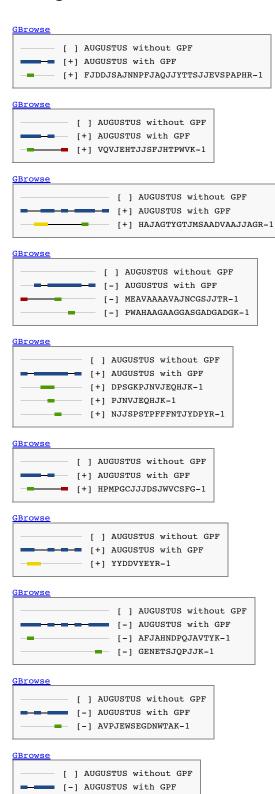
GPF *Chlamydomonas reinhardtii* annotation impact

- 1. New gene (11 cases)
- 2. Gene split (2 cases)
- 3. Gene merge (3 cases)
- 4. Gene extension (50 cases)
- 5. Gene truncation (6 cases)
- 6. Gene shift (1 cases)
- 7. Gene internal adjustments (added exons) (12 cases)
- 8. Gene internal adjustments (miscellaneous) (24 cases)
- 9. Gene internal adjustments (removed exons) (8 cases)
- 10. Alternative splicing hint (56 cases)

New gene (11 cases)



- [-] PAJAPTFDPYGPSNSNK-2

[] AUGUSTUS without GPF

[+] AUGUSTUS with GPF

[+] QPPYPPAAVHATGDGSGAAJJAAR-2

[+] QPPYPPAAVHATGDGSGAAJJAAR-1

[+] QPPYPPAAVHATGDGSGAAJJAAR-3

[+] QPPYPPAAVHATGDGSGAAJJAAR-4

[+] QPPYPPAAVHATGDGSGAAJJAAR-5

[+] QPPYPPAAVHATGDGSGAAJJAAR-10

[+] QPPYPPAAVHATGDGSGAAJJAAR-11

[+] QPPYPPAAVHATGDGSGAAJJAAR-6

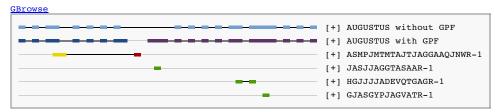
[+] QPPYPPAAVHATGDGSGAAJJAAR-7

[+] QPPYPPAAVHATGDGSGAAJJAAR-8

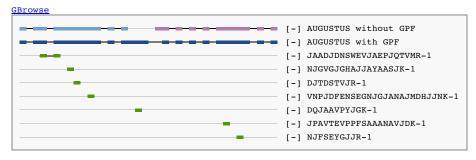
[+] QPPYPPAAVHATGDGSGAAJJAAR-8

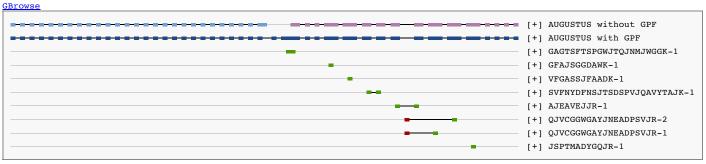
Gene split (2 cases)





Gene merge (3 cases)

