Figure S1: MUSCLE alignment of *ITS-5.8S-ITS2* for *Trichuris* sp. isolated from a range of hosts. Sequence differences between *T. trichiuris H. sapiens* (Cameroon) and *Trichuris sp P. ursinus CP-GOB*, are highlighted by black rectangles. Single nucleotide polymorphism differences (SNP) between *T. trichiuris H. sapiens* (China) and *Trichrus sp P. ursinus DGI-III* and are indicated by red rectangles. Loci with Variable number of tandem repeats (VNTR) are similarly indicated. The 5.8S region is indicated by a blue rectangle.

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                                        10        20        30        40        50        60        70        80        90
                                .....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  ATCAGAAC---------------ACAGCAACAGCAGCACAAAGCGGCCGTAGCTGCCGT-------------------------------------GC
Trichuris sp. P. ursinus DGI G  ATCAGAAC---------------ACAGCAACAGCAGCACAAAGCGGCCGTAGCTGCCGT-------------------------------------GC
Trichuris sp. P. ursinus DGII   ATCAGAAC---------------ACAGCAACAGCAGCACAAAGCGGCCGTAGCTGCCGT-------------------------------------GC
Trichuris sp. P. ursinus DGIII  ATCAGAAC---------------ACAGCAACAGCAGCACAAAGCGGCCGTAGCTGCCGT-------------------------------------GC

T. trichiura H. sapiens GQ3015  ATCAGAACACACACACACACACACACACCAACGGCAACGCAGAGCAGTAG-------CTT-------------------------------------GT
Trichuris sp. P. ursinus CP-GO  ATCAGAAC---------------ACACCAACGGCAACGCAGAGCAGTAG-------CTT-------------------------------------GT
                                        CP-GOB VNTR-1

T. trichiura N. gabriellae FM9  ATCAGAGC---------------ACATTAACGGCAACGCAGGGCAGTAG-------CGT-------------------------------------GC
T. trichiura C. guereza FM9919  ATCAGAGC---------------ACATTAACGGCAACGCAGGGCAGTAG-------CGT-------------------------------------GC

T. suis S. scrofa AM993016 Chi  ATCAGAAC---------------ACACCAACGGCAACGCAGAGCAGTAG-------CGT-------------------------------------GT
T. suis S. scrofa AM993012 Chi  ATCAGAAC---------------ACACCAACGGCAACGCAGAGCAGTAG-------CGT-------------------------------------GT

T. ovis O. aries JF680987 Irel  ATCAGAACTCCAACAACA------ACAACAACCGTTACGAGAAGTTGTTG-------CTTCAAAAGGCTGCTTGAGATTTGGACTGCTGCTGACAGCGGC
T. discolor cattle AB367795 Ja  ATCAGAACTCGAACA--------ACAACAACCGTTACGAGAAGTTGTTG-------CTTCTAAGGGCCGTTCGAGATTTGGACTGCTGCTGGCAGCGGC
T. discolor C. crispus AB36779  ATCAGAACTCGAACA--------ACAACAACCGTTACGAGACGTTGTTG-------CTTCTAAGGGCCGTTCGAGATTTGGACTGCTGCTGGCAGCGGC
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                                         110       120       130       140       150       160       170       180       190
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  GTTGTAGGCGCTGCTCCGCTGGCCTGCTAG-------------------------------------------------CAGCAGCAGCAGCAGCAGCAGC
Trichuris sp. P. ursinus DGI G  GTTGTAGGCGCTGCTCCGCTGGCCTGCTAG-------------------------------------------------CAGCAGCAGCAGCAGCAGCAGC
Trichuris sp. P. ursinus DGII   GTTGTAGGCGCTGCTCCGCTGGCCTGCTAG-------------------------------------------------------CAGCAGCAGCAGCAGC
Trichuris sp. P. ursinus DGIII  GTTGTAGGCGCTGCTCCGCTGGCCTGCTAG-------------------------------------------------------------CAGCAGCAGCAGC
                                                                                                                          DG-VNTR1

T. trichiura H. sapiens GQ3015  GCTG-----------TCGCT-------------------------------------------------------------------------------GC
Trichuris sp. P. ursinus CP-GO  GCTG-----------TCGCT-------------------------------------------------------------------------------GC

T. trichiura N. gabriellae FM9  GTTG-----------CCGCTG--CTGCTT-----------------------------------------------------------------------GCGGC
T. trichiura C. guereza FM9919  GTTG-----------CCGCTG--CTGCTT-----------------------------------------------------------------------GCGGC

T. suis S. scrofa AM993016 Chi  GTTG-----------CCGCCG--CTGCTTG-----------------------------------------------------CAGCAGTAGCAGCAGCAGCAGC
T. suis S. scrofa AM993012 Chi  GTTG-----------CCGCCG--CTGCTTG-----------------------------------------------------CAGCAGTAGCAGCAGCAGCAGC

T. ovis O. aries JF680987 Irel  GGTGGACAGACGGCCCGGTCAGCGTGTTCGACATGGGCGCTGTTGCTGCGCGCAGCGCTGCTTTGCGGCAGAACTTCCTCGGCAGCCTTTGCTTGCGAGC
T. discolor cattle AB367795 Ja  GGTGGACAGACGACTCGGTCAGCGTATTTGACGTGGGCGCTGTCGCTGCGCGTAGCGCTGCTTTGCGGCGGAACTTCCTCGGCGGCTGATGTTTGCGAGC
T. discolor C. crispus AB36779  GGTGGACAGACGACTCGGTCAGCGTATTTGACGTGGGCGCTGTCGCTGCGCGTAGCGCTGCTTTGCGGCGGAACTTCCTCGGCGGCTGATGTTTGCGAGC

                                         210       220       230       240       250       260       270       280       290
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  AGCAGCAGGCGCTGGTGT-GGCGTTTGCTC-----------------------------------------------------------------GGTC
Trichuris sp. P. ursinus DGI G  AGCAGCAGGCGCTGGTGT-GGCGTTTGCTC-----------------------------------------------------------------GGTC
Trichuris sp. P. ursinus DGII   AGCAGCAGGCGCTGGTGT-GGCGTTTGCTC-----------------------------------------------------------------GGTC
Trichuris sp. P. ursinus DGIII  AGCAGCAGGCGCTGGTGT-GGCGTTTGCTC-----------------------------------------------------------------GGTC

T. trichiura H. sapiens GQ3015  ATCATCGGGTGCTGGT---GACGCTCGTTGCTTCGGCAGTGTGGCGT--TCACAGTCGGCCGC-------------------------GTACTTTGGCT
Trichuris sp. P. ursinus CP-GO  ATCATCGGGTGCTGGT---GACGCTCGTTGCTTCAGCAGTGTGGCGT--TCGCAGTCGGCCGC-------------------------GTACTTCGGCT

T. trichiura N. gabriellae FM9  GGCACAGGGTGCCGGT---GACGCCCGTTTCTACGGC-----------------------------------------------------------GGCG
T. trichiura C. guereza FM9919  GGCACAGGGTGCCGGT---GACGCTCGTTTCTACGGC-----------------------------------------------------------GGCG

