

Fig. 1

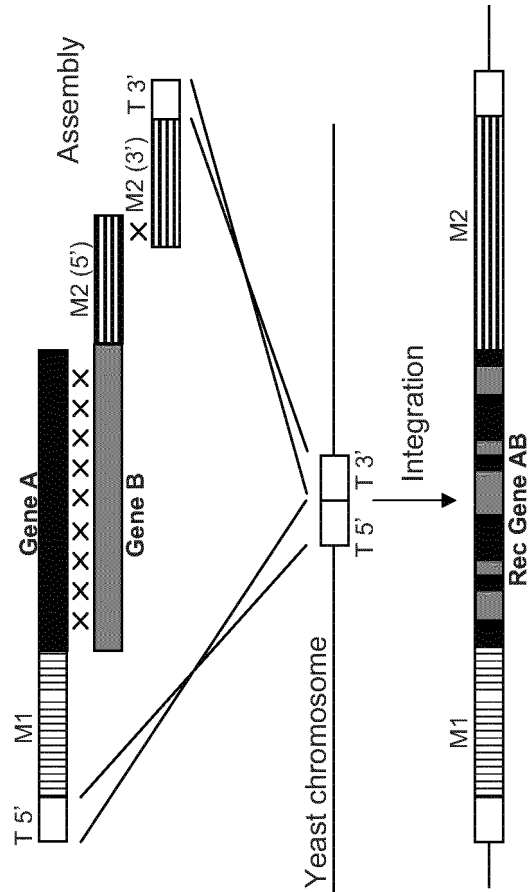


Fig. 2

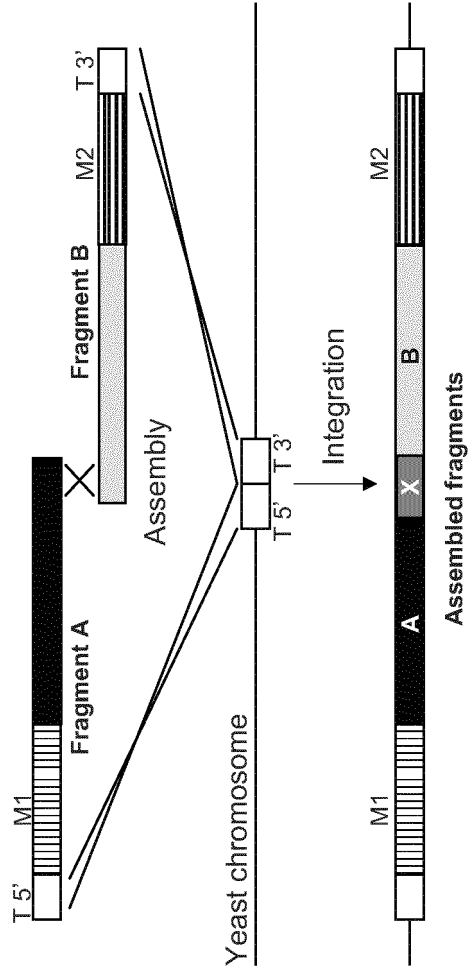
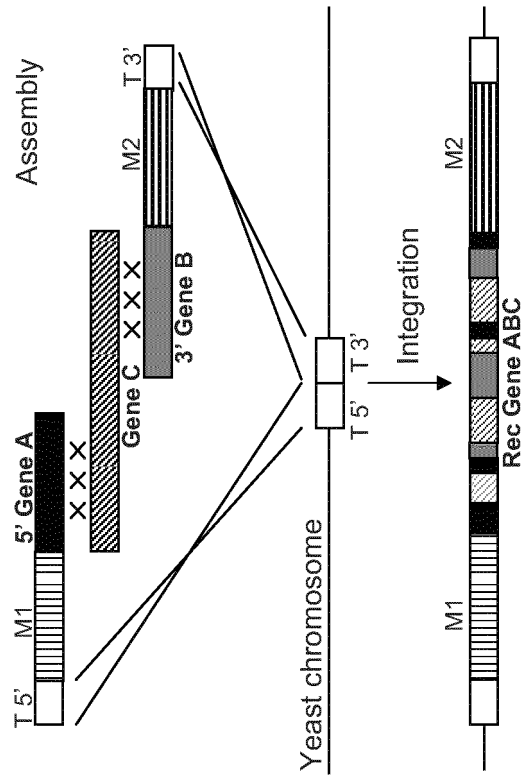


Fig. 3



Flavonoid genes
CHI = chalcone isomerase
F3H = Flavanone-3-hydrolase
PAL = Phenylalanine lyase
CHS = Chalcone synthase
C4H = Cinnamate-4-hydrolase
FLS = Flavanol synthase
4CL = 4-comaroyl-CoA ligase
CPR = cytochrome P450 reductase

Gene plant sources
Pop = *Populus* sp
Gly = *Glycine* sp
Hyp = *Hypericum* sp
Sol = *Solanum* sp
Chr = *Chrysanthemum* sp
Hor = *Hordeum* sp
Pet = *Petroselinum* sp
Ptu = *Petunia* sp
Fra = *Fragaria* sp

Length of the assembled cluster = 22059 bp
 Sequence identity (ID) between genes as %
 Genes, promoters and terminators are in same the scale

