Supplementary materials

Appendix A

Heat shock protein 90 (HSP90) sequence of *Bemisia tabaci* Asia1 (Contig177)

MPEDVNMEQAETFVFQAEIAQLMSLIVNTFYSNKEIFLRELISNSSDALDKIRYESLTDPSRLESGKELYIKIIPNKNDR

TLTIIDTGIGMTKADLVNNLGTIAKSGTKAFMEALAAGADISMIGQFGVGFYSAFLVADTVTVVSKHNDDEQYVWE

SSAGGSFTIKSDHGEPLGRGTKIIMHMKEDMTEFLEERKIKDIVKKHSQFIGYPIKLLVEKERDKELSEDEEEEEVKKE

DKEEKEEDKDTPKIEDVEDEEEGKEKKKKKKTIKEKYTEDEELNKTKPIWTRNPDDITTEEYGEFYKSLTNDWEDHLA

VKHFSVEGQLEFKALLFVPRRAPFDLFENKKKKNNIKLYVRRVFIMDNCEDLIPEYLNFIKGVVDSEDLPLNISREMLQ

QNKILKVIRKNLVKKCLELFEELAEDKENFKKFYEQFSKNLKLGIHEDTQNRKKLADLLRYQTSATGDDVCSFKDYVA

RMKENQKHIYYITGESKDQVANSSFVERVKKRGFEVIYMTEPIDEYVVQQMKDYDGKNLVSVTKEGLELPEDEEEK

KKYEEDKVKFETLCKVMKDILDKKVEKVIVSNRLVESPCCIVTSQYGWTANMERIMKAQALRDSSTMGYMAAKKH

LEINPDHPVMDALRVKAEAEKNDKSVKDLVMLLFETALLSSGFALEDPQVHAGRIHRMIKLGLGIDEDEPVMVEEE

KPDTAMPAADGDAEDASRMEEVD

Partial *B. tabaci* ASIA1 vitellogenin mRNA sequences used in this study

Appendix B

Vitellogenin 1 (VG1) **Contig3763**

ATTCCAGTAAGAGACTTCTCCTCTTCTGTGATCATGTGGACTCCCGCTTTATTGTGCCTGC

TGGTCGCAGCCGCCAATGCCCAATACGGGTGGAAAAATGGAAACCTCTACAAATACGAA

ATCAACGGACGCACCCTGACCGCCCTGAACCAAGTCGCCGACCAATACGCCGGAGTCTT

GTTCAGAGCCAACTTCTACGTCCAACCCTTCTCCAGTGACAGACTGTCTGCCTACATCCA

AAATGCCGAGACCGCTCAAGTTCACGCTGAGCTGCCAAGTGGATATGAATCTCACATCCC

CTCAAGCCAGTTGAACTACAAGAGTATGCCCCTCAGCCAAGAGCCATTCGAAATTTACCT

GAAGAAGGGAGTCGTCTCCAACCTTCGCGTCAACAAGAATGTCTCCGACTGGGAACTTA

ACATCATCAAGGCTGTTGTGAGCCAAATCCAAGTTGACACCCAAGGTCAAAACTTGAAG

AAATCCAGCCACAACCAACTCCCCAAGGAAAACAAGCCCTACGGTGTTTACAAGACCAT

GGAAGACTCCGTCACCGGTGAATGTGAAACTCTCTACGATGTCTCACCTCTGCCAGAAAT

CACCCTCCAAACCAAACCCTGGTTGGTTCCTTTCCCCAACTTCCGTGAAAACGGACAATT

CATCGACATCGTCAAGACCACCAACTACAGCAAATGTGAAGAACGTTCTGCTTACCACTT

TGGTATCACTGGTCTCACCAACTGGAAACCCGCCAGCAACCAAATGGGACAATTCCTCTC

CCGCTCCAACATCAACCGTGTCGTCATTTCTGGAAACGTGAAATACTACACCATCCAATC

CTCTGTTTCCACCAACAAAATCGTCATCAGTCCACAGATGTACGAATCACAGAAGGGAAT

GGTCATCAGTGTCATGAACATGACCCTGGCTTCCTTCCACCAAGCCAATGGATCTCCCCG

CAGCGTCAACAACTACCGCAAGGTCAACAACTTAGTCTACGACTACATGGCCGCTTCTCC

AAACGCATACGCTCAACACTACAACAACAACGGTGCTTCCAGCAGCTCCTCCAGCTCCA

