Supplementary file

Efficient biosynthesis of (2*S*)-eriodictyol from (2*S*)-naringenin in *Saccharomyces cerevisiae* through a combination of promoter adjustment and directed evolution

Song Gao[1,3], Xiaoyu Xu[3], Weizhu Zeng[3], Sha Xu[1,3], Yunbin Lyv[1,3], Yue Feng[2], Guoyin Kai[2], Jingwen Zhou[1,3,4,5*], Jian Chen[1,3,4,5*]

[1] National Engineering Laboratory for Cereal Fermentation Technology, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, China;

[2] College of Pharmaceutical Science, Zhejiang Chinese Medical University, Hangzhou Zhejiang, 310053, China;

[3] Key Laboratory of Industrial Biotechnology, Ministry of Education and School of Biotechnology, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, China;

[4] Jiangsu Provisional Research Center for Bioactive Product Processing Technology, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, China;

[5] Science Center for Future Foods, Jiangnan University, Wuxi 214122, China.

Supplementary Figures

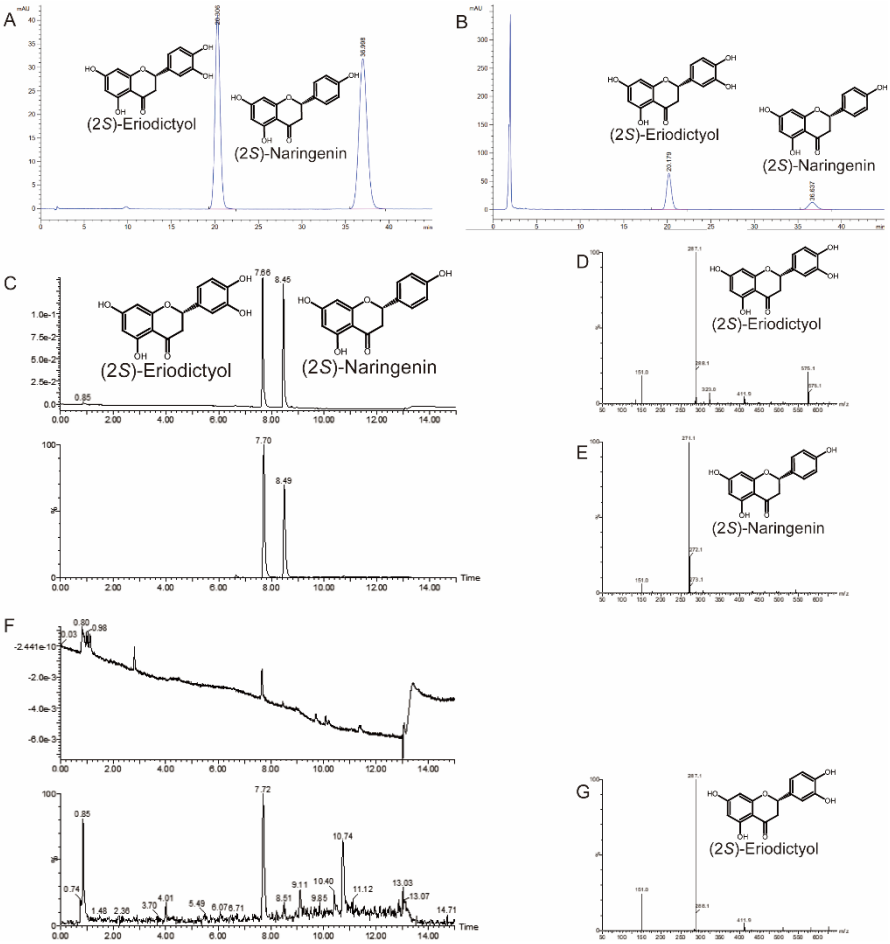

Figure S1. HPLC and LC-MS analysis of (2S)-eriodcityol and (2S)-naringenin.