Fig. 5

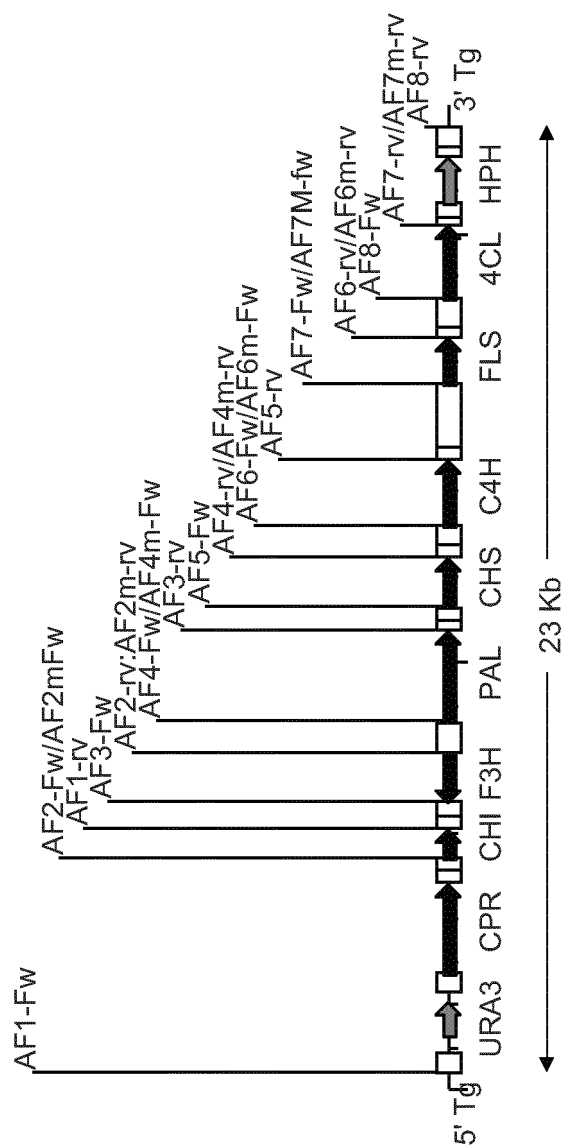


Fig. 6

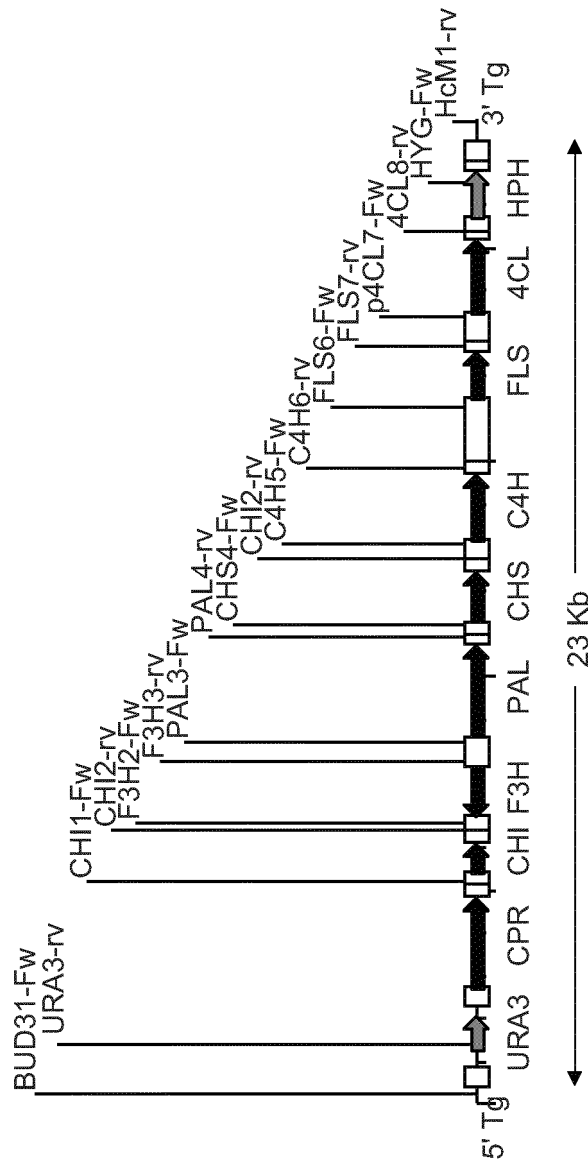


Fig. 7A

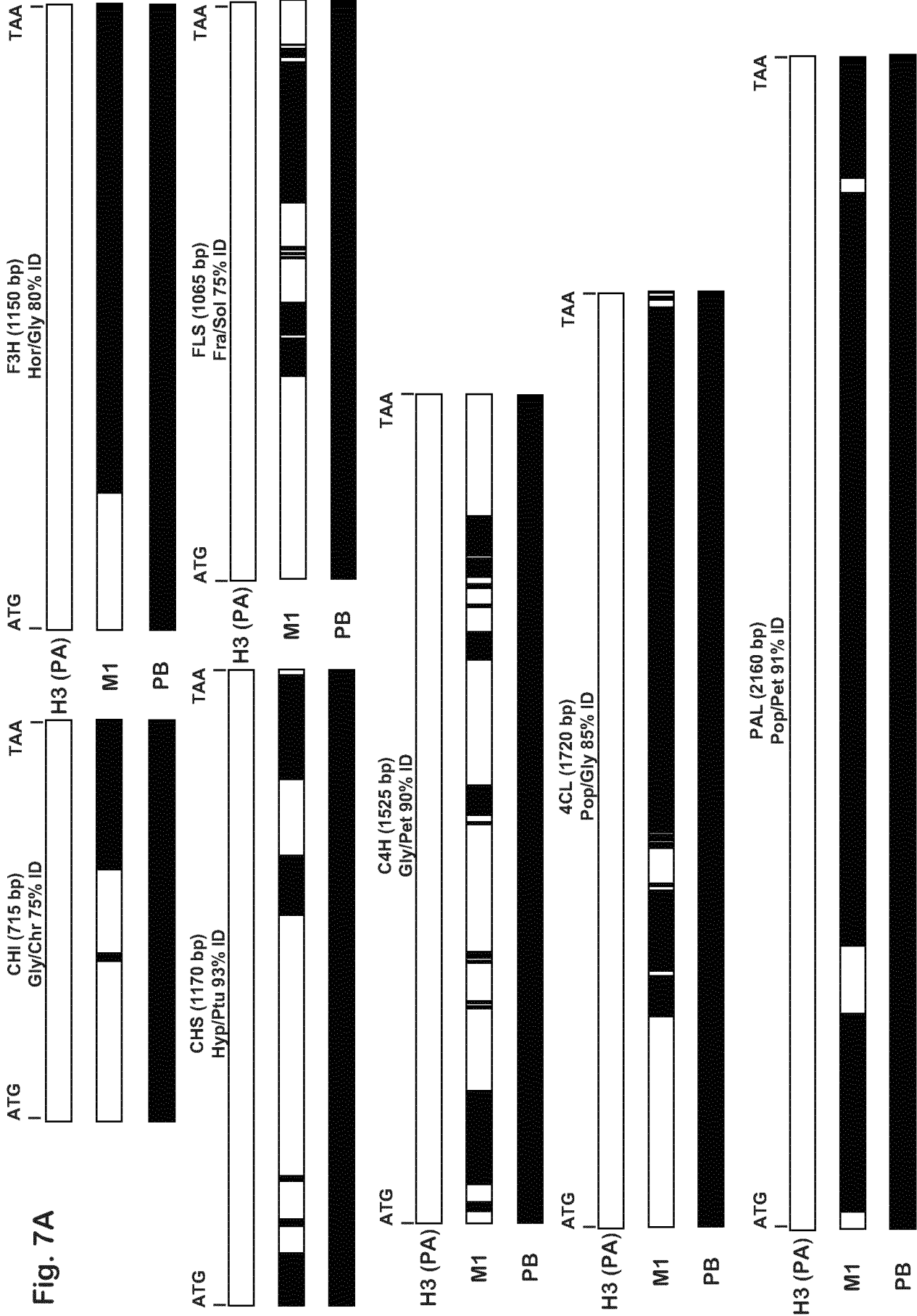


Fig. 7B

Promoter and terminator sequences are not shown

Genes and mosaic tracks are in the scale

Flavonoid genes

CHI = chalcone isomerase
F3H = Flavanone-3-hydroxylase
PAL = Phenylalanine lyase
CHS = Chalcone synthase
C4H = Cinnamate-4-hydroxylase
FLS = Flavanol synthase
4CL = 4-coumaroyl-CoA ligase
CPR = cytochrome P450 reductase

Gene plant sources

Pop = Populus sp
Gly = Glycine sp
Hyp = Hypericum sp
Sol = Solanum sp
Chr = Chrysanthemum sp
Hor = Hordeum sp
Pet = Petroselinum sp
Ptu = Petunia sp
Fra = Fragaria sp