T. suis S. scrofa AM993016 Chi  AGCGTCAGGTGCTGGTGACGACGCTCGTTCGTCCGGCATTGTGGCGTGTTCGCAGTTGGCCGCC----------------------CCGTACTTGGGCG
T. suis S. scrofa AM993012 Chi  AGCGTCGGGTGCTGGTGACGACGCTCGTTCGTCCGGCATTGTGGCGTGCTCGCAGTTGGCCGCC----------------------CCGTACTTGGGCG

T. ovis O. aries JF680987 Irel  AGCATGGGATGTCGACGACGACGACGGCGGCGGCGGCGACGTTGGCTCTATGCGGTTGCGAGC-----------------------GCTTGCTTGCTTT
T. discolor cattle AB367795 Ja  AGTATGGGACGTTGACGAGGACGGCGGCGGCGACGTTAGCTCCGTGTGGTTGCAAGCGCTAGTCGGCCCAGCATCGGCCGTCGATAACTGAGCTTGCTTT
T. discolor C. crispus AB36779  AGTATGGGACGTTGACGAGGACGGCGGCGGCGACGTTAGCTCCGTGTGGTTGCAAGCGCTAGTCGGCCCAGCATCGGCCGTCGATAACTGAGCTTGCTTT
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                                        310       320       330       340       350       360       370       380       390
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  CGAT-----------------------GCGAGCAACGTCCGCCG------GCTT-----ACAGTTCCAGGTCTGAAGAGCGCAGGCGGCGGC----
Trichuris sp. P. ursinus DGI G  CGAT-----------------------GCGAGCAACGTCCGCCG------GCCT-----ACAGTTCCAGGTCTGAAGAGCGCAGGCGGCGGCGGC-
Trichuris sp. P. ursinus DGII   CGAT-----------------------GCGAGCAACGTCCGCCG------GCTT-----ACAGTTCCAGGTCTGAAGAGCGCAGGCGGCGGC----
Trichuris sp. P. ursinus DGIII  CGAT-----------------------GCGAGCAACGTCCGCCG------GCTT-----ACAGTTCCAGGTCTGAAGAGCGCAGGCGGCGGC----
                                                                                   SNP1                                DG-VNTR2

T. trichiura H. sapiens GQ3015  CGACATGAGCGCGCGTTGCCGCTGCCGAGGAGAACGGCGTGCACGGTTGCAGCACCA-----GCACTTCCAGATCCGAAGAGCA--GGCCGCGCTGGCT
Trichuris sp. P. ursinus CP-GO  CGACACGAGCGCGCGTTGCCGCTGCTGCCGAGAACAGCGTGCACCGTT---GCACCA-----GCACTTCCAGATCCGAAGAGCA--GGCCGCGCTTGCT

T. trichiura N. gabriellae FM9  CGACGTGAGCGCGCGTTGCCACTGCC---GAGAGCAGCGTCCACCGTT---GCACCA-----GCAGTTCCAGATCCGAAGAGCA--GGTCGCGCTGACC
T. trichiura C. guereza FM9919  CGACGTGAGCGCGCGTTGCCACTGCC---GAGAGCAGCGTCCACCGTT---GCACCA-----GCAGTTCCAGATCCGAAGAGCA--GGTCGCGCTGACC

T. suis S. scrofa AM993016 Chi  CGACGTGAGCGCGCGTTGCCACTGCC---GTGAGCAGCGTCCACCGTT---GCACCA-----CCACTTCCAGATCCGAAGCGCA--GGCCGCGCTGGCT
T. suis S. scrofa AM993012 Chi  CGACGTGAGCGCGCGTTGCCACTGCC---GTGAGCAGCGTCCACCGTT---GCACCA-----CCACTTCCAGATCCGAAGCGCA--GGCCGCGCTGGCT

T. ovis O. aries JF680987 Irel  CTAC-----CGTGAGCTTTCACCACCGCAGG-----ACGTTCGTCGTTCTTCTACCATGCTGCTTACTTCCAGATCTTAAGGC----GATCGCTCCCGCT
T. discolor cattle AB367795 Ja  CTAC-----CGTGAGCTTTCACCACCGCAGC-----ATGTTCGCCCTTGTTCTACCATGCTGCTTACTTCCAGATCTTAAGGC----GAACGCTCCCGTT
T. discolor C. crispus AB36779  CTAC-----CGTGAGCTTTCACCACCGCAGC-----ATGTTCGCCCTTGTTCTACCATGCTGCTTACTTCCAGATCTTAAGGC----GAACGCTCCCGTT

                                        410       420       430       440       450       460       470       480       490
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  ----TCGTTC-CGCCCGGCG-GGCGAGTCGTCGATCGTCGCTGTCACCGCC-----------------------TCGATCAGGCAGCAGCAATTTT
Trichuris sp. P. ursinus DGI G  ----TCGTTC-CGCCCGGCG-GGCGAGTCGTCGATCGTCGCCGTCACCGGC-----------------------TCGATCAGGCAGCAGCGGTTTT
Trichuris sp. P. ursinus DGII   ----TCGTTC-CGCCCGGCG-GGCGAGTCGTCCATCGTCGCCGTCACCGGC-----------------------TCGATCAGGCAGCAGCAATTTT
Trichuris sp. P. ursinus DGIII  ----TCGTTC-CGCCCGGCG-GGCGAGTCGTCGATCGTCGCCGTCACCGGC-----------------------TCGATCAGGCAGCAGCAATTTT
                                                                          SNP2                                                SNP3-4

T. trichiura H. sapiens GQ3015  ACGGTCGTCC-CGCGCTGCTCGACGACTACGTGGCTACCGCCAGTACGACCGGCTGCAGACGGACGACTGCTGCTGCGTAGCTCAGTCAGCTAGCACCAG
Trichuris sp. P. ursinus CP-GO  ACGGTCGTCC-CGCGCTGCTCGACGACTACGCGGCTACCGCCAGT-CGACCGGCTGCAGACGAACGA---CTGCGTAGTAGCTCAGGCAGCTAGCACCAG

T. trichiura N. gabriellae FM9  ACGGTCGACC-TGCGCCGCT---CGACACGGTGACCACCAGCAGTACGGCCGGCTGCAGACGGACGA---CTGC---GCGGCTGAGTCAGCCAGCATCGT
T. trichiura C. guereza FM9919  ACGGTCGACC-TGCGCCGCT---CGACACGGTGACCACCAGCAGTACGGCCGGCTGCAGACGGACGA---CTGC---GCGGCTGAGTCAGCCAGCATCGT

T. suis S. scrofa AM993016 Chi  ACGGTCGTCC-TGCGCCGCT---TGACTCGGTGATCACCACCAGTACGACCGGCTGCAGACGGACGA---CTGC---GTGGCTGAGTCAGTCGGCATCGT
T. suis S. scrofa AM993012 Chi  ACGGTCCTCC-TGCGCCGCCGCTTGACTCGGTGATCACCACCAGTACGACCGGCTGCAGACGGACGA---CTGC---GTGGCTGAGTCAGTCGGCATCGT