(A) HPLC chromatogram of the standard (2*S*)-naringenin and (2*S*)-eriodictyol. (B) HPLC chromatogram of fermented medium. (C/D/E) LC-MS of the standard (2*S*)-naringenin and (2*S*)-eriodictyol. (F/G) LC-MS of fermented medium.

Supplementary Tables

Table S1. Sequence of promoters used in the promoter adjustment section

Promoter	Sequences (5'-3')
P_{ARO7}	tggattacatttgattcagtcatacacgaattatggtcttgatactgacaaattttccagattgaggcggtt cttatggtttagaacttggggactttacaagtcgaaagaggatttagatagagaagccaagatcaatga agaaatgatacgcaaactgaaagcagctaaatgaaatcacctattgcgccgctcgcggaatacaatt actaaattttatatatattctttaaaaatgcatctatacattcgtttttccacgtataccaaattcgaaaaaag ttgttaaaccatcgttttcacgttttttaattttttttggttctctttttttttttttttcaatatcaactttttttcaaac ttcgtgttgcatttcctttatcgtaaattttcaatggatctctataatcttcgaagttcgaagaaaagaagaa aaaaagtattgaaaagttgaaacatcgattccgttttgctaacaaatagcactcagcatcctgcataaaa ttggtataagat
P_{FAD1}	cttgaagcaggagaacagctcagtgcagatgaggaagtttcgtccagcgcaaataaaatagtgaatgtaggtgttt tatggaataaagacacgaataatgacttactaattgttgaaaattatctcaaaagcctcaaaaaaaatttaactaga gacaggtagaaaattattcaaaccttgtaaatagtgttatatatatgtgttagacttaaaagcgctaataaacgttcc tgctcgcatttaacttctgttccaattttcctatttttttagttagcttgttcggcagatttcaaattcattgagtccgagga aacaaaaggatgggaagagctcaaaatttggagatgggtttcatatacaacacgttggttagcaagaacctaagg atccgtctatagaaagaacctcgaaaaatcttcgaaagattttgttgactgagagtggaaaaaactgatattactttc tcggtatagagggcaacatttgcaaaaagtaataaacaaatagggggagcacaat
P_{FAS2}	gttgtcgttgttgtcccagccgttgtcaaaacgcgttaattccaactattttctatatttctattctatccgaa ctccccttttgtatatcaatatatcttaatactttcgcctattctttactatatttcctaaattttctctggtctgc aggccaaaaacaacaacttactactgaatcatggacgtgtatttagtttagccaagcaatatttaaatat cactcttcctaaaaatacattgggcattacccgcaaactaacccatcgcttagcaaaatccaaccattttt tttttatctcccgcgttttcacatgctacctcattcgcctcgtaacgttacgaccgaaatctcactaaggca cggtttgttgggcagtttacagatgttggataaccagttgtttctaaacggttatgcctcatatataacttgt taactgaaggttacacaagaccacatcaccactgtcgtgcttttctaataaccgctatattagacgtttaa

