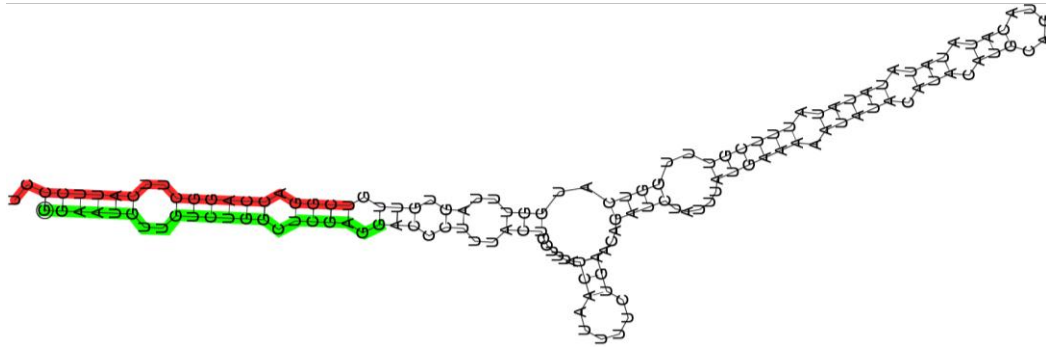


Additional file 8. Fold-back structures for novel miRNA from *Viburnum macrocephalum* f. *keteleeri*. Precursor sequences for novel miRNAs were shown in black letters with miRNA sequences highlighted in red. Precursor secondary structures and MEF value were produced using the MFOLD (<http://mfold.bioinfo.rpi.edu/>) software. Precursor sequences for novel miRNA*s were shown in black letters with miRNA sequences highlighted in green.

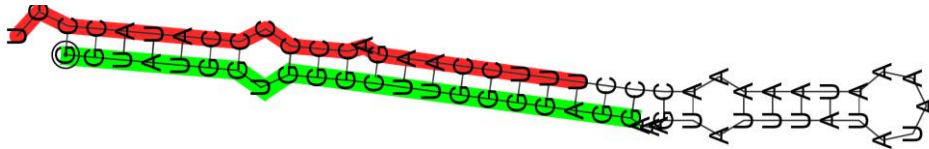
novel_1 MFE = -44.50 kcal/mol

GGAAUGUUGUCUGGCUCGAGG ACCCUUUACUGCUUUAUCAAUUUUCUGAACAG
AUCUAUUUAUGAAAAUAUACAUAUCAUGCAGUACAUAUAUAUAUAUUUCG
UUUGUCAUGGUUUAGUGUUG **UCGGACCAGGCCUUCAUUC**CU



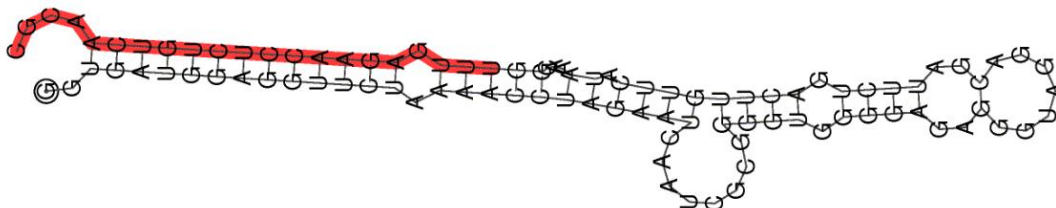
novel_10 MFE = -34.60 kcal/mol

GGUAUGGUGGGCUUGGGGAGG AAAGUAUUUAUAUAAAAUAAAACCC **JUUCC**
AAGACCCCCCAUACCGU



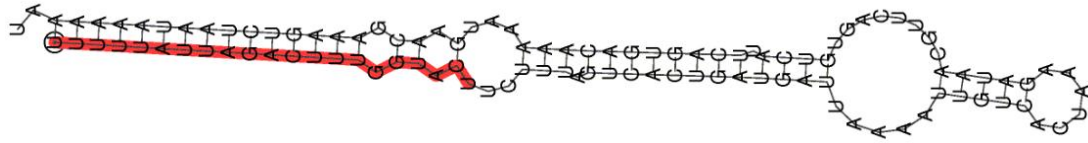
novel_100 MFE = -32.90 kcal/mol

GGUGAUGGAGGUUCUAAAACCUAGAAUCAAUUCGCGGGGUGGGGAGAGGGUAG
GACGAUUCUGACUUGUUCAUAAACGG **JUUGAGAACCUCUGUCAACGC**



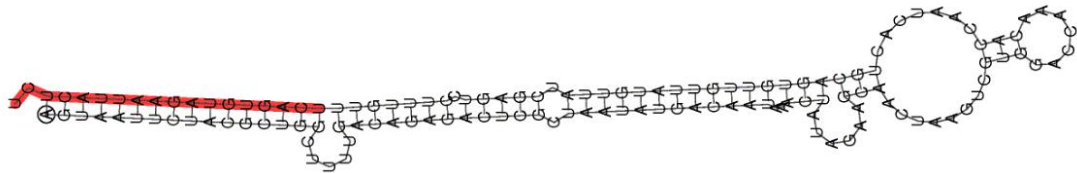
novel_102 MFE = -35.70 kcal/mol

UUUUUAUUAGACUUUGGUACUUCUUUAGUCACUGAUGAUUAAAAUUGUCACU
AAAGUAACGUUCAGUGUCAUUCAGUGACAAAAAUGAACGAAAGUCUAAUAA
AAAAU



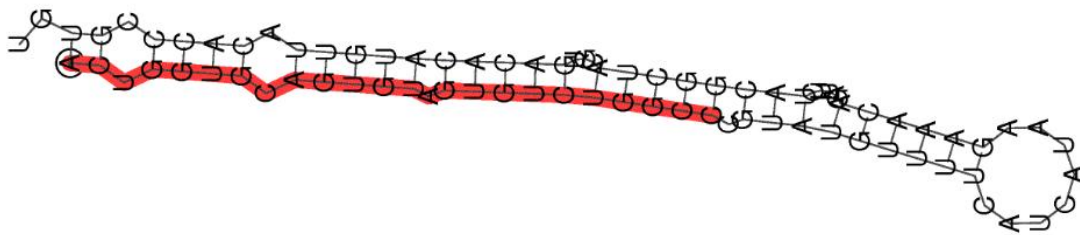
novel_103 MFE = -50.70 kcal/mol

AGUAAUUCUACGCUGGCCUUUUGACAGAGACUCGCUAAUAUGACAAUAAACUAU
AGAAGCAACUAAGUCGUGGACCAAACACCAAUCACUGCAGUGUUGUUAUGUUA
UCGAGUCCUUUGUU**UCAGUGUAGAAUUACUCU**



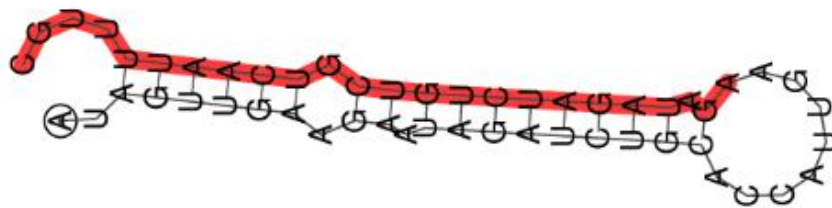
novel_105 MFE = -23.60 kcal/mol

ACUGGUGCAGUGUAGUGUCUGGCCCGUAUGUUUUCAUCAUAAGAAACAGAUUC
UACGGCUACGUGACACAUGUUACACCCGUGU



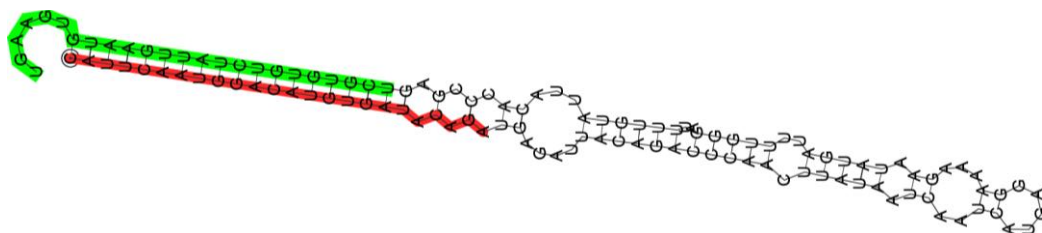
novel_107 MFE = -12.00 kcal/mol

AUAGUUGAAGAAUAGAUCUGCACCAUUGAAGAU**AGAUCUGUCGUCAAUUUUG**
C



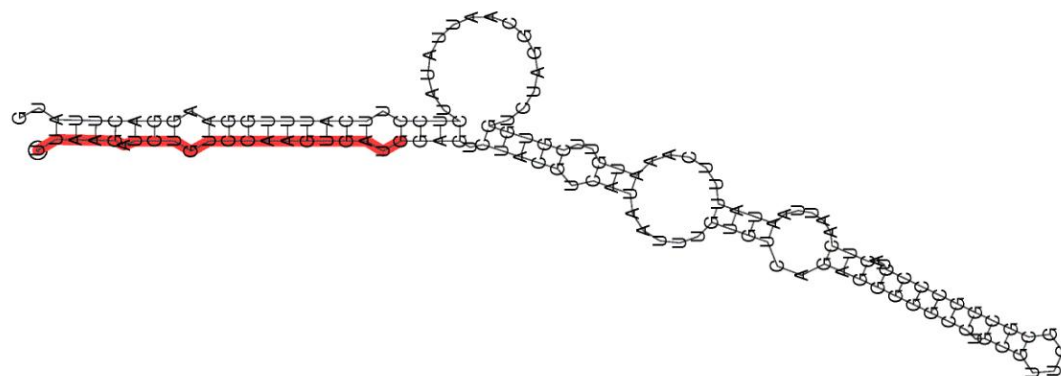
novel_108 MFE = -36.00 kcal/mol

CAUCAAUGGACAUGUGAUACAGAUGAGAUUACAGACCCAACUUAUAAUCAAU
CAUGAGGAAAAGAAUAUGAUUUUGGGAUUUUGUAUUACACCCGAG **UCGUGUG**
UCUAUUGAAUGUGAAGU



