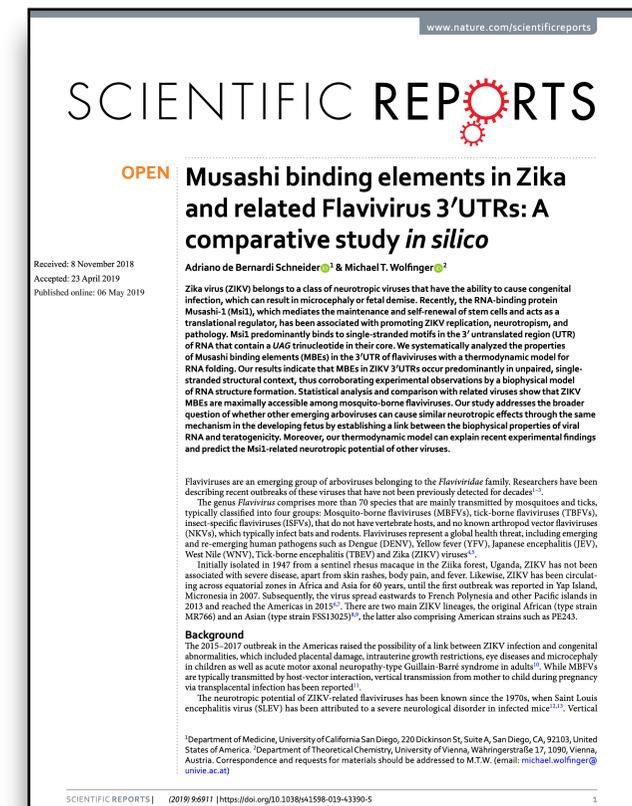
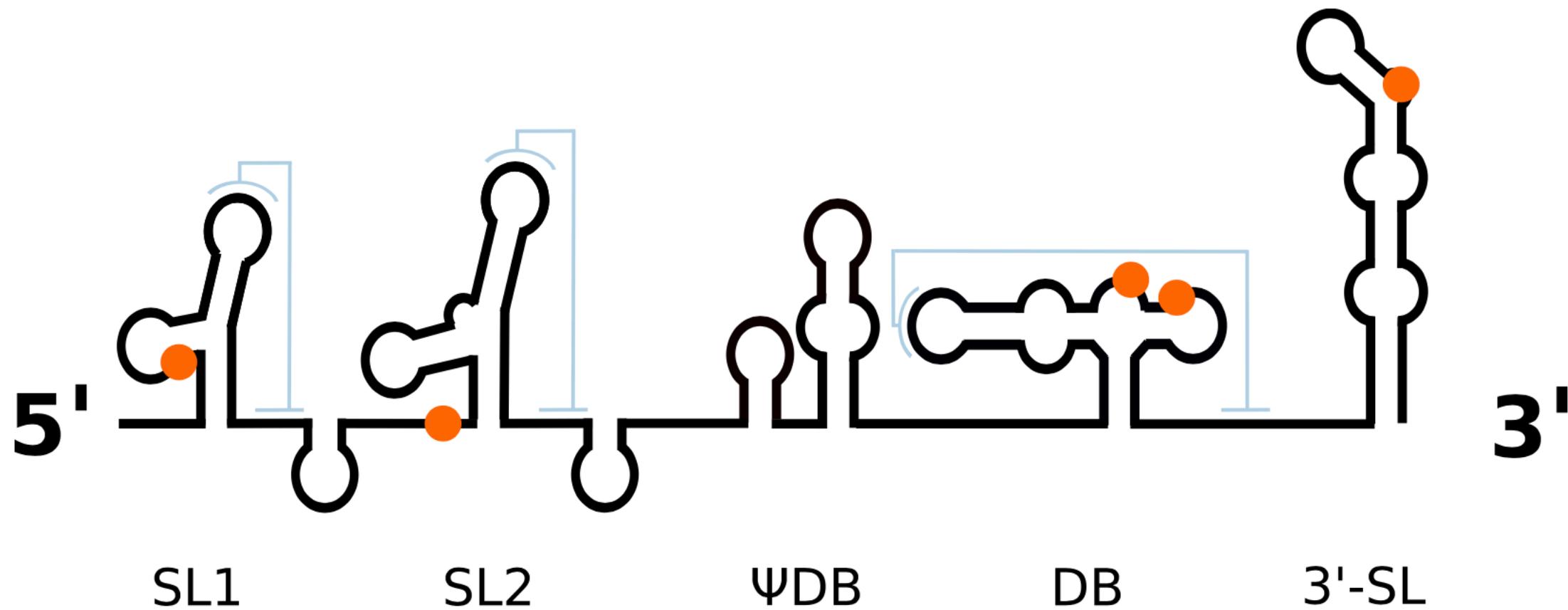


# Gaining Deeper Understanding of Zika Virus Neurotropism by Thermodynamic Principles

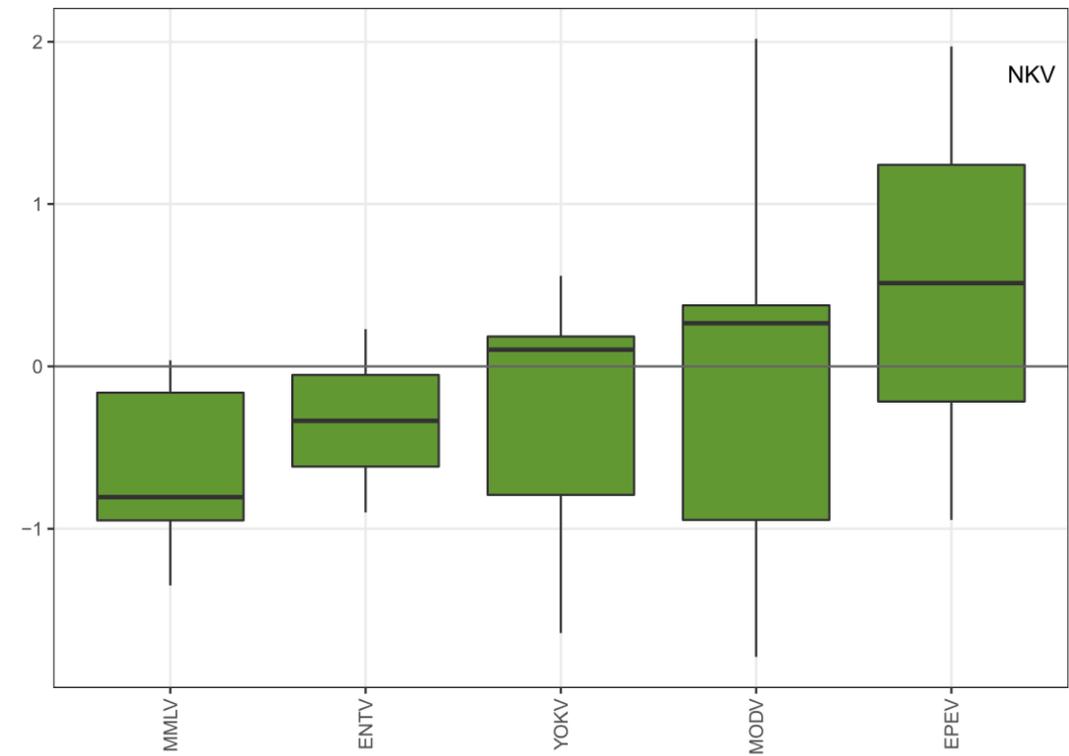
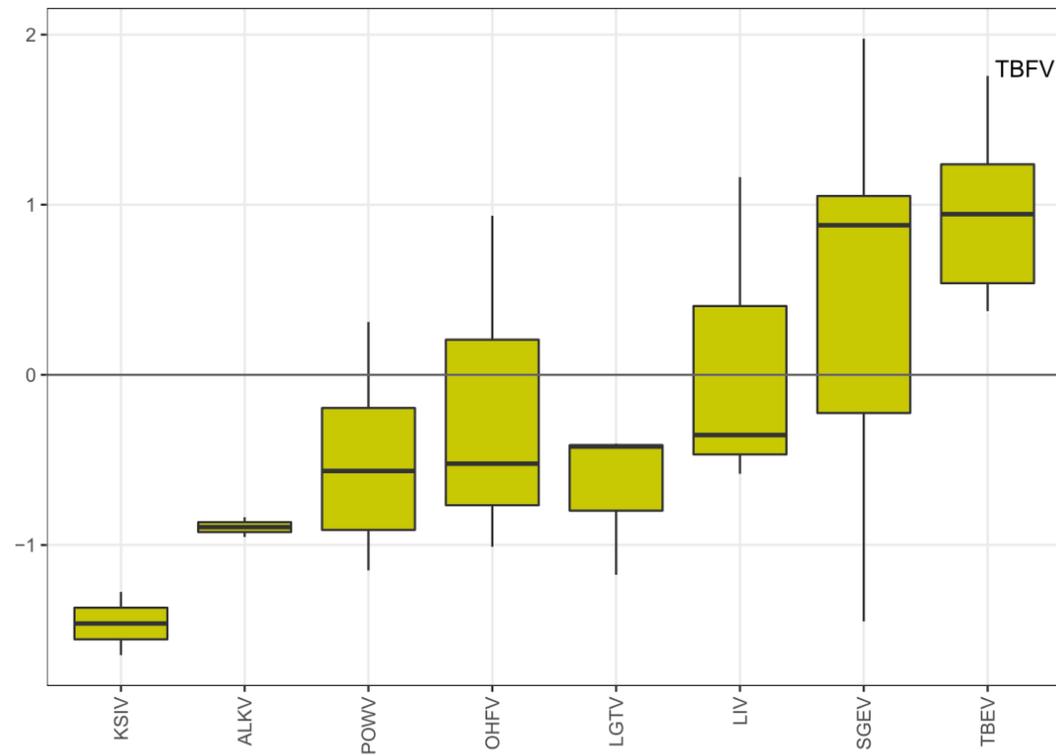
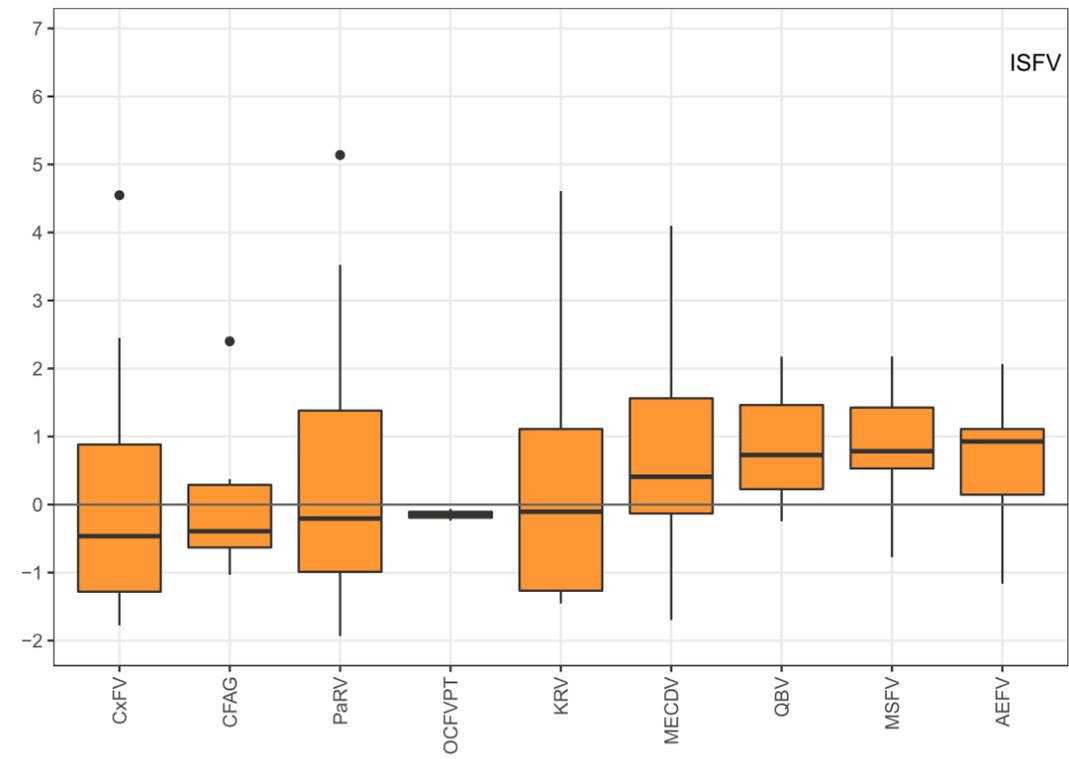
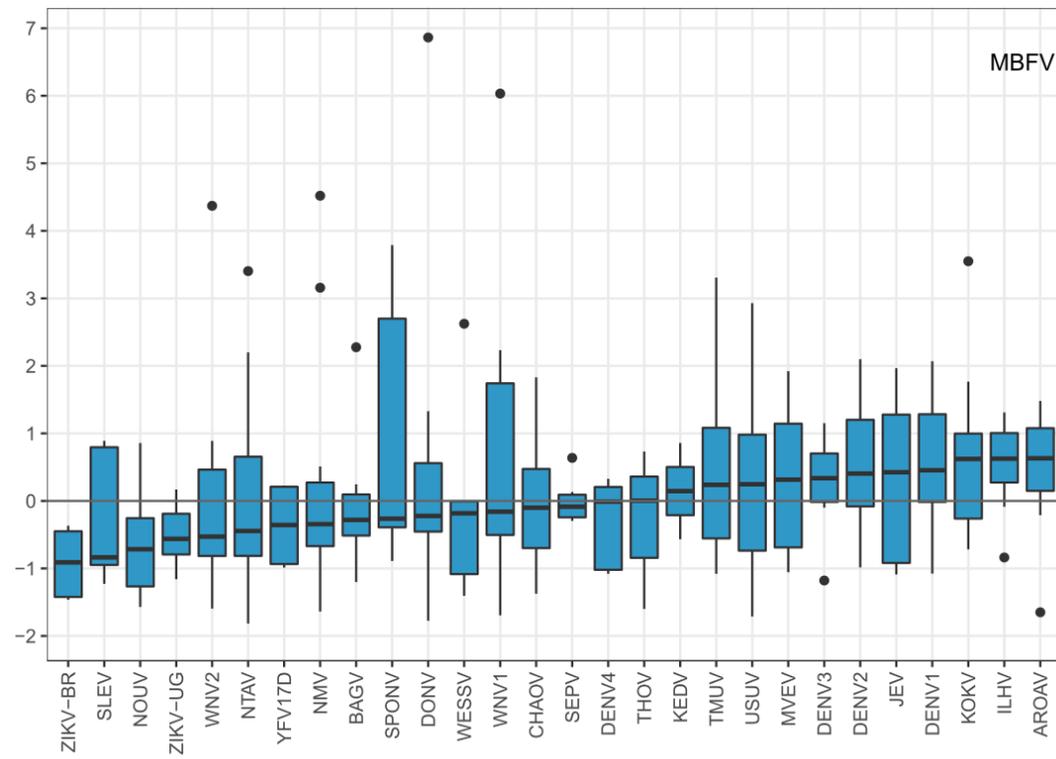
Adriano de Bernardi Schneider, Michael T. Wolfinger

Figures and title from :  
Musashi binding elements in Zika and related Flavivirus 3'UTRs: A comparative study *in silico*  
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Sci. Rep. 9(1):6911. (2019)  
doi: 10.1038/s41598-019-43390-5









YOKV\_NC\_005039.1|DB.1|211-292| GGGAGCCUCCGCC---AAUGGUGGCUUUACAUAUUGAGCUACUGCAUUGGUCGAUGGGGGACUAGCGGUUAGAGGAGACCCUCUCC 82  
DONV\_NC\_016997.1|DB.1|140-216| AGGGGGCCAGAUG---UCAUGUCUCUCA--AGCCUAGGAGACACUAGACACUC---UGGACUAUCGGUAGAGGAAACCCCCCA 77  