	agggctacagcaacaccaattgaaataccatcatt
P_{ADH6}	acgcacgtaggcgcatacttctatcatacgtagaaaagcgtttcccagaggttatgatgttggaaaaat agcttcattgaacattttagcattagtgggaagaattcctcatgttacttatgagggagttaattttccttag ggattttaggaatttctatacggaggtagcgatcgaccttagaacttttatttagtttgtacatatacctcac ctgagttttgctttttctctgggagcctaaaccatttaaaatgatatataatagataataaatccaggataa aatgtggctaattgatctttttcattttcaacttggtaatgacgtactggatactttcgacgctctttttagt ccccgatccccgtcttccaggaccttgacgtggaattccgatcacagccactctcgtcacggctccgt taaaatgaatggttttccgttacatttactggtctttttatctttttacagtaaatgggtgatatactgtgacac aatttgtgtctctactgtgtgaacttccattgctgactaaagattccccgctccgcttatatgtccggtccg tccttgaccgaagatcacattgccaatttttcacatctggaagcgatacgacaatataggagaaaaaga aaagtgaaaggcaaaaaagcaccaacagttctcgaggtgaagtgccgtcaatcttctgtataaattcg gccaattcaatctaatttaatagatttgcgacagactttcacatccacattcgaggaagaaattcaacac aacaacaagaaaagccaaaatc
P_{GAL1}	ttatattgaattttcaaaaattcttactttttttttggatggacgcaaagaagtttaataatcatattacatggc attaccaccatatacatatccatatctaatcttacttatatgttgtggaaatgtaaagagccccattatctta gcctaaaaaaaaccttctctttggaactttcagtaatacgcttaactgctcattgctatattgaagtacggat tagaagccgccgagcgggcgacagccctccgacggaagactctcctccgtgcgtcctcgtcttcac cggtcgcgttcctgaaacgcagatgtgcctcgcgccgcactgctccgaacaataaagattctacaata ctagcttttatggttatgaagaggaaaaattggcagtaacctggccccacaaaccttcaaattaacgaa tcaaattaacaaccataggatgataatgcgattagtttttagccttatttctggggtaattaatcagcgaa gcgatgatttttgatctattaacagatatataaatggaaaagctgcataaccactttaactaatactttcaa cattttcagtttgtattacttcttattcaaatgtcataaaagtatcaacaaaaaattgttaatatacctctatac tttaacgtcaaggagaaaaaactata
P_{TDH3}	ataaaaaacacgctttttcagttcgagtttatcattatcaatactgccatttcaaagaatacgtaaataattaatagta gtgattttcctaactttatttagtcaaaaaattagccttttaattctgctgtaacccgtacatgcccaaaatagggggc

	gggttacacagaatatataacatcgtaggtgtctgggtgaacagtttattcctggcatccactaaatataatggagcc cgctttttaagctggcatccagaaaaaaaaagaatcccagcaccaaaatattgttttcttcaccaaccatcagttcat aggtccattctcttagcgcaactacagagaacaggggcacaaacaggcaaaaaacgggcacaacctcaatggag tgatgcaacctgcctggagtaaatgatgacacaaggcaattgacccacgcatgtatctatctcattttcttacaccttc tattaccttctgctctctctgatttggaaaaagctgaaaaaaaaggttgaaaccagttccctgaaattattcccctact tgactaataagtatataaagacggtaggtattgattgtaattctgtaaatctatttcttaaacttcttaaattctactttt atagttagtctttttttagttttaaaacaccaagaacttagtttcgaataaacacacataaacaaacaaa
P_{GLN1}	ggtccgcacagacgatgccagacggtgttttatcgaaaatttttttcgcatcatagtgccatttgtggtca ttattattccccaaatatgcgaaaatagtacactatttttggcaggagagtaggctgatatgccgcattga tgtcctgtgtagcgaaacacaaacaaaaaaagaaaaagtaggatgaaaaaaagaaaagtaatatga aaaaagagtgaaaaattaattcatttgttagtgtaagcggtcaggtgtaagtagtaggcttgataatgaa ttaaagatgactccgacgcatattgtttgccatgtttttattttagtttgtagatttctttttttgtaatatataag ggagtgattctatatatcgaattctcaggcttggttggttcgtaggttgttctgtctttgttttcgttaggtaa gaacatcacacaaagataactatagaatcacatacatatttgtgagaaattaacttcatttcatttatagaa gaagttcaaccgaaacaaaaattaaacataatataatataatataatcaaaa
P_{PMA1}	ccctcgttcacagaaagtctgaagaagctatagtagaactatgagctttttttgtttctgttttcctttttttttttttttacc tctgtggaaattgttactctcacactctttagttcgtttgtttgttttgtttattccaattatgaccggtgacgaaacgtgg tcgatggtgggtaccgcttatgctcccctccattagtttcgattatataaaaaggccaaatattgtattattttcaaatg tcctatcattatcgtctaacatctaatttctcttaaatttttttctctttctttcctataacaccaatagtgaaaatctttttttt cttctatatctacaaaaactttttttttctatcaacctcgttgataaatttttttctttaacaatcgttaataattaattaatt ggaaaataaccatttttttctctcttttatacacacattcaaaagaaagaaaaaaaatataccccagctagttaaaga aaatcattgaaaagaataagaagataagaaagatttaattatcaaacaatatcaat
P_{INO1}	gaagacgatgaggccggtgccgatgtgcccttgatggacaacaaacaacagctctcttccggccgt acttagtgatcggaacgagctctttatcaccgtagttctaaataacacatagagtaaattattgccttttttct tcgttccttttgttcttcacgtccttttttatgaaatacgtgccggtgttccggggttggatgcggaatcgaa agtgttgaatgtgaaatatgcggaggccaagtatgcgcttcggcggctaaatgcggcatgtgaaaag