T. ovis O. aries JF680987 Irel  ACCACCGTGAAAGCTCGGAGCAAC-------------------CGTTCAGCCACAGCTG-------CGGTCGTGTAGCTCAG-CTGCTGGTGGAAA
T. discolor cattle AB367795 Ja  ATCACCAGGCAAGCTCGGCAAGCATGGTACGCGATCAAC------CGTTCAGCCTCAGCTG-------CGGTCGCGTAGCTCAG-CTCCTGGTGGCAA
T. discolor C. crispus AB36779  ATCACCAGGCAAGCTCGGCAAGCATGGTACGCGATCAAC------CGTTCAGCCTCAGCTG-------CGGTCGCGTAGCTCAG-CTCCTGGTGGCAA
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                                         510       520       530       540       550       560       570       580       590
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  CA------------------CTTGCTGCTCGCCGCCTGCGCGCAGT---CACCGGTACCTGTTCCGTTGTGGCCTCCGTGGCTGCGGCAGTTTGGATCT
Trichuris sp. P. ursinus DGI G  CA------------------CTTGCTGCTCGCCGCCTGCGCGCAGT---CACCGGTACCTGTTCCGTTGTGGCCTCCGTGGCTGCGGCAGTTTGGATCT
Trichuris sp. P. ursinus DGII   CA------------------CTTGCTGCTCGCCGCCTGCGCGCAGT---CACCGGTACCTGTTCCGTTGTGGCCTCCGTGGCTGCGGCAGTTTGGATCT
Trichuris sp. P. ursinus DGIII  CA------------------CTTGCTGCTCGCCGCCTGCGCGCAGT---CACCGGTACCTGTTCCGTTGTGGCCTCCGTGGCTGCGGCAGTTTGGATCT

T. trichiura H. sapiens GQ3015  CACCGGCAGCCGCTAGACGTCCGTGCTCGCGCGCGCCTGCCAACAACGATGACCGGTACCTGTTCCGTCTGGGCCTCAGTAGCTGCGGCAGTGTGGATCT
Trichuris sp. P. ursinus CP-GO  CA------GCCGCTAGGCGTCCGTGCT--CGCGCGCCTGCCAACAACGATGACCGGTACCTGTTCCGTCTGGGCCTCAGTAGCTGCGGCAGTGTGGATCT

T. trichiura N. gabriellae FM9  CG-----AGCGGCCGGACGTCCGTGTT--CCCGCGCCTGCCAACAACGATGACCGGTACCTGCTCCGTCTGGGCCTCAGTAGCTGCGGCAGTGTGGATCT
T. trichiura C. guereza FM9919  CG-----AGCGGCCGGACGTCCGTGTT--CCCGCGCCTGCCAACAACGATGACCGGTACCTGCTCCGTCTGGGCCTCAGTAGCTGCGGCAGTGTGGATCT

T. suis S. scrofa AM993016 Chi  CGCGG----------GACGTCCGTGCT--TGCTCGCCTGCCAACAAC---GACCGGTACCTGTTCCGTCTGGGCCTCAGTGGCTGCGGCAGTGTGGATCT
T. suis S. scrofa AM993012 Chi  CGCGG----------GACGTCCGTGCT--TGCTCGCCTGCCAACAAC---GACCGGTACCTGTTCCGTCTGGGCCTCAGTGGCTGCGGCAGTGTGGATCT

T. ovis O. aries JF680987 Irel  TGCGGTTAG-----------CGCGTTTTTATTCGCCT--------TGATAGACGGTACCTGTTCCGTTTGGGCTTCACTGGCAGCGGCAGTGTAGATCT
T. discolor cattle AB367795 Ja  TGCGGTTAG-----------CGCGTT--TATTCGCCT--------TGATAGACGGTACCTGTTCCGTTTGGGCTTCACTGGCAGCGGCAGTGTAGATCT
T. discolor C. crispus AB36779  TGCGGTTAG-----------CGCGTT--TATTCGCCT--------TGATAGACGGTACCTGTTCCGTTTGGGCTTCACTGGCAGCGGCAGTGTAGATCT

                                         610       620       630       640       650       660       670       680       690
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  GGCTGTCGTTAGCGCCGCCGGTTGCAGTCGACCGTGCTGCCCCGC------CA--GTAGTTGCAC-----------TGGCGCTGAAGAAGCAGCGGCTAG
Trichuris sp. P. ursinus DGI G  GGCTGTCGTTAGCGCCGCCGGTTGCAGTCGACCGTGCTGCCCCGC------CA--GTAGTTGCAC-----------TGGCGCTGAAGAAGCAGCGGCTAG
Trichuris sp. P. ursinus DGII   GGCTGTCGTTAGCGCCGCCGGTTGCAGTCGACCGTGCTGCCCCGC------CA--GTAGTTGCAC-----------TGGCGCTGAAGAAGCAGCGGCTAG
Trichuris sp. P. ursinus DGIII  GGCTGTCGTTAGCGCCGCCGGTTGCAGTCGACCGTGCTGCCCCGC------CA--GTAGTTGCAC-----------TGGCGCTGAAGAAGCAGCGGCTAG

T. trichiura H. sapiens GQ3015  GGCTGCCGTCAGCGCCGCCGGTTGCAACCGACCGTGCTGCTGCGG-GCTGTCATCA-CGTCGCCGACCGCCCCCGGTGGCGTTGATGATGC---GGCATG
Trichuris sp. P. ursinus CP-GO  GGCTGCCGTCAGCGCCGCCGGTTGCAACCGACCTTGCTGCTGCGG-GCTGTCATCA-CGTCGCCGACCGCCCCCGGTGGCGTTGATGATGC---GGCA-G

T. trichiura N. gabriellae FM9  GGCTGCCGTCAGCGCCGCCGGTTGCAGCCGACCGTGCCGTCGCGA-GCTGTCATCA-CGTCGCCGACCGCTCCCGGTGGCGTTGATGAAGCGGCGGCACG
T. trichiura C. guereza FM9919  GGCTGCCGTCAGCGCCGCCGGTTGCAGCCGACCGTGCCGTCGCGA-GCTGTCATCA-CGTCGCCGACCGCTCCCGGTGGCGTTGATGAAGCGGCGGCACG

T. suis S. scrofa AM993016 Chi  GGCTGCCGTTAGCGCCGCCGGTTGCAGCCGACCGTGCTGCTGCGG-GTTTTCATCA-CGTCGCCGAGC-CCCCCGGTGGCGTCGATGAA---GCGGCATG
T. suis S. scrofa AM993012 Chi  GGCTGCCGTTAGCGCCGCCGGTTGCAGCCGACCGTGCTGCTGCGG-GTTTTCATCA-CGTCGCCGAGC-CCCCCGGTGGCGTCGATGAA---GCGGCATG

T. ovis O. aries JF680987 Irel  GGCTGCCGCTTGCGCCGCCGGTTGCAGACGACAACGTTGCTTCAGTTCCGTGATCAGCTTCGATGCATCTCCGGAGCGGAGACGCTACGACGCGGACTGG
T. discolor cattle AB367795 Ja  GGCTGTCGCTTGCGCCGCCGGTTGCAGACGACTGCGCTGCTTCAGTTCCGTGCTCAGCTTCGATGTATCTTCGGAGCGGAGACGCTACGATACGGACTGG
T. discolor C. crispus AB36779  GGCTGTCGCTTGCGCCGCCGGTTGCAGACGACTGCGCTGCTTCAGTTCCGTGCTCAGCTTCGATGTATCTTCGGAGCGGAGACGCTACGATACGGACTGG
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                                        710       720       730       740       750       760       770       780       790
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  C---G--------TCGACGAGGTTCAAAGAACAGCCGTT-----CGACCTCGAGC--ATCGAGG------ACGGCTCGTCGCCGGTTGGAAAAAGAAA
Trichuris sp. P. ursinus DGI G  C---G--------TCGACGAGGTTCAAAGAACAGCCGTT-----CGACCTCGAGC--ATCGAGG------ACGGCTCGTCGCCGGTTGGAAAAAGAAA
Trichuris sp. P. ursinus DGII   C---G--------TCGACGAGGTTCAAAGAACAGCCGTT-----CGACCTCGAGC--ATCGAGG------ACGGCTCGTCGCCGGTTGGAAAAAGAAA
Trichuris sp. P. ursinus DGIII  C---G--------TCGACGAGGTTCAAAGAACAGCCGTT-----CGACCTCGAGC--ATCGAGG------ACGGCTCGTCGCCGGTTGGAAAAAGAAA

