

Docking Analysis

section 6.1.2

Structures are colored according to their binding geometry

Green structure => correct docked => included in analysis

Red structure=> incorrect geometry=> excluded from the analysis

All Dockings for Figure 25

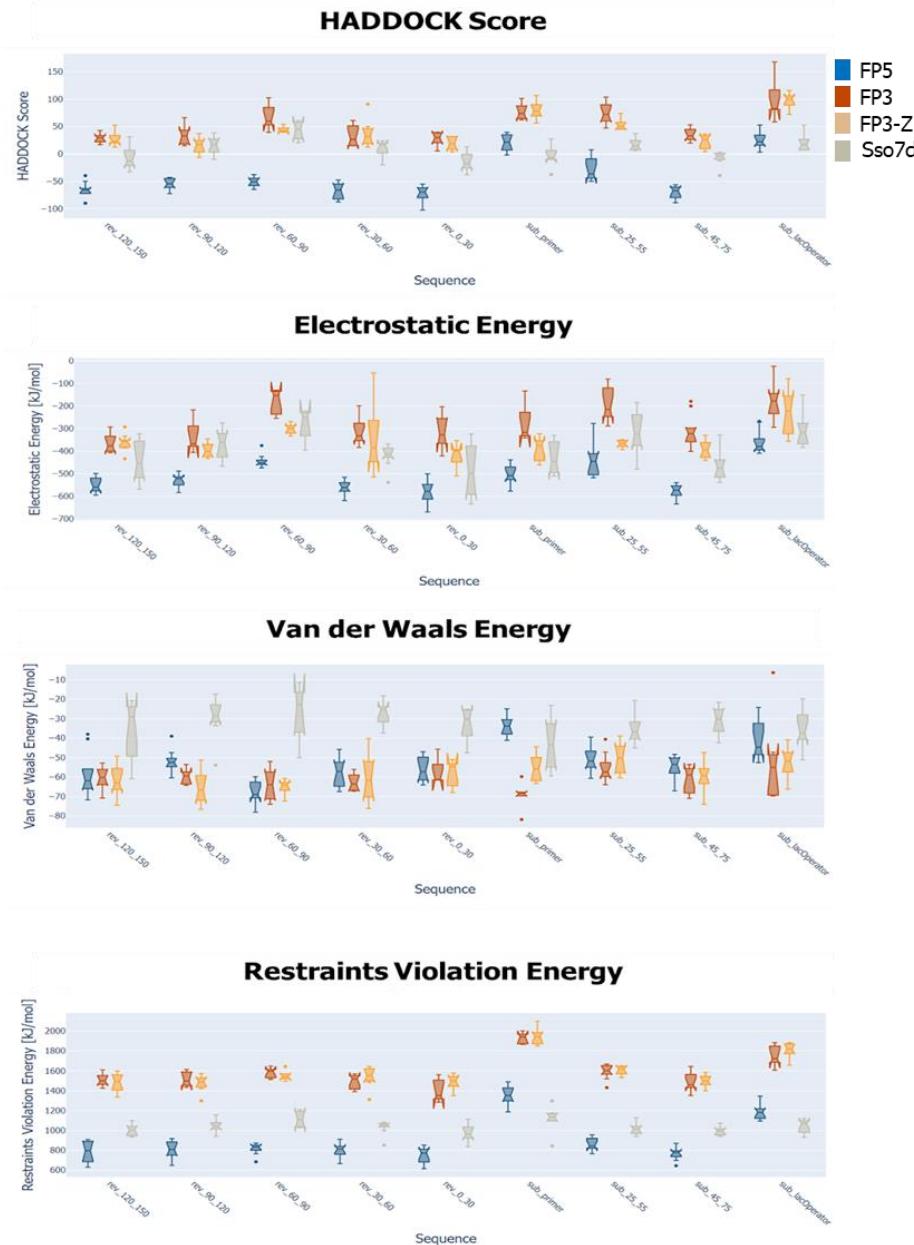
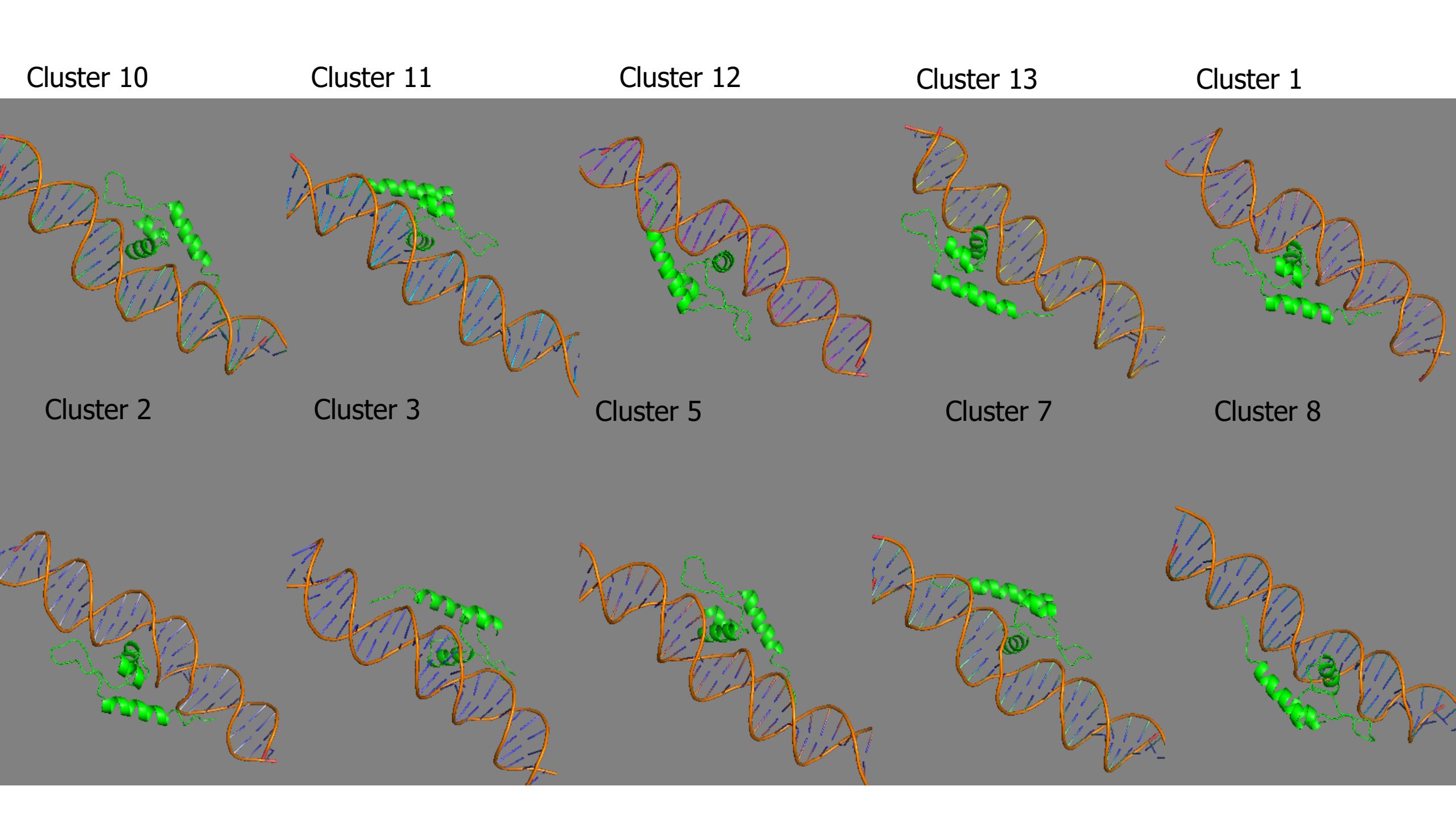


Figure 25: Analysis of energy terms obtained from HADDOCK modelling per investigated DNA sequence for FP3 (red), FP3-Zn (orange), FP5 (blue), and Sso7d (gray).

