

Supplementary Table 1. Multiple sequence alignments of nucleotide and chloroplast DNA sequences in *Perilla* subspecies.

Alignment was performed for a) ITS region (600bp), b) *matK* (951bp), c) *rbcL* (743bp), d) *trnH-psbA* (466bp), e) *rpoCF* (492bp), and f) *ycf* (381bp) using multiple sequence comparison by log expectation(MUSCLE v.3.4.31)[28].

a)

var. <i>japonica</i>	CGCGAACACGTGTTTAACATCATCGGACACGGCGTGGGGGAGACTCCCGTCGTGCACCGC	60
var. <i>acuta</i>	CGCGAACACGTGTTTAACATCATCGGACACGGCGTGGGGGAGACTCCCGTCGTGCACCGC	60
var. <i>crispa</i>	CGCGAACACGTGTTTAACATCATCGGACACGGCGTGGGGGAGACTCCCGTCGTGCACCGC	60
var. <i>viridis</i>	CGCGAACACGTGTTTAACATCATCGGACACGGCGTGGGGGAGACTCCCGTCGTGCACCGC	60

var. <i>japonica</i>	TCCCGCCGGAGTGCGCCCTCGGGCGTCGCACCGTGCGGGCTAACGAACCCGGCGCGGCA	120
var. <i>acuta</i>	TCCCGCCGGAGTGCGCCCTCGGGCGTCGCACCGTGCGGGCTAACGAACCCGGCGCGGCA	120
var. <i>crispa</i>	TCCCGCCGGAGTGCGCCCTCGGGCGTCGCACCGTGCGGGCTAACGAACCCGGCGCGGCA	120
var. <i>viridis</i>	TCCCGCCGGAGTGCGCCCTCGGGCGTCGCACCGTGCGGGCTAACGAACCCGGCGCGGCA	120

var. <i>japonica</i>	AGCGCCAAGGAAAACAAAATTTAGCGCCCGCCTTCCGCATCCCGTTCGCGGGGTGTGCGG	180
var. <i>acuta</i>	AGCGCCAAGGAAAACAAAATTTAGCGCCCGCCTTCCGCATCCCGTTCGCGGGGTGTGCGG	180
var. <i>crispa</i>	AGCGCCAAGGAAAACAAAATTTAGCGCCCGCCTTCCGCATCCCGTTCGCGGGGTGTGCGG	180
var. <i>viridis</i>	AGCGCCAAGGAAAACAAAATTTAGCGCCCGCCTTCCGCATCCCGTTCGCGGGGTGTGCGG	180

var. <i>japonica</i>	GGGGAATGGACGTCTATCGAATGTATAACGACTCTCGGCAACGGATATCTCGGCTCTCG	240
var. <i>acuta</i>	GGGGAATGGACGTCTATCGAATGTATAACGACTCTCGGCAACGGATATCTCGGCTCTCG	240
var. <i>crispa</i>	GGGGAATGGACGTCTATCGAATGTATAACGACTCTCGGCAACGGATATCTCGGCTCTCG	240
var. <i>viridis</i>	GGGGAATGGACGTCTATCGAATGTATAACGACTCTCGGCAACGGATATCTCGGCTCTCG	240

var. <i>japonica</i>	CATCGATGAAGAACGTAGCGAAATGCGATACTTGGTGTGAATTGCAGAATCCCGTGAACC	300
var. <i>acuta</i>	CATCGATGAAGAACGTAGCGAAATGCGATACTTGGTGTGAATTGCAGAATCCCGTGAACC	300
var. <i>crispa</i>	CATCGATGAAGAACGTAGCGAAATGCGATACTTGGTGTGAATTGCAGAATCCCGTGAACC	300
var. <i>viridis</i>	CATCGATGAAGAACGTAGCGAAATGCGATACTTGGTGTGAATTGCAGAATCCCGTGAACC	300

var. <i>japonica</i>	ATCGAGTCTTTGAACGCAAGTTGCGCCCGAAGCCATTAGGCCGAGGGCACGTCTGCCTGG	360
var. <i>acuta</i>	ATCGAGTCTTTGAACGCAAGTTGCGCCCGAAGCCATTAGGCCGAGGGCACGTCTGCCTGG	360
var. <i>crispa</i>	ATCGAGTCTTTGAACGCAAGTTGCGCCCGAAGCCATTAGGCCGAGGGCACGTCTGCCTGG	360
var. <i>viridis</i>	ATCGAGTCTTTGAACGCAAGTTGCGCCCGAAGCCATTAGGCCGAGGGCACGTCTGCCTGG	360

var. <i>japonica</i>	GCGTCACGCATCGCGTCGCCCCCTCCCCGCGCTGAGCGCTCGTGAGGGGGCGGATATT	420
var. <i>acuta</i>	GCGTCACGCATCGCGTCGCCCCCTCCCCGCGCTGAGCGCTCGTGAGGGGGCGGATATT	420
var. <i>crispa</i>	GCGTCACGCATCGCGTCGCCCCCTCCCCGCGCTGAGCGCTCGTGAGGGGGCGGATATT	420
var. <i>viridis</i>	GCGTCACGCATCGCGTCGCCCCCTCCCCGCGCTGAGCGCTCGTGAGGGGGCGGATATT	420

