

Supplementary Materials

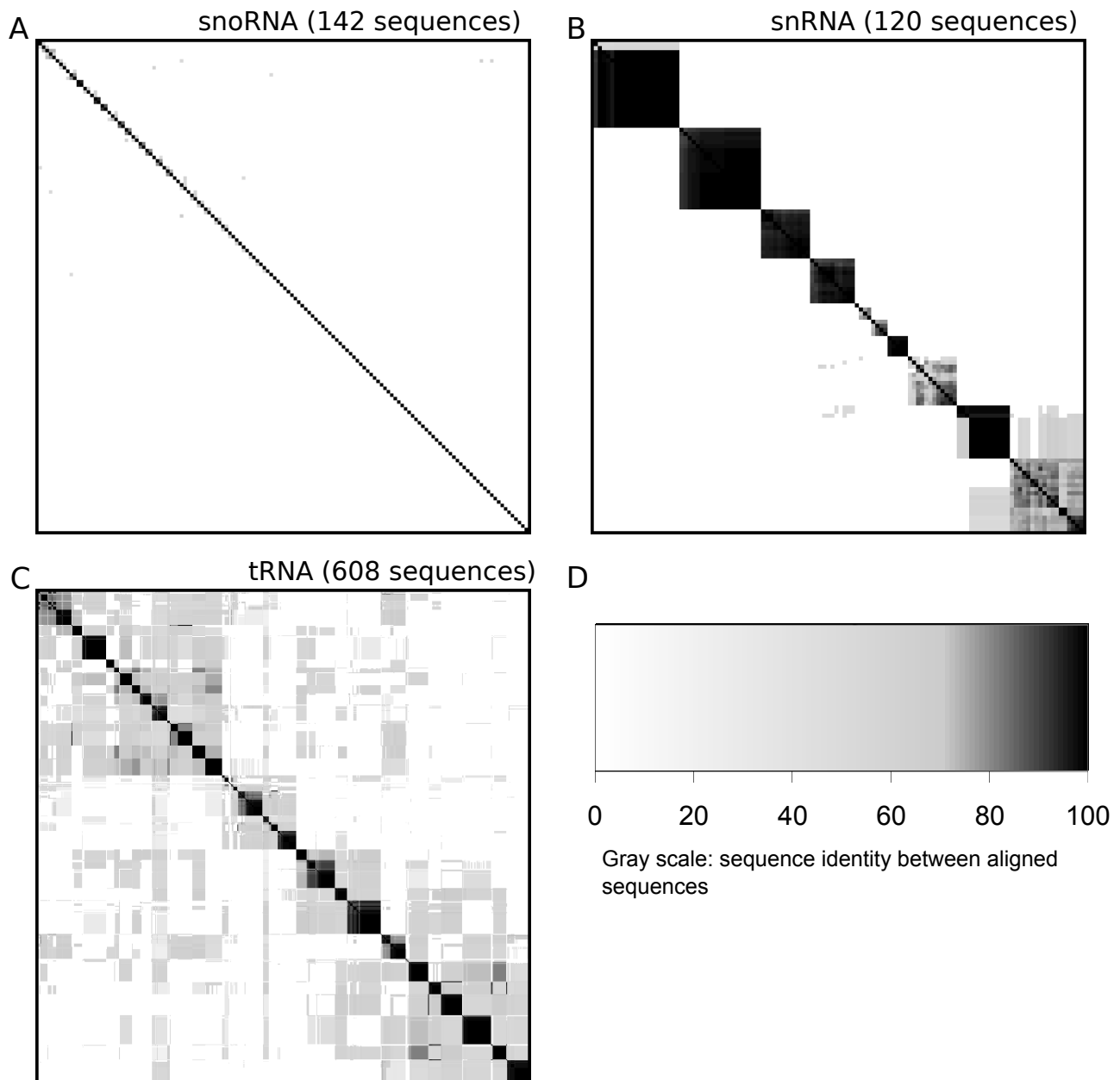
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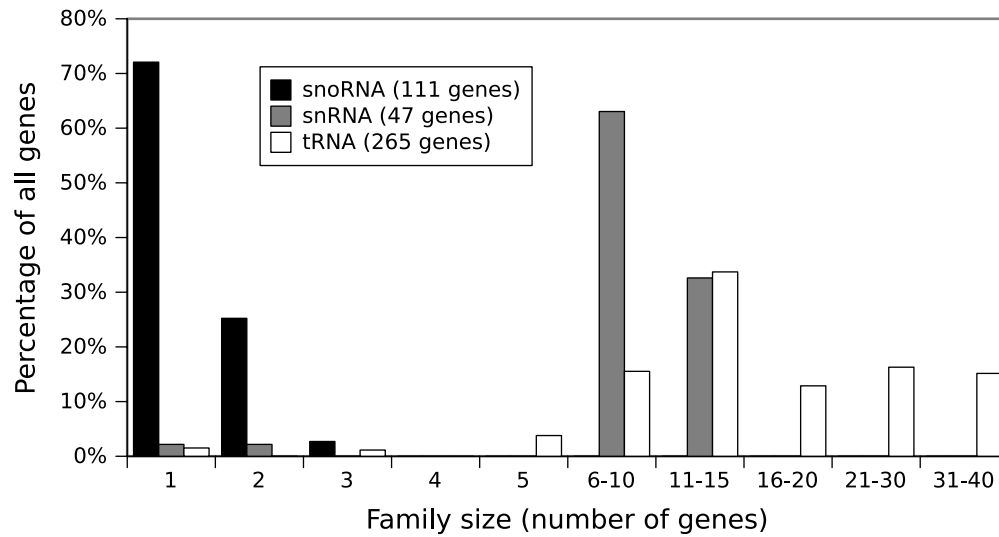
- Supplementary Table S1 Nested ncRNA genes in *C. elegans*
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Supplementary Figure S2



Supplementary Figure S2. Heatplots representing the degree of sequence identity between *C. elegans* ncRNAs. Each RNA sequence was compared (WU-BLAST) against all sequences of the same class: snoRNA (**A**), snRNA (**B**), and tRNA (**C**). Intensity of greyscale (**D**) indicates the percentage of sequence identity between any two sequences. Note that most snoRNAs show little similarity to other genes of this class. In contrast, snRNAs can be divided into 8-10 larger groups. tRNAs also form distinct groups, but in addition, show extensive similarity between groups. Heatplots and sequence clustering were carried out using the statistical package R.

Supplementary Figure S3



Supplementary Figure S3. Distribution of family size of nested ncRNAs in *C. elegans*. Family assignment was performed as described in the text. Note that this distribution of family sizes is essentially similar to the distribution of all ncRNAs (Figure 4).

Supplementary Figure S4A *C. elegans* tRNA pseudogenes

Gln encoded by CAG and CAA anticodon

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WBGene0001.4315 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.4395 1 GGTTCATGGTGTAGCGGTTAGCACTCAGTACTCTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.4499 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTCTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3078 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTCTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3086 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTCTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3166 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTCTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.4420 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTCTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.0376 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.3948 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.4396 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.4578 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.2912 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3052 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3081 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3085 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3079 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3117 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3082 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3080 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.2921 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.2896 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.4485 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.4314 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0001.0430 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.2971 1 GGTTCATGGTGTAGCGGTTAGCACTCACTGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTCGGTGGGACCT
WBGene0002.3053 1 GGTTCATGGTGTAGCGGTTAGCACTCAGGACTTTGA-ATCCTGCGATCGAAGTTCAAATCTCGGTGGGACCT

tpg_38 1 AACCGGAATCACCTGTGGTTAGCACTCAGGACTTTGA-ATCCTGCGACCCGAGTTCAAATCTTGGTGGGACCT
tpg_39 1 CTTCCAGCTTGCATAGCGGCCAACCACTACCGACTTGAATCCCGCGCCCAATTTAAATCTAGGTTTAAAGCA
    
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Leu encoded by CTT and CTA anticodon

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WBGene0001.4538 1 GGTGAGATGGCCGAGTGGTCTAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2907 1 GGTGAGATGGCCGAGTGGTCTAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2933 1 GGTGAGATGGCCGAGTGGTCTAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0001.4147 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0001.4380 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2946 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.3130 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.3204 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2992 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2980 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2979 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2972 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2965 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2908 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0001.0431 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0000.3111 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0000.3110 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.3203 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.3129 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.3138 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTAGCTTTCGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2898 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0002.2981 1 GGAGAGATGGCCGAGCGGTTCAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
WBGene0001.4283 1 GGTGAGATGGCCGAGTGGTCTAAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA

tpg_22 1 CCGCGACCAATGGTCCGGCTCATAGGCGCTGAT-TTAAAGSCA-CCAGTCCCTT---GTTCCGGGGTTCCACTCTC-TTCAGTTTA
tpg_32 1 CCTGACGCGCTTTGCTGTGTAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
tpg_33 1 CCTGACGCGCTTTGCTGTGTAGGCGCTGGT-TTAAAGSCA-CCAGTCCCTCGGGGGCGTGGGTTCGAATCCCACTCTGATCA
tpg_36 1 GGGAGGATGGCCGAGTGGATCAAGGCGCGGCTTGGATTGGCCA---CCGGGGGGTTAATGGTTCCAGCCCAACAGCCCT-A
tpg_37 1 GGGAGGATGGCCGAGTGGATCAAGGCGCGGCTTGGATTGGCCA---CCGGGGGGTTAATGGTTCCAGCCCAACAGCCCT-A
tpg_35 1 GCGGGGGCTCCGAGTGGTCAAGGCGCTGGTCCATGCGCA---CCAGTGGGGTGGTGGTTCCGATCCACTCTCCCG
tpg_29 1 GG-AGGATGGCTGAGTGGCTCAAGGCGCTGGT-TTAAAGSCAATCC-CCGAAAGACGTGATGATTCGATTCCCACTCCCGCG
tpg_30 1 CCGGGGATGGCCGAGTGGTGAAGGCGCTGGT-AGGCSCTATAAAGGACATCGGATGTCTCTGGTTCGATCCCAAGCAGCCCG
    
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His encoded by CAC anticodon

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WBGene0002.3168 1 -TACTACTA-TACAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0000.9206 1 GCCCTCTTAGTATAGTGGCTAGTAC-TCCACGTTGTGTCGTGGGACGGGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4351 1 GCCTGCTTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4570 1 GCCTGCTTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4571 1 GCCTGCTTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4594 1 GCCTGCTTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0002.3208 1 GCCTGCTTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0002.2913 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0002.3160 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4599 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4559 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4360 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4359 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4358 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4357 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4356 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4355 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA
WBGene0001.4289 1 GCCTGCGTAGTATAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTGGTTCGATTCAGGAGCAGG-CA

tpg_17 1 TAAAGGTT-TGAAGTGGTATAGTAC-TCCACGTTGTGSCCGTGGCGACGCTAGTTCGATTCAGGAGCAGG-CA
tpg_18 1 TCGCGCGTGTCTAGTGGTATAGTAC-TGTCGCTGTGTGTAATCGCTCGGGTTCGAGGCGCGAGCATGTCA
tpg_19 1 GGGAAAGTAAATCAAAATTTTAGTTCTGGGTTTTATGGCAACGGGGTTCGATTCAGGAGTTCGATTCAGGAGCAGG-CA
tpg_20 1 GCGTGTAGTATAGTGGCTAGTAC-TCTGAGTTGTGCGGAGGGCGT---GGTTCGATTCAGGAGCAGG-CA
tpg_21 1 GCCTGCTTAGTATAGTGGCTAGTAC-TCTGAGTTGTGCGGAGGGCGT---GGTTCGATTCAGGAGCAGG-CA
    
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Supplementary Figure S4A *C. elegans* tRNA pseudogenes (continued)