Fig. 8

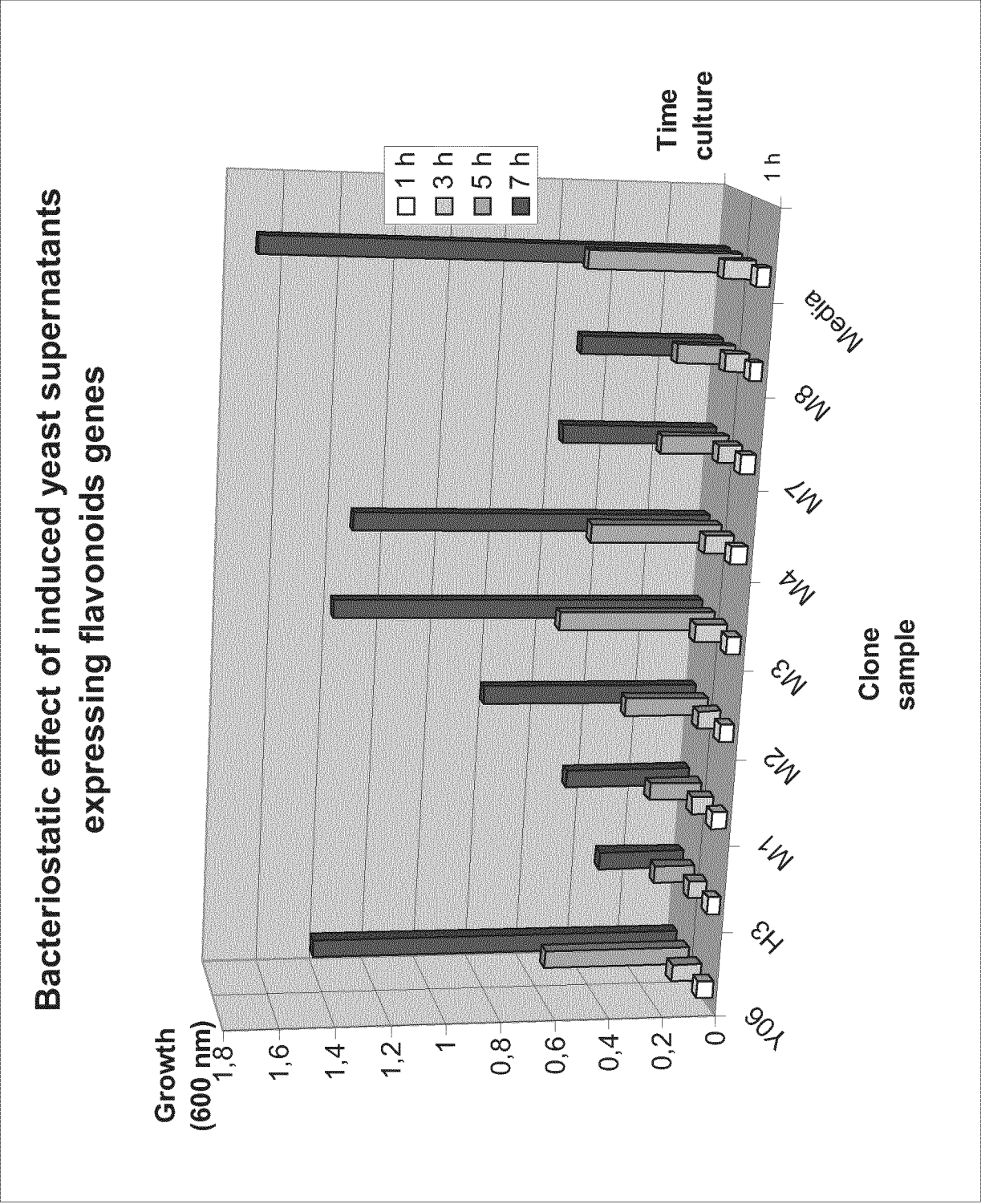


Fig. 9

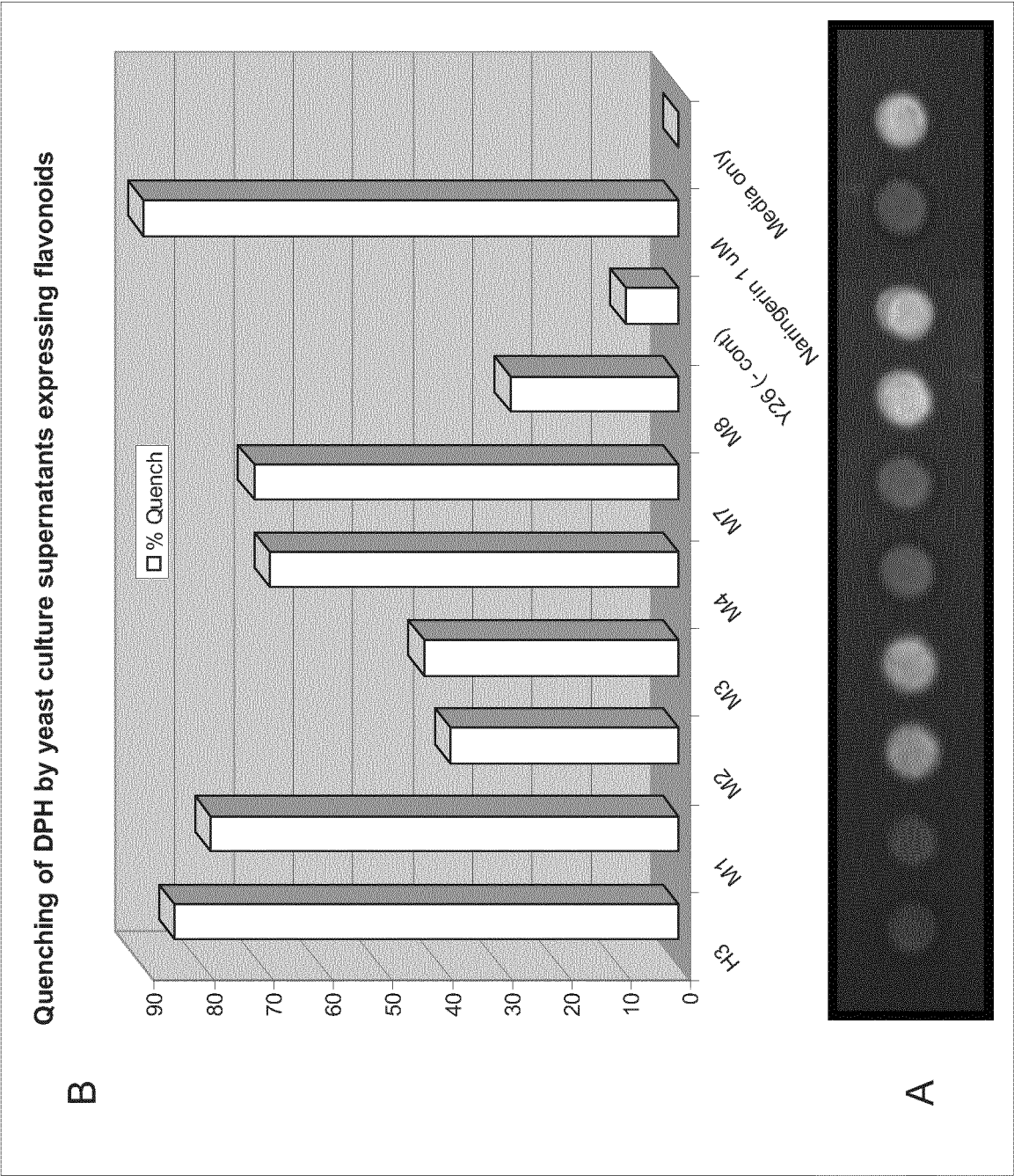


Fig. 10:

>Fe02 11-7

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SEQ ID NO1

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SEQ ID NO 2

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SEQ ID NO 4

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ESEGIIGG

SEQ ID NO 6

Fig. 10 continued

>Fe05 11-7

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SEQ ID NO 7

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SEQ ID NO 8

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Fig. 10 continued

>Fe11 11-7

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SEQ ID NO 14

Fig. 11:

>Fe09 11-5

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SEQ ID NO 15

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SEQ ID NO 16

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SEQ ID NO 20

Fig. 11 continued

>Fe16 11-5

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SEQ ID NO 23

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SEQ ID NO 24

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AAAAATTTCTATGGCAGCCAGAATATCAGTGGTGGCATTGACAAATTTCTGGTTGGAAGACCAGCTTAGAATTTCCGCAGTT
AATCAAGTGGAGTTTCTAGAGTCTCTATATTTAAATAAAATGTCAGCATCTAAAGAAAACCAGCTAATAGTAAAGAGGCTTT
GGTAACGGAGGCGGCACCTGAATATCTAGTGCAATCAAAAAGTGGTTTTCTGGTGTGGGAAGTGAATCAAAATCCTGGTGT
CGCATGGTGGGTTGGGTGGGTTGGGAAGGAGACAGAGGTTTACTTTTTCGCCTTTAACATGGATATAGACAACGAAAGT
AAGTTGCCGCTAAGAAAATCCATTCCCACCAAATCATGGAAAGTGAGGGCATCATTGGTGGCTAA

SEQ ID NO 25

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VFKWDGKPRAMKQWERDLTLRGAIQVSAVPVFQIAREVGEVRMQYLKKFSYGSQNISSGIDKFWLEDQLRISAVNQVEFLES
LYLNKLSASKENQLIVKEALVTEAAPEYLVHSKTGFSVGVGTESNPGVAWWVGVWGKETEVYFFAFNMDIDNESKPLRKSIPTKI
MESEGIIGG

SEQ ID NO 26

ATGAAAAAGCATTTGCCGCATAGTAATTA**CTGC**GTGTCTTTCA**AGT**TACGGCATTAGCT**AGT**TTCAAATTACAGAAAAATACGTTTGG
GAACAAAGAGTCTCTGCCGAAGCCGTCATGGTGTTCCTGCTGTTGTAAGAAAGTAGCAGTAATACCTCGCGCTACCAATA**A**
ACTTAGCTCTGTGCATCAAGGAAGATCTTCAGCATCAACATTAATTAAGATCCCCAACGCAATATATCGCGCTAGAAACTGGTGT
CATAAAGAAATGAGCATCAGGTTTTCAAATGGGACGGAAAGCCAAAGAGCCATGAAACAATGGGAAAGAGACTTG**AGC**TTAAG
AGGGGCAATCAAGAAGTTTCAG**CG**TTCGCGTATTTCAACAAATCGCCAGCAAGAGTTGGCGAAGTAAGAATCGAGAATAATCTCT
AAAAAATTTT**CTAT**GT**GTA****ACC**GACAATATCAGTGGTGGCATTCAGCAAAATTCGGTTGG**AGGGT****CAGCTT****AGA**ATTTCCGCG
TTAATCAAGTGGAGTTTCTAGAGTCTCTATTTTTAAATAAAATTGTCAGCATCA**AAAAG**AAAAT**TCAG**CTAATAGTAAAGAGGGCT
TTGGTAACGGAGGGT**CGC**GGCTGAATATCT**TGT**GCATTCAAAACATGTTTTCTGGTGTGGGAAGTGAATCAATCCTGGTG
TCGCATGGTGGGTTGG**TTGGGT**TGAGAAGGG**GAGC**AGGAGGTTTACTTTTTCGC**ATTTAACAT****TGG**ATATAGACAACGAAA**ATA**
AGTTGCCGCTAAGAAAAATCCATTCCACCAAATCATGG**CAAGTGA**GGGCATCATTTGGTGGGCTAA

MKTFAAYVITACLSSTALASSITENTFWNKEFSAEAVNGVFLCKSSSKSCATNNLARASKEYLPASTFKIPNIIIGLETGVIIKNEHQ
 VFKWDGKPRAMKQWERDLRLGAIQVSAVPVQQIAREVGEVRMQYLLKKFSYGNQNISSGGIDKFWLEGQLRISAVNQVEFLES
 LFLNKLSSAKENQLIVKEALVTEAAPEYLVHSKTGFSGVGTESNPGVAWWVVGWVEKGAEVYFFAFNMMDIDNENKLPLRKSIPTKI
 MASEIIGG

ATGAAAAACATTTGCCGCATACCGTAATTA**CTG**CGTGTCTTTCA**AAG**TACGGCATTAGCT**AG**TTCAATTACAGAAAAATACGTT**TTT**G
GAACAAAGAGTCTCTGCCGAAAGCCGTCATGGTG**TTTT**CTGCTTTGTAAAAAGTAGCAGTAATCTCGCGCTACCAAAATGAC
TTAGCTCGTGATCAAGGAATATCTCCAGCATCAACATTTAAGATCCCAACGCAATTAATCGGCCTAGAAGATGGTGCA
TAAAGAATGAGCATCAG**A**TTTTCAAATGGGACGGAAAGCCAAAGAGCCATGAAGCAATGGGAAAGAGACTTGACCTTAAGAG
GGGCAATACAAGTTTCAGCTGTTCCCGTATTTCAACAATCGCCGAGAAGAGTTGGCGCAATGAAGATCGAGAAATACCTTAA
AAAATTTTC**ATA**TGGT**TAAC**CAACAATACGTGGTGGCATTGACAAATCTGGTTGG**AGGTCAGCTTGA**ATTTCCCGCAGT
AATCAAGTGGAGTTTCTAGAGTCTCAT**TTTT**AAATAAAATGTCAGCATC**AAAAG**AAAA**TC**AGCTAATAGTAAAGAGGCTTT
GGTAACGGAGGGCGGCACCTGAATATCT**TGT**GCATTCAAAAATCGTTTTTCTGGTGTGGGAAC**TG**AGTCAAATCCTGGTGT
CGCATGGTGGGTGG**TTGGG**TTGAGAAG**GGGAG**CAGAGGTTTACTTTTTCGCAT**ATTTAACATGGA**TATAGACAACGAAAA**A**TAA
GTTGCCGCTAAGAAAAATCCATTTCCACCAAAATCATGG**CAAGTGA**GGGCAT**ATT**GGTGGCTAA

MKTFAAYVITACLSSTALASSITENTFWNKEFSAEAVNGVFLVCKSSSSKSCATNDLARASKEYLPASTFKIPNAIGLETGVIKNEHQ
 IFKWDGKPRAMKQWERDLTLRGAIQVSAPVPVQQIAREVGEVRMQKYLLKKFSYGNQNISGGIDKFWLEGQLRIPAVNQVEFLES
 LFLNKLSSAKENQLIVKEALVTEAAPEYLVSHTGFSGVGTESNPGVAWWVGWVEKGAEVYFFAFNMMDIDNENKLPLRKSIPTKI
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ATGAAAAACATTTGCCGCATATGTAATTATCGCGTGTCTTTTCGAGTACGGCATTAGCTGGTTCAATTACAGAAAAATACGTCCTTG
GAACAAAGAGTCTTCTGCCGAAGCCGTCATGGTGTCTTCCTGGCTTTGTAAAAAGTAGACGTAATCTCGCCTACCAATGAC
TTAGCTCGTGATCAACGAAGGAATATCTCCAGCATCAACATTTTAAGATCCCCAACGCAATTAATCGGCCTAGAAAGCTGGTGCA
TAAAGAATGAGCATCAGGTTTTCAAAATGGGACGGAAAGCCAAAGGCCATGAAGCAATGGGAAAGAGACTTGACCTTAAGAG
GGGCAATACAAGTTTTCAGCTGTTCCCGTATTTTCAACAATTCGCCAGAGAAGTGTGGCGAAGTAAGAAATCGAGAAATACCTTAA
AAAAATTTCCCTATGGCAGCCAGAATATCAGTGGTGGCATGACAAATCTGGTTGGAAGACCAGCTAGAATTTCCGCAGTT
AATCAAGTGGAGTTTCTAGAGCTCTATATTTAAATAAATGTGCAGCATCTAAAGAAAACCCAGCTAATAGTAAAAAGAGGCTTT
GGTAACGGAGGCGGCACCTGAATATCTAGTGCAATTCAAAAATCGGTTTTCTGGTGTGGGAACGATAGTCAAATCCTGGTG
CGCATGGTGGGTTGGGTGGGTGAGAGAGACAGACAGAGGTTACTTTTTCGCCTTTAAACATGATATAGACAACGAAAGTAA
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 LYLNLKSASKENQLIVKEALVTEAAPEYLVHSKTGFSGVGTESNPGVAWVVGWVEKETEVYFFAFNMDIDNESKLPLRKSIPTKI
 MESEHISAGG