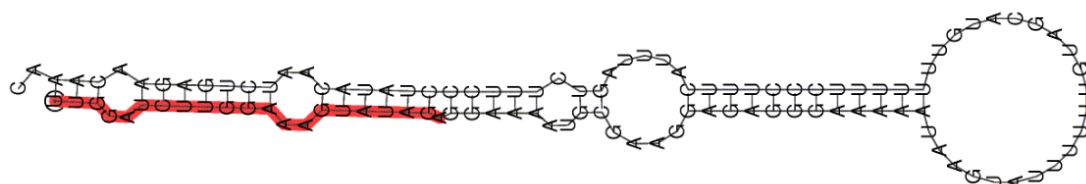
novel_110 MFE = -48.29 kcal/mol

UUAAGAUCUGUCCAAGUGAUGGAGUCUACGUCAUAAUUUGUGUCAGAGGGGG
CCUGCGUUCGCGCGGCCCUACUCAAUAAUAAUUCAAUGUUCGUGGUCUAG
GCAAUUAUAUCUCCUUCAUUUGGAAGGACUUAUG



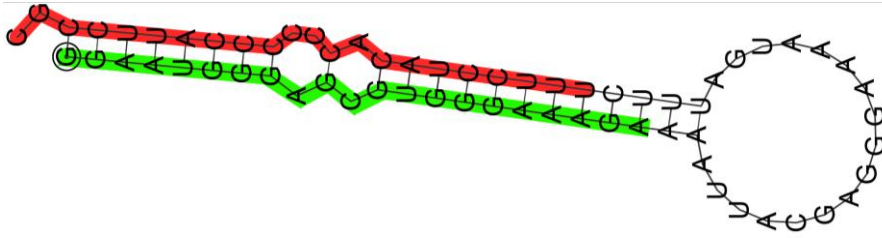
novel_112 MFE = -36.10 kcal/mol

UUGGAUCUUGGAAAGUAUAGAGGAAAUGCGAAGGAGAGGGAAAAUAAGUA
UUUUUUGUAGCAUGUUUUUUUCCCUUCAUUUAGUCUUUCCCUAUACAAUCUG
AGAACAAC



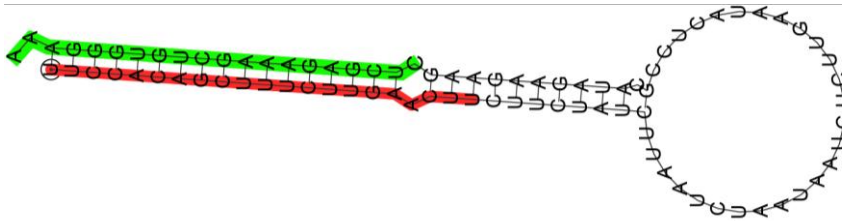
novel_13 MFE = -29.13 kcal/mol

GGAAUGGGAGCGUGGGAAAGAAAAUUACGAGGGAAAAUGA**UUUCUUCCUAC**
ACCCCCAUUCCGC



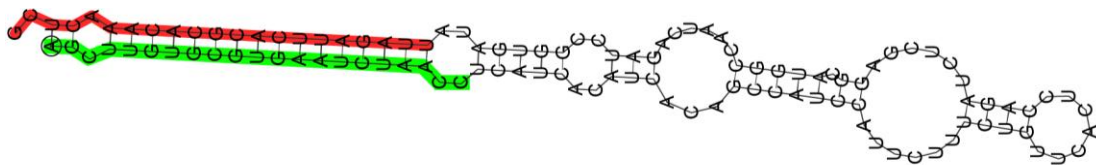
novel_14 MFE = -38.43 kcal/mol

UCCACAGCUUCUUGAACUUCUUCUAUCUUA AUCUAAUAAUCUCUUGAAUAC
UCCGCAUAGAAGAAG**CUCGAGAAAGCUGUGGGAAA**



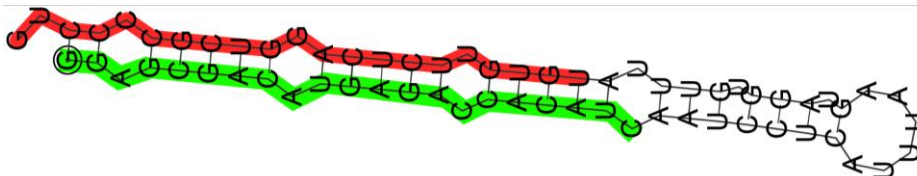
novel_16 MFE = -42.30 kcal/mol

AGCUUGUGCGUGAAUCUAACCUCAUCACAUCACAGCCAUCCAUUCUUCUGUU
CACUCCAGAUCUCGAGGCAUGGCCAAUCAGAUCCGGUGAUA**UUAGAUUCACGC**
ACAAACUCG



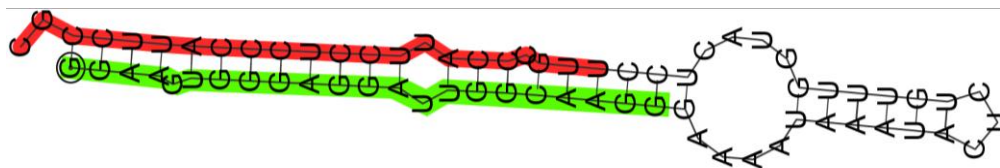
novel_17 MFE = -27.30 kcal/mol

GGAGCGACAUGAGACCACAUCAAUCCUCAUUAAGUAGGUGUUUA**UGUGUUCU**
CAGGUCGCCCCUG



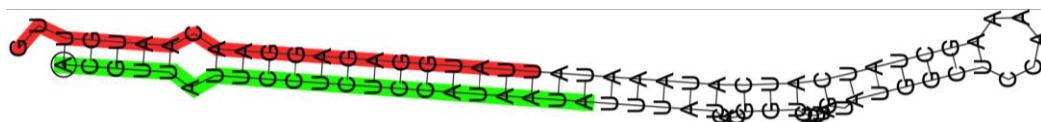
novel_19 MFE = -35.30 kcal/mol

GGAAGUGGGAGGAUUGGCAAGG GAAAAUAAAACUCUCUGUUUGGUACUCC UUG
CCCAUCCUCCCAUUC CGC



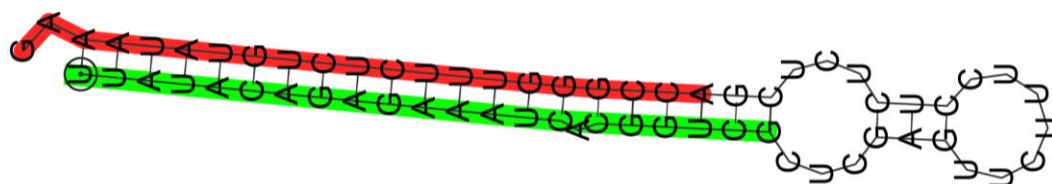
novel_20 MFE = -33.60 kcal/mol

ACGUUAUCCUCUCCAUAUA UUAUCACGGUCUCUAGUAUGGCUCCAAAAGC
UAUCAUCAUAAAUA UUAUGGAGAGGAACAAUGUUG



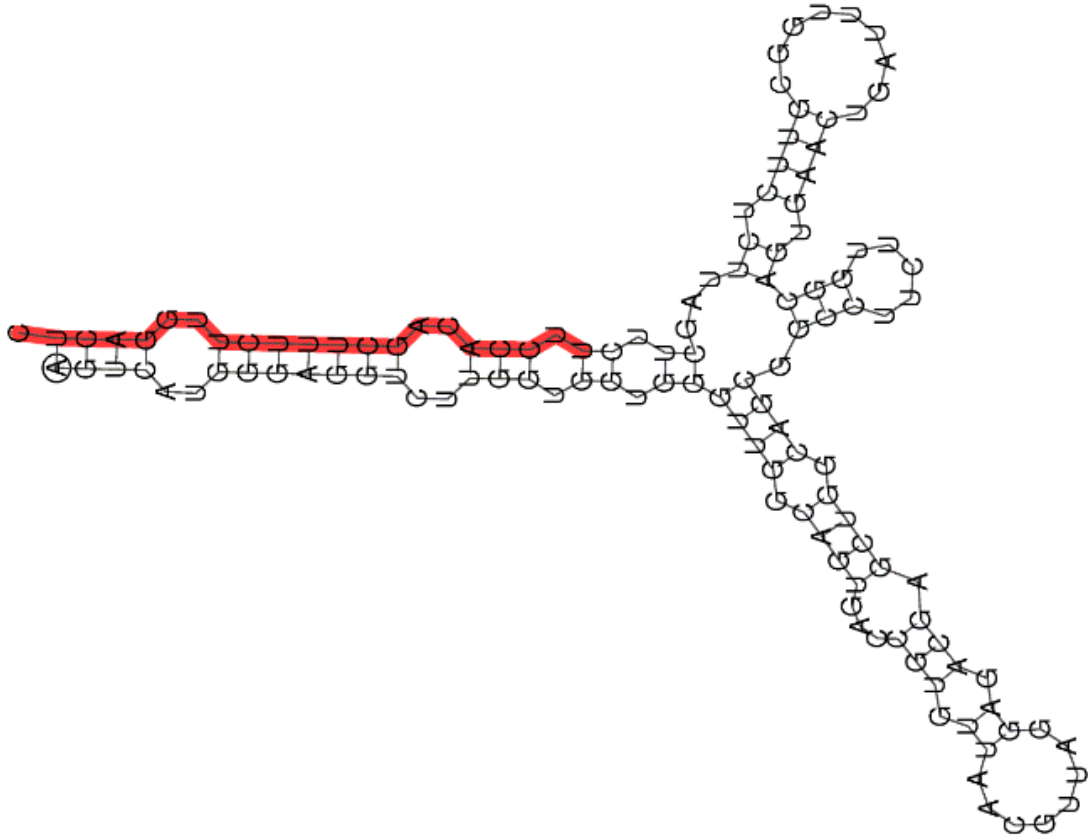
