

SEQUENCE LISTING

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<120> COMPOSITIONS AND METHODS FOR ALTERING FLOWERING AND PLANT
 ARCHITECTURE TO IMPROVE YIELD POTENTIAL

<130> P34461WO00

<150> US 62/410355

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<150> US 62/411408

<151> 2016-10-21

<160> 110

<170> PatentIn version 3.5

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<211> 531

<212> DNA

<213> Glycine max

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20 25 30

Asn Asn Arg Asp Val Ser Asn Gly Cys Glu Phe Lys Pro Ser Gln Val
35 40 45

Val Asn Gln Pro Arg Val Asn Ile Gly Gly Asp Asp Leu Arg Asn Phe
50 55 60

Tyr Thr Leu Ile Ala Val Asp Pro Asp Ala Pro Ser Pro Ser Asp Pro
65 70 75 80

Asn Leu Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr
85 90 95

Thr Gly Ala Ser Phe Gly His Glu Val Val Thr Tyr Glu Ser Pro Arg
100 105 110

Pro Met Met Gly Ile His Arg Leu Val Phe Val Leu Phe Arg Gln Leu
115 120 125

Gly Arg Glu Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Asn Thr
130 135 140

Lys Glu Phe Ala Glu Leu Tyr Asn Leu Gly Leu Pro Val Ala Ala Val
145 150 155 160

Tyr Phe Asn Ile Gln Arg Glu Ser Gly Ser Gly Gly Arg Arg Leu Tyr
165 170 175

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 <213> Glycine max

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 20 25 30

Arg Ala Ile Ser Asn Gly Leu Glu Leu Arg Pro Ser Gln Val Val Asn
 35 40 45

Arg Pro Arg Val Thr Val Gly Gly Glu Asp Leu Arg Thr Phe Tyr Thr
 50 55 60

Leu Val Met Val Asp Ala Asp Ala Pro Ser Pro Ser Asn Pro Val Leu
 65 70 75 80

Arg Glu Tyr Leu His Trp Met Val Thr Asp Ile Pro Ala Thr Thr Asn
 85 90 95

Ala Ser Phe Gly Arg Glu Val Val Phe Tyr Glu Ser Pro Asn Pro Ser
 100 105 110

Val Gly Ile His Arg Ile Val Phe Val Leu Phe Gln Gln Leu Gly Arg
 115 120 125

Asp Thr Val Ile Thr Pro Glu Trp Arg His Asn Phe Asn Ser Arg Asn
 130 135 140

Phe Ala Glu Ile Asn Asn Leu Ala Pro Val Ala Ala Ala Tyr Ala Asn
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Cys Gln Arg Glu Arg Gly Cys Gly Gly Arg Arg Tyr
 165 170

<210> 5
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<400> 6

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Met Pro Arg Gly Ser Arg Asp Pro Leu Val Val Gly Arg Val Ile Gly
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Asp Val Leu Asp Pro Phe Glu Cys Ser Ile Pro Met Arg Val Thr Tyr
          20          25          30

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Asn Asn Lys Asp Val Ser Asn Gly Cys Glu Phe Lys Pro Ser Gln Val
          35          40          45

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Val Asn Gln Pro Arg Ile Asn Ile Gly Gly Asp Asp Phe Arg Asn Phe
          50          55          60

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Tyr Thr Leu Ile Ala Val Asp Pro Asp Ala Pro Ser Pro Ser Asp Pro
65          70          75          80

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Asn Phe Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr
          85          90          95

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Thr Gly Pro Thr Phe Gly His Glu Val Val Thr Tyr Glu Asn Pro Arg
          100          105          110

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Pro Met Met Gly Ile His Arg Ile Val Phe Val Leu Phe Arg Gln Gln
          115          120          125

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Gly Arg Glu Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Ile Thr
          130          135          140

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Arg Glu Phe Ala Glu Leu Tyr Asn Leu Gly Leu Pro Val Ala Ala Val
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<211> 528
<212> DNA
<213> Zea mays

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<212> PRT
<213> Zea mays

<400> 8

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1 5 10 15

Leu Asp Pro Phe Thr Pro Thr Ile Pro Leu Arg Ile Thr Tyr Asn Asn
20 25 30

Arg Leu Leu Leu Pro Ser Ala Glu Leu Lys Pro Ser Ala Val Val Ser
35 40 45

Lys Pro Arg Val Asp Ile Gly Gly Ser Asp Met Arg Ala Phe Tyr Thr
50 55 60

Leu Val Leu Ile Asp Pro Asp Ala Pro Ser Pro Ser His Pro Ser Leu
65 70 75 80

Arg Glu Tyr Leu His Trp Met Val Thr Asp Ile Pro Glu Thr Thr Ser
85 90 95

Val Asn Phe Gly Gln Glu Leu Ile Phe Tyr Glu Arg Pro Asp Pro Arg
100 105 110

Ser Gly Ile His Arg Leu Val Phe Val Leu Phe Arg Gln Leu Gly Arg
115 120 125

Gly Thr Val Phe Ala Pro Glu Met Arg His Asn Phe Asn Cys Arg Ser
130 135 140

Phe Ala Arg Gln Tyr His Leu Ser Ile Ala Thr Ala Thr His Phe Asn
145 150 155 160

Cys Gln Arg Glu Gly Gly Ser Gly Gly Arg Arg Phe Arg Glu Glu
165 170 175

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<211> 525
<212> DNA
<213> Nicotiana tabacum

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<210> 10
<211> 174
<212> PRT
<213> Nicotiana tabacum

<400> 10

Met Pro Arg Ile Asp Pro Leu Ile Val Gly Arg Val Val Gly Asp Val
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Leu Asp Pro Phe Thr Arg Ser Val Asp Leu Arg Val Val Tyr Asn Asn
20 25 30

Arg Glu Val Asn Asn Ala Cys Gly Leu Lys Pro Ser Gln Ile Val Thr
35 40 45

Gln Pro Arg Val Gln Ile Gly Gly Asp Asp Leu Arg Asn Phe Tyr Thr
50 55 60

Leu Val Met Val Asp Pro Asp Ala Pro Ser Pro Ser Asn Pro Asn Leu
65 70 75 80

Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr Thr Asp
85 90 95

Thr Ser Phe Gly Asn Glu Val Ile Cys Tyr Glu Asn Pro Gln Pro Ser
100 105 110

Leu Gly Ile His Arg Phe Val Phe Val Leu Phe Arg Gln Leu Gly Arg
115 120 125

Glu Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Ser Thr Arg Asp
130 135 140

Phe Ala Glu Val Tyr Asn Leu Gly Leu Pro Val Ser Ala Val Tyr Phe
145 150 155 160

Asn Cys His Arg Glu Ser Gly Thr Gly Gly Arg Arg Ala Tyr
165 170

<210> 11
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<212> DNA
<213> Solanum lycopersicum

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<210> 12
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<212> PRT
<213> Solanum lycopersicum

<400> 12

Met Pro Arg Glu Arg Asp Pro Leu Val Val Gly Arg Val Val Gly Asp

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Val Leu Asp Pro Phe Thr Arg Thr Ile Gly Leu Arg Val Ile Tyr Arg	20	25	30
Asp Arg Glu Val Asn Asn Gly Cys Glu Leu Arg Pro Ser Gln Val Ile	35	40	45
Asn Gln Pro Arg Val Glu Val Gly Gly Asp Asp Leu Arg Thr Phe Phe	50	55	60
Thr Leu Val Met Val Asp Pro Asp Ala Pro Ser Pro Ser Asp Pro Asn	65	70	75
Leu Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr Thr	85	90	95
Gly Ser Ser Phe Gly Gln Glu Ile Val Ser Tyr Glu Ser Pro Arg Pro	100	105	110
Ser Met Gly Ile His Arg Phe Val Phe Val Leu Phe Arg Gln Leu Gly	115	120	125
Arg Gln Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Asn Thr Arg	130	135	140
Asp Phe Ala Glu Leu Tyr Asn Leu Gly Leu Pro Val Ala Ala Val Tyr	145	150	155
Phe Asn Cys Gln Arg Glu Ser Gly Ser Gly Gly Arg Arg Arg Ser Ala	165	170	175

Asp

<210> 13
 <211> 528
 <212> DNA
 <213> Arabidopsis thaliana

<400> 13
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aacttcaaca ctgcgcagtt tgctgagatc tacaatctcg gccttcccgt ggccgcagtt      480
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<210> 14
<211> 175
<212> PRT
<213> Arabidopsis thaliana

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<400> 14

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Met Ser Ile Asn Ile Arg Asp Pro Leu Ile Val Ser Arg Val Val Gly
1           5           10           15