GCTCTGACTCTTCCAGCTCTAGCTCCAGCTCCAGCAGCAGCTCTTCCTCTTCCAGCTCCAG

CAGCAGCTCCTCCAGCTCCGAAGAAGAATACTACCGCAACAAGAACTACAACAACAAGC

ACAACAACAATGCCAACAACAACGACAACAACAACAAGCACAACAACAACAACAACGA

CAACAACAACAAGAATGAAAACAACCACCACAACGGAGATGCCAACGCCTCTCGCAACC

GTTCCCGCAGAGACTTATCTCAATACAACAATGGAAACAACAACAACAACGGAAACAAC

GACAATGACGCCGAATACGAAAAGCGCAACAACGGCCACAACGGCCACAATGGAAACA

ACGGACACAACGGACACAACGGAAACAACGGCCACAACGGACACAACGGCCACAACGG

AAAGAACGTCGACAGTAGCTCCAGCTCCAGCAGCTCCGAGGAAAACGACCGTTACAACA

ACGGCAAATTCGCCAGCTTTGCCCGCCACCACGGATCTGGATCCTCCTCCTCCAGCAGCT

CCTCTGACTCCTCCGACTCTTCCAGCTCCTCCAGCTCCTCCAGCTCTTCCAGCTCCTCCAG

CTCCTCCAGCTCCTCCAGCTCCTCTGACTCTAGCTCCTCTGACGACAACAGCTCTTACGGA

TCCTCTGTCGCCAGCAGCGAAGAAGAACACCAACCCTTCCCCAAGCTTTACCAAGCCCCA

CGTACCCCATTCCTTCCCTTCTTCGTCGGATACTACGGAAACAACATCCAATCCGCTAAC

AATGTCAACAGCGTCTCTCTTGCCCGCAAGTTCGCCCAAGAAATCGCCGAAGACATGCGC

AGCCCAAGCGACATCCCCGCCAAGGGAACCCTGTCCAAATTCACCCTGTTGACCAGAGT

CATCAGAACCATGGATGCCAAGCAAATCGAACAAGTCGCCCGTGAAATCTACTTCAACT

CCAACAAGGCCTCAAGCTACAGCCAAGAGGACAACAAGAAGACCTACGCCTGGAAGGC

TTTCCGTGATGCTCTCGTTGAAGCCGGAACTGGACCCGCCTTTGTTGCCATCGTCAACTTC

ATCGAACGCAAGGAAATCACCCCATACGAAGCCTCCTTCATGATCAACCGTCTCCCCACT

GTTGCTCGTGAACCAACTCCCGAATACATGAACTACTTCTTCAAATTCGCCACCAACGAC

TACGTCAGAAACGCCAACTACCTTAACGAATCTGCCCTCCTCTCCTTCGCCGACTTGATG

CGCAATGTTGCCGTCGACCGCAAGAGCGCCCACAACTACTACCCCGTCCACAGCTTCGGA

TTCTTCTTCGACCAACACTCCAAGGCCGTTTCTCGCAAGTACATCCCATACTTCGAGCAA

GCTTTGAAGAAAGCCGTCGCTCAAGGTGACAGCCGCAAGATCCAAGTCTACACCCGTGC

CCTCGGAAACTTCGCTCACCCACAAATCCTCAGCGTCTTCGAACCCTACTTCGAAGGAAA

GGTCCCAATCTCCACCTACCAACGCACCTACATGGTCTTCGCTCTTAACGAACTCGCTCG

CGTTTACCCCAACCTTGCCCGCTCCGTCCTCTTCAAGATCTACCAGAACACCCAAGAAAA

CCAAGAAGTCCGTGTTGCCGCTGTCTACTTGATCTTCGCCACAAACCCATCTGCCCAAAC

CCTCCAACGTATGGCTCAATTCACCTACGAAGACCAAGACCAACAAGTCAACGCTGCTGT

CTCCTCTGCCATCCGCAACGCCGCTAAGAAAGCCGCTGGAATCCGCGAAGAACTCGCTG

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AGACTTGGCTCCGTGACTTCATCGTCAAGGAAGAAAACCTCGCCTACAGTTACTACGCCG

ACACCATCCAAAGTGACGACTCTCTCTTCCCCAACCAATACTACGCTTCCTTCTTCCGTCA