SEQ ID NO 32

Fig. 11 continued

>Fe22 11-5

ATGAAAACATTTGCCGCATATGTAATTATCGCGTGTCTTTTCGAGTACGGCATTAGCTGGTTCAATTACAGAAAATACGTCCTTG
GAACAAAGAGTTCTCTGCCGAAGCCGTCATGGTGTCTTCGTGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATGAC
TTAGCTCGTGTCATCAAAGGAATATCTTCCAGCATCAACATTTAAGATCCCCAACGCAATTATCGGCCTAGAAAACCTGGTGTCA
TAAAGAATGAGCATCAGGTTTTCAAATGGGACGGAAAGCCAAGAGCCATGAAGCAATGGGAAAGAGACTTGACCTTAAGAG
GGGCAATACAAGTTTCAGCTGTTCCCGTATTTCAACAAATCGCCAGAGAAGTTGGCGAAGTAAGAATGCAGAAAATACCTTAA
AAAATTTTCTATGGCAGCCAGAATATCAGTGGTGGCATTGACAAATTTCTGGTTGGAAGACCAGCTTAGAATTTCCGCAGTT
AATCAAGTGGAGTTTCTAGAGTCTCTATATTTAAATAAATTGTCAGCATCTAAAGAAAACCAGCTAATAGTAAAGAGGCTTT
GGTAACGGAGGCGGCACCTGAACATCTAGTGCATTCAAAAACCTGGTTTTCTGGTGTGGGAACTGAGTCAAATCCTGGTGT
CGCATGGTGGGTTGGGTGGGTTGAGAAGGAGACAGAGGTTTACTTTTTCGCCTTTAACATGGACATAGACAACGAAAGTAA
GTTGCCGCTAAGAAAATCCATTCCCACCAAATCATGGAAAGTGAGGGCATCATTGGTGGCTAA

SEQ ID NO 33

MKTFAAYVIIACLSSTALAGSITENTSWNKEFSAEAVNGVFLCKSSSKSCATNDLARASKEYLPASTFKIPNAIIGLETGVKNEHQ
VFKWDGKPRAMKQWERDLTLRGAIQVSAVPVFQIAREVGEVRMQYLKKFSYGSQNISSGIDKFWLEDQLRISAVNQVEFLES
LYLNKLSASKENQLIVKEALVTEAAPEHLVHSKTGFSVGVGTESNPGVAWWVGVWEKETEVYFFAFNMDIDNESKLPRLKSIPTKI
MESEGIIGG

SEQ ID NO 34

>Fe23 11-5

ATGAAAACATTTGCCGCATATTTAATTATCGCGTGTCTTTTCGAGTACGGCATTAGCTGGTTCAATTACAGAAAATACGTCCTTG
GAACAAAGAGTTCTCTGCCGAAGCCGTCATGGTGTCTTCGTGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATGAC
TTAGCTCGTGTCATCAAAGGAATATCTTCCAGCATCAACATTTAAGATCCCCAACGCAATTATCGGCCTAGAAAACCTGGTGTCA
TAAAGAATGAGCATCAGGTTTTCAAATGGGACGGAAAGCCAAGAGCCATGAAGCAATGGGAAAGAGACTTGACCTTAAGAG
GGGCAATACAAGTTTCAGCTGTTCCCGTATTTCAACAAATCGCCAGAGAAGTTGGCGAAGTAAGAATGCAGAAAATACCTTAA
AAAATTTTCTATGGCAGCCAGAATATCAGTGGTGGCATTGACAAATTTCTGGTTGGAAGACCAGCTTAGAATTTCCGCAGTT
AATCAAGTGGAGTTTCTAGAGTCTCTATATTTAAATAAATTGTCAGCATCTAAAGAAAACCAGCTAATAGTAAAGAGGCTTT
GGTAACGGAGGCGGCACCTGAATATCTAGTGCATTCAAAAACCTGGTTTTCTGGTGTGGGAACTGAGTCAAATCCTGGTGT
CGCATGGTGGGTTGGGTGGGTTGAGAAGGAGACAGAGGTTTACTTTTTCGCCTTTAACATGGATATAGACAACGAAAGTAA
GTTGCCGCTAAGAAAATCCATTCCCACCAAATCATGGAAAGTGAGGGCATCATCTTGGTGGCTTA

SEQ ID NO 35

MKTFAAYLIIACLSSTALAGSITENTSWNKEFSAEAVNGVFLCKSSSKSCATNDLARASKEYLPASTFKIPNAIIGLETGVKNEHQ
VFKWDGKPRAMKQWERDLTLRGAIQVSAVPVFQIAREVGEVRMQYLKKFSYGSQNISSGIDKFWLEDQLRISAVNQVEFLES
LYLNKLSASKENQLIVKEALVTEAAPEYLVHSKTGFSVGVGTESNPGVAWWVGVWEKETEVYFFAFNMDIDNESKLPRLKSIPTKI
MESEGIIGG

SEQ ID NO 36

>Fe24 11-5

ATGAAAACATTTGCCGCATATGTAATTATCGCGTGTCTTTTCGAGTACGGCATTAGCTGGTTCAATTACAGAAAATACGTCCTTG
GAACAAAGAGTTCTCTGCCGAAGCCGTCATGGTGTCTTCGTGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATGAC
TTAGCTCGTGTCATCAAAGGAATATCTTCCAGCATCAACATTTAAGATCCCCAACGCAATTATCGGCCTAGAAAACCTGGTGTCA
TAAAGAATGAGCATCAGGTTTTCAAATGGGACGGAAAGCCAAGAGCCATGAAGCAATGGGAAAGAGACTTGACCTTAAGAG
GGGCAATACAAGTTTCTGCTGTTCCCGTATTTCAACAAATCGCCAGAGAAGTTGGCGAAGTAAGAATGCAGAAAATACCTTAA
AAAATTTTCTATGGCAGCCAGAATATCAGTGGTGGCATTGACAAATTTCTGGTTGGAAGACCAGCTTAGAATTTCCGCAGTT
AATCAAGTGGAGTTTCTAGAGTCTCTATATTTAAATAAATTGTCAGCATCTAAAGAAAACCAGCTAATAGTAAAGAGGCTTT
GGTAACGGAGGCGGCACCTGAATATCTAGTGCATTCAAAAACCTGGTTTTCTGGTGTGGGAACTGAGTCAAATCCTGGTGT
CGCATGGTGGGTTGGGTGGGTTGAGAAGGAGACTGAGGTTTACTTTTTGCTTCTAACATGGACATAGACAATGAGAGTAA
ATTGCCGCTAAGAAAATCCATTCAACGAAATCATGGCAAGTGAAGGCATCATCTTGGTGGCTAA

SEQ ID NO 37

MKTFAAYVIIACLSSTALAGSITENTSWNKEFSAEAVNGVFLCKSSSKSCATNDLARASKEYLPASTFKIPNAIIGLETGVKNEHQ
VFKWDGKPRAMKQWERDLTLRGAIQVSAVPVFQIAREVGEVRMQYLKKFSYGSQNISSGIDKFWLEDQLRISAVNQVEFLES
LYLNKLSASKENQLIVKEALVTEAAPEYLVHSKTGFSVGVGTESNPGVAWWVGVWEKETEVYFFAFNMDIDNESKLPRLKSISTKI
MASEGIIGG

SEQ ID NO 38

Fig. 12

OXA11 (parental)

ATGAAAACATTTGCCGCATATGTAATTATCGCGTGTCTTTTCGAGTACGGCATTAGCTGGT
TCAATTACAGAAAATACGCTTTGGAACAAAGAGTTCTCTGCCGAAGCCGTCAATGGTGTC
TTCTGTGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATGACTTAGCTCGTGCATCA
AAGGAATATCTTCCAGCATCAACATTTAAGATCCCCAACGCAATTATCGGCCTAGAACT
GGTGTCTATAAAGAATGAGCATCAGGTTTTCAAATGGGACGGAAAGCCAAGAGCCATGAAG
CAATGGGAAAGAGACTTGACCTTAAGAGGGGCAATACAAGTTTCAGCTGTTCCCGTATTT
CAACAAATCGCCAGAGAAGTTGGCGAAGTAAGAATGCAGAAATACCTTAAAAAATTTCC
TATGGCAGCCAGAAATATCAGTGGTGGCATTGACAAATCCTGGTTGGAAGACCAGCTTAGA
ATTTCCGCAGTTAATCAAGTGGAGTTTCTAGAGTCTCTATATTTAAATAAATTGTCAGCA
TCTAAAGAAAACAGCTAATAGTAAAAGAGGCTTTGGTAACGGAGGCGGCACCTGAATAT
CTAGTGCATTCAAAAACCTGGTTTTCTGGTGTGGGAACTGAGTCAAATCCTGGTGTGCA
TGGTGGGTTGGGTGGGTTGAGAAGGAGACAGAGGTTTACTTTTTCGCCTTTAACATGGAT
ATAGACAACGAAAGTAAGTTGCCGCTAAGAAAATCCATTCCCACCAAAATCATGGAAAGT
GAGGGCATCATTGGTGGCTAA

SEQ ID NO 39

OXA07 (parental)

