A

tinman (*tin*) promoter sequence conservation

```
                  -40                                        +1                                        +40
D. melanogaster   agtggcatgaggcggtctggggtgaaaggagtacgcgttcagtaccaaaatcgagctgacaaattgcagacacggtcgag
D. simulans       agcggcatgaggcggtctggggtgaaaggagtacgcgttcagtaccaaaatcgagctgacaaattgcagacacggtcgag
D. sechellia      agcggcatgaggcggtctggggtgaaaggagtaggcgttcagtaccaaaatcgagctgacaaattgcagacacggtcgag
D. yakuba         atcggtatgtggcggtctggggtgaaagtagtacgcgttcagtaccaaagtcgagctgacaaattgcagacacggtcgag
D. erecta         atcggtatgaggcggtctggggtgaaagaagtacgcgttcagtaccaaaatcgagctgacaaattgcagacacggtcgag
D. ananassae      tgtatacagtatcaagaaggcctgaaagcagcgttcgttcagtaccaaaatcgagctgacaaattgcagacacggtcgag
D. pseudoobscura  atgtgtgtgtatgcggcgccagttcgttctgttctctttcagccaaaggagaaagaaccgagctgaggctgacaaattgc
D. persimilis     atgtgtgtgtatgcggcgccagttcgttctgttctctttcagccaaatgagaaagaaccgagctgaggctgacaaattgc
D. willistoni     ================================tttccattcagtacaaaaaacgcactgacaaattgcagacacacggtaa
D. virilis        taagtgtgagtgagtgcgtgtgtgtgtgttgaaaagattcaattttcattcagtacgaaaaacgcgctgacaaattgagt
D. mojavensis     ==============================tgcaaagattcaattttcattcagtacgaaaaacgcgctgacaaattgagt
D. grimshawi      tcagctgtatgcatgcatggaaaagattgcttgttcattcagtacgaaaaacgcgctgacaaattgaggacacgctcgtg
                                                 . ::::..   ..    .  .  . :. . .  ...:.
```

B

pyramus (*pyr*) promoter sequence conservation

```
                  -40                                        +1                                        +40
D. melanogaster   cgctatagctcgatgttcgacgacgctcagattcagattcagtttcttttcacctttcgtcggttgtagatcgctgccag
D. simulans       cgcaatagctcgatgttcgacgacgctcagattcagattcagtttcttttcacctttcgtcggttgtagatcgctgccag
D. sechellia      cgcaatagctcgatgttcgacgacgctcagattcagattcagtttcttttcacctttcgtcggttgtagatcgctgccag
D. yakuba         cgctagagctcgatgtttgacgacgctcagattcagattcagtttcttttcacctttcgtcggttgtagatcgctgccag
D. erecta         cgctacagctcgatgttcgacgacgctcagatttcgattcagtttcttttcacctttcgtcggttgtagatcgctgccag
D. ananassae      gctatcgcatgcgc-cggcctcagatacagatacaaattcagtttctgttcacctttcgtcggttaaagatcgttgcctg
D. pseudoobscura  ================================================================================
D. persimilis     ================================================================================
D. willistoni     tcggacgacgtatatttttgtgaattattttctgaatcagtttgtgttcacctttcgtcaagtcaagatcgctggcag
D. virilis        ==========================================agtttgtgtgcacctttcgtcggttcgagatcgttgccgc
D. mojavensis     ==================== cacagttgtagctgtatctgagtttgtgtgtgcctttcgtcggttcaagatcgctgacgc
D. grimshawi      gatgtctgtagaggctggcaagcattcgtatccatatctgagtttgtgcgcacctttcgtcggttcaagatcgctgccac
                                                          ..... .     .........   .  ...... .. .
```