CHAOV\_NC\_017086.1|DB.1|130-201| AGGGGGACACAUG---C-ACCCAGC-----AGCCCAGCUGGACAAGGCA-UG---UGUACUAGCGGUUAGAGGAGACCCCCCA 72  
SEPV\_NC\_008719.1|DB.1|262-333| AGGGAGCCUCCG---CUGCUGC-----GUCCCGCGCAGC--AGGAAAGAAGGGGUCUAGAGGUUAGAGGAGACCCUCCG 72  
WESSV\_NC\_012735.1|DB.1|274-345| UGGGAGCCUCCAC---CCACCGU-----UACCCGCGCACGGU--GGGAAAGAUGGGGUCUAGAGGUUAGAGGAGACCCAUUCC 72  
YFV17D\_NC\_002031.1|DB.1|307-379| ACGGAGCCUCCGC---UACCACCC-----UCCCACGUGGUGG--UAGAAAGACGGGGUCUAGAGGUUAGAGGAGACCCUCCAG 73  
USUV\_NC\_006551.1|DB.1|386-457| CCACGGCCCAAGC---GAACAGACG-----GUGAUGCGAACUGU--UCG--UGGAAGG-ACUAGAGGUUAGAGGAGACCCCGUGG 72  
MVEV\_NC\_000943.1|DB.1|340-409| CCGCAGCCCGGGC---CGGGAGGAG-----GUGAUGCAAAC-CC--CGG--C-GAAGG-ACUAGAGGUUAGAGGAGACCCUGCGG 70  
JEV\_NC\_001437.1|DB.1|310-380| CCACGGCCCAAGC---CUCGUCUAG-----GAUGCAAU-AGACG--AGG--UGUAAGG-ACUAGAGGUUAGAGGAGACCCCGUGG 71  
AROAV\_NC\_009026.2|DB.1|141-211| GGGCCGCCCAGGC---CUGGGAUUG-----AACCGUUG-AUCCC--AGG--CGAAGGG-ACUAGAGGUUAGAGGAGACCCAGCCU 71  
