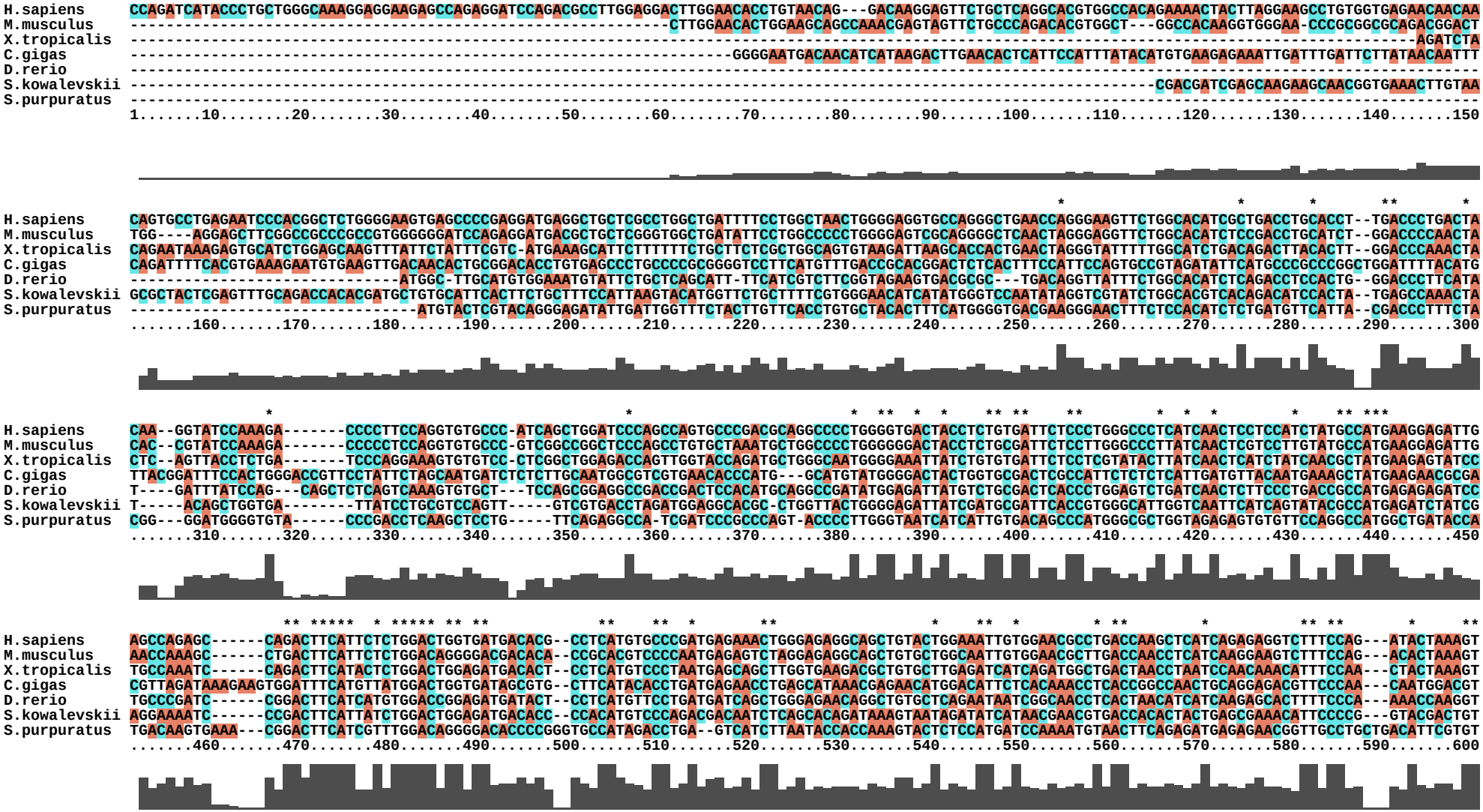
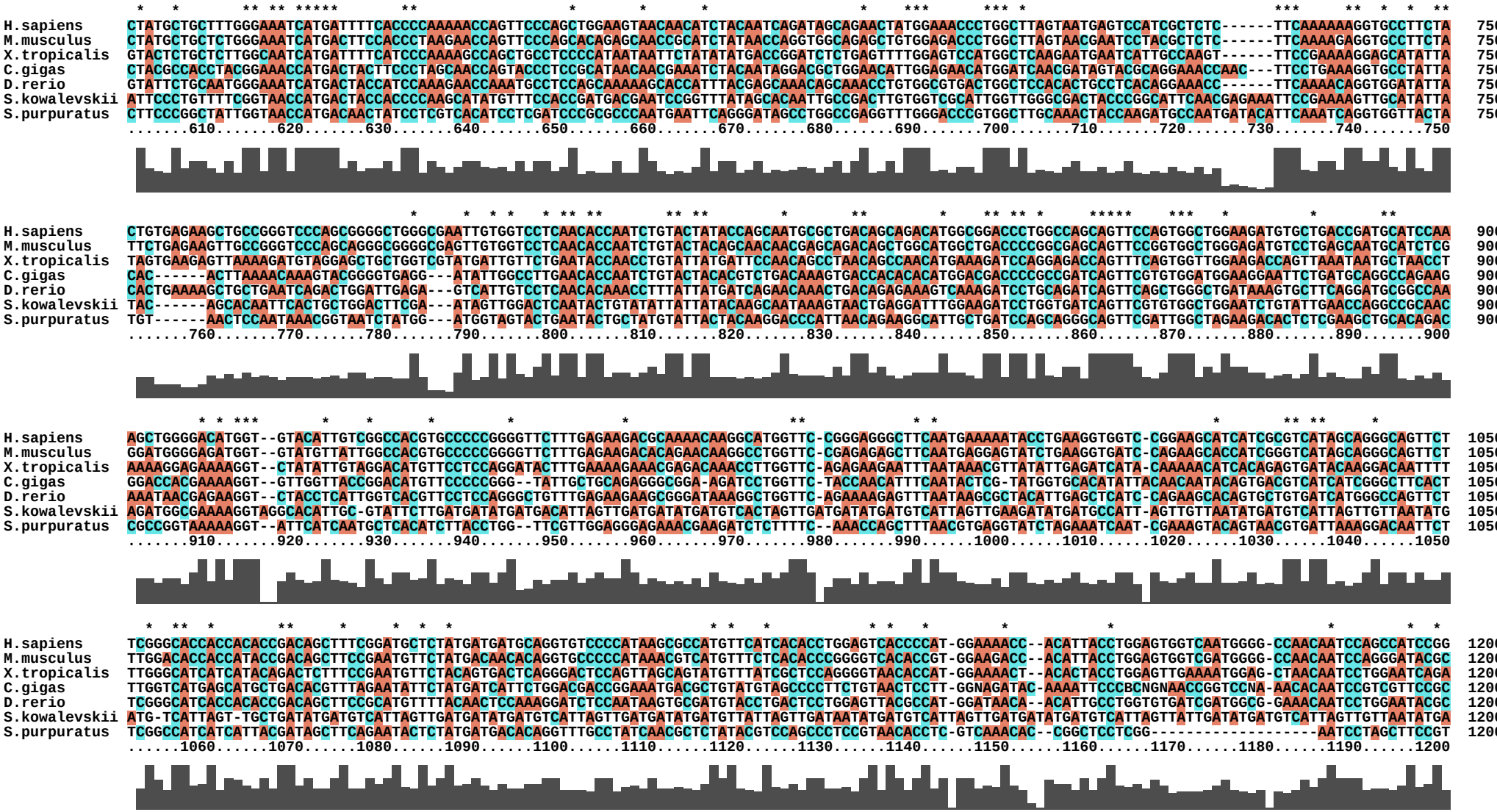
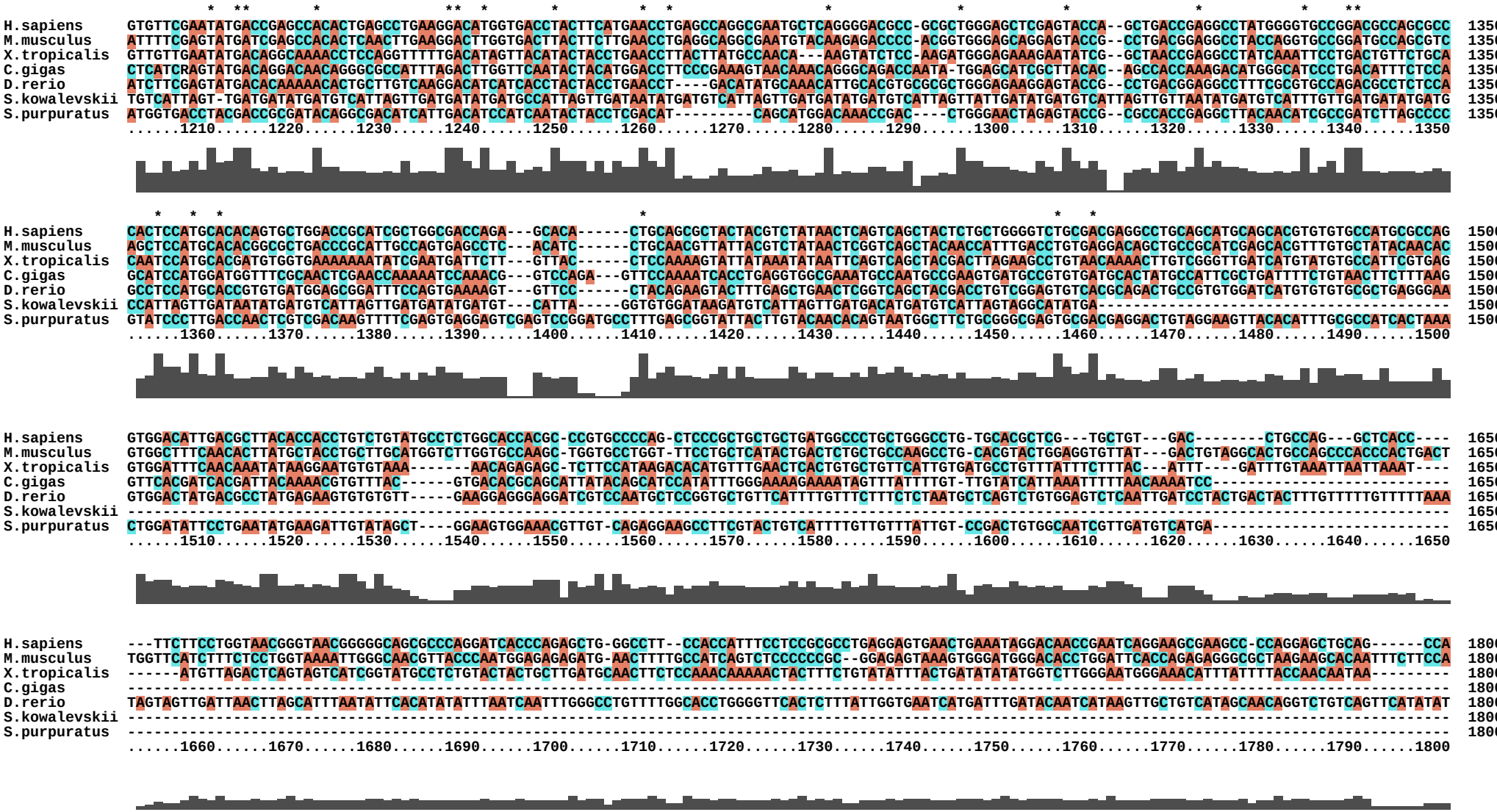
CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT



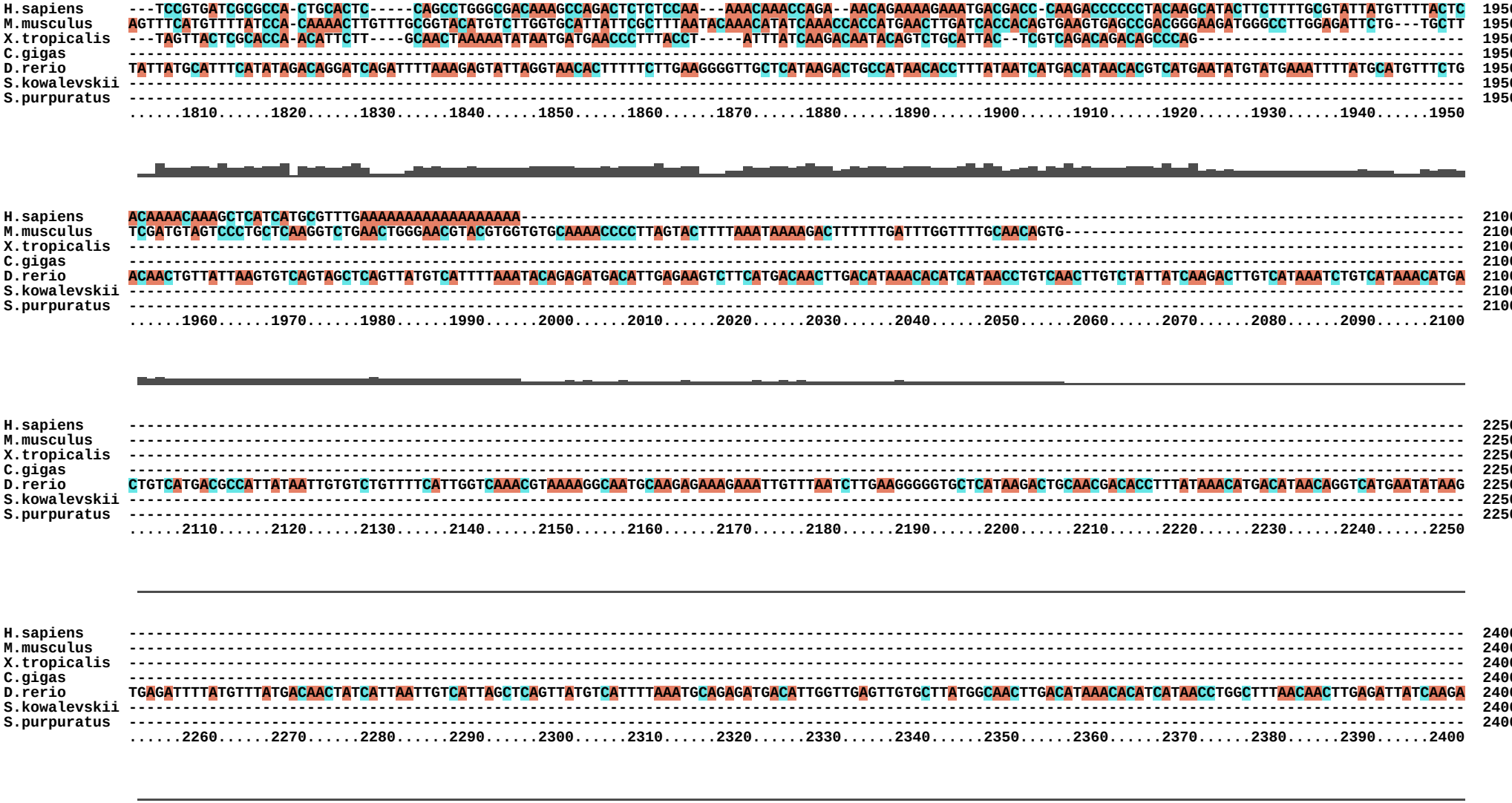
CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT



CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT



CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT



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H.sapiens     ---TCCGTGATCGCGCCA-CTGCACTC-----CAGCCTGGGCGACAAAGCCAGACTCTCTCCAA---AAACAAACCAGA--AACAGAAAAGAAATGACGACC-CAAGACCCCCCTACAAGCATACTTCTTTTGCGTATTATGTTTTACTC  1950
M.musculus    AGTTTCATGTTTTATCCA-CAAAACTTGTTTGCGGTACATGTCTTGGTGCATTATTCGCTTTAATACAAACATATCAAACCACCATGAACTTGATCACCACAGTGAAGTGAGCCGACGGGAAGATGGGCCTTGGAGATTCTG---TGCTT  1950
X.tropicalis  ---TAGTTACTCGCACCA-ACATTCTT----GCAACTAAAAATATAATGATGAACCCTTTACCT-----ATTTATCAAGACAATACAGTCTGCATTAC--TCGTCAGACAGACAGCCCAG------------------------------  1950
C.gigas       ------------------------------------------------------------------------------------------------------------------------------------------------------  1950
D.rerio       TATTATGCATTTCATATAGACAGGATCAGATTTTAAAGAGTATTAGGTAACACTTTTTCTTGAAGGGGTTGCTCATAAGACTGCCATAACACCTTTATAATCATGACATAACACGTCATGAATATGTATGAAATTTTATGCATGTTTCTG  1950
S.kowalevskii ------------------------------------------------------------------------------------------------------------------------------------------------------  1950
S.purpuratus  ------------------------------------------------------------------------------------------------------------------------------------------------------  1950