Leu encoded by TTG

anticodon

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WBGene00014304 1 GCACGG - ATGGCCGAGTGGTCTAAGGCCAGACTCAAGC - - - AATAGCTTGCTTCAAGTTCGAAAGCCGATTGGGCGTTCTGGTAC
WBGene00014630 1 GCACGG - ATGGCCGAGTGGTCTAAGGCCAGACTCAAGC - - - AATTGCTTGCTCGAGTTCGAGGTCGACTGGGTGTTCTGGTAC
WBGene00014373 1 GCACGG - ATGGCCGAGTGGTCTAAGGCCAGACTCAAGCG - - - AATCGCTTGCTCAAGTTCGAGGTCGACTGGGTGTTCTGGTAC
WBGene00022998 1 GCACGG - ATGGCCGAGTGGTCTAAGGCCAGACTCAAGCG - - - AATGCTTGCTCATGCTCGAGGTCGACTGGGTGTTCTGGTAC
WBGene00000308 1 GCACGG - ATGGCCGAGTGGTCTAAGGCCAGACTCAAGCG - - - ATTGCTTGCTCAAGTTCGAGGTCGACTGGGTGTTCTGGTAC
WBGene00022924 1 GCACGG - ATGGCCGAGTGGTCTAAGGCCAGACTCAAGCGGTACATTGCTTGCTCAAGTTCGAGGTTAACTGGGTGTTCTGGTAC
WBGene00007475 1 GCACGG - ATGGCCGAGTGGTCTAAGGCCAGACTCAAGCG - - - TACGCTTACTCAAGTTCGAGGTTAACTGGGTGTTCTGGTAC

tpg_46 1 GCACGG - ATGGCCGAGTGGTCTAAGGCCAGACTCAAGC - - - AATAGCTTGCTCAAGTTCGAGGCCAATTTTCATTTTGGAA
tpg_43 1 GCGCGTCAAGACCTATTCTCATAAATGCTCCTTCTAAGAGCGAATTGCTTGCTCGAGTTCGAGGTACACTGGGTGTTCTGGTAC
tpg_42 1 TCTCTCACTCTCTGTTCATTCTTTTCATATACTCTCGCTCGTGCACGTTACTCACGCACGGATGGTTAACTGGGTCTTCTGGTAC

WBGene00014304 83 TCGTACGGGTGCGTGGGTTCGAATCCCACTTCGTGCA
WBGene00014630 83 TCGTATGGGTGCGTGGGTTCGAATCCCACTTCGTGCA
WBGene00014373 84 TCGTATGGGTGCGTGGGTTCGAATCCCACTTCGTGCA
WBGene00022998 84 TCGTATGGGTGCGTGGGTTCGAATCCCACTTCGTGCA
WBGene00000308 83 TCGTATGGGTGCGTGGGTTCGAATCCCACTTCGTGCA
WBGene00022924 86 TCGTATGGGTGCGTGGGTTCGAATCCCACTTCGTGCA
WBGene00007475 84 TCGTATGGGTGCGTGGGTTCGAATCCCACTTCGTGCA

tpg_46 83 TCTTTG - - - TTAACAAGTTA - AATTATTGGTTAATT
tpg_43 87 TCGTATGGGTACGTGGGTTCGAATCCCACTTCGTGCA
tpg_42 68 TCGTATGGGTGCGTGGGTTCGAATCCCACTTCGTGCA
    
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Met encoded by ATG

anticodon

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WBGene00022905 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
WBGene00022906 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
WBGene00022923 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
WBGene00022942 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
WBGene00023156 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
WBGene00022941 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
WBGene00023017 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
WBGene00022943 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
WBGene00022934 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCATAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA

tpg_5 GCTTCCGTAGCGCAGTAGGCAGCGCGTCAGTCTCTTAACTGAAGGTCGTGAGTTCGAGCCTCACCGGGAGCA
tpg_2 ACCT - - - TGGCGCAGCCGGTAAGAGGGCAGGCTGCGGATCTGAAGGTCGGGGTTCGAGTC - - CCGATGCCT
tpg_4 ACCAAG - TGGCGCAGTGGCTAAGAGGGACGACTTTGAAGCAAACGGTCATGAGTTCGAGCC - - CCGGGAGTT
tpg_14 GCTTCCGTGGTTCAGTGGTAAAGCGGTTGCGCTCTTGAAGCAGAAAGTTGTGGTTCGTT - - CCACA - - CA
tpg_1 ACCGCG - TGGCGCAGTGGCTAAGGGGGTTGGCTAAGACTCAGAAGGCCGCGAGTTCGACCCACCTAGTG - -
tpg_10 AGCGCGGTGGCGCAGTGGTAGCAGATTTGCTTTTGAAGCAGAAAGGTCATGAGTTCGACTC - CCGGATGAGG
tpg_7 ACTGCG - TGGCGCAGTGATTAAAGCGGTTTGGCTGCGGCTCCGAAGGTCATGGTTCGACCC - CACGTAGGG
tpg_8 ACG - A - TAGCTCAGTCGGTAGGCGGATGACTGCGGCTCTGAAGATCGTGGTTCGAGTC - CGGCACCAA
tpg_3 GTCGAAATGGCGCAGTGGG - ATTCTCGGCGTCTACCAATCTGAAGGTCCTGGTTCGAGTC - CGCACAGTGGC
tpg_12 ATAGCAGTGGCGCAGTCGGTAAGATGTTTGGCTACCAATCTCAAGACCTGG - TTCGA - CC - CTCACTGGGGC
tpg_9 GACAGGATAGCTCAGTCGGTAGTGGTGTCCGCTAGCAATCTGAAGGTCACGAGTTCGAGTC - GGGCCTGCC -
tpg_11 TGCAGGATAGCGCAGTTGGTAGTGGTGGCTGCTAGCAATCTGAAGGTCACGAGTTCAGTC - - - - - - - -
tpg_16 GGCAG - ATAGCTCAGCCGGTAGGCGTGGCCGCTAGCAATCTGAAGGTCACGAGTTCAGTC - CCGCTCACC -
    
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Supplementary Figure S4B *C. elegans* snRNA pseudogenes

SL2 snRNAs

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cel_sn004 1 GGTTTTAA - CCGAGTT - ACTCAAGGTACGC - TGGAGTTCTGACCTTTGAAAGAAAGTGTCAAACGACTT - TAATTTTGGAAC - - - - -
cel_sn028 1 GGTTTTAA - CCGAGTT - ACTCAAGGTACGC - TGGAGTTCTGACCTTTGAAAGAGASTGTCAAACGACTT - TAATTTTGGAAC - - - - -
cel_sn029 1 GGTTTTAA - CCGAGTT - ACTCAAGGTACGC - TGGAGTTCTGACCTTTGAAAGAGASTGTCAAACGACTT - TAATTTTGGAAC - - - - -
cel_sn030 1 GGTTTTAA - CCGAGTT - ACTCAAGGTACGC - TGGAGTTCTGACCTTTGAAAGAGASTGTCAAACGACTT - TAATTTTGGAAC - - - - -
cel_sn091 1 GGTTTTAA - CCGAGTT - ACTCAAGGTACGC - TGGAGTTCTGACCTTTGAAAGAAAGTGTCAAACGACTT - TAATTTTGGAAC - - - - -
cel_sn092 1 GGTTTTAA - CCGAGTT - ACCAAGGTAAAT - CCGAGTTCTGACCTTTGAAAGAAAGTGTCAAACGACTT - TAATTTTGGAAC - - - - -
cel_sn025 1 GGTTTTAA - CCGAGTT - ACCAAGGTAAAT - CCGAGTTCTGACCTTTGAAAGAGASTGTCAAACGACTT - TAATTTTGGAAC - - - - -
cel_sn008 1 GGTTTTAA - CCGAGTT - AACCAAGGTAGCAATGGA - TTCGACATTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn009 1 GGTTTTAA - CCGAGTT - AACCAAGGTAGCAATGGA - TTCGACATTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn055 1 GGTTTTAA - CCGAGTT - AACCAAGGTAGCAATGGA - ATTGATCATTCGCAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn057 1 GGTTTTAA - CCGAGTT - AACCAAGGTAGCAATGGA - ATTGATCATTCGCAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn056 1 GGTTTTAA - CCGAGTT - AACCAAGGTAGCAATGGA - ATTGATCATTCGCAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn082 1 GGTTTTAA - CCGAGTT - AATTGAGTTAGCAATAA - TTTGACCTTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn083 1 GGTTTTAA - CCGAGTT - AATTGAGTTAGCAATAA - TTTGACCTTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn063 1 GGTTTTAA - CCGAGTT - AACCAAGGTAGCAATGGA - TTTGACCTTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn064 1 GGTTTTAA - CCGAGTT - AACCAAGGTAGCAATGGA - TTTGACCTTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn085 1 GGTTTTAA - CCGAGTT - AACTAAGTTAAACATTA - TTTGACCTTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
cel_sn065 1 GGTTTTAA - CCGAGTT - AACCAAGGTAGCAATGGA - TTTGACCTTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
pg0184 1 GGTTTTAA - CCGAGTT - AACTAAGTTAGCAATTA - TTTGACCTTTGAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -
pg0029 1 TGAATGACGTACAGT - GAGTTGGCATAAATTTGG - AATAACA - - - - CCAAGCATTT - CATGAATAAAAAT - TAATTTTGGAAC - - - - -
pg0202 1 AGAAACCAATCA - ATTC - AAGATGCCCCACCCCTG - TTTGACCATTTCAAAGAGTGTGTAATAACAA - TAATTTTGGAAC - - - - -

cel_sn004 81 - CGCTCTGCTGGGGTATCCGGTAGAGCAAAAATAAT
cel_sn028 81 - CGCTCTGCTGGGGTATCCGGTAGAGCAAAAATAA
cel_sn029 81 - TGCTCTACTGGGGTATCCGGTAGAGCAAAAAT
cel_sn030 81 - AGCTTCGCTGGGGTATCCGGTAGAGCAAAAACA
cel_sn091 80 - AGTTCAGTCGGGGT - TCCGGCTGAAACAAA
cel_sn092 80 - AGTTCAGTCGGGGT - TCCGGCTGAAACAAA
cel_sn025 80 - AGCTCTTCGGGGAA - TCCGGTCCGGCAATA
cel_sn008 81 - AGCTTATTCAAGGGTATCCGCAAAAG - ATAAGAAT
cel_sn009 81 - AGCTTCTTCGGGGTATCCGTCGAAAGCAAAAATAAT
cel_sn055 78 - AAGCTTCTTCGGGGT - TCCGGTAGAGCAAAAAT
cel_sn057 78 - AAGCTTCTTCGGGGT - TCCGGTAGAGCAAAAAT
cel_sn056 81 - AGCTTCTTCGGGGT - TCCGGTAGAGCAAAA
cel_sn082 81 - GACTCCTTCGGGGATCCGATGAAGCAAAA
cel_sn083 81 - AGCTTCTTCGGGGATCCGATGAAGCAAAAACCT
cel_sn063 84 - CGCTTCTTCGGGGAA - TCCGTTGAGGCAAAAAGA
cel_sn064 83 - CGCTTCTTCGGGGAA - TCCGTTGAGGCAAAAACCT
cel_sn085 80 - AGTTCCTTCGGGGATCCGATGAAGCAAAAACCT
cel_sn065 83 - CGCTTCTTCGGGGAA - TCCGTTGAGGCAAAAATAT

pg0184 87 - AATAATTTTCAGGGTGA - AAGTGGAGCAATTAAT
pg0029 79 - ATTAATCAAAATTTAAAAAAGCAAAAAC
pg0202 81 - AGCTTCTTCGGGGTATCCGTCGAAAGCAAAAATGAT
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U1 snRNAs

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cel_sn129 1 TAAACTTACCTGGCTGGGGTATCTCGGCATCATGAAGCGGGATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - ATGGGCT
cel_sn130 1 TAAACTTACCTGGCTGGGGTATCTCGGCATCATGAAGCGGGATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - ATGGGCT
cel_sn128 1 TAAACTTACCTGGCTGGGGTATCTCGGCATCATGAAGCGGGATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - ATGGGCT
cel_sn137 1 - AAACCTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
cel_sn145 1 TAAACTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
cel_sn142 1 TAAACTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
cel_sn144 1 TAAACTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
cel_sn143 1 TAAACTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
cel_sn035 1 TAAACTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
cel_sn007 1 TAAACTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
cel_sn040 1 TAAACTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
cel_sn034 1 TAAACTTACCTGGCTGGGGTATTTCCGCATCAAGAAAGCGGAATCCCCATGGTGAGGCCATCCATTGCACCTTTGG - GCGGGCT
pg0415 41 TTTGCGCAATATCGGCTTCCCCGGGTTTCACTCCTTTCTCTTATCTCTCTGTCTCTACCCATATAGATTTCT - - - - CTAGCT