TMUV\_NC\_015843.2|DB.1|348-416| CCACGGCCUGAAA---UGAUGGAGC-----U--GGUGUGACCAU--CAU--GGAGGG-ACUAGAGGUUAGAGGAGACCCCGUGG 69  
ZIKV-BR\_NC\_035889.1|DB.1|238-307| CUGGGGCCUGAAC---UGGAGAUCA-----G--CUGUGGAUCUC--CAG--AAGAGGG-ACUAGUGGUUAGAGGAGACCCCGCG 70  
ZIKV-UG\_NC\_012532.1|DB.1|238-307| CUGGGGCCUGAAC---UGGAGAUCA-----G--CUGUGGAUCUC--CAG--AAGAGGG-ACUAGUGGUUAGAGGAGACCCCGCG 70  
SPONV\_SA-Ar|DB.1|206-274| GUGGGGCCUGAAG---GCAGGAGGA-----G--CUGUGACUCCU--GCU---GGAGGG-ACUAGCGGUUAGAGGAGACCCCCAC 69  
NMV\_NC\_032088.1|DB.2|364-428| UGUGGGCCC-AAG---CGAG-U--G-----AAGCUGU-AAA-CU--CGU---GGAAGG-ACUAGAGGUUAGAGGAGACCCCCACA 65  
NTAV\_NC\_018705.3|DB.2|441-505| GCAAGGCC-AAC---CUGG-C--A-----AAGCUGU-AAA-CC--AGG---GGAAGG-ACUAGAGGUUAGAGGAGACCCCUUGC 65  
WNV1\_NC\_009942.1|DB.2|438-503| GCACGGCCC-AGC---CUGG-CU-G-----AAGCUGU-AGG-UC--AGG---GGAAGG-ACUAGAGGUUAGUGGAGACCCCGUGC 66  