              ......1810......1820......1830......1840......1850......1860......1870......1880......1890......1900......1910......1920......1930......1940......1950
```

```
H.sapiens     ACAAAACAAAGCTCATCATGCGTTTGAAAAAAAAAAAAAAAAAA-------------------------------------------------------------------------------------------------------  2100
M.musculus    TCGATGTAGTCCCTGCTCAAGGTCTGAACTGGGAACGTACGTGGTGTGCAAAACCCCTTAGTACTTTTAAATAAAAGACTTTTTTGATTTGGTTTTGCAACAGTG-------------------------------------------  2100
X.tropicalis  ------------------------------------------------------------------------------------------------------------------------------------------------------  2100
C.gigas       ------------------------------------------------------------------------------------------------------------------------------------------------------  2100
D.rerio       ACAACTGTTATTAAGTGTCAGTAGCTCAGTTATGTCATTTTAAATACAGAGATGACATTGAGAAGTCTTCATGACAACTTGACATAAACACATCATAACCTGTCAACTTGTCTATTATCAAGACTTGTCATAAATCTGTCATAAACATGA  2100
S.kowalevskii ------------------------------------------------------------------------------------------------------------------------------------------------------  2100
S.purpuratus  ------------------------------------------------------------------------------------------------------------------------------------------------------  2100
              ......1960......1970......1980......1990......2000......2010......2020......2030......2040......2050......2060......2070......2080......2090......2100