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Asp Val Leu Asp Pro Phe Asn Arg Ser Ile Thr Leu Lys Val Thr Tyr
          20           25           30

```

```

Gly Gln Arg Glu Val Thr Asn Gly Leu Asp Leu Arg Pro Ser Gln Val
          35           40           45

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Gln Asn Lys Pro Arg Val Glu Ile Gly Gly Glu Asp Leu Arg Asn Phe
          50           55           60

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```

Tyr Thr Leu Val Met Val Asp Pro Asp Val Pro Ser Pro Ser Asn Pro
65           70           75           80

```

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His Leu Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr
          85           90           95

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Thr Gly Thr Thr Phe Gly Asn Glu Ile Val Cys Tyr Glu Asn Pro Ser
          100          105          110

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Pro Thr Ala Gly Ile His Arg Val Val Phe Ile Leu Phe Arg Gln Leu
          115          120          125

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Gly Arg Gln Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Asn Thr
          130          135          140

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Arg Glu Phe Ala Glu Ile Tyr Asn Leu Gly Leu Pro Val Ala Ala Val
145           150          155          160

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Phe Tyr Asn Cys Gln Arg Glu Ser Gly Cys Gly Gly Arg Arg Leu
          165          170          175

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<210> 15
<211> 528
<212> DNA

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<213> *Arabidopsis thaliana*

<400> 15

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cagttcaaca ctctgagatt tgctgagatc tacaatcttg gtcttcctgt ggctgcctct      480
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<210> 16

<211> 175

<212> PRT

<213> *Arabidopsis thaliana*

<400> 16

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Asp Val Leu Asp Pro Phe Thr Arg Leu Val Ser Leu Lys Val Thr Tyr
20          25          30

Gly His Arg Glu Val Thr Asn Gly Leu Asp Leu Arg Pro Ser Gln Val
35          40          45

Leu Asn Lys Pro Ile Val Glu Ile Gly Gly Asp Asp Phe Arg Asn Phe
50          55          60

Tyr Thr Leu Val Met Val Asp Pro Asp Val Pro Ser Pro Ser Asn Pro
65          70          75          80

His Gln Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr
85          90          95

Thr Gly Asn Ala Phe Gly Asn Glu Val Val Cys Tyr Glu Ser Pro Arg
100         105         110

Pro Pro Ser Gly Ile His Arg Ile Val Leu Val Leu Phe Arg Gln Leu
115         120         125

Gly Arg Gln Thr Val Tyr Ala Pro Gly Trp Arg Gln Gln Phe Asn Thr
130         135         140

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Arg Glu Phe Ala Glu Ile Tyr Asn Leu Gly Leu Pro Val Ala Ala Ser
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Tyr Phe Asn Cys Gln Arg Glu Asn Gly Cys Gly Gly Arg Arg Thr
 165 170 175

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 <211> 540
 <212> DNA
 <213> Oryza sativa

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<210> 18
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 <212> PRT
 <213> Oryza sativa

<400> 18

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Val Gly Asp Val Leu Asp Ala Phe Val Arg Ser Thr Asn Leu Lys Val
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Thr Tyr Gly Ser Lys Thr Val Ser Asn Gly Cys Glu Leu Lys Pro Ser
 35 40 45

Met Val Thr His Gln Pro Arg Val Glu Val Gly Gly Asn Asp Met Arg
 50 55 60

Thr Phe Tyr Thr Leu Val Met Val Asp Pro Asp Ala Pro Ser Pro Ser
 65 70 75 80

Asp Pro Asn Leu Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro

85

90

95

Gly Thr Thr Ala Ala Ser Phe Gly Gln Glu Val Met Cys Tyr Glu Ser
100 105 110

Pro Arg Pro Thr Met Gly Ile His Arg Leu Val Phe Val Leu Phe Gln
115 120 125

Gln Leu Gly Arg Gln Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe
130 135 140

Asn Thr Lys Asp Phe Ala Glu Leu Tyr Asn Leu Gly Ser Pro Val Ala
145 150 155 160

Ala Val Tyr Phe Asn Cys Gln Arg Glu Ala Gly Ser Gly Gly Arg Arg
165 170 175

Val Tyr Pro

<210> 19
<211> 525
<212> DNA
<213> Populus trichocarpa

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<210> 20
<211> 174
<212> PRT
<213> Populus trichocarpa

<400> 20

Met Ser Arg Asp Arg Asp Pro Leu Ser Val Gly Arg Val Ile Gly Asp
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Val Leu Asp Pro Phe Thr Lys Ser Ile Ser Leu Arg Val Thr Tyr Ser
20 25 30

Ser Arg Glu Val Asn Asn Gly Cys Glu Leu Lys Pro Ser Gln Val Ala
35 40 45

Asn Gln Pro Arg Val Asp Ile Gly Gly Glu Asp Leu Arg Thr Phe Tyr
50 55 60

Thr Leu Val Met Val Asp Pro Asp Ala Pro Ser Pro Ser Asp Pro Ser
65 70 75 80

Leu Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr Thr
85 90 95

Gly Ala Ser Phe Gly His Glu Thr Val Cys Tyr Glu Ser Pro Arg Pro
100 105 110

Thr Met Gly Ile His Arg Phe Val Phe Val Leu Phe Arg Gln Leu Gly
115 120 125

Arg Gln Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Asn Thr Arg
130 135 140

Asp Phe Ala Glu Val Tyr Asn Leu Gly Ser Pro Val Ala Ala Val Tyr
145 150 155 160

Phe Asn Cys Gln Arg Glu Ser Gly Ser Gly Gly Arg Arg Arg
165 170

<210> 21
<211> 519
<212> DNA
<213> Glycine max

<400> 21
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tgccaaagag agcgtggttg cggtggaagg agatattaa 519

<210> 22
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<400> 22

Met Ala Arg Glu Asn Pro Leu Val Ile Gly Gly Val Ile Gly Asp Val
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Leu Asn Pro Phe Thr Ile Ser Val Ser Phe Thr Ile Ser Ile Asn Asn
 20 25 30

Arg Ala Ile Ser Asn Gly Leu Glu Leu Arg Pro Ser Gln Val Val Asn
 35 40 45

Arg Pro Arg Val Thr Val Gly Gly Glu Asp Leu Arg Thr Phe Tyr Thr
 50 55 60

Leu Val Met Val Asp Ala Asp Ala Pro Ser Pro Ser Asn Pro Val Leu
 65 70 75 80

Arg Glu Tyr Leu His Trp Met Val Thr Asp Ile Pro Ala Thr Thr Asn
 85 90 95

Ala Ser Phe Gly Arg Glu Val Val Phe Tyr Glu Ser Pro Asn Pro Ser
 100 105 110

Ala Gly Ile His Arg Leu Val Phe Ile Leu Phe Gln Gln Leu Gly Arg
 115 120 125

Asp Thr Val Ile Thr Pro Glu Trp Arg His Asn Phe Asn Ser Arg Asn
 130 135 140

Phe Ala Glu Ile Asn Asn Leu Ala Pro Val Ala Ala Ala Tyr Ala Asn
 145 150 155 160

Cys Gln Arg Glu Arg Gly Cys Gly Gly Arg Arg Tyr
 165 170

<210> 23
 <211> 525
 <212> DNA
 <213> Gossypium hirsutum

<400> 23

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 aggaccttct acaccttggg tatggtggat cctgatgctc caagtccaag tgacccaaac 240
 ctcaaggaat acttgcaactg gttgggttact gatattccag ccacaactgg tgcaagcttt 300
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 ttcgtgctgt tccggcaact tggaaggcaa acggtgtacg ctccaggggtg gcgcctaaac 420
 ttcaacacta gggactttgc tgagctttac aacctcgggt tgccgggtggc tgctgtttac 480
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<210> 24
 <211> 174
 <212> PRT
 <213> *Gossypium hirsutum*

<400> 24

Met Pro Arg Asp Arg Asp Pro Leu Val Val Gly Arg Val Ile Gly Asp
1 5 10 15

Val Leu Asp Pro Phe Thr Arg Ser Ile Ser Leu Arg Val Thr Tyr Ala
20 25 30

Thr Arg Asp Val Ser Asn Gly Val Glu Leu Lys Pro Ser Gln Val Val
35 40 45

Asn Gln Pro Arg Val Asp Ile Gly Gly Asp Asp Leu Arg Thr Phe Tyr
50 55 60