WNV2\_NC\_001563.2|DB.2|382-447| GCACGGCCC-AAC---UUGG-CU-G-----AAGCUGU-AAG-CC--AAG---GGAAGG-ACUAGAGGUUAGAGGAGACCCCGUGC 66  
MVEV\_NC\_000943.1|DB.2|417-483| GAGUUGCCC-AAG---CUCG-CC-G-----AAGCUGUAAGG-CG--GGU---GGACGG-ACUAGAGGUUAGAGGAGACCCACUC 67  
SLEV\_NC\_007580.2|DB.2|359-426| GCAAGGCCCAAAC---CCG--CUCA-----AAGCUGUAGAG-AC--GGG---GGAAGG-ACUAGAGGUUAGAGGAGACCCCUUGC 68  
DENV4\_NC\_002640.1|DB.2|201-269| AGGGGGCCCGAAG---CCAG-GAGG-----AAGCUGUACUC-CU--GGU---GGAAGG-ACUAGAGGUUAGAGGAGACCCCCCA 69  
DENV2\_NC\_001474.2|DB.2|268-335| UGGGGGCC-AAG---GCGA-GAUG-----AAGCUGUAGUC-UC--GCU---GGAAGG-ACUAGAGGUUAGAGGAGACCCCCCG 68  
THOV\_NC\_034151.1|DB.2|359-426| CCAAGGCC-AAC---UCUG-GUUG-----AAGCUGUAGAC-CA--GAG---GGAAGG-ACUAGAGGUUAGAGGAGACCCCUUGC 68  
DENV1\_NC\_001477.1|DB.2|278-345| GCGGGGCC-AAC---ACCA-GGGG-----AAGCUGUACCC-UG--GUG---GUAAGG-ACUAGAGGUUAGAGGAGACCCCCCGC 68  
JEV\_NC\_001437.1|DB.2|391-458| AUGCGGCC-AAG---CCCC-CUCG-----AAGCUGUAGAG-GA--GGU---GGAAGG-ACUAGAGGUUAGAGGAGACCCCGCAU 68  