var. <i>japonica</i>	GGCCCCCGTGCGCCCTGGCGTGCGGTCGCCCCAAATGCGATCCCTCGACGACTCGTGTC	480
var. <i>acuta</i>	GGCCCCCGTGCGCCCTGGCGTGCGGTCGCCCCAAATGCGATCCCTCGACGACTCGTGTC	480
var. <i>crispa</i>	GGCCCCCGTGCGCCCTGGCGTGCGGTCGCCCCAAATGCGATCCCTCGACGACTCGTGTC	480
var. <i>viridis</i>	GGCCCCCGTGCGCCCTGGCGTGCGGTCGCCCCAAATGCGATCCCTCGACGACTCGTGTC	480

var. <i>japonica</i>	GCGACTAGTGGTGGTTGAATAGCTCAATCTCGTGTCTTGTGCTGCTACCGCGTCGTCCGA	540
var. <i>acuta</i>	GCGACTAGTGGTGGTTGAATAGCTCAATCTCGTGTCTTGTGCTGCTACCGCGTCGTCCGA	540
var. <i>crispa</i>	GCGACTAGTGGTGGTTGAATAGCTCAATCTCGTGTCTTGTGCTGCTACCGCGTCGTCCGA	540
var. <i>viridis</i>	GCGACTAGTGGTGGTTGAATAGCTCAATCTCGTGTCTTGTGCTGCTACCGCGTCGTCCGA	540

var. <i>japonica</i>	ATGGGGATCGAACAACGACCCAACGGTGTTCGTGCGTTACCGCACCGCACCTTCGACCGC	600
var. <i>acuta</i>	ATGGGAATCGAACAACGACCCAACGGTGTTCGTGCGTTACCGCACCGCACCTTCGACCGC	600
var. <i>crispa</i>	ATGGGAATCGAACAACGACCCAACGGTGTTCGTGCGTTACCGCACCGCACCTTCGACCGC	600
var. <i>viridis</i>	ATGGGAATCGAACAACGACCCAACGGTGTTCGTGCGTTACCGCACCGCACCTTCGACCGC	600

b)

var. <i>japonica</i>	CGATCTATTCAATCAATATTTCCCTTTTTAGAGGACAATTTTTCACATTTAAATTTTGTG	60
var. <i>acuta</i>	CGATCTATTCAATCAATATTTCCCTTTTTAGAGGACAATTTTTCACATTTAAATTTTGTG	60
var. <i>crispa</i>	CGATCTATTCAATCAATATTTCCCTTTTTAGAGGACAATTTTTCACATTTAAATTTTGTG	60
var. <i>viridis</i>	CGATCTATTCAATCAATATTTCCCTTTTTAGAGGACAATTTTTCACATTTAAATTTTGTG	60

var. <i>japonica</i>	TTAGATATACTAATACTCACTCTGTCCATGCGGAAATCTTGATTCAAATATTTCGCTGT	120
var. <i>acuta</i>	TTAGATATACTAATACTCACTCTGTCCATGCGGAAATCTTGATTCAAATATTTCGCTGT	120
var. <i>crispa</i>	TTAGATATACTAATACTCACTCTGTCCATGCGGAAATCTTGATTCAAATATTTCGCTGT	120
var. <i>viridis</i>	TTAGATATACTAATACTCACTCTGTCCATGCGGAAATCTTGATTCAAATATTTCGCTGT	120

var. <i>japonica</i>	TGGGTAAAAGATGTTTCTTCTTTGCATTATTACGAGTCTTTCTCAATGAATATTGTAAT	180
var. <i>acuta</i>	TGGGTAAAAGATGTTTCTTCTTTGCATTATTACGAGTCTTTCTCAATGAATATTGTAAT	180
var. <i>crispa</i>	TGGGTAAAAGATGTTTCTTCTTTGCATTATTACGAGTCTTTCTCAATGAATATTGTAAT	180
var. <i>viridis</i>	TGGGTAAAAGATGTTTCTTCTTTGCATTATTACGAGTCTTTCTCAATGAATATTGTAAT	180

var. <i>japonica</i>	TGGAATAGTCTTATTACTCCAAGAAAGTAAGCTCCTCTTTGTCAAAAAGAAATCAAAGA	240
var. <i>acuta</i>	TGGAATAGTCTTATTACTCCAAGAAAGTAAGCTCCTCTTTGTCAAAAAGAAATCAAAGA	240
var. <i>crispa</i>	TGGAATAGTCTTATTACTCCAAGAAAGTAAGCTCCTCTTTGTCAAAAAGAAATCAAAGA	240
var. <i>viridis</i>	TGGAATAGTCTTATTACTCCAAGAAAGTAAGCTCCTCTTTGTCAAAAAGAAATCAAAGA	240

var. <i>japonica</i>	CTCTTTTTTTCTTATATAATTCTTACGTATGTGAATACGAATCTGTTTTCGTCTTTCTA	300
var. <i>acuta</i>	CTCTTTTTTTCTTATATAATTCTTACGTATGTGAATACGAATCTGTTTTCGTCTTTCTA	300
var. <i>crispa</i>	CTCTTTTTTTCTTATATAATTCTTACGTATGTGAATACGAATCTGTTTTCGTCTTTCTA	300
var. <i>viridis</i>	CTCTTTTTTTCTTATATAATTCTTACGTATGTGAATACGAATCTGTTTTCGTCTTTCTA	300

