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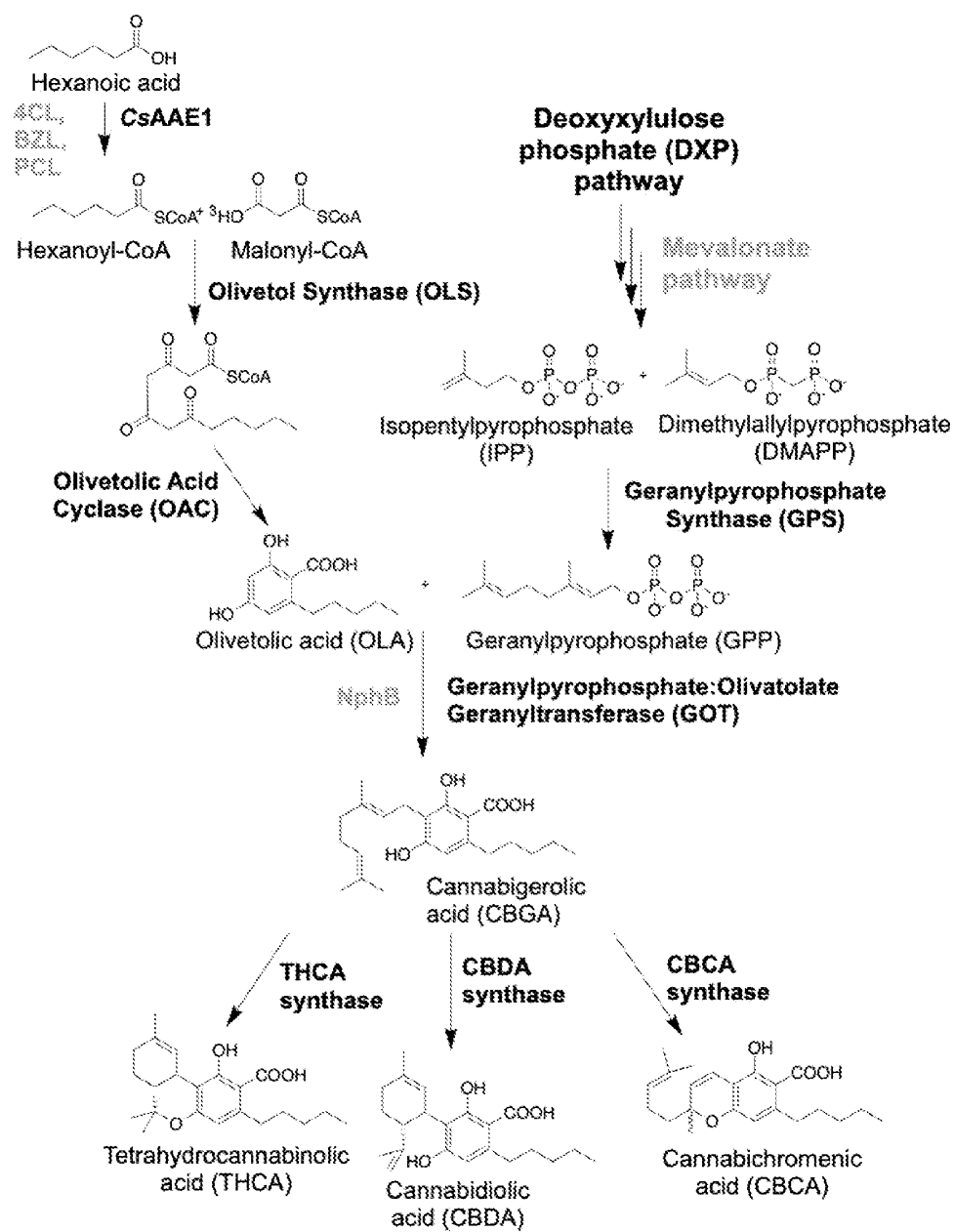