T. trichiura H. sapiens GQ3015  CTATG--------TCGGTGAGGTTTAAAGAACGGCCGTT-----CG-CCTCCGTGAGCGAATCGGGGAAGGACGGCTCGTCGCCGGTTGG--------
Trichuris sp. P. ursinus CP-GO  CTATG--------TCGGTGAGGTTTAAAGAACGGCCGTT-----CG-CCTCCATGAGCGAATCGGGGAAGGACGGCTCGTCGCCGGTTGG--------

T. trichiura N. gabriellae FM9  ACACG--------TCGGTGAGGTGTAAGGAACGGCCGTT-----CG-CCACCTTGAGCGCACAAGAAAGCAACGGCTCGTCGCCGGTTGG--------
T. trichiura C. guereza FM9919  ACACG--------TCGGTGAGGTGTAAGGAACGGCCGTT-----CG-CCACCTTGAGCGCACAAGAAAGCAACGGCTCGTCGCCGGTTGG--------

T. suis S. scrofa AM993016 Chi  CTATG--------TCGGTGAGGTTTAAAGAACGGCCGTT-----CGAACTCGAGCGCATCG-AGGAACGCGACGGCTCGTCGCCGGTTGG--------
T. suis S. scrofa AM993012 Chi  CTATG--------TCGGTGAGGTTTAAAGAACGGCCGTT-----CGAACTCGAGCGCATCG-AGGAACGCGACGGCTCGTCGCCGGTTGG--------

T. ovis O. aries JF680987 Irel  CTGCGCGTATACGTTCGTCGAGGTTCAAAGAACGACTGTCGTGGGCGCCACGCTTGGCGCATCCA----TTGACGGATCGTCGCCGTTTGG--------
T. discolor cattle AB367795 Ja  CTGCGCGTATACGTTCGTCGAGGTTCAAAGAACGACTGTCGAGAGTGCGAGGCTTGGCGCACCCT----TCGACGGTTCGTCGCCGTCTGG--------
T. discolor C. crispus AB36779  CTGCGCGTATACGTTCGTCGAGGTTCAAAGAACGACTGTCGAGAGTGCGAGGCTTGGCGCACCCT----TCGACGGTTCGTCGCCGTCTGG--------

                                        810       820       830       840       850       860       870       880       890
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  AAGCAGCTTC--------ACCAGTGCACA-AGG---CGTCGTCCTACTACGCACGCCGATGTGCCTTCGACACGCAGACACTGCTGTCGGCGCAATGA
Trichuris sp. P. ursinus DGI G  AAGCAGCTTC--------ACCAGTGCACA-AGG---CGTCGTCCTACTACGCACGCCGATGTGCCTTCGACACGCAGACACTGCTGTCGGCGCAATGA
Trichuris sp. P. ursinus DGII   AAGCAGCTTC--------ACCAGTGCACA-AGG---CGTCGTCCTACTACGCACGCCGATGTGCCTTCGACACGCAGACACTGCTGTCGGCGCAATGA
Trichuris sp. P. ursinus DGIII  AAGCAGCTTC--------ACCAGTGCACA-AGG---CGTCGTCCTACTACGCACGCCGATGTGCCTTTGACACGCAGACACTGCTGTCGGCGCAATGA
                                                                                                   SNP5

T. trichiura H. sapiens GQ3015  ---ATCTTCC---TAAATGACCAATGCAGATAAG---CTGCGCTT--------CGCTGAAG----------CGTAGGAACGAATTGTTGAACG----
Trichuris sp. P. ursinus CP-GO  ---ATCTTCG---TTCATGACCAATGCAGATAAG---CTGCGCTT--------CGCTGAAGCGA-------CGCAGGAACGAATTGTTGAACT----

T. trichiura N. gabriellae FM9  ---ATCTCCG---TTTACGACCAATGCAGATAAG---CTGCGCTT--------CGCTGAAG----------CGCAGGAACGAACTGTTGAGCGATGA
T. trichiura C. guereza FM9919  ---ATCTCCG---TTTACGACCAATGCAGATAAG---CTGCGCTT--------CGCTGAAG----------CGCAGGAACGAACTGTTGAGCGATGA

T. suis S. scrofa AM993016 Chi  ---ATCTTCGTTATTAACGACCAATGCAGATAAG---CTGCGCTT--------CGTCGAAG----------TGCAGGAACTC---TTGAAAC-----
T. suis S. scrofa AM993012 Chi  ---ATCTTCGTTATTAACGACCAATGCAGATAAG---CTGCGCTT--------CGTCGAAG----------TGCAGGAACTC---TTGAAAC-----

T. ovis O. aries JF680987 Irel  ------------------ACCAGTACGCTTCGGTCCACTTCACACTA------CGCAACAACAGCGTTGCTCTGTATGAATTCGAATTGGGAAAGCAA
T. discolor cattle AB367795 Ja  ------------------ACCAGTACATTTCGGTCCACTTCACTCTA------CGCAACAACAGCGTTGCTCTGTACGAATTCGAACTGGGAAAGCAA
T. discolor C. crispus AB36779  ------------------ACCAGTACATTTCGGTCCACTTCACTCTA------CGCAACAACAGCGTTGCTCTGTACGAATTCGAACTGGGAAAGCAA
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                                        910       920       930       940       950       960       970       980       990
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  ------------------------------------------------------------------------------------------------------
Trichuris sp. P. ursinus DGI G  ------------------------------------------------------------------------------------------------------
Trichuris sp. P. ursinus DGII   ------------------------------------------------------------------------------------------------------
Trichuris sp. P. ursinus DGIII  ------------------------------------------------------------------------------------------------------

T. trichiura H. sapiens GQ3015  ------------------------------------------------------------------------------------------------------
Trichuris sp. P. ursinus CP-GO  ------------------------------------------------------------------------------------------------------

T. trichiura N. gabriellae FM9  TGACCGCCGGTACCTGTTCCGTCCGGGCCTCAGCGGCTGCGGCAGCGTGGATCAGGCTGCCGTTAGCGCCGCCGGTTGCAGCCGACCGTGCCGTCGCGAG
T. trichiura C. guereza FM9919  TGACCGCCGGTACCTGTTCCGTCCGGGCCTCAGCGGCTGCGGCAGCGTGGATCAGGCTGCCGTTAGCGCCGCCGGTTGCAGCCGACCGTGCCGTCGCGAG

T. suis S. scrofa AM993016 Chi  ------------------------------------------------------------------------------------------------------
T. suis S. scrofa AM993012 Chi  ------------------------------------------------------------------------------------------------------