var. <i>japonica</i>	CGTAACCAATCTTTTCATTTACGATCAACATCTTCTGGAGTCTTCTTGAACGAATCTAT	360
var. <i>acuta</i>	CGTAACCAATCTTTTCATTTACGATCAACATCTTCTGGAGTCTTCTTGAACGAATCTAT	360
var. <i>crispa</i>	CGTAACCAATCTTTTCATTTACGATCAACATCTTCTGGAGTCTTCTTGAACGAATCTAT	360
var. <i>viridis</i>	CGTAACCAATCTTTTCATTTACGATCAACATCTTCTGGAGTCTTCTTGAACGAATCTAT	360

var. <i>japonica</i>	TTTTATATAAAAATAAAAACAGAAGCTCTTGTGAACGTCTTTGTTTTGTTAAGGATTTG	420
var. <i>acuta</i>	TTTTATATAAAAATAAAAACAGAAGCTCTTGTGAACGTCTTTGTTTTGTTAAGGATTTG	420
var. <i>crispa</i>	TTTTATATAAAAATAAAAACAGAAGCTCTTGTGAACGTCTTTGTTTTGTTAAGGATTTG	420
var. <i>viridis</i>	TTTTATATAAAAATAAAAACAGAAGCTCTTGTGAACGTCTTTGTTTTGTTAAGGATTTG	420

var. <i>japonica</i>	CGGGCGAACCTAGGGTTGCTCGAGGAACCCTGTATGCATTATATTAGGTATCAAAGAAAA	480
var. <i>acuta</i>	CGGGCGAACCTAGGGTTGCTCGAGGAACCCTGTATGCATTATATTAGGTATCAAAGAAAA	480
var. <i>crispa</i>	CGGGCGAACCTAGGGTTGCTCGAGGAACCCTGTATGCATTATATTAGGTATCAAAGAAAA	480

var. <i>viridis</i>	CGGGCGAACCTAGGGTTGCTCGAGGAACCTGTATGCATTATATTAGGTATCAAAGAAAA *****	480
var. <i>japonica</i>	TCCATTCTGGCTTCAAAAAGGACATCTCTTTTCATGAATAAATGGAAATTTTACCTTGTC	540
var. <i>acuta</i>	TCCATTCTGGCTTCAAAAAGGACATCTCTTTTCATGAATAAATGGAAATTTTACCTTGTC	540
var. <i>crispa</i>	TCCATTCTGGCTTCAAAAAGGACATCTCTTTTCATGAATAAATGGAAATTTTACCTTGTC	540
var. <i>viridis</i>	TCCATTCTGGCTTCAAAAAGGACATCTCTTTTCATGAATAAATGGAAATTTTACCTTGTC *****	540
var. <i>japonica</i>	ACTTTTTGGCAATGGCATTTTTCGGTGTGGTTTCATCCAAGAAGGATTTGGATAAATCAA	600
var. <i>acuta</i>	ACTTTTTGGCAATGGCATTTTTCGGTGTGGTTTCATCCAAGAAGGATTTGGATAAATCAA	600
var. <i>crispa</i>	ACTTTTTGGCAATGGCATTTTTCGGTGTGGTTTCATCCAAGAAGGATTTGGATAAATCAA	600
var. <i>viridis</i>	ACTTTTTGGCAATGGCATTTTTCGGTGTGGTTTCATCCAAGAAGGATTTGGATAAATCAA *****	600
var. <i>japonica</i>	TTTTCCAAGCATTCCCTTGAAATTTTGGGCTATCTTTCAAACGTGCAAACGAACCTTCC	660
var. <i>acuta</i>	TTTTCCAAGCATTCCCTTGAAATTTTGGGCTATCTTTCAAACGTGCAAACGAACCTTCC	660
var. <i>crispa</i>	TTTTCCAAGCATTCCCTTGAAATTTTGGGCTATCTTTCAAACGTGCAAACGAACCTTCC	660
var. <i>viridis</i>	TTTTCCAAGCATTCCCTTGAAATTTTGGGCTATCTTTCAAACGTGCAAACGAACCTTCC *****	660
var. <i>japonica</i>	GTCGTGGTACGGAGTCAAATTCTAGAAAATTCATTTCTAATCAATAATACTATTAAGAAG	720
var. <i>acuta</i>	GTCGTGGTACGGAGTCAAATTCTAGAAAATTCATTTCTAATCAATAATACTATTAAGAAG	720
var. <i>crispa</i>	GTCGTGGTACGGAGTCAAATTCTAGAAAATTCATTTCTAATCAATAATACTATTAAGAAG	720
var. <i>viridis</i>	GTCGTGGTACGGAGTCAAATTCTAGAAAATTCATTTCTAATCAATAATACTATTAAGAAG *****	720
var. <i>japonica</i>	CTCGATACCCTTGTTCCAATTATTCTCTGATTGCGAAATTGGCTAAAGCGAAATTTTGT	780
var. <i>acuta</i>	CTCGATACCCTTGTTCCAATTATTCTCTGATTGCGAAATTGGCTAAAGCGAAATTTTGT	780
var. <i>crispa</i>	CTCGATACCCTTGTTCCAATTATTCTCTGATTGCGAAATTGGCTAAAGCGAAATTTTGT	780
var. <i>viridis</i>	CTCGATACCCTTGTTCCAATTATTCTCTGATTGCGAAATTGGCTAAAGCGAAATTTTGT *****	780
var. <i>japonica</i>	AATGTATTGGGGCATCCTATTAGTAAGCCGGTTCGGGCTGATTTATCAGATTCTAATATT	840
var. <i>acuta</i>	AATGTATTGGGGCATCCTATTAGTAAGCCGGTTCGGGCTGATTTATCAGATTCTAATATT	840
var. <i>crispa</i>	AATGTATTGGGGCATCCTATTAGTAAGCCGGTTCGGGCTGATTTATCAGATTCTAATATT	840
var. <i>viridis</i>	AATGTATTGGGGCATCCTATTAGTAAGCCGGTTCGGGCTGATTTATCAGATTCTAATATT *****	840
var. <i>japonica</i>	ATTGACCGATTTGGGCATATATGCAGAAATCTTTCTCATTATTATAGCGGATCTTCCAAA	900
var. <i>acuta</i>	ATTGACCGATTTGGGCATATATGCAGAAATCTTTCTCATTATTATAGCGGATCTTCCAAA	900
var. <i>crispa</i>	ATTGACCGATTTGGGCATATATGCAGAAATCTTTCTCATTATTATAGCGGATCTTCCAAA	900
var. <i>viridis</i>	ATTGACCGATTTGGGCATATATGCAGAAATCTTTCTCATTATTATAGCGGATCTTCCAAA *****	900
var. <i>japonica</i>	AAAAAGAGTTTGATCGAATAAATTATATACTTCGACTTTCGTGTGCTAGA	951
var. <i>acuta</i>	AAAAAGAGTTTGATCGAATAAATTATATACTTCGACTTTCGTGTGCTAGA	951
var. <i>crispa</i>	AAAAAGAGTTTGATCGAATAAATTATATACTTCGACTTTCGTGTGCTAGA	951
var. <i>viridis</i>	AAAAAGAGTTTGATCGAATAAATTATATACTTCGACTTTCGTGTGCTAGA *****	951