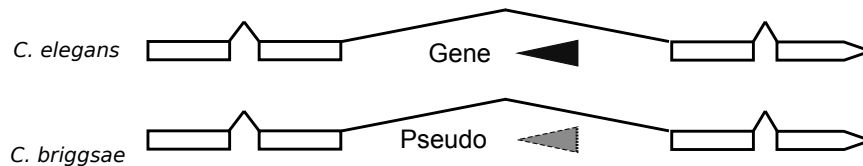
cel_sn129 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn130 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn128 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn137 86 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn145 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn142 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn144 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn143 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn035 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn007 88 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn040 87 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
cel_sn034 86 GACCTGTGT - - - - - GGCAGTCTCGAGTTGA - GATTGCCAACAGCTTAATTTTTCGCTATCGGGGCTGCGTGGCGCGGCCCTGAA
pg0415 126 GTATCTTGT - - - - - GTCCTCAGCTATTTCCGAAATGCCAGCGCTT - - - - TTTTGCAGCGCAGACACGCTGCGCGGCCCGCTG
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U6 snRNAs

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cel_sn125 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn123 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn110 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn109 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn108 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn107 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn106 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn105 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn081 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn080 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn079 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn078 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn062 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn059 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn054 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn053 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn052 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn061 GTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
cel_sn077 - TTTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT

pg0427 GCTCTTCCGAGAACATATACTAAAATGGAACAATAACAGAGAAGATTAGCATGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
pg0428 - - - - - GTTTCAGTTTATAGCAGAGTTAAATTTTAAATTTTCGATTTGTAAGCTCTGGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
pg0426 TTTCAAATTTTATCAGAAAAGGTCAGAAATGTTTCAAATTCGAGCAAAATTCCTGGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
pg0429 TGATTTATTTTTTGAATGAAGAGGGCCGTGAATAGAGAGAATAGCATGAACTCTGGCCCTGCGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
pg0431 AAAAAACATATTTTAAATGTTTCTTTTACATTTTATTATATGTTCCCTGGCAAGGATGACACGCAAAATTCGTGAAGCGTTCCAAATTTT
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Supplementary Figure S4C *C. briggsae* snRNA pseudogenes



C. elegans host gene WBGene00012273

Gene	<i>cel_sn062</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn003</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn006</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn012</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn013</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn014</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn017</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn018</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn020</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn022</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn034</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn035</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn037</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn068</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn069</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn092</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cbr_sn141</i>	<code>gttcttccgagaacatataactaaaattggaacaatacagagaagattagcatggcccttgcgcaaggatgacacgcaaat</code>
Pseudo	<i>cbr_sn058</i>	<code>cgtctcctccgtcgcctcaggacctgtgttggaaacaatacagagaagacatagcatggcccttgcgcaaggatgacacgcaaat</code>
	<i>cel_sn062</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn003</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn006</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn012</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn013</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn014</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn017</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn018</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn020</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn022</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn034</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn035</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn037</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn068</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn069</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn092</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn141</i>	<code>tctgtgaagcgttccaaatTTTT</code>
	<i>cbr_sn058</i>	<code>tctgtgaagcgttccaaatTTTT</code>

C. elegans snRNA

other homologs in
C. briggsae

C. briggsae sequence in orthologous intron

C. elegans host gene WBGene00017332

Gene	<i>cel_sn126</i>	<code>agcttttgcgctggggcgataaacgtgaccaaatgaggctttgcccagggtgcgctttattgctggttgaaaaacttttcccaatt</code>
	<i>cbr_sn004</i>	<code>agcttttgcgctggggcgataaacgtgaccaaatgaggctttgcccagggtgcgctttattgctggttgaaaaacttttcccaatt</code>
	<i>cbr_sn107</i>	<code>agcttttgcgctggggcgataaacgtgaccaaatgaggctttgcccagggtgcgctttattgctggttgaaaaacttttcccaatt</code>
	<i>cbr_sn108</i>	<code>agcttttgcgctggggcgataaacgtgaccaaatgaggctttgcccagggtgcgctttattgctggttgaaaaacttttcccaatt</code>
	<i>cbr_sn109</i>	<code>agcttttgcgctggggcgataaacgtgaccaaatgaggctttgcccagggtgcgctttattgctggttgaaaaacttttcccaatt</code>
Pseudo	<i>cbr_sn112</i>	<code>-gctcttctcccttaaaaatgggctgatccttttccaaatggcaaaagcagacacgctgcatgacacctcccg-ggcaatt</code>
	<i>cel_sn126</i>	<code>gcccgcgatgacctctgaaacatgggtgcatacgcgaatttttgaacgcctctaggaggcagaa</code>
	<i>cbr_sn004</i>	<code>gcccgcgatgtcccctgaaacatgggtgacatcgcgaatttttgaacgcctctaggaggcagaa</code>
	<i>cbr_sn107</i>	<code>gcccgcgatgtcccctgaaacatgggtgacatcgcgaatttttgaacgcctctaggaggcagaa</code>
	<i>cbr_sn108</i>	<code>gcccgcgatgtcccctgaaacatgggtgacatcgcgaatttttgaacgcctctaggaggcagaa</code>
	<i>cbr_sn109</i>	<code>gcccgcgatgtcccctgaaacatgggtgacatcgcgaatttttgaacgcctctaggaggcagaa</code>
	<i>cbr_sn112</i>	<code>gcccgcgatgccttcgaaacatgggtgcatacgcgaatttttgaacgcctctaggaggcgttc</code>

C. elegans snRNA

other homologs in
C. briggsae

C. briggsae sequence in
orthologous intron

Supplementary Figure S4. Examples of tRNA and snRNA pseudogenes. **A** Putative tRNA pseudogenes from five families in *C. elegans*. Each alignment contains annotated *C. elegans* tRNA genes (WBGene#) and the putative tRNA pseudogenes (tpg #). **B** Putative snRNA pseudogenes from three families (SL2, U1 and U6) in *C. elegans*. Each alignment contains annotated snRNAs (*cel_sn*#) and putative pseudogenes (pg#). **C** Putative snRNA pseudogenes in *C. briggsae*. These sequences (*cbr_sn058* and *cbr_sn212* labelled "Pseudo" in the schematic) were found in homologous introns of *C. briggsae* orthologs of *C. elegans* host genes, harboring snRNAs (labelled "Gene" in the schematic). Multi-sequence alignments with the *C. elegans* ortholog and *C. briggsae* paralogs show significant sequence divergence in these sequences, suggesting they are no longer functional snRNAs.

Supplementary Table S1 Nested ncRNA genes in *C. elegans*

Column abbreviations: Arr Reference number used to identify nested arrangement in this paper
 RNA Reference name used to identify individual RNAs in this paper
 Grp Assigned homology group
 WB Wormbase Gene ID
 Orient Orientation of nested gene with respect to host gene
 Rank Rank of host intron that contains the nested RNA
Cbr *C. briggsae*
Cre *C. remanei*
Cbn *C. brenneri*

Color code *Cre* and *Cbn* lineage-specific losses counted in Table 2

Supplementary Table S1A – snRNAs

<i>C. elegans</i> nested snRNA arrangement												Conservation in		
Arr	RNA	Grp	Type	RNA (WB)	Chr	Start	End	Strand	Host Gene (WB)	Orient	Rank	<i>Cbr</i>	<i>Cre</i>	<i>Cbn</i>
1	cel sn003	8	U5	WBGene00044927	I	2688948	2689073	1	WBGene00000788	-1	2	conserved	conserved	conserved
2	cel sn092	1	SL2	WBGene00004843	IV	9140396	9140504	1	WBGene00000906	-1	11			
3	cel sn057	1	SL2	WBGene00004850	III	7142220	7142329	1	WBGene00001613	-1	8			
4	cel sn056	1	SL2	WBGene00004848	III	7141320	7141428	1	WBGene00001613	-1	10			
5	cel sn055	1	SL2	WBGene00004837	III	7140373	7140482	-1	WBGene00001613	1	12			
6	cel sn008	1	SL2	WBGene00004838	I	9055141	9055254	-1	WBGene00001843	1	1		conserved	
7	cel sn103	8	U5	WBGene00014306	IV	12795553	12795678	1	WBGene00004030	1	5			
8	cel sn019	6	U2	WBGene00014336	I	12149569	12149755	-1	WBGene00005528	1	1			
9	cel sn018	6	U2	WBGene00014335	I	12144973	12145159	1	WBGene00005529	1	1			
10	cel sn080	3	U6		IV	4885538	4885639	-1	WBGene00006211	-1	4			
11	cel sn079	3	U6		IV	4866801	4866902	1	WBGene00006216	-1	2			
12	cel sn100	8	U5	WBGene00014631	IV	12782035	12782159	1	WBGene00006767	1	11			
13	cel sn101	8	U5	WBGene00014632	IV	12786098	12786222	1	WBGene00006767	1	18			
14	cel sn053	3	U6	WBGene00014266	III	4426825	4426926	-1	WBGene00007791	1	4			
15	cel sn097	11			IV	9511368	9511444	-1	WBGene00007882	1	6	conserved	conserved	conserved
	cel sn098	11		WBGene00045194	IV	9511738	9511816	-1		1		conserved	conserved	conserved
16	cel sn088	8	U5	WBGene00014293	IV	8994728	8994852	1	WBGene00008277	1	3	conserved	conserved	conserved
17	cel sn090	8	U5	WBGene00045116	IV	9001277	9001402	-1	WBGene00008285	1	3			
18	cel sn141	11			V	14097412	14097492	-1	WBGene00008389	1	2			
19	cel sn139	11		WBGene00045200	V	14094597	14094677	-1	WBGene00008395	-1	1			
20	cel sn140	11		WBGene00045199	V	14096366	14096443	-1	WBGene00008395	-1	3			
21	cel sn044	6	U2	WBGene00014312	II	13852693	13852879	1	WBGene00008579	1	1			
22	cel sn095	8	U5	WBGene00014367	IV	9464490	9464616	-1	WBGene00009543	1	11	conserved		
23	cel sn059	3	U6	WBGene00014392	III	9445812	9445913	1	WBGene00010039	-1	2			
24	cel sn023	6	U2	WBGene00014404	I	12288211	12288397	-1	WBGene00010163	-1	4			
25	cel sn040	2	U1	WBGene00006315	II	12944712	12944877	-1	WBGene00010269	1	5	conserved	conserved	conserved
26	cel sn109	3	U6	WBGene00014434	IV	13443363	13443464	-1	WBGene00010714	1	2			
	cel sn110	3	U6	WBGene00014435	IV	13443713	13443814	1		-1				
27	cel sn107	3	U6	WBGene00014432	IV	13440520	13440621	-1	WBGene00010714	1	5			
	cel sn108	3	U6	WBGene00014433	IV	13440870	13440971	1		-1				
28	cel sn105	3	U6	WBGene00014430	IV	13435753	13435854	-1	WBGene00010714	1	8			
	cel sn106	3	U6	WBGene00014431	IV	13439065	13439166	1		-1				
29	cel sn052	3	U6	WBGene00014484	III	4414156	4414257	1	WBGene00011119	1	1			
30	cel sn093	3	U6	WBGene00014522	IV	9334606	9334779	1	WBGene00011857	-1	4			
31	cel sn062	3	U6	WBGene00014543	III	10989561	10989662	1	WBGene00012273	1	4	pseudogene		
32	cel sn048	6	U2	WBGene00014549	II	13951326	13951512	1	WBGene00012329	1	3			
33	cel sn063	1	SL2	WBGene00004846	III	11090291	11090405	-1	WBGene00012358	-1	4	conserved		conserved
	cel sn064	1	SL2	WBGene00004847	III	11090892	11091006	1		1				
34	cel sn115	6	U2	WBGene00014593	IV	14764809	14764995	-1	WBGene00013303	1	1			
35	cel sn116	11		WBGene00045204	IV	14863948	14864028	1	WBGene00013327	1	2			
	cel sn117	11			IV	14864706	14864786	1		1				
36	cel sn034	2	U1	WBGene00006344	II	6968333	6968497	-1	WBGene00015796	1	7		conserved	
37	cel sn126	7	U4	WBGene00045145	V	7142696	7142839	-1	WBGene00017332	1	8	pseudogene	conserved	
38	cel sn125	3	U6		V	4354426	4354523	1	WBGene00017983	-1	4			
39	cel sn087	8	U5		IV	7316716	7316842	1	WBGene00018349	-1	1	conserved	conserved	conserved
40	cel sn081	3	U6		IV	4930944	4931045	1	WBGene00021178	1	7			
41	cel sn070	8	U5		IV	2655058	2655183	-1	WBGene00022100	1	11			