	tattgtctattttatcttcatccttctttcccagaatattgaacttatttaattcacatggagcagagaaagcg cacctctgcgttggcggcaatgttaatttgagacgtatataaattggagctttcgtcaccttttttggcttg ttctgttgtcgggttcctaatgttagttttatccttgatttattctgtttcattccctttttttccagtgaaaaag aagtaaca
P_{ERG20}	gaaaccacaccgtggggccttgttgcgctaggaataggatatgcgacgaagacgcttctgcttagtaaccacacca cattttcagggggtcgatctgcttgcttcctttactgtcacgagcggcccataatcgcgctttttttttaaaaggcgcga gacagcaaacaggaagctcgggtttcaaccttcggagtggtcgcagatctggagactggatctttacaatacagta aggcaagccaccatctgcttcttaggtgcatgcgacggtatccacgtgcagaacaacatagtctgaagaaggggg ggaggagcatgttcattctctgtagcagtaagagcttggtgataatgaccaaaactggagtctcgaaatcatataaa tagacaatatattttcacacaatgagatttgtagtacagttctattctctctcttgcataaataagaaattcatcaaga acttggtttgatatttcaccaacacacacaaaaaacagtacttcactaaatttacacacaaaacaaa
P_{LEU2}	tcctgtacttccttgttcatgtgtgttcaaaaacgttatatttataggataattatactctatttctcaacaagt aattggttgtttggccgagcggtctaaggcgcctgattcaagaaatatcttgaccgcagttaactgtgg gaatactcaggtatcgtaagatgcaagagttcgaatctcttagcaaccattattttttcctcaacataac gagaacacacaggggcgctatcgcacagaatcaaattcgatgactggaaatttttgttaatttcagag gtcgcctgacgcatatacctttttcaactgaaaaattgggagaaaaaggaaaggtgagagcgccgga accggcttttcatatagaatagagaagcgttcatgactaaatgcttgcatcacaatacttgaagttgaca atattatttaaggacctattgtttttccaataggtggttagcaatcgtcttactttctaacttttcttaccttta catttcagcaatatatatatatatatttcaaggatataccattcta
P_{ADE2}	ctagtaacgccgtatcgtgattaacgtattacataagttacaggattcatgcttatgggttagctatttcgcccaatgt gtccatctgacattactattttgcattttaatttaattagaacttgactagcgcactaccagtatatcatctcatttccgt aaataccaaatgtattatatattgaaagcttttgaccaggttattataaaagaaacttcatgctcgaaaaagatcatt tcgaaaagttgcctagtttcatgaaattttaaagcagtttatataaattttaccttttgatgcggaattgactttttcttg aataatacataacttttcttaaaagaatcaaagacagataaaatttaagagatattaaatattagtgagaagccga gaattttgtaacaccaacataacactgacatctttaacaacttttaattatgatacatttcttacgtcatgattgattatt acagctatgctgacaaatgactcttgttgcatggctacgaaccgggtaatactaagtgattgactcttgctgacctttt