T. ovis O. aries JF680987 Irel  CTGA--------------------------------------------------------------------------------------------------
T. discolor cattle AB367795 Ja  CTGA--------------------------------------------------------------------------------------------------
T. discolor C. crispus AB36779  CTGA--------------------------------------------------------------------------------------------------

                                        1010      1020      1030      1040      1050      1060      1070      1080      1090
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  ------------------------------------------------------------------------GCGCTAGTAGCATTCGAACTGCTGCTGTACGCGCAG--
Trichuris sp. P. ursinus DGI G  ------------------------------------------------------------------------GCGCTAGTAGCATTCGAACTGCTGCTGTACGCGCAG--
Trichuris sp. P. ursinus DGII   ------------------------------------------------------------------------GCGCTAGTAGCATTCGAACTGCTGCTGTACGCGCAG--
Trichuris sp. P. ursinus DGIII  ------------------------------------------------------------------------GCGCTAGTAGCATTCGAACTGCTGCTGTACGCGCAG--

T. trichiura H. sapiens GQ3015  ------------------------------------------------------------------------------------------------------
Trichuris sp. P. ursinus CP-GO  ------------------------------------------------------------------------------------------------------

T. trichiura N. gabriellae FM9  CTGTCATCACGTCGCCGACCGCTCCCGGTGGCGTTGATGCTGCGTCGTGCTATGTCGGTGAGGTGTAAAGAACGTCCGTTTGTCTCTTGAGCGCACCGAG
T. trichiura C. guereza FM9919  CTGTCATCACGTCGCCGACCGCTCCCGGTGGCGTTGATGCTGCGTCGTGCTATGTCGGTGAGGTGTAAAGAACGTCCGTTCGTCTCTTGAGCGCACCGAG

T. suis S. scrofa AM993016 Chi  ------------------------------------------------------------------------------------------------------
T. suis S. scrofa AM993012 Chi  ------------------------------------------------------------------------------------------------------

T. ovis O. aries JF680987 Irel  ------------------------------------------------------------------------------------------------------
T. discolor cattle AB367795 Ja  ------------------------------------------------------------------------------------------------------
T. discolor C. crispus AB36779  ------------------------------------------------------------------------------------------------------
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                                   1110      1120      1130      1140      1150      1160      1170      1180      1190
                          ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  ------------------------------------------------------------------------------------GAAAGTACA
Trichuris sp. P. ursinus DGI G  ------------------------------------------------------------------------------------GAAAGTACA
Trichuris sp. P. ursinus DGII   ------------------------------------------------------------------------------------GAAAGTACA
Trichuris sp. P. ursinus DGIII  ------------------------------------------------------------------------------------GAAAGTACA

T. trichiura H. sapiens GQ3015  ------------------------------------------------------------------------------------ATGATGACA
Trichuris sp. P. ursinus CP-GO  ------------------------------------------------------------------------------------ACGATGACA

T. trichiura N. gabriellae FM9  GAGAGACGGCTCGTCGCCGGTTGGATCTTCGTTAACGACCAATGCAGATAAGCTGCGCCTTCGTCGAACTGCGAAAACGGACTATTGACTGACGATGACA
T. trichiura C. guereza FM9919  GAGAGACGGCTCGTCGCCGGTTGGATCTTCGTTAACGACCAATGCAGATAAGCTGCGCCTTCGTCGAACTGCGAAAACGGACTACTGACTGACGATGACA

T. suis S. scrofa AM993016 Chi  ------------------------------------------------------------------------------------ATGATGACA
T. suis S. scrofa AM993012 Chi  ------------------------------------------------------------------------------------ATGATGACA

T. ovis O. aries JF680987 Irel  ------------------------------------------------------------------------------------ACAGAGACA
T. discolor cattle AB367795 Ja  ------------------------------------------------------------------------------------ATAGAGACA
T. discolor C. crispus AB36779  ------------------------------------------------------------------------------------ATAGAGACA

                                   1210      1220      1230      1240      1250      1260      1270      1280      1290
                          ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  TTCCGAACGGTGGATCACTTGGCTCGTAGATCGTTGAAGAACGACGTGACACTCGAGAATTGACGTGAATTGCAGACACACCGAACTTGAATACTTTGAA
Trichuris sp. P. ursinus DGI G  TTCCGAACGGTGGATCACTTGGCTCGTAGATCGTTGAAGAACGACGTGACACTCGAGAATTGACGTGAATTGCAGACACACCGAACTTGAATACTTTGAA
Trichuris sp. P. ursinus DGII   TTCCGAACGGTGGATCACTTGGCTCGTAGATCGTTGAAGAACGACGTGACACTCGAGAATTGACGTGAATTGCAGACACACCGAACTTGAATACTTTGAA
Trichuris sp. P. ursinus DGIII  TTCCGAACGGTGGATCACTTGGCTCGTAGATCGTTGAAGAACGACGTGACACTCGAGAATTGACGTGAATTGCAGACACACCGAACTTGAATACTTTGAA

T. trichiura H. sapiens GQ3015  TTCCGAACGGCGGATCACTTGGCTCGTAGGTCGTTGAAGAACGACGTGACACTCGAGAATTGATGTGAATTGCAGACACACTGAACTTGAATACTTTGAA
Trichuris sp. P. ursinus CP-GO  TTCCGAACGGCGGATCACTTGGCTCGTAGGTCGTTGAAGAACGACGTGACACTCGAGAATTGATGTGAATTGCAGACACACTGAACTTGAATACTTTGAA

T. trichiura N. gabriellae FM9  TTCCGAACGGCGGATCACTTGGCTCGTAGGTCGTTGAAGGACGACGTGACACTCGAGAATTGATGTGGATTGCAGACACACTGAACTTGAATACTTTGAA
T. trichiura C. guereza FM9919  TTCCGAACGGCGGATCACTTGGCTCGTAGGTCGTTGAAGGACGACGTGACACTCGAGAATTGATGTGAATTGCAGACACACTGAACTTGAATACTTTGAA

T. suis S. scrofa AM993016 Chi  TTCCGAACGGCGGATCACTTGGCTCGTAGATCGTTGAAGAACGACGTGACACTCGAGAATTGATGTGAATTGCAGACACACTGAACTTGAATACTTTGAA
T. suis S. scrofa AM993012 Chi  TTCCGAACGGCGGATCACTTGGCTCGTAGATCGTTGAAGAACGACGTGACACTCGAGAATTGATGTGAATTGCAGACACACTGAACTTGAATACTTTGAA

T. ovis O. aries JF680987 Irel  TTCCGAACGGCGGATCACTTGGCTCGTAGGTCGTTGAAGAACGACGTGACACTCGAGAATTGATGTGAATTGCAGACACACTGAACTTGAATACTTTGAA
T. discolor cattle AB367795 Ja  TTCCGAACGGCGGATCACTTGGCTCGTAGGTCGTTGAAGAACGACGTGACACTCGAGAATTGATGTGAATTGCAGACACACTGAACTTGAATACTTTGAA
T. discolor C. crispus AB36779  TTCCGAACGGCGGATCACTTGGCTCGTAGGTCGTTGAAGAACGACGTGACACTCGAGAATTGATGTGAATTGCAGACACACTGAACTTGAATACTTTGAA
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5.8S