C

thisbe (*ths*) promoter sequence conservation

```
                    -40                                       +1                                      +40
D. melanogaster     aacacaaagccaaaaaatgtcgcacgtttggcttcggtttagtctcgataattcaatcgccctgccaagacgtccaacgt
D. simulans         aaaacacaaagccaaaaatgtcgcacgttggcttcggtttagtctcgataattcatcgccctgccagacgtcaacgtctc
D. sechellia        aacacaaagccaaaaaatgtcgcacgtttggcttcggtttagtctcgataattcaatcgccctgccaagacgtccaacgt
D. yakuba           aacacaaagccaaaaaatgtcgcacgtttcgcttcggtttagtctcgataattcaatcgccctgccaagacgttcaacgt
D. erecta           aacacaaagccaaaaaatgtcgcacgtttcgcttcggtttagtctcgataattcaatcgccctgccaagacgttcaacgt
D. ananassae        aacacaaaaccaaaaaatgtcgcacgtttcgcttcggtttagtctcgataattcaatcgccctgcaaagacgttcaacgt
D. pseudoobscura    aaacacaaaaccaaatatgtcgcacgtttcgcttcggtttagtctcgataattcaatcgacgttcaacgttgtg======
D. persimilis       aaacacaaaaccaaatatgtcgcacgtttcgcttcggtttagtctcgataattcaatcgacgttcaacgttgtg======
D. willistoni       cacaacaccaaaaaaatgtcgcacgtttcgtttgggttttagtctcgataattcaatcgccctgcaaagacgtttaaatt
D. virilis          acaacagcaacaagaaaatgtcgcacgtttcgtttcggttagtctcgataattcaatcgccctgcaaagacgttcaacgt
D. mojavensis       acaacagcaacaagaaaatgtcgcacgtttcgtttcggttagtctcgataattcaatcgccctgcaaagacgttcaacgt
D. grimshawi        acagcagcaacaagaaaatgtcgcacgtttcgtttcggttagtctcgataattcaatcgccctgcaaagacgttcaacgt
                    :         . . :..          :.   :.  . :::::::::::::::::.....: . : ...  ..
```

D

Multi drug resistance 49 (*Mdr49*) promoter sequence conservation

```
                   -40                                       +1                                      +40
D. melanogaster    accgagctgtcgtcgcaaccattcgattttgtgttagtccagttcagatcgcgcactcgtcggctgcagacgtcttcttg
D. simulans        accgagctgtcgtcgcaaccattcgattttgtgtttgtccagttcagatcgcgcactcgtcggctccagacgtcttcttg
D. sechellia       accgagctgtcgtcgcaaccattcgatattgtgtttgtccagttcagatcgcgcactcgtcggcttcagacggcttcttg
D. yakuba          accgagctgtcgtcgcaaccattcgatcttgggttagtccagttcagatcgcgcactcgtcggctccagacgtctttttg
D. erecta          accgagctgtcgtcgcagccattcgatcttgggttagtccagttcagatcgcgcactcgtcggctccagacgtcttcttg
D. ananassae       accgagttgtcttgttaacttgttgagcaattggttgtccagttcacatcgcgcattcgcggccagcagacgtatttggc
D. pseudoobscura   aaccgagctgtcgtcgcaaccaattgactgggactcgtccagttcaaatcgcgcgctcgctgactccagacgccagcctc
D. persimilis      aaccgagctgtcgtcgcaaccaattgactgggactcgtccagttcaaatcgcgcgctcgctgactccagacgccagcctc
D. willistoni      accgagttgttgtcgttaaccgtcgatggagacaccatccagttagaatcgtgtgcttgttggcttcagacgttgcttgg
D. virilis         ================================================================================
D. grimshawi       ================================================================================
                   . .                                   .......   .... .   . .  . .  ......
```

E

phantom (*phm*) promoter sequence conservation

```
                  -40                                       +1                                      +40
D. melanogaster   ttctgtccgagagactcgtttcaaattctaaagaaattccagtaatcgcagagctctgctggcgactggacgtcgggatg
D. simulans       ========================attctaaagaaattccagctatatcgcagagctctgctggcgactgtctctccgat
D. sechellia      ttttgtccgagagactcgtttcaaattctaaagaaattccagtaatcgcagagctctgctggcgactggaccagtcggga
D. yakuba         ttttgtccgagagactcgtttcaaattctaaagaaattccagtaatcgcagagctctgctggcgactggacgtcgggatc
D. erecta         ttctgtcccagagactcgtttcaaattctaaagaaattccagtaatcgcagagctctgctggcgactggacgtcgggatc
D. ananassae      gttgggcaccgagacccgtttcaaattctaaagaaatcccagtaatcgccgagcgcttcgggtgaccagacgtcctcaaa
D. pseudoobscura  atttctggccgagactcgtttcaaattctaaagaaattccagtaaatgatgagcattgctggcgactggacgcttcgtgg
D. persimilis     catttctggcgagactcgtttcaaattctaaagaaattccagtaaatgatgagcattgctggcgactggacgtttcgtgg
D. willistoni     ================tcaaattctaaaaaggaaattcccagtagtaagtgaagagcattgcagccgaacggacgtcgac
D. virilis        attacgctcccgacacgtttcgaaaatccatagaaattccagtaattgaagaaccgcctggccgaacggacgtgtaccca
D. mojavensis     tgcctgcattacatttcgcccgcaaatccgtagaaattccagtaattgaagagccgcacagtcgagcggacgtcagcgtc
D. grimshawi      catttcgctgccgacacgtttcgatttccatggaaatgccagtaattgaagaacctcgctgccgaacagacgttgctgat
                                            .. . ..:::: :::.... .  .: .      .  :.   ....
```