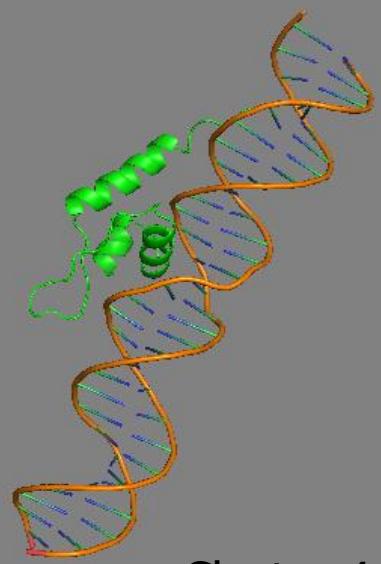
FP5

Rev 0-30

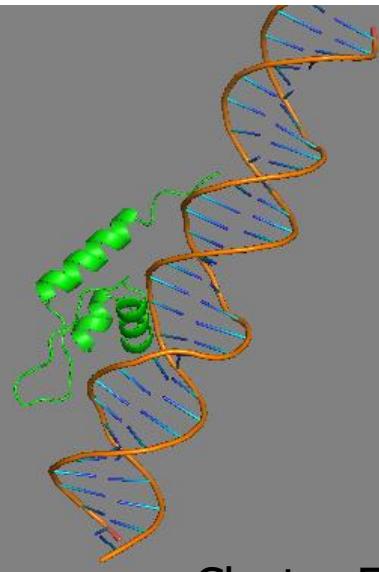


Rev 30-60

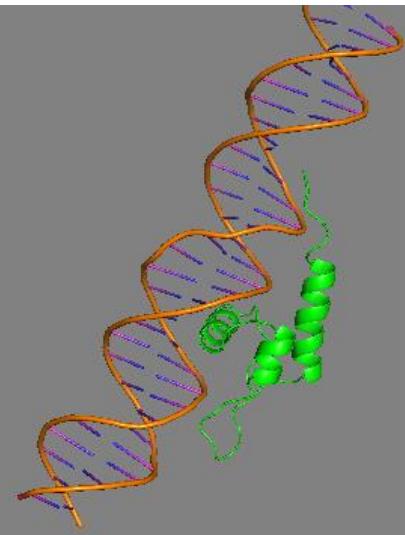
Cluster 10



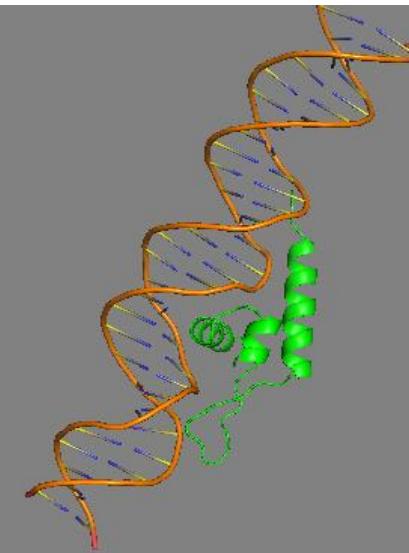
Cluster 11



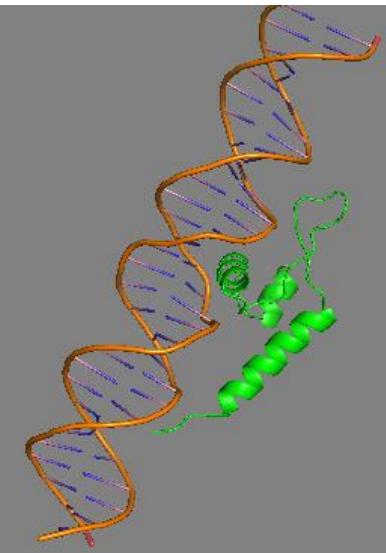
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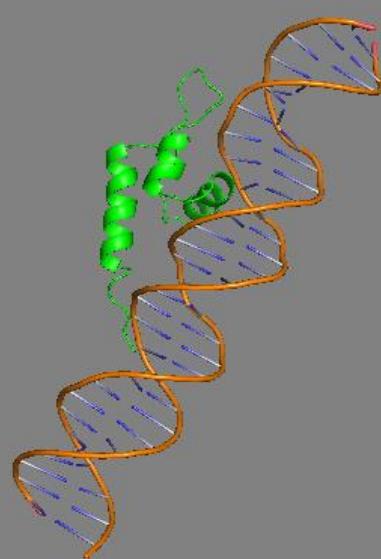
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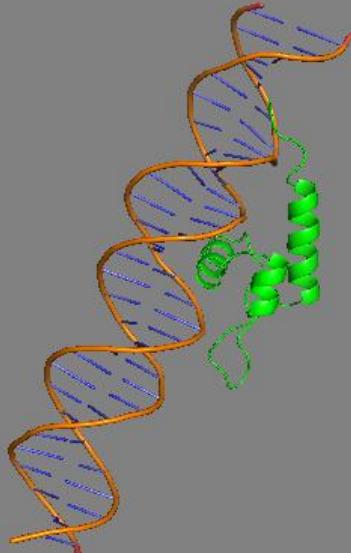
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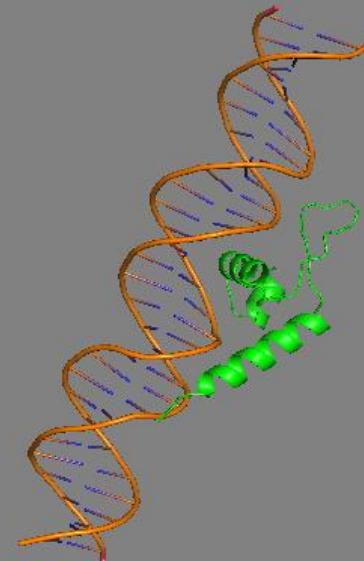
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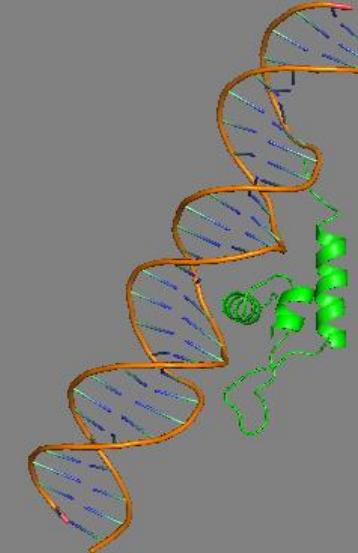
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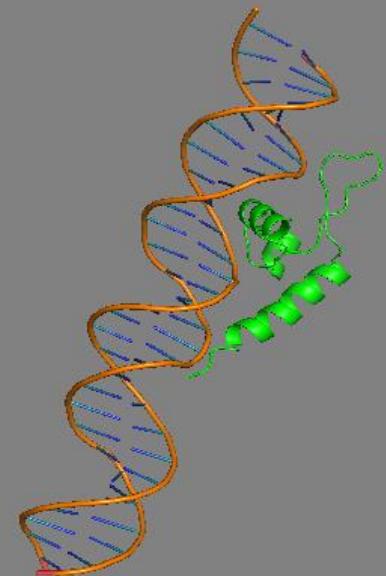
Cluster 7



Cluster 8

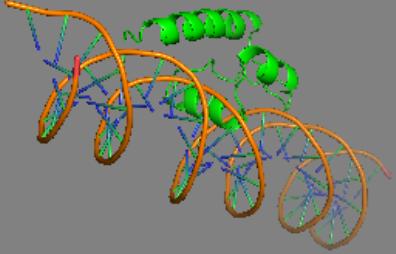


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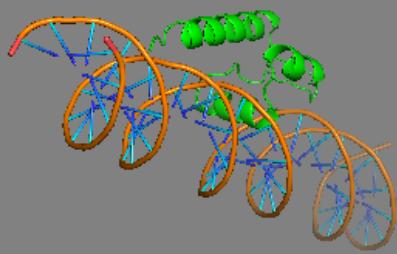


Rev 60-90

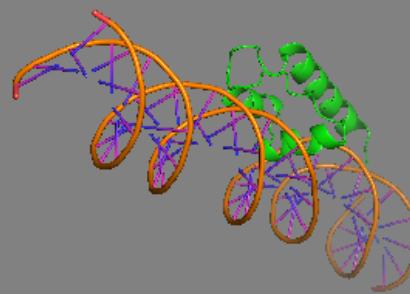
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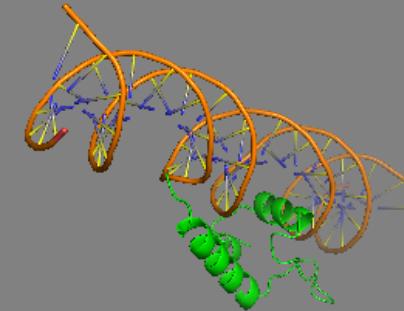
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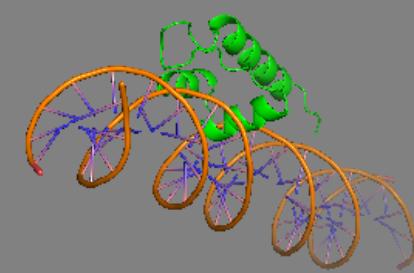
Cluster 3