novel_23 MFE = -32.70 kcal/mol

UUAUACAGAGAAAUCACGGUCG CUCGAGUUCUUCCUCUCUCG ACCGGGUUUC
UCUGUAUAAAG



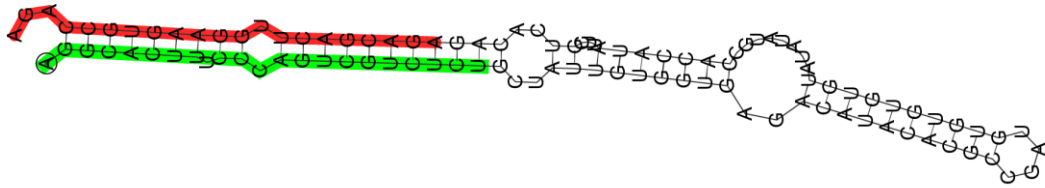
novel_24 MFE = -41.00 kcal/mol

AGUCAUGGGAGGUCUUGGUGGUGGGUUGGCAGUGACCGUGUUAACGUUAGGA
GACGAGCUGGCAGCGGCCUUCUUGGCAGUGAACUGAUUUGGCGUUCUCUAGC
UUC UCCACAGCUUUCUUGGACUC



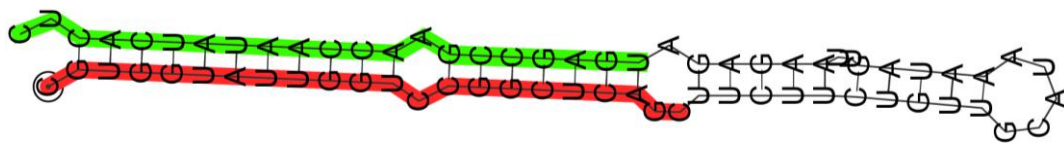
novel_25 MFE = -54.30 kcal/mol

AGGCACUUUCCCAGUCGUCUCUGCUAUUGUGGGUGAGACAUACACGCCGAUGUG
 UGUGUGUAUAUAUGCCACCAUAUUCGUCACAG**AGACGACUUGGAAGUGCCAGA**



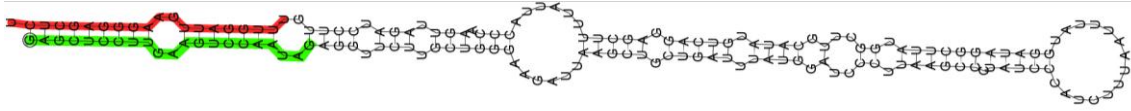
novel_27 MFE = -36.00 kcal/mol

CGUGGUAAUUGGUCCGGCUCAGCUUCUUCUGUUGCAUAAAUAGUUAAGAGA**UG**
AGCCGAACCAUAUCACUC



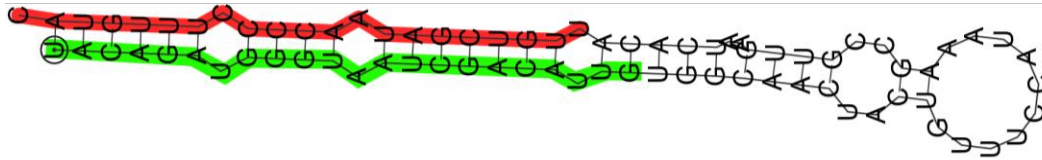
novel_3 MFE = -76.54 kcal/mol

GAGCUCCUUGAAGUCCAAUAGAGGUUCUUGCUGGGAAGAUUAAGCUGCUGAU
UUAUGGAUCCCUUAAGCCCUAUCCCAUCUUUAAUUAUGGAUAGGCUUAUGGC
UUGCAUAUGUCAGGAGCUUUUAUUACCCAAGUUAGAUCUUGUUUGGA**UUGA**
AGGGAGCUCU



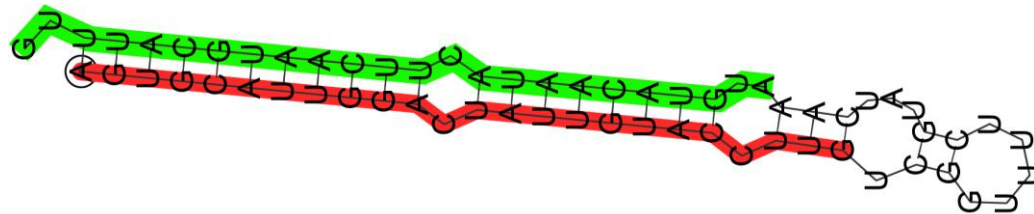
novel_31 MFE = -30.70 kcal/mol

UACAGAUGGGUAAUCGACAUUGUGGCAACUACUGUUUCCAUAAGCCGUUGAA
UCACA**UUGUCGAUAACCCCUUUGUAC**



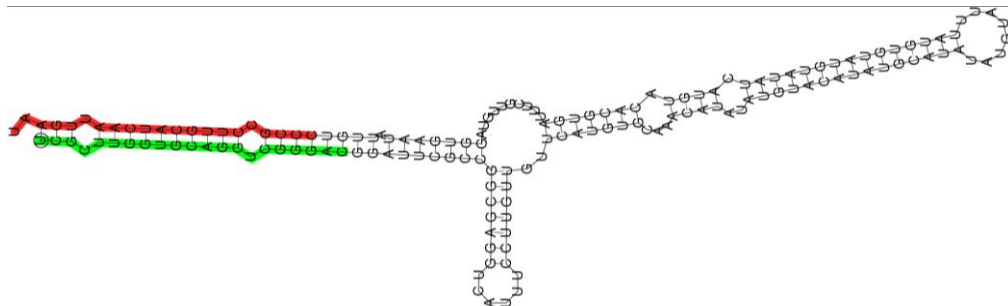
novel_32 MFE = -22.20 kcal/mol

AGUGCAUUGGACUAUUGUACCUUGUCGGUUUUCGUAUCA**AUGUACAAUACU**
UCAAUGCAUUUG



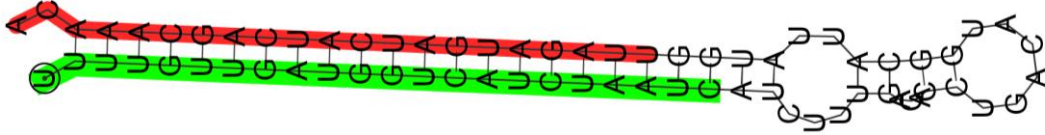
novel_37 MFE = -71.70 kcal/mol

UCGCUUGGUGCAGGUCGGGACGGAUUCGCCGCGAGGUCAUUCCUUGUUGUU
CAUGUGCAAACAUUAUGUACAUAUGCAUAUAUGUAUUUAUGUGUAUGUAUA
UCAUGUACACGUGAUUUCGUUGUAGGUGAAUAUUGU**CCCGCCUUGCAUCAAUU**
GAAU