```

```
H.sapiens     ------------------------------------------------------------------------------------------------------------------------------------------------------  2250
M.musculus    ------------------------------------------------------------------------------------------------------------------------------------------------------  2250
X.tropicalis  ------------------------------------------------------------------------------------------------------------------------------------------------------  2250
C.gigas       ------------------------------------------------------------------------------------------------------------------------------------------------------  2250
D.rerio       CTGTCATGACGCCATTATAATTGTGTCTGTTTTCATTGGTCAAACGTAAAAGGCAATGCAAGAGAAAGAAATTGTTTAATCTTGAAGGGGGTGCTCATAAGACTGCAACGACACCTTTATAAACATGACATAACAGGTCATGAATATAAG  2250
S.kowalevskii ------------------------------------------------------------------------------------------------------------------------------------------------------  2250
S.purpuratus  ------------------------------------------------------------------------------------------------------------------------------------------------------  2250
              ......2110......2120......2130......2140......2150......2160......2170......2180......2190......2200......2210......2220......2230......2240......2250
```

```
H.sapiens     ------------------------------------------------------------------------------------------------------------------------------------------------------  2400
M.musculus    ------------------------------------------------------------------------------------------------------------------------------------------------------  2400
X.tropicalis  ------------------------------------------------------------------------------------------------------------------------------------------------------  2400
C.gigas       ------------------------------------------------------------------------------------------------------------------------------------------------------  2400
D.rerio       TGAGATTTTATGTTTATGACAACTATCATTAATTGTCATTAGCTCAGTTATGTCATTTTAAATGCAGAGATGACATTGGTTGAGTTGTGCTTATGGCAACTTGACATAAACACATCATAACCTGGCTTTAACAACTTGAGATTATCAAGA  2400
S.kowalevskii ------------------------------------------------------------------------------------------------------------------------------------------------------  2400
S.purpuratus  ------------------------------------------------------------------------------------------------------------------------------------------------------  2400
              ......2260......2270......2280......2290......2300......2310......2320......2330......2340......2350......2360......2370......2380......2390......2400
```

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H.sapiens     ------------------------------------------------------------------------------------------------------------------------  2550
M.musculus    ------------------------------------------------------------------------------------------------------------------------  2550