CTTCGGAGGATTCAACCAACGCGCTGCTTCCTTCCACGCTTTCGCCTCCAGTGCTAGCGA

CTTGTACGACAGAGTTGCTGACTCCTTCTACTTCGCCGAACAATACCAAGACAAGTCCTT

CGAGAAATTCTCCAAGTACTCTGCCGAAGAAATCTTCAAGAACTTCAACTTCAAGGCTGA

CTACCCCAAGGAATTGGAAGCTTACTTCCAATACTACTTCTTAGGATCCAAGCAATACTC

CTTCATCAACGAAGAAATCTTCAACCAAATCCCCAGAGATTTGGAAAGTGCTCTTAACAA

GGCTGCCAACGGATACTCCTTCAACAACACCAAGTTCTACAACGACTTCGCTCTTACCAT

TGGATTCCCAACCGCCACCGGTCTTCCCTTCTCTTACACCATCAAGCTCCCAACTCTCCTC

AACTTCGGAGGTGAAATTAAGGCTAAAGTCCAAGGATTCAAGGCTGACAACAACAAGTT

CCGCATCCCTGAAGCTGTCAATGTCACCGCTGCCATTGATGTCACTTACTCCACCAAGTT

GGAAACCAAGATCGGATTCGTTACTCCATTCGACCACCAACGCTACGTTGCCGGAGTTGA

CAAGAACATCAACCTCAACCTCCCCCTTAAGTTCAACGTCAACCTCGATGTTTACAACAC

CAAGGCTGAAATCATCGTCAAGCCATTGAACAACCAACACGAACAAAGAGTCTTCCACT

ACAGCTCCTACCCCTACACCGCTTTCTACAGCATCTTCGACTTCGCTCCTGTCCAATTCAA

CAAGAACATGAAGAAGATCCAAACCAACAACCACAAGAACGAATACAACCAAGCCTTT

GGAGATGAGAAATTCGGACTCAACTTCCGTGCCAACTACAAGGGAGACTACCAATACTT

CGATTTCGCTACTTTCTACAACTACTTCCAACGCAACGACCTCGTCACCTTCTTCTTCTAC

CCATGGGCTGAACAAGAAATCAAGCAAAACGACTTCAACTTCTACTTCAACCCATCTGCC

TCTGCCAACAAGGCCGCCAAATTCACCTTCAACTACGCCTCCAAATACGCCGCTAAGGAA

CAAGCCGACCACGAGAGCAGAAACGCCAACACCAACGATGCCGTCACCTCCAACAACAA

GCCCGACAGCGAAGAAAGATTGAACGAATTCGTCCGCAAATCCTACGCCGGAATCAACA

GTGCCTTCGTCAACGCCTTCGACTTCTCTGCCCAATTCCTTGGACAAAAGGAAGCCGACT

ACGTTTGCACCTTTGCCTTCGCCCGCAGCCCAGTTGCTGAGAAATCTCGTTTCCTTTTCTA

CGGACACTACAACACTGCCAACAACAAGAAACAACAGTGCGCTTTCCACGCCTCCGCTG

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AGATCTACGCTAACTTCAAGTTCGGAGAATCTTTCGAAAATGCCGCCAAGGTTCACTTCA

ACGCTAACTTGAAGCAGAGCTCTGAACGCCGTCAATTCCTCCGCAACAACGCCCTTTACA

AGCAATGCGAATCCGAAATGGAACGTGGACAATACTTCCTCCCTGCTTGCCGTAACTTCA

CCGTTGCTGACAACAGAATGAACGAATACTACTACAACTTCAACTTCCAAAACATCCCTG

AATACTTCAAGAACTACACCTACCAAGCCTTCGCTTTCGCCCGTCACATGGATACCAATA

CCAAAGTGAAACGTCGTCAACCCACACTACAAACCCAACGAAATTGAAGGATTCTTCAA

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TACGATGGTGCTCGCGTCAAATTCCAAGCCGCCAGCCAATACCGTGGTGCCGTCCGTGGT

ATCTGTGGAACCTACTCCAACCAATACGCCGATGACTTCACCAGCCCCAAGAACTGCGTC

ATGAGAAACCCAGAATACTTCACCGCCGCCTACGCCTTCATCGACTCCTCCTCCCCCGCC