Thr Leu Val Met Val Asp Pro Asp Ala Pro Ser Pro Ser Asp Pro Asn
65 70 75 80

Leu Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr Thr
85 90 95

Gly Ala Ser Phe Gly Gln Glu Val Val Cys Tyr Glu Ser Pro Arg Pro
100 105 110

Thr Val Gly Ile His Arg Phe Val Phe Val Leu Phe Arg Gln Leu Gly
115 120 125

Arg Gln Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Asn Thr Arg
130 135 140

Asp Phe Ala Glu Leu Tyr Asn Leu Gly Leu Pro Val Ala Ala Val Tyr
145 150 155 160

Phe Asn Cys Gln Arg Glu Ser Gly Ser Gly Gly Arg Arg Thr

165

170

<210> 25
 <211> 528
 <212> DNA
 <213> Brassica napus

<400> 25
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 tgtttcacaa gatcaatcga tctaagggtt acttatggcc aaagagaggt gacaaatggg 120
 ttggatctaa ggccttctca agttctcaac aagccaagag ttgagattgg tggagaagac 180
 ctaaggaact tctatacttt ggttatggtg gatccagatg ttccaagtcc tagcaatcct 240
 cacctccgag aatatcttca ctggttggtg actgatatcc cagcgacaac tggaacaaac 300
 tttggcaatg agattgtgtc ttacgagagt ccaaggccca actcgggtat tcatcgatat 360
 gtgctcgat tgttccgaca gtcggtagg caaacagtgt atgaaccagg atggcgccaa 420
 caattcaaca ctctgagatt tgcttcoccta tacaatctcg gccttcccgt ggctgcggtt 480
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<210> 26
 <211> 175
 <212> PRT
 <213> Brassica napus

<400> 26

Met Ser Leu Ser Asn Arg Asp Pro Leu Val Val Gly Arg Val Val Gly
 1 5 10 15

Asp Val Leu Glu Cys Phe Thr Arg Ser Ile Asp Leu Arg Val Thr Tyr
 20 25 30

Gly Gln Arg Glu Val Thr Asn Gly Leu Asp Leu Arg Pro Ser Gln Val
 35 40 45

Leu Asn Lys Pro Arg Val Glu Ile Gly Gly Glu Asp Leu Arg Asn Phe
 50 55 60

Tyr Thr Leu Val Met Val Asp Pro Asp Val Pro Ser Pro Ser Asn Pro
 65 70 75 80

His Leu Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr
 85 90 95

Thr Gly Thr Asn Phe Gly Asn Glu Ile Val Ser Tyr Glu Ser Pro Arg
 100 105 110

Pro Asn Ser Gly Ile His Arg Ile Val Leu Val Leu Phe Arg Gln Leu
 115 120 125

Gly Arg Gln Thr Val Tyr Glu Pro Gly Trp Arg Gln Gln Phe Asn Thr
 130 135 140

Arg Glu Phe Ala Ser Leu Tyr Asn Leu Gly Leu Pro Val Ala Ala Val
 145 150 155 160

Phe Tyr Asn Cys Gln Arg Glu Ser Gly Cys Gly Gly Arg Arg Ser
 165 170 175

<210> 27
 <211> 543
 <212> DNA
 <213> Triticum aestivum

<400> 27
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 ctaagaccat ctgcaattgt aagcaagcca cgagttgata tcggtggcag tgacatgaga 180
 gtcctctata ccctgatatt ggtggatcca gacgccccaa gcccaagtca cccatcacta 240
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 caagagcttg tagtttatga aagaccagaa ccagatctg gtattcaccg gatgggtattt 360
 gtgctgttcc agcaactagg caggggaaca gtttttgcac cagatgtgcg acacaatttc 420
 agctgcagaa actttgcacg gcagtaccac ctcaacattg tggctgcctc atatttcaac 480
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 tag 543

<210> 28
 <211> 180
 <212> PRT
 <213> Triticum aestivum

<400> 28

Met Ser Ala Ala Asp Pro Leu Val Val Ala His Val Leu Gln Asp Val
 1 5 10 15

Leu Asp Pro Phe Thr Ser Thr Val Pro Leu Arg Ile Ala Tyr Asn Asn
 20 25 30

Arg Leu Val Leu Ala Gly Ala Glu Leu Arg Pro Ser Ala Ile Val Ser
 35 40 45

Lys Pro Arg Val Asp Ile Gly Gly Ser Asp Met Arg Val Leu Tyr Thr

50

55

60

Leu Ile Leu Val Asp Pro Asp Ala Pro Ser Pro Ser His Pro Ser Leu
65 70 75 80

Arg Glu Tyr Leu His Trp Met Val Ser Asp Ile Pro Gly Thr Thr Ser
85 90 95

Gly Ser Phe Gly Gln Glu Leu Val Val Tyr Glu Arg Pro Glu Pro Arg
100 105 110

Ser Gly Ile His Arg Met Val Phe Val Leu Phe Gln Gln Leu Gly Arg
115 120 125

Gly Thr Val Phe Ala Pro Asp Val Arg His Asn Phe Ser Cys Arg Asn
130 135 140

Phe Ala Arg Gln Tyr His Leu Asn Ile Val Ala Ala Ser Tyr Phe Asn
145 150 155 160

Cys Gln Arg Glu Gly Gly Ser Gly Gly Arg Arg Phe Arg Pro Glu Ser
165 170 175

Ser Gln Gly Glu
180

<210> 29
<211> 531
<212> DNA
<213> Pisum sativum

<400> 29
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tgtgagctta aaccctctca cgttggaaat caaccagag tgaatggttg tggaaacgat 180
ctcaggaaca ttatatactct agttcttctg gaccagatt cacctagccc aagcaaccct 240
acttttaggg agtaccttca ttggttggtg actgatattc cagctactac tgaggtcagt 300
ttcggtaacg aaattgtgag ctatgaaagg ccacgaccca cctcagggat ccatcgtttc 360
gtgttttatac tattccgtca gcagtgtaga caaagggttt acgctccagg atggcgacag 420
aatttcaata caagagaatt tgctgaactt tacaatcttg gatcaccagt tgctgctggt 480
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<210> 30
<211> 176
<212> PRT

<213> *Pisum sativum*

<400> 30

Met Ala Gly Ser Ser Arg Asn Pro Leu Ala Val Gly Arg Val Ile Gly
1 5 10 15

Asp Val Ile Asp Pro Phe Glu Asn Ser Val Pro Leu Arg Val Thr Tyr
20 25 30

Gly Ser Arg Asp Val Asn Asn Gly Cys Glu Leu Lys Pro Ser His Val
35 40 45

Gly Asn Gln Pro Arg Val Asn Val Gly Gly Asn Asp Leu Arg Asn Ile
50 55 60

Tyr Thr Leu Val Leu Val Asp Pro Asp Ser Pro Ser Pro Ser Asn Pro
65 70 75 80

Thr Phe Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Ala Thr
85 90 95

Thr Glu Val Ser Phe Gly Asn Glu Ile Val Ser Tyr Glu Arg Pro Arg
100 105 110

Pro Thr Ser Gly Ile His Arg Phe Val Phe Ile Leu Phe Arg Gln Gln
115 120 125

Cys Arg Gln Arg Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Asn Thr
130 135 140

Arg Glu Phe Ala Glu Leu Tyr Asn Leu Gly Ser Pro Val Ala Ala Val
145 150 155 160

Phe Phe Asn Cys Gln Arg Glu Ser Gly Ser Gly Gly Arg Thr Phe Arg
165 170 175

<210> 31

<211> 901

<212> DNA

<213> *Arabidopsis thaliana*

<400> 31

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aaaaacactt agaaatcaca cgttcactat actaaaaaac gttgacaaaa acacaacaac 180
tatactaata attaaagaag agaaaactga accaaacttt ttgtaaactc ctgaatttaa 240
attagtaatt gaagtaagaa gatgaagaag aacatgttaa gcaaacaaaa aaattacact 300

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aaaatcatat aaaaatacat aattacaaaa gtacccataa gatggattta ttgatatggg 360
tcatctgtga aacaagccac agagagacaa agactcgtaa gtattgggca acgaaagcga 420
cctcctttat tcaccactgc cattaacatg ttcttcttct ccttcttctt ctacatttta 480
tgaccgtttt acccttcaag agagagaaac aaaatcactc cctctcactc actctatctc 540
tctcttctgc aaagcttcag aactctggca gagagataaa agatgatggg gtttttaact 600
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atgtgatgga acgataaaaa tcattttttc tcggttaaag taaaaaaaca aaaacaaatt 840
tctgtagaaa tcataataaa agaaagaaaa aaaatctaata gtcggtacat aatacggttc 900
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<210> 32
<211> 507
<212> DNA
<213> Arabidopsis thaliana

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<400> 32
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aaaaacactt agaaatcaca cggttactat actaaaaaac gttgacaaaa acacaacaac 180
tatactaata attaaagaag agaaaactga accaaacttt ttgtaaactc ctgaatttaa 240
attagtaatt gcacaacagg tccctacatt tgtacaatct cctctcttta aagactctct 300
ctctttctct ctccatctct atcttactct gtatttctgt cgtctgagca ctcaatgaaa 360
ccactgtaaa tttccgccag aatttgatgt gatggaacga taaaaatcat tttttctcgg 420
ttaagtaaa aaaacaaaaa caaatttctg tagaaatcat aataaaagaa agaaaaaaaa 480
tctaattgtc gtacataata cggttct 507

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<210> 33
<211> 2000
<212> DNA
<213> Glycine max

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<400> 33
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tatacatgtc aacatgtcga aagatgtaga acctggtaac aataataaag aatgataatt 180
tttttatttt taaaacgaag cactaaaata gatttaatta tatttatcat ataaaattac 240

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caattaatca tatatctagt gaaatgatca cttcaagtat aaaaaaagat tttatacttt	300
