Preliminary Kinetic Analysis of Acyl Carrier Protein:Ketoacylsynthase Interactions in the Actinorhodin Minimal Polyketide Synthase

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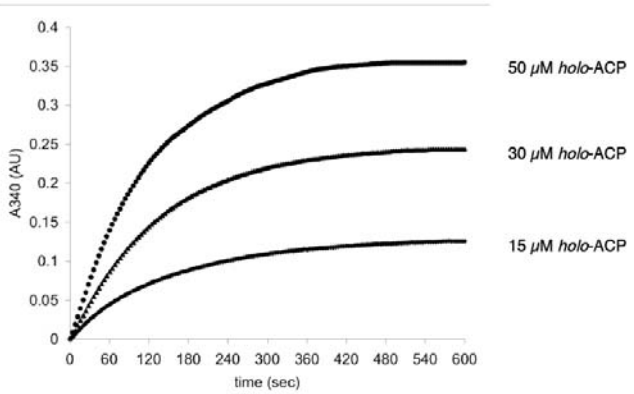
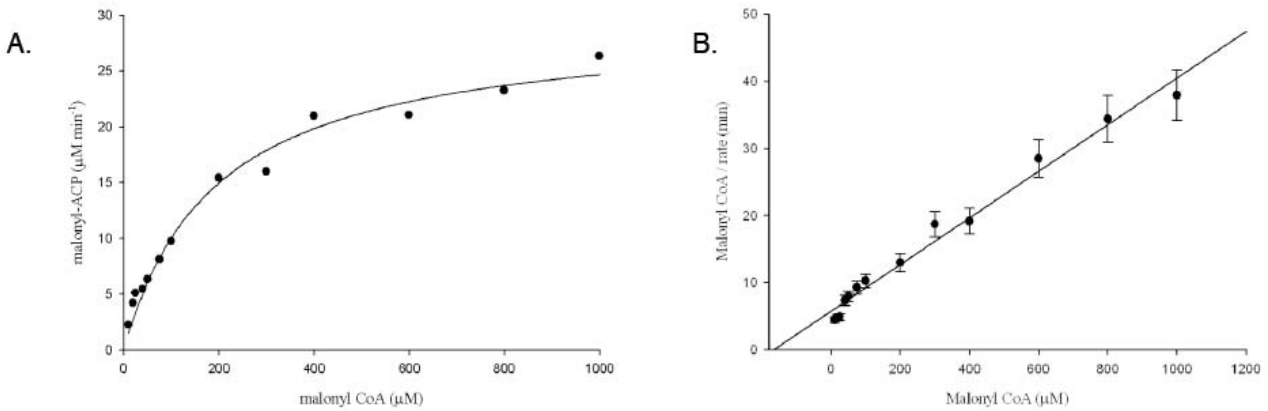
ELECTRONIC SUPPLEMENTARY INFORMATION

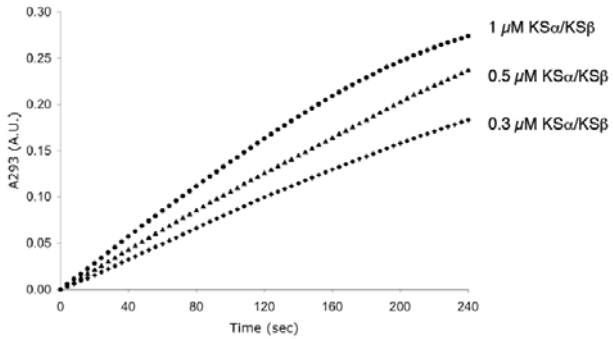
1.0 Typical raw data for self-malonylation of act ACP with malonyl CoA (1mM) using the KDH assay.