TMUV\_NC\_015843.2|DB.2|424-491| GCAAGGCC-AAC---CUAG-AGUC-----AAGCUGUAACU-CU--AGG---GGAAGG-ACUAGAGGUUAGAGGAGACCCCUUGC 68  
USUV\_NC\_006551.1|DB.2|465-533| GUGCGGCC-AAG---CCGUUUCG-----AAGCUGUAGGA-AC--GGU---GGAAGG-ACUAGAGGUUAGAGGAGACCCCGCAU 69  
ILHV\_NC\_009028.2|DB.2|195-262| CUGAGGCC-AAA---CCAG-CCCG-----AAGCUGUAGGA-CU--GGU---GGAAGG-ACUAGAGGUUAGUGGAGACCCCUUCAG 68  
DENV3\_NC\_001475.2|DB.2|257-325| GCGGGGCCCGAGC---ACUG-AGGG-----AAGCUGUACCU-CC--UUG---CAAAGG-ACUAGAGGUUAGAGGAGACCCCCCGC 69  
WNV1\_NC\_009942.1|DB.1|361-429| ACGCGGCCCUAGC---CCC-GGUA-----AUGGUGUUAACC-A--GGG--CGAAAGG-ACUAGAGGUUAGAGGAGACCCCGCGG 69  
WNV2\_NC\_001563.2|DB.1|305-373| ACGCGGCCAUAAC---CCU-GGCU-----AUGGUGUUAACC-A--GGG--AGAAGGG-ACUAGAGGUUAGAGGAGACCCCGCGU 69  
NMV\_NC\_032088.1|DB.1|288-358| CCACGGCUGCAGC---ACU-UCUC-----UUGCGGGAGAGAU--GUG--UCACGCGGACUAGAGGUUAGAGGAGACCCCGUGG 71  