tcgtctttct gtatttagaa atattagcaa agtcttggat aaaaaagtgg tcgtagcctg	360
tcctgtagt ttccttggtt gtcttgatga acaagaagtt ctcaagtctc cccaccctat	420
tctgattcgg ttacatgga agtagtaagt aaccatacac cattatagaa ataatacgat	480
aaccacacgc catgtcttac ctcatgcgtt tactgaagtt gttttcttct tttatttttc	540
tttgatggag ttatggtatt aatattcaat attagattgg aacttgcaga tcaacttcaa	600
gaggcactct ttgataagga taccocaggc attgcttttt gacataacgc caaaaccctc	660
ctaaaaaacc cttcattttc tatctcttag ttccatttta tgcaatgaaa taaaacttct	720
caaatagtgt caaagcccga aaattgccta ccatatattt atcacgattc atgaagggta	780
tcttaattcc tttttttttt ttttcctgaa atgttttttt tgaaggaatt ttcttgaaat	840
gttttaatgc cttttttttt actcaagaaa tgtcttaatg cttgtttact tacataaagt	900
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atttttctac tagtaaaaaa cctacaaact ttttctattg ttaaaattaa atataaaagt	1080
aattattttt attttatata aaaatacaaa gattttatgg aaaaatatgt aagatatataa	1140
aatatgatta attattttac tttcatctta acttagcaaa tactttctga tcagtgcctt	1200
atctcgcaca atccacaaac attatctcgc acaagccaca aacacgcgct tcatgatcca	1260
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atatttttaa ttttatatta aagataaagt caaaattaat gtttagaatt aattgagttt	1440
aagtcatttt aggtacctt tggataaaga aatttaaatt aaattttaat tcaaaattaa	1500
tataaaccaa aattattaaa acataaatca tattacttta aaattaattt ttcgaaaaag	1560
cacattcaaa gctccactaa aaattgtctt tgattaatag ccgtggatga gatttgattt	1620
attagtgaga aaagacaaag aggtttaagc gcacgcgaag agaggcgcgt aagtaaatag	1680
gagaaacttt agctgtcaaa tatgctggga aacggcgagt acgaatgacg gcggctacca	1740
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gtttcccatt cttattctct ctcttcataa cactcttcct atttacagtt cacgccaaat	1860
gcctgcactc tttctctact attaccaagc attggccaca ccaacaccaa cgaataacct	1920
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tgctgtggtt ggtgaccgca	2000

<210> 34

<211> 2479

<212> DNA
 <213> Glycine max

<400> 34
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 ctattatatt tttgtggact tcttaataaa tagtagtaat attttgaaaa gcttttttat 180
 ttttacgaaa gtcataataa attataaaca aacttataaa aaatattaaa tcttatagta 240
 ctacttttat ataataataa taataataat aataataata ataataataa taaaacgtgt 300
 tcaaaattat taatattcct cttgaagttc cgtttcatat tctgtaaaaa aaagttgcgt 360
 ttgatattaa aatataacag tactaaaaaa acaacataaa aaagaaaatc atgtttgatg 420
 aaagaaaata caaatatatt ttcataaaga gaacttcaca attactcgca atgctgtgtg 480
 aaatagggat ataaccttta tccaagacac gttcccatca ttgaagtata attaaatctt 540
 ttacggttaa ttataatgaa atcatttttg atttgctttt gcctattatc acttttcaca 600
 cgatgatact taattattca tagacctttt tgtcgagtaa gaggggaaat gctaaacttt 660
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 tttctttcat aagcatagtc ccggtaaaaat tctcactttc agttgatact ttacctctc 780
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 taatgaatgg aaataaaatc taaaaagtta gctactaatt ctttcacggc cattacgaag 900
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 ccattacttt gtcataattct aatttgagtg taaaagtctt tattattaca gtcttttaag 1560
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 aattaattta attaatatca ataaatttat cctaaactta taaacattat cattaatgct 1800

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cttctctctt aaatgtttat ggatataact tcttttattt aattaaaatg tttatttttaa 1860
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tgttttgtat tagaccataa gtaatactcc atattagatt atatatataa cttttatttt 1980
aaaattatag agtatacttt ttttagagga aattatagag caaactacat tcatatgatt 2040
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<210> 35
<211> 2000
<212> DNA
<213> Glycine max

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<400> 35
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aattaatcaa aattatatca agataatctg attcctttct atacacacat aatattatth 180
catccttagt ccctaataatt ttcaattctc attttgttac cagacttgta ccgaacaaaa 240
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cttttcattc atttttaaaa ctaagaaaaa atttgtgatt tattttttata attttgaaaa 360
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cttcctagtt ataaccgtaa gcattatata tttttattat tattgttatt atgttatttt 480
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gttattatth tagcaagttt gattattttt tattttaaat atttttatgt gtcacttttt 600
atatcacatt atttaacagt gtgaatcgat aaaaaatata ataattatct ttaatttgta 660
agaatttttt caaaattaaa actgatttta gttcttgaaa aatgtaaaac taaaaatgaa 720
aaccacctaa cggggcctta gtaattagga catggtctcc ctggttacct acgggatttt 780
ttcacatcaa agaagacctg gtattttcat ttccatgaga tttttgcata tcgaacaagg 840
cattaagaca ggggttgtca ttgtcgtgat agtataatth acatggtcga agtgatagaa 900
actttaacca tcatttacct tgtaccttac tataacacaa aatactacga tttccaaaca 960

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caataaaaaa ctaaatgttt aaaatattct ctagcacatt ttttaaatac attttgtcta      1140
attaattaaa attaaaagag gatataaaaa atatgctgct aacatcttga acatttccgc      1200
aatcaataat ttctcaatct atctgaatat ttttgcaact gtatacaaaa atctcagaac      1260
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gtaattcagt aatgtttgtt cattatagag agagcgtggg ctatgtgcca ggggtgatgtg      1860
atgtcatttc actaccttca aagccagaaa aatgcaacag aaaaagcttt catcccatca      1920
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ggttggtggt gttggttggt                                     2000

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<210> 36
<211> 2000
<212> DNA
<213> Glycine max

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<400> 36
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tgagcaattt gtattactta tatacacaaa atctaaattg attcttaaca aatatgtaaa      180
gaaattaata atatgatcaa gttacctgaa gaagctaaaa taaaatagaa aattaagtaa      240
aagaaatgag gagtagaata taagataaca tcaaaaaaatt atttcagcat attttaagaa      300
catcaaattt acctttcatc aaaattaatc ttaaaagact aaaacattta attaagttta      360
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ctattgcctc aaaatttgca ctaaacaaga gaccctagag atttcgtagg aacaataata      480
gacacggtat taaataatta aattaatacg aggatgcata actaccaaac aaatgcgata      540
aataaatgag acgacgagag agcacaacgc ggggaatgaga taattaagaa aaaaaatcta      600

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ataaattagg aaaaaaaga cataatatca taagcttgaa tccaatgtac aaagagaggt      660
tggcaataaa gagaaagaga aaagacgtcc ctgtcacctc aaatggattg cattactcat      720
tgaaaaggac attattactt ccgacttttt atattaactt actaattata aaatatataa      780
aaaaatactt caaagatgca tatattttat ttattacat aattacataa cagaataata      840
taaaataatg taactacaca ttaaaacatt aaaatagtga ttggagtagt ggtataagag      900
gacgttgaat tcacgcggaa gagaaggata tatttcatgt ttaatttggt gtcatgccta      960
gttcaatgta atctaataag taaaaataaa atacaaacaa aataaagatt ttggtttctt     1020
aacaaaagta cttttacttt aaatatatat ttttatctgg tttttaaaca tgcacatatt     1080
taacataaaa gttcatatta aactttttcc tacatacttg gatcaaatag tcacgtattg     1140
caggtaaaaa ataatagtgt agcttataga aatcgtagaa ataagtctat aaaccagaag     1200
aaaaaaaaca ttaaaataat agtatagaaa tctatatcag tgtccccagt tcttacattc     1260
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agtgtaaaaa gagagaaagt taggaggggg atagagagtg tgtgtgtgtg cagagtttgc     1500
aggcttgtag cagaaatggg ggcagatggg ttttaacttta tgtgtgaaat aattttcttc     1560
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aacacccttt tttggttctt gttctgtggc tccttgtgct ttgagcaaga gctttttgag     1920
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gaagttcatc agttgcagct                                     2000

