**Supporting Information Figure S2. Alignment of *SPPI* and recoded *SPPI* sequences**

 10 20 30 40 50 60

SPP1 TGCTGCATCGGGCTGATGCGACGGCGCTGCGGATTTTGCGTGAGCAGCATGTGGAATCAT

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recode TGCTGCACCGTGCCGATGCTACTGCGCTTCGTATACTTCGTGAGCAGCACGTCGAGAGCC

 70 80 90 100 110 120

SPPI TAGCCATGTCTGCACAAACAGGACCCATTAATTACATTAAAAAAACTTTTAAGGACATTG

 : :::::: :: :: :: :: ::::: :: :: :: :: :::::::: :::::::: :

recode TTGCCATGAGCGCGCAGACTGGTCCCATCAACTATATCAAGAAAACTTTCAAGGACATAG

 130 140 150 160 170 180

SPPI TTGATACAATGCCGGACAGACGCAACACCTTCTTAATGTTGGTAACTCTCTGCACATTCT

 : ::::: :::::::: : ::::: ::::: : ::: : :: :: :: ::::: ::::

recode TAGATACGATGCCGGATCGGCGCAATACCTTTCTTATGCTTGTGACACTTTGCACCTTCT

 190 200 210 220 230 240

SPPI TTGTTGGTTGGCGTACAGCCATCGCGGTGACCGATTGTGAAAGCCCACTTGTTGTGGTGC

 :::: ::::::::::: :: :: :: :: :: ::::::::: :::: : :: :: ::::

recode TTGTCGGTTGGCGTACGGCAATTGCAGTTACAGATTGTGAATCCCCATTGGTCGTTGTGC

 250 260 270 280 290 300

SPPI TCTCAGGAAGTATGGAACCCTTCATGTTTCGTGGTGACTTACTTGTTCTGCATAATATTG

 : :: ::::: :::::::: :: ::::: :: :: ::: : :: ::::: ::::: :: :

recode TGTCTGGAAGCATGGAACCTTTTATGTTCCGGGGCGACCTCCTCGTTCTTCATAACATAG

 310 320 330 340 350 360

SPPI GCGAACCCACGATGGGGGATGTCGTTGTTTTCTCTCTCCCCAACCGTACAATTCCAATCG

 : :: :: :: ::::: ::::: :: :: :: : :: ::::: :::::::: :: :

recode GTGAGCCAACAATGGGCGATGTGGTAGTGTTTAGCTTGCCTAACCGCACAATTCCTATTG

 370 380 390 400 410 420

SPPI TTCATCGCGTCCATCGCATTCGATTACTTGAGGACGGTGTGACTCGTTTGTACCTCACGA

 :::::::::: :: :: :: :: : : :: :: :: :: :::::::::::::: :: :

recode TTCATCGCGTGCACCGTATCCGCCTTTTGGAAGATGGGGTTACTCGTTTGTACCTTACAA

 430 440 450 460 470 480

SPPI AAGGGGATAACAATGAAATGGATGACCGTACATTATATCCGCGCGGATATCATTGGGTAG

 : :: :: :: :: :::::::: ::::::::::: ::::: :: :: ::::: ::::: :

recode AGGGCGACAATAACGAAATGGACGACCGTACATTGTATCCACGGGGTTATCACTGGGTGG

 490 500 510 520 530 540

SPPI AGAAAAAAGATATCATTGGGAAAGTTGCCGTGCTGGTGCCGCGGGTGGGTTTTATTACGC

 : :: ::::: :::::::::::::: :: ::::: :: :: :: ::::: ::::::::::

recode AAAAGAAAGACATCATTGGGAAAGTGGCTGTGCTCGTACCACGCGTGGGGTTTATTACGC

 550 560 570 580 590 600

SPPI TAATTGCCGAAGACCACTCATGGGCAAAACTTGTGCTTGTTCCACTGGCATTGATATGGT

 : ::::: ::::: ::: ::::: :: ::::: :: :: :: :::::: : :: ::::

recode TCATTGCGGAAGATCACAGCTGGGCGAAGCTTGTTCTGGTCCCGCTGGCACTCATTTGGT

 610 620

SPPI GCTGGTACACCGGAATGTAA

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recode GCTGGTATACGGGGATGTAA