ATGAAAACATTTGCCGCATATGTAATTACTGCGTGTCTTTTCAAGTACGGCATTAGCTAGT
TCAATTACAGAAAATACGTTTTGGAACAAAGAGTTCTCTGCCGAAGCCGTCAATGGTGTT
TTCTGTGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATAACTTAGCTCGTGCACCA
AAGGAATATCTTCCAGCATCAACATTTAAGATCCCCAACGCAATTATCGGCCTAGAACT
GGTGTCTATAAAGAATGAGCATCAGATTTTCAAATGGGACGGAAAACCAAGAGCCATGAAA
CAATGGGAAAGAGACTTGAGCTTAAGAGGGGCAATACAAGTTTCAGCGGTTCCCGTATTT
CAACAAATCGCCAGAGAAGTTGGCGAAGTAAGAATGCAGAAATATCTTAAAAAATTTCA
TATGGTAAACCAAGATATCAGTGGCGCATTGACAAATTTCTGGTCGGAGGGTCAGCTTAGA
ATTTCCGCAGTTAATCAAGTGGAGTTTCTAGAGTCTCTATTTTAAATAAATTGTCAGCA
TCAAAAGAAAATCAGCTAATAGTAAAAGAGGCTTTGGTAACGGAGGCTGCGCCTGAATAT
CTTGTGCATTCAAAAACCTGGTTTTCTGGTGTGGGAACTGAGTCAAATCCTGGTGTGCA
TGGTGGGTTGGTTGGGTTGAGAAGGGAGCAGAGGTTTACTTTTTCGCATTAAACATGGAT
ATAGACAACGAAAATAAGTTGCCGCTAAGAAAATCCATTCCCACCAAAATCATGGCAAGT
GAGGGCATCATTGGTGGCTAA

SEQ ID NO 40

OXA05 (parental)

ATGAAAACCATAGCCGCATCTTAGTTACTTCCTGTTTTTCAAGCACCGCGCTCTCAAAG
TCTATTTCTGAAAATTTGGTGTGGAATAAAGAATTTTCTAGTGAATCCGTACATGGCGTT
TTTGTACTTTGTAAAAGTAGTAGCAATTCCTGTACTACAAATAATGCGGCACGTGCATCT
ACAGCCTATATTCAGCATCAACATTTCAAATTCCTAATGCTCTAATAGGTCTTGAAACC
GGCGCCATAAAAGATGAACGGCAGATTTTCAAATGGGACGGCAAGCCCAGAGCCATGAAA
CAATGGGAAAAAGACTTAAGGCTAAGGGGCGCTATACAGGTTTCTGCGGTTCCGGTATTT
CAACAAATTGCCAGAGAAGTTGGCGAAATGAGAATGCAAAGATATCTTAACCTGTTTTCA
TACGGTAACGCCAATATAGGGGGAGGCATTGACAAATCTGGCTAGAGGGTCAGCTTAGA
ATCCCAGCATTCAATCAAGATAAATCTTTAGAGTCGCTCTTCTGAATAATTTGCCAGCA
TCAAAAGCAAAATCAACTAATAGTAAAAGAGGCAATAGTTACAGAAGCTACGCCAGAATAT
ATTGTTTCATTCAAAAACCTGGGTATTCCGGTGTGGCACAGAATCAAGTCCTGGTGTGCT
TGGTGGGTTGGTTGGGTAGGGAAAGGAGCTGAGGTTTACTTTTTGCATTAAACATGGAC
ATAGACAATGAGAATAAATTGCCGTCAAGAAAATCCATTTCAACGAAAATCATGGCAAGT
GAAGGCATCATCATTGGTGGCTAA

SEQ ID NO 41

Fig. 13

a) >OUL3-05-II

ATGAAAACATTTGCCGCATATGTAATTATCGCGTGTCTTTCGAGTACGGCATTAGCTGGTTC
AATTACAGAAAATACGTCTTGGAACAAAGAGTTCTCTGCCGAAGCCGTCAATGGTGTCTTCG
TGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATGACTTAGCTCGTGCATCAAAGGAA
TATCTTCCAGCATCAACATTCAAATTCCTAATGCTCTAATAGGTCTTGAAACCGGCGCCAT
AAAAGATGAACGGCAGGTTTTCAAATGGGACGGCAAGCCCAGAGCCATGAAGCAATGGGAAA
AAGACTTAAAGCTAAGGGGCGCTATACAGGTTTCTGCTGTTCCGGTATTTCAACAAATTGCC
AGAGAAGTTGGCGAAATAAGAATGCAAAAATACCTTAACCTGTTTTCATACGGCAACGCCAA
TATAGGGGGAGGCATTGACAAATTCTGGCTAGAAGGTCAGCTTAGAATCTCAGCATTCAATC
AAGTTAAATTTTTAGAGTCGCTCTACCTGAATAATTTGCCAGCATCAAAAAGCAAACCAACTA
ATAGTAAAAGAGGCAATAGTTACAGAAGCAACTCCAGAATATATAGTTCATTCAAAAACCTGG
GTATTCCGGTGTTGGCACAGAATCAAGTCCTGGTGTGCTTGGTGGGTGGTTGGGTAGAGA
AAGGAACTGAGGTTTACTTTTTTGCTTTTAACATGGACATAGACAATGAGAGTAAATTGCCG
TCAAGAAAATCCATTCC**CACCAAAATCATGGCAAGTGAGGGCATCATTGGTGGCTAAGCTGT**
GAAGATCCCAGCAAAGGCTTA

SEQ ID NO 42

MKTFAAYVIIACLSSTALAGSITENTSWNKEFSAEAVNGVFLCKSSSKSCATNDLARASKE
YLPASTFKIPNALIGLETGAIKDERQVFKWDGKPRAMKQWEKDLKLRGAIQVSAVPVFQQIA
REVGEIRMQKYLNLFSYGNANIGGGIDKFWLEGQLRISAFNQVKFLESYLNLPASKANQL
IVKEAIVTEATPEYIVHSKTGYSGVGTESSPGVAWVVGWVEKGTEVYFFAFNMDIDNESKLP
SRKSIPTKIMASEGIIGG.

SEQ ID NO 43

Fig. 13 (continued).

b) >OUL3-05-III

ATGAAAACATTTGCCGCATATTTAGTTCTCGCGTGTCTTTTCGAGTACGGCATTAGCTGGTTC
AATTACAGAAAATACGTCTTGGAACAAAGAGTTCTCTGCCGAAGCCGTCAATGGTGTCTTCG
TGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATGACTTAGCTCGTGCATCAAAGGAA
TATCTTCCAGCATCAACATTTAAGATCCCCAACGCAATTATCGGTCTAGAACTGGTGTCTAT
AAAGAATGAGCATCAGGTTTTCAAATGGGACGGAAAGCCAAGAGCCATGAAGCAATGGGAAA
GAGACTTGACCTTAAGAGGGGCAATACAAGTTTCAGCTGTTCCCGTATTTCAACAAATCGCC
AGAGAAGTTGGCGAAATAAGAATGCA**GAAATATCTTAAAAAATTTTCATATGGTAACCAGAA**
TATCAGTGGTGGCATTGACAAATTCTGGCTAGAAGGTCAGCTTAGAATCTCAGCATTCAATC
AAGTTAAATTTTTAGAGTCGCTCTACCTGAATAATTTGCCAGCATCAAAAAGAA**AAATCAGCTA**
ATAGTAAAAGAGGCTTTTGGTAACGGAGGCTGCGCCTGAATATCTTGTGCATTCAAAAACTTGG
TTTTTCTGGTGTGGGAACTGAGTCAAATCCTGGTGTGCGATGGTGGGTTGGTTGGGTTGAGA
AGGGAGCAGAGGTTTACTTTTTTCGCATTTAACATGGATATAGACAACGAAAATAAGTTGCCG
CTAAGAAAATCCATTCCCACCAAATCATGGCAAGTGAGGGCATCATTGGTGGCTAA

SEQ ID NO 44

MKTFAAYLVLACLSSTALAGSITENTSWNKEFSAEAVNGVFLCKSSSKSCATNDLARASKE
YLPASTFKIPNAIIGLETGVIKNEHQVFKWDGKPRAMKQWERDLTLRGAIQVSAVPVFQQIA
REVGEIRMQKYLKKFSYGNQNISSGIDKFWLEGQLRISAFNQVKFLESYLYLNNLPASKENQL
IVKEALVTEAAPEYLVHSGTGFSGVGTESNPGVAWVVGWVEKGAEVYFFAFNMDIDNENKLP
LRKSIPTKIMASEGIIGG.

SEQ ID NO 45

Fig. 13 (continued).

c) >OUL3-05-IV

ATGAAAACATTTGCCGCATATGTAATTATCGCGTGTCTTTTCGAGTACGGCATTAGCTAGTTC
AATTACAGAAAATACGTCTTGGAACAAAGAGTTCTCTGCCGAAGCCGTCAATGGTGTCTTCG
TGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATGACTTAGCTCGTGCATCAAAGGAA
TATCTTCCAGCATCAACATTTAAGATCCCCAACGCAATTATCGGCCTAGAACTGGTGTCTAT
AAAGAATGAGCATCAGGTTTTCAAATGGGACGGAAAGCCAAGAGCCATGAAGCAATGGGAAA
GAGACTTGACCTTAAGAGGGGCAATACAAGTTTCAGCTGTTCCCGTATTTCAACAAATCGCC
AGAGAAGTTGGCGAAATAAGAATGCA**GAAATATCTTAAAAAATTTTCATATGGTAACCAGAA**
TATCAGTGGTGGCATTGACAAATTCTGGTTGGAGGGTCAGCTTAGAATTTCCGCAGTTAATC
AAGTGGAGTTTCTAGAGTCTCTATTTTTTAAATAAATTGTCAGCATCAAAAAGAAAATCAGCTA
ATAGTAAAAGAGGCTTTGGTAACGGAGGCTGCGCCTGAATATCTTGTGCATTCAAAAACCTGG
TTTTTCTGGTGTGGGAACTGAGTCAAATCCTGGTGTGCGATGGTGGGTGGTTGGGTTGAGA
AGGGAGCAGAGGTTTACTTTTTTCGCATTTAACATGGATATAGACAACGAAAATAAGTTGCCG
CTAAGAAAATCCATTTCCACCAAATCATGGCAAGTGAGGGCATCATTGGTGGCTAA

SEQ ID NO 46

MKTFAAYVIIACLSSTALASSITENTSWNKEFSAEAVNGVFLCKSSSKSCATNDLARASKE
YLPASTFKIPNAIIGLETGVIKNEHQVFKWDGKPRAMKQWERDLTLRGAIQVSAVPVFQQIA
REVGEIRMQKYLKKFSYGNQNISSGIDKFWLEGQLRISAVNQVEFLESFLNKLKLSASKENQL
IVKEALVTEAAPEYLVHSGTGFSGVGTESNPGVAWVVGWVEKGAEVYFFAFNMDIDNENKLP
LRKSIPTKIMASEGIIGG.