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<210> 37
<211> 1399
<212> DNA
<213> Solanum tuberosum

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ctcagaatca tctcctaatt ttttttcgaa tagtgctaaa tttgaaaacg acctaccgaa     180
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atTTTattat	tcacgaaaat	tagaaaaaaa	gttaaaatac	tattaatttg	aaattaaaaat	420
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ttagatatTT	aattaatgga	attatatgta	aaataatatg	ttaattagaa	agtaatagaa	540
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<210> 38
 <211> 2000
 <212> DNA
 <213> Solanum tuberosum

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attaagtgtc	ttcttgaaat taagaacat ttttaggaga taattatgta ttttttcatt 180
tttaatttga	cacgtatgca tatccactat tttgttttat tccaaagtga cccctacttc 240
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tacactctaa tagtctat	ttacttattt ttaatgtgtt	tatcaaatta tattttttaa	540
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tgtcactaaa tgaaaatact	tcactctgtt caatttatgt	gatagttttc atttttcaaa	1560
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<210> 39
 <211> 471
 <212> DNA
 <213> *Arabidopsis thaliana*

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tcattattag caaagtgtaa aaccaaagaa aaacaaactt tattttctcat tttatttagta 180
aaagtgaaga agagtaaaga aaaagagaga ctgagatgag gctgagagcc tgagtctgcg 240
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caaaagcaaa cctctttttgc atgcgtcctt aaaagacata aattttctctc aaaattttct 360
acatcacaaa atcaatcttt ttctcttctt ctctgtcttc atcatcatca tcatcatctt 420
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<210> 40
<211> 1231
<212> DNA
<213> *Arabidopsis thaliana*

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ttttggcatt ttgccaaaac acataaagat ggtagtgat gagacgagac gagtcatgcg 180
ctacttttaa aacaaaatga aaaacatcat taagctaaca aaccaaacac acttggtttg 240
ataacatggt ctagggaact agttatgcca aatctaatac gcataagaag actaagtcac 300
aacataattc agtaatttgg ttgagattaa atcctataaa tatgatttta aggtataaga 360
gagaagagac tcttttgatc aacacaatca aacatctaca aagaaaatta tctcacatag 420
ctacttctta atctaatttt ttcattaatc cattttattt taaatgtgaa gaatcgcac 480
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agaacatttt tttatattaa aatgtaaata catgaatctt atttttcgaa aaactaaaga 660
catctttttt ttatatatta attacaaaa caaaataaga cgacaaaaat attctttgat 720
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 <211> 1548
 <212> DNA
 <213> *Arabidopsis thaliana*

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 aatatatgaa acatatgtag cagaaaaaga agcatatcta tgaaacaaca aacattcaaa 180
 aaaaaaagga aaacggaaaa ttattaatat gaaaactacg gctttgactt gtagctgact 240
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 gtgaaattga agtaaatagc tcagcacaga aacttcgaca aaaataactc acagattaga 480
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<210> 42
 <211> 440
 <212> DNA
 <213> *Arabidopsis thaliana*

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acgcctaatt tttctatggt aatgaaatca attatatgac atgtttataa agagaaataa 180
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<210> 43
<211> 317
<212> DNA
<213> *Arabidopsis thaliana*

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<210> 44
<211> 3912
<212> DNA
<213> *Arabidopsis thaliana*

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 <212> DNA
 <213> Arabidopsis thaliana

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agattagttt aattagttta gccagtataa tgttttagta aagtattaaa cggcattttt	180

cgttgggaga	attatgttat	ggtataatct	actaatacat	acttttacac	atatatcaaa	240
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<211> 257

<212> DNA

<213> *Arabidopsis thaliana*

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<211> 1787

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ttgattttga agtaatatga tttatgtttg gatgttttat taaaaaatta agttatgaat     1140
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ttctgtatcc aaagtcaatt ttaaattttt ctttgatgtg aaactaaaca tgtaaaaatg     1260
tattttaaatt aaaattaatt ttagacttat aattaattct ctgtggtcaa tccaaataca     1320
cactcacact tagaatgtat gaaatttcaa tttttaactt tctcatctat gagctgttcc     1380
tattcctcct tcccctccta tgccctcact agggagccag ccagccatat tccaaaagcc     1440
cttattatca cacatgggtc cctccatagt caaaataaaa ataatatcat gatcactgtt     1500
tggccataaa gagctatacg acacacatgg acacagtagt aactgcccc accaatcaca     1560
cgtcgacagc acaccgttcc caaactactt cacctttccc aaaccagaaa ccaaaaccac     1620
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gaggctttgt ggggtactaca aaacataaca caattgaact cactgtgctt tcccatgaca     1740
cacatctata cttgtccaga agaagaaaga tccatgaact aacattccca cacgctcgct     1800
tcaccatatt tgccaccctt ttaaccctca cttcttgggt ttatttttgc cttttttttt     1860
ttccttgttt ggggtttgca ttttctctgg ttgaaaaagg gaagaacttg aactaattgg     1920
ttaagttacc tatctatcta tctatctagg gtataatatt ttatatcagt tattaaagga     1980
aagaaagaaa gaaacgaaga t                                     2001

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<210> 54
<211> 2001
<212> DNA
<213> Glycine max

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<400> 54
tcaactaggt agtagttgct taaagacaca cggaaacatt taaggataat tgtggagaga      60
gagtgttgaa atttcaatca tctctctctc taccacggta tacttcaata aaaaaaatta     120
aggactaatt ttaaaataca gagatttatt ctagagggtg attcttttag tgtgtttgat     180

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tttatgttaa	tacctcaaac	atacatttag	aatcccacaa	aattagtttg	gtatcatggt	240
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atcagaccaa	caaatttgta	gcttttaaag	tgaaattact	ttttatttgt	atatttagga	360
tagaaacatg	catgaagtaa	aaatactttt	gattagtata	tatccaaaca	aatatcaaca	420
cttttgaaca	aaaagggtaa	tcatgttcta	ttaatatattt	ttttttttgt	gataaagaag	480
tagctgaagc	ttcttatttg	acaattaaat	aattcttctc	ctatcggatt	ggtccatttt	540
taaagtaaaa	tgatacctca	aattgtgact	atatacacia	gccgtgaatc	aaatcttaga	600
ccttggttaa	aagactcaag	tgctaagtca	tttgtaccaa	taacttttgg	tataagtaaa	660
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cacttagtgt	gtttggatat	ttcctagaat	gaattttgag	tgccaaatca	aggtggaaat	780
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taaagagtat	ttatcgattt	ttattaatga	ttaatctttg	tcaaaaaatt	tagttagtta	900
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caccttcatt	aaaaggatta	agtctgtatt	actcagattg	ttactttgcc	tgctttaagt	1020
tgattttgat	aagattgaaa	gctaatacaa	atatatatatt	tcacattaaa	aattttattg	1080
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attaaaatta	ttttattcaa	aatcaattt	ttatcaatat	tcacccaaac	acacaaaactt	1260
aatttaaaaa	aaaatcctca	tttatattag	agatccacaa	tatagttatc	tatatatcaa	1320
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tttggggaatt	gggtttgggt	tggtttttct	tggttgtaaa	aggtaaagaa	gaactaattg	1920
gttaagttac	tatatatcta	gctaggggat	ataatattat	ataattattg	ttattaaagg	1980
aaacaaagaa	agaactaaga	t				2001

<210> 55
 <211> 2001
 <212> DNA
 <213> Glycine max

<400> 55
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 atgccatgga cacttttaat tctattcttt taaatgagat acctggccta tcaattttta 180
 gggtaaatta aaactcagaa atcaacatac taaaaaattg catgcatgtc cgcaaaagaa 240
 aatgtttaag gcagtatata ttcactagtg cacaaagttt tgaccttaaa tattgaaata 300
 gtgaccatac gagtgtaatg ttccagatat atataatgct aattatggac taattaatta 360
 aaatagagga ttgctttcaa taggaaaata gtagtgtaat ggaaaccgga aagtgaacta 420