Denotes this arrangement was not investigated

Supplementary Table S1B – snoRNAs

<i>C. elegans</i> nested snoRNA arrangement													Conservation in		
Arr	Grp	RNA	Type	Chr	Start	End	Strand	Host gene (WB)	Orient	Rank	<i>Cbr</i>	<i>Cre</i>	<i>Cbn</i>		
1	1A	1	cel sno001	C/D	II	11484599	11484668	-1	WBGene00006660	1	1	conserved	conserved	conserved	
2	2A	2	cel sno002	C/D	V	12303685	12303760	1	WBGene00001493	1	4	conserved	conserved	conserved	
3	3A	3	cel sno003	C/D	V	11782969	11783059	1	WBGene00010079	1	6	conserved	conserved	conserved	
4	5A	5	cel sno005	C/D	II	10840238	10840312	1	WBGene00003367	1	13	conserved	conserved	conserved	
5	6A	6	cel sno006	C/D	II	11224099	11224175	1	WBGene00011524	1	2	conserved	conserved	conserved	
6	7A	7	cel sno007	C/D	V	12491257	12491323	1	WBGene00002133	1	6	conserved	conserved	conserved	
7	13A	13	cel sno013	C/D	III	7337819	7337929	1	WBGene00001748	1	6	conserved	conserved	conserved	
8	15A	15	cel sno015	C/D	IV	867056	867133	-1	WBGene00021939	-1	17	conserved	conserved	conserved	
9	16A	16	cel sno016	C/D	III	1122497	1122561	1	WBGene00022104	1	4	conserved	conserved	conserved	
10	18A	18	cel sno018	H/ACA	V	10351190	10351325	-1	WBGene00010627	1	6	conserved	conserved	conserved	
11	18B	18	cel sno137	H/ACA	V	10350751	10350885	-1	WBGene00010627	1	7				
12	19A	19	cel sno019	H/ACA	V	16370190	16370328	1	WBGene00012347	1	6	conserved	conserved	conserved	
13	20A	20	cel sno020	C/D	V	10772099	10772205	1	WBGene00008371	1	2	conserved	conserved	conserved	
14	21A	21	cel sno021	H/ACA	I	111291	111425	1	WBGene00004418	1	2	conserved	conserved	conserved	
15	21B	21	cel sno025	H/ACA	III	6374357	6374491	-1	WBGene00004482	1	2	conserved	conserved	conserved	
16	22A	22	cel sno022	H/ACA	III	7208541	7208673	1	WBGene00004417	1	1	conserved	conserved	conserved	
17	22B	22	cel sno056	H/ACA	IV	12390494	12390624	-1	WBGene00004492	1	2	conserved	conserved	conserved	
18	23A	23	cel sno023	C/D	IV	2408509	2408631	-1	WBGene00021430	1	4	conserved	conserved	conserved	
19	24A	24	cel sno024	H/ACA	III	794392	794520	1	WBGene00004498	1	1	conserved	conserved	conserved	
20	24B	24	cel sno040	H/ACA	III	794735	794861	1	WBGene00004498	1	2				
21	26A	26	cel sno027	C/D	I	2085061	2085157	1	WBGene00021352	1	7	conserved	conserved	conserved	
22	28A	28	cel sno029	H/ACA	I	2935785	2935921	1	WBGene00022121	1	5	conserved	conserved	conserved	
23	29A	29	cel sno030	C/D	I	4175998	4176065	1	WBGene00004464	1	4	conserved	conserved	conserved	
24	31A	31	cel sno032	H/ACA	I	2070258	2070397	-1	WBGene00021350	1	1	conserved	conserved	conserved	
25	31B	31	cel sno033	H/ACA	I	2069886	2070026	-1	WBGene00021350	1	2	conserved	conserved	conserved	
26	32A	32	cel sno034	C/D	I	6082739	6082805	-1	WBGene00001819	-1	4	conserved	conserved	conserved	
27	34A	34	cel sno036	H/ACA	I	6212698	6212827	-1	WBGene00001497	1	7	conserved	conserved	conserved	
28	35A	35	cel sno037	H/ACA	II	6248669	6248808	1	WBGene00020781	1	3	conserved	conserved	conserved	
29	36A	36	cel sno038	H/ACA	II	4942381	4942506	-1	WBGene00007012	1	4	conserved	conserved	conserved	
30	37A	37	cel sno039	C/D	II	7183950	7184015	-1	WBGene00003966	-1	1	conserved	conserved	conserved	
31	38A	38	cel sno041	C/D	III	3068797	3068873	1	WBGene00006725	1	2	conserved	conserved	conserved	
32	39A	39	cel sno043	H/ACA	III	5679696	5679826	1	WBGene00004481	1	2	conserved	conserved	conserved	
33	39B	39	cel sno042	H/ACA	III	5679327	5679460	1	WBGene00004481	1	1	conserved	conserved	conserved	
34	40A	40	cel sno044	H/ACA	III	7208950	7209081	1	WBGene00004417	1	2	conserved	conserved	conserved	
35	40B	40	cel sno045	H/ACA	III	7209331	7209462	1	WBGene00004417	1	3	conserved	conserved	conserved	
36	41A	41	cel sno046	C/D	III	7496501	7496578	-1	WBGene00000479	1	3	conserved	conserved	conserved	
37	42A	42	cel sno047	H/ACA	III	7706786	7706939	-1	WBGene00003002	1	6	conserved	conserved	conserved	
38	44A	44	cel sno049	H/ACA	IV	653902	654031	-1	WBGene00004427	1	2	conserved	conserved	conserved	
39	44B	44	cel sno062	H/ACA	IV	654229	654358	-1	WBGene00004427	1	1	conserved	conserved	conserved	
40	45A	45	cel sno050	H/ACA	IV	4390081	4390301	-1	WBGene00004419	1	2	conserved	conserved	Host missing	
41	46A	46	cel sno051	H/ACA	IV	8378802	8378925	-1	WBGene00017075	1	2	conserved		conserved	
42	47A	47	cel sno052	H/ACA	V	8222303	8222429	1	WBGene00000098	1	5		conserved	conserved	
43	47B	47	cel sno053	H/ACA	V	8222829	8222954	1	WBGene00000098	1	6	conserved	conserved	conserved	
44	48A	48	cel sno054	C/D	V	8349099	8349167	1	WBGene00015592	1	7	conserved	conserved	conserved	
45	49A	49	cel sno055	C/D	V	8500557	8500622	1	WBGene00004256	1	17	conserved	conserved	conserved	
46	50A	50	cel sno057	H/ACA	V	10352682	10352810	-1	WBGene00010627	1	1	conserved	conserved	conserved	
47	50B	50	cel sno097	H/ACA	V	10351705	10351834	-1	WBGene00010627	1	5	conserved	conserved	conserved	
48	51A	51	cel sno058	H/ACA	I	7091583	7091717	-1	WBGene00004186	1	7	conserved	conserved	conserved	
49	52A	52	cel sno059	C/D	IV	9477606	9477677	-1	WBGene00000563	1	12	conserved	conserved	conserved	
50	53A	53	cel sno060	C/D	V	9970176	9970242	-1	WBGene00006777	1	7	conserved	conserved	conserved	
51	55A	55	cel sno063	C/D	V	8228880	8228947	-1	WBGene00004395	1	27	conserved	conserved	conserved	
52	56A	56	cel sno064	C/D	V	11314235	11314311	1	WBGene00009830	-1	7	conserved	conserved	conserved	
53	57C	57	cel sno065	C/D	III	13303222	13303293	-1	WBGene00002229	1	6				
54	58A	58	cel sno066	C/D	II	10545122	10545183	-1	WBGene00011304	1	4	conserved	conserved	conserved	
55	59A	59	cel sno067	C/D	I	5611669	5611817	-1	WBGene00018512	1	8	conserved	conserved		
56	60A	60	cel sno068	C/D	II	5105141	5105214	-1	WBGene00003402	-1	3	conserved	conserved	conserved	
57	61A	61	cel sno069	C/D	V	6889059	6889127	1	WBGene00006803	1	7	conserved	conserved	conserved	
58	62A	62	cel sno070	C/D	IV	4389797	4389870	-1	WBGene00004419	1	3	conserved	conserved		
59	63A	63	cel sno071	C/D	IV	7083856	7083914	-1	WBGene00004473	1	2	conserved	conserved	conserved	
60	64A	64	cel sno072	C/D	I	4646727	4646780	-1	WBGene00004415	1	1	<i>C. elegans</i> specific snoRNA			
61	65A	65	cel sno073	C/D	II	219672	219790	-1	WBGene00018586	1	4				
62	66A	66	cel sno074	C/D	III	5653817	5653899	-1	WBGene00000518	-1	7	conserved	conserved	conserved	
63	67A	67	cel sno075	C/D	II	7184359	7184432	-1	WBGene00003966	-1	2	conserved	conserved	conserved	

64	68A	68	cel sno076	C/D	III	3068476	3068552	1	WBGene00006725	1	1	conserved	conserved	conserved
65	70A	70	cel sno145	H/ACA	I	4585831	4585990	1	WBGene00004436	1	3	conserved	conserved	conserved
66	70B	70	cel sno078	H/ACA	I	4585250	4585410	1	WBGene00004436	1	1			
67	72A	72	cel sno080	C/D	II	11876376	11876470	1	WBGene00010785	1	3	conserved	conserved	conserved
68	73A	73	cel sno081	C/D	II	11876472	11876532	1	WBGene00010785	1	3	conserved	conserved	conserved
69	74C	74	cel sno083	H/ACA	III	13303308	13303444	-1	WBGene00002229	1	6			
70	76A	76	cel sno085	C/D	III	8091639	8091712	1	WBGene00003089	-1	3	conserved	conserved	conserved
71	77A	77	cel sno086	H/ACA	III	4689598	4689735	-1	WBGene00011407	-1	1	conserved	conserved	conserved
72	78A	78	cel sno087	H/ACA	V	19643013	19643147	-1	WBGene00012829	1	3	conserved	conserved	conserved
73	80A	80	cel sno089	C/D	III	9717281	9717359	1	WBGene00003572	-1	7	conserved	conserved	conserved
74	82A	82	cel sno091	H/ACA	V	12596825	12596955	-1	WBGene00007586	1	6	conserved	conserved	conserved
75	85A	85	cel sno094	H/ACA	II	8602899	8603034	1	WBGene00004440	1	1	conserved	conserved	conserved
76	88A	88	cel sno098	H/ACA	IV	8927247	8927375	1	WBGene00008362	1	5	conserved	conserved	conserved
77	90A	90	cel sno100	H/ACA	I	10569178	10569401	-1	WBGene00009122	1	1	conserved	conserved	conserved
78	91A	91	cel sno101	C/D	II	14018258	14018343	-1	WBGene00008500	1	5	conserved	conserved	conserved
79	95A	95	cel sno106	H/ACA	II	10560638	10560855	-1	WBGene00007352	1	3	conserved	conserved	conserved
80	95B	95	cel sno110	H/ACA	II	10562873	10563085	-1	WBGene00007352	1	1	conserved	conserved	conserved
81	96A	96	cel sno107	C/D	III	10976544	10976628	-1	WBGene00012272	-1	17	conserved	conserved	conserved
82	96B	96	cel sno120	C/D	III	13769756	13769834	-1	WBGene00000875	1	4			
83	98A	98	cel sno109	H/ACA	V	10967466	10967592	1	WBGene00008920	1	5	conserved	conserved	conserved
84	99A	99	cel sno111	H/ACA	IV	12086680	12086799	1	WBGene00008688	1	2	conserved	conserved	conserved
85	100A	100	cel sno112	H/ACA	IV	11474030	11474162	-1	WBGene00007514	1	7	conserved	conserved	conserved
86	101A	101	cel sno113	C/D	IV	17117883	17117974	-1	WBGene00006698	1	3	conserved	conserved	
87	106A	106	cel sno124	C/D	II	5667613	5667742	-1	WBGene00016116	1	2	conserved	conserved	conserved
88	107A	107	cel sno125	H/ACA	II	12737910	12738051	-1	WBGene00012897	1	1			
89	108A	108	cel sno126	C/D	I	9789236	9789344	1	WBGene00000371	1	2	conserved	conserved	conserved
90	109A	109	cel sno127	H/ACA	III	4757913	4758051	1	WBGene00007168	1	2	conserved	conserved	conserved
91	110A	110	cel sno128	C/D	I	11609305	11609435	1	WBGene00007640	-1	6	conserved	conserved	conserved
92	111A	111	cel sno129	H/ACA	III	9226758	9226898	-1	WBGene00004391	1	4	conserved	conserved	conserved
93	113A	113	cel sno131	H/ACA	I	9176320	9176445	1	WBGene00009126	1	5	conserved	conserved	conserved
94	114A	114	cel sno090	C/D	II	8560622	8560703	-1	WBGene00002065	1	2	conserved	conserved	conserved
95	114C	114	cel sno132	C/D	II	14617046	14617113	1	WBGene00008964	1	3	conserved	conserved	conserved
96	115A	115	cel sno133	H/ACA	III	10432230	10432363	1	WBGene00010845	-1	6	conserved	conserved	conserved
97	117A	117	cel sno135	H/ACA	V	10966673	10966891	1	WBGene00008920	1	4	conserved	conserved	conserved
98	118A	118	cel sno136	C/D	III	6374701	6374786	-1	WBGene00004482	1	1	conserved	conserved	conserved
99	119A	119	cel sno138	H/ACA	I	14760178	14760298	1	WBGene00004495	1	1	<i>C. elegans</i> specific snoRNA		
100	120A	120	cel sno139	C/D	III	3869069	3869130	1	WBGene00004414	1	3	conserved	conserved	conserved
101	121A	121	cel sno140	C/D	V	9971936	9972039	-1	WBGene00006777	1	4	conserved	conserved	conserved
102	123A	123	cel sno142	C/D	II	5055741	5055811	1	WBGene00004434	1	1	conserved	conserved	conserved
103	124A	124	cel sno143	C/D	V	10352258	10352334	-1	WBGene00010627	1	3	conserved	conserved	conserved
104	125A	125	cel sno144	H/ACA	V	20475394	20475520	1	WBGene00004413	1	1	conserved	conserved	conserved
105	127A	127	cel sno147	C/D	II	11532065	11532210	-1	WBGene00007013	1	2	conserved	conserved	conserved
106	128A	128	cel sno148	H/ACA	I	4138604	4138734	-1	WBGene00017088	1	1	conserved	conserved	
107	128B	128	cel sno157	H/ACA	I	4138208	4138335	-1	WBGene00017088	1	2	conserved	conserved	conserved
108	129A	129	cel sno149	H/ACA	III	5602008	5602132	-1	WBGene00015468	1	4	conserved	conserved	conserved
109	130A	130	cel sno150	H/ACA	III	8165463	8165598	1	WBGene00004187	1	2	conserved	conserved	conserved
110	131A	131	cel sno151	H/ACA	III	8168168	8168309	1	WBGene00004187	1	5	conserved	conserved	conserved
111	132A	132	cel sno152	H/ACA	IV	13238900	13239047	-1	WBGene00006466	1	1	conserved	conserved	conserved
Unnested snoRNAs														
112			cel sno004	C/D	II	11167140	11167226	-1	unnested					
113			cel sno009	C/D	V	8247866	8247941	-1	unnested					
114			cel sno011	C/D	III	502801	502887	1	unnested					
115			cel sno014	C/D	IV	8253075	8253147	1	unnested					
116			cel sno017	C/D	I	3747	3900	-1	unnested					
117			cel sno026	C/D	II	5701631	5701695	1	unnested					
118			cel sno028	C/D	I	2410191	2410255	1	unnested					
119			cel sno031	C/D	I	5707049	5707122	1	unnested					
120			cel sno035	C/D	I	6105681	6105754	-1	unnested					
121			cel sno048	C/D	IV	7574106	7574175	1	unnested					
122			cel sno061	C/D	I	14058826	14058893	-1	unnested					
123			cel sno103	C/D	II	15025715	15025802	-1	unnested					
124			cel sno077	C/D	I	2514168	2514234	-1	unnested					
125			cel sno084	H/ACA	II	8547140	8547269	1	unnested					
126			cel sno088	C/D	IV	9191240	9191312	-1	unnested					
127			cel sno121	C/D	X	6867890	6867962	1	unnested					
128			cel sno092	C/D	II	11960813	11960876	1	unnested					
129			cel sno093	C/D	V	15190951	15191069	-1	unnested					
130			cel sno095	H/ACA	III	8937677	8937807	1	unnested					
131			cel sno119	H/ACA	X	15619413	15619543	1	unnested					