Fig. 1

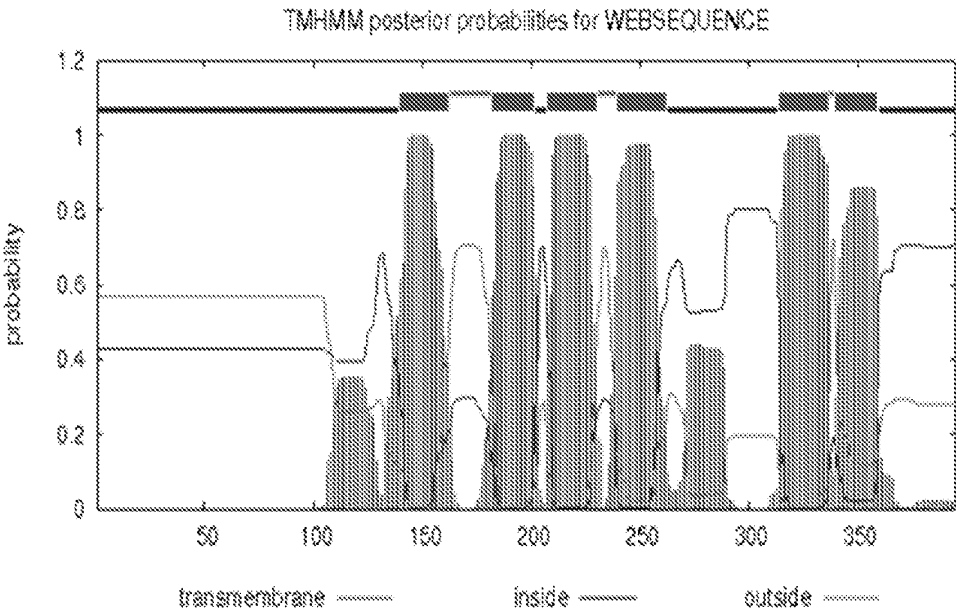


Fig. 2

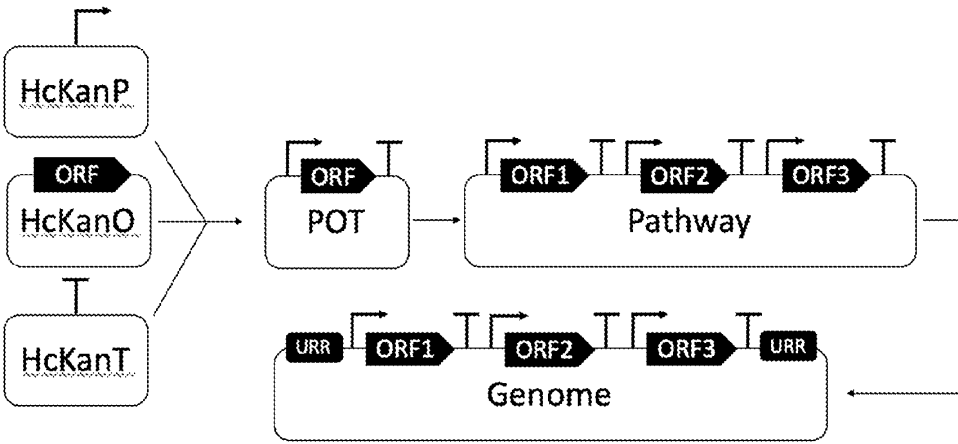


Fig. 3A

Vector	Prefix	Suffix
POT1	ACCT	TGAG
POT2	ACCT	AGGC
POT3		AGGC TGAG
POT4		AGGC TGCC
POT5		TGCC TGAG
POT6		TGCC CACT
POT7		CACT TGAG
POT8		CACT GTCG
POT9		GTCG TGAG
POT10		GTCG GGAG
POT11		GGAG TGAG
POT12		GGAG CGTA
POT13		CGTA TGAG
POT14		CGTA GAAC
POT15		GAAC TGAG