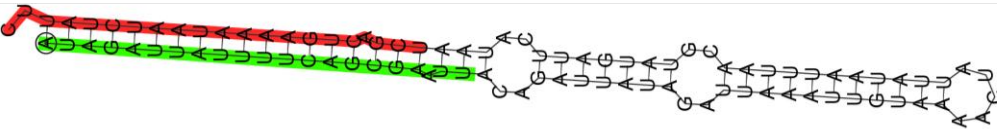
novel_38 MFE = -32.00 kcal/mol

UUUUGUUGAUGGCAUCUAAUC AUCUUUGACACCUGACAUGGCAUUAUGG UU
AGAUGAUC AUCAGCAAACA



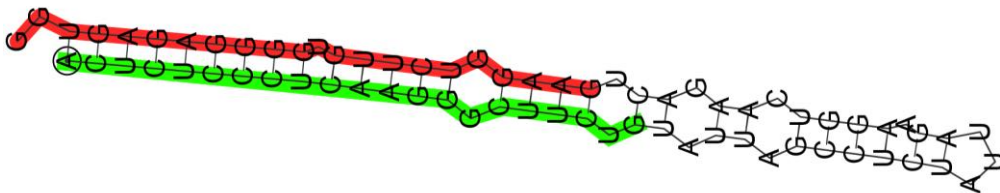
novel_4 MFE = -32.60 kcal/mol

AUAGAUUAUUUCAGCGAAUU ACAGAUUAUAGAUUAAAUUGUAAAACUAUUA
UAAUUUAACGUAUGAUUCAUAA UCGACUGAAAAUAAUCUAUUC



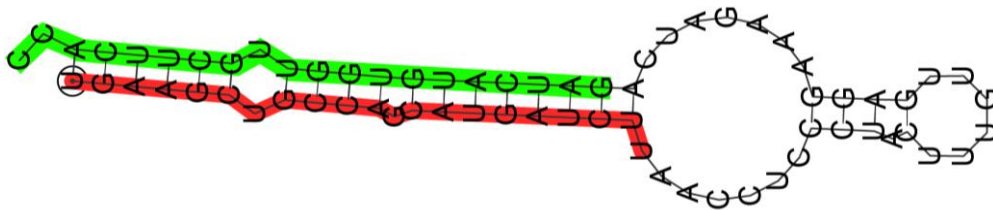
novel_40 MFE = -32.90 kcal/mol

ACUCUCCCUCAAGGGCUUCUG UAUUAGCCUCUAUUAGAAGGUCAAGACU GAAG
GUCUUGUGGGGAGAGUGG



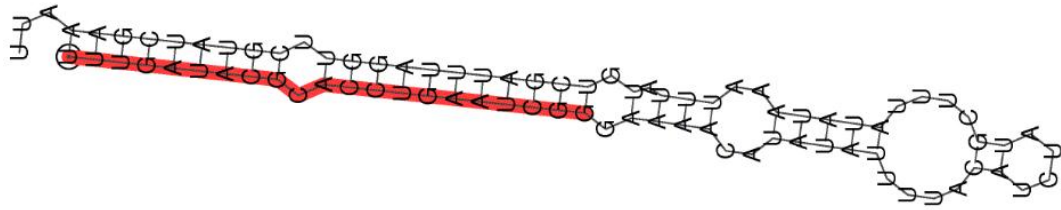
novel_41 MFE = -26.44 kcal/mol

UGAAGCUGCCAGCAUGAUCUU AACCUCCCUACUUUGUUGAGGAAAGAUCA GAU
CAUGUGGUUGCUUCACC



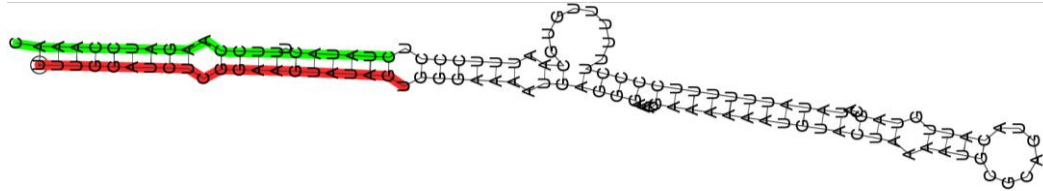
novel_45 MFE = -26.50 kcal/mol

UUUGAUACGCACCUGAAUCGGGAAAACAUAUAUUUACAUCUAUGCUUUAUA
UAAAUUUAUGUCGAUUUAGGUUCGUAUCGAAAUU



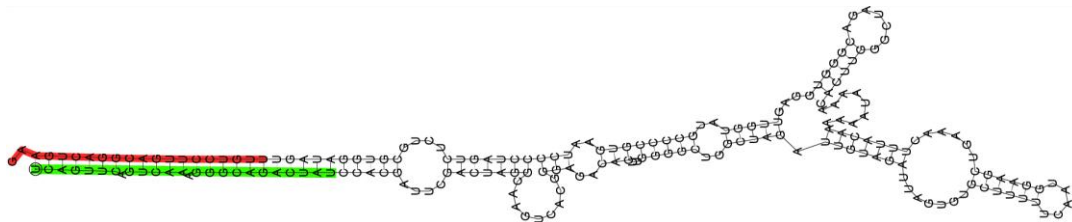
novel_46 MFE = -47.80 kcal/mol

UUUGGAUCUCGGAAGUAUAGUGGGAAAUGAGGGAAAUGAAAAAUGUACUA
AAAUGCGCAGUACAUAUGUAGCAUAUAUUUUUCCCUUUUUUGUGCAAUUUCC
CU**CUAUACUUUCCAAGAUCCAAAC**



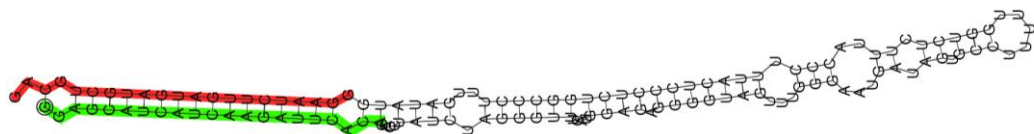
novel_48 MFE = -91.50 kcal/mol

UCAGUUCAGUCAAAAGGGCAGACUAUCCACGAUUCGACUAGGCAAGUCACGGGA
GACACUUGGGGCUGGCUAGAUUGUAGAUAUAGUGGCUUUUCAAUGGAAGCU
GAAACUUUACAAAAAUAACACUUGGGCUAGACGGGUGGAGUUGGUAUGC
CCCGUGAAUCCCCUAGUCUCUGCGUGGAUAGU**UUGUCCUUGACGGACUGAAG**



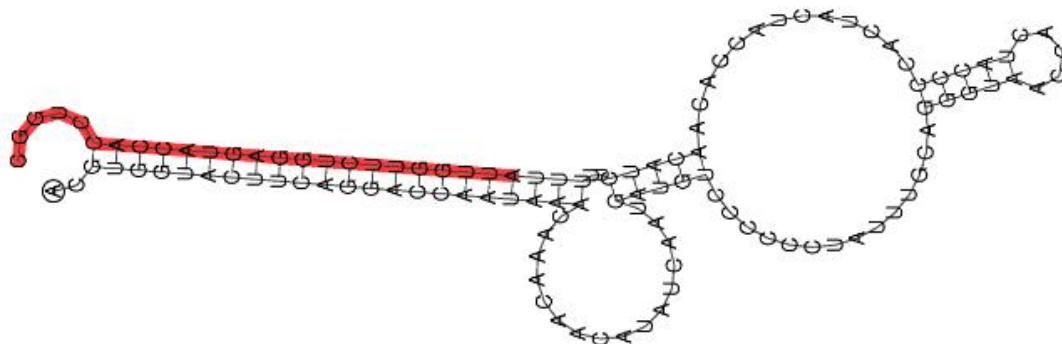
novel_50 MFE = -59.30 kcal/mol

GGAGCAUCAUCAAGAUUCACAGAGCUAUCUAGGGUUUCAUGGAGAGGGGUAG
UUUGGAAUGAUAGUGCCUUUUUGGUCUCUUUACCCUUUACUCCCUCUGGCC
UUUGAU AUG**GGAAUCUUGAUGAUGCUGCAG**



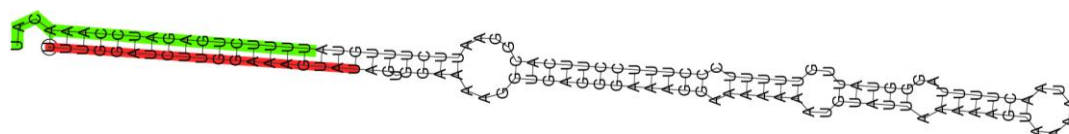
novel_52 MFE = -41.80 kcal/mol

ACGUGGUACUUCAGGACCAAUAAACAAACAACAUUCAUAUGAUGUCCCCCUA
UUUGCAGGGUAACCACUACCCACUACUACCACAACAUCUUUUU **AUUGGUUCU**
GGAGUACCACCUGGC



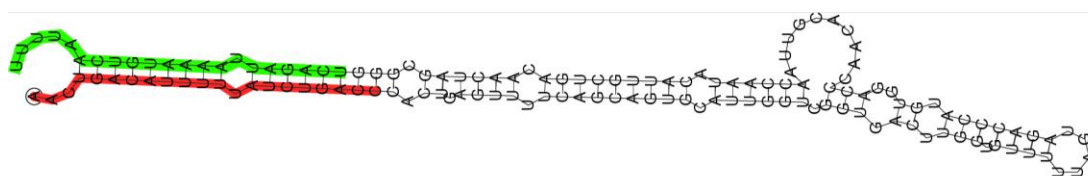
novel_53 MFE = -54.10 kcal/mol

UUUGGAUCUUGGAAAGUAUAGUGGAAAAGGUGAGGGAAAGGAAAAAAUGUA
UUAAAAAGUAAAAUAACUUUUAGGGUAUUGUUUUUCCCUUCCUUCACGGAA
UUCUUUGUA **UUUUCUGAGAUCCAAACAU**