132		cel sno099	C/D	V	14362354	14362429	1	unnested				<i>C. elegans</i> specific snoRNA
133		cel sno102	C/D	V	15873828	15873900	-1	unnested				
134		cel sno104	H/ACA	II	15165796	15165930	-1	unnested				
135		cel sno105	C/D	II	9774684	9774756	-1	unnested				
136		cel sno108	C/D	I	8259429	8259491	-1	unnested				
137		cel sno114	C/D	I	8224467	8224538	1	unnested				
138		cel sno115	H/ACA	II	8075439	8075573	1	unnested				
139		cel sno118	C/D	II	8107123	8107200	-1	unnested				
140		cel sno130	C/D	I	8245540	8245615	-1	unnested				
141		cel sno134	H/ACA	X	1891504	1891624	1	unnested				<i>C. elegans</i> specific snoRNA
142		cel sno146	C/D	IV	11549764	11549835	-1	unnested				

Supplementary Table S1C – tRNAs

<i>C. elegans</i> nested tRNA arrangement							Conservation in		
Arr	RNA (WB)	Amino	Grp	Host gene (WB)	Host transcript	Rank	<i>Cbr</i>	<i>Cre</i>	<i>Cbn</i>
1	WBGene00023176	Gly	17	WBGene00000020	F12B6.1	2			
2	WBGene00023093	Ser	29	WBGene00000044	K03F8.2	3	conserved (1)	conserved (1)	conserved (1)
3	WBGene00014351	His	27	WBGene00000057	F28F8.1	2	conserved (1)	conserved (1)	conserved (1)
4	WBGene00014352	Asp	35	WBGene00000057	F28F8.1	8	conserved (1)	conserved (1)	conserved (1)
5	WBGene00014490	Pro	22	WBGene00000233	R11G10.1a	2			
6	WBGene00014491	Pro	22	WBGene00000233	R11G10.1a	3	conserved (1)		
7	WBGene00023097 WBGene00023098	Gly	18	WBGene00000265	K04C2.4.1	4			
8	WBGene00023099	Lys	24	WBGene00000265	K04C2.4.1	7	conserved (1)		
9	WBGene00022975 WBGene00022974	Ser	23	WBGene00000295	W01C8.6a	5	conserved (1)	conserved (1)	conserved (1)
10	WBGene00014551	Lys	24	WBGene00000398	F15B9.7	13			
11	WBGene00023107	Pro	22	WBGene00000448	K12H4.1	6	conserved (1)	conserved (1)	conserved (1)
12	WBGene00014268	Arg	12	WBGene00000463	C28A5.4	1	conserved (1)	conserved (1)	conserved (1)
13	WBGene00023024	Arg	12	WBGene00000631	F33D11.3	2		conserved (1)	conserved (1)
14	WBGene00014524	Ile	21	WBGene00000660	T21B4.2	2	conserved (1)	conserved (1)	conserved (1)
15	WBGene00023019	Arg	12	WBGene00000674	F29C4.8a	2	conserved (1)	conserved (1)	conserved (1)
16	WBGene00022955	Cys	36	WBGene00000871	C37A2.4a	2	conserved (2)	conserved (2)	conserved (2)
17	WBGene00023214 WBGene00023210 WBGene00023211	Asn	34	WBGene00000950	C47C12.6.1	14	conserved (1)	conserved (2)	conserved (2)
18	WBGene00023035	Asp	35	WBGene00001185	F38G1.2	2			
19	WBGene00014594	His	27	WBGene00001330	Y57G11C.24a.1	4			
20	WBGene00006314	Trp	37	WBGene00001443	B0523.5	9	conserved (1)	conserved (1)	conserved (1)
21	WBGene00014637 WBGene00014636	Pro	22	WBGene00001531	ZK970.5	13	conserved (2)	conserved (2)	conserved (4)
22	WBGene00014501	Gly	18	WBGene00001555	T04D3.4	10			conserved (1)
23	WBGene00014521	Leu	30	WBGene00001663	T19C4.6a	7	conserved (1)		conserved (1)
24	WBGene00014422	Val	28	WBGene00001712	K03B8.7	3	conserved (1)	conserved (1)	conserved (1)
25	WBGene00014545	Asn	34	WBGene00001843	W06D4.1	2		conserved (1)	
26	WBGene00014334 WBGene00014333	Ala	15	WBGene00001863	F15G9.4a	39	conserved (2)	conserved (2)	conserved (2)
27	WBGene00014566	Thr	20	WBGene00001997	Y39A1A.23.1	8	conserved (1)		
28	WBGene00022897 WBGene00022899	Gly	17	WBGene00002048	B0244.2	3		conserved (2)	
29	WBGene00023188	Glu	31	WBGene00003161	Y69A2AR.30a.1	3	conserved (1)	conserved (1)	conserved (1)
30	WBGene00014436	Gly	18	WBGene00003529	K09C8.3	1			
31	WBGene00023199	Trp	37	WBGene00003548	Y95B8A.1	8	conserved (1)	conserved (1)	conserved (1)
32	WBGene00023033	Arg	12	WBGene00003555	F38E9.2	3			
33	WBGene00023157	Thr	20	WBGene00003579	W02G9.1	1			
34	WBGene00009555	Tyr	16	WBGene00003616	C02B4.2	7	conserved (1)	conserved (1)	conserved (1)
35	WBGene00023072	Tyr	16	WBGene00003878	F56F4.5	7			
36	WBGene00023073	Lys	19	WBGene00003878	F56F4.5	11	conserved (1)		
37	WBGene00022894	Pro	22	WBGene00003889	B0212.5	12	conserved (1)	conserved (1)	conserved (1)
38	WBGene00023206	Ile	21	WBGene00003978	Y119D3B.17	6	conserved (1)	conserved (1)	conserved (1)
39	WBGene00022992	Leu	14	WBGene00003987	F14B8.3	5	conserved (1)	conserved (1)	conserved (1)
40	WBGene00014427	Lys	19	WBGene00003995	K08E7.9	8		conserved (1)	
41	WBGene00023141	Ile	21	WBGene00004023	T16D1.2	3			
42	WBGene00022973	Met	33	WBGene00004033	E01H11.1a	1			
43	WBGene00014426	Lys	19	WBGene00004227	K07C10.1	8	conserved (1)	conserved (1)	conserved (1)
44	WBGene00023220	Lys	24	WBGene00004256	ZK994.3	1			
45	WBGene00023222	Thr	20	WBGene00004256	ZK994.3	4	conserved (1)	conserved (1)	conserved (1)
46	WBGene00023221	Lys	24	WBGene00004256	ZK994.3	14			
47	WBGene00022933	Leu	14	WBGene00004395	C16D9.2a	10	conserved (1)	conserved (1)	conserved (1)
48	WBGene00022934	Met	41	WBGene00004395	C16D9.2a	24	conserved (1)	conserved (1)	conserved (1)
49	WBGene00009936	Ile	21	WBGene00004777	C02D4.2b	1			
50	WBGene00014265	Ile	21	WBGene00004854	F40E10.4	18			
51	WBGene00014639	Ser	23	WBGene00004906	ZK1010.9	3	conserved (1)		conserved (1)
52	WBGene00014147	Leu	14	WBGene00004963	C17D12.6	4	conserved (1)	conserved (1)	
53	WBGene00014126	Lys	19	WBGene00004963	C17D12.6	6	conserved (1)		
54	WBGene00014026	Lys	19	WBGene00004963	C17D12.6	9	conserved (1)	conserved (1)	
55	WBGene00023055	Arg	12	WBGene00004969	F47G6.4	1			
56	WBGene00022980	Leu	14	WBGene00004998	F08F1.6	2			conserved (1)
57	WBGene00023096	Cys	36	WBGene00005004	K04A8.9	3			