Fig. 3B

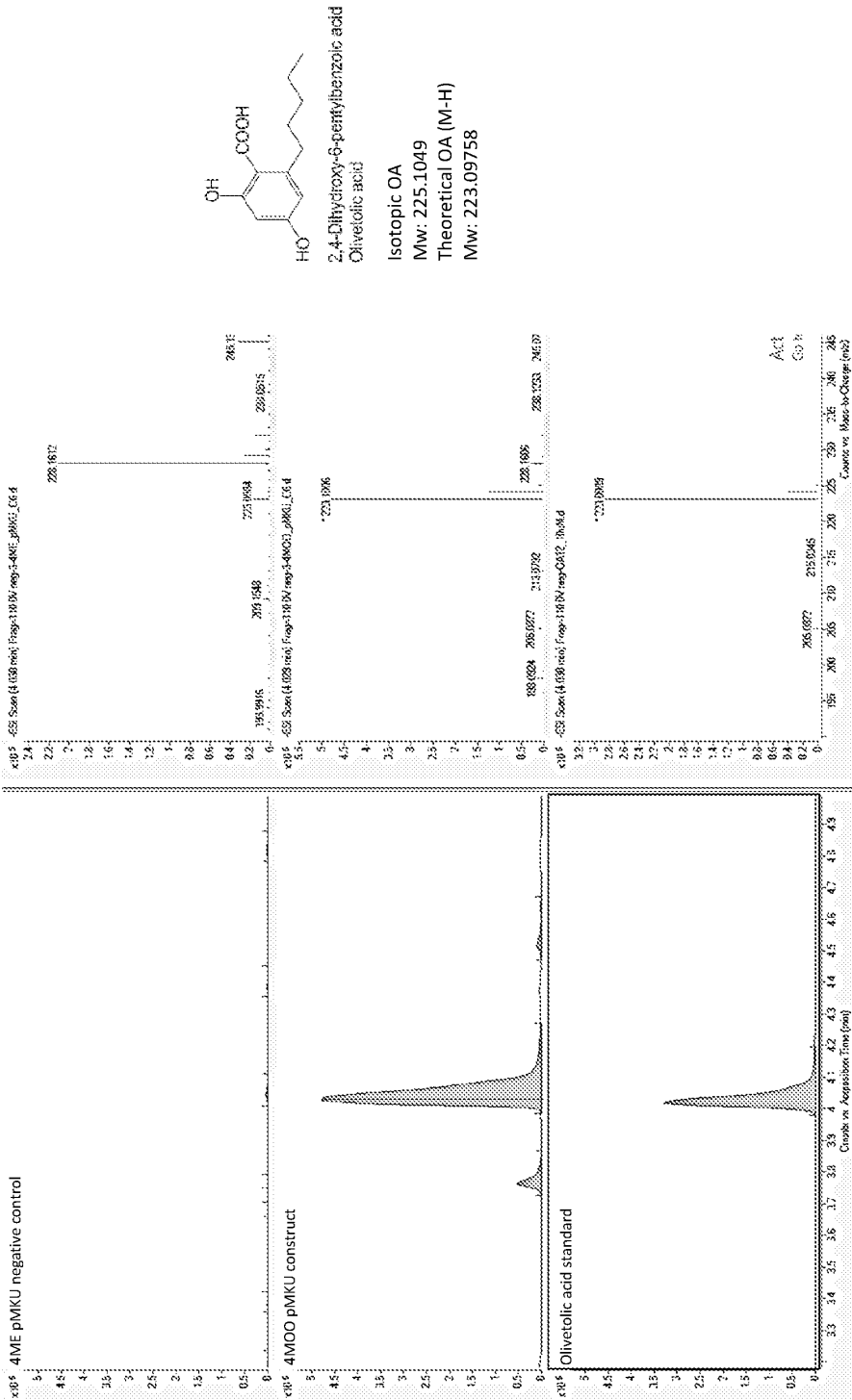


Fig. 4

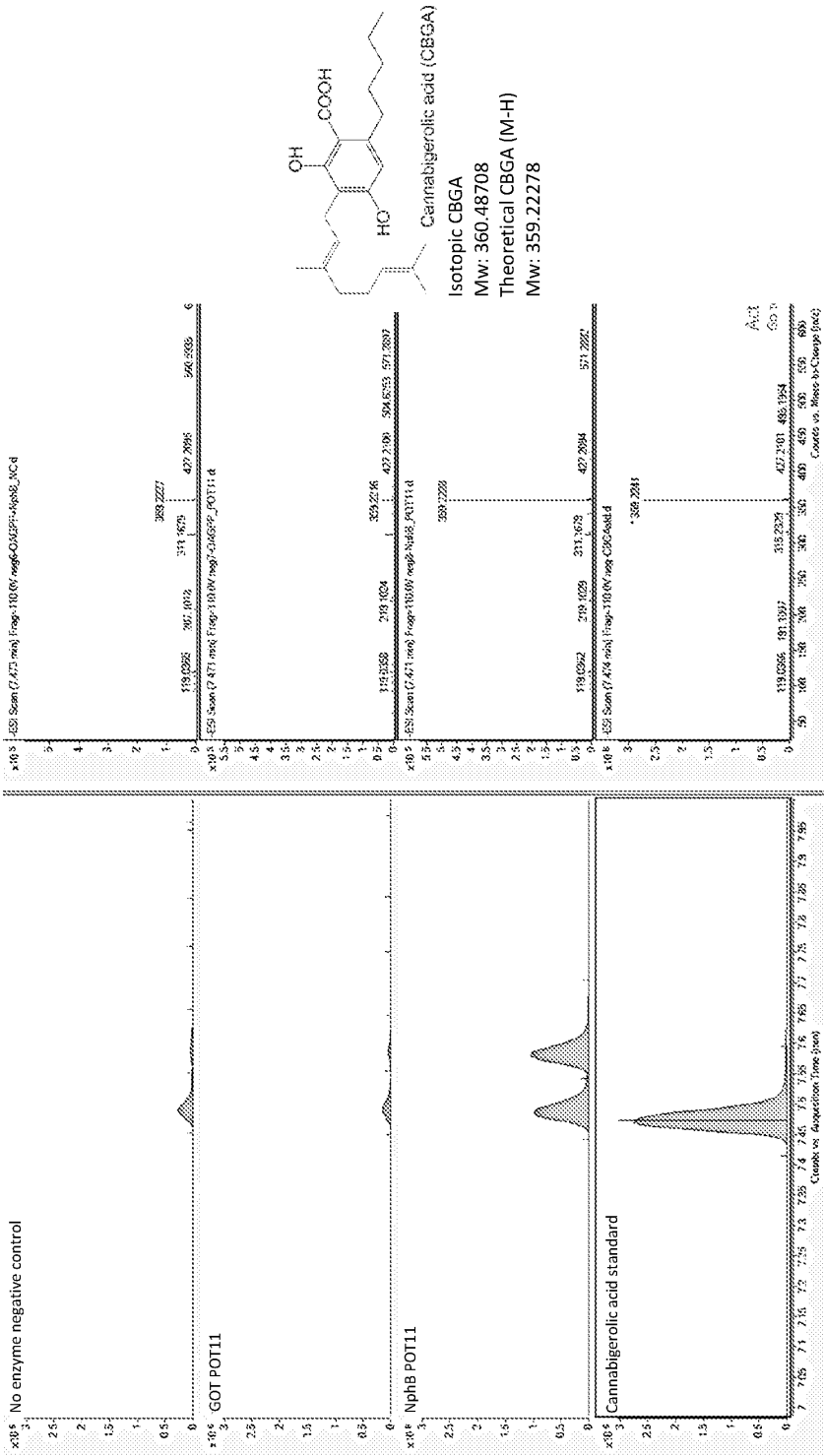


Fig. 5

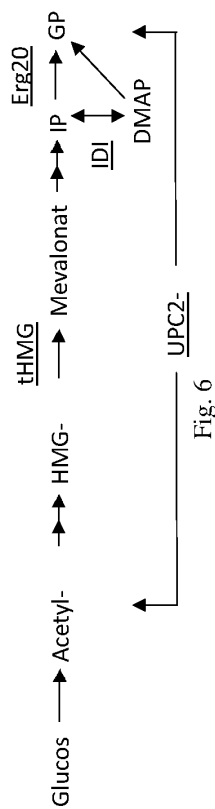


Fig. 6

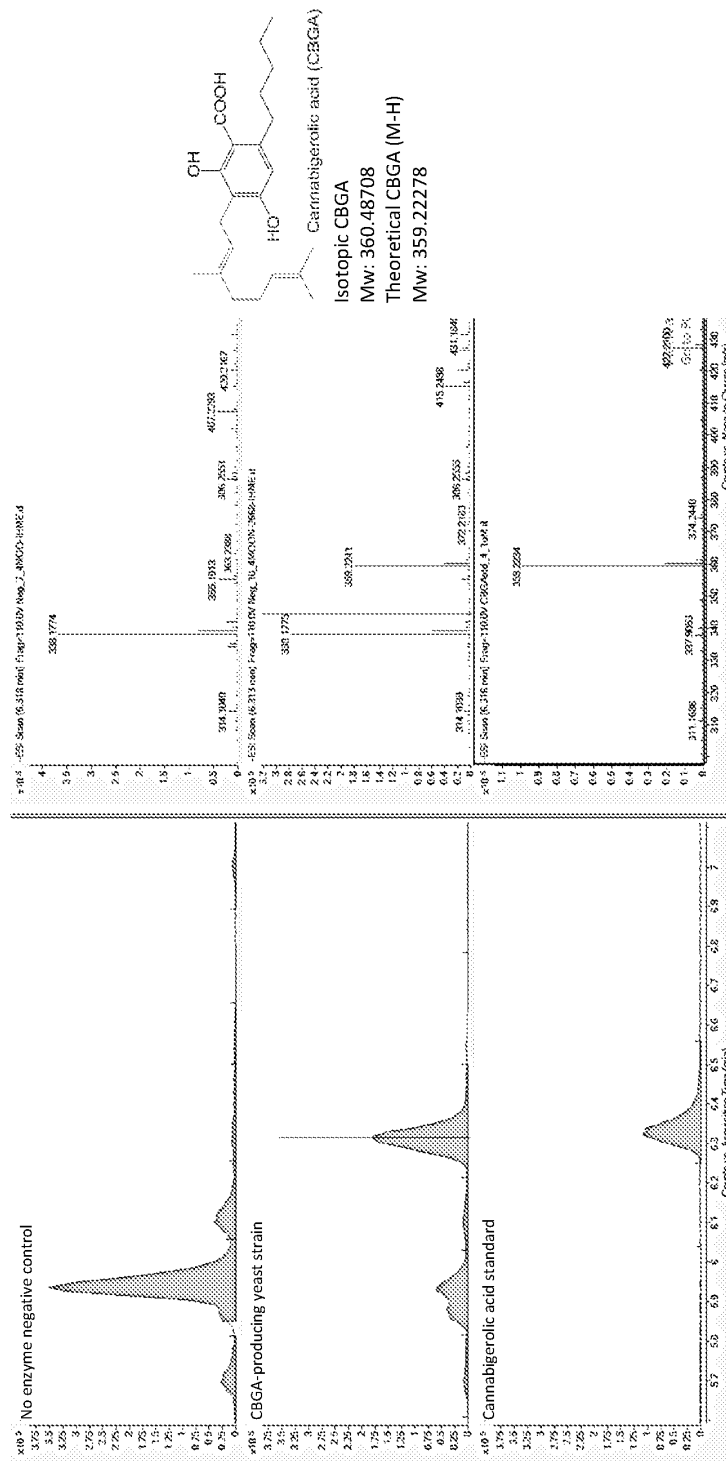


Fig. 7

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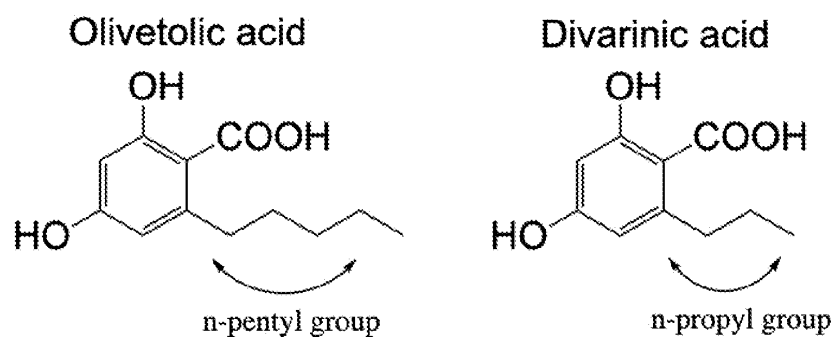


Fig. 8

Different OLA analogues observed in chassis host			
Starter used	Extender used	Product detected in <i>S. cerevisiae</i>	Proposed R-group on OLA side chain
C3 Propionic acid	Malonic acid	X	
C4 Butyric acid	Malonic acid	✓ Divarinic acid	
C5 Valeric acid	Malonic acid	✓	