	attaagaactaaatggacaatattatggagcatttcatgtataaattggtgcgtaaaatcgttggatctctcttctaag tacatcctactataacaatcaagaaaaacaagaaaatcggacaaaacaatcaagt
P_{MET6}	catgaaccagggtcccgcactccgggtaaaggaccatcacgccacatcacgtgcacattactagtaaaagccaca ggaaatatttcacgtgacttacaaacagagtcgtacgtcaggaccggagtcaggtgaaaaaatgtgggccggtaa agggaaaaaaccagaaacgggactactatcgaactcgtttagtcgcgaacgtgcaaaaggccaatatttttcgcta gagtcatcgcagtcatggcagctctttcgctctatctcccggtcgcaaaactgtggtagtcatagctcgttctgctcaa ttgagaactgtgaatgtgaatatggaacaaatgcgatagatgcactaatttaagggaagctagctagttttcccaac tgcgaaagaaaaaaaggaaagaaaaaaaaaattctatataagtgatagatatttccatctttactagcattagtttct cttttacgtattcaatatttttgttaaactcttcctttatcataaaaaagcaagcatctaagagcattgacaacactcta agaaacaaaataccaatataatttcaaagtacatatcaaaa
P_{TDH1}	gaaaccacaccgtggggccttgttgcgctaggaataggatatgcgacgaagacgcttctgcttagtaaccacacca cattttcagggggtcgatctgcttgcttcctttactgtcacgagcggcccataatcgcgcttttttttaaaaggcgcga gacagcaaacaggaagctcgggtttcaaccttcggagtggtcgcagatctggagactggatctttacaatacagta aggcaagccaccatctgcttcttaggtgcatgcgacggtatccacgtgcagaacaacatagtctgaagaaggggg ggaggagcatgttcattctctgtagcagtaagagcttggtgataatgaccaaaactggagtctcgaaatcatataaa tagacaatatattttcacacaatgagatttgtagtacagttctattctctctcttgcataaataagaaattcatcaaga acttggtttgatatttcaccaacacacacaaaaaacagtacttcactaaatttacacacaaaacaaa
P_{SED1}	ctaccttccatacaccactgattgctccacgtcatgcggccttctttcgaggacaaaaaggcatatatc gctaaaattagccatcagaaccgttattgttattatattttcattacgaaagaggagagggcccagcgc gccagagcacacacggtcattgattactttatttggctaaagatccatcccttctcgatgtcatctctttcc attcttgtgtatttttgattgaaaatgatttttttgtccactaatttctaaaaataagacaaaaagcctttaagc agtttttcatccattttactacggtaaaatgaattagtacggtatggctcccagtcgcattatttttagattg gccgtaggggctggggtagaactagagtaaggaacattgctctgccctcttttgaactgtcatataaat acctgacctattttattctccattatcgtattatctcacctctctttttctattctcttgtaattattgatttatagtc gtaactacaaagacaagcaaaataaaatacgttcgctctattaag
P_{PGK1}	gtgagtaaggaaagagtgaggaactatcgcatacctgcatttaaagatgccgatttgggcgcgaatcctttattttg

