



OPEN ACCESS

APPROVED BY
Frontiers in Editorial Office,
Frontiers Media SA, Switzerland

*CORRESPONDENCE

Sijin Li,
sijin.li@cornell.edu

SPECIALTY SECTION

This article was submitted
to Bioprocess Engineering,
a section of the journal
Frontiers in Bioengineering and
Biotechnology

RECEIVED 09 November 2022
ACCEPTED 10 November 2022
PUBLISHED 22 November 2022

CITATION

Liu C and Li S (2022), Corrigendum:
Engineered biosynthesis of plant
polyketides by type III polyketide
synthases in microorganisms.
Front. Bioeng. Biotechnol. 10:1094116.
doi: 10.3389/fbioe.2022.1094116

COPYRIGHT

© 2022 Liu and Li. This is an open-
access article distributed under the
terms of the [Creative Commons
Attribution License \(CC BY\)](#). The use,
distribution or reproduction in other
forums is permitted, provided the
original author(s) and the copyright
owner(s) are credited and that the
original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution
or reproduction is permitted which does
not comply with these terms.

Corrigendum: Engineered biosynthesis of plant polyketides by type III polyketide synthases in microorganisms

Chang Liu and Sijin Li*

Robert F. Smith School of Chemical and Biomolecular Engineering, Cornell University, Ithaca, NY, United States

KEYWORDS

type III polyketide synthases, plant polyketides, complete biosynthesis, microorganisms, biosynthesis strategies, biosynthesis achievements

A Corrigendum on Engineered biosynthesis of plant polyketides by type III polyketide synthases in microorganisms

by Liu C and Li S (2022). *Front. Bioeng. Biotechnol.* 10:1017190. doi: 10.3389/fbioe.2022.1017190

In the published article, there was an error in [Figure 1](#), [Figure 2](#) and [Figure 3](#) as published. The captions were mismatched but figures themselves were correct. The corrected [Figure 1](#), [Figure 2](#) and [Figure 3](#) and their captions appear below.