58	WBGene00023198	Arg	12	WBGene00005077	Y92H12A.1	5			
59	WBGene00014609 WBGene00014610	Glu	31	WBGene00005727	Y105C5B.10	1			
60	WBGene00014608	Asp	35	WBGene00005727	Y105C5B.10	6	conserved (1)	conserved (1)	
61	WBGene00014504	Asn	34	WBGene00006066	Y71H9A.3.1	5		conserved (1)	conserved (1)
62	WBGene00022977	Glu	31	WBGene00006353	F01G12.2a	1			
63	WBGene00022979	Leu	14	WBGene00006472	F08F1.7	7		conserved (1)	conserved (2)
64	WBGene00022998	Leu	32	WBGene00006662	F22B7.7	6	conserved (1)	conserved (1)	conserved (1)
65	WBGene00014482	Asn	34	WBGene00006668	R04F11.4a	1	conserved (1)	conserved (1)	conserved (1)
66	WBGene00022949 WBGene00022948	Gly	18	WBGene00006718	C28G1.1	4		conserved (2)	
67	WBGene00014625	Pro	22	WBGene00006759	ZK617.1a.1	8			conserved (1)
68	WBGene00023115	Arg	12	WBGene00006769	Y37E11C.1	9	conserved (1)	conserved (1)	conserved (1)
69	WBGene00014507	Ser	29	WBGene00006792	T06H11.1b	2			
70	WBGene00023105	Ile	38	WBGene00006801	K11C4.5	14	conserved (1)	conserved (1)	conserved (1)
71	WBGene00022966 WBGene00022967	Thr Ala	15	WBGene00006831	C52E12.2a	8	conserved (2)	conserved (2)	conserved (1)
72	WBGene00014319	Arg	12	WBGene00006839	F09B9.2a	2			
73	WBGene00022902 WBGene00022901 WBGene00022900	Ile	21	WBGene00006955	B0344.2	10			
74	WBGene00014418	Glu	31	WBGene00006976	K02B12.8	5			
75	WBGene00007475	Leu	32	WBGene00007139	B0285.7	4	conserved (1)	conserved (1)	conserved (1)
76	WBGene00009206	His	27	WBGene00007197	B0513.5	7			
77	WBGene00000311 WBGene00000310	Leu	14	WBGene00007325	C05C9.1	9		conserved (2)	conserved (1)
78	WBGene00010431	Leu	14	WBGene00007343	C05E7.1	4	conserved (1)	conserved (1)	conserved (1)
79	WBGene00010777	Tyr	16	WBGene00007367	C06B8.1	3			
80	WBGene00010733	Ala	15	WBGene00007367	C06B8.1	5			conserved (1)
81	WBGene00011346	Gly	17	WBGene00007372	C06B8.7	14	conserved (1)	conserved (1)	conserved (1)
82	WBGene00012752 WBGene00013010	Gly	18	WBGene00007533	C12C8.2a	2	conserved (2)		conserved (2) conserved (2)
83	WBGene00013948	Gln	13	WBGene00007545	C13B4.1a	6			<i>host not found</i>
84	WBGene00014269	Ala	15	WBGene00007791	C28A5.6	2			
85	WBGene00014274	Gly	18	WBGene00007849	C31E10.8	5	conserved (1)	conserved (1)	
86	WBGene00014276	Arg	12	WBGene00007935	C34E11.2	11			
87	WBGene00014283	Leu	14	WBGene00007997	C38C6.4	3	conserved (1)	conserved (1)	
88	WBGene00014287	Tyr	16	WBGene00008144	C47E8.6	1	conserved (1)	conserved (1)	conserved (1)
89	WBGene00014292	Val	28	WBGene00008260	C52G5.2	1			conserved (1)
90	WBGene00014301	Und	2	WBGene00008439	DY3.6	5			
91	WBGene00014315 WBGene00014314	Gln	13	WBGene00008582	F08G5.3a.1	1			
92	WBGene00014326	Pro	22	WBGene00008779	F14B4.1	5	conserved (1)	conserved (1)	conserved (1)
93	WBGene00014325	Arg	12	WBGene00008779	F14B4.1	12	conserved (1)	conserved (1)	conserved (1)
94	WBGene00014330	Val	28	WBGene00008832	F14H8.1a	5			
95	WBGene00014331	Ala	15	WBGene00008848	F15B9.4	6		conserved (1)	conserved (1)
96	WBGene00014339	Gly	17	WBGene00008927	F17H10.3a	1	conserved (1)	conserved (1)	conserved (1)
97	WBGene00014341	Met	28	WBGene00008997	F21A3.7	2	conserved (1)	conserved (1)	conserved (1)
98	WBGene00014342	Val	28	WBGene00008997	F21A3.7	4	conserved (1)	conserved (1)	conserved (1)
99	WBGene00014345	Val	28	WBGene00009064	F22G12.4	8			
100	WBGene00014344	Val	28	WBGene00009066	F22G12.6	1			
101	WBGene00012377 WBGene00013918	Gly	18	WBGene00009178	F26H9.8	7	conserved (4)	conserved (2)	conserved (5)
102	WBGene00014361	Glu	31	WBGene00009282	F31B12.2	13	conserved (1)	conserved (1)	conserved (1)
103	WBGene00014363	Cys	36	WBGene00009318	F32B4.8	9	conserved (1)	conserved (1)	conserved (1)
104	WBGene00014369	Lys	19	WBGene00009552	F39B1.1	10			
105	WBGene00014368	Val	28	WBGene00009552	F39B1.1	20			
106	WBGene00014374	Arg	12	WBGene00009645	F42G10.1.1	9			
107	WBGene00014376	Thr	20	WBGene00009730	F45G2.2a	3		conserved (2)	
108	WBGene00014377	Ile	25	WBGene00009800	F47A4.3a	1			
109	WBGene00014378	Trp	37	WBGene00009867	F49C5.4	1	conserved (1)	conserved (1)	conserved (1)
110A	WBGene00014381	Lys	24	WBGene00009867	F49C5.4	7	conserved (1)		conserved (1)
110B	WBGene00014380	Leu	14						
111	WBGene00014389	Lys	24	WBGene00009962	F53B6.7	2		conserved (1)	
112	WBGene00014414	His	25	WBGene00010444	K01A6.2	7			
113	WBGene00014415	Lys	19	WBGene00010450	K01A11.2	3			
114	WBGene00014423	Ala	15	WBGene00010594	K06A4.4	5	conserved (1)	conserved (1)	conserved (1)
115	WBGene00014438	Lys	19	WBGene00010773	K11E4.1	1	conserved (1)	conserved (1)	conserved (2)
116	WBGene00014442 WBGene00014441	Lys	19	WBGene00010776	K11E4.4	11	conserved (1)	conserved (1)	conserved (1)

	WBGene00014443									
117	WBGene00014444 WBGene00014445	Ser	29	WBGene00010784	K11H3.7	5	conserved (1)	conserved (1)		
118	WBGene00014481	Thr	20	WBGene00011009	R04D3.1	2		conserved (1)	conserved (2)	
119	WBGene00014479	Pro	22	WBGene00011013	R04D3.10	3	conserved (8)	conserved (2)	conserved (5)	
120	WBGene00014485	Gln	13	WBGene00011173	R09E10.3	7				
121	WBGene00014498	Ser	29	WBGene00011385	T02G6.2	2	conserved (1)	conserved (1)		
122	WBGene00014503	Thr	20	WBGene00011435	T04D3.8	2	<i>host not found</i>	<i>host not found</i>	<i>host not found</i>	
123	WBGene00014528 WBGene00014526	Gly	39	WBGene00011908	T22A3.5	7				
124	WBGene00014527	Gly	39	WBGene00011908	T22A3.5	9				
125	WBGene00014529	Ile	25	WBGene00011921	T22C1.12	1				
126	WBGene00014530	Leu	26	WBGene00011928	T22C8.7	7	conserved (1)	conserved (1)	conserved (1)	
127	WBGene00014539	Val	28	WBGene00012222	W03C9.6.1	5	conserved (1)	conserved (1)	conserved (1)	
128	WBGene00014544	Arg	4	WBGene00012271	W05B2.2	10				
129	WBGene00014546	Asp	35	WBGene00012310	W06G6.7	4	conserved (1)	conserved (1)	conserved (1)	
130	WBGene00014547	Asp	35	WBGene00012313	W06G6.11	2	<i>host not found</i>	<i>host not found</i>	<i>host not found</i>	
131	WBGene00014558	Ser	29	WBGene00012407	Y7A5A.1.1	3				
132	WBGene00014565	Asn	34	WBGene00012614	Y38H6A.3	4				
133	WBGene00014568	Glu	31	WBGene00012670	Y39B6A.8	3	conserved (1)	conserved (1)	conserved (1)	
134	WBGene00014572	Gly	18	WBGene00012791	Y43D4A.5	3				
135	WBGene00014573	Gly	18	WBGene00012791	Y43D4A.5	4	conserved (1)	conserved (1)	conserved (1)	
136	WBGene00014574	Tyr	16	WBGene00012796	Y43F4A.1a	3	conserved (1)	conserved (1)	conserved (1)	
137	WBGene00014575	Asn	34	WBGene00012796	Y43F4A.1a	5	conserved (1)	conserved (1)	conserved (1)	
138	WBGene00014553 WBGene00014552	Pro	22	WBGene00012972	Y48A6B.11a	7				
139	WBGene00014578	Gln	13	WBGene00013034	Y49E10.11a	16	conserved (1)	conserved (1)	conserved (1)	
140	WBGene00014580	Ser	29	WBGene00013104	Y51H4A.8	1				
141	WBGene00014583	Gly	18	WBGene00013111	Y51H4A.17a	7				
142	WBGene00014590	Ile	21	WBGene00013273	Y57A10B.1	4				
143	WBGene00014591	Met	33	WBGene00013287	Y57A10C.9	1				
144	WBGene00014595	Gly	6	WBGene00013342	Y59A8B.2	3				
145	WBGene00014597	Ala	15	WBGene00013418	Y65A5A.1	2	conserved (1)	conserved (1)		
146	WBGene00014601	Lys	24	WBGene00013490	Y70C5A.2	3	conserved (1)	conserved (1)	conserved (1)	
147	WBGene00014611	Asp	35	WBGene00013650	Y105C5B.9	2		conserved (1)		
148	WBGene00014618	Cys	36	WBGene00013883	ZC412.1	7	conserved (1)	conserved (2)	conserved (2)	
149	WBGene00014619	Ser	29	WBGene00013902	ZC455.1a	3	conserved (1)	conserved (1)	conserved (1)	
150	WBGene00014620	Gly	17	WBGene00013933	ZK39.8	1				
151	WBGene00014623	Thr	20	WBGene00013949	ZK262.2	1				
152	WBGene00014624	Asn	34	WBGene00013980	ZK507.4	1				
153	WBGene00014627 WBGene00014628 WBGene00014629	Pro	22	WBGene00014070	ZK678.4	3				
154	WBGene00014635 WBGene00014638	Pro	22	WBGene00014172	ZK970.2	2	conserved (2)	conserved (1)	conserved (3)	
155	WBGene00014640	Tyr	16	WBGene00014210	ZK1067.4	3				
156	WBGene00014513	Lys	19	WBGene00014262	ZK1321.4	1		conserved (1)	conserved (1)	
157	WBGene00022905	Met	41	WBGene00015358	C02F12.9	2	conserved (1)	conserved (1)	conserved (1)	
158	WBGene00006316	Trp	37	WBGene00015373	C03B1.2	3	conserved (1)	conserved (1)	conserved (1)	
159	WBGene00022913	His	27	WBGene00015545	C06G1.1a	6	conserved (1)	conserved (1)	conserved (1)	
160	WBGene00022920	Lys	24	WBGene00015626	C09B9.1	2		conserved (1)	conserved (1)	
161	WBGene00022924	Leu	32	WBGene00015753	C14B9.3	3	conserved (1)	conserved (1)	conserved (1)	
162	WBGene00022911	Val	28	WBGene00015993	C18H7.1	7	conserved (1)	conserved (1)	conserved (1)	
163	WBGene00022945	Ile	21	WBGene00016152	C27A2.4	9				
164	WBGene00022953	Asp	35	WBGene00016461	C35E7.9	1				
165	WBGene00022906	Met	41	WBGene00016559	C41A3.2a	12				
166	WBGene00022969	Ala	15	WBGene00016984	C56G3.1b	1		conserved (1)		
167	WBGene00022972	Leu	14	WBGene00017014	D1009.5	4				
168	WBGene00006338	Trp	37	WBGene00017039	D1073.1a	5				
169	WBGene00006333	Trp	37	WBGene00017039	D1073.1a	9	conserved (1)	conserved (1)	conserved (1)	
170	WBGene00022978	Ser	29	WBGene00017180	F02E11.2	4	<i>host not found</i>	<i>host not found</i>	<i>host not found</i>	
171	WBGene00022984	Leu	26	WBGene00017326	F10C1.5	3	conserved (1)	conserved (1)	conserved (1)	
172	WBGene00022989	Arg	12	WBGene00017400	F12D9.1a	5				
173	WBGene00022997 WBGene00022996	Ala	15	WBGene00017580	F18G5.4	4	conserved (1)	conserved (1)	conserved (1)	
174	WBGene00023001	Phe	40	WBGene00017698	F22B7.9	1	conserved (1)	conserved (1)		
175	WBGene00023000	Phe	40	WBGene00017698	F22B7.9	2	conserved (1)	conserved (1)	conserved (1)	
176	WBGene00023014	Thr	20	WBGene00017794	F25F6.1	3	conserved (1)	conserved (1)	conserved (1)	
177	WBGene00023018	Asn	34	WBGene00017904	F28F5.3c	2	conserved (1)	conserved (1)	conserved (1)	
178	WBGene00023023	Pro	22	WBGene00018005	F33D11.8	1	conserved (1)		conserved (1)	