	gcttcaccctcatactattatcagggccagaaaaaggaagtgtttccctccttcttgaattgatgttaccctcataaag cacgtggcctcttatcgagaaagaaattaccgtcgctcgtgatttgtttgcaaaaagaacaaaactgaaaaaaccc agacacgctcgacttcctgtcttcctattgattgcagcttccaatttcgtcacacaacaaggtcctagcgacggctcac aggttttgtaacaagcaatcgaaggttctggaatggcgggaaagggtttagtaccacatgctatgatgcccactgtg atctccagagcaaagttcgttcgatcgtactgttactctctctctttcaaacagaattgtccgaatcgtgtgacaacaa cagcctgttctcacacactcttttcttctaaccaagggggtggtttagtttagtagaacctcgtgaaacttacatttaca tatatataaacttgcataaattggtcaatgcaagaaatacatatttggtcttttctaattcgtagtttttcaagttcttag atgctttctttttctctttttacagatcatcaaggaagtaattatctactttttacaacaaatataaaaca
P_{TPI1}	acccaaatggactgattgtgagggagacctaactacatagtgtttaaagattacggatatttaacttactt agaataatgccatttttttgagttataataatcctacgttagtgtgagcgggatttaaactgtgaggacctt aatacattcagacacttctgcggtatcaccctacttattcccttcgagattatatctaggaacccatcagg ttggtggaagattacccgttctaagacttttcagcttcctctattgatgttacacctggacaccccttttctg gcatccagtttttaatcttcagtggcatgtgagattctccgaaattaattaaagcaatcacacaattctctc ggataccacctcggttgaaactgacaggtggtttgttacgcatgctaatgcaaaggagcctatatacct ttggctcggctgctgtaacagggaatataaagggcagcataatttaggagtttagtgaacttgcaacat ttactattttcccttcttacgtaaatatttttctttttaattctaaatcaatctttttcaatttttttgtttgtattcttttct tgcttaaatctataactacaaaaaacacatacataaactaaaa
P_{GAL10}	tatagttttttctccttgacgttaaagtatagaggtatattaacaattttttgttgatacttttatgacatttgaataagaa gtaatacaaactgaaaatgttgaaagtattagttaaagtggttatgcagcttttccatttatatatctgttaatagatc aaaaatcatcgcttcgctgattaattaccccagaaataaggctaaaaaactaatcgcattatcatcctatggttgtta atttgattcgttaatttgaaggtttgtggggccaggttactgccaatttttcctcttcataaccataaaagctagtattgt agaatctttattgttcggagcagtgcggcgcgaggcacatctgcgtttcaggaacgcgaccggtgaagacgaggac gcacggaggagagtcttccgtcggagggctgtcgcccgctcggcggcttctaatccgtacttcaatatagcaatgag cagttaagcgtattactgaaagttccaaagagaaggtttttttaggctaagataatggggctctttacatttccacaa catataagtaagattagatatggatatgtatatggtggtaatgccatgtaatatgattattaaacttctttgcgtccatc caaaaaaaaagtaagaatttttgaaaattcaatataa

P_{ZWF1}	gccgtcgaaaaggatctcgtctctgttgggagcacctggtaagtaaggtgtagttttgcacccgtgtac ataagcgtgaaatcaccacaaactgtgtgtatcaagtacatagtgacatttaaataatagcaagaacaa caataatagtagcgctactggaagcaccacgtaatagtggaaaagaactggaaaaaccgctataag atgcatactccggcggtcttacgcggagatacaagcttccaacggtgctaaaagcccggtttcggctc ggccggaggaggaagagagacgaaaaaaaaaaaaaatgactaaaaaaaaaatggaatattattaatg tgggatttttggctcaaggtgtggtggcccctttctaagggtggcgaattcttcaatgtacggaaaact cgccaaggctatcccatatataagcaaactgtgggttcatctatataccgacacataacacctaaagtg gcttcctcctgcccctctctccctttctccactcacccctccttctccccccttcccccctctccaattggctg tatagacagaaagagtaaatccaatagaatagaaaaccacataaggcaag
P_{ADE6}	ctgaacgtatcgagactcggttgtgtcgttatgctagcaatgtcctcacaggctccattccttctttcgctctattggat atcatcacagctattctccctggtgcaaaatatcatattaaattggatttatccttaccaacgatggtgaagctgacgc atagataggatatgtaattctacatcagcttgtaaataaacaaaaatgactttcaatatccttcaaccgttcctgactc tttcctgctgacccgtttttccaaatttctcgtcgaacttgaaattgaaaaaaaaaaaaaaaaattgaatgaggactc attaaacagatgatgccgtaataaatgcaatatatcttgctatttaactctttctttctttgaaaaccttgacatacgta tttaaataattggctgtccctgcctcgaagtatatttctcttctacttttatcttagcgatatccctaagagtttaatcctc ccaggtccataacaaaagaagtcaagttca