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

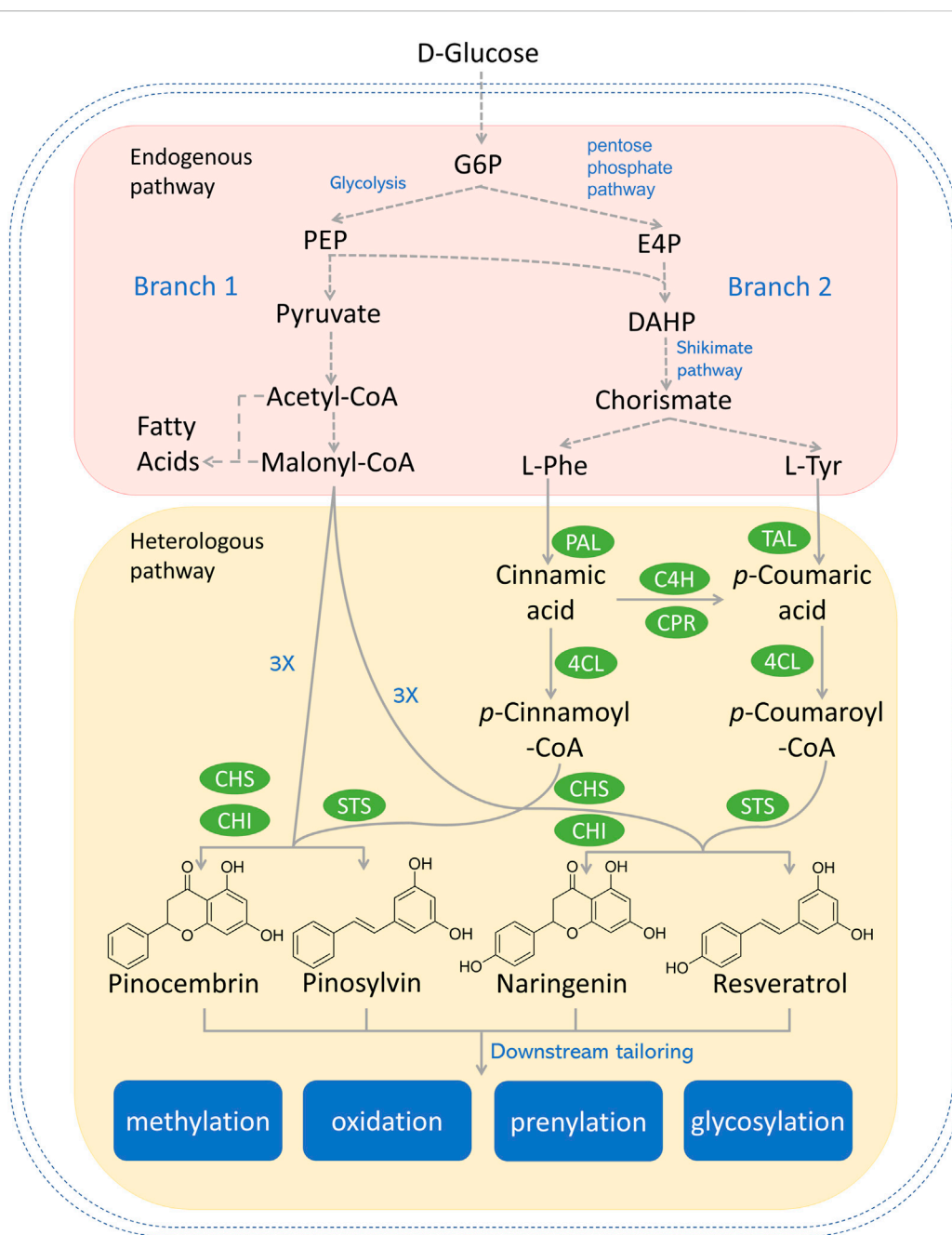


FIGURE 1 Reconstructed biosynthetic pathway for most explored type III PKS-derived polyketides (e.g., pinocembrin, pinosylvin, naringenin, and resveratrol) in microbial hosts. Dotted arrows refer to multiple steps. Genes and enzymes in green circle are heterologous genes from plants or bacterium. G6P, glucose-6-phosphate; PEP, phosphoenolpyruvate; E4P, erythrose-4-phosphate; DAHP, 3-deoxy-D-arabino-2-heptulosonic acid 7-phosphate; L-Phe, L-phenylalanine; L-Tyr, L-tyrosine; PAL, phenylalanine ammonia lyase; TAL, tyrosine ammonia lyase; C4H, cinnamic acid hydroxylase; CPR, P450 reductase; 4CL, 4-coumaroyl-coA ligase; CHS, chalcone synthase; CHI, chalcone isomerase; STS, stilbene synthase.