SEQ ID NO 47

Fig. 13 (continued).

d) >OUL3-05-IX

ATGAAAACATTAGCCGCATATTTAGTTCTAGTTTTTTTATGCAAGCACCGCGCTCTCAGAGTC
AATTACAGAAAATTTGGCGTGGAATAAAGAATTTTCTAGTGAATCCGTACATGGCGTTTTTG
TACTTTGTAAAAGTAGTAGCAATTCCTGTACTACAAATAATGCGGCACGTGCATCTACAGCC
TATATTCCAGCATCAACATTCAAATTCCTAATGCTCTAATAGGTCTTGAAACCGGCGCCAT
AAAAGATGAACGGCAGGTTTTCAAATGGGACGGAAAGCCAAGAGCCATGAAGCAATGGGAAA
GAGACTTAAAGCTAAGGGGCGCTATACAGGTTTCTGCTGTTCCGGTATTTCAACAAATTGCC
AGAGAAGTTGGCGAAATAAGAATGCAAAAATACCTTAACCTGTTTTTCATACGGCAACGCCAA
TATAGGGGGAGGCATTGACAAATTCCTGGCTAGAAGGTCAGCTTAGAATCTCAGCATTCAATC
AAGTTAAATTTTTAGAGTCGCTCTACCTGAATAAA**ATTGTCAGCATCAAAAAGAAAA**CCAACTA
ATAGTAAAAGAGGCAATAGTTACAGAAGCAACTCCAGAATATATAGTTCATTCAAAAACCTGG
TTTTTCTGGTGGTGGCACAGAATCAAGTCCTGGTGTGCGCTTGGTGGGTTGGTTGGGTAGAGA
AAGGAACTGAGGTTTACTTTTTTGCTTTTAACATGGACATAGACAATGAGAGTAAATTGCCG
TCAAGAAAATCCATT**CCCACCAAATCATGGCAAGTGAGGGCATCATTGGTGGCTAA**

SEQ ID NO 48

MKTLAAYLVLVFYASTALSESITENLAWNKEFSSESVHGVFVLCKSSSNSCTTNNAARASTA
YIPASTFKIPNALIGLETGAIKDERQVFKWDGKPRAMKQWERDLKLRGAIQVSAVPVFQQIA
REVGEIRMQKYLNLFSYGNANIGGGIDKFWLEGQLRISAFNQVKFLESYLNKLSASKENQL
IVKEAIVTEATPEYIVHKTGFGSGVGTESSPGVAWVVGWVEKGTEVYFFAFNMDIDNESKLP
SRKSIPTKIMASEGIIGG.

SEQ ID NO 49

Fig. 13 (continued).

e) >OUL3-05-X

ATGAAAACATTTGCCGCATATGTAATTATCGCGTGTCTTTCGAGTACGGCATTAGCTGGTTC
AATTACAGAAAATACGTCTTGGAACAAAGAGTTCTCTGCCGAAGCCGTCAATGGTGTCTTCG
TGCTTTGTAAAAGTAGCAGTAAATCCTGCGCTACCAATGACTTAGCTCGTGCATCAAAGGAA
TATCTTCCAGCATCAACATTTAAGATCCCCAACGCAATTATCGGCCTAGAACTGGTGTCTAT
AAAGAATGAGCATCAGGTTTTCAAATGGGACGGAAAGCCAAGAGCCATGAAGCAATGGGAAA
GAGACTTGACCTTAAGAGGGGCAATACAAGTTTCAGCTGTTCCCGTATTTCAACAAATCGCC
AGAGAAGTTGGCGAAGTAAGAATGCAGAAATATCTTAA**AAAATTTTCATATGGTAACCAGAA**
TATCAGTGGTGGCATTGACAAATTCTGGTTGGAAGGTCAGCTTAGAATT**TCCGCAGTTAATC**
AAGTGGAGTTTCTAGAGTCTCTATTTTTTAAATAAATTGTCAGCATCAAAAAGAAAATCAGCTA
ATAGTAAAAGAGGCTTTGGTAACGGAGGCTGCGCCTGAATATCTTGTGCATTCAAAAACCTGG
TTTTTCTGGTGTGGGAACTGAGTCAAATCCTGGTGTGCGATGGTGGGTGGTTGGGTTGAGA
AGGGAGCAGAGGTTTACTTTTTTCGCATTTAACATGGATATAGACAACGAAAATAAGTTGCCG
CTAAGAAAATCCATTTCCACCAAATCATGGCAAGTGAGGGCATCATTGGTGGCTAA

SEQ ID NO 50

MKTFAAYVIIACLSSTALAGSITENTSWNKEFSAEAVNGVFLCKSSSKSCATNDLARASKE
YLPASTFKIPNAIIGLETGVIKNEHQVFKWDGKPRAMKQWERDLTLRGAIQVSAVPVFQQIA
REVGEVRMQKYLKKFSYGNQNISSGIDKFWLEGQLRISAVNQVEFLESFLNKLKLSASKENQL
IVKEALVTEAAPEYLVHSKTGFSVGVTESNPGVAWVVGWVEKGAEVYFFAFNMDIDNENKLP
LRKSIPTKIMASEGIIGG.

SEQ ID NO 51

Fig. 14

>CLON M1 rec4CL

ATGATGTCTGTGTCTACTGTTGAACCACCAAAGCCAGAATTGTCTCCACCACAAAACAAAACGCTCCATCTTCTCACGA
AACTGATCACATTTTCAGATCTAAGTTGCCAGATATTACTATTTCTAACGATTTGCCATTGCACGCTTACTGTTTCGAAA
ACTTGTCTGATTTTCTCTGATAGACCATGTTTGATTTCTGGTCTCTACTGGTAAGACTTTCACCTTACGCTGATACTCACTTG
ATTTCTTCTAAGATTGCTGCTGGTTTGTCTAACTTGGGTATTTTGAAGGGTGATGTTGTTATGATTTTGTGCAAAACTC
TGCTGATTTCTGTTTCTCTTTCTTGGCTATTTCTATGATTGGTGCTGTTGCTACTACTGCTTCTCCATTCTACACTGCTC
CAGAAATTTTCAAGCAATTCAGTGTCTTAAGGAAAAGTTGGTTATTACTCAAGCTATGTACGTTGATAAGTTGAGAAAC
CACGATGGTGCTAAGTTGGGTGAAGATTTTCATTGTTATTACTATTGATGATCCACCAGAAAAGTGTGCACTTCAACGT
TTTGGTTGAAGCTTCTGAATCTGAAATGCCAACTGTTTCTATTTTGCCAGATGATCCAGTTGCTTTGCCATTCTCTTCTG
GTACTACTGGTTTGCCAAAGGTGTTATTTTGACTCACAAGTCTTTGATTACTTCTGTTGCTCAACAAGTTGATGGTGAA
ATTCCAAACTTGTAATTTGAAGCAAGATGATGTTGTTTGTGTGTTTGGCATTGTTCCACATTTTCTCTTTGAACTCTGT
TTTGTGTTGTTCTTTGAGAGCTGGTTCTGCTGTTTGTGTTGATGCAAAAGTTCGAAATTTGGTTCTTTGTTGGAATTGATTC
AAAGACACAGAGTTTCTGTTGCTATGGTTGTTCCACCATTGGTTTGGCTTTGGCTAAGAACCCAAATGGTTGCTGATTT
GATTTGTCTTCTATTAGATTGGTTTGTCTGGTGCTGCTCCATTGGGTAAGGAATTGGAAGAAGCTTTGAGAAACAGAAAT
GCCACAAGCTGTTTGGGTCAAGGTTACGGTATGACTGAAGCTGGTCCAGTTTGTCTATGTGTTTGGCTTTCGCTAAGC
AACCATTCCAAACTAAGTCTGGTTCTTGTGGTACTGTTGTTGAAACGCTGAATTGAAGGTTGTTGATCCAGAACTGGT
AGATCTTTGGGTTTACAAACCAACCAAGTGAATTTGTATTAGAGGTCAACAAATTTATGAAGGGTTACTTGAACGATGAAGC
TGCTACTGCTTCTACTATTGATTCTGAAGGTTGGTTGCACACTGGTGATGTTGGTTACGTTGATGATGATGATGAAATTT
TCATTTGTGATAGAGTTAAGGAAATTTAATAGTTCAAGGGTTTCCAAAGTTCACACGCTGAATTGGAAGCTTTGTTGGTT
AACCACCCATCTAATTCGCGATGCTGCTGTTGTTCCACAAAAGGATGAAGTTGCTGGTGAAGTTCCAGTTGCTTTGCTGTTG
TAGATCTGATGATTTGGATTTGTCTGAAGAAGCTGTTAAGGAATACATTGCTAAGCAAGTTGTTTCTACAAGAAGTTGC
ACAAGGTTTTCTCGTTCACTCTATTCCAAAGTCTGCTTCTGGTAAGATTTTGAAGAAAGGATTTGAGAGCTAAGTTGGCT
ACTGCTACTACTCAAACCTCCATAA