c)

var. <i>japonica</i>	ATGTCACCACAAACAGAACTAAAGCAAGTGTTGGATTCAAAGCGGGTGTTAAAGAGTAC	60
var. <i>acuta</i>	ATGTCACCACAAACAGAACTAAAGCAAGTGTTGGATTCAAAGCGGGTGTTAAAGAGTAC	60
var. <i>crispa</i>	ATGTCACCACAAACAGAACTAAAGCAAGTGTTGGATTCAAAGCGGGTGTTAAAGAGTAC	60
var. <i>viridis</i>	ATGTCACCACAAACAGAACTAAAGCAAGTGTTGGATTCAAAGCGGGTGTTAAAGAGTAC	60

var. <i>japonica</i>	AAATTGACTTATTATACTCCTGAATACGAAACCAAAGATACTGATATCTTGGCAGCATTT	120
var. <i>acuta</i>	AAATTGACTTATTATACTCCTGAATACGAAACCAAAGATACTGATATCTTGGCAGCATTT	120
var. <i>crispa</i>	AAATTGACTTATTATACTCCTGAATACGAAACCAAAGATACTGATATCTTGGCAGCATTT	120
var. <i>viridis</i>	AAATTGACTTATTATACTCCTGAATACGAAACCAAAGATACTGATATCTTGGCAGCATTT	120

var. <i>japonica</i>	CGAGTAACTCCTCAACCTGGAGTTCCGCCTGAAGAAGCAGGGGCCGCGGTAGCTGCCGAA	180
var. <i>acuta</i>	CGAGTAACTCCTCAACCTGGAGTTCCGCCTGAAGAAGCAGGGGCCGCGGTAGCTGCCGAA	180
var. <i>crispa</i>	CGAGTAACTCCTCAACCTGGAGTTCCGCCTGAAGAAGCAGGGGCCGCGGTAGCTGCCGAA	180
var. <i>viridis</i>	CGAGTAACTCCTCAACCTGGAGTTCCGCCTGAAGAAGCAGGGGCCGCGGTAGCTGCCGAA	180

var. <i>japonica</i>	TCTTCTACTGGTACATGGACAACGTGTGGACCGATGGACTTACCAGCCTTGATCGTTAC	240
var. <i>acuta</i>	TCTTCTACTGGTACATGGACAACGTGTGGACCGATGGACTTACCAGCCTTGATCGTTAC	240
var. <i>crispa</i>	TCTTCTACTGGTACATGGACAACGTGTGGACCGATGGACTTACCAGCCTTGATCGTTAC	240
var. <i>viridis</i>	TCTTCTACTGGTACATGGACAACGTGTGGACCGATGGACTTACCAGCCTTGATCGTTAC	240