F

rho like (*RhoL*) promoter sequence conservation

```
                  -40                                       +1                                      +40
D. melanogaster   gaactctgcgagctaaacgaatcggaatcgccaaaggttcagttgttcgacgacatcgcgtgcgatcggttgttgctatt
D. simulans       tcgaactgcgagtgaaacgaatccgaatcgccaacggttcagttgttcgacgacatcgcgtgcgatcggttgtggctatt
D. sechellia      tcgaactgcgagtgaaacgaatccgaatcgccaaaggttcagttgttcgacgacatcgcgtgcgatcggttgtggctatt
D. yakuba         ctgcgagcgaaacagaaacaactcgccgatggttcacttcagttgtttgacgacatcgcgagcgatcggttgtggctatt
D. erecta         cgaactgcgagggcaacaaatcgacgtgtatgttcacttcagttggttgacgacatcgcgagcgatcggttgtggctatt
D. ananassae      gttcgtcggcgctggttgcagctgtttgaggttgttgtttagttgcctgacgacatcgcgaacgatcggttcgtttaagc
D. pseudoobscura  gtggcgtcgtatccgtcagatacaaaaactgctgcctctcagatgccttgcgactgcacgagtgatcggttgtgttgtgg
D. persimilis     gtggcgtcgtatccgtccgatacaaaaattgctgcctctcagatgccttgcgactgcacgagtgatcggttgtgttgtgg
D. willistoni     ================================================================================
D. virilis        cttttggccactcaacgttatccgtcagatactcgttctcagttgcgtgacgactgccggagcgatcggttgtgccagct
D. mojavensis     ================================================================================
D. grimshawi      gatgttggtcacacgggctaaccgacagagactcgttctcagttgcgttatgactgcccgagcgatcggttgttccagct
                                  .                   . .. ..      ...  .  .   ........
```

G

tailup (*tup*) promoter sequence conservation

```
                 -40                                        +1                                        +40
D. melanogaster  ggataacgtacggcaaacggaacgaagcgccgaccggtttagtcgttcagcagtctccgtgcagtgagcatgtttgtgcg
D. simulans      ggataacgtacggcaaacggaacgaagcgccgaccggtttagtcgttcagcagtctccgtgcagtgagcatgtttgtgcg
D. sechellia     ggataacgtacggcaaacggaacgaagcgccgaccggtttagtcgttcagcagtctccgtgcagtgagcatgtttgtgcg
D. yakuba        ggctggctggcaaacgagggaacgaagcgacgaccggtttagtcgttcagcagtctccgtgcagtgagcatgtttgtgcg
D. erecta        ggataacgtacggcaaacggaacgaagcgacgaccggtttagtcgttcagcagtctccgtgcagtgagcatgtttgtgcg
D. ananassae     ggcgccgaggccagcgcagcgcccgccgaccgaccggtttagtcgttcttcagtctccgcacagtgagcatcgttcgcac
D. pseudoobscura cgttgcggtgtcgtctcgggctgaatggaacgaccggtttagtcgttcagcattctcagcaccgttagcatcgtacgaac
D. persimilis    cgttgcggtgtcgtctcgggctgaatggaacgaccggtttagtcgttcagcattctcagcaccgttagcatcgtacgaac
D. willistoni    tggtggtgcccgagcgaccaactgaatatgcgaccggtttagtcgttcagcaaactctgcgccgttagcatcgtacgtac
D. virilis       ttgcctgtgaatccgaaagatacacacggtcagccggtttagtcgttcagcagtcgcagcgccgtcagcatcgtgaggta
D. mojavensis    gcctttgtgaatccgaaagacacacacggtcagccggtttagtcgttcagcagtcgcagcgccgtcagcatcgtgtggt=
D. grimshawi     gaagtgaggcgttcgtctctgtaagatacacagccggtttagtcgttcagcaatcgcagcgccgtcagcatcgtgtgcaa
                                  .           :  :::::::::::::::..:: .: : :  : :: :::::  :
```