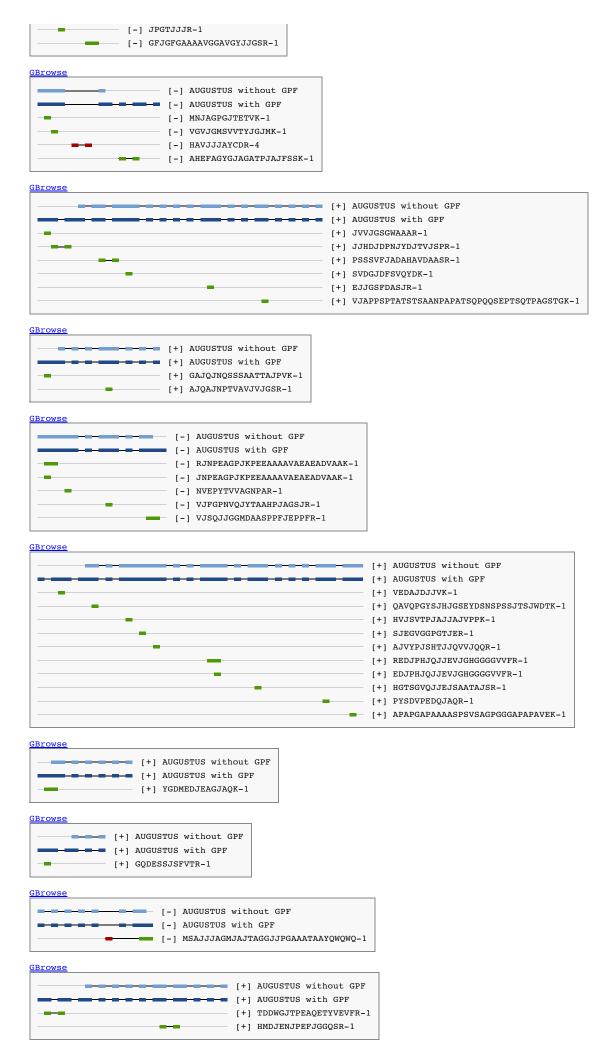


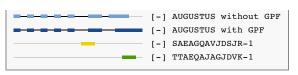


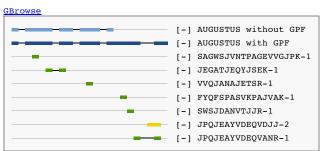


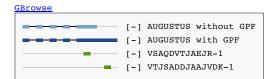
Gene extension (50 cases)