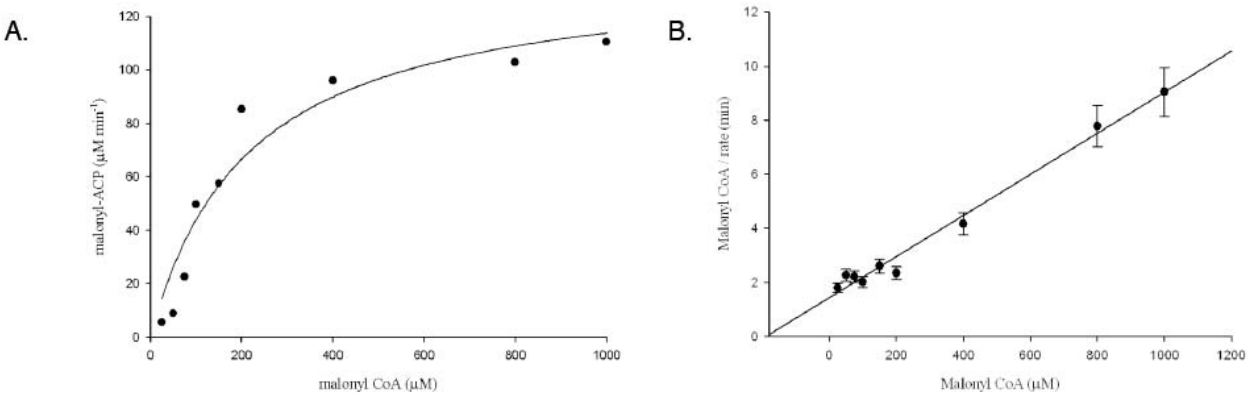
2.0 Typical secondary data plots for the calculation of K_M and k_{cat} for self malonylation of act ACP using the KDH assay.



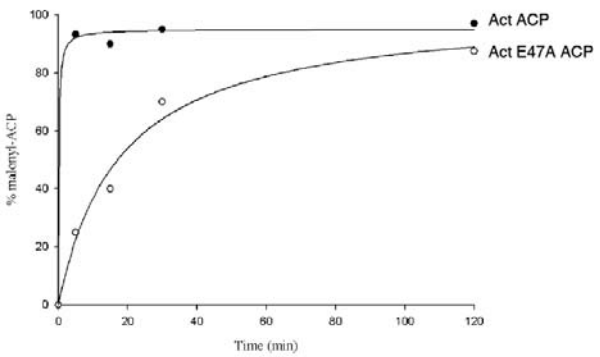
3.0 Typical raw data for the measurement of rate in minimal act PKS assays by direct observation of octaketide accumulation at 293nm.



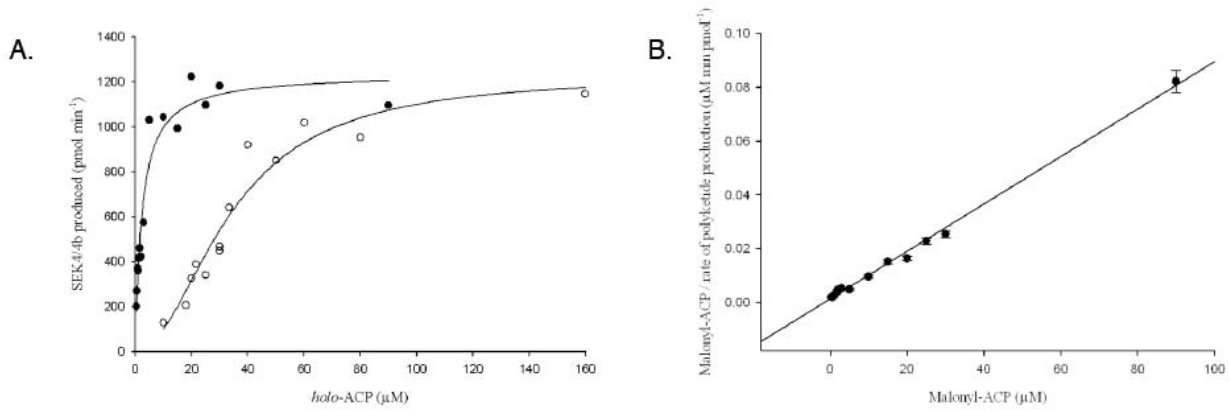
4.0 Typical secondary data plots for the calculation of K_M and k_{cat} for self malonylation in the presence of $KS_{\alpha\beta}$



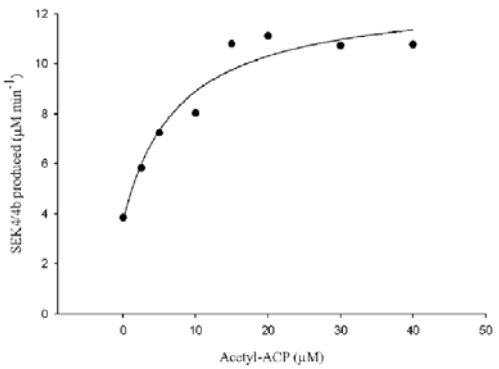
5.0 Difference in self-malonylation ability of the act ACP E47A mutant as measured by ESMS. Assays contained ACP (50 μM) and malonyl CoA (1mM).