var. <i>japonica</i>	AAAGGGCGATGCTACCACATCGAGCCCGTTATTGGAGAAAAGATCAATATATCTGTTAT	300
var. <i>acuta</i>	AAAGGGCGATGCTACCACATCGAGCCCGTTATTGGAGAAAAGATCAATATATCTGTTAT	300
var. <i>crispa</i>	AAAGGGCGATGCTACCACATCGAGCCCGTTATTGGAGAAAAGATCAATATATCTGTTAT	300
var. <i>viridis</i>	AAAGGGCGATGCTACCACATCGAGCCCGTTATTGGAGAAAAGATCAATATATCTGTTAT	300

var. <i>japonica</i>	GTAGCTTACCCTTTAGACCTTTTTGAAGAAGGTTCTGTTACTAACATGTTTACTTCCATT	360
var. <i>acuta</i>	GTAGCTTACCCTTTAGACCTTTTTGAAGAAGGTTCTGTTACTAACATGTTTACTTCCATT	360
var. <i>crispa</i>	GTAGCTTACCCTTTAGACCTTTTTGAAGAAGGTTCTGTTACTAACATGTTTACTTCCATT	360
var. <i>viridis</i>	GTAGCTTACCCTTTAGACCTTTTTGAAGAAGGTTCTGTTACTAACATGTTTACTTCCATT	360

var. <i>japonica</i>	GTAGGAAATGATTTGGATTCAAAGCCCTACGTGCTCTACGTCTGGAAGATCTGCGAATT	420
var. <i>acuta</i>	GTAGGAAATGATTTGGATTCAAAGCCCTACGTGCTCTACGTCTGGAAGATCTGCGAATT	420
var. <i>crispa</i>	GTAGGAAATGATTTGGATTCAAAGCCCTACGTGCTCTACGTCTGGAAGATCTGCGAATT	420
var. <i>viridis</i>	GTAGGAAATGATTTGGATTCAAAGCCCTACGTGCTCTACGTCTGGAAGATCTGCGAATT	420

var. <i>japonica</i>	CCTACTGCTTATATTTAAACTTTCCAAGGCCCGCCTCATGGGATCCAAGTTGAGAGAGAT	480
var. <i>acuta</i>	CCTACTGCTTATATTTAAACTTTCCAAGGCCCGCCTCATGGGATCCAAGTTGAGAGAGAT	480
var. <i>crispa</i>	CCTACTGCTTATATTTAAACTTTCCAAGGCCCGCCTCATGGGATCCAAGTTGAGAGAGAT	480
var. <i>viridis</i>	CCTACTGCTTATATTTAAACTTTCCAAGGCCCGCCTCATGGGATCCAAGTTGAGAGAGAT	480

var. <i>japonica</i>	AAATTAACAAGTACGGTCGTCTCTGCTGGGATGTACTATTAAACCTAAATTGGGGTTA	540
var. <i>acuta</i>	AAATTAACAAGTACGGTCGTCTCTGCTGGGATGTACTATTAAACCTAAATTGGGGTTA	540
var. <i>crispa</i>	AAATTAACAAGTACGGTCGTCTCTGCTGGGATGTACTATTAAACCTAAATTGGGGTTA	540
var. <i>viridis</i>	AAATTAACAAGTACGGTCGTCTCTGCTGGGATGTACTATTAAACCTAAATTGGGGTTA	540

var. <i>japonica</i>	TCTGCTAAAACTATGGTAGAGCGGTTTATGAATGTCTTCGCGGTGGACTTGATTTTACC	600
var. <i>acuta</i>	TCTGCTAAAACTATGGTAGAGCGGTTTATGAATGTCTTCGCGGTGGACTTGATTTTACC	600
var. <i>crispa</i>	TCTGCTAAAACTATGGTAGAGCGGTTTATGAATGTCTTCGCGGTGGACTTGATTTTACC	600
var. <i>viridis</i>	TCTGCTAAAACTATGGTAGAGCGGTTTATGAATGTCTTCGCGGTGGACTTGATTTTACC	600

var. <i>japonica</i>	AAAGATGATGAGAACGTGAACTCCCAGCCATTTATGCGTTGGAGAGACCGCTTCTTATTT	660
var. <i>acuta</i>	AAAGATGATGAGAACGTGAACTCCCAGCCATTTATGCGTTGGAGAGACCGCTTCTTATTT	660

var. <i>crispa</i>	AAAGATGATGAGAACGTGAACTCCAGCCATTTATGCGTTGGAGAGACCGCTTCTTATTT	660
var. <i>viridis</i>	AAAGATGATGAGAACGTGAACTCCAGCCATTTATGCGTTGGAGAGACCGCTTCTTATTT	660

var. <i>japonica</i>	TGTGCCGAAGCAATTTATAAAGCACAGGCTGAAACAGGTGAAATTAAGGGCATTACTTG	720
var. <i>acuta</i>	TGTGCCGAAGCAATTTATAAAGCACAGGCTGAAACAGGTGAAATTAAGGGCATTACTTG	720
var. <i>crispa</i>	TGTGCCGAAGCAATTTATAAAGCACAGGCTGAAACAGGTGAAATTAAGGGCATTACTTG	720
var. <i>viridis</i>	TGTGCCGAAGCAATTTATAAAGCACAGGCTGAAACAGGTGAAATTAAGGGCATTACTTG	720