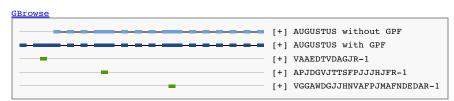


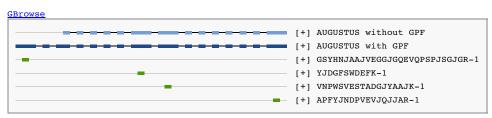


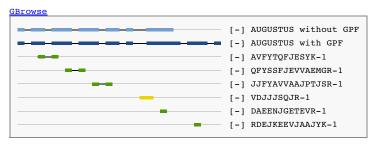


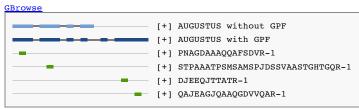


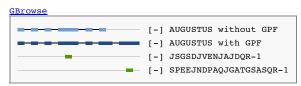


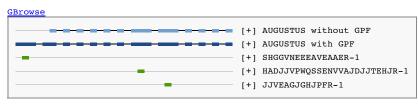




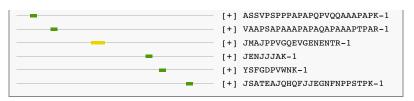


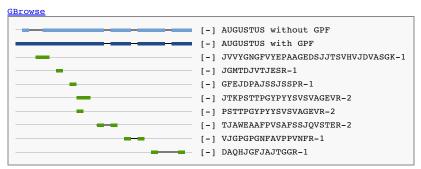


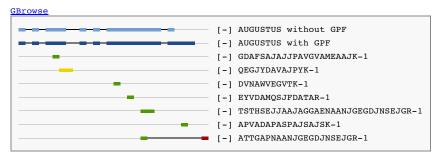


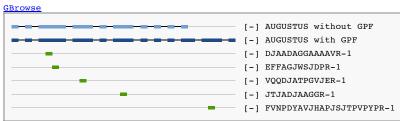


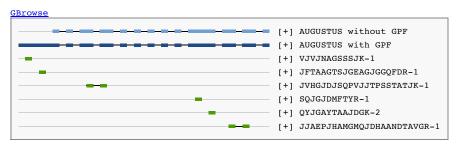


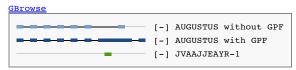




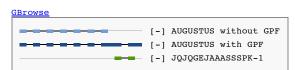


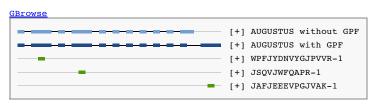


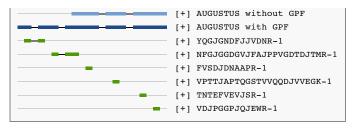


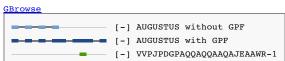


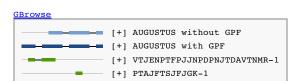


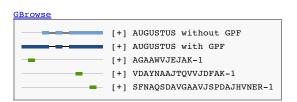


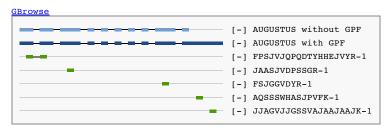


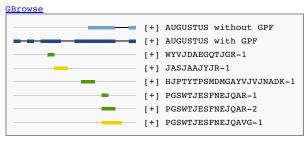


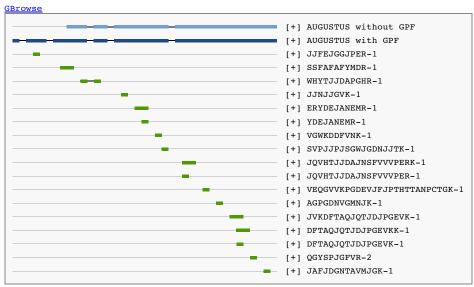


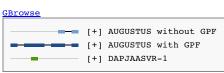


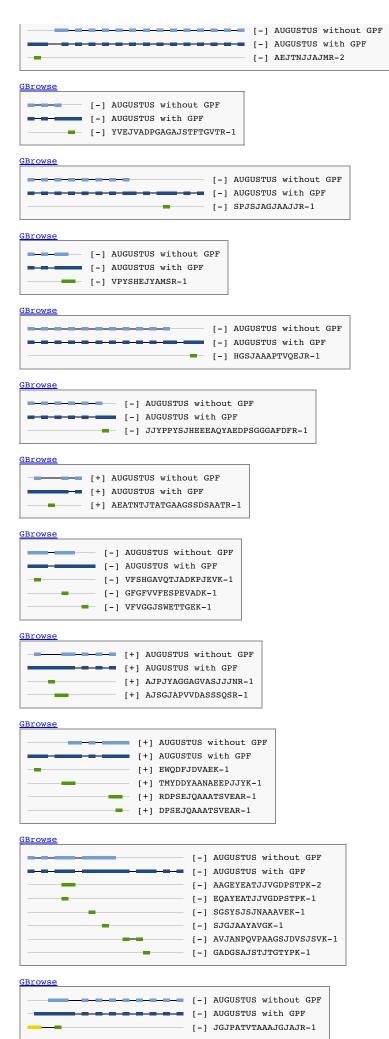




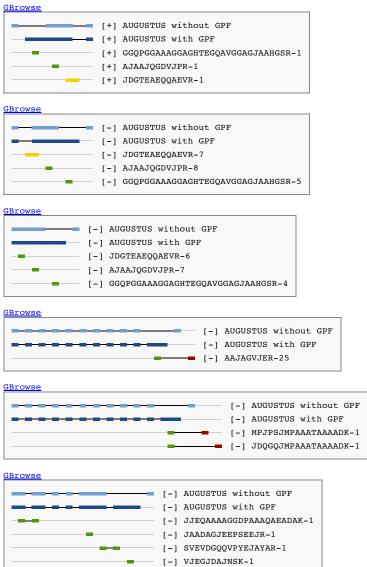




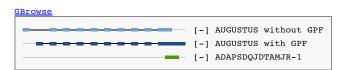




[+] AUGUSTUS without GPF [+] AUGUSTUS with GPF [+] FAAMGDQFR-1 [+] AUGUSTUS without GPF [+] AUGUSTUS with GPF [+] GVDVSVSAGAGSAK-1 [+] KVAASSJVJQDVSR-1 [+] VAASSJVJQDVSR-1 [+] JSTAHSAFMNYJJTJTHER-1 [+] YSVJATWPDFTK-1 [+] KFYSMVDEFHR-1 [+] QFYSMVDEFHR-2 [+] RHNTVHPAJGPATADGAVVQFJJAHAK-1 = [+] HNTVHPAJGPATADGAVVQFJJAHAK-1 Gene truncation (6 cases) - [+] AUGUSTUS without GPF

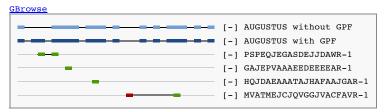


Gene shift (1 cases)

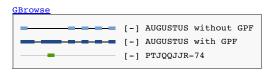


Gene internal adjustments (added exons) (12 cases)