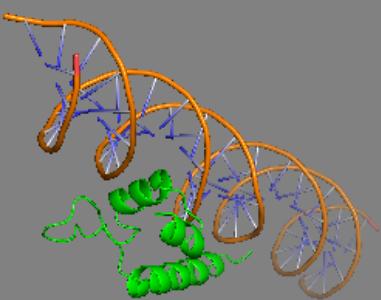
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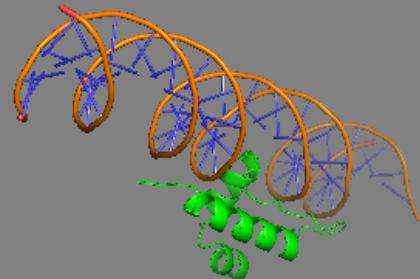
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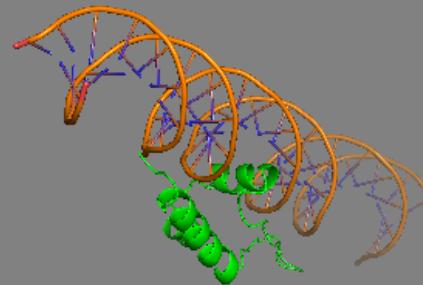
Cluster 6



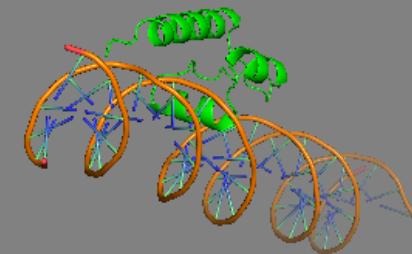
Cluster 7



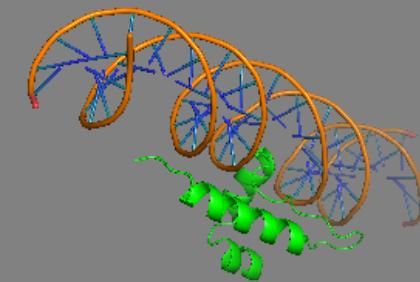
Cluster 8



Cluster 9

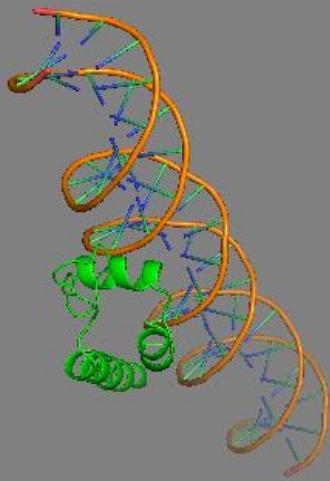


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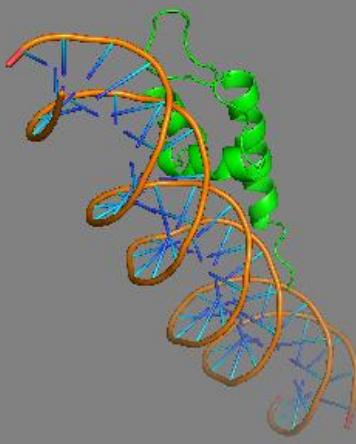


Rev 90-120

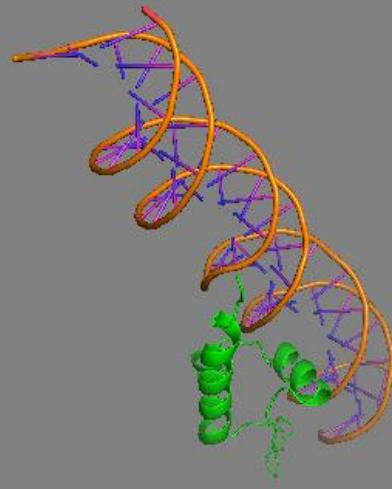
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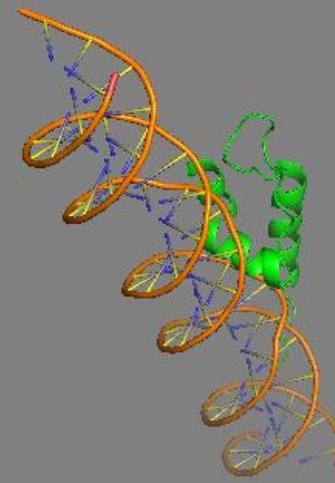
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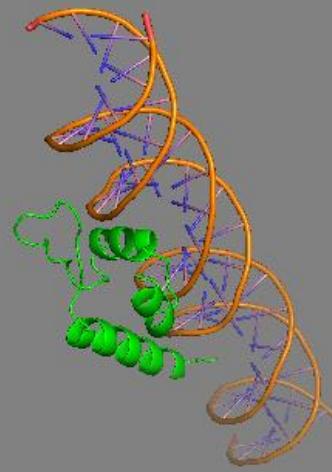
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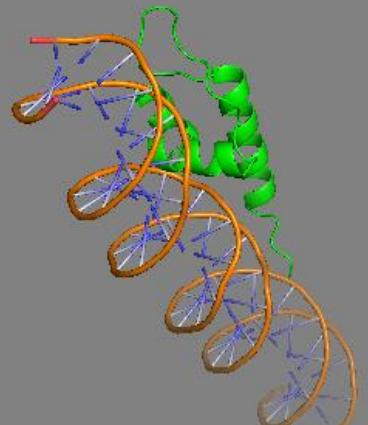
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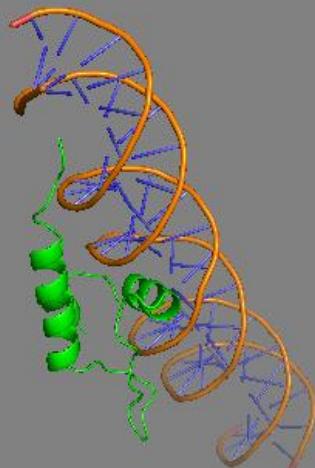
Cluster 1



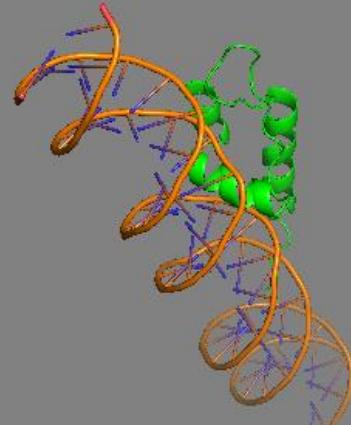
Cluster 2



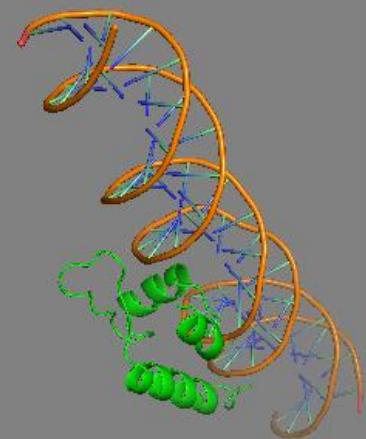
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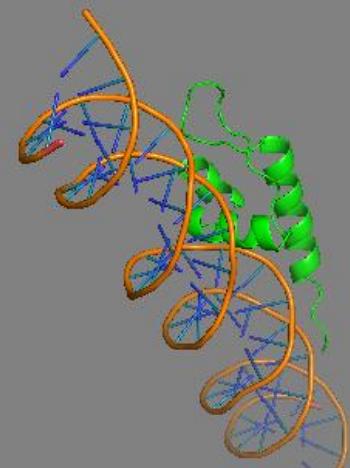
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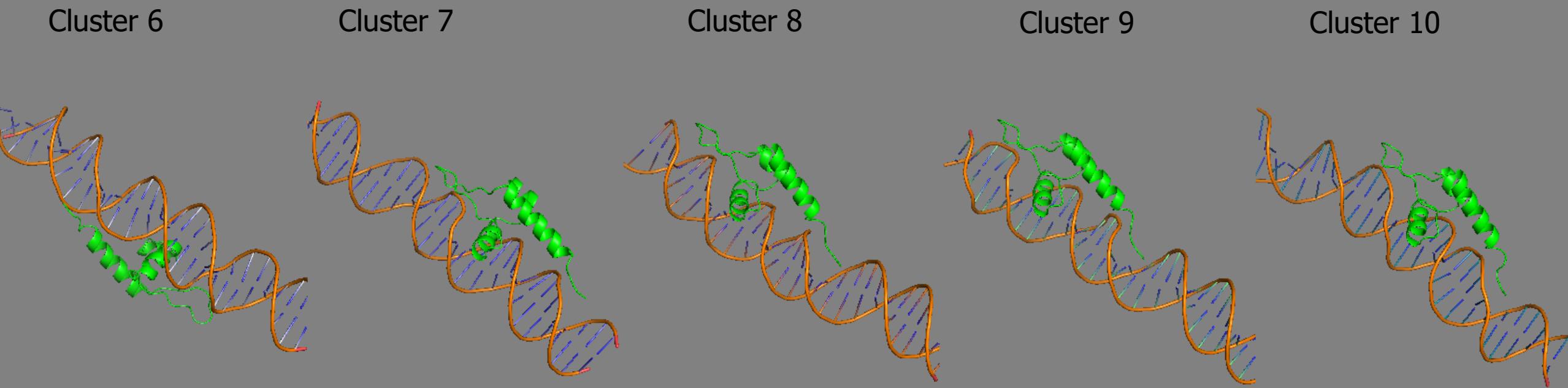
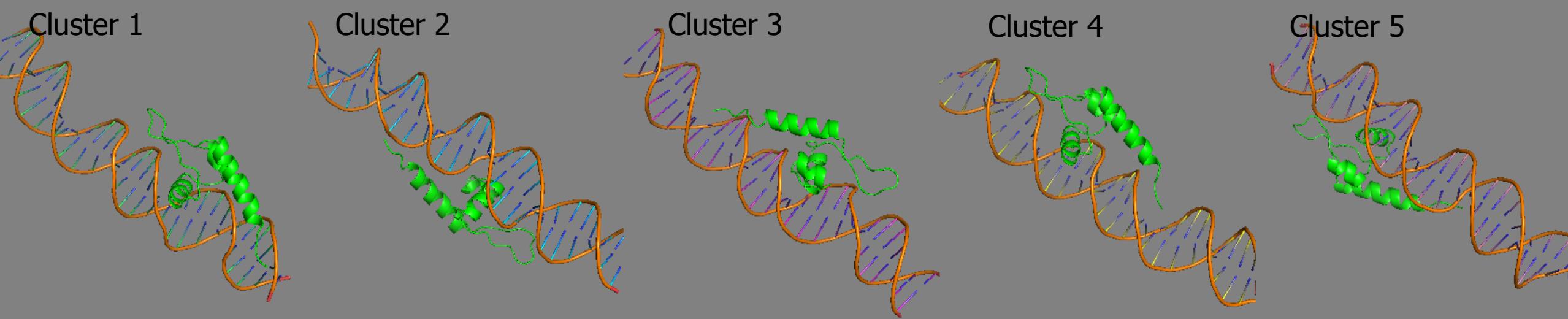
Cluster 6