var. <i>japonica</i>	AATGCTACTGCAGGTACATGCGA	743
var. <i>acuta</i>	AATGCTACTGCAGGTACATGCGA	743
var. <i>crispa</i>	AATGCTACTGCAGGTACATGCGA	743
var. <i>viridis</i>	AATGCTACTGCAGGTACATGCGA	743

d)

var. <i>japonica</i>	GTTATGCATGAACGTAATGCTCATAATTTCCCTCTAGACCTAGCTGCTATCGAAGCTCCA	60
var. <i>acuta</i>	GTTATGCATGAACGTAATGCTCATAATTTCCCTCTAGACCTAGCTGCTATCGAAGCTCCA	60
var. <i>crispa</i>	GTTATGCATGAACGTAATGCTCATAATTTCCCTCTAGACCTAGCTGCTATCGAAGCTCCA	60
var. <i>viridis</i>	GTTATGCATGAACGTAATGCTCATAATTTCCCTCTAGACCTAGCTGCTATCGAAGCTCCA	60

var. <i>japonica</i>	ACAAATGGCTAAGACTTGTTCTTAGTGTGTAGGAGTTTTGAAAATAGAATAGATAAATA	120
var. <i>acuta</i>	ACAAATGGCTAAGACTTGTTCTTAGTGTGTAGGAGTTTTGAAAATAGAATAGATAAATA	120
var. <i>crispa</i>	ACAAATGGCTAAGACTTGTTCTTAGTGTGTAGGAGTTTTGAAAATAGAATAGATAAATA	120
var. <i>viridis</i>	ACAAATGGCTAAGACTTGTTCTTAGTGTGTAGGAGTTTTGAAAATAGAATAGATAAATA	120

var. <i>japonica</i>	TAAGGAGCAATAAACCCCTTCTTGTTCTATCAAAAGAGGGTTATTGCTCCTTCATTTTC	180
var. <i>acuta</i>	TAAGGAGCAATAAACCCCTTCTTGTTCTATCAAAAGAGGGTTATTGCTCCTTCATTTTC	180
var. <i>crispa</i>	TAAGGAGCAATAAACCCCTTCTTGTTCTATCAAAAGAGGGTTATTGCTCCTTCATTTTC	180
var. <i>viridis</i>	TAAGGAGCAATAAACCCCTTCTTGTTCTATCAAAAGAGGGTTATTGCTCCTTCATTTTC	180

var. <i>japonica</i>	TTTTCAATTAGGAATCTTTTTCTATTTTTCTAGTAGTATTGGACTTATCTAGATTTTTT	240
var. <i>acuta</i>	TTTTCAATTAGGAATCTTTTTCTATTTTTCTAGTAGTATTGGACTTATCTAGATTTTTT	240
var. <i>crispa</i>	TTTTCAATTAGGAATCTTTTTCTATTTTTCTAGTAGTATTGGACTTATCTAGATTTTTT	240
var. <i>viridis</i>	TTTTCAATTAGGAATCTTTTTCTATTTTTCTAGTAGTATTGGACTTATCTAGATTTTTT	240

var. <i>japonica</i>	CTTTCATTATAGAAAAAGAAAGAAGATAAAAAATGATTCAAATCCATGTTTTGTTTTAC	300
var. <i>acuta</i>	CTTTCATTATAGAAAAAGAAAGAAGATAAAAAATGATTCAAATCCATGTTTTGTTTTAC	300
var. <i>crispa</i>	CTTTCATTATAGAAAAAGAAAGAAGATAAAAAATGATTCAAATCCATGTTTTGTTTTAC	300
var. <i>viridis</i>	CTTTCATTATAGAAAAAGAAAGAAGATAAAAAATGATTCAAATCCATGTTTTGTTTTAC	300

var. <i>japonica</i>	AATTTCTAAAAAATTCAAATTGAAAAAGTGAATTCGTAAATAAAAAGTCAATCAATTTT	360
var. <i>acuta</i>	AATTTCTAAAAAATTCAAATTGAAAAAGTGAATTCGTAAATAAAAAGTCAATCAATTTT	360
var. <i>crispa</i>	AATTTCTAAAAAATTCAAATTGAAAAAGTGAATTCGTAAATAAAAAGTCAATCAATTTT	360
var. <i>viridis</i>	AATTTCTAAAAAATTCAAATTGAAAAAGTGAATTCGTAAATAAAAAGTCAATCAATTTT	360

var. <i>japonica</i>	GAATTTAATAATAAATTTTCTAATATTAACCTCTAAATCTTCTATAGTAGAGGGCGGAT	420
var. <i>acuta</i>	GAATTTAATAATAAATTTTCTAATATTAACCTCTAAATCTTCTATAGTAGAGGGCGGAT	420

var. <i>crispa</i>	GAATTTAATATAAATTTTTCTAATATTAACCTCTAAATCTTTCTATAGTAGAGGGGCGGAT	420
var. <i>viridis</i>	GAATTTAATATAAATTTTTCTAATATTAACCTCTAAATCTTTCTATAGTAGAGGGGCGGAT	420