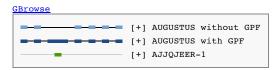




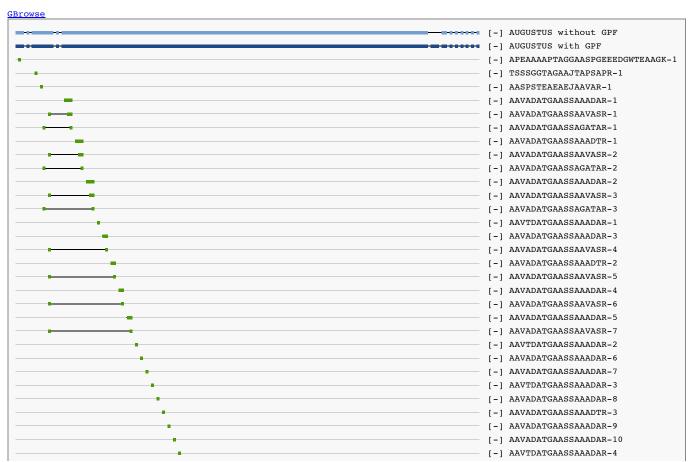


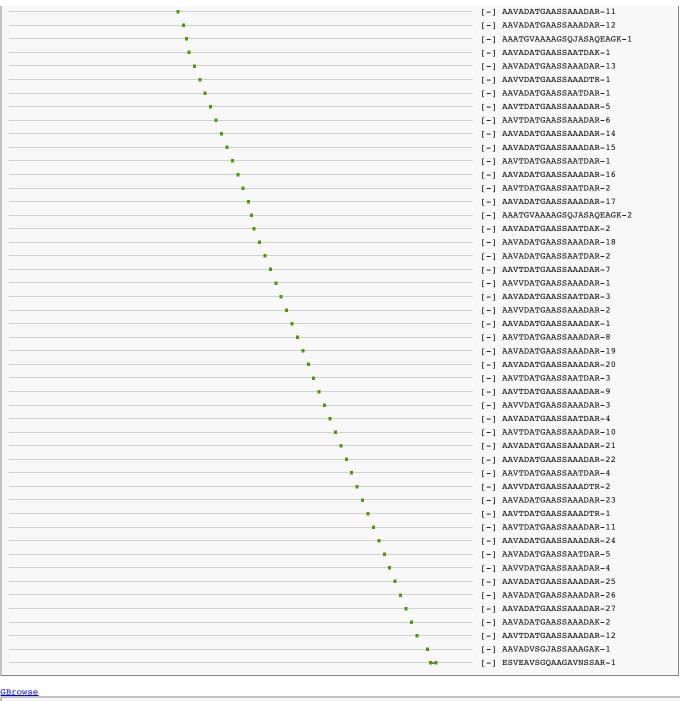




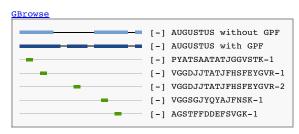


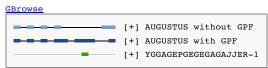










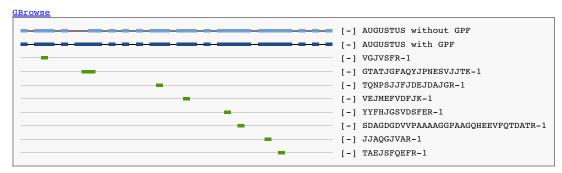


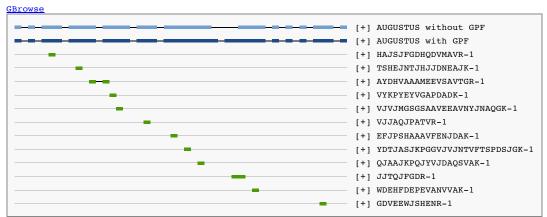


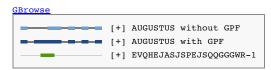
```
[-] JSJEDFPYVR-2
[-] EJNJEFJTJDSR-1
[-] VJDDFGGPEGK-1
[-] AREPMQQAAVYFJQPTPESJAR-1
[-] MSDJMDSGVSVVEDJAK-1
[-] JJDDMJGSVQDTTGGGWK-1
[-] JJDDMJGSVQDTTGQSGR-1
```

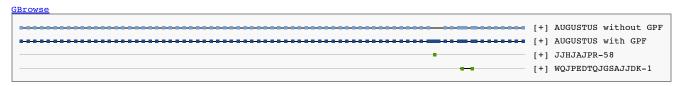
Gene internal adjustments (miscellaneous) (24 cases)