H

leak (*lea*) promoter sequence conservation

```
                  -40                                        +1                                        +40
D. melanogaster   tcgggtggcggctccgaggcgaaacgagaattcgttcctcagtcgcatttcgattgtcagccggttcgcatgtgctgcgg
D. simulans       tcgggtggctgctccgaggcgaaacgagaattcgttcctcagtcgcatttcgattgtcagccggttcgcatgtgccgcgg
D. sechellia      tcgggtggcggctccgaggcgaaacgagaattcgttcctcagtcgcatttcgattgtcagccggttcgcatgtgccgcgg
D. yakuba         ========cggagccgaggcgaaacgagaattcgttcctcagtcgcatttcgattgtcagccggttcgcatgtgccgcgg
D. erecta         ========cgctgccgatgcgaaacgagaattcgttcctcagtcgcatttcgattgtcagccggttcgcatgtgccgcgg
D. ananassae      ==============================cttctgtcgtcatttgttcgtcgagcggttcgcatgtacttcgc=======
D. pseudoobscura  gaaccgaacgcggaactccgggccgggactgggccgtggcagttgaatttttgtgttggaagagctcggtactgccgttc
D. persimilis     gaaacgaacgcggaactccgggccgggactgggccgtgccagttgaatttttgtgttggaagagctcggtactgccgttc
D. willistoni     =acggaaacaccactaaacgaaaccggccgcgcggccgtcagttgatttcgttagccaaacggttcgcatggttctttg
D. virilis        ttaacagggcaagcggcgaacatgttgctggggcgcattcaatttgctgctggtactcggtcgcttcggttgtgcgagcg
D. mojavensis     ttaacaggccgaaacgctgaaaatgttgctagacggattcaatttgctgctggtactcgggcgcttcggttgtgcgagcg
D. grimshawi      cttaacagggtaaacgacaaacatgttgctggccacattcaatttgctgctggtagtcggtcgcatcggttgtgcgagcg
                                                         .:: :    .   . .  .    .   :..   ....
```

I

SoxNeuro (*SoxN*) promoter sequence conservation

```
                        -40                                        +1                                        +40
D. melanogaster          tttaccgcctcctcgagcggccagcggcagacggtctctcattcgactctcgcattcgccgtcgtcagcacacgcgcacg
D. simulans              tttaccgcctgctcgagcggccagcggcagacggtctctcattcgactttcgcattcgtcagcacacgcgcacgcaacgt
D. sechellia             tttaccgcctgctcgagcggccagcggcagacggtctctcattcgactctcgcattcgtcagcacacgcgcacgcaacgt
D. yakuba                tttaccgcctgttcgagcggccagcggcagacggtctctcattcgactctcgcattcgccgtcgtcagcacacgcgcacg
D. erecta                tttaccgcctgctcgagcggccagcggcagacggcctctcattcgactctcgcattcgccgtcgtcagcacacgcgcacg
D. ananassae             cgcttcgcttgctcgagccgccagcaacgggccgtctctcattcgactctcgcattcgccgccgtcagcacacgcgcacg
D. pseudoobscura         gcagccgcttgctcgagccaccagcgacattcagtctctcattcaactctcgtatcatatgtcgtcagcacacgcgcgca
D. persimilis            gcagccgcttgctcgagccaccagcgacattcagtctctcattcaactctcgtattcgctgtcgtcagcacacgcgcgca
D. willistoni            gactatgcttgtcagcatttccagcgacagtcagtctctcattcgactctcgtattcgcagttgttagcacacgcgcgca
D. virilis               caagcggcctcagactcagctgctggccagtcagtctctcattcgtctctcgtattcgctgtcgtcagcacacgcgcacg
D. mojavensis            caaacggcctcagtctcagctgctggccagtcagtctctcattcgtctctcgtattcgctgtcgtcagcacacgcgcacg
D. grimshawi             gctgagccttcagtttcagctgctggccagtcagtctctcattcgtctctcgtattcgctgtcgtcagcacacgcgcacg
                               .: :               . :.  : :.:::::::::: ::.::: ::...  . ... .::.::::::.. .
```

J

vein (*vn*) promoter sequence conservation

```
                    -40                                        +1                                        +40
D. melanogaster      gaatgctacaactctgctctgcatcggtgagatacgtttgagtcgttttcgcggcgtcaaatcgagcagacctgtgccgc
D. simulans          gaatgctacaactctgctctgcatcggtgagatacgtttgagtcgttttcgcggcgtcaaatcgagcagacctgtgccgc
D. sechellia         gaatgctacaactctgctctgcatcggtgagatacgtttgagtcgttttcgcggcgtcaaatcgagcagacctgtgccgc
D. yakuba            gaatgctaccacagtgctctgcatcggtgagatacgtttgagtcgttttcgcggcatcaaatcgagcagacctgtgccgc
D. erecta            gaatgccacagcgctgctctgcatctgtgagatacgtttgagtcgttttcgcggcgtcaaatcgagcagacctgtgccgc
```