SEQ ID NO 52

>CLON M1 recC4H

ATGGATTGTGTTGTTGTTGAAAAGGCTTTGATGGGTTTGTCTTGGCTGCTGTTGTTGCTATTGCTGTTTCTACTTTGAG
AGTAAGAAGTTGAAGTTGCCACCAGGTCCAATTCAGTTCCAGTTTTCGGTAACTGGTTCAGAGTTGGTGATGATTTGA
ACCAAGAAACCTTGGTTGATTACGCTAAGAAAGTTCGGTGATTTGTTCAATGTTGAGAATGGGTCAAAGAAACCTTGGTTGTT
GTTTCTTCTTCCAGAAATTTGGCTAAGGAAGTTTTCACACTCAAGGTGTTGAATTCGGTTCTAGAACTAGAAACGTTGTTT
CGATATTTTCACTGGTAAGGCTCAAGATATGGTTTTCAGTGTTCACGGTGAACACTGGAGAAAGATGAGAAGAATTATGA
CTGTTCCATCTTCACTAACAAGGTTGTTCAACAATACAGACACGGTTGGGAATCTGAAGCTGCTGCTGTTGTTGAAGAT
GTTAAGAAGAACCAGATGCTGCTACTACTGGTACTGTTATGAGAAGAAGATTGCAATTGATGATGTACAACAACATGTA
CAGAATTATGTTGATAGAAAGATTCCAATCTGATGAAGATCCAATGTTCTTGAGATTGAAAGCTTTGAACGGTGAAGAT
CTAGATTGGCTCAATCTTTCGAATACAACACTACCGTGATTTCAATCCAATTTTGAAGCCATTCTTGAAGGGTTACTTGAAG
ATTTGTAAGGAAGTTAAGGAACTAGATTGAAGTTGTTCAAGGATTACTTCGTTGATGAAAGAAAGAGTTGGAATCTAC
TAAGCTCTGCTGACACAACCTCTTGAAGTGTGCTATTGATCACATTATTGAAGCTCAAAGAAAGGGTGAAATTAACGAAG
ATAACGTTTTGTACATTGTTGAAAACATTAAAGTTGCTGCTATTGAAACTACTTTGTGGTCTATTGAATGGGGTATTGCT
GAATTTGGTTAACCACCCAGAAATTCACAAAAGTTGAGAGATGAAATTTGATAGAGTTTGGGTGCTGGTCAACCAAGTTAC
TAACCCAGATATTCAAAGTTGCCATACTTGCAAGCTGTTGTTAAGGAAACCTTGAGATTCAAGATGGCTATTCCATTTG
TGGTTCCACACATGAACCTGCACGATGCTAAGTTGGGTGGTTACGATATTCCAGCTGAATCTAAGATTTTGGTTAACGCT
TGGTGGTTGGCTAACAACCCAGCTCACTGGAACAAGCCAGAAGAAATTCAGACCAGAAAGATTCTTGGAAGAAGAAATCTAA
GGTTGAAGCTAAGGTAACGATTTCAAATACATTCCATTCCGTTGGTGAAGATCTTGTCCAGGTATTATTTTGGCTT
TGCCAATTTTGGGTATTGCTATTGGGTAGATTGGTTCAAACTTCGAATTGTTGCCACCACCAGGTCAATCTCAAATTGAT
ACTTCTGAAAGGGTGGTCAATTTCTCTTGCACATTTTGAAGCACTCTACTATTGTTTGTGAAGCAAGATCTTTGTAA

SEQ ID NO 53

>CLON M1 recCHI

ATGGCTTTCCCATCTGTTACTTCTGTTACTGTTGAAAACGTTACTTTCCACCAACTGTTAAGCCACCATGTTCTCCAAA
CACTTTTCTTGGCTGGTGCTGGTGTAGAGGTTTGCAAATTCACCACGCTTTCGTTAAGTTCACTGCTATTTGTATTT
ACTTGCAATACGATGCTTGTCTTTCTTGTCTGTTAAGTGGAAGACTAAGTCTACTACCAATTGACTGAATCTGATCAA
TTCTTCTCTGATATTGTTACTGGTCCATTGCAAAAGTTTCATGCAAGTTACTATGATTTTGCATTGACTGGTCAACAATA
CTCTGAAAAGGTTGCTGAAAACGTGTTGCTATTGGAGATCTTTGGGTATTACACTGATTCTGAAGCTGAAGCTATTG
ATAAGTTCTTGTCTGTTTCAAGGATTGACTTTCCACCAGGTGCTTCTATTTTGTTCCTACTTCTCCAGATGGTCT
TTGACTATTTCTTCTTAAGGATGGTATGATTCAGAAGCTGTAACATTTGTTGAAAACGAAAAGTTGGCTCAAGC
TGTTATTGAATCTGTTATTGTAAGAAGCGTGTTCCTCCAGCTACTAAGCAATCTTGGCTTCTAGATTGCTGATTGTA
TGAACCACTTCGATGAAAAGGCTACTACTGATGCTGAACCAACTTGCTAAGAAGCGTTTGTAA

SEQ ID NO 54

Fig. 14 continued

>CLON M1 recCHS

ATGGTTACTGTTGAAGAAGTTAGAAAAGGCTCAAAGAGCTGAAGGTCCAGCTACTGTTATGGCTATTGGTACTGCTACTCC
ACCAAACTGTGTTGATCAATCTACTTACCAGATTACTACTTCAGAATTACTAATCTGAACACAAGACTGAATTGAAGG
AAAAGTCCAGAGAATGTGTGAAAAGTCTATGATTAAGAAGAGATACATGCACTTGACTGAAGAAATTTGAAGGANAAC
CCAAACATGTGTGAATACATGGCTCCATCTTTGGATGCTAGACAAGATATTGTTGTTGTTGAAGTTCCAAAGTTGGGTAA
GGAAGCTGCTCAAAGGCTATTAAAGGAATGGGGTCAACCAAAGTCTAAGATTACTCACTTGGTTTTCTGTACTACTTCTG
GTGTTGATATGCCAGGTTGTGATTACCAATTGACTAAGTTGTTGGGTTTGAGACCCTCTGTTAAGAGATTGATGATGTAC
CAACAAGGTTGTTTCGCTGGTGGTACTGTTTTGAGATTGGCTAAGGATTGGCTGAAAACAACAAGGTTGCTAGAGTTTT
GGTTGTTTGTCTGAAATTAAGTCTGTTACTTTTCAGAGGTCCAAACGATACTCACTTGGATTCTTTGGTTGGTCAAGCTT
TGTTGCTGATGGTGTCTGCTATTATTATTGGTCTGATCCAAATTCAGGTGTTGAAGACCATTGTTCCAATTGGTT
TCTGCTGCTCAAACTATTTTGGCAGATTCTGAAGGTGCTATTGATGGTCACTTGAGAGAAGTTGGTTTGACTTTCCACTT
GTTGAAGGATGTTCCAGTTTTGATTTCTAAGAACATTGAAAAGTCTTTGGAAGAAGCTTTCAAGCCATTGGGTATTCTG
ATTGGAAGTCTTTGTTCTGGATTGCTCAGGTCAGGTCAGCTATTGTTGATCAAGTTGAAATTAAGTTGGGTTTGAAG
CCAGAAAAGTTGAGAGCTACTAGACACGTTTTGCTGAATACGGTAACATGCTTCTGCTTGTGTTTTGTTCAATTTGGA
TGAAATGAGAGAAAGTCTAAGGAAGATGTTTGAAGACTACTGGTGAAGGTATTGAATGGGGTGTGTTTGTTCGGTTTCG
GTCCAGGTTTGACTGTTGAAACTGTTGTTTTGCACTCTGTTGCTACTTAA

SEQ ID NO 55

>CLON M1 recF3H

ATGGCTCCAAGTCTAAGACTTTGACTTACTTGGCTCAAGAAAAGACTTTGGAATCTTCTTTGTTAGAGATGAAGAAGA
AAGACCAAAGGTTGCTTACAAAGAAATCTCTGATGAAATTCAGTTATTTCTTTGGCTGGTATTGATGAAGTTGATGGTA
GAAGAAGAGAATTTGTGAAAAGATTGTTGAAGCTTGTGAAAAGTGGGGTATTTTCCAAGTTGTTGATCACGGTGTGAT
GCTGATTTGATTGCTGATATGACTAGATTGGCTAGAGAATTTCTTCGCTTTGCCAGCTGAAGATAAGTTGAGATACGATAT
GCTGGTGGTAAGAAGGGTGGTTTCATTGTTTCTTCTCACTTGCAAGGTGAAGCTGTTCAAGATTGGAGAGAAATTTGTTA
CTTACTTCTCTTACCAGTTAAGGCTAGAGATTACGGTAGATGGCCAGAAAAGCCAGCTGGTTGGTGTGCTGTTGTTGAA
AGATACTCTGAAAGATTGATGGGTTTGTCTTGAAGTGTGATGGGTGTTTTGCTGAAGCTATGGGTTTGGAAACTGAAGC
TTTGGCTAAGGCTTGTGTTGATATGGATCAAAGGTTGTTGTTAACTTCTACCCAAGATGTCCACAACAGATTGACTT
TGGGTTTGAAGAGACACACTGATCCAGGTACTATTACTTTGTTGTTGCAAGATTTGGTTGGTGGTTTGAAGCTACTAGA
GATGGTGGTAAGAAGTGGATTACTGTTCAACCAATTTCTGGTGTCTTCTGTTGTTAACTTGGGTGATCACGGTCACTTTCT
GTCTAAGCGTAGATTCAAGAAGCTGATCACCAAGCTGTTGTTAAGGTGAATCTTCTAGATTGCTCTATTGCTACTTTCC
AAAACCCAGCTCCAGATGCTAGAGTTTGGCCATTGGCTGTTAGAGAAGGTGAAGAACCAATTTTGAAGAACCAATTACT
TTCCTGAAATGTACAGAAGAAAGATGGAAAGAGATTGGATTGGCTAAGAGAAAGCAAGCTAAGGATCAATTGAT
GCAACAACAATTGCAATTGCAACAACAACAGCTGTTGCTGCTGCTCCAATGCCAACTGCTACTAAGCCATTGAACGAAA
TTTTGGCTTAA