Cluster 7

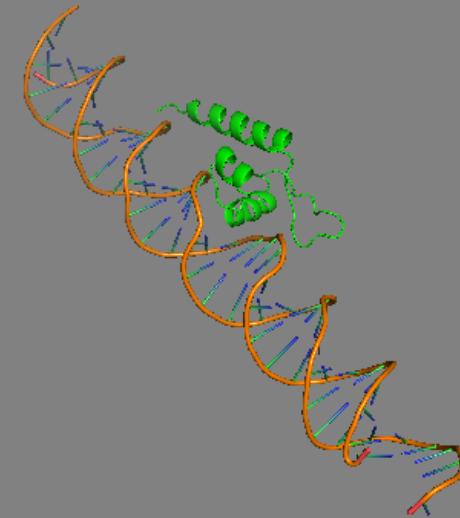


Rev 120-150

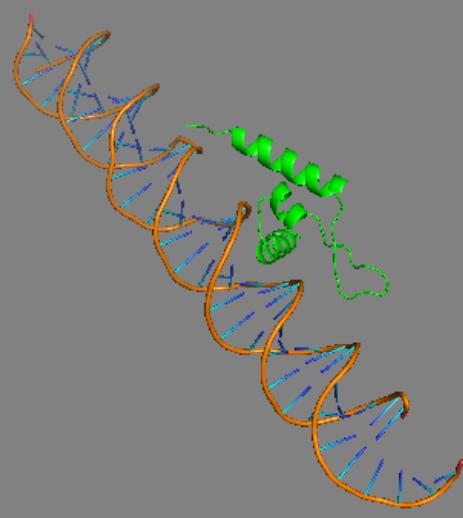


Sub primer

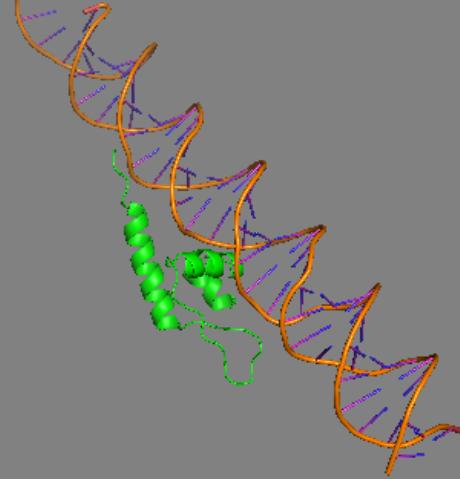
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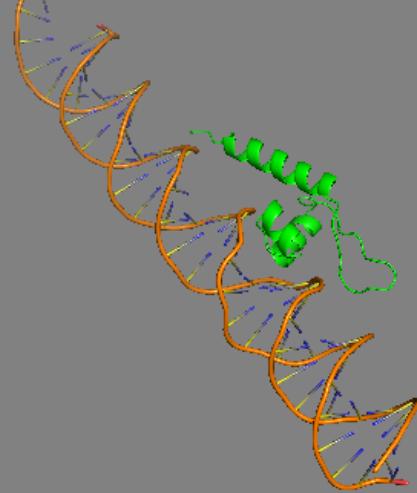
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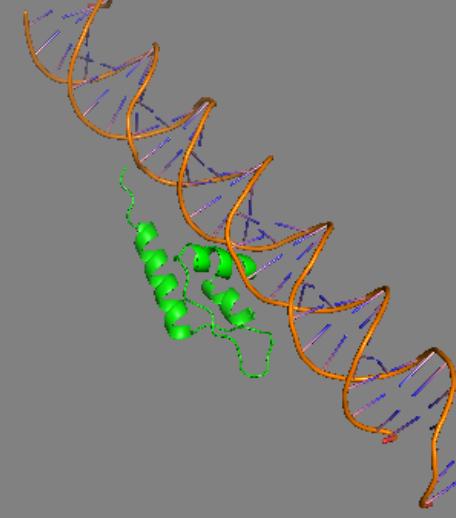
Cluster 1



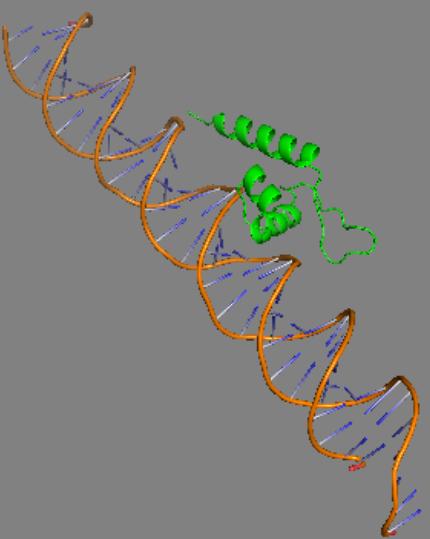
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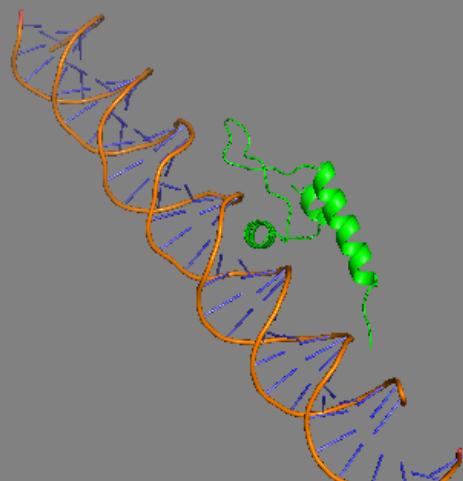
Cluster 3



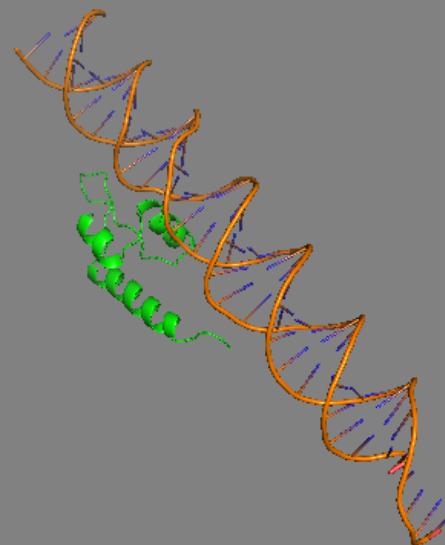
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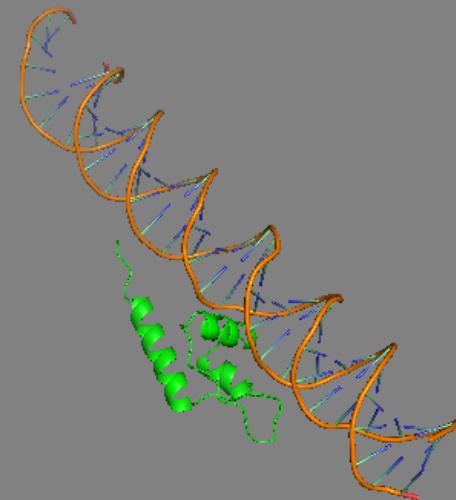
Cluster 5