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AACAACAACGACAAGTACTACGAATCCGCCTACAAGAACTCCAAATACTACGATGCCGC

CAGATACAACCACCAATACAACCCATACTACCAGAACAAGAAGTACGCCCGTAACGAAG

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TTCTTCCATGGACAACTCCTACTACTACAACAACAACGGTAACAACAACGACAGCAACA

ACCGTAACAACAACCGCAACAAGAACCGCAACGGATCCTCCAGCAGTTCCTCCAGCAGC

AGCTCCTCCTCCAGCCCAAGCATGGAGAGCTACGAACAGAGAAACCAAAACGGACCATC

CATCCACAAGCTTTACCGCTCCATGAACGAAGGAGACAAGACCTGCTTCTCCGTCAACTC

CATCCAACTTGCAGATACCATACAAGCCCAAGGTGGAGCCAACAAAGAGATTGACTTCT

ACTGTGTCCCAGAAACAGCGAAGAAGCTCAATACTTCGAGAAGCTCATGAAGAAGGGAG

TTAACCCCAGCCAACTTTCTTCCAAGAAAGCCAACAACCAATTCAAGGTCAACATCCCTG

AATACTGTGTTGCTTAAAAATTTACTTCTTAAGTAAAACGTATGTGTTAACAAGTGTTCC

ACTGTAGTTTAGTATTCTGTATTAACAGAGGACCGCGGGTATATTCTCACGATTGAACTT
GTGTTCCTCTGCACGAAAAAAAAAAAATAA

Appendix C

Vitellogenin 2 (VG2) **Contig3756**

AACAACAACAACCGCAACAACAACCGCAACAACAACCGCAACAACAACAACAACCGCA
ACAACAACAACAACAGCAGCAGCCAAGAAGCCAGTTACGAACAGAGAAACCAAAACGG
ACCCTCTATCCGCAAACTGTACCGTGCCATCAACCAAGGAGACGACATGTGCTTCACCAT
CAACGCTATCCCAACTTGCAGATACCCAGCCAAGCCCGTTGGAAGCGCCAAGAAAATGG
TTGACTTCTACTGTGCTCCCAAATCCAGCTCTGAAGCTCAACACTTCAGCAAATTGATTG
CCAAGGGTGCTGCTCCCAGCCAATTGTCTCTCAAGAAACCAAACCAAAAGTTCGAAGTG
AACATTCCCGAATACTGTGTTGCCTAAGCAAACATACAATGTCTTTAAATTGTACTTAAA
TTAGTTTTTTAGTATTAATAAATATTGCAA

Appendix D

Vitellogenin 3 (VG3) **Contig3793**

GCTGAAATCATCGTCAAGCCATTGAACAACCAACACGAACAAAGAGTCTTCCACTACAG
CTCCTACCCCTACACCGCTTTCTACAGCATCTTCGACTTCGCTCCTGTCCAATTCAACAAG
AACATGAAGAAGATCCAAACCAACAACCACAAGAACGAATACAACCAAGCCTTTGGAG
ATGAGAAATTCGGACTCAACTTCCGTGCCAACTACAAGGGAGACTACCAATACTTCGATT
TCGCTACTTTCTACAACTACTTCCAACGCAACGACCTCGTCACCTTCTTCTTCTACCCATG
GGCTGAACAAGAAATCAAGCAAAACGACTTCAACTTCTACTTCAACCCATCTGCCTCTGC
CAACAAGGCCGCCAAATTCACCTTCAACTACGCCTCCAAATACGCCGCTAAGGAACAAG
CCGACCACGAGAGCAGAAACGCCAACACCAACGATGCCGTCACCTCCAACAACAAGCCC
GACAGTGAAGAAAGATTGAACGAATTCGTCCGCAAATCCTACGCCGGAATCAACAGTGC
CTTCGTCAACGCCTTCGACTTCTCTGCCCAATTCCTTGGACAAAGGAAGCCGACTACGTT
TGCACCTTTGCCTTCGCCCGCAGCCCAGTTGCTGAGAAATCTCGTTCCTTTTCTACGGACA
CTACAACACTGCCAACAACAAGAAACAACAGTGCGCTTTCCACGCCTCCGCTGAAATGC