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                                   1310      1320      1330      1340      1350      1360      1370      1380      1390
                          ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  CGCACATTGCAGCGTCGATCAAAGATGTCGACGCTACGCCTGTCTGAGGGTCGTTAAGCATAATAGCGAATGCGCCGCTCAG------GCTACAG---GT
Trichuris sp. P. ursinus DGI G  CGCACATTGCAGCGTCGATCAAAGATGTCGACGCTACGCCTGTCTGAGGGTCGTTAAGCATAATAGCGAATGCGCCGCTCAG------GCTACAG---GT
Trichuris sp. P. ursinus DGII   CGCACATTGCAGCGTCGATCAAAGATGTCGACGCTACGCCTGTCTGAGGGTCGTTAAGCATAATAGCGAATGCGCCGCTCAG------GCTACAG---GT
Trichuris sp. P. ursinus DGIII  CGCACATTGCAGCGTCGATCAAAGATGTCGACGCTACGCCTGTCTGAGGGTCGTTAAGCATAATAGCGAATGCGCCGCTCAG------GCTACAG---GT

T. trichiura H. sapiens GQ3015  CGCACATTGCAGCGTCGACGAACCATGTCGACGCTACGCCTGTCTGAGGGTCGTTACGAAATAAAGCAAATGCGCCGCTCAGCAGGCTGCTACTGCCGCT
Trichuris sp. P. ursinus CP-GO  CGCACATTGCAGCGTCGACGAACCATGTCGACGCTACGCCTGTCTGAGGGTCGTTACGAAATAAAGCAAATGCGCCGCTCAGGCTGCTGCTGCTGCCTCT

T. trichiura N. gabriellae FM9  CGCACATTGCAGCGTCGACGAACCATGTCGACGCTACGCCTGTCTGAGGGTCGTTACGATGTAAAGCAAATGCGCCGCTCAG------GCTTCCGCCCGT
T. trichiura C. guereza FM9919  CGCACATTGCGGCGTCGACGAACCATGTCGACGCTACGCCTGTCTGAGGGTCGTTACGATGTAAAGCAAATGCGCCGCTCAG------GCTTCCGCCCGT

T. suis S. scrofa AM993016 Chi  CGCACATTGCAGCGTCGACGAAACATGTCGACGCTACGCCTGTCTGAGGGTCGTTACGAAATAAAGCAAATGCGCCGCTCAG------GCTTCGGCG-CT
T. suis S. scrofa AM993012 Chi  CGCACATTGCAGCGTCGACGAAACATGTCGACGCTACGCCTGTCTGAGGGTCGTTACGAAATAAAGCAAATGCGCCGCTCAG------GCTTCGGCG-CT

T. ovis O. aries JF680987 Irel  CGCACATTGCAGCGTCGATCAAACATGTCGGCGCTACGCCTGTCTGAGGGTCGTTATCGAC--ACGCAATTG---CGCTCAGGCTGACGCCACCGTGGCT
T. discolor cattle AB367795 Ja  CGCACATTGCAGCGTCGATCAAACATGTCGGCGCTACGCCTGTCTGAGGGTCGTTACCGAC--ACGCAATTG---CGCTCAGGCTGACGCCACCGTGGCT
T. discolor C. crispus AB36779  CGCACATTGCAGCGTCGATCAAACATGTCGGCGCTACGCCTGTCTGAGGGTCGTTACCGAC--ACGCAATTG---CGCTCAGGCTGACGCCACCGTGGCT

                                   1410      1420      1430      1440      1450      1460      1470      1480      1490
                          ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|

T. trichiura H. sapiens AM9929  TGAG------------------GTTGGTGGCGAGCA--CCGGACAAACCTGCATCCGCGC--G--CGAGC----GAGCGTGACGCCGCAGCTCCGTTG
Trichuris sp. P. ursinus DGI G  TGAG------------------GTTGGTGGCGAGCA--CCGGACAAACCTGCATCCGCGC--G--CGAGC----GAGCGTGACGCCGCAGCTCCGTTG
Trichuris sp. P. ursinus DGII   TGAG------------------GTTGGTGGCGAGCA--CCGGACAAACCTGCATCCGCGC--G--CGAGC----GAGCGTGACGCCGCAGCTCCGTTG
Trichuris sp. P. ursinus DGIII  TGAG------------------GTTGGTGGCGAGCA--CCGGACAAACCTGCATCCGCGC--G--CGAGC----GAGCGTGACGCCGCAGCTCCGTTG

T. trichiura H. sapiens GQ3015  GGGA----------------ACTAGCGGTAGCAAGCAGCGCGGGTACGGCTGCCCGTTGGTTGGTCTCAGC----GAGCGCGACGCCGCAGCTGCTCCT
Trichuris sp. P. ursinus CP-GO  TGGA----------------GCTAGCGGTAGCAAGCAGCGCGGGTACGCTTGCCCGTTGGGCGC--TGAGC----GAGCGCGACGCCGCAGC------T

T. trichiura N. gabriellae FM9  TGGACATGCACTGTCCGTGCCGCTAGCGGTAGCAAGCAGCGCGGACGCGGCTACTCCCGTGT--C--TGAGC----GAGCGCGACGCCGCAGGTCGTCCT
T. trichiura C. guereza FM9919  TGGACATGCACTGTCCGTGCCGCTAGCGGTAGCAAGCAGCGCGGACGCGGCTACTCCCGTGT--C--TGAGC----GAGCGCGACGCCGCAGGTCGTCCT

T. suis S. scrofa AM993016 Chi  TGGACTTGCACGGTCCGTGCAGCTAGCTGTAGCAAGCGGCGCGGATACGGCTACCCGAGGCT--G--TGAGC----GAGCGCGACGCCGAGGCTCCTCCT
T. suis S. scrofa AM993012 Chi  TGGACTTGCACGGTCCGTGCAGCTAGCGGTAGCAAGCGGCGCGGATACGGCTACCCGAGGCT--G--TGAGC----GAGCGCGACGCCGAGGCTCCTCCT

T. ovis O. aries JF680987 Irel  TAGG----------------------TACTTGAAGCTACGCG----TGGCGGCACGC---------TACGCCTCTAAGCGCTACGCTGC---------T
T. discolor cattle AB367795 Ja  TCGG----------------------TACAGGAAGCTGCGCG----TGGCGGCACGA---------TGCGCCTCTGAGCGTTACGCTGC---------T
T. discolor C. crispus AB36779  TCGG----------------------TACAGGAAGCTGCGCG----TGGCGGCACGA---------TGCGCCTCTGAGCGTTACGCTGC---------T
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                                        1510      1520      1530      1540      1550      1560      1570      1580      1590
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  CCAG---CGAGCCG-CGATGGCA-----------------ACTGGTAGGCGG---AG---CAGCGGAGAGCGGCCAAGTCAGCGTAGGGCGAAGACT
Trichuris sp. P. ursinus DGI G  CCAG---CGAGCCG-CGATGGCA-----------------ACTGGTAGGCGG---AG---CAGCGGAGAGCGGCCAAGTCAGCGTAGGGCGAAGACT
Trichuris sp. P. ursinus DGII   CCAG---CGAGCCG-CGATGGCA-----------------ACTGGTAGGCGG---AG---CAGCGGAGAGCGGCCAAGTCAGCGTAGGGCGAAGACT
Trichuris sp. P. ursinus DGIII  CCAG---CGAGCCG-CGATGGCA-----------------ACTGGTAGGCGG---AG---CAGCGGAGAGCGGCCAAGTCAGCGTAGGGCGAAGACT