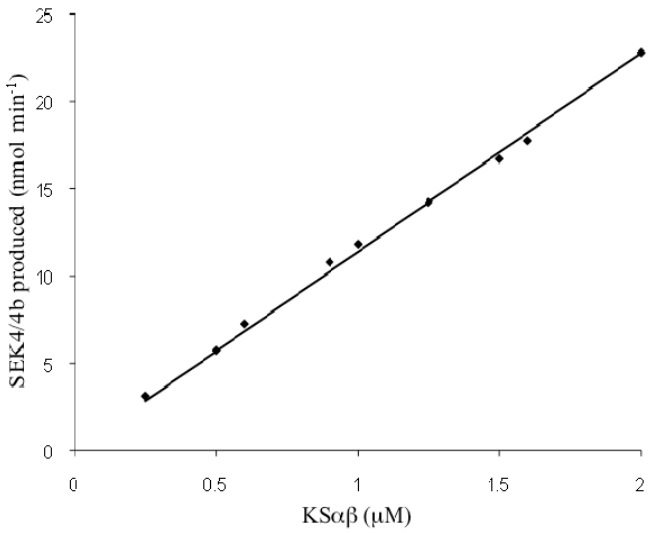
6.0 Typical secondary data plots for the calculation of K_M and k_{cat} for chain initiation rdeactions in the presence of MCAT (filled circles) and for self-malonylation (empty circles).



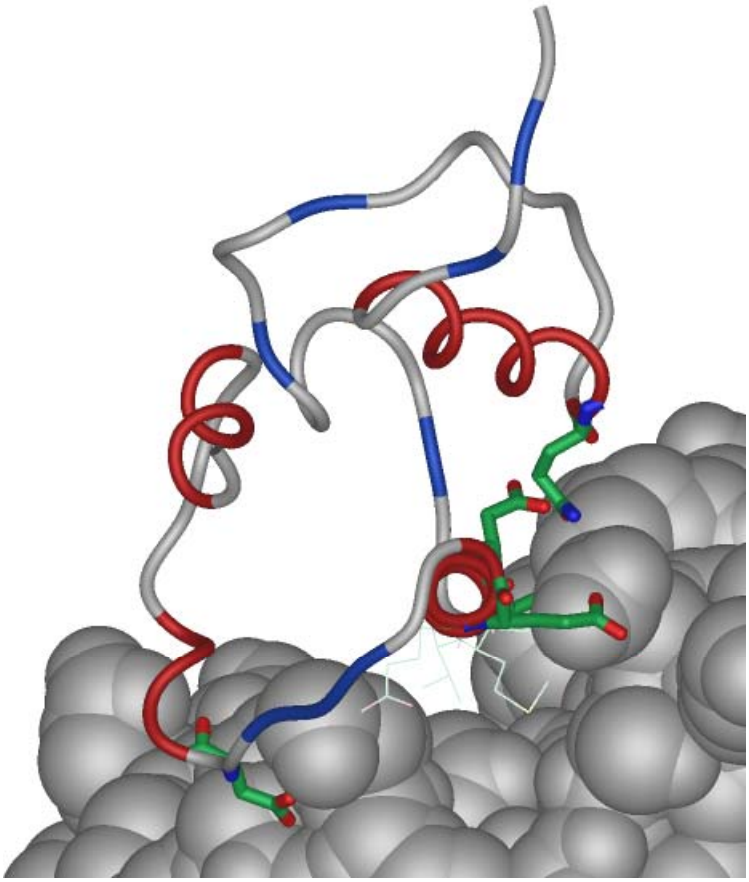
7.0 Typical plot showing ca 3-fold increazse in rate of octaketide production the in presence of increasing acetyl ACP.



8.0. Secondary data for the extension reaction (rate vs the concentration of $KS_{\alpha\beta}$. k_{cat} is estimated from the slope of this line.



9.0 Interaction of *E. coli* ACP with cytochrome $P450_{BioI}$



Interaction of helix II of *E. coli* ACP (backbone, viewed 'end-on') with the surface of *B. subtilis* P450BioH (grey spheres). ACP residues shown as tubes identified by Cryle and Schlichting; ACP residues shown in wireframe identified here.