SLEV\_NC\_007580.2|DB.1|286-351| CAGCGGCC--AA---ACCAUGG-----AGUGCGUGACCAUG--GC---GUAAGG-ACUAGAGGUUAGAGGAGACCCCGCUG 66  
THOV\_NC\_034151.1|DB.1|283-348| CCACGGCCC--AA---UCUUGGG-----AGGGCGUGGCCCAA--GA---GUAAGG-ACUAGAGGUUAGAGGAGACCCCGUGG 66  
NTAV\_NC\_018705.3|DB.1|366-432| CCGCGGCC--AA---GCAAGGG-A-----AUGGUGUGCCCUU--GU---GGAAGG-ACUAGAGGUUAGAGGAGACCCCGCGG 67  
BAGV\_NC\_012534.1|DB.1|372-438| CCGUGGCC--AA---GCAAGGG-A-----AUGGUGUGACCCUU--GU---GUAAGG-ACUAGAGGUUAGAGGAGACCCCUUGC 67  
KOKV\_NC\_009029.2|DB.1|290-355| UCACGGCCC--GA---GGGGGAGAA-----GAACGCGAACUCCC--CC-----AAAGG-ACUAGAGGUUAGAGGAGACC-CGUGA 66  
ILHV\_NC\_009028.2|DB.1|121-187| CCACGGCCC--AU---UUCAGGAGA-----CAGCGCGACUCCUG--GAG---GAAGG-ACUAGAGGUUAGAGGAGACC-CGUGG 67  
DENV4\_NC\_002640.1|DB.1|111-178| GGGAGGCCAUGCG---CCACGG-----AAGCUGU-ACGCGU--GGC---AUUUGGACUAGCGGUUAGAGGAGACCCUCCC 68  
DENV1\_NC\_001477.1|DB.1|194-261| GGGAGGCUGCAAA---CCAUGG-----AAGCUGU-ACGCAU--GGG---GUAGCAGACUAGUGGUUAGAGGAGACCCUCCC 68  