 gaaagaaatg ttaaaaatgg tctagggaaa aagttaagga gaaaatggat tatacataat 480
 gtcaaaaatt ttataccgct gattataatt tatatattat gtaggaaaaa tttattaaat 540
 tttaaaataa ttaaaattat aatttatgat tgaatgatat tataaaacaa ttttacacaa 600
 tcaatttata aatattaaac ttaaaagata aacctaaaaa atactatttt tctttatcat 660
 aatattagta taaaataatt ctactaaaaa aaataattaa tatttataaa aatacatata 720
 aaataaatat tttttttata acataattta ttttatatat aaaaattaat caaatatttt 780
 aactttggat tacttaatta aaaaatgatt cctaaaaaag accatttgaa tattatttgg 840
 tggacgaagg gatggaccag agttcaatac tcgtgggttt tggcggcgctc aatgagagga 900
 tgcacgtaat gttcgggtcc gtacggcatt gccactgttt aaaccatcgg acacttgaaa 960
 gctcaaagca gtgactgtga tgagcagctc gcaatagaga atccaaaatt cccaaaagca 1020
 aaaacaaaac ccaaaaagca aaagagatat cattgtgtgg ctgttagata ccacagacag 1080
 caacatggta actgaccacc caatccgggc tcgacagcgc aacgttagca aaaccgccct 1140
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 taggtgcacc tactgttatt gctggtgcac ccaaccttct ttgataatga taaaattatc 1260
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 ttaccaatca acttgatccg taagaagctt gcagatcaag ttgatccata aaagacttaa 1440
 aatcaattt gcggatcaac ttgatccgta agaagcttac gaatcaagtt gatccgtaaa 1500
 agacttacgg atcaacttga tccgtaagtc ttaacaatct acttgccgat caacttgatc 1560
 cgtaagaaac ttgcagatca tctatatcaa ctgtagatca actaaaacat atgcggatcg 1620
 actcattaca tatgtggacc aacctgaatg agctaggtgc acaaaaatat ttttaaaaat 1680
 acatagggat atttttgtct tttcatgtta agtgttaggt gcccaacaac aataatgctg 1740

ggtgcactta gtaacaccca tgtgattagg gatataataac aacatagcat actcacacta 1800
 ctactcactg cgggtttttt ctctccaga agaagaaaga tccttaaatac aacattctct 1860
 ctccctccct tgggtataat agcaagcttt tcaagcatat ttccgggggtt tgttcccttt 1920
 tccttgttta ggggttttctt tggaaaaaaa aggtaattag gtataataat ataattaaag 1980
 caaaaaaaaa aaaaataaca t 2001

<210> 56
 <211> 1162
 <212> DNA
 <213> Glycine max

<400> 56
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 gaaagttagg ggcatttttg tactttctgc atgtgttaga gccttgtttg tataaaggat 180
 atagatatat gtctaagggtg tatattgtaa aaaaaatatg actttcctat tcttacatgg 240
 tcttttgtct tataaaagat gatagtgacc gagttgataa ttgttcacaa taataatatg 300
 tgtaaagtga tagtcagtta acaagtgtcg actaccggtc gattccgtac aagatagtaa 360
 tcatacgagt gtaaagtttc ctatagagag agagacatga atactaaggg ggattattta 420
 attaaaatag aggattgttt taaataggta aataataata ataataataa taataataat 480
 aataataata ataataataa taataagcaa aggagaaaga gatgttaaaa atggtggaag 540
 gaaaaagata accctaataa ggaacatttg aatatttggt ggacgaaggg atggaccaga 600
 gttcaatact cgtgggtcgt ggcgcggtca acgtaaggat gcacgtaatg ttctggttca 660
 tatacgacat tgacactgtt taaaccatca gacacttgaa agcaaagcag tgagtgtgac 720
 tgtgagagag cagcaataga gaatccaaaa tcccgaataa caaaaacaaa acccaaaaag 780
 caaaagagat atgattgtgt ggctgttagt taccacgaca acaacatggt aactgacaag 840
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 ccctcccttc gctataatag caagcttttc aagcatatct ctgggggttg gtcccttttc 1080
 cttgtttggg gttttcttgg gaaaaaagaa gtaattaggt ataataatag tataactaaa 1140
 gcaaaaaaaaa agacagtaat at 1162

<210> 57
 <211> 2001
 <212> DNA
 <213> Solanum lycopersicum

<400> 57
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attaaaatta aagcgtaaat gaaaattcac aatgtctaaa ttcggaacta acagatgcta 180
tgcaggagag caacaaaaga agaaacccta attgctaaat ggaaaaaagt gcaaggaaaa 240
atcaagtttc tatatgtgtc ttttaagtca attattcatg gtgtcaactg tcaatatata 300
cggggataat gcacaaatac ctctcaactt atgccgaaa tctcaaagac acacttatac 360
tatactaagg tcctattatt atttttgtta ataatttttt atcccttttc tgcttacgtg 420
gcactaaatt gtgggaccaa cgttgattgg cttttttttc caagctagtg tcacgtaggc 480
cgaaaagggg cagaaaatta ttaataaaaa taagtttagg ggtaatagga ctttagtata 540
atataaatat gtctctggga tttcgggcat aagttgaggg atacttgtgc actatatgcg 600
gtatttttat ttaggggtgg tttggtttga agaaagtat gatgctatga ttagttattt 660
tttagtgaat gtttgatttg ttgcattaaa aataatatgt atggcataat ttttaagaat 720
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ggaaaatttt gtttaactat ttttccagtt atctcatcat taattcatta ttactcgact 840
caagacaata ataactcaaa attatagggc cttttggtgc gagggatcaa aaataacgat 900
aatgtgataa aaaaaaaaaat cttgttttagt tgtcatgttt agaataactt atccaccatt 960
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tatatccaaa aaaaaatata gcttatttgt gattccgaga tctgtgagta gaaaatccta 1800
aaaactatth cgagccaatt tttgagaact atgaaaatat ttaaagtaaa aaattatacc 1860

atttgatgaa tataactaaa atagatatattt aaaagattaa ttatcaacgt ttaattcaaa 1920
aattgatgac caagcactag attggtcata tagttttgag attataactt ctttaattatt 1980
gggtattgtt aaactttcaa c 2001

<210> 58
<211> 2001
<212> DNA
<213> Solanum lycopersicum

<400> 58
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ccctcaccta tttcttcatt tcaaattatt cttacttatt cttaaaagtg atgaataaga 180
aaaaaatgaa aaacccaaca acttggttaca tatcgaaggg tttgttgatt atgatgaact 240
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atgttaagggt ataattttaa cgctagtgtg gttaagtgc taaagtaagt tttgcagcca 660
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aattgaagat ttatttttat acaattaaat ttttaattatt aatttaattt atatcatgta 1140
tactagttc aagtaaaaaat ttagagaaaa tggaaagaaa ataaacgaag aagagccaaa 1200
tctaattagg catatgctac aatggaaccg cattaacaaa caaaaatatt taaaactact 1260
cctaaaaata aggaggaaaa catatattat aaatcacaaa aaatattagt atcacaaaaa 1320
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tttaaattag ccaagtgaat tatatacctt taattataat tttattttta ttaaaaaaac 1440
gatgtcatat atgaaatgta gagagtacta catagtgcag aagtactgaa tgtcctagga 1500

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ccttagcata taaggagtat atactaaaaa taagaatgac gtaaaacacc atcaatgcaa      1560
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atctcgatta atttaaattt acgtacaaaa taaataaaaa tttcaaacta aaactatcta      1680
atcacatttt gtctgggtggt atgtagcata attttgtggc tcttaaccac cagatactag      1740
cagtgtgtac gttttatcca atcacaaatc gacaacgcaa cacccttaa tgcttaaacc      1800
actcttgat caggttatta ttattccctt tcaactcaatc aatcaaaaat caacaaataa      1860
aacctcccc ccacaccctc aatcatgctt cttcttccat atagtctctc aattagtcca      1920
aacaacctc tctatctatg ctaggtagct tatatgattt aatagttcga ttaatttaaa      1980
tacgcattaa agatagagga t                                              2001

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<210> 59
<211> 1812
<212> DNA
<213> Solanum lycopersicum

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<400> 59
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tttactcacc gtttcaaaaa caattaactc tagtctgact tgattgacta gacacggagt      120
ttaagagtat aaagaagatt tttaaatata taattgtaaa ctaaaacata tttagaaaaa      180
ttgagatagt aataattaac aaaaacggac tcaactctctc ccttttctca ttattactcg      240
gccgcaaact cttaaaaata cacgccttaa ttaatactct tgccctaatag agtattcatt      300
tagcacattt ttaagaaaat tgtaaattac taaggatatg attttttata taatggacaa      360
ttgttattaa aaagacgaag atatTTTTTTT aaacttttat tcgaaacaaa tatgagaaaa      420
ttggaaaaaa aattcagaaa atgtTTTTTTT cataccaaac acactcctaa gtttaagtag      480
ggaaaatcgt ctgatatacc tctcaacttt gtcatttagg gttgatatac cccttggtat      540
gaaagtggct catatatacc cctacttgta aacaaatggc tcacatatac cctttttctc      600
taacggaaat gaaaacaaaa taatttttagt ctaaattttt attatttttt tctaaaaaat      660
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atacacatac agaaaaatag ttttaattttt tattctttta actaagaaat gaaagaaaaa      900