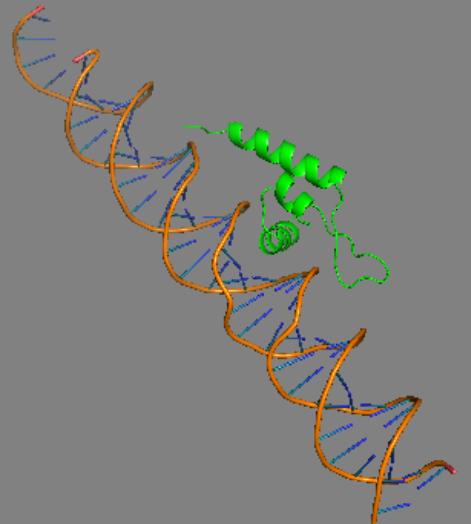
Cluster 6



Cluster 7

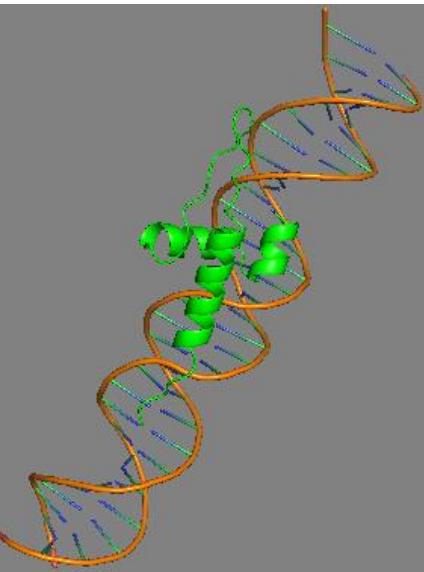


Cluster 8

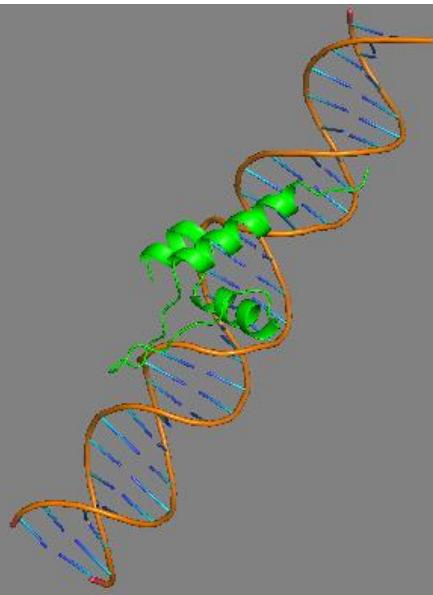


Sub 24-54

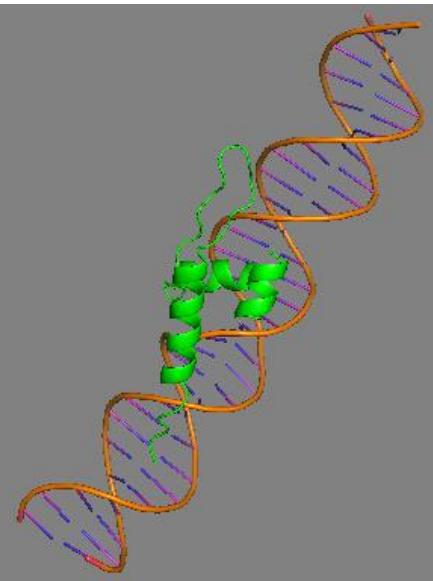
Cluster 10



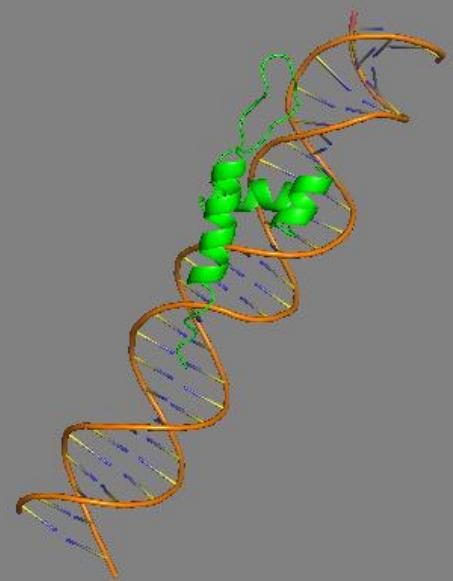
Cluster 11



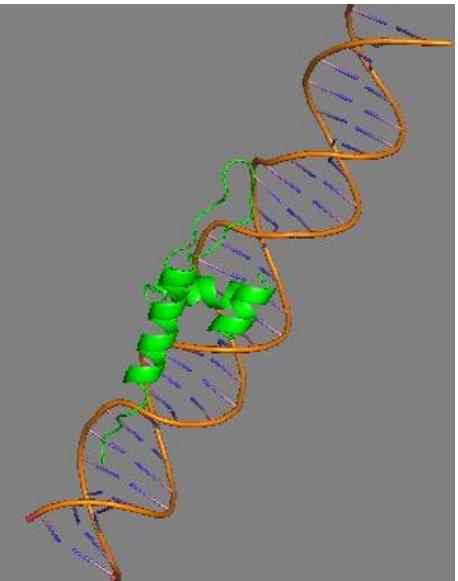
Cluster 12



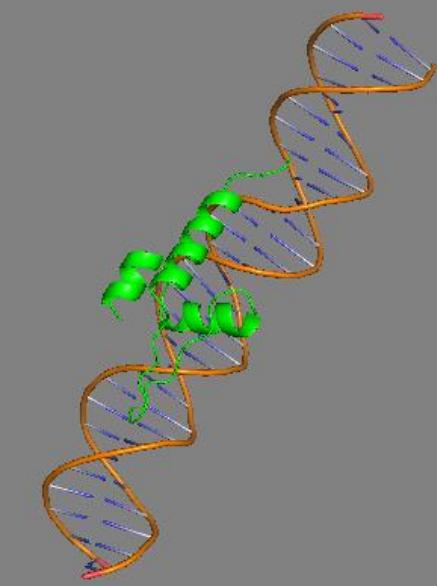
Cluster 1



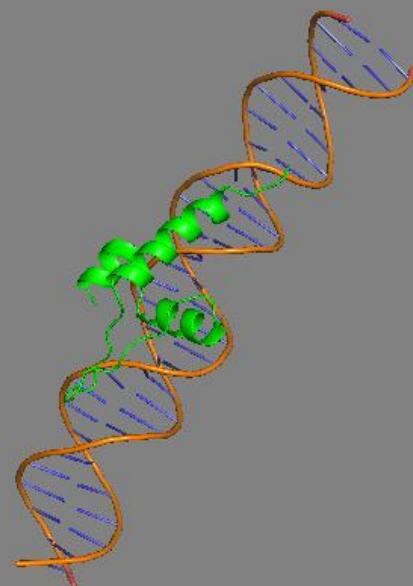
Cluster 2



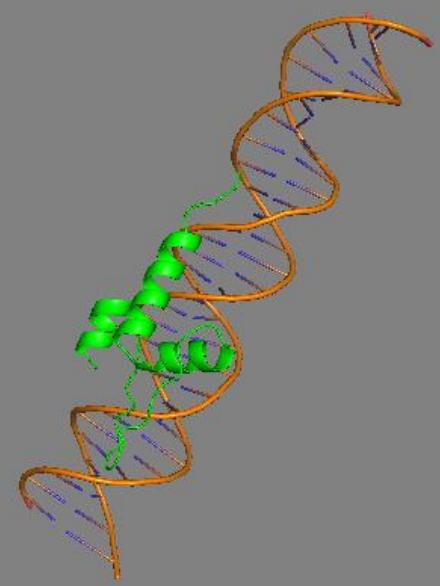
Cluster 3



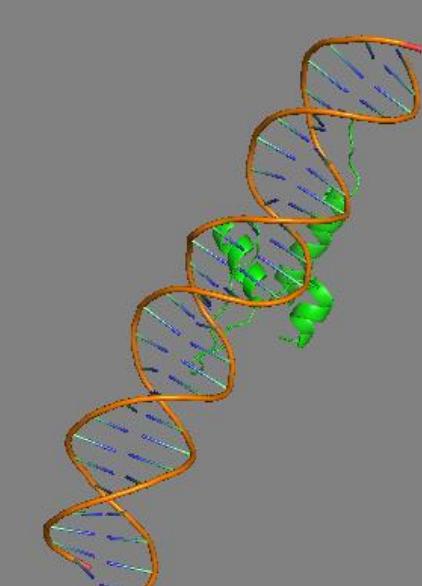