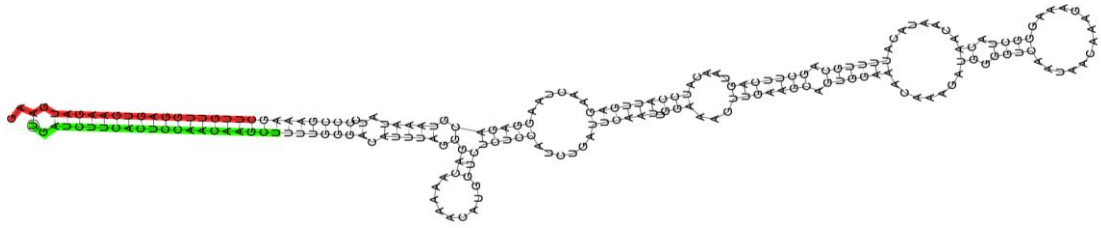
novel_55 MFE = -61.30 kcal/mol

AACUGACAUUUUUAUCUGACCCACUGAGUUUUCAGCAGUGCAUUGGUCGGUGA
CUUGGUGUUUUAGUAGACCCAUGUGGACCCAACACGUUAACCAAUACAUUGC
UGACAACUAGCGGG **UCAGAUUAAAAUGUCAAUUUU**



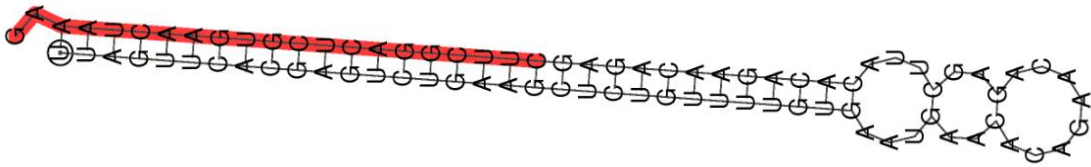
novel_57 MFE = -74.60 kcal/mol

UGAUCUUCACUCCAACAAGCUUUUGGACAUUUAGGGACAAAACAUGGUCUC
UCCAUCUGAUUCAAUUGGAAAGUUGAAGCAGUGGAAACAAAGAUGGGGUCAA
UAACAAAGAAAGGGCUACAACAAUACAUUUUGCAGCUUCAGUAACAUCAUUG
AGAACUAAGGAGACGUAAAUAUCCCCGAAAG **CUUGUUGGAGUGAAGAUGAAG**



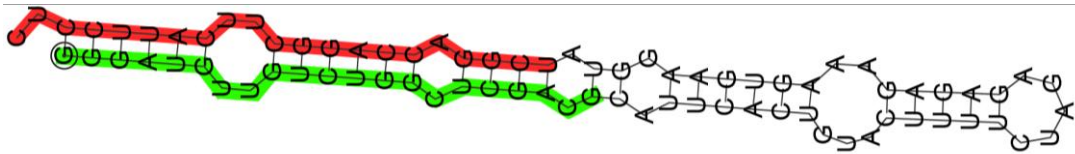
novel_59 MFE = -52.80 kcal/mol

UUAGUUCACGAGUCUGAAGCUCUGUUUUGUGAAUGAACACAGAACAGAGCUU
 ACACAGAACAGAG **CUUCGGACUCGUGAACUAAAG**



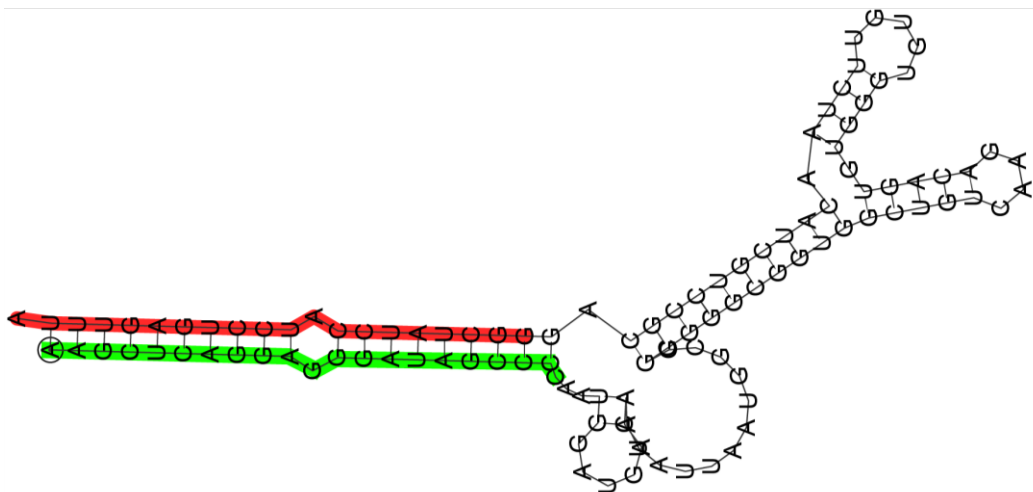
novel_6 MFE = -35.60 kcal/mol

GGGAUGUUGUCUGGCUCGACGCAUUCACUGUACUUUUCUAGAGAGAGAAAGU
 GAAGGUA **UCGGACCAGGCUUCAUCCUC**



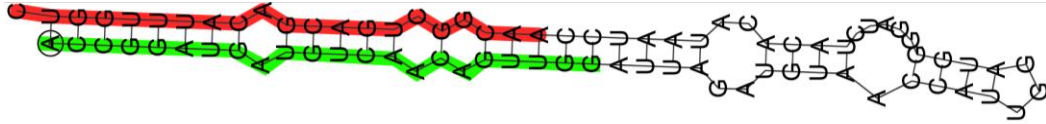
novel_60 MFE = -56.10 kcal/mol

AAGCUCAGGAGGGAUAGCCCCAAUGGAUGACAAUAUUA AUGGCGGGCGGGCGGU
 GGCUGUCAAGACAGUGUGGGUGUGUUCUAACAUCGUCCGCAG **GGCUAUCCAUC**
CUGAGUUUA



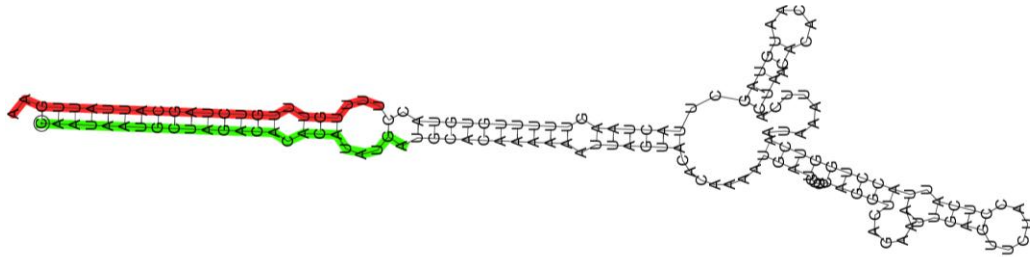
novel_61 MFE = -32.20 kcal/mol

ACCGGAUGAUGUCAACAGUUGGAUUAGAUGUAACCAUUGGAUGGGGAUCUAC
ACAUAUCC**AACGGCUGACGACAUUUGGUC**



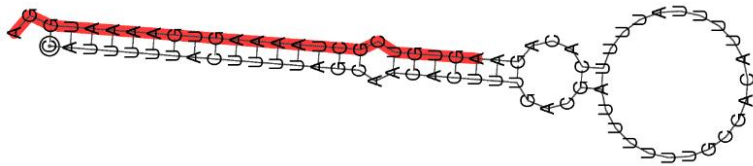
novel_62 MFE = -51.04 kcal/mol

CAAUAAUGCUAGACACACAUAUGAUGCACAAAAAAUAGUACACAAAAUGAU
GCGUCAGGUCAGAAUUGAGUUCUACCUCAUUAACCUUGUCAUAAAUUCACUA
ACACACAAUGUAGCUUACUAAGUUUUUGUGUACC**UUUUGUUUGUCUAGCAUU**
AUUGAA



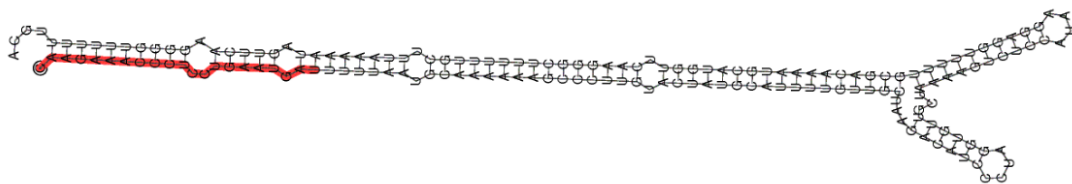
novel_64 MFE = -27.65 kcal/mol

CAUUUUACUUUUAGCAACACUUUGACGAUUUUUUGCGACAUUUUUUUUUCAC
AGA**AGUGUCGCUAAAAGUGAAAAUGGA**



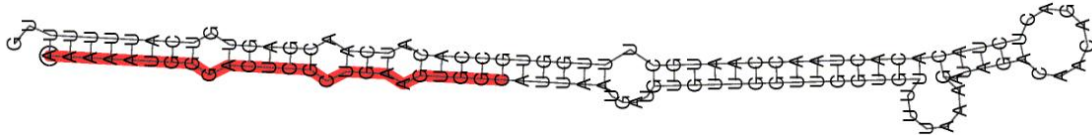
novel_65 MFE = -86.60 kcal/mol

CAAGAAACCCUCCUGAAUGAUUUUUAAUGCAAAAAAGCCCUUGUACUAUGCAU
UUUGUUGCUAAGACAUCCCUAGGUGUUGC UAAAAGUCUCCAUAAGGAGGUUU
UUGCGACAAAUGCAUGGUUCAAGGGCUUUUUUGCUUAAAAAUAGUUCAAG
GGGUUUUUUUGCA