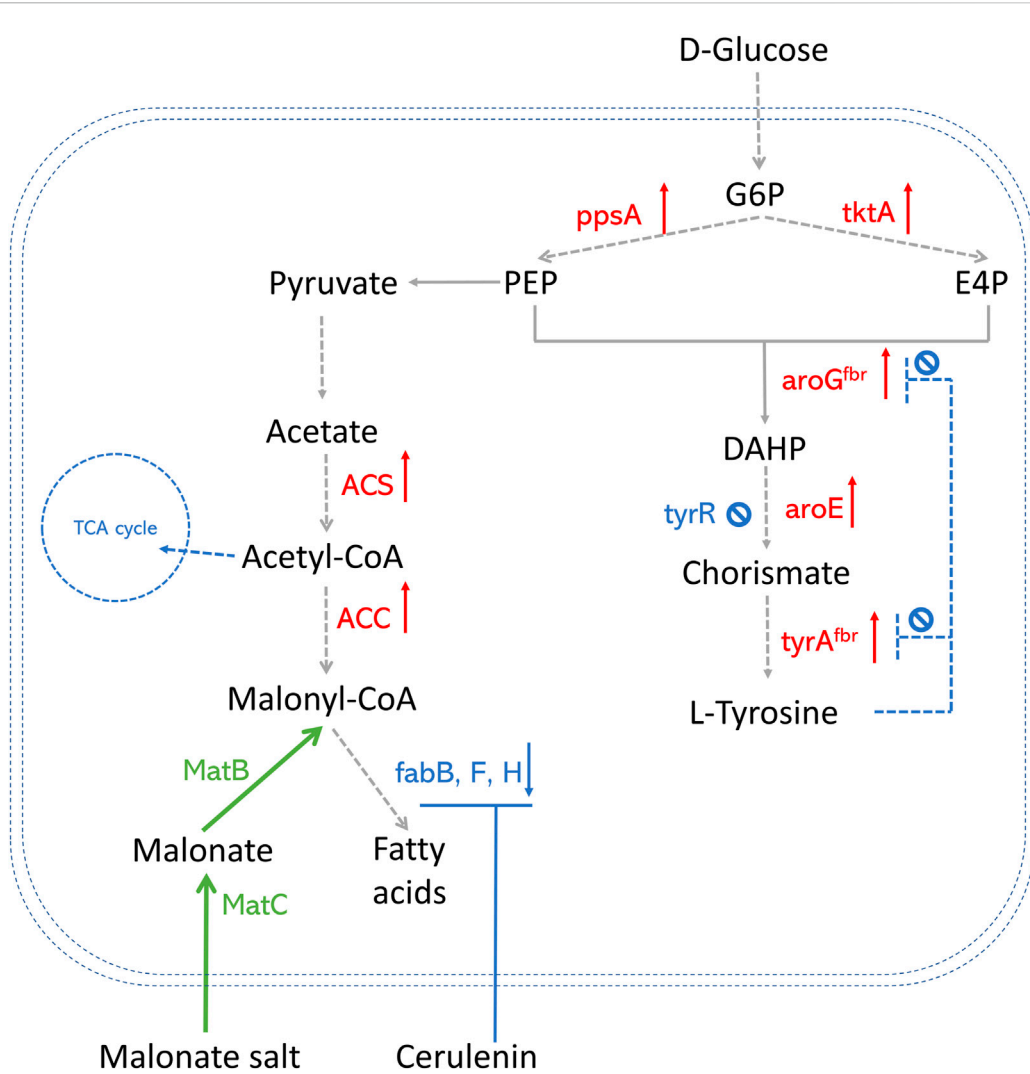


FIGURE 2

An overview of precursor enhancement engineering in *E. coli*. Genes and enzymes in red are overexpressed. Genes and enzymes in blue are deleted or downregulated. Genes and enzymes in green are heterologously expressed. Dotted arrows refer to multiple steps. G6P, glucose-6-phosphate; PEP, phosphoenolpyruvate; E4P, erythrose-4-phosphate; DAHP, 3-deoxy-D-arabino-2-heptulosonic acid 7-phosphate; fabH, gene that encodes 3-oxoacyl carrier protein synthase III; fabB/fabF, genes that encode the beta-ketoacyl-acyl carrier protein synthase I/II protein; MatB, malonyl-CoA synthetase; MatC, malonate carrier protein; ACS, acetyl-CoA synthase; ACC, acetyl-CoA carboxylase; TCA cycle, tricarboxylic acid cycle; ppsA, phosphoenolpyruvate synthase; tktA, transketolase; tyrAfbr, chorismate mutase-prephenate dehydrogenase feedback inhibition resistant variant; aroGfbr, DAHP synthase feedback inhibition resistant variant; TyrR, a DNA binding transcriptional regulatory protein.

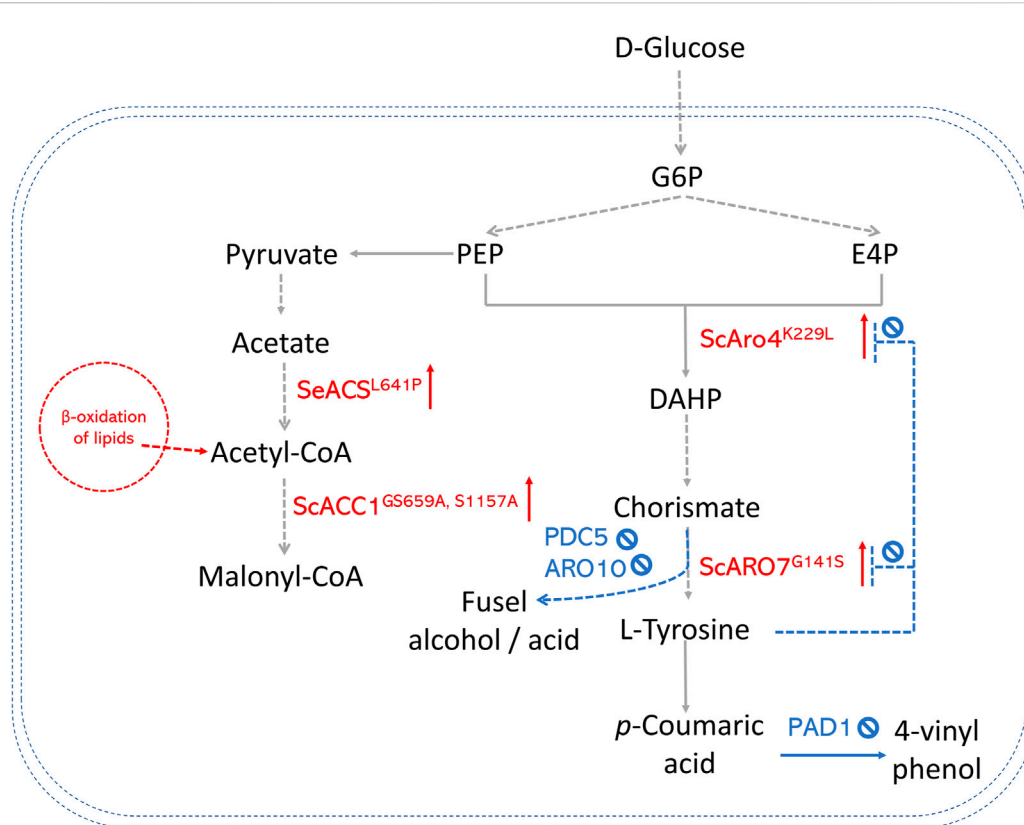


FIGURE 3

An overview of precursor enhancement engineering in *S. cerevisiae*. Genes and enzymes in red are overexpressed. Genes and enzymes in blue are deleted. Dotted arrows refer to multiple steps. G6P, glucose-6-phosphate; PEP, phosphoenolpyruvate; E4P, erythrose-4-phosphate; DAHP, 3-deoxy-D-arabino-2-heptulosonic acid 7-phosphate; ARO4K229L, DAHP synthase feedback inhibition resistant variants; ARO7G141S, chorismate mutase feedback inhibition resistant variants; PAD1, phenyl acrylic acid decarboxylase; PDC5, pyruvate decarboxylase; ARO10, phenylpyruvate decarboxylase; ACS, acetyl-CoA synthase; ACC, acetyl-CoA carboxylase.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated

organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.