Cluster 4



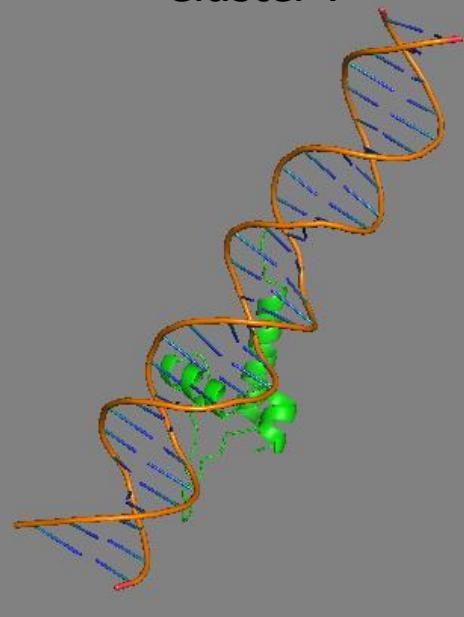
Cluster 5



Cluster 6

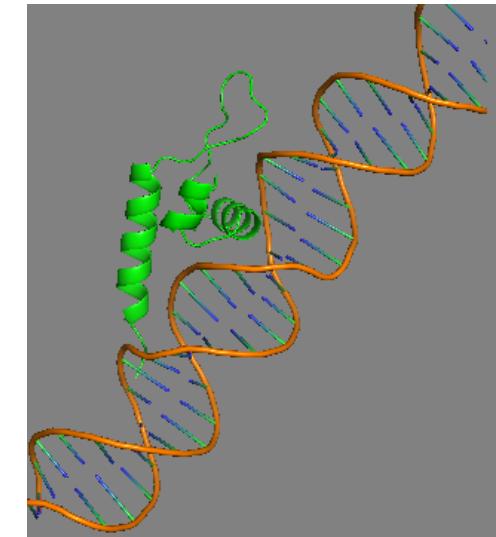


Cluster 7

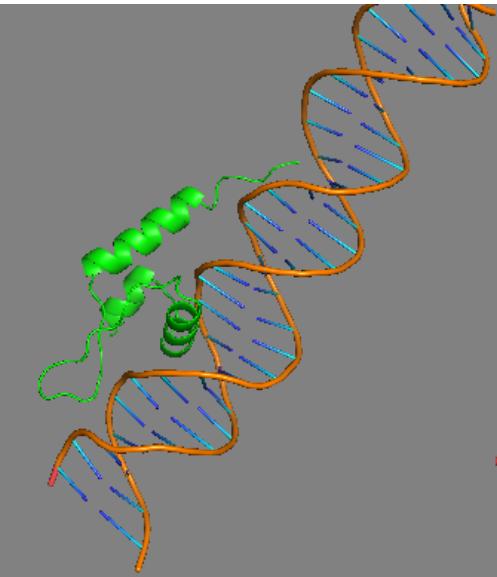


Sub 45-75

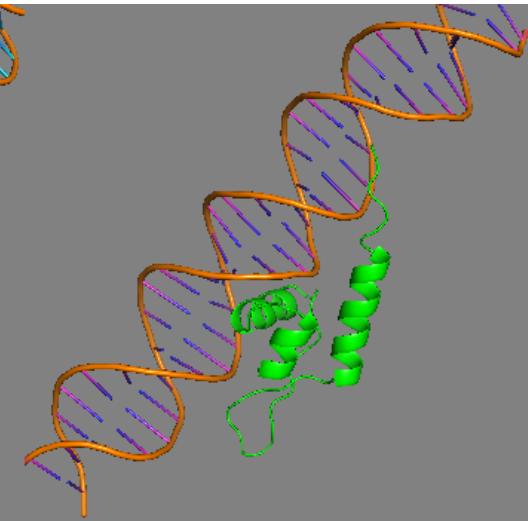
Cluster 10



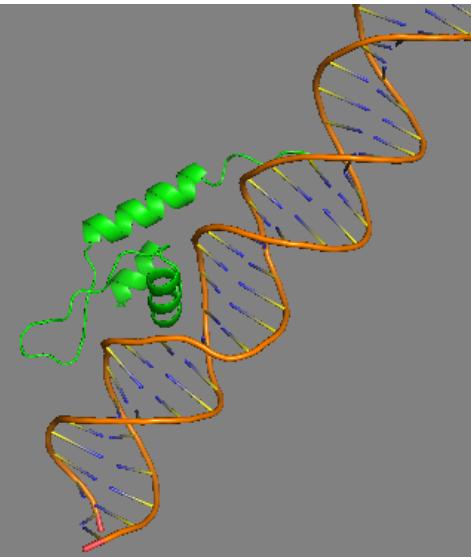
Cluster 13



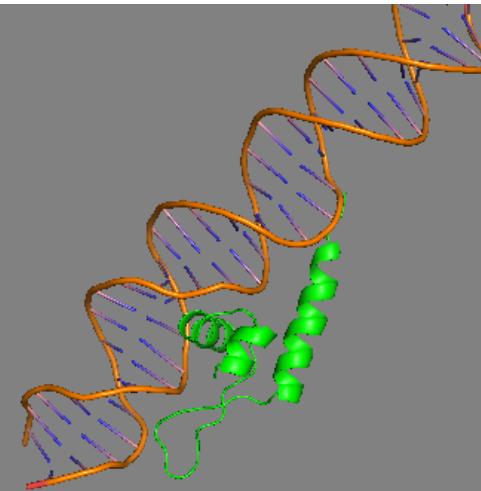
Cluster 1



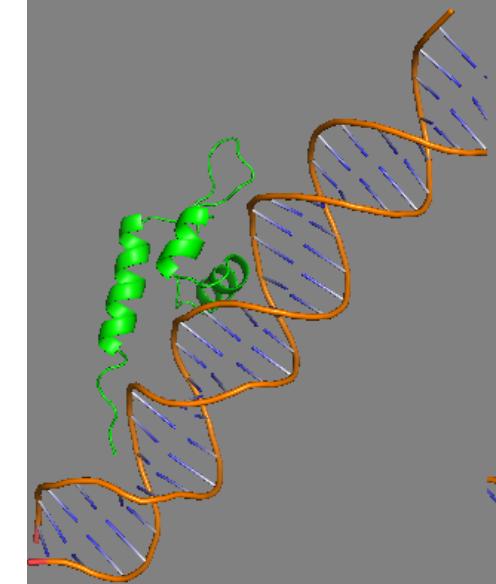
Cluster 2



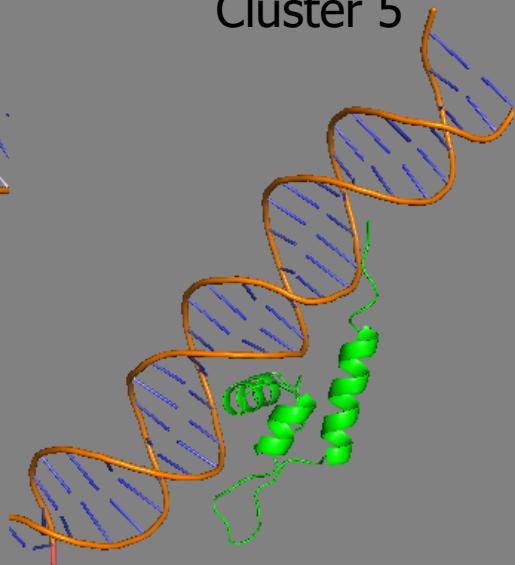
Cluster 3



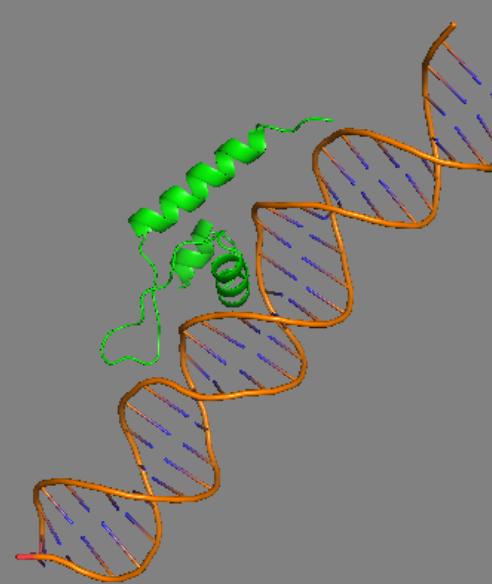
Cluster 4