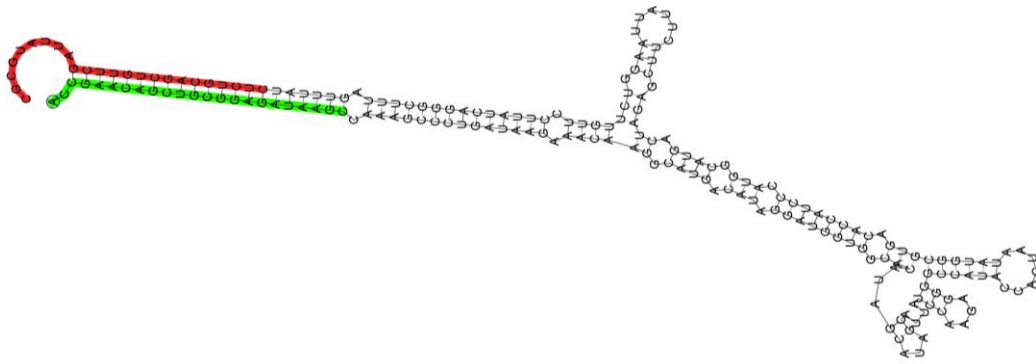
novel_66 MFE = -86.60 kcal/mol

AAAAAUGGGACUCGCGAAGUGGC AUUAAUGAUGUGUUGGUUGGUGUUUUA
AGAUAGACAACAGACUCUACACACUAACCAAUGCUUUGGUGCCACAUCAACGA
GUGUCAUUUUUG



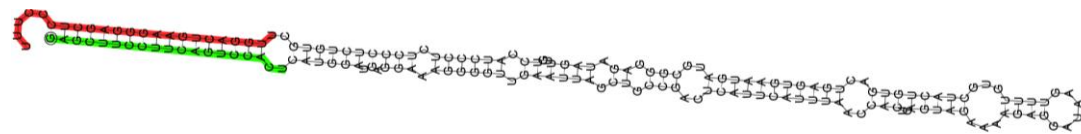
novel_67 MFE = -101.50 kcal/mol

ACCGAACAGCUGCGGAGAUAAGC CAAAGCCCUGAU AAGAAACAAGGCAUGACA
UAGGAUGGUGGCACAUAGCAUAGCAUUAUCCAAGAGGGGCCAUACCAGUAAUA
UGGCGUGACACCAUCCCAUGGCAUGACUAGAGCUUCUUAUUAAGGUCUUGUUC
CUUAUCAGGGCUUUAUUAUCUCUGCAGCUGUUCGAUUAUGCGC



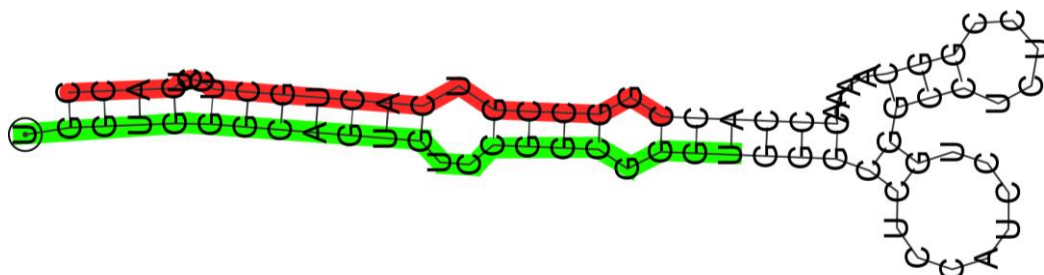
novel_68 MFE = -82.30 kcal/mol

GAGCUUCCUUCAGUCCACU CAUGGAUGAGGAAAGGGUUGAAUAGCUGCCGA
CUCAUUCAUUUAACCACUCAGUAGAAAAGAGGAUAAGUUUUGUGCUACUGUG
ACUGAGUGAAUGAUGCGGGAGAUAGUUGUCCAUCCUCUCCUCUGUGC UUGG
ACUGAAGGGAGCUCCCUU



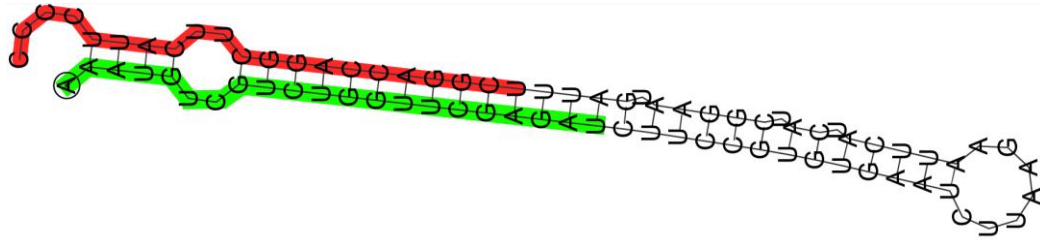
novel_69 MFE = -41.10 kcal/mol

UGGUGGGCAGUGUCCGGCGGGU GGGCCUCCAUCCUGGGCCUCUCCGGCAAAC
CCAC CGGCCGUCACUGCUCCUCACC



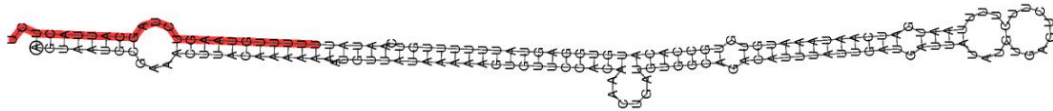
novel_7 MFE = -37.70kcal/mol

AAAUGUCGUCUGGUUCGAGAU CUUCCGUGUGAAUCUUAAGAAUUCAUCAUCGG
AAUGAUU UCGGACCAGGCUUCAUUC



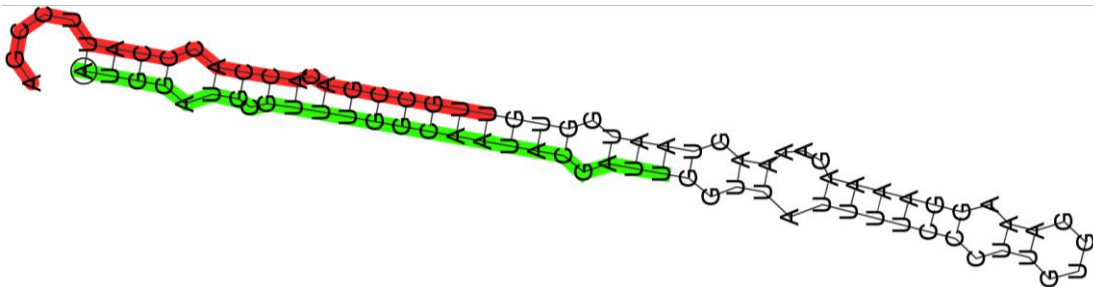
novel_71 MFE = -70.20 kcal/mol

AGUAAUGCGAAACUACAAAAAAUGUUUAUAAAAAGUGUCCACAAACUGAU
GUGGCAGACAUUUAUUGAUGAUUAUUGUGAGUCUUCUUUAAUGAUCAAUA
AAUGUGGCCACAUGUGGAGUAUUUUUGUCAUAU UUUUUGUAAGUCUAGC
AUUACUCU