aacaataaa gataagaaat tcaaataatt ataataaaag agtcaaaaa ataatttatg      960
tatgaaaaaa aattaaaata taccttgaac tttgatagaa gaatcatatt taccctaaa      1020
taattttttt ttaaaaatta gaagtaataa atataaattt aaaattaatt ttttaaaatt      1080
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tagaataaat taaataaata ctttatatga gaaaattgaa aaaaaaaatt caaaaaaatgt 1320
tttccttcat actaaacaca cttctaattct aagtatttag catatcattt aatagaataa 1380
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cgggacctca tgttcaaatt ttaagagaga taaaaatatt aaatgattct tttcattggt 1500
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acaatttctt aaaaatcagg caacaagata tggaaataag atcttttggt ttttcttata 1680
tttgaataaa agaaaaagac tacgtattta atatctcata tgtaatatat aatgaataat 1740
cttttttttt taataaaagt atcataaaat tatagagcac tagaaaaatc atttcttttt 1800
gactaatatg gc 1812

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<210> 60
<211> 1880
<212> DNA
<213> Solanum lycopersicum

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<400> 60
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gatggattat ttgttatgtg tctcaataaa acccacaagt tttttttgt acagtagaca 180
atagccgtgc gcatcttgta gccaggtgat gcgaaacaat ggaataacgc ccaccatctt 240
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tacattcata atcactgctt cttttaaata aaatattttt ttcgttttat atcaattgat 360
tttttttata tgtttattga aaaaaatta taagtaagaa gatgatattg ctaattccac 420
acatattact tttagtatga tgataaacta atataaaact gagggagtag attatttggt 480
ataataagat agagatactg ttaaaaaata tgatatagta aatgaagttg gtataataaa 540
aaatattaaa aggaaatgct tcactaatga ggccttatat agcacgattt ttttttatga 600
tagattatat atattatagt tagggaatta catggctttg agacatattg gcctctacat 660
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tgttggtcat cttttacaag cgccatagta tgctcggagg ggtagatagt atagtaattt 840
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aattgtgtga ttgtatattt aaaacttaaa tttctataac agttttataaa attttgtatt	1020
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tattcggaca tgatgattca taaactggga taaagattta taatagattg tagggtaa	1140
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tttaatttat tgtagtaata ggttattggt ggtgcttctg ttgaataaat aacaaaatca	1260
agcattatgg gtatatagtt gtttataatt tctttgatac gatgggtacaa aattatctta	1320
tgacttgagg ggggtgtttg gtaggcaata tttcggagga atatttcaaa attaaatttt	1380
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<210> 61
 <211> 2001
 <212> DNA
 <213> Zea mays

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 <211> 1610
 <212> DNA
 <213> Zea mays

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tactctactc	caggaatgac taggacaaca tagatagata gtgaagggaa aaatagtggc 360

tgcccttgcc aacatctttt ggttatgata gcaagtgtaa taaggtgatg tagatggact	420
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<210> 63
 <211> 2001
 <212> DNA
 <213> Zea mays

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<210> 64
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<212> DNA
<213> Zea mays

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<210> 65
<211> 21
<212> DNA
<213> Glycine max

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<400> 65
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<210> 66
 <211> 21
 <212> RNA
 <213> Glycine max

 <400> 66
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<210> 67
 <211> 328
 <212> DNA
 <213> Artificial Sequence

 <220>
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 aggatgggtg tggatgattg aatatctctg ttcagtgttt tcatcatctg actgaacact 300
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<210> 68
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 <212> RNA
 <213> Glycine max

 <400> 68
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<210> 69
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 <212> DNA
 <213> Glycine max

 <400> 69
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<210> 70
 <211> 3058
 <212> DNA
 <213> Solanum lycopersicum

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 <211> 2245
 <212> DNA
 <213> Solanum lycopersicum

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cactttacat gatacgtaat tggatatttg taaaaattt gagtaatagt aagataaatg	2160
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atagatcaca	caataataaa	tattagtgtt	gctcatcgaa	aactccgatg	cactaatgtt	360
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atacaacata	ttttaaaactt	attctataac	tggatttcaa	tttaaaaaaa	ataatgatgt	480
gtcatgtccc	aaagttagtt	gcactctaaa	aaaagttaaa	aggtttttaa	ccaaaaataa	540
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 <211> 1302
 <212> DNA
 <213> *Arabidopsis thaliana*

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agagaaaaat gtgattctgc caagaaagt t gatgctttt ttacttagtt catcgaatta	300
tagagattaa taattgaaaa tcctacaaaa aaccttaaca tttaaaacca tttttattta	360
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<210> 74
 <211> 2001
 <212> DNA

<213> *Arabidopsis thaliana*

<400> 74

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ttaacctcgt acgaagaaga aggatatata ctatttaact cgtggagatg atgaggttcg	360
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cctaaaatta attagttacc gttttgatga ataacgttga aagaatcgtc aacatatcaa	660
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<210> 75
 <211> 1597
 <212> DNA
 <213> Arabidopsis thaliana

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<210> 76
 <211> 1552
 <212> DNA
 <213> *Arabidopsis thaliana*

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<210> 77

<211> 2001

<212> DNA

<213> *Arabidopsis thaliana*

<400> 77

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 gaagagagaa aaagagagga t 2001

<210> 78
 <211> 1558
 <212> DNA
 <213> Glycine max

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<210> 79
 <211> 1545
 <212> DNA
 <213> Glycine max

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tcgttaaatt	540
tgaaagaaaa	600
tgtatgaagt	660
gaaaataaaa	720
atgaagggtt	780
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gatgaatagt	900
caatgattaa	960
aatttttttt	1020
aggaagtaaa	1080
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tcttccaatt	1200
tattagagtt	1260
tagttttcat	1320
ttattattat	1380

taggcttata cctttacata taatattatt attaatttgc agtaggaaac aatattctat	1440
aataagaatg attattaaaa tatgaaataa gaacttttca aaatctgaaa ttatgcagcc	1500
acgctgggcg agtagtatct cgctgagcaa gcagtgcgca ttaca	1545

<210> 80
 <211> 2001
 <212> DNA
 <213> Glycine max

<400> 80	
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agaacgcgta aacattattc atttatttta ttgttctttt atttatttct tctaaagtac	120
ttagactaac taataacgag ttaaattattc ctaaaaaaaaa ctaacgagtt aaatagctat	180
atggttgaag tgatgttaag attttagttg tgggatgatt tgttcttgaa taaaaatac	240
ttaatgttca ttaagtatct tccataaaaa tatctttttc tcctcttgat ttagttattt	300
attaatatta ttgtgtaagt gtttataagt ttgtgattta tcgtaacttt agaatgaatc	360
aaagttctat gatcctaaaa atgtttacac ctagacctag ttgttaaaaa ataaactttc	420
attaagattc cttgtttact tttaaaaatc gactttttaa ttttttacac atatttttat	480
gtcattttatt ttaatatcat gtaatacaca ttattaatcc caaattatac tctgtaatta	540
attgtaaaaa atatacaata ttatacatct acaattttgt tcgtagggta ttatatgttt	600
atttataaga atttaagttt tatataatat aaaaatgaca aaattacatt ttttttgtct	660
cccagcttat ttccattttt tctaattttt gtctctcggt aatttaattc agtcctctta	720
ttttataaaa tcctataatg ttagttccca agccacaata cgttgatcgt tcatgtgtca	780