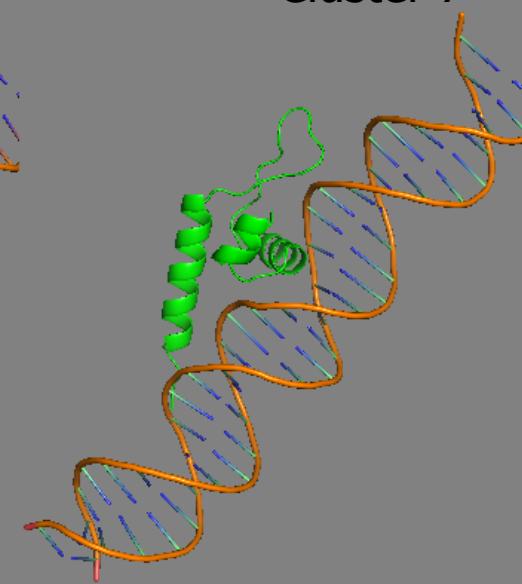
Cluster 5



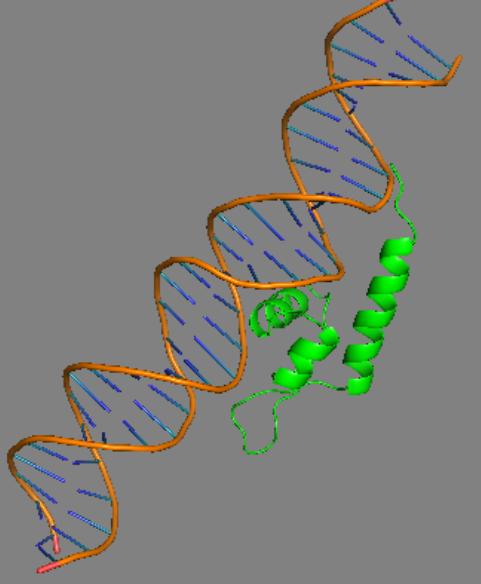
Cluster 6



Cluster 7

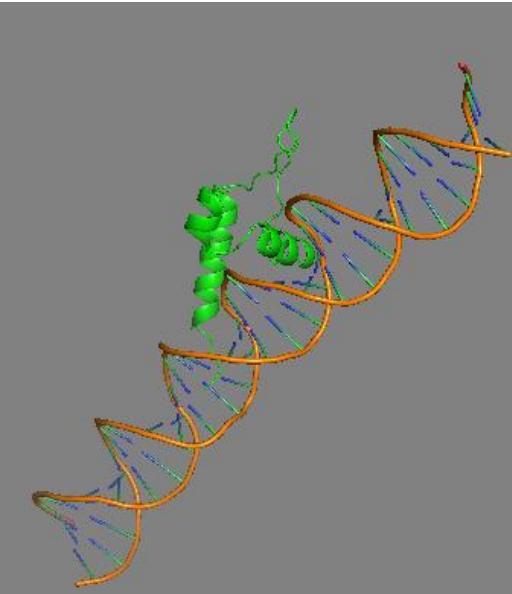


Cluster 9

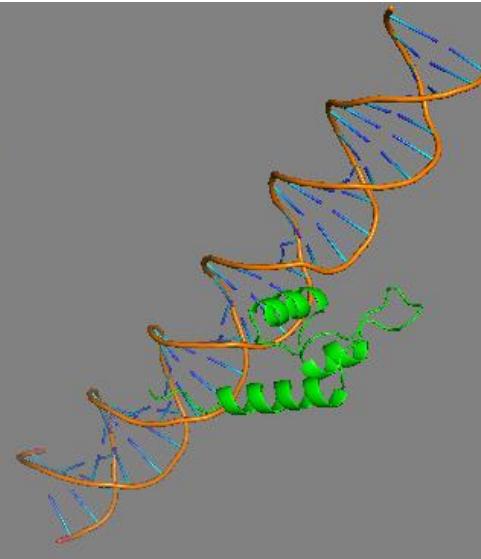


Lac Operator

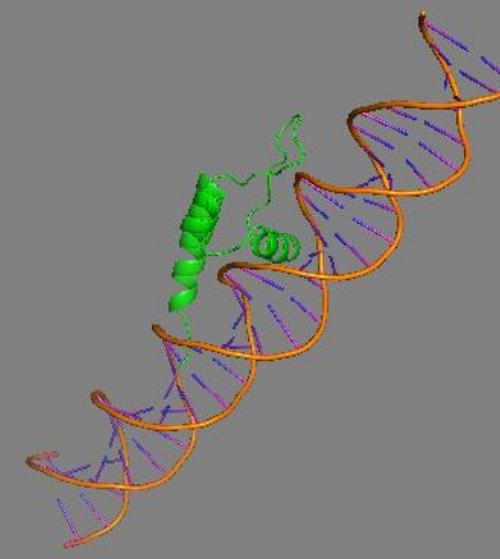
Cluster 11



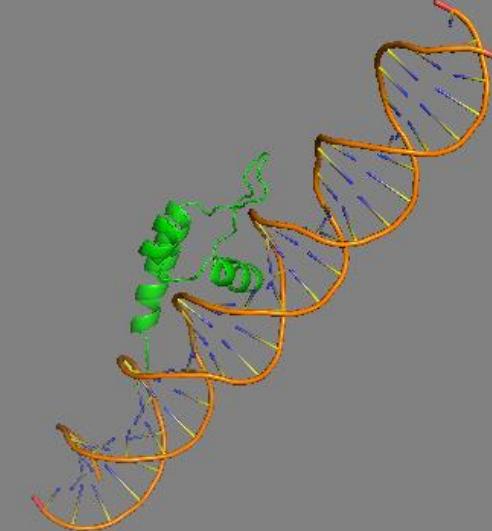
Cluster 12



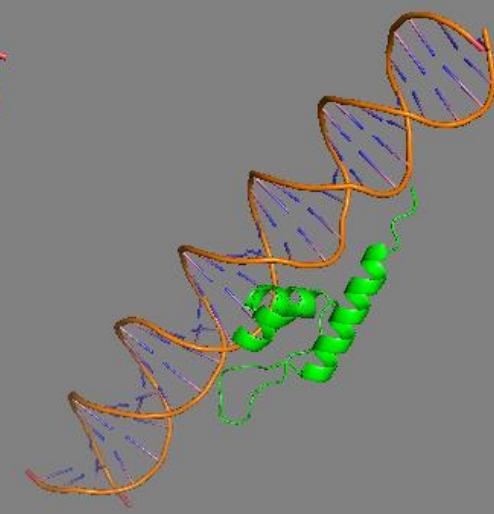
Cluster 1



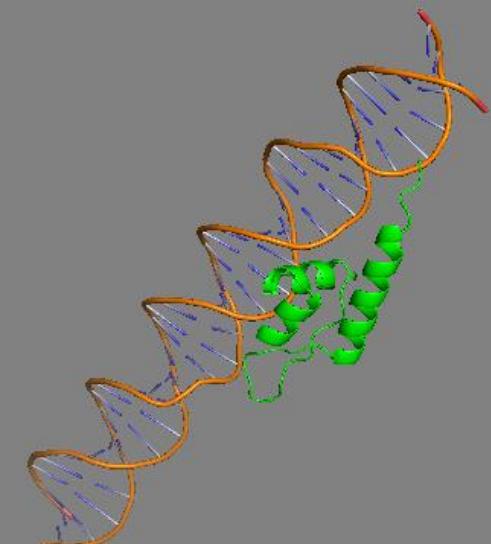
Cluster 2



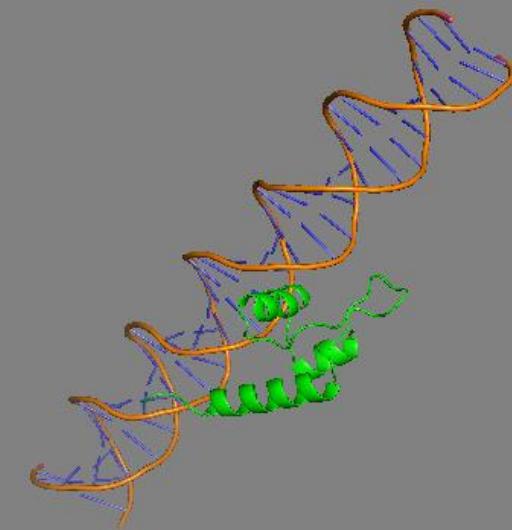
Cluster 3



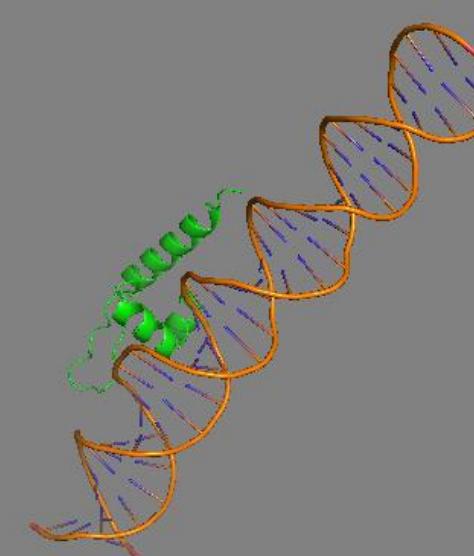
Cluster 4