var. <i>japonica</i>	GTAGCCAAGTGGATCAAGGCAGTGGATTGTGAATCCACCATGCGCG	466
var. <i>acuta</i>	GTAGCCAAGTGGATCAAGGCAGTGGATTGTGAATCCACCATGCGCG	466
var. <i>crispa</i>	GTAGCCAAGTGGATCAAGGCAGTGGATTGTGAATCCACCATGCGCG	466
var. <i>viridis</i>	GTAGCCAAGTGGATCAAGGCAGTGGATTGTGAATCCACCATGCGCG	466

e)

var. <i>japonica</i>	TCGATTATTCAAGGCGTTCCGTCATTGTCGTAGGTCCTTCACTTTTCATTACACCGGTGTG	60
var. <i>crispa</i>	TCGATTATTCAAGGCGTTCCGTCATTGTCGTAGGTCCTTCACTTTTCATTACACCGGTGTG	60
var. <i>acuta</i>	TCGATTATTCAAGGCGTTCCGTCATTGTCGTAGGTCCTTCACTTTTCATTACACCGGTGTG	60
var. <i>viridis</i>	TCGATTATTCAAGGCGTTCCGTCATTGTCGTAGGTCCTTCACTTTTCATTACACCGGTGTG	60

var. <i>japonica</i>	GATTGCCGCGGGAAATAGCAATAGAACTTTCCAGACGTTTGAATTCGTGGTCTAATTA	120
var. <i>crispa</i>	GATTGCCGCGGGAAATAGCAATAGAACTTTCCAGACGTTTGAATTCGTGGTCTAATTA	120
var. <i>acuta</i>	GATTGCCGCGGGAAATAGCAATAGAACTTTCCAGACGTTTGAATTCGTGGTCTAATTA	120
var. <i>viridis</i>	GATTGCCGCGGGAAATAGCAATAGAACTTTCCAGACGTTTGAATTCGTGGTCTAATTA	120

var. <i>japonica</i>	GACAACATCTTGCTTCGAACATAGGAGTTGCTAAGAGTAAAATTCGGGGAAAAGAACTGA	180
var. <i>crispa</i>	GACAACATCTTGCTTCGAACATAGGAGTTGCTAAGAGTAAAATTCGGGGAAAAGAACTGA	180
var. <i>acuta</i>	GACAACATCTTGCTTCGAACATAGGAGTTGCTAAGAGTAAAATTCGGGGAAAAGAACTGA	180
var. <i>viridis</i>	GACAACATCTTGCTTCGAACATAGGAGTTGCTAAGAGTAAAATTCGGGGAAAAGAACTGA	180

var. <i>japonica</i>	TTGTATGGGAAATATTGCAGGAAGTTATGCAGGGGCATCCTGTATTGCTGAATAGAGCCC	240
var. <i>crispa</i>	TTGTATGGGAAATATTGCAGGAAGTTATGCAGGGGCATCCTGTATTGCTGAATAGAGCCC	240
var. <i>acuta</i>	TTGTATGGGAAATATTGCAGGAAGTTATGCAGGGGCATCCTGTATTGCTGAATAGAGCCC	240
var. <i>viridis</i>	TTGTATGGGAAATATTGCAGGAAGTTATGCAGGGGCATCCTGTATTGCTGAATAGAGCCC	240

var. <i>japonica</i>	CCACTCTGCATAAATTGGGCATACAGGCATTCCAGCCCGTTTTAGTGAGGGGCGTGCTA	300
var. <i>crispa</i>	CCACTCTGCATAAATTGGGCATACAGGCATTCCAGCCCGTTTTAGTGAGGGGCGTGCTA	300
var. <i>acuta</i>	CCACTCTGCATAAATTGGGCATACAGGCATTCCAGCCCGTTTTAGTGAGGGGCGTGCTA	300
var. <i>viridis</i>	CCACTCTGCATAAATTGGGCATACAGGCATTCCAGCCCGTTTTAGTGAGGGGCGTGCTA	300

var. <i>japonica</i>	TTTGTTTACATCCATTAGTTTGTAAAGGGATTCAATGCAGATTTTGATGGGGATCAAATGG	360
var. <i>crispa</i>	TTTGTTTACATCCATTAGTTTGTAAAGGGATTCAATGCAGATTTTGATGGGGATCAAATGG	360
var. <i>acuta</i>	TTTGTTTACATCCATTAGTTTGTAAAGGGATTCAATGCAGATTTTGATGGGGATCAAATGG	360
var. <i>viridis</i>	TTTGTTTACATCCATTAGTTTGTAAAGGGATTCAATGCAGATTTTGATGGGGATCAAATGG	360

var. <i>japonica</i>	CTGTTTCATGTACCCTTATCGTTGGAGGCTCAAGCGGAGGCCCGTTTACTTATGTTTTCTC	420
var. <i>crispa</i>	CTGTTTCATGTACCCTTATCGTTGGAGGCTCAAGCGGAGGCCCGTTTACTTATGTTTTCTC	420
var. <i>acuta</i>	CTGTTTCATGTACCCTTATCGTTGGAGGCTCAAGCGGAGGCCCGTTTACTTATGTTTTCTC	420
var. <i>viridis</i>	CTGTTTCATGTACCCTTATCGTTGGAGGCTCAAGCGGAGGCCCGTTTACTTATGTTTTCTC	420