tatctttatt ggatgatgac cgacacatat tatgttttta ttgggtcaata aaaataacaa	840
tgtattttcat cttttatgca gttgacattc aatcacaaca taacatatga cagaatcatc	900
atctaataag aatgtgacat ctaacagtca acatcatttg ttaacgggtca atatctaaat	960
gtgacattag aagactaata ttgcacgatt ttacaagata ggaggattaa attcgtgaat	1020
taaattaatg ggggaccaa tttataattt tccctataaa aatatttata atatcaatca	1080
atttttaaaa aatgtttcaa atatatctcc taaattactt attattataa aaattaaaat	1140
tctcaccata taataatcta taactacatg agaataataa attttatatt aaatccaaaa	1200
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actatgaggg ttcacctcgt ttaagggttag ttcttgaatc cgaaacagtg agctgaaaat	1320
caagcccgtc cccacttca cctttcgaca cgtggcactg ttgtgacata ttctctccaa	1380
tcatcgttag tcatcagggg ccctatttag ggcttctccc atttttcttg gaaatttcca	1440
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cctgaatttt	aatttgagca	gtgtttactt	ggcccggtaa	tcaaagcaca	ggacacaggt	1620
gattttatgaa	gcaaattaag	ctaagagaaa	aagacagcta	gagagagaga	aagagatatt	1680
tgatttttggg	gttagcatcc	attaccattc	ccatttgacc	tgataaggat	gctttttaatt	1740
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tatcacactt	tagactttac	accatataaa	atacatat	gttacagtat	atgttatata	1860
caaggcctac	atatatatta	tagagattat	atatatatat	atatatatat	atatattcta	1920
aattttgtga	gtggatatta	ttactttgag	cgtgagaagg	ggaagagtag	agagagagag	1980
agagagatgg	gaaggggaag	a				2001

<210> 81
 <211> 2001
 <212> DNA
 <213> Glycine max

<400> 81	
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caaaaatttg	taagagaatg gatttcccat atttggtcaa aagctaagct tacagctttg 180
ccgtgctatt	ctgctattgc acagctatgt atatctatat ccaaagcga tatatagcaa 240
aatgaaataa	aatttagcaa gattaactta agtataataa catgtttttt tacttttata 300
taattagaaa	ttattttgta cattgattaa taattactta taagtacaga taaaatatac 360
aaaaatatag	atttgaaaag tattttaagt aagtactagt ttatttaata aaaatatgtg 420
agaagatcca	taattacatg agaagagtat ttttctactct caagaaaatg aagagacgga 480
cttattaaat	agataaataa tttttaatat atctatgttg aatgaacgaa tttagaaaca 540
cttcttgaat	ttattttttt ttaaaaaaga tgcgaatttt ccaaattatt tttccctatt 600
agaagctatt	ttctaataca tcttttttac aaacaatttt ttctaataat ctcttgtagt 660
taagaaaata	gttccacatc ctagcgtagg gaaaaggtag ctaagtaggt aggtgctaga 720
aattgtaacc	ttcaagatca catcttattt ttcatgtgac tgatgagtga tgacaacgtg 780
agtttcaatt	ccaaagataa caactaatat tagggatggt gacaattata tataaatata 840
tatagattca	attcatatct acgaaaatta cttatgatat atagcaaggt aattattatt 900
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aatatcttac	tagtcacttt caaatttcaa ccaaaaatgt aaatatacat tatttctcct 1080
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gaaaaaaatc	tcattctgtta	cttttccaat	aattctgcta	ttttaacaag	tgaagaacaa	1200
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gtaacggaga	gataggttga	aaaaacaagg	tcacaagaat	aaaaaagttt	aacgtaggaa	1440
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ggggaggtga	ttgtcttcca	aaaatacggt	aacatggaaa	atcatgggaa	agagaaagtt	1620
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gttgaaagt	ttgaactatc	tctagctagc	ttttcacaaa	tttggttgca	cttgcaactg	1860
aggcaggaaa	gaggggcacg	agaggaggaa	gaggaaagag	aagaaaaacc	aagaaaagt	1920
gagaaagga	taggtgttgt	acagaaatag	aaattaaaat	tgagtgaata	ttaaagagaa	1980
gaaggagtga	tagggagata	t				2001

<210> 82
 <211> 1643
 <212> DNA
 <213> Glycine max

<400> 82	
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taaatatata	tatatatata tatatatata tatatatata atTTTTttat ttaaaaaataa 180
aataaaaccg	taaacaattt aaattaaaaa aacacaggtt aacaaaacaa aaacaagttt 240
tccaaatgaa	aaaaagcaaa aaaatatttt acgactttta agtcataaaa taaatttttt 300
ttttaatgaa	atcgtaaata attttataac tttgatttaa agtaaaaaaa aattacgact 360
ttaaactctt	aaaaaaaaata aaatttaaac tgaagttgta aataatttta cgacttcaat 420
taaaaaaaaa	taaaaagtca tatcagatgt tacgactttt gagttagaag tcataacatc 480
tgttataact	tatcccattt tggataaatt ttcaaaatat acaccttatt ggaaaattgg 540
gtaaaatttt	accctaatt gataaaaaag tcaacgatat aatttcccat ttagattcca 600
accattaaca	gattttttaat tgatgaatag tataaatttt tatagttgct ccttataaat 660
taataacttg	aaaaaataat gatattttaat ggaatctgat taaaattttg aaaaacaaaa 720
tataagaact	ctgtcaacag cttttaaatt agagatttat cttaaaactc aataaaatta 780

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ccagtataaa agtgacacgt ggggggtccag ttttaagggtat ctgacgacgt tcttgacagt	960
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ggtttagtag agtactgacc cagaaaagaa gggtcaacag gtacctaga gaggggatag	1500
aaagaaaaaa atagaaactg tacgtataaa agaagaaaga aacaaagata taaggaaaaa	1560
gggaaaatat tttgaataag gaagatataa ggcaatatat aaaaatatta gtatttgata	1620
ataattaggt gtagaaatat tat	1643

<210> 83
 <211> 2001
 <212> DNA
 <213> Glycine max

<400> 83	
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ttgtagtttt actaagtttc taaactaagt aaataattac aatataaaaa aatctttaca	180
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cctgcagtta actttttttt aactaacaaa gttaaaaaaa ttaacgagat aaataccttt	420
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aaaaattcat ttattaatta taagaactaa aaggaataag tttaaaaatt ataagaatta	540
aatgggtaat taaacccaaa aataataaat agataaaata aaataatatt tttataaaat	600
taatattata taattattaa tttattttta gatattgtag ttgatcgtta atatagccaa	660
cgttcctgct gcaagaagct accccggata ttccgtcccc atctaccaa acaatcggaa	720
atgtttcaga ttttatagtt gatctcttaa tatataagag atataggtgg aaaattcatt	780

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gatgaagtat	tgattaatta	gaaatTTTTT	atgtatgatg	attttgttaa	tttttatgat	900
aattatTTTta	aatcatttta	taacagattt	ttaattaatc	cgtagtataa	attttttatg	960
ctatttTgt	atcgaaatta	aactatgtta	aattactcct	tataatttta	taacttgata	1020
gaaaaataat	gatattttaat	gaacagggat	ctgattaatt	tttttttaaaa	aaatataaga	1080
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gaactactcc	agaaccctct	cttgtttttc	acaaatttgg	gttcagtaga	gtactgaccc	1800
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<210> 84
 <211> 2001
 <212> DNA
 <213> Solanum lycopersicum

<400> 84						
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catttaaaatt	ttaatatata	cgacataatc	atggcaatac	acacaaaaaa	aatattttaag	180
ctaaataaga	ggtaattttt	atttgtaaga	atgaataact	aatcttgta	caaaaaaaaa	240
aaactaaata	aggtgagggg	atttttgtaa	acaaccaaca	acttattctc	aaaaaaaaata	300
aataataaat	attaatttta	atatgacaaa	ccaaacaaac	aactaatccc	tataacaacat	360
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 agggatgggt agaggaagag t 2001

<210> 85
 <211> 1817
 <212> DNA
 <213> Solanum lycopersicum

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 tattaagttt ttaattt 1817

<210> 86

<211> 2001

<212> DNA

<213> *Solanum lycopersicum*

<400> 86

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 <212> DNA
 <213> Solanum lycopersicum

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 <213> Solanum lycopersicum

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 <212> DNA
 <213> Zea mays

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<210> 90
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<212> DNA
<213> Zea mays

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 <211> 2000
 <212> DNA
 <213> Zea mays

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<210> 92
 <211> 2001
 <212> DNA
 <213> Zea mays

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 <213> Zea mays

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<400> 95
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<210> 98
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