C6 Hexanoic acid	Malonic acid	✓ Olivetolic acid	
C7 Heptanoic acid	Malonic acid	✓	
C8 Octanoic acid	Malonic acid	✓	
C9 Nonanoic acid	Malonic acid	X	
C10 Decanoic acid	Malonic acid	X	

Fig. 9

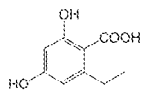
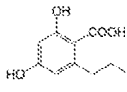
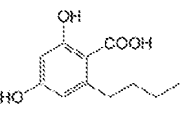
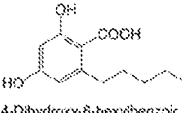
Pathway construct expressed in <i>E. coli</i>	Substrates	Novel olivetolic acid analogues identified
4MOO, BMOO, CMOO, PMOO	propanoic acid (C3) and malonic acid	 2,4-Dihydroxy-6-ethylbenzoic acid Isotopic Mw: 182.05791 Theoretical (M-H) Mw: 181.05063
PMOO	butanoic acid (C4) and malonic acid	 2,4-Dihydroxy-6-propylbenzoic acid Dimeric acid Isotopic DA Mw: 196.07356 Theoretical DA (M-H) Mw: 195.06628
4MOO, BMOO, CMOO, PMOO	pentanoic acid (C5) and malonic acid	 2,4-Dihydroxy-6-butylbenzoic acid Isotopic Mw: 210.08921 Theoretical (M-H) Mw: 209.08359
4MOO, BMOO, CMOO, PMOO	heptanoic acid (C7) and malonic acid	 2,4-Dihydroxy-6-hexylbenzoic acid Isotopic Mw: 238.1205 Theoretical (M-H) Mw: 237.1132

Fig. 10

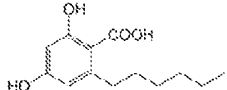
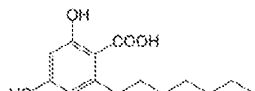
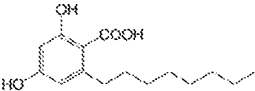
Pathway construct expressed in <i>E. coli</i>	Substrates	Novel olivetolic acid analogues identified
4MOO, BMOO, CMOO, PMOO	octanoic acid (C8) and malonic acid	 2,4-Dihydroxy-6-heptylbenzoic acid Isotopic Mw: 252.1362 Theoretical (M-H) Mw: 251.1289
4MOO, BMOO, CMOO, PMOO	nonanoic acid (C9) and malonic acid	 2,4-Dihydroxy-6-octylbenzoic acid Isotopic Mw: 266.1518 Theoretical (M-H) Mw: 265.1445
4MOO, BMOO, CMOO, PMOO	decanoic acid (C10) and malonic acid	 2,4-Dihydroxy-6-nonylbenzoic acid Isotopic Mw: 280.1675 Theoretical (M-H) Mw: 279.1602