T. trichiura H. sapiens GQ3015  GCTGCTACTGGCAG-CGACGGCAG--GTGGCCGTCATCGCTGACAGGCAGCCGC---AGCTTCTGCGGAGAGCGGCTAACTCAGCGCAGTACGGAAGCT
Trichuris sp. P. ursinus CP-GO  GCTG---CTGGCAG-CGACGGCAG--GTGGCCGTCATCGCTGACAGGCAGCCGG---AG---CTGCGGAGAGCGGCCAACTCAGCGCAGTACGGAAGCT

T. trichiura N. gabriellae FM9  GCTG------GCAG-CGACGGCAG--GTGTTCGCTATCGCTGCCAGGCAGACGG---AC---CAGCGGAGAGCGGCTAACTCAGCGCAGCACGGAAGCT
T. trichiura C. guereza FM9919  GCTG------GCAG-CGACGGCAG--GTGTTCGCTATCGCTGCCAGGCAGACGG---AC---CAGCGGAGAGCGGCTAACTCAGCGCAGCACGGAAGCT

T. suis S. scrofa AM993016 Chi  GCTG---CTAGCAG-CGACGGCAG--GTGCCCGTCATCGCTGGCAGGCAGCCGG---AG---CTGCGGAGAGCGGCTAACTCAGCGCAGTACGGAAGCT
T. suis S. scrofa AM993012 Chi  GCTG---CTAGCAG-CGACGGCAG--GTGCCCGTCATCGCTGGCAGGCAGCCGG---AG---CTGCGGAGAGCGGCTAACTCAGCGCAGTACGGAAGCT

T. ovis O. aries JF680987 Irel  GCTG---ATGGCGGTCGAGTGCCGCTGGGTCAGCCGCAGCTGACCGGCAGCCGCTACTAG---CAGCGGAGAGCAGTCGGCTCGGCAGAGAACGTAGGCT
T. discolor cattle AB367795 Ja  GCTG---ATGGCGGTCGAGTGCCGCTGGGCCAGCCGCAGCTGGCCGGCAACCGCTACTAG---CAGCAGAGAGCAGTCGGCTCGGCGGAGAACGTAGGCC
T. discolor C. crispus AB36779  GCTG---ATGGCGGTCGAGTGCCGCTGGGCCAGCCGCAGCTGGCCGGCAACCGCTACTAG---CAGCAGAGAGCAGTCGGCTCGGCGGAGAACGTAGGCC

                                        1610      1620      1630      1640      1650      1660      1670      1680      1690
                                ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929  ACCCGACTTGGCTAC-CGGCCGCGCCGTCG---GCGTACAGC-------------AGTTGAGCAGGGAGCGGTGAC----CGCACGCGCT----CGTAG
Trichuris sp. P. ursinus DGI G  ACCCGACTTGGCTAC-CGGCCGCGCCGTCG---GCGTACAGC-------------AGTTGAGCAGGGAGCGGTGAC----CGCACGCGCT----CGTAG
Trichuris sp. P. ursinus DGII   ACCCGACTTGGCTAC-CGGCCGCGCCGTCG---GCGTACAGC-------------AGTTGAGCAGGGAGCGGTGAC----CGCACGCGCT----CGTAG
Trichuris sp. P. ursinus DGIII  ACCCGACTTGGCTAC-CGGCCGCGCCGTCG---GCGTACAGC-------------AGTTGAGCAGGGAGCGGTGAC----CGCACGCGCT----CGTAG

T. trichiura H. sapiens GQ3015  GCCCGAGTTGGCTATGTCGCTACATCGTCA---GCGTAAAGCCGGCGAACG---ACCGTTGACCACCGAGCGACCAC--TGCGGGCGCGAG----CGCAG
Trichuris sp. P. ursinus CP-GO  GCCCGAGTTGGCTATGTCGCTACATCGTCA---GCGTAAAGCGCGCGACCG---ACCGTTGACCACCGAGCAACCAT--CGCGTGCGCGAG----CGCAG

T. trichiura N. gabriellae FM9  GCCCGAGTCGGCTACGTCGCCGCGTCGTCG---------GC--GCGACCG---TCCGTTGACCACCGAGCGACCAT----CGCAATCGAG----CGCAG
T. trichiura C. guereza FM9919  GCCCGAGTCGGCTACGTCGCCGCGTCGTCG---------GC--GCGACCG---TCCGTTGACCACCGAGCGACCAT----CGCAATCGAG----CGCAG

T. suis S. scrofa AM993016 Chi  GCCCGAGTTGGCTACGTCGCTACATCGTCGTCAGCGTACAGC--GCGACTGAGTTGTTTTCACCACCGAGCGACCACCCCGCGCGCGCGAC----CGTAG
T. suis S. scrofa AM993012 Chi  GCCCGAGTTGGCTACGTCGCTACATCGTCGTCAGCGTACAGC--GCGACTGAGTTGTTTTCACCACCGAGCGACCACCCCGCGCGCGCGCGCGACCGTAG

T. ovis O. aries JF680987 Irel  TTCCGAGTCGGCTTTTTACCCTCCTAATCG-------CGGC-----------GCAGGCGACCATCGAGAAACGGC-----------------TGCAA
T. discolor cattle AB367795 Ja  TTCCGAGTCGACTTTTCATGCTCGTAATCG-------CGGC-----------GCAGGCGACCATCGAGAAACGGC-----------------TGCAA
T. discolor C. crispus AB36779  TTCCGAGTCGACTTTTCATGCTCGTAATCG-------CGGC-----------GCAGGCGACCATCGAGAAACGGC-----------------TGCAA
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                                   1710      1720      1730      1740      1750      1760      1770      1780      1790
                                   ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929     CAGCAAGTGTTCGTCGTC-GTTGCACGG---CAGCAGCAGCAGCAGCAGCAGTCGAC--GACGACGACGACGAAACCGTTCGCCTTGCTGCG------GC
Trichuris sp. P. ursinus DGI G     CAGCAAGTGTTCGTCGTA-GTTGCACGGCAGCAGCAGCAGCGGCAGCAGCAGTCGAC--GACGACGACGACGAAACCGTTCGCCTTGCTGCG------GC
Trichuris sp. P. ursinus DGII      CAGCAAGTGTTCGTCGTA-GTTGCACGGCAGCAGCAGCAGCGGCAGCAGCAGTCGAC--GACGACGACGACGAAACCGTTCGCCTTGCTGCG------GC
Trichuris sp. P. ursinus DGIII     CAGCAAGTGTTCGTCGTA-GTTGCACGGCAGCAGCAGCAGCGGCAGCAGCAGTCGAC-----GACGACGACGAAACCGTTCGCCTTGCTGCG------GC
                                                      SNP-6              DG-VNTR3                          DG-VNTR4

T. trichiura H. sapiens GQ3015     TCGTCCGTCTTCGTCGCC-GCCCCCTAG------ATCGACGGCAGCGGCAGTCGACTAGAGGACGACGACGGCGTCT---GC--TGCTACGCGCTCTGC
Trichuris sp. P. ursinus CP-GO     TCGTCCGTCTTCGTCGCC-GCCCCCTAG------ATCGACGGCAGCGGCAGTCGACTAGAAGACGACGACGGCGTCT---GC--TGCTACGCGCTCTGC