CCAATGTTCCATTGACCAACCCTGCTGCCGCCATGAAGGCTGAGCCAGCATCCAAGATCT

ACGCTAACTTCAAGTTCGGAGAATCTTTCGAAAATGCCGCCAAGGTTCACTTCAACGCTA

ACTTGAAGCAGAGCTCTGAACGCCGTCAATTCCTCCGCAACAACGCCCTTTACAAGCAAT

GCGAATCCGAAATGGAACGTGGACAATACTTCCTCCCTGCTTGCCGTAACTTCACCGTTG

CTGACAACAGAATGAACGAATACTACTACAACTTCAACTTCCAAAACATCCCTGAATACT

TCAAGAACTACACCTACCAAGCCTTCGCTTTCGCCCGTCACATGGGATACCAATACCAAA

GTGAAAACGTCGTCAACCCACACTACAAACCCAACGAAATTGAAGGATTCTTCAAGTTCT

CCCCCAGCTTCAGATACGCCAACTTCTCTTTCGCCTCTCCCGCCTTATCTGCTGCCTTCGA

CAATGTCCCCGTAAACCCATACTTCGCCGCCATCTTCGCTCCCCACCCAACTTACACCGC

CTTCGACTTCCTCATGCAAGAAACTTTCAGATCCAAATACCAAGCTGCCTGTGTCGCTGA

CAAGGGATTCGCCACCACTTTTGACAACAGAACTTTCCCCGCTCACTTCCAAAACAACTG

GTACGTCCTCATGGCCTACATGAACAGAAACAACTACTACAACAACAACTTCAACCAAT