Fig. 10 (continued)

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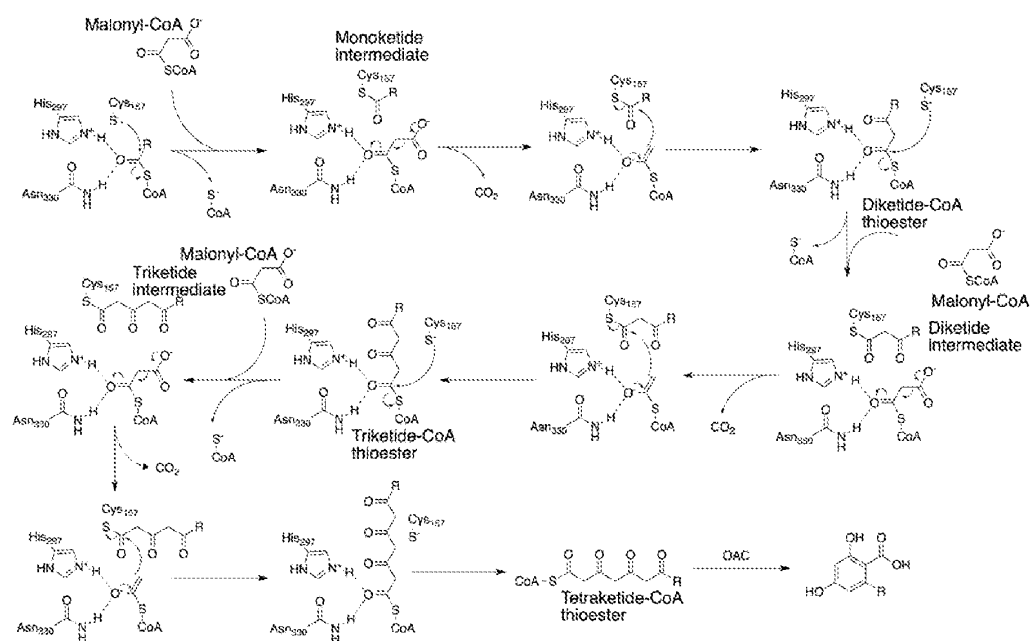


Fig. 11

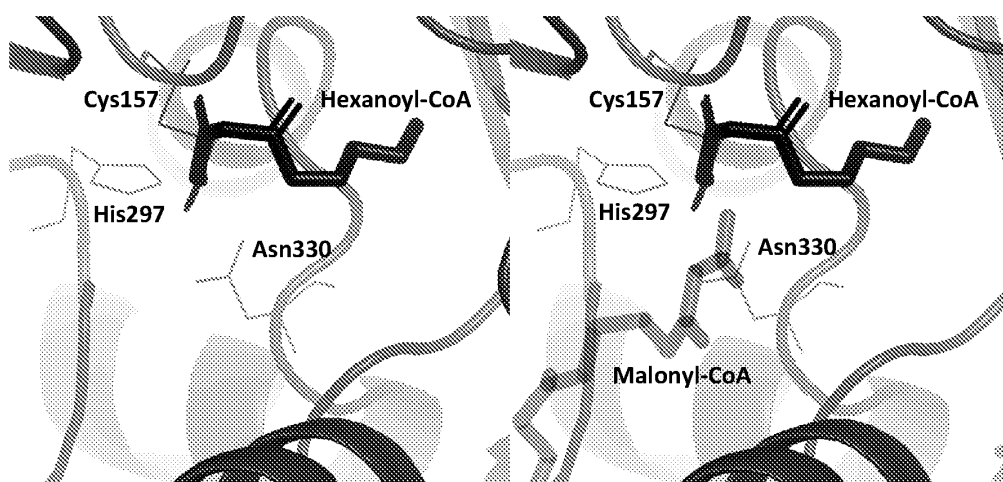


Fig. 12

SUBSTITUTE SHEET RULE 26