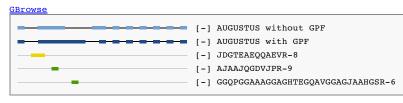


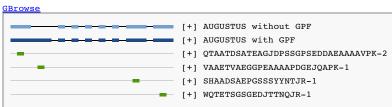




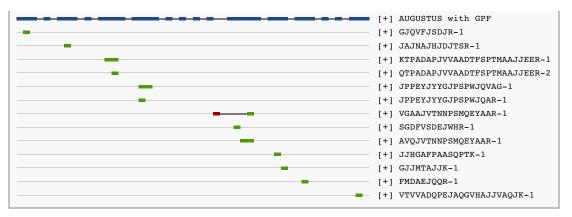


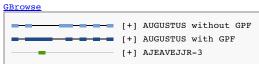


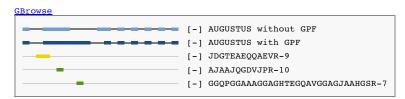


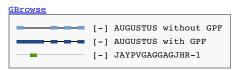


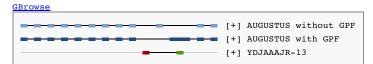
GBrowse [+] AUGUSTUS without GPF

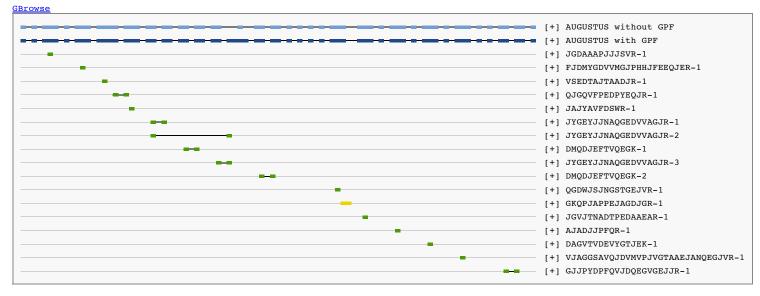