ACCTCCAACAAAACAAGAACCAACACAGCTACAGAGACTACAACGAGAAGAGATTCTAC

TCCGCTGTCCTCGCCAGAGACAACAGCCACGGCCAAAAGGAATTGAAGGTTGTCCTGAA

CAACGGTGAGTACGAATTCAACTTCGAACCCGCTTCCCAAAACGCTGGATTCTCTAACTC

CTTCTCCGCTAGCAACCCCGCCGCCAAGGTCCAATTCAACAAGGAAGAACAACACGTTC

AATACAAGTACATGAACGACTTCTTCGACAAGAACGGAAAGATCTTCGCCCAATTCTAC

GCTCTTCCCGATGGAACCATCCGCTTCTTCGCCCCTCAAGCTGGTCTTGAATTCTTCTACG

ATGGTGCTCGCGTCAAATTCCAAGCCGCCAGCCAGTACCGTGGTGCCGTCCGTGGTATCT

GTGGAACCTACTCCAACCAATACGCCGATGACTTCACCAGCCCCAAGAACTGCGTCATG

AGAAACCCAGAATACTTCACCGCCGCCTACGCCTTCATCGACTCCTCCTCCCCCGCCGAA

CTCAAGTCCCAACGCGACCATGCTGAACAGGGTTCCTGCGCCTACAAAACCTACCTCGCT

GGCAACTACGTCAGCCGCAATGAAGGCTCCAACGGATACAAGTACTACAAGTACAACAA