179	WBGene00023025	Ile	21	WBGene00018015	F33G12.3.1	3	conserved (1)		conserved (1)
180	WBGene00023031	Lys	25	WBGene00018131	F37A4.1.1	3			
181	WBGene00023043	Arg	12	WBGene00018281	F41D9.1	12			
182	WBGene00023042	Asn	34	WBGene00018283	F41D9.5	14	conserved (1)	conserved (1)	conserved (1)
183	WBGene00023047	Lys	24	WBGene00018376	F43C9.2	2	conserved (1)	conserved (1)	conserved (1)
184	WBGene00023053	Gln	13	WBGene00018565	F47E1.1	1	<i>host not found</i>	<i>host not found</i>	<i>host not found</i>
185	WBGene00023054	Und	8	WBGene00018566	F47E1.2	5			
186	WBGene00023062	Thr	20	WBGene00018675	F52C9.5	10			
187	WBGene00023074	Tyr	16	WBGene00018987	F56F10.4	12			
188	WBGene00023076	Asp	35	WBGene00019102	F59C12.3	11			
189	WBGene00023082 WBGene00023079 WBGene00023080 WBGene00023078 WBGene00023081	Gln	13	WBGene00019173	H08J11.2	4	conserved (7)	conserved (2)	conserved (1)
190A	WBGene00023087 WBGene00023089	Arg	12	WBGene00019287	K01A12.3	2	conserved (4)	conserved (2)	Conserved (1)
190B	WBGene00023088 WBGene00023090 WBGene00023091	Cys	36						
191	WBGene00023094	Asp	35						
192	WBGene00023096	Cys	36	WBGene00019368	K03H6.2	7	conserved (1)		conserved (1)
193	WBGene00023102	Glu	31	WBGene00019375	K04A8.3	1	conserved (1)	conserved (1)	conserved (1)
194	WBGene00023101	Phe	40	WBGene00019518	K08B5.1	1			
195	WBGene00023103	Ala	15	WBGene00019519	K08B5.2	6			
196	WBGene00023106	SeC	9	WBGene00019556	K09C6.2	2			
197	WBGene00023106	SeC	9	WBGene00019664	K11H12.8a	6		<i>host not found</i>	
197	WBGene00023123	Gly	17	WBGene00019870	R04E5.7	1	conserved (1)	conserved (1)	conserved (1)
198	WBGene00023128	Gly	17	WBGene00020195	T03G6.3.1	5	conserved (1)	conserved (1)	conserved (1)
199	WBGene00023137	Thr	10	WBGene00020476	T13B5.9	5			
200	WBGene00023140	Met	33	WBGene00020530	T15B12.1a	2	conserved (1)	conserved (1)	conserved (1)
201	WBGene00023144 WBGene00023145	Pro	22	WBGene00020695	T22F3.2a	7		conserved (1)	
202	WBGene00023146 WBGene00023143	Pro	22	WBGene00020696	T22F3.3a	2	conserved (3)	conserved (2)	conserved (1)
203	WBGene00023154	Phe	40	WBGene00020884	T28B4.1a	5	conserved (1)	conserved (1)	conserved (1)
204	WBGene00023155	Cys	36	WBGene00020893	T28C12.6	6	conserved (1)	conserved (1)	conserved (1)
205	WBGene00023166	Gln	13	WBGene00021157	Y4C6B.3	4	conserved (1)	conserved (1)	conserved (1)
206	WBGene00023169	Leu	30	WBGene00021213	Y18H1A.9	2			
207	WBGene00023178	Asp	35	WBGene00021875	Y54G2A.10a	1	conserved (1)	conserved (1)	conserved (1)
208	WBGene00023196	Ile	21	WBGene00022103	Y71D11A.1	10			
209	WBGene00023197	Ile	21	WBGene00022103	Y71D11A.1	12	conserved (1)	conserved (1)	
210	WBGene00023190	Pro	22	WBGene00022175	Y71H2AM.10	7			
211	WBGene00023192	Val	28	WBGene00022231	Y73B6BL.1	2	conserved (1)	conserved (1)	conserved (1)
212	WBGene00023195	Gly	18	WBGene00022348	Y82E9BR.16a	4	conserved (1)	conserved (1)	conserved (1)
213	WBGene00023201	Arg	25	WBGene00022420	Y102E9.2a	6			
214	WBGene00023202	Glu	31	WBGene00022423	Y104H12A.1	3	conserved (1)	conserved (1)	conserved (1)
215	WBGene00023208	His	27	WBGene00022612	ZC449.2	5	conserved (1)	conserved (1)	conserved (1)
216	WBGene00023216	Thr	20	WBGene00022767	ZK563.2	6	conserved (1)	conserved (1)	conserved (1)
217	WBGene00023219	Glu	31	WBGene00022817	ZK783.2.1	1	conserved (1)	conserved (1)	conserved (1)
218	WBGene00023117	Gln	13	WBGene00022858	ZK1193.2	11	conserved (1)	conserved (1)	
219	WBGene00023125	Ile	21	WBGene00044061	R11B5.1	1	conserved (1)	conserved (1)	conserved (1)
220	WBGene00023124	Thr	20	WBGene00044061	R11B5.1	6	conserved (1)	conserved (1)	conserved (1)
221	WBGene00023126	Ile	21	WBGene00044061	R11B5.1	10			
222	WBGene00014525	Gly	17	WBGene00044070	T22A3.4a	5		conserved (1)	conserved (1)
223	WBGene00023179	Asp	35	WBGene00044487	Y54G2A.44	1	conserved (1)		
224	WBGene00023181	Asp	35	WBGene00044488	Y54G2A.45	7	conserved (1)	conserved (1)	
225	WBGene00023177	Ser	29	WBGene00044645	Y51H7BR.8	1			
226	WBGene00023058 WBGene00023057	Gly	18	WBGene00045433	F49D11.10.1	7			conserved (2)
227	WBGene00014617	Phe	40	WBGene00050943	ZC412.10	1	conserved (1)	conserved (1)	conserved (1)
228	WBGene00014343	Lys	19	WBGene00077548	F21C3.7	1			conserved (1)

Supplementary Table S2 Identifying orthologs of *C. elegans* ncRNA host genes

Supplementary Table S2A *C. elegans* host genes with no apparent orthologs

		tRNA	snRNA	snoRNA
Total number of <i>C. elegans</i> host genes		204	35	88
Number of host genes with no matches or poor matches in	<i>C. briggsae</i>	4	0	0
	<i>C. remanei</i>	5	-	0
	<i>C. brenneri</i>	5	-	0

Supplementary Table S2B Nested tRNA arrangements in *C. elegans* that have multiple candidate orthologs in *C. briggsae*

Arr	<i>C. elegans</i>			<i>C. briggsae</i>		
	tRNA	Host gene	Chr	Chr	RNA Position (start – end (strand))	Host gene
21	WBGene00014636	WBGene00001531	II	II	1162736 – 1162736 (-1)	WBGene00024177
	WBGene00014637			V	2926267 – 2926337 (-1)	WBGene00031771
48	WBGene00022934	WBGene00004395	V	V	753061 – 753133 (-1)	WBGene00032454
				random	3822883 – 3822955 (-1)	WBGene00042825
60	WBGene00014608	WBGene00005727	IV	IV	3243 – 3316 (-1)	WBGene00023731
				IV	1420978 – 1421051 (1)	WBGene00034501
119	WBGene00014479	WBGene00011013	X	X	17420577 – 17420649 (-1)	WBGene00029716
				X	17429703 – 17429774 (-1)	WBGene00029715
127	WBGene00014539	WBGene00012222	II	II	10952706 – 10952778 (1)	WBGene00039771
				II	10965911 – 10965983 (1)	WBGene00039772

Supplementary Table S3 *C. elegans* nested ncRNAs do not have orthologs in *D. melanogaster*

Orthologous host gene	<i>C. elegans</i> (cel) nested arrangement		<i>D. melanogaster</i> (dme) nested arrangement		Comparison of nested genes
	Host gene ID	Nested genes	Host gene ID	Nested genes	
snoRNA					
<i>rps-12</i>	WBGene00004481	cel_sno042 cel_sno043	FBgn0014027	FBtr0114354 FBtr0114355	No sequence similarity between nested genes
<i>rps-29</i>	WBGene00004498	cel_sno024 cel_sno040	FBgn0037752	FBtr0091602	cel_sno024 and FBtr0091602 have short alignable region (17/21 bp) in opposite orientation
<i>rps-27A</i> (dme)	WBGene00021350	cel_sno032 cel_sno033	FBgn0010410	FBtr0091653	No sequence similarity between nested genes
<i>rpl-3</i>	WBGene00004414	cel_sno139	FBgn0020910	FBtr0091755 FBtr0114331 FBtr0114332 FBtr0114333	No sequence similarity between nested genes
<i>rpl-4</i>	WBGene00004415	cel_sno072	FBgn0003279	FBtr0113586	No sequence similarity between nested genes
<i>rpl-7A</i>	WBGene00004419	cel_sno050 cel_sno070	FBgn0014026	FBtr0091642	No sequence similarity between nested genes
<i>rpl-22</i>	WBGene00004434	cel_sno142	FBgn0015288	FBtr0091922 FBtr0113559	No sequence similarity between nested genes
<i>rpl-4</i>	WBGene00004473	cel_sno071	FBgn0011284	FBtr0091754 FBtr0113611 FBtr0113612	No sequence similarity between nested genes
tRNA					
<i>tat-1</i> (cel)	WBGene00013034	WBGene00014578	FBgn0259221	FBgn0011881 FBgn0011909 FBgn0011882 FBgn0011883 FBgn0011884 FBgn0011885 FBgn0011910	The nested tRNAs have different anticodons: (dme) AUU (Ile) and UUG (Leu) (cel) CAA (Gln)
<i>spe-15</i> (cel) <i>jag</i> (dme)	WBGene00004969	WBGene00023055	FBgn0011225	FBgn0051130	The nested tRNAs have different anticodons: (dme) UUA (Leu) (cel) UCU (Arg)

For all *C. elegans* host genes harboring nested ncRNAs, we identified putative orthologs (best reciprocal BLASTP matches) in *D. melanogaster*. We retained only those pairs which contained ncRNAs of the same type. All ten such cases are shown above. We next asked whether the nested genes could be orthologous as well. The results are shown in the last column. The apparently higher number of ortholog pairs for snoRNA hosts (8/88) compared to tRNA hosts (2/204) may be a consequence of the preferential targeting of *rpl/rps* genes by the nesting snoRNAs in many species (see references below).

1. Yoshihama M, Uechi T, Asakawa S, Kawasaki K, Kato S et al. 2002. The human ribosomal protein genes: Sequencing and comparative analysis of 73 genes. *Genome Res* 12: 379–390.
2. Zemann A, op de Bekke A, Kiefmann M, Brosius J, Schmitz J. 2006. Evolution of small nucleolar RNAs in nematodes. *Nucleic Acids Res* 34: 2676–2685.
3. Wang PPS, Ruvinsky I. 2010. Computational prediction of *Caenorhabditis* box H/ACA snoRNAs using genomic properties of their host genes. *RNA*. 16:290-298.

Supplementary Table S4 Sequence identity between paralogous *C. elegans* snRNAs and between *C. elegans* snRNAs and the their closest *D. melanogaster* homolog.

Grp	Number of RNAs	RNA function	Sequence identity within alignable region	Overall sequence identity	Sequence identity with best match in <i>D.mel</i>
1	18	SL2	67 – 99%	68 – 99%	-
2	12	U1	90 – 100%	90 – 100%	69 – 72%
3	21	U6	74 – 100%	76 – 100%	~94%
4	3	-	74 – 79%	72 – 83%	-
5	1		-	-	-
6	20	U2	89 – 100%	89 – 100%	71 – 78%
7	5	U4	97 – 100%	97 – 100%	74 – 75%
8	11	U5	89 – 100%	88 – 100%	69 – 75%
9	13	SL1	96 – 100%	67 – 100%	-
10	4	-	76 – 92%	73 – 94%	-
11	21	-	63 – 94%	51 – 95%	-
12	1	-	-	-	-

(-) not found.