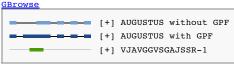


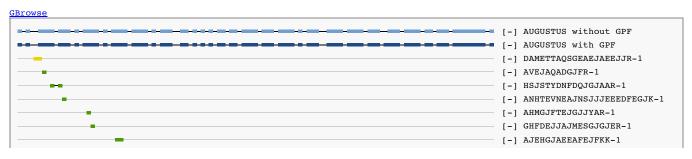


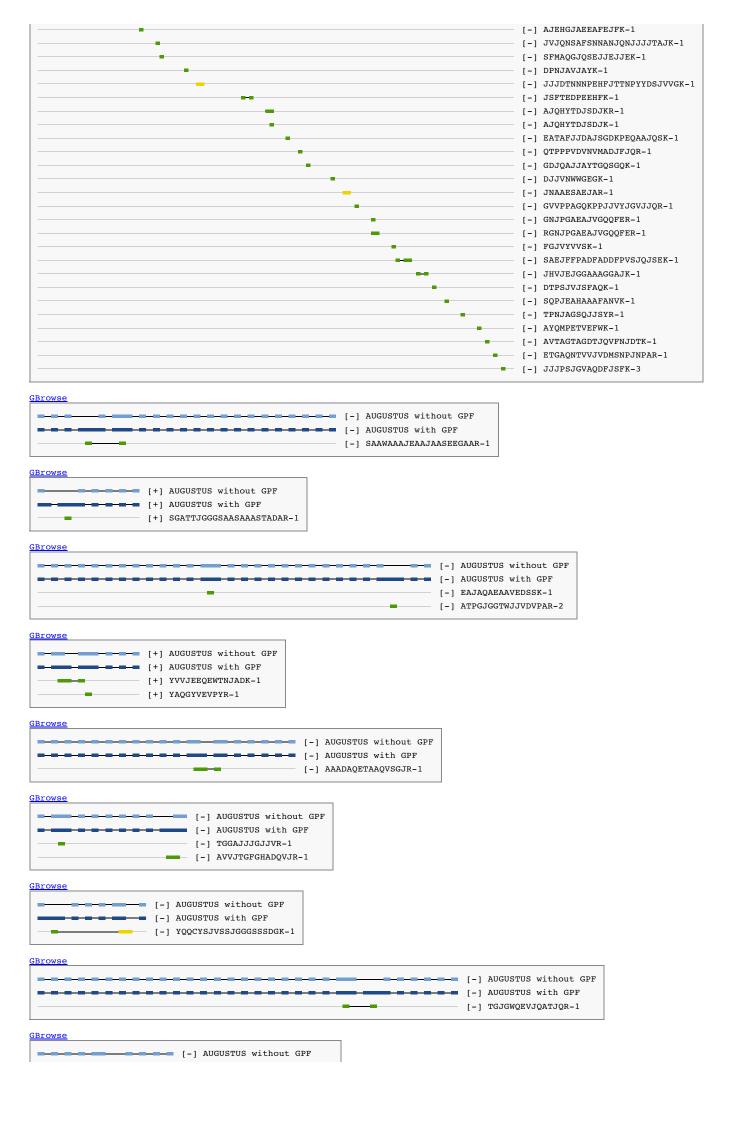






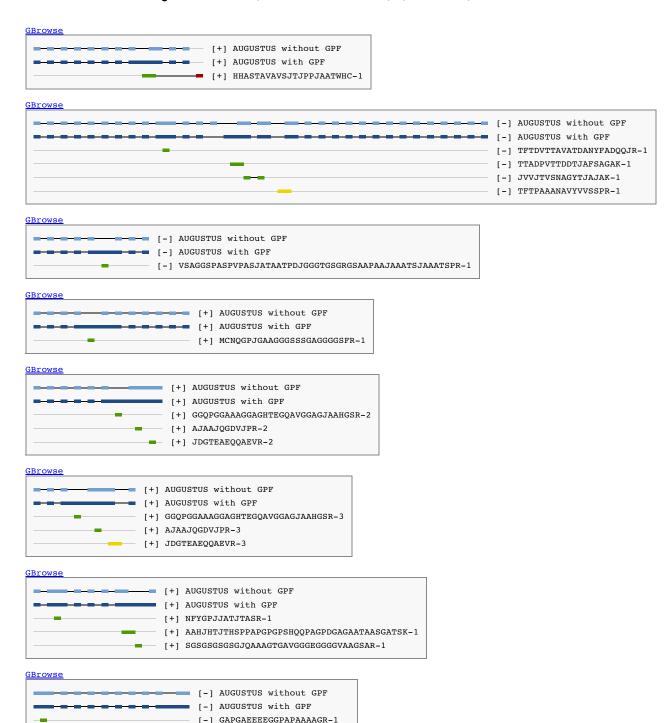






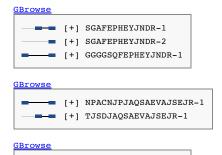
```
[-] AUGUSTUS with GPF
[-] QGQSPRPPTGSQVVVJATJVYK-1
```

Gene internal adjustments (removed exons) (8 cases)



Alternative splicing hint (56 cases)