CTCTGACAAATACTACGAATCTGCCTACAAGAACTCCAAGTACTACGATGCATCTAGATA

CAACTACCAATACAACCCATACTACCAAAGCCAGAAAAAATACGCTCGCAACGAGGACA

ACTCCTACTCCAGCAGCAGCTCTTCCTCCTCCAGCTCTGACAGTTCCTCTTCCTCATCCTC

CATGGACGCCTCCTACTACAACAGCTACGAACAGAAAAACCAAAATGGACCTTCCATCC

ACAAGCTTTACCGTGTGATGAACGAAGGAGAGAAAACTTGCTTCTCTATTAACGCTATCC

CTACTTGCAGATATCCATACAAGCCCCAAGGTGGAGCTTACAAGGAGATCGACTTTTACT

GTGTCTCAAGAAATTCTGAGGAAGCTCGCCACTACGAGAAGCTCATCAAGAAGGGAGCT

AGTCCCAGTCAACTTTCTACCAAGAAATCCAATGGTAAATTCAAGGTTAACATCCCTGAA

TACTGTGTAGCTTAAGTTTTAATTGTTAAGTAAATGTATATATGTATTAATTACACTGTAG

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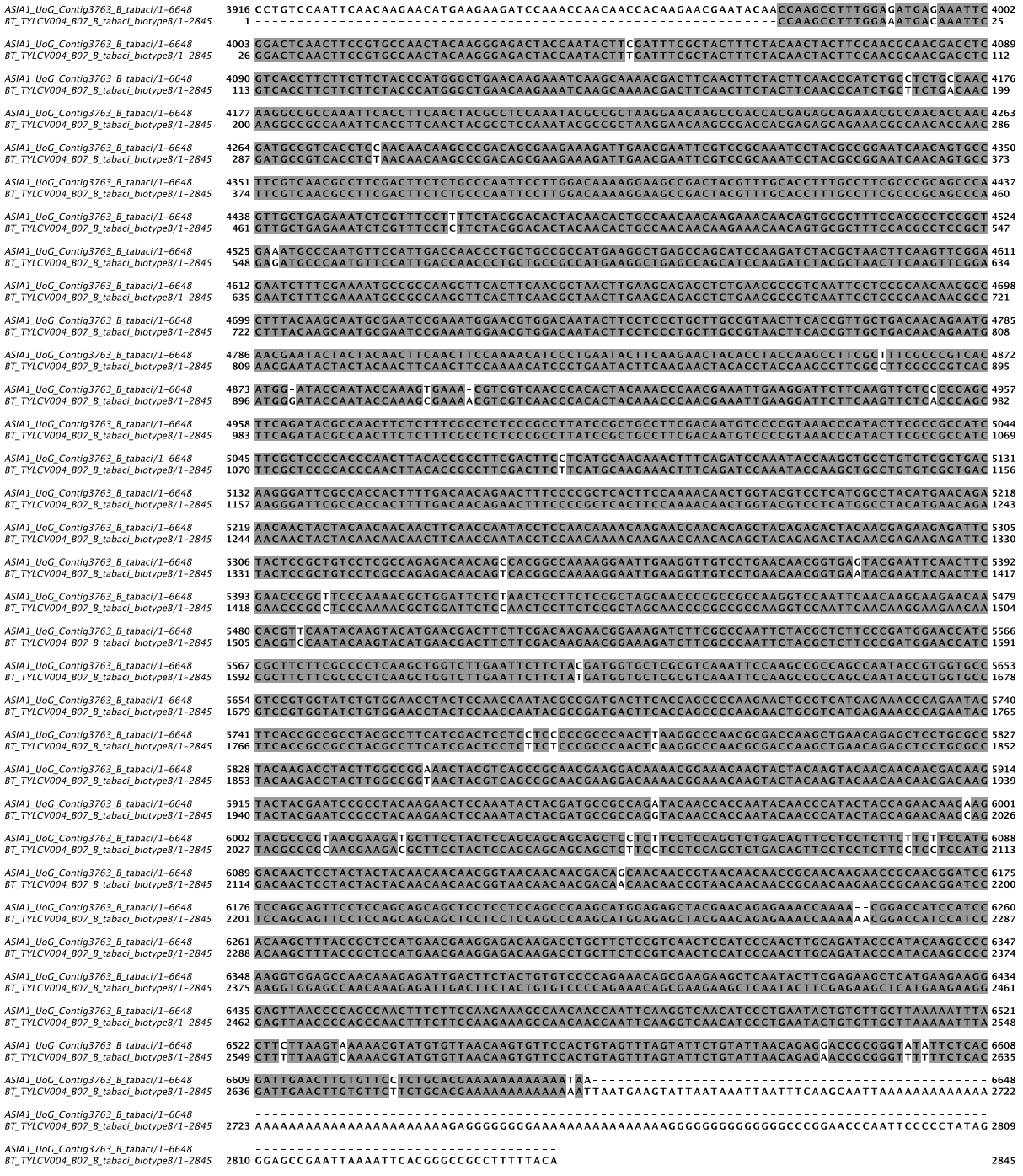
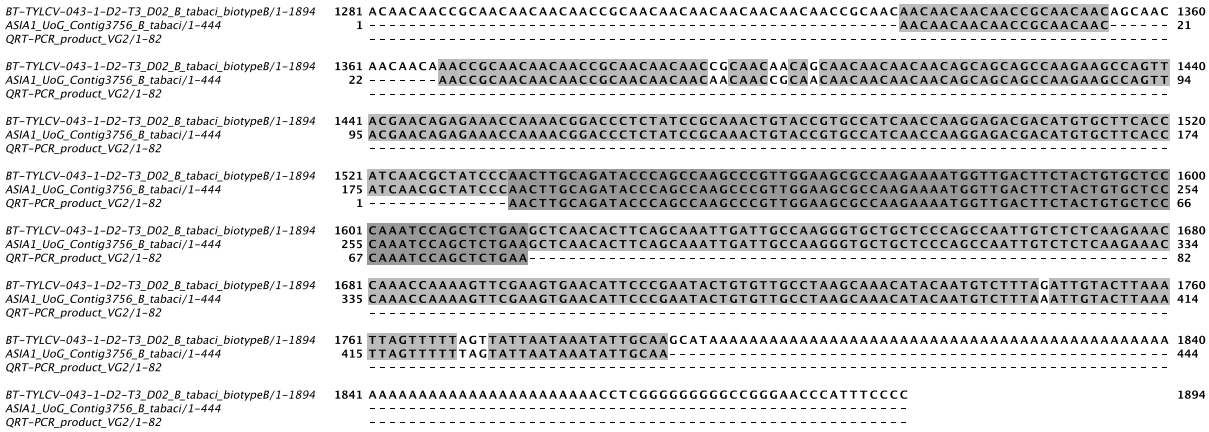
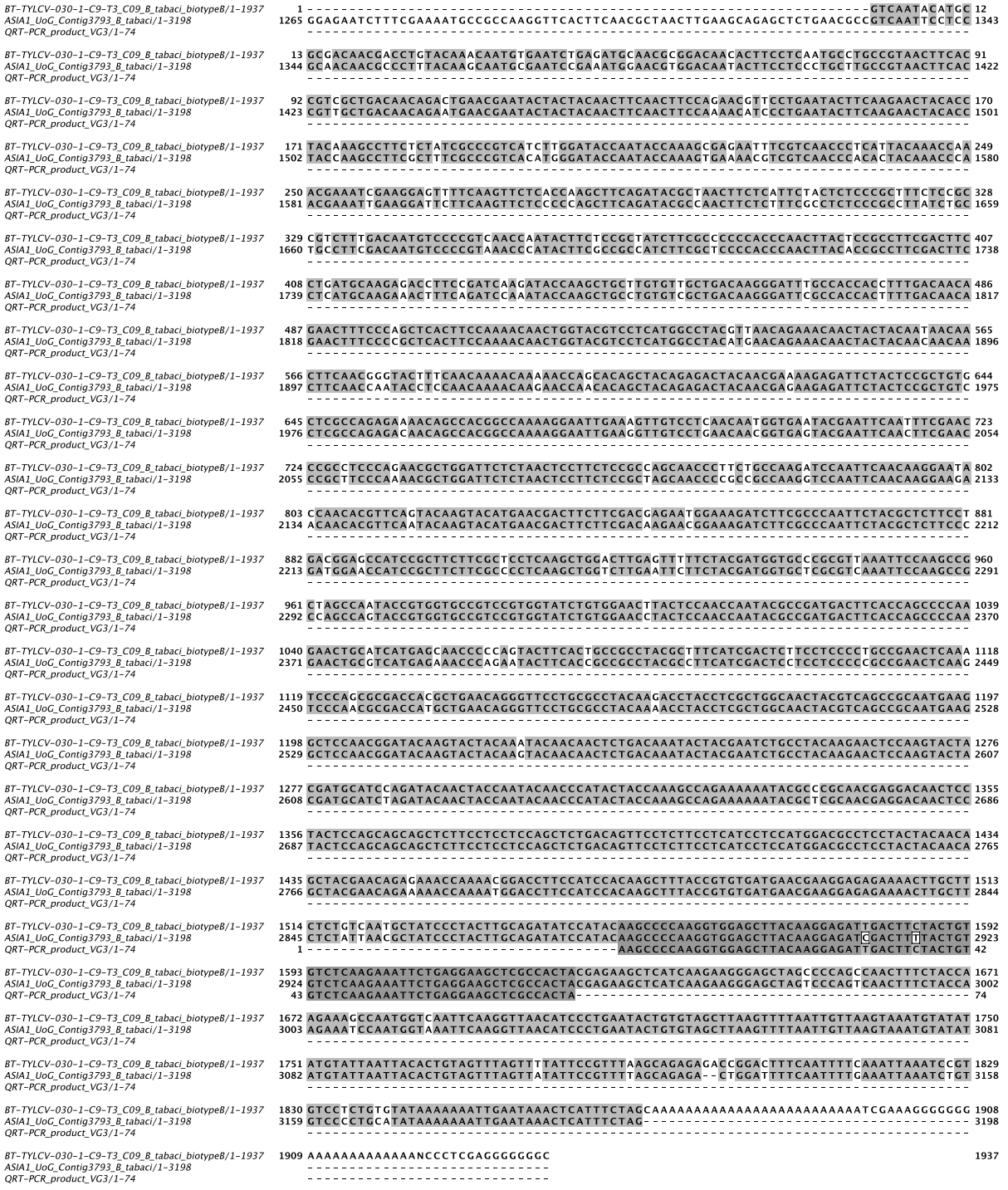