Table S2. Plasmids and strains used in this section

Plasmids and strains	Description
C800	CEN.PK2-1D; *MATα*; *ura3-52*; *leu2-3,112*; *trp1-289*; *his3Δ1*; *MAL2-8*^{C}; *SUC2*; *gal80*::*KanMX*
pMD-T-SmCPR	*Not*I/*Pac*I
pMD-T-SmF3'H	*Bam*HI/*Pml*I
pUC57-GhF3'H	[1]
pUC57-CrCPR	[1]
pMD19T-XXX	P_{XXX}
pY26-TEF-GPD	P_{TEF}-T_{ADH1}-P_{GPD}-T_{CYC1}; *KlURA*, Amp^{2}
pY26-GR	pY26-P_{TEF}-P_{GPD}-*Sm*F3'H
pY26-GR2	pY26-P_{TEF}-P_{GPD}-*Gh*F3'H
pY26-THGR	pY26-P_{TEF}-*Sm*CPR-P_{GPD}-*Sm*F3'H
pY26-THGR2	pY26-P_{TEF}-*Cr*CPR-P_{GPD}-*Gh*F3'H
pY26-P05	pY26-P_{INO1}-SmF3'H-P_{TDH1}-SmCPR
pY26-P05mut1	pY26-P_{INO1}-*Sm*F3'H^{D285N}-P_{TDH1}-*Sm*CPR
pY26-P05mut2	pY26-P_{INO1}-*Sm*F3'H-P_{TDH1}-*Sm*CPR^{I453V}
pY26-P05mut12	pY26-P_{INO1}-*Sm*F3'H^{D285N}-P_{TDH1}-*Sm*CPR^{I453V}
C800GR	C800; pY26-GR
C800GR2	C800; pY26-GR2
C800THGR	C800; pY26-THGR
C800THGR2	C800; pY26-THGR2
C800P05	C800; pY26-P05
C800P05mut1	C800; pY26-P05mut1
C800P05mut2	C800; pY26-P05mut2

C800P05mut12	C800; pY26-P05mut12

Table S3. Primers used in this section

Primer	Sequence (5'-3')
SmF3'H-F	ggatccatgactatcctacccctgctactctac
SmF3'H-R	ctcgaggtcgacggtatcgatcacgtgttataaaccttgactgctttcatac
SmCPR-F	gcggccgcatgcaatcggactcgtctctggaaac
SmCPR-R	ttaattaaaggactcccgtacgctaccaaacatcacggaggtatcttc
PARO7-homo-F	gaggcttgtcagtacatcagcgatctggattacatttgattcagtcatac
PARO7-homo-R	agagtagcaggggtaggatagtcatatcttataccaattttatgcaggatg
PFAD1-homo-F	tttccagagacgagtccgattgcatattgtgctcccctatttgtttattac
PFAD1-homo-R	gatcgctgatgtactgacaagcctccttgaagcaggagaacagctcagtg
PFAS2-homo-F	gaggcttgtcagtacatcagcgatcgttgtcgttgttgtcccagccgttg
PFAS2-homo-R	agagtagcaggggtaggatagtcataatgatggtatttcaattggtgttg
PADH6-homo-F	tttccagagacgagtccgattgcatgattttggcttttcttgttgttgtg
PADH6-homo-R	gatcgctgatgtactgacaagcctcacgcacgtaggcgcatacttctatc
PGAL1-homo-F	gaggcttgtcagtacatcagcgatcttatattgaattttcaaaaattcttactttttttttgg
PGAL1-homo-R	gaggcttgtcagtacatcagcgatctatagtttttctccttgacgttaaagtatag
PTDH3-homo-F	tttccagagacgagtccgattgcattttgtttgtttatgtgtgtttattcgaaac
PTDH3-homo-R	gatcgctgatgtactgacaagcctcataaaaaaacacgctttttcagttcgagtttatc
PGLN1-homo-F	gaggcttgtcagtacatcagcgatcggtccgcacagacgatgccagacgg
PGLN1-homo-R	gaggcttgtcagtacatcagcgatcttttgattatattatattatattatgtttaatttttg
PPMA1-homo-F	tttccagagacgagtccgattgcatattgatattgtttgataattaaatctttc
PPMA1-homo-R	gatcgctgatgtactgacaagcctcccctcgttcacagaaagtctgaagaag
PINO1-homo-F	gaggcttgtcagtacatcagcgatcgaagacgatgaggccggtgccgatg
PINO1-homo-R	gaggcttgtcagtacatcagcgatctgttacttctttttcactggaaaaaaaagggaatg
PERG20-homo-F	tttccagagacgagtccgattgcattttctacgtaatatttttgagtttattg