[-] VAGNHNHVGASVQSAEDVQAJK-1



```
[-] YGDDFDGQTASJPAR-1
     -- [-] YGDDFDGQTASJTTAR-1
  --- [+] AQGAATAGAJAAATGQAR-1
 [+] AGAAQAAATAAASQVAEAATGAAASAQSGAJAAATGQAR-1
<u>GBrowse</u>
     - [+] AATVAADAQAQNTAAAAVGNVQTAAADAAAK-1
  === [+] AQDAAAGAAAAQNTAAAAVGNVQTAAADAAAK-1
GBrowse
 = [+] JVJEAETJJK-1
 -- [+] YTJHJVJEAETJJK-1
GBrowse
  = [+] WFPGDYGWDTAGJSADPETFK-5
 [+] WFPGDYGWDTAGJSADPETFK-6
 =-= [+] PSAAGWVEJTAYJDAYVFPGDYGWDTAGJSADPETFK-1
<u>GBrowse</u>
   == [+] PASAYJEGEJPAJER-1
   --- [+] PAAAYJEGEJPAJER-1
<u>GBrowse</u>
 = [+] GJDPJHPGGAFDPJGJADDPDTFAEJK-1
 === [+] JGPWGJDPJHPGGAFDPJGJADDPDTFAEJK-1
  [+] WGJDPJHPGGAFDPJGJADDPDTFAEJK-1
  [+] WGJDPJHPGGAFDPJGJADDPDTFAEJK-2
<u>GBrowse</u>
      [-] GGTVJSPVNGDPFVGMJETPVTSAPJVATYJSNJPAYR-1
[-] SQVJSPVNGDPFVGMJETPVTSAPJVATYJSNJPAYR-1
     [-] CPVJSPVNGDPFVGMJETPVTSAPJVATYJSNJPAYR-1
     [-] JSVJSPVNGDPFVGMJETPVTSAPJVATYJSNJPAYR-1
     [-] JSVJSPVNGDPFVGMJETPVTSAPJVATYJSNJPAYR-2
       [-] JSVJSPVNGDPFVGMJETPVTSAPJVATYJSNJPAYR-3
   - [-] TEJVJSPVNGDPFVGMJETPVTSAPJVATYJSNJPAYR-1
     [-] TEJVJSPVNGDPFVGMJETPVTSAPJVATYJSNJPAYR-2
GBrowse
  = [+] SWGJYEGJDWJSQNJQNK-1
 -- [+] PSSSSGJYEGJDWJSQNJQNK-1
GBrowse
  [+] WVTJASGGVJPNJHAVJJPK-12
   [+] WVTJASGGVJPNJHAVJJPK-13
 === [+] QVVSVTJASGGVJPNJHAVJJPK-1
<u>GBrowse</u>
 -- [-] QVVSVTJASGGVJPNJHAVJJPK-2
 - [-] WVTJASGGVJPNJHAVJJPK-36
 [-] WVTJASGGVJPNJHAVJJPK-37
<u>GBrowse</u>
      [-] TVCPFPGDYGWDTAGJSADPETFK-1
   [-] GJAAPJSAJCPDPCVHQAHGFPGDYGWDTAGJSADPETFK-1
     [-] WFPGDYGWDTAGJSADPETFK-10
 [-] WFPGDYGWDTAGJSADPETFK-11
<u>GBrowse</u>
 -- [-] EVVVVTJASGGVJPNJHAVJJPK-1
 [-] WVTJASGGVJPNJHAVJJPK-34
 [-] WVTJASGGVJPNJHAVJJPK-35
<u>GBrowse</u>
 [-] GJANJDDHJANPTAVNAFAYATK-2
 [-] GJANJDDHJANPTAVNAFAYATK-3
 -- [-] CCVJNJDDHJANPTAVNAFAYATK-1
 - [-] NJDDHJANPTAVNAFAYATK-2
```

[+] VVSDEHGJDPTGTYHGDSDJQJER-1 -- [+] VEPHVVSDEHGJDPTGTYHGDSDJQJER-1 <u>GBrowse</u> ■ [-] PJNVJEQHJK-2 -- [-] QAJGPJNVJEQHJK-1 **GBrowse** -- [-] YAESVTJASGGVJPNJHAVJJPK-1 - [-] WVTJASGGVJPNJHAVJJPK-38 - [-] WVTJASGGVJPNJHAVJJPK-39 = [+] WVTJASGGVJPNJHAVJJPK-18 [+] WVTJASGGVJPNJHAVJJPK-19 === [+] GAGQVVTJASGGVJPNJHAVJJPK-1 <u>GBrowse</u> ■── [-] GQJTPSNATAASEJQSJGR-1 - [-] GGJATPSNATAASEJQSJGR-1 [-] GGJTPSNATAASEJQSJGR-1 <u>GBrowse</u> ----- [+] HVHAPSAJJSVJJQJGJGTAG-1 [+] HGTTVPCHGHSJNYPAJJSVJJQJGJGTAG-1 ___ [-] QPFSHVJGQPJJJHVK-1 -- [-] QPFSHVJGQPJJJHDK-1 [-] AJTDJGJYPAVDPJDSTSR-1 ----- [-] VCVJJGJYPAVDPJDSTSR-1 ----- [-] YDDJPEMAFYMVGGJHEPFAR-1 - [-] YDDJPEMAFYMVGGJHEWJR-1 <u>GBrowse</u> -- [-] JHPCVTJASGGVJPNJHAVJJPK-1 - [-] WVTJASGGVJPNJHAVJJPK-41 ■── [-] WVTJASGGVJPNJHAVJJPK-42 <u>GBrowse</u> -- [-] GJCJAJVQATPDEVSSENR-1 - [-] AJVQATPDEVSSENR-1 <u>GBrowse</u> =---- [+] EAGHDPQEVYVDDESK-1 [+] FMTNPQEVYVDDESK-1 <u>GBrowse</u> [-] QGAAJJNAHJAQQMSNJPVMTK-1 [-] QGAAJMSNJPVMTK-1 **GBrowse** [-] VJGASJDSQFTHJAFSNTPR-1 -- [-] AJNTEVJGASJDSQFTHJAFSNTPR-1 [-] MVVJGASJDSQFTHJAFSNTPR-1 <u>GBrowse</u> === [+] EPQVVJYFNAYR-1 = [+] EPQVVJYFNAYR-2 = [+] EPAQVVJYFNAYR-1