Appendix E Sequence alignment of the *B. tabaci* Asia 1 VG1 (contig3763) with the published VG-like contig sequence BT-TYLCV004-B07 by Leshkowitz *et al.* (2006).



Appendix F Sequence alignment of the *B. tabaci* Asia 1 VG2 (contig3756) with the published VG-like contig sequence BT-TYLCV-043-1-D2-T3-D02 by Leshkowitz *et al.* (2006). Also shown is the sequence identity of the PCR product (QRT-PCR_product_VG2) amplified using the VG2-specific PCR primers, and its alignment with the corresponding target region in the Asia 1 and B-biotype contig sequences.



Appendix G Sequence alignment of the *B. tabaci* ASIA1 VG3 (contig3793) with the published VG-like contig sequence BT-TYLCV-030-1-C9-T3-C09 by Leshkowitz *et al.* (2006). Also shown is the sequence identity of the PCR product (QRT-PCR_product_VG3) amplified using the VG3-specific PCR primers, and its alignment with the corresponding target region in the ASIA1 and B biotype contig sequences.

Appendix H Oligonucleotide primers used in quantitative real-time RT-PCR

Gene	Forward primer	Reverse primer	Amplicon size (bp)
CYP1	CACCGTGTCATCCCCAACTT	GTGTGCTTGAGGGTGAAGTT	118
RPL13A	CATTCCACTACAGAGCTCCA	TTTCAGGTTTCGGATGGCTT	101
TUB1A	CACTGTTGTTCCTGGTGGC	AGTGGACGAAAGCACGCTTG	140
VG2	TCAACCAAGGAGACGACATG	TTCAGAGCTGGATTTGGGAG	126
VG3	CTTGCTTCTCTATTAACGCT	AGTGGCGAGCTTCCTCAGAA	118