T. trichiura N. gabriellae FM9     TCGTCCGTCCTCGTTGCC-GCTCCCTAG------ATCGACGGCAGTGGCAGTCGACTAGTAGACGACGACGACGGCTGCTGC--TGCTACGCGATCCGC
T. trichiura C. guereza FM9919     TCGTCCGTCCTCGTTGCC-GCTCCCTAG------ATCGACGGCAGTGGCAGTCGACTAGTAGACGACGACGACGGCTGCTGC--TGCTACGCGATCCGC

T. suis S. scrofa AM993016 Chi     TCGTCCGTCTTCGTCACC-GGCCCCTAG------ATCGACGGCAGCAGCAGTCGACTAGTAGACGACGACG---------GC--TGCTACGCGCTCCGC
T. suis S. scrofa AM993012 Chi     TCGTCCGTCTTCGTCACCGGCCCCCTAG------ATCGACGGCAGCAGCAGTCGACTAGTAGACGATGACG---------GC--TGCTACGCGCTCCGC

T. ovis O. aries JF680987 Irel     -----AGTCGTCGGCATC-------------------------GAAACAGTCGACTTTCAGTCG-CGGCAA--------GCGTTGAT----------
T. discolor cattle AB367795 Ja     -----AGTCGTCGGCATC-------------------------GAAACAGTCGACTTTCAGTCG-CGGCAA--------GCGTTGAT----------
T. discolor C. crispus AB36779     -----AGTCGTCGGCATC-------------------------GAAACAGTCGACTTTCAGTCG-CGGCAA--------GCGTTGAT----------

                                   1810      1820      1830      1840      1850      1860      1870      1880      1890
                                   ....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|
T. trichiura H. sapiens AM9929     GGCGGGCACCGCTCGACCGACGACGGCGGCAAACGTTGCTGACACAC---TGCTACCGGTCAGGCGGCGAGCTGCCGGTA---GCGGCGTCTTTGCCGTT
Trichuris sp. P. ursinus DGI G     GGCGGGCACCGCTCGACCGACGACGGCGGCAAACGTTGCTGACACAC---TGCTACCGGTCAGGC---GAGCTGCCGGTA---GCGGCGTCTTTGCCGTT
Trichuris sp. P. ursinus DGII      GGCGGGCACCGCTCGACCGACGACGGCGGCAAACGTTGCTGACACAC---TGCTACCGGTCAGGC---GAGCTGCCGGTA---GCGGCGTCTTTGCCGTT
Trichuris sp. P. ursinus DGIII     GGCGGGCACCGCTCGACCGACGACGGCGGCAAACGTTGCTGACACAC---TGCTACCGGTCAGGC---GAGCTGCCGGTA---GCGGCGTCTTTGCCGTT
                                                                                                DG-VNTR5

T. trichiura H. sapiens GQ3015     AGCG------GCGATCTCGGCTGCGACGGCAAACGTTGCTGACACACCGCTGCTACCACTTGCTGCTGCTGCTGCTGGTAGCGGCGGCGTCTTTGCCGTA
Trichuris sp. P. ursinus CP-GO     GGCGGCGGCAGCGATCTCGGCTGCGACGGCAAACGTTGCTGACACACCGTTACTACCACT------TGTTGCTGCTGGTAGCAGCGGCGTCTTTGCCGTA
                                                                                                CP-GOB VNTR2

T. trichiura N. gabriellae FM9     GG--------------------CGGCGGCAAACGTTGCTGACACACCGCTACTACCGCT------TGCTGCTGCTGGTAGCGGCGGCGTCTTTGCCGTA
T. trichiura C. guereza FM9919     GG--------------------CGGCGGCAAACGTTGCTGACACACCGCTACTACCGCT------TGCTGCTGCTGGTAGCGGCGGCGTCTTTGCCGTA

T. suis S. scrofa AM993016 Chi     GGCG------GTCGTGGCTGCGCCGGCGGCAAACGTTGCTGACACTCCGCTACTACCACG---------TGCTGCTGGTAGCGGCGGCGTCTTTGCCGTA
T. suis S. scrofa AM993012 Chi     GGCG------GTCGTGGCTGCGCCGGCGGCAAACGTTGCTGACACTCCGCTACTACCACG---------TGCTGCTGGTAGCGGCGGCGTCTTTGCCGTA

T. ovis O. aries JF680987 Irel     --------------------TAAGGCAGTACGC---GCGGGCGTCCTGTCCTTGCCGGCTGCCGGTTTGGCTGCTGCT--CGGTGGAAGCTAG---GTG
T. discolor cattle AB367795 Ja     --------------------TGAGGCAGTACGC---GCAGGCGTCCTGTCCTTGCCGGCTGCCCGTTTGGCTGCTGCT--CGGTGGAAGCTAG---TTG
T. discolor C. crispus AB36779     --------------------TGAGGCAGTACGC---GCAGGCGTCCTGTCCTTGCCGGCTGCCCGTTTGGCTGCTGCT--CGGTGGAAGCTAG---TTG
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                                        1910      1920      1930      1940      1950      1960
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T. trichiura H. sapiens AM9929  CGTCA---ACTAGCGGTTCGCCGCG---TGGCTC--CACCCGTAC----GTCTCCTCGATGTT
Trichuris sp. P. ursinus DGI G  CGTCA---ACTAGCGGTTCGCCGCG---TGGCTC--CACCCGTAC----GTCTCCTCGATGTT
Trichuris sp. P. ursinus DGII   CGTCA---ACTAGCGGTTCGCCGCG---TGGCTC--CACCCGTAC----GTCTCCTCGATGTT
Trichuris sp. P. ursinus DGIII  CGTCA---ACTAGCGGTTCGCCGCG---TGGCTC--CACCCGTAC----GTCTCCTCGATGTT

T. trichiura H. sapiens GQ3015  CGCTGGTCAGTCACGG-CCGCAACG---CCACTG--CGCTCCCGTTGTTGTCTCTTCG-TGTT
Trichuris sp. P. ursinus CP-GO  CGCTGGTCACCGTCGG-CCGCTACG---CCACTG--CGCTCTCGTTGTTGTGTCTTCG-TGTT

T. trichiura N. gabriellae FM9  CGCTGGTCACTCTCGG-CCGCCGCAAAGCGACTG--CGCTCCCGTTCTTGT-TGTTCG-TGTT
T. trichiura C. guereza FM9919  CGCTGGTCACTCTCGG-CCGCCGCAAAGCGACTG--CGCTCCCGTTCTTGT-TGTTCG-TGTT

T. suis S. scrofa AM993016 Chi  CAGTGGTGACTCTCGG-CCGCCGCAA--CAAGTG--CGCTCCCGTTGTTGT----TCG-TGTT
T. suis S. scrofa AM993012 Chi  CAGTGGTGACTCTCAG-CCGCCGCAA--CGAGTG--CGCTCCCGTTGTTGT----TCG-TGTT

T. ovis O. aries JF680987 Irel  CGCTGGT----------CCGCGGAA---CGAGTGGTCGCTTCTGC--------------TGTT
T. discolor cattle AB367795 Ja  CGCTGGT----------CCGCAGAA---CGAGTGGTCGCTTCTGC--------------TGTT
T. discolor C. crispus AB36779  CGCTGGT----------CCGCAGAA---CGAGTGGTCGCTTCTGC--------------TGTT
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