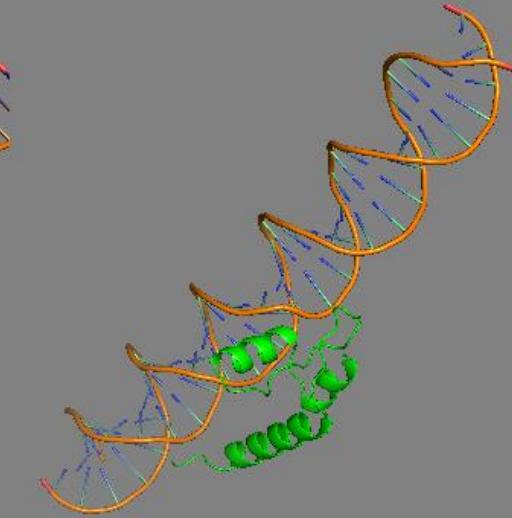
Cluster 6



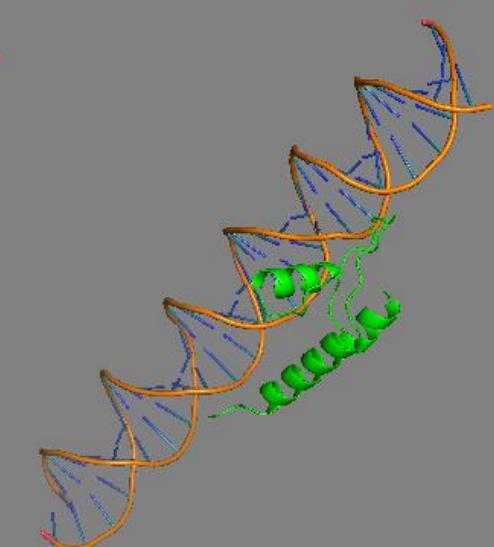
Cluster 7



Cluster 8



Cluster 9



FP3

Primer

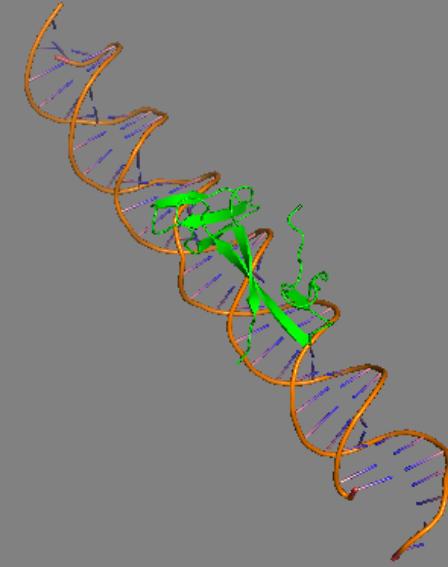
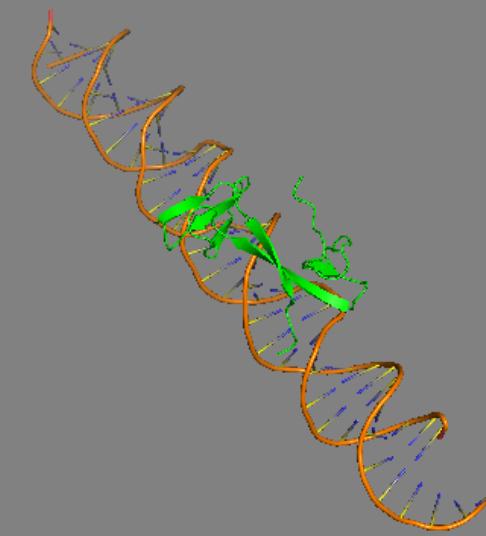
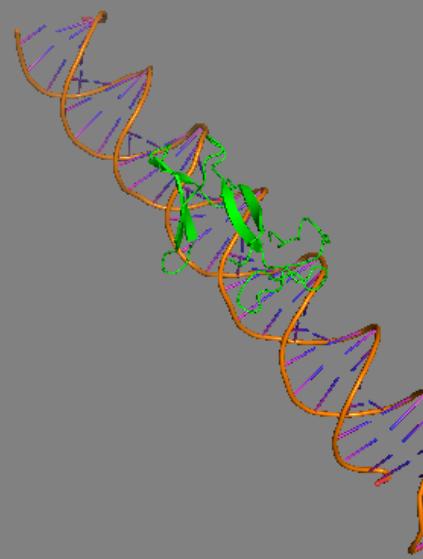
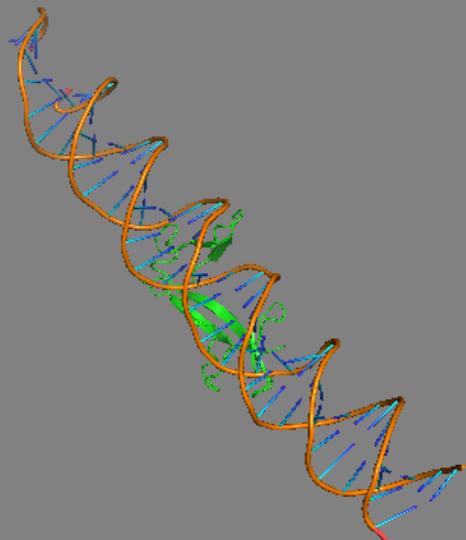
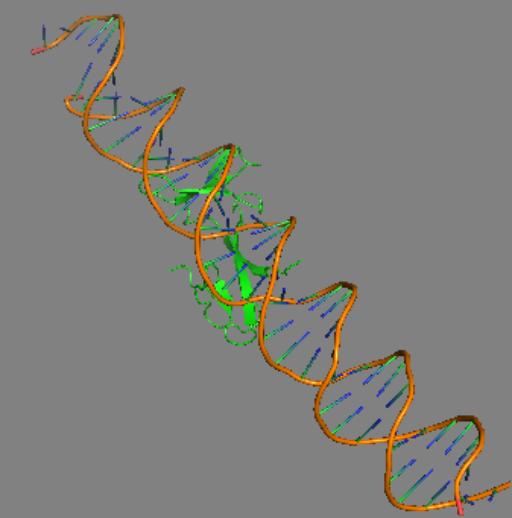
Cluster 10

Cluster 11

Cluster 1

Cluster 2

Cluster 3



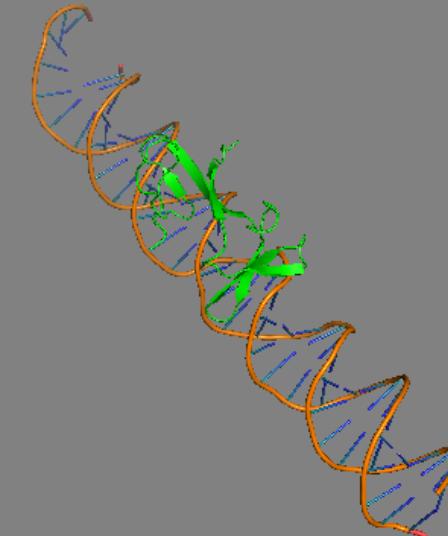
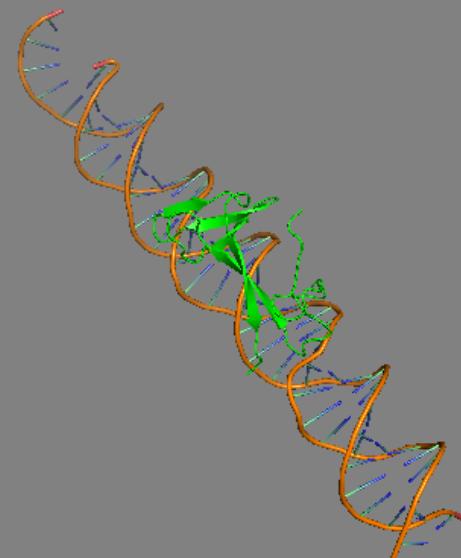
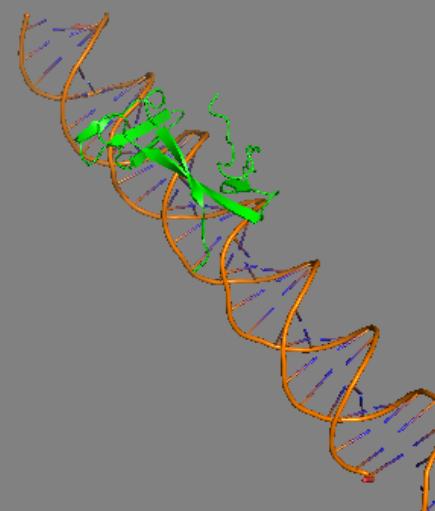