DENV3\_NC\_001475.2|DB.1|173-240| GGGAGGCUGCAAA---CUGUGG-----AAGCUGU-ACGCAU--GGU---GUAGCAGACUAGCGGUUAGAGGAGACCCUCCC 68  
DENV2\_NC\_001474.2|DB.1|181-248| GGGAGGCCACAAA---CCAUGG-----AAGCUGU-ACGCAU--GGC---GUAGUGGACUAGCGGUUAGAGGAGACCCUCCC 68  
KEDV\_NC\_012533.1|DB.2|197-261| GCGGGGCCCAAGC---CGGCUA-----AGCUG---UAAC--CGG--UGGAAGGACUAGAGGUUAGAGGAGACCCCCCGC 65  
KOKV\_NC\_009029.2|DB.2|368-432| GGGAGCCC--AU---CUCAGGG-A-----AAGCUGUAACCCUG--GGG---GAAGG-ACUAGAGGUUAGAGGAGACC-CUCCC 65  
AROAV\_NC\_009026.2|DB.2|223-288| CCAAGGCCCAACC---UUGCUG-----AACCUUAGG--C--AGG--UAAAAGG-ACUAGAGGUUAGAGGAGACCCCUUGC 66  
NOUV\_NC\_033715.1|DB.1|282-352| AGCCGGCAAAGCCCAUCGCACUG-----AAGCUAUAAGGUGC--GGG-----AAGG-ACUAGAGGUUAGAGGAGACCC---- 66  
ENTV\_NC\_008718.1|DB.1|42-99| CGGAGCCUC-----CGCUGG-----GAAACCAGU-----CGACGGGGACUAGAGGUUAGAGGAGACCCCCCGC 58  
MMLV\_NC\_004119.1|DB.1|200-251| GGGAGGC-C-----CGAAGC-----AAAGCUGA-----AAGGACUAGCGGUUAGAGGAGACCCCUUCC 52