var. <i>japonica</i>	ATATGAATCTTTTGTCTCCAGCTATTGGAGATCCCATTTCCGTACCAACTCAAGATATGC	480
var. <i>crispa</i>	ATATGAATCTTTTGTCTCCAGCTATTGGAGATCCCATTTCCGTACCAACTCAAGATATGC	480
var. <i>acuta</i>	ATATGAATCTTTTGTCTCCAGCTATTGGAGATCCCATTTCCGTACCAACTCAAGATATGC	480
var. <i>viridis</i>	ATATGAATCTTTTGTCTCCAGCTATTGGAGATCCCATTTCCGTACCAACTCAAGATATGC	480

var. <i>japonica</i>	TTATGAACCCCA	492
var. <i>crispa</i>	TTATGAAAAAG	492
var. <i>acuta</i>	TTATGGAAAACA	492
var. <i>viridis</i>	TTATGGAACAA-	491

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var. <i>viridis</i>	TTTTCAGTGTTCATTCTATTACAATTCATTTGATAACCTTTTTTGTCGATGAAATCATA	60
var. <i>crispa</i>	TTTTCAGTGTTCATTCTATTACAATTCATTTGATAACCTTTTTTGTCGATGAAATCATA	60
var. <i>japonica</i>	TTTTCAGTGTTCATTCTATTACAATTCATTTGATAACCTTTTTTGTCGATGAAATCATA	59
var. <i>acuta</i>	TTTTCAGTGTTCATTCTATTACAATTCATTTGATAACCTTTTTTGTCGATGAAATCATA	60

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var. <i>viridis</i>	AGATTATATGATTCATCCGAAAGGGGCATGATAATCACCTTTTTGTGTATAACAGGATTA	120
var. <i>crispa</i>	AGATTATATGATTCATCCGAAAGGGGCATGATAATCACCTTTTTGTGTATAACAGGATTA	120
var. <i>japonica</i>	AGATTATATGATTCATCCGAAAGGGGCATGATAATCACCTTTTTGTGTATAACAGGATTA	119
var. <i>acuta</i>	AGATTATATGATTCATCCGAAAGGGGCATGATAATCACCTTTTTGTGTATAACAGGATTA	120

var. <i>viridis</i>	TTAATTTCTCGTTGGATTTATTCAAACATTTTCCACTAAGTGATTTATATGAATCGTTA	180
var. <i>crispa</i>	TTAATTTCTCGTTGGATTTATTCAAACATTTTCCACTAAGTGATTTATATGAATCGTTA	180
var. <i>japonica</i>	TTAATTTCTCGTTGGATTTATTCAAACATTTTCCACTAAGTGATTTATATGAATCGTTA	179
var. <i>acuta</i>	TTAATTTCTCGTTGGATTTATTCAAACATTTTCCACTAAGTGATTTATATGAATCGTTA	180

var. <i>viridis</i>	ATCTTCTTTTCATGGAGTTTTTCCTTTATTTATATAGTCCGTATTTCAAAAAAATCAA	240
var. <i>crispa</i>	ATCTTCTTTTCATGGAGTTTTTCCTTTATTTATATAGTCCGTATTTCAAAAAAATCAA	240
var. <i>japonica</i>	ATCTTCTTTTCATGGAGTTTTTCCTTTATTTATATAGTCCGTATTTCAAAAAAATCAA	239
var. <i>acuta</i>	ATCTTCTTTTCATGGAGTTTTTCCTTTATTTATATAGTCCGTATTTCAAAAAAATCAA	240

var. <i>viridis</i>	AATTTTCTAAGCACAATAATAGGTCCAAGTGCTATTTTTTCCAGGGTTTTGCTACCTCG	300
var. <i>crispa</i>	AATTTTCTAAGCACAATAATAGGTCCAAGTGCTATTTTTTCCAGGGTTTTGCTACCTCG	300
var. <i>japonica</i>	AATTTTCTAAGCACAATAATAGGTCCAAGTGCTATTTTTTCCAGGGTTTTGCTACCTCG	299
var. <i>acuta</i>	AATTTTCTAAGCACAATAATAGGTCCAAGTGCTATTTTTTCCAGGGTTTTGCTACCTCG	300

var. <i>viridis</i>	GGTCTTTTAAGTCAAATACACGAATCCACTATATTAGTACCGCTCTTCAATCCGAGTGG	360
var. <i>crispa</i>	GGTCTTTTAAGTCAAATACACGAATCCACTATATTAGTACCGCTCTTCAATCCGAGTGG	360
var. <i>japonica</i>	GGTCTTTTAAGTCAAATACACGAATCCACTATATTAGTACCGCTCTTCAATCCGAGTGG	359
var. <i>acuta</i>	GGTCTTTTAAGTCAAATACACGAATCCACTATATTAGTACCGCTCTTCAATCCGAGTGG	360

var. <i>viridis</i>	TTAATGATGCACGTAAGTTTAA	382
var. <i>crispa</i>	TTAATGATGCACGTAAGTTAAA	382
var. <i>japonica</i>	TTAATGATGCACGTAAGTAAAA	381
var. <i>acuta</i>	TTAATGATGCACGTAAGTAAAA	382

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