[-] JGEVHEGTATMDWMVQESWR-1

```
[-] JGEVHEGTATMDWMVQEEAGR-1
 - [-] PSGVNADAJSR-1
 - [-] PSGVNADAJSR-2
 -- [-] SGETVNFVNNAGFPHNJVFDEDAJPSGVNADAJSR-1
<u>GBrowse</u>
 = [+] AGDVDGAJAENVK-1
 -- [+] PGPGAGDVDGAJAENVK-1
<u>GBrowse</u>
 - [-] AGDVDGAJAENVK-2
 -- [-] PGPGAGDVDGAJAENVK-2
<u>GBrowse</u>
            = [+] FASAGNJDDHJANPTVNNAFAFATK-1
               - [+] JNHNJDDHJANPTVNNAFAFATK-1
              [+] VPVSNJDDHJANPTVNNAFAFATK-1
         [+] QJSSNJDDHJANPTVNNAFAFATK-1
            = [+] NJAMNJDDHJANPTVNNAFAFATK-1
        = [+] FGEANJDDHJANPTVNNAFAFATK-1
<u>GBrowse</u>
  = [+] WFPGDYGWDTAGJSADPETFK-1
  [+] WFPGDYGWDTAGJSADPETFK-2
 --- [+] DTAJFPGDYGWDTAGJSADPETFK-1
  [+] EGFPGDYGWDTAGJSADPETFK-1
 [+] EGFPGDYGWDTAGJSADPETFK-2
<u>GBrowse</u>
     [-] VYJJNGJDPJYPGESFDPJGJADDPDTFAEJK-1
 -- [-] VEVJMJGJDPJYPGESFDPJGJADDPDTFAEJK-1
<u>GBrowse</u>
 [-] MPJPSJMPAAATAAAADK-1
[-] JDQQQJMPAAATAAAADK-1
<u>GBrowse</u>
 [-] WFPGDYGWDTAGJSADPETFK-8
 [-] WFPGDYGWDTAGJSADPETFK-9
 -- [-] ATMTPVPGGHSAYFPGDYGWDTAGJSADPETFK-1
 [-] EGFPGDYGWDTAGJSADPETFK-4
<u>GBrowse</u>
     - [+] TAAWJSFDPJGJADDPDTFAEJK-1
   === [+] SASVTPQSFDPJGJADDPDTFAEJK-1
    [+] SFDPJGJADDPDTFAEJK-2
<u>GBrowse</u>
  [+] YGANVDGYSPJYTPDJWTESGDSYTJGTK-1
 === [+] PJCVHYGANVDGYSPJYTPDJWTESGDSYTJGTK-1
<u>GBrowse</u>
  [+] AGEPCFGJDPJYPGESFDPJGJADDPDTFAEJK-1
   [+] AGEPCFVGJDPJYPGESFDPJGJADDPDTFAEJK-1
    = [+] VSPJGJDPJYPGESFDPJGJADDPDTFAEJK-1
<u>GBrowse</u>
 -- [-] GTSEJGYPGGPFDPJGJSK-1
  [-] GTSEJGYPGGPFDPJVA-1
<u>GBrowse</u>
 - [-] HVHNSTPAYJTGEFPGDYGWDTAGJSADPETFK-1
 [-] EANSTPAYJTGEFPGDYGWDTAGJSADPETFK-2
 [-] EANSTPAYJTGEFPGDYGWDTAGJSADPETFK-3
 ■ [-] CPNSTPAYJTGEFPGDYGWDTAGJSADPETFK-1
 [-] NJDVVDVTNSTPAYJTGEFPGDYGWDTAGJSADPETFK-1
```

GBrowse