PERG20-homo-R	gatcgctgatgtactgacaagcctcctcacactttggttcttcgacatgatc
PLEU2-homo-F	gaggcttgtcagtacatcagcgatctcctgtacttccttgttcatgtg
PLEU2-homo-R	gaggcttgtcagtacatcagcgatctagaatggtatatccttgaaatatatatatatatattg
PADE2-homo-F	tttccagagacgagtccgattgcatacttgattgttttgtccgattttcttgtttttc
PADE2-homo-R	gatcgctgatgtactgacaagcctcctagtaacgccgtatcgtgattaac
PMET6-homo-F	gaggcttgtcagtacatcagcgatccatgaaccagggtcccgcactccgg
PMET6-homo-R	gaggcttgtcagtacatcagcgatcgatatgtactttgaaattatattggtattttg
PTDH1-homo-F	tttccagagacgagtccgattgcattttgttttgtgtgtaaatttagtgaag
PTDH1-homo-R	gatcgctgatgtactgacaagcctccaacaaggccccacggtgtggtttc
PSDE1-homo-F	gaggcttgtcagtacatcagcgatcctaccttccatacaccactgattgct
PSED1-homo-R	gaggcttgtcagtacatcagcgatccttaatagagcgaacgtattttattttgcttg
PPGK1-homo-F	tttccagagacgagtccgattgcattgttttatatttgttgtaaaaagtagataattac
PPGK1-homo-R	gatcgctgatgtactgacaagcctcgtgagtaaggaaagagtgaggaactatc
PTPI1-homo-F	gaggcttgtcagtacatcagcgatcacccaaatggactgattgtgagggag
PTPI1-homo-R	gaggcttgtcagtacatcagcgatcttttagtttatgtatgtgtttttttgtagttatag
PGAL10-homo-F	tttccagagacgagtccgattgcatttatattgaattttcaaaaattcttactttttttttgg
PGAL10-homo-R	gatcgctgatgtactgacaagcctctatagtttttctccttgacgttaaag
PZWF1-homo-F	gaggcttgtcagtacatcagcgatcgccgtcgaaaaggatctcgtctctg
PZWF1-homo-R	gaggcttgtcagtacatcagcgatccttgccttatgtggttttctattctattg
PADE6-homo-F	tttccagagacgagtccgattgcattgaacttgacttcttttgttatggacctg
PADE6-homo-R	gatcgctgatgtactgacaagcctcctgaacgtatcgagactcggttgtg
SmF3′Hm-F	gaacttagtttcgacggattctagaactagtggatccatg
SmF3′Hm-R	aattacatgactcgaggtcgacggtatcgatcacgtgtta
SmCPRm-F	gacttgaccaaacctcggcgaag
SmCPRm-R	cacacaaaacaaaatgcaatcggac

9.4k-F	caattcttcgccagaggtttggtcaagtc
9.4k-R	gacgagtccgattgcattttgttttgtgtg
9.5k-F	taacacgtgatcgataccgtcgacctc
9.5k-R	catggatccactagttctagaatccgtc

Reference

(1) Zhu S., Wu J., Du G., Zhou J., and Chen J. Efficient synthesis of eriodictyol from L-tyrosine in *Escherichia coli*. *Appl. Environ. Microbiol.* 2014**,** 80 (10), 3072–3080.

(2) Li A., Liu Z., Li Q., Yu L., Wang D., and Deng X. Construction and characterization of bidirectional expression vectors in *Saccharomyces cerevisiae*. *FEMS Yeast Res.* 2008**,** 8 (1), 6–9.