X.tropicalis  ------------------------------------------------------------------------------------------------------------------------  2550
C.gigas       ------------------------------------------------------------------------------------------------------------------------  2550
D.rerio       CTTGTAATAAATCTGTCATAAACATGATTGTCACAAGGCCATTATAATTGTGTCTGCTTCCATCAGTCAAATGGAAAAGCCAATAAAACACAAAAAGATAGATTATTCTTGAAGGGGGTTCATAAGACTGTCATGACACCTTTATAATCA  2550
S.kowalevskii ------------------------------------------------------------------------------------------------------------------------  2550
S.purpuratus  ------------------------------------------------------------------------------------------------------------------------  2550
              ......2410......2420......2430......2440......2450......2460......2470......2480......2490......2500......2510......2520......2530......2540......2550

H.sapiens     ------------------------------------------------------------------------------------------------------------------------  2700
M.musculus    ------------------------------------------------------------------------------------------------------------------------  2700
X.tropicalis  ------------------------------------------------------------------------------------------------------------------------  2700
C.gigas       ------------------------------------------------------------------------------------------------------------------------  2700
D.rerio       TGACATAACACGTGATAAATATGAATGAGATTTTATGCATGTTTATGACAACTGTTATTAATTGTCATTAGCTCAGTTATGCCATTTTAAATGCAGAGATGACATTGGTTGAGATTTGCTTCTGACAACTTGACATAAACACATCACAAC  2700
S.kowalevskii ------------------------------------------------------------------------------------------------------------------------  2700
S.purpuratus  ------------------------------------------------------------------------------------------------------------------------  2700
              ......2560......2570......2580......2590......2600......2610......2620......2630......2640......2650......2660......2670......2680......2690......2700

H.sapiens     ----------------------------------------------------------------------------------------------------------  2830
M.musculus    ----------------------------------------------------------------------------------------------------------  2830
X.tropicalis  ----------------------------------------------------------------------------------------------------------  2830
C.gigas       ----------------------------------------------------------------------------------------------------------  2830
D.rerio       CTGTCTTTGACAACTTGAGACTATAAAGACTTATCATAACTCTGTCATAAACATGACTGTCATGAGGCCATTATAATTGTGTCTTCTTTCATCTGTCCAATGCTAAAGCCAATAAAAGACAAAGAAATAG  2830
S.kowalevskii ----------------------------------------------------------------------------------------------------------  2830
S.purpuratus  ----------------------------------------------------------------------------------------------------------  2830
              ......2710......2720......2730......2740......2750......2760......2770......2780......2790......2800......2810......2820......2830
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