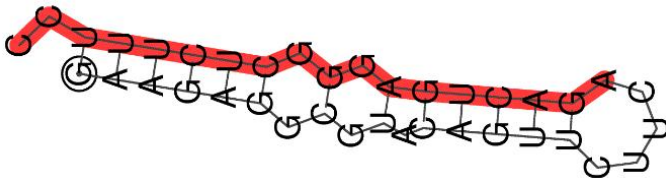
novel_72 MFE = -28.60 kcal/mol

AUGGAUGCGUUGGCAAUACGAU GGUUAUUUUCUUGUGGAAAGGAAAAG
AAAAGUAAUGGUG UUGCCGACACCACCCAUUC



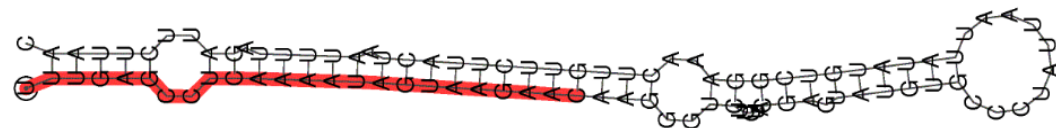
novel_73 MFE = -12.40 kcal/mol

GAAGAGGCGUACAGUUCUUC AGACUGAGGGCUCUUC



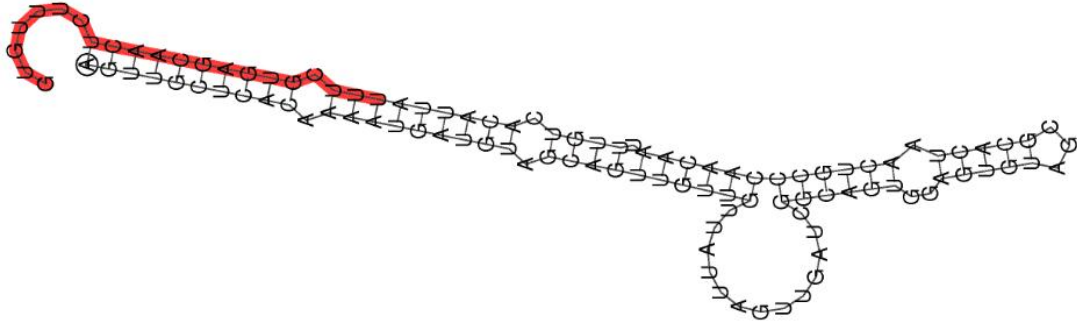
novel_77 MFE = -26.20 kcal/mol

UUUGAGCCUCAAAAUAGUAAGAAC AAGGGUCUUGUACGAGUAUGUGCCCUAU
UAAUUAUAUGUCGGAACUUGUUCUACUAAUUUAGAUUCUUAAC



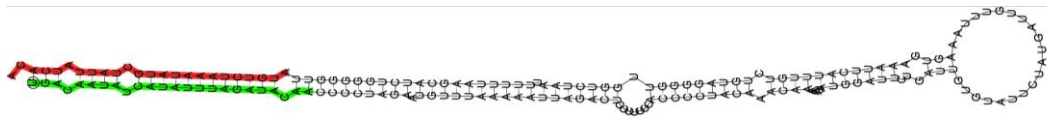
novel_78 MFE = -47.11 kcal/mol

AGUUGCUCACAAAUGAUGUAGCAGUUGUUGUUAUUAGUUGAUCGGCAGUGG
AGUGUAGCGCACUAACUGCCCAACAAUUUGUCACAUAU**UUUCGUGAGCAACUC**
UUUGUG



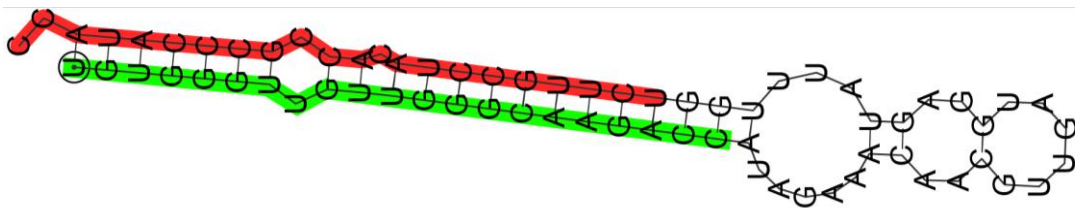
novel_79 MFE = -71.10 kcal/mol

UGACAAUAUCAUAUUUAGAUACAACCCCUAGAAUGUUUAAAAUUAGACUCCC
CCCACCCCUACAAACAAAAUAUGGAUUCUGAUUGUGUAUUCUAUGAUUGUU
UAAAGUGAAAUUCAUUUGUCUGUAGGGGUUGGUCUAAUUUUUAAGCAUCUG
GGGGUU**AUGUCUAAAUAUGCUAUUUAUCACA**



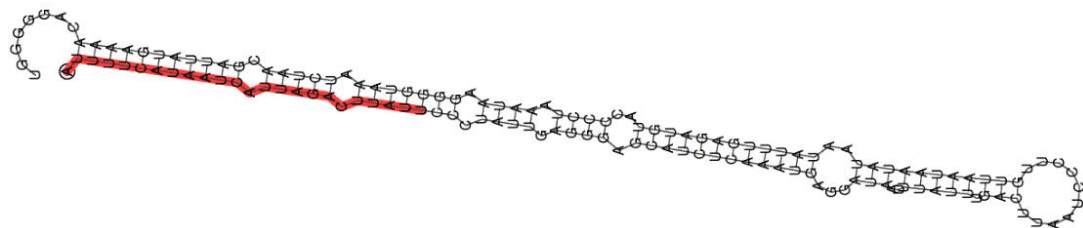
novel_8 MFE = -31.30 kcal/mol

UGUGGGUUGUUGGGCAAGACCAUAGAAACAACGUUGAUGGAGUAUUUGG**UCU**
UGCCUACACCGCCCAUACC



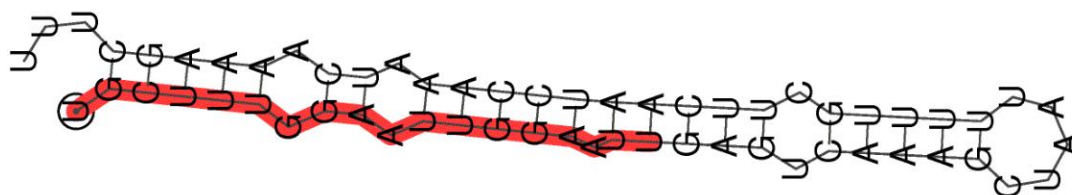
novel_81 MFE = -48.30 kcal/mol

AUUUUCAUAAUCAUUAGACUUAUUCCCUAUUGAGGGAGCAUCUCAAUUGAGG
AUAUUUAUUUGACUUAUCCCUUGUAAUAAUAAUAAUUUGAGAUGUACC
CCUAAAUAAGGGGUAAAUCUAACGAUUAUGAAAACAGGGGGU



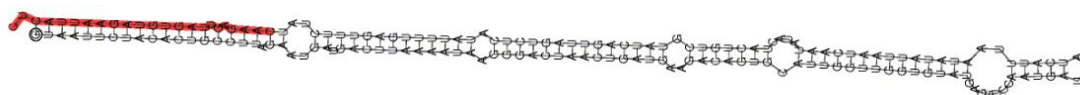
novel_82 MFE = -18.10 kcal/mol

UGCUUUGGAAUUGGAAUUGGAGUCAAGCUAAUUUUUGCUUCAAUCCAAAUCA
AAAGCUUU



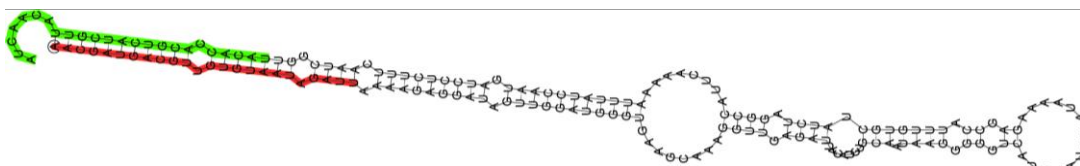
novel_83 MFE = -73.30 kcal/mol

GUAAUUCUACACUGCCUAGAAUGAUGACUAAAAUAAGGGACUACUGAUG
AAGACAGUGCAUUGGUUGGUGUAUGAGGUCCAUGAUUAUCAUUUAAUUAU
UAAUCAUAUACUACUGUCGUAUCAGUUAGUCUCAUUAUUUGAGUUUCUAU**C**
AAGAGUUAGUGUAGAAUUACUC



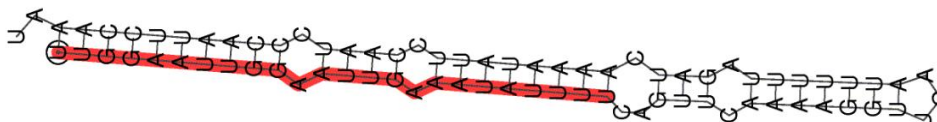
novel_84 MFE = -68.53 kcal/mol

AACGAUGACGUUGUGUAAUAGAUUAAAAGAGGAUAGUUGGAUGGGUGAAGCA
AAGGUUGAGAUACAUCUGCAAUAAGGGGGUCAUGAAUUUAUAAAAGAGCCA
UUUGUGCUAUCUAGGCCAUUCAA AAAAUUUAUCCAAUGAUCCUCUUUCAUCGG
U**UACACCACGUCAUCGUUACAACUA**