Supplementary Table S5 Birth and death of individual snoRNA genes

Column abbreviations See Supplementary Table S1

Color key

	Gene gain (duplication)
	Gene loss (but not family loss, another copy exists elsewhere)
	Gene family loss (no copies of the gene are found anywhere in the genome)
	Unnested genes, not counted

Grp	Type	Arr	<i>C. elegans</i>	<i>C. briggsae</i>	<i>C. remanei</i>	<i>C. brenneri</i>	<i>C. japonica</i>	L	G	Comments	
18	H/ACA	18A	cel_sno018	cbr_sno135	cre_sno110	cbn_sno081	cja_sno072				
		18B	cel_sno137						1	Duplication within same host (16 to 17)	
24	H/ACA	24A	cel_sno024	cbr_sno072	cre_sno107	cbn_sno053					
		24B	cel_sno040				cja_sno034	1		Gene loss in <i>C. briggsae</i> – <i>C. brenneri</i> clade	
29	C/D	29A	cel_sno030	cbr_sno105	cre_sno102	cbn_sno176	cja_sno078				
		29B				cbn_sno103			1	Distant duplication (chr I to chr X)	
45	H/ACA	45A	cel_sno050	cbr_sno095	cre_sno084		cja_sno108			Gene family loss in <i>C. brenneri</i>	
47	H/ACA	47A	cel_sno052		cre_sno064	cbn_sno087	cja_sno030	1		Gene loss in <i>C. briggsae</i>	
		47B	cel_sno053	cbr_sno108	cre_sno065	cbn_sno203	cja_sno029				
57	C/D	57A				cbn_sno231	cja_sno131	1		Gene family loss in <i>C. briggsae</i> and <i>C. remanei</i> . Gene loss in <i>C. elegans</i> .	
		57B				cbn_sno230			1	Duplication within same host (13 to 11)	
		57C	cel_sno065						1	Duplication within same host (13 to 16)	
59	C/D	59A	cel_sno067	cbr_sno005	cre_sno052			1		Gene loss in <i>C. brenneri</i>	
		59B		cbr_sno099	cre_sno159	cbn_sno168	cja_sno054	1		Gene loss in <i>C. elegans</i>	
		59C			cre_sno024				1	Distant duplication (chr II to chr V)	
65	C/D	65A	cel_sno073						1	3 genes away from 65B.	
		65B		cbr_sno156		cbn_sno067		2		Gene loss in <i>C. remanei</i> and <i>C. elegans</i> (assuming this is ancestral state)	
		65C			cre_sno128				1	Distant duplication (40kb away from 65A)	
70	H/ACA	70A	cel_sno145	cbr_sno004	cre_sno053	cbn_sno034	cja_sno092				
		70B	cel_sno078						1	Duplication within same host (13 to 11)	
74	H/ACA	74A				cbn_sno002	cja_sno138	2		Gene losses in <i>C. elegans</i> and <i>C. briggsae</i> - <i>C. remanei</i> clade.	
		74B				cbn_sno003			1	Duplication within same host (13 to 11)	
		74C	cel_sno083						1	Duplication within same host (13 to 16)	
		74D		cbr_sno074	cre_sno099				-		(unnested genes, only included here to show the gene family is not lost in <i>C. briggsae</i>)
		74E			cre_sno097				1	Duplication to neighboring gene	
96	C/D	96D	cel_sno107	cbr_sno066	cre_sno063	cbn_sno027	cja_sno080				
			cel_sno120			cbn_sno026	cja_sno081	1		Gene loss in <i>C. briggsae</i> – <i>C. brenneri</i> clade	
				cbr_sno067	cre_sno062			1		Same host duplication (as 96B, from I4 to I3)	
101	C/D	101A	cel_sno113	cbr_sno080	cre_sno105		cja_sno110	1		Gene loss in <i>C. brenneri</i>	
		101B		cbr_sno079	cre_sno104		cja_sno002	2		Gene loss in <i>C. elegans</i> and <i>C. brenneri</i>	
		101D				cbn_sno019			1	Distant duplication (chr IV to chr III)	
107	H/ACA	107A	cel_sno125						1	Duplication to neighboring gene (neighbors in <i>C. elegans</i> but not in the <i>C. briggsae</i> – <i>C. brenneri</i> clade)	
		107B		cbr_sno048	cre_sno118	cbn_sno004	cja_sno125	1		Gene loss in <i>C. elegans</i>	
114	C/D	114A	cel_sno090	cbr_sno028	cre_sno005	cbn_sno093	cja_sno038				
		114B				cbn_sno094			1	Same host duplication (as 114A, I2 to I3)	
		114C	cel_sno132	cbr_sno076	cre_sno103	cbn_sno239	cja_sno026				
		114D				cbn_sno240			1	Same host duplication (as 114C, I4 to I3, flanking exon E4 also duplicated)	
128	H/ACA	128A	cel_sno148	cbr_sno103	cre_sno100		cja_sno024	1		Gene loss in <i>C. brenneri</i>	
		128B	cel_sno157		cre_sno101	cbn_sno178		1		Gene loss in <i>C. briggsae</i>	

C. japonica was only used to when the ancestral (i.e. common ancestor of the other four species) state was ambiguous. “L” and “G” refer to inferred loss and gain events (only between two-gene and single-gene states), respectively.

Supplementary Table S6 Conservation of nested miRNA arrangements

Column abbreviations Sanger Sanger miRBase ID for miRNAs
(others) See Supplementary Table S1

Color key Y Arrangement conserved
N Arrangement not conserved
 C. elegans-specific miRNA. Not expected to be found in other nematodes.

<i>C. elegans</i> nested miRNA arrangements					Conservation in		
Arr	Host gene (WB)	Host transcript (WB)	Rank	RNA (Sanger)	<i>Cbr</i>	<i>Cre</i>	<i>Cbn</i>
1	WBGene00001121	M04C9.5	5	cel-mir-1019	N	Y	Y
2	WBGene00001336	Y41E3.4	2	cel-mir-1833			
3	WBGene00001520	K09A9.5	5	cel-mir-1829a			
4	WBGene00001536	ZK455.2	18	cel-mir-254	Y	Y	Y
5	WBGene00002241	F10C2.2	1	cel-mir-87	Y	Y	Y
6	WBGene00004062	T10H9.5a	1	cel-mir-70	Y	Y	Y
7	WBGene00004436	D1007.12.1	3	cel-mir-353	Y	Y	Y
8	WBGene00004705	C18D11.4.1	3	cel-mir-1832			
9	WBGene00006552	Y66A7A.8	1	cel-mir-272			
10	WBGene00006987	EGAP1.3	3	cel-mir-67	Y	Y	Y
11	WBGene00007801	C29E6.2	4	cel-mir-124	Y	Y	Y
12	WBGene00008443	E01F3.1b	3	cel-mir-273			
13a	WBGene00008878	F16A11.3a	5	cel-mir-71	Y	Y	Y
13b				cel-mir-2	Y	Y	Y
14	WBGene00008975	F20D1.3	2	cel-mir-1829b			
15	WBGene00009552	F39B1.1	20	cel-mir-1829c			
16	WBGene00009901	F49E12.8	2	cel-mir-85	Y	Y	Y
17	WBGene00011564	T07C5.1b	3	cel-mir-62	Y	Y	Y
18	WBGene00011803	T16G12.1	6	cel-mir-1020			
19	WBGene00011908	T22A3.5	6	cel-mir-1828	N	Y	Y
20	WBGene00012135	T28F3.9	2	cel-mir-789-2			
21	WBGene00012226	W03G11.4.1	3	cel-mir-233	Y	Y	Y
22	WBGene00012596	Y38E10A.18	6	cel-mir-267			
23	WBGene00013119	Y51H4A.25a	3	cel-mir-789-1			
24	WBGene00013228	Y56A3A.7a	9	cel-mir-86	Y	Y	Y
25	WBGene00013387	Y62F5A.9	2	cel-mir-41 cel-mir-40 cel-mir-39 cel-mir-37 cel-mir-36 cel-mir-38 cel-mir-35	6 RNAs	5 RNAs	4 RNAs
26	WBGene00013415	Y64G10A.6	1	cel-mir-798			
27	WBGene00013604	Y87G2A.18	2	cel-mir-1824			
28	WBGene00015116	B0286.3	1	cel-mir-1830			
29	WBGene00015796	C15F1.5a	7	cel-mir-1831	N	Y	Y
30	WBGene00017568	F18E9.1	1	cel-mir-799			
31a	WBGene00017797	F25G6.2	5	cel-mir-357	Y	Y	Y
31b				cel-mir-358	Y	Y	N
32	WBGene00018199	F39E9.7	2	cel-mir-260			
33	WBGene00018427	F44E7.5a	1	cel-mir-253	Y	Y	Y
34	WBGene00019128	F59G1.4	9	cel-lin-4	Y	Y	Y
35	WBGene00020301	T07D1.2.1	2	cel-mir-82	Y	Y	Y
36			6	cel-mir-81	Y	Y	Y
37	WBGene00021990	Y59E1B.1	1	cel-mir-1018			
38	WBGene00022058	Y67D8A.1.1	4	cel-mir-58	Y	Y	Y
39	WBGene00022151	Y71G12B.11a	8	cel-mir-50	Y	Y	Y
40	WBGene00022650	ZK84.2	3	cel-mir-1822	Y	Y	Y
41	WBGene00043534	W02B12.13	4	cel-mir-252	Y	Y	Y

Supplementary Table S7 Conservation of snRNA loci in *Drosophila*

Color key	Y	Arrangement conserved
	N	Arrangement not conserved
	Y	Arrangement partially conserved*
Abbreviations	<i>Dpse</i>	<i>D. pseudoobscura</i>
	<i>Dvir</i>	<i>D. virilis</i>

<i>snRNA loci in D. melanogaster</i>			Conserved in:	
snRNA family	snRNA gene	Genomic environment	<i>Dpse</i>	<i>Dvir</i>
Single-gene families				
U11	U11	Nested inside <i>Fie</i>	Y	Y
U12	U12:73B	Nested inside <i>Baldspot</i>	Y	Y
U4atac	U4atac:82E	Nested inside <i>cno</i>	Y	Y
U6atac	U6atac:29B	Located between CG42819 and CG42820	Y	Cannot determine
Multi-gene families				
U1	U1-95Cb U1-95Cc	Two paralogous genes nested inside CG34355**	Y	Partial*
	U1-21D	Located between <i>Lsp1beta</i> and <i>GluRIIC</i>	Partial	Partial
	U1-82Eb	Located between <i>Cdep</i> and <i>Ubc06</i>	N	N
	U1-95Ca	Located between CG34355 and <i>Pli</i>	Y	Y
U2	U2-14B	Located between <i>disco</i> and CG12507 (same as U5-14B)	N	N
	U2-34ABa	Located between CB15482 and <i>kek4</i>	N	N
	U2-34ABb	Located between <i>kek4</i> and CG9426	Y	Y
	U2-34ABc	Located between CG5945 and CG16820 (same as U5-34A)	Y	N
	U2-38ABa	Located between CG13962 and CG13958 (same as U5-38ABb)	N	Partial
	U2-38ABb	Located between <i>fs(2)ltoPP43</i> and CG13958 (same as U5-38ABa and U4-38AB)	Y	Partial
U4	U4-25F	Located between <i>GluRIIB</i> and CG14011	Y	Y
	U4-38AB	Located between CG13962 and CG13958 (same as U2-38ABb and U5-38ABa)	N	Partial
	U4-39B	Nested inside CG8678 (near CG8679, which is also nested)	Y	Y
U5	U5-14B	Located between <i>disco</i> and CG12507 (same as U2-14B)	N	N
	U5-23D	Nested inside <i>v(2)k05816</i>	N	N
	U5-34A	Located between CG5945 and CG16820 (same as U2-34ABc)	Y	Y
	U5-35D	Located between <i>l(2)35Di</i> and <i>l(2)35Df</i>	N	N
	U5-38ABa	Located between <i>fs(2)ltoPP43</i> and CG13958	Y	Partial
	U5-38ABb	Located between CG13962 and CG13958 (same as U2-38ABa)	N	Partial
	U5-63BC	Located between CG11486 and <i>Ch7</i>	Y	Y
U6	U6-96Aa	Nested inside <i>Esyt2</i> (I12)	Y	Y
	U6-96Ab U6-96Ac	Two tandem paralogous copies located downstream from <i>Esyt2</i> **	Y	Y

*Partial conservation denotes cases when one of the flanking genes (or exons for nested genes) is present, but the other is either absent or poorly conserved. This may be due to incomplete genome coverage, rather than genomic re-organization or gene death.

** In cases where two or more paralogous genes are located within the same intron or intergenic region, they were considered as a single arrangement.