Part III: Elongation-Based Substrate Specificity.
Sommario/riassunto	This thesis reports studies on the substrate specificity of crucial ketosynthase (KS) domains from trans-AT Polyketide Synthases (PKSs). Using a combination of electrospray ionisation-mass spectrometry (ESI-MS) and simple N-acetyl cysteamine (SNAC) substrate mimics, Matthew Jenner has successfully studied the specificity of a range of KS domains from the bacillaene and psymberin PKSs with regard to the initial acylation step of KS-catalysis. The findings in this thesis provide important insights into mechanisms of KS specificity and show that mutagenesis can be used to expand the repertoire of acceptable

substrates for future PKS engineering. The documentation of this research is a useful reference and guideline for students starting a PhD in this field.