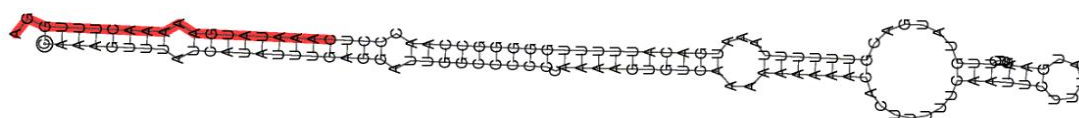
novel_87 MFE = -23.00 kcal/mol

UUGGAAUUGGAAUUGAAAUAUUUUCAGUUCAAAAGGUUCAAUUUUUAGAUC
AAAUAUCCAAUCCCAAUCCAAU



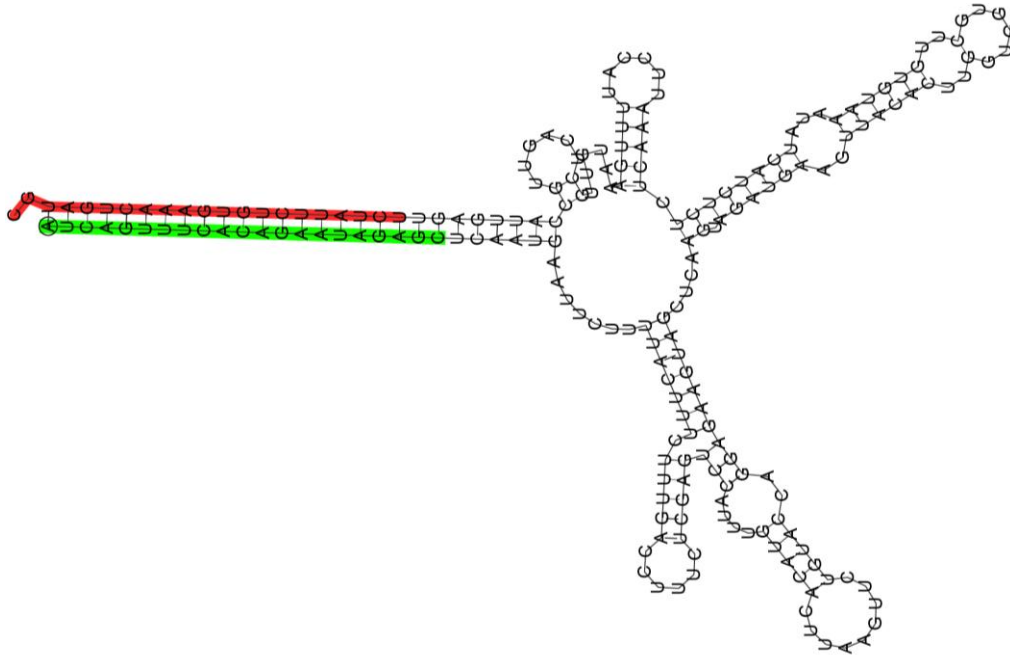
novel_88 MFE = -63.00 kcal/mol

CAAAGUUUAUCAUAUUUGAGGAUUGGCCCCCAAAGUGUCAAAAAAAAAACAC
UUUUUCAAUUCUUUAUGAAGUUCUUGUAUGACGUUUUUUAAAUGACAUUUUU
GGGGCCAACCCU**CAAUAUGAAAAACUUUGGA**



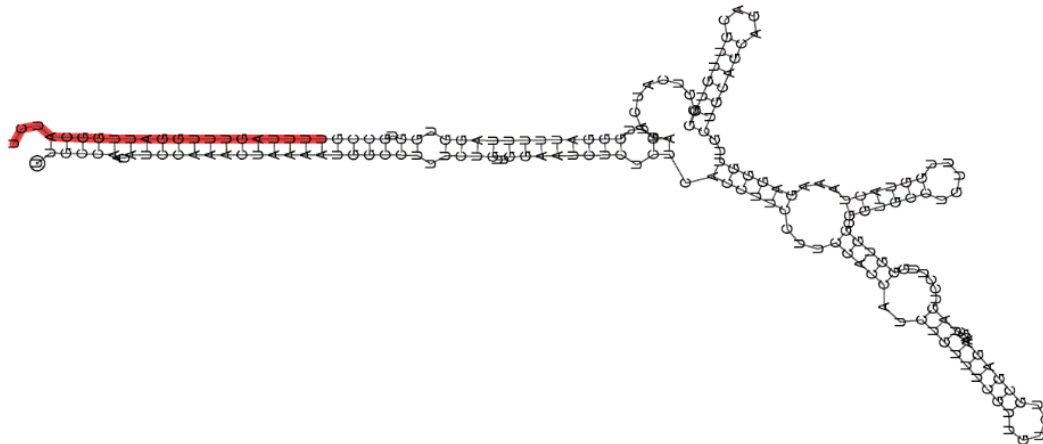
novel_89 MFE = -70.30 kcal/mol

AUCAGUUUCACAGAAUAGAGCUCAAUGAAUUCUUUACUUUCUUUGACCUUUC
UCGAGUCCAUUUGUACACUUAAGUUCUGUACCAGGAGAAGUAGCUC AAGUAGA
UGAAGUUACACUUGGUGGUGCUUGUGUAAAUAUCAUCUCUCUCAAAUCCA
UUGAAAUGUUGCUCAGUUGCCAUUGAGU**UCUAUUCUGUGAAACUGAUGC**



novel_90 MFE = -76.40 kcal/mol

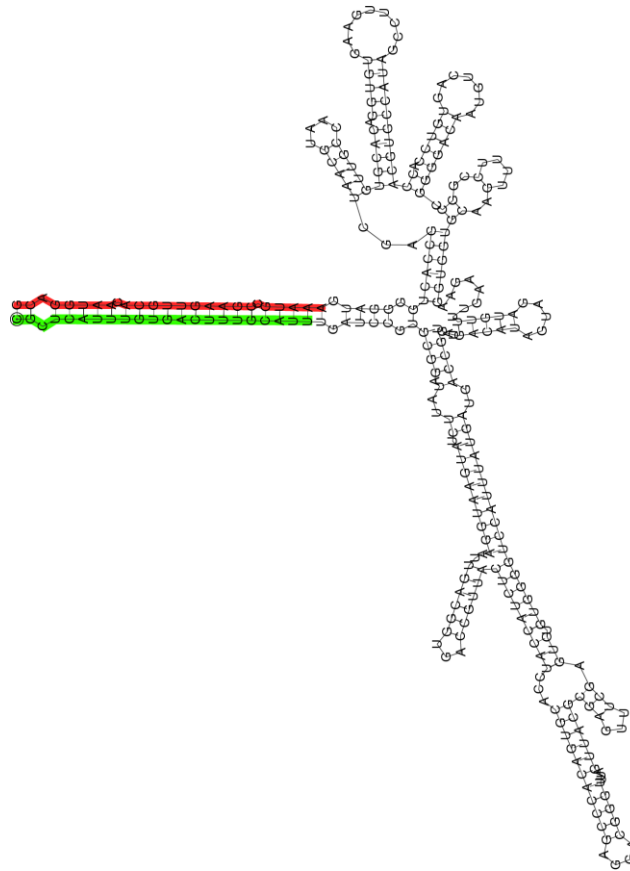
UUGCCAAUAUCCAAACUAAAAUGGCCUUUCUGUUGGAAUCUCUCACCUUCC
UUCCACCAUCUGUUUCGUUGUCUGCGAGAAUGCUAGUCCUUGGGUGGCGGUGC
CUGUUUGGUACUAAAGAGGGUUGCUGCAGCAGACGUUGUGGGGUCAUCAUAG
UUGGGAUUUUUAGGUGGUGCCG**UUUUAGUUUGGAUUGGCAUCU**



novel_95 MFE = -100.75 kcal/mol

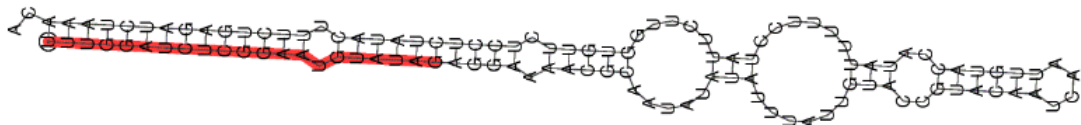
CGCUCAUUUGUGACUUUGCAUUUGAUCCGUGCGGAUUAUCAUGAAUGGAAU
UGACGGUGACCGUACUCUACCAUCCACGUGACACCCGAGGACGGGUUAGUU

ACGCGAGUUUCGAGUGUGUGGGGUCCAUUUAUGAUGACCGUGAUGACAUAGU
 AGAUGUUUUGAAGAAGGUGGUGCAAGUUUCCGGCCGGGACAAUGUCAGUG
 UCCACCACGUGCCAUAAGCCUUGAAGUGUGGACACGUGUUGCCAAUGCAAUCGA
 GCCACUGGGGAUG **AAAUGCCGAAGUUGCACAAUGGACG**



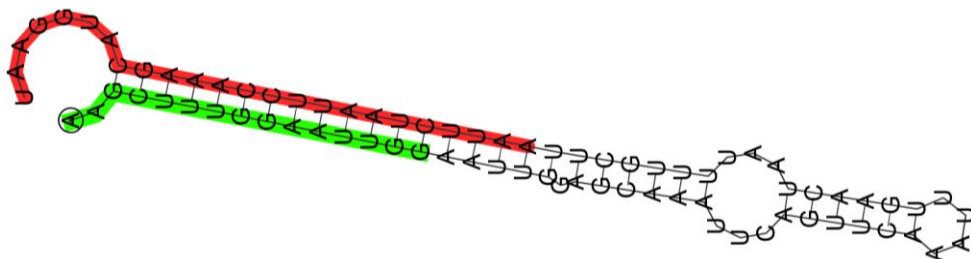
novel_96 MFE = -46.20 kcal/mol

UUUGGAUCUCGAAUGUAUAGAGGAAAACGCAAUAUAUAUUUAUUGUACCGU
 ACAAUCAAUUGUACCAUAUUUUUCCUAUUCUUGGUGUUCUCCUCUAUACUUUC
 UGAGAUCUAAACA



novel_97 MFE = -37.90kcal/mol

AAGCUUUGGAAUUGGAAUUGGAGCAAAUUCAGUUCAAAUUUGAACUAAUUUU
 GCUU **AAUUCUAAUUCCAAAGCAUGGAAU**



novel_98 MFE = -85.30 kcal/mol

UGCCGCACUCAUCUACCAUGUUCGAAGUCAUUGCCAAAGGCAGUGCUAUUCU
GAUCGGAAAAAAGGCAGUGCAGUUACUAGUUACUACAGUGAAGUGGCGCA
GCUGGAUCACCUCCUUUUUAGGGGCGAACUAAUGGUUUUGGCAGGCAGUGAAU
AGAACAUGGUAAGAUGAGUGUGGUGGA