SEQ ID NO 56

>CLON M1 recFLS

ATGGGTGTTGAAGAGTTCAAGATATTGCTTCTACTATTTCTGAAGATACTATTCCAGCTGAATACATTAGATCTGAAAA
CGAACCAACAGGTATTACTACTGTTCCAAACACTGTTTTGGAATGTCCAATATTGATTTCTCTGATCCAGATGAAGAAA
AGTTGTTGAAGCAAATTTTCGAAGCTTCTATTGATTGGGGTATGTACCAAATTTGTTAACCACGATATTTCTAACGAAGCT
ATTTCTAAGTTGCAAGCTGtTGGTAAGGAATTCTTCGAAGAATTGCCACAAGAAGAAAGGAAGTTTACGCTAAGGATCC
AAACTCTAAGTCTGTTGAAGGTTACGGTACTTTCTTGCAAAAGGAATTTGAAGGTAAAGAGGGTTGGGTTGATCACTTGT
TCCACAAGATTGGCCACCATTCTGCTATTAACTACAGATTCTGGCCAAAGAACCACCATCTTACAGAGAAGCTAACGAA
GAATACGCTAAGTGGTTGAGAAAGGTTGTTGATGAGTTGTTCAAGTTGTTGCTTTGGGTTTGGGTTTGAAGCTCAAGA
AATGAAGAAGGCTGCTGCTGCTGATGATTTGTTTACTTGTGTAAGATTAACTACTACCCACCATGTTCAAGACCAGATT
TGGCTTTGGGTGTTGTTGCTCACACTGATATGCTTACATTACTTTGTTGGTTCCAAACGAAGTCAAGGTTTGAAGTT
TTCAGGATGGTCACTGGTACGATGTTAACTACATTCCAAACGCTATTATTGTTTCACTTGGTGATCAAGTTGAAATTTT
GTCTAAGCGTAAGTACAAGTCTGTTTACCACAGAAGTACTGTTAACAAGTACAAGACTAGAATGCTTGGCCAGTTTTCT
TGGAACCATCTTCTGAACACGAAGTTGGTCCAATTCAAAGTTGATTAAACGATAAGGAAAAACCCACAGAGTTCAAGACT
AAGAAGTACAAGATTACGTTTACTGTAAGTTGAACAAGTTGCCACAATAA

SEQ ID NO 57

Fig. 14 continued

>CLON M1 recPAL

ATGGAACCTGTTACTAAGAACGGTTACCAAAACGGTAACGGTTGGAATTTGTGTATGAAGAAGGAAGATCCATTGAACTG
GGGTGTTGCTGCTGAAGCTTTGACTGGTTCTCACTTGGATGAAGTTAAGAGAATGGTTGCTGAATACAGAAAGCCAGTTG
TTAAGTTGGAAGGTGAAACTTTGACTATTTCTCAAGTTGCTGCTATTTCTGCTAGAGATGATTTGGTGTAAAGGTTGAA
TTGTCTGAAGAAGCTAGAGCTGGTGTAAAGGCTTCTTCTGATTGGGTTATGGATTCTATGAACAAGGGTACTGATTCTTA
CGGTGTTACTACTGGTTTCGGTGCTACTTCTCACAGAAGAACTAAGCAAGGTGGTGTCTTGC AAAAGGAATTGATTAGAT
TCTTGAACGCTGGTATTTTCGGTAACGGTACTGAACTTGTCACTTTGCCACACTCTGCTACTAGAGCTGCTATGTTG
GTTAGAATTAACACTTTGTTGCAAGGTTACTCTGGTATTAGATTGAAATTTTGGAAGCTATTACTAAGTTCTTGAACCA
CAACATTACTCCATGTTTGCCATTGAGAGGTACTATTACTGCTTCTGGTGATTGGTTCCATTGCTTACATTGCTGGTT
TGTGACTGGTAGACCAAACTTAAGGCTGTTGGTCCAACCTGGTGTACTTTGTCTCCAGAAGAAGCTTTC AAGTTGGCT
GGTGTGGAAGGTGGTTTCTTCGAATTGCAACCAAGGAAGGTTTGGCTTGGTTAACGGTACTGCTGTGGTTCTGGTAT
GGCTTCTATGTTTTGTTGCAAGCTAACATTTTGGCTGTTTTGGCTGAAGTTATGTCTGCTATTTTCGCTGAAGTTATGC
AAGGTAAGCCAGAATTCATGATCACTTGACTCACAAGTTGAAGCACCACCAGGTCAAATTGAAGCTGCTGCTATTATG
GAACACATTTTGGATGGTTCTGCTTACGTTAAGGCTGCTCAAAAGTTGCACGAAATGGATCCATTGCAAAAGCCAAAGCA
AGATAGATACGCTTTGAGAACTTCTCCACAATGGTTGGGTCCACAATGAAGTTATTAGATCTTCTACTAAGATGATTG
AAAGAGAAATTAACCTCTGTTAACGATAACCCATTGATTGATGTTCTAGAAAACAGGCTATTACCGGTGGTAACCTCCAA
GGTTCTCCAATTGGTGTTTCTATGGATAACACTAGATTGGCTATTGCTGCTATTGGTAAGTTGATGTTGCTCAATTCTC
TGAATTGGTTAACGATTTCTACAACAACGGTTTGGCATCTAACTTGTCTGGTGGTAGAAAACCATCTTTGGATTACGGTT
TCAAGGGTGCTGAAATTTGCTATGGCTTCTTACTGTTCTGAATTGCAATTCCTGGCTAACCCAGTTACTAACCACGTTCAA
TCTGCTGAACAACACAACCAAGATGTTAACTCTTTGGGTTTGATTTCTCTAGAAAAGACTTCTGAAGCTGTTGAAATTTT
GAAGTTGATGCTACTACTTTCTTGGTTGGTTTGTGTCAAGCTATTGATTTGAGACACTTGAAGAAAACTTGAAGTCTA
CTGTTAAGAACACTGTTTCTCAAGTTGCTAAGAGAGTTTTGACTATGGTGTTAACGGTGAATTGCACCCATCTAGATTCT
TGTGAAAAGGATTTGTTGAGAGTTGTTGATAGAGAATACATTTTCGCTTACATTGATGATCCATGTTCTGCTACTTACCC
ATTGATGCAAAAGTTGAGAGAACTTTGGTTGAACACGCTTTGAACAACGGTGAAAACGAAAAGAACTTCTCTACTTCTG
TTTTCCAAAAGATTGCTGCTTTGCAAGATGAATTGAAGGCTTTGTTGCCAAAGGAAGTTGAAACTGCTAGAGCTGCTTTG
GAATCTGGTAACCCAGCTATTCCAAACAGAATTAAGGAATGTAGATCTTACCCATTGTACAAGTTGTTAGAGAGAATTT
GGGTACTGAATACTTGACTGGTGAAAAGGTTAGATCTCCAGGTGAAGAATTCGAAAAGGTTTTCACTGCTATGCTAAGG
GTGAAATATTGATCCATTGTTGGAATGTTTGAATCTTGAACGGTGCTCCATTGCCAATTTGTTAA

SEQ ID NO 58

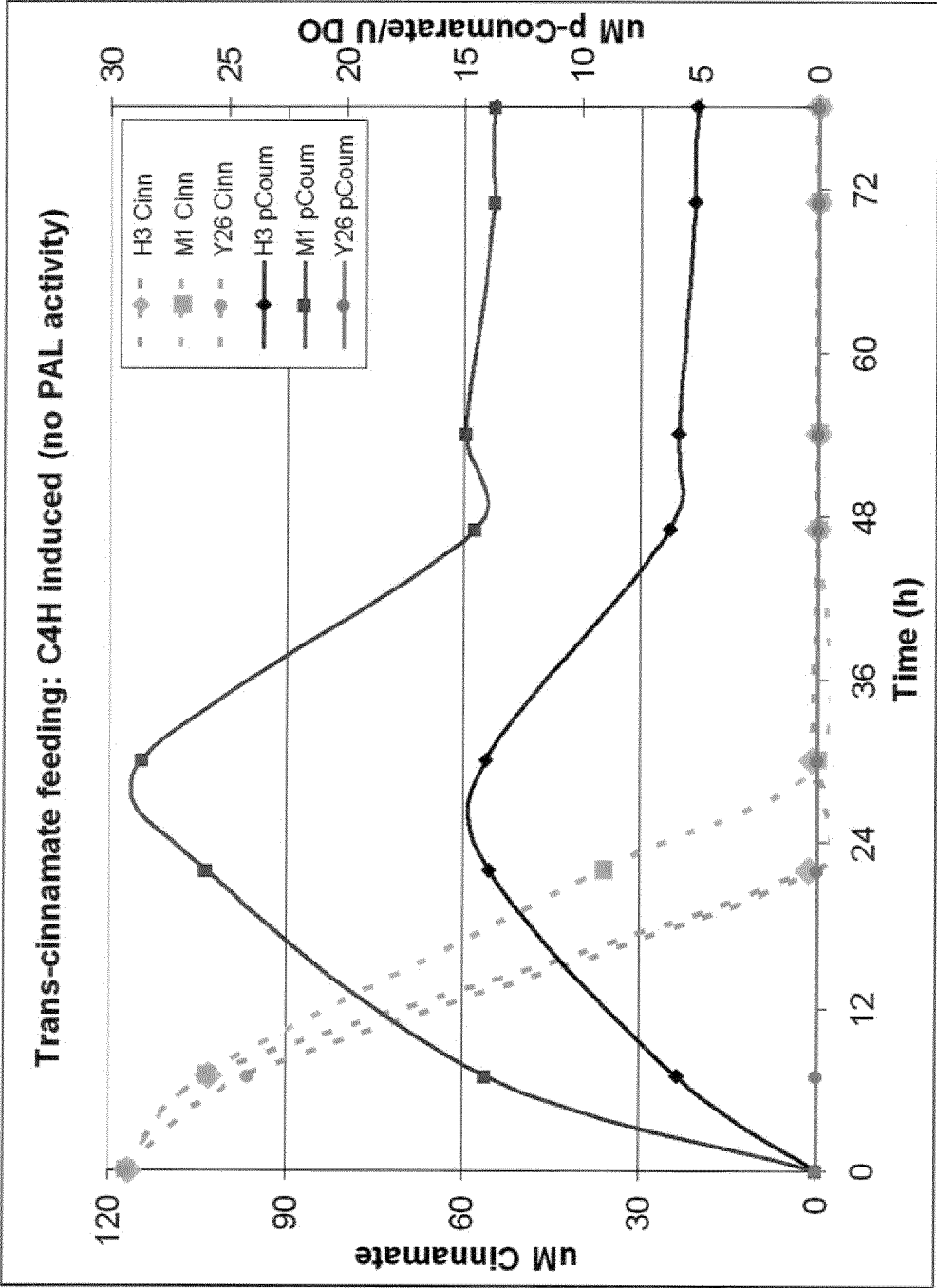


Fig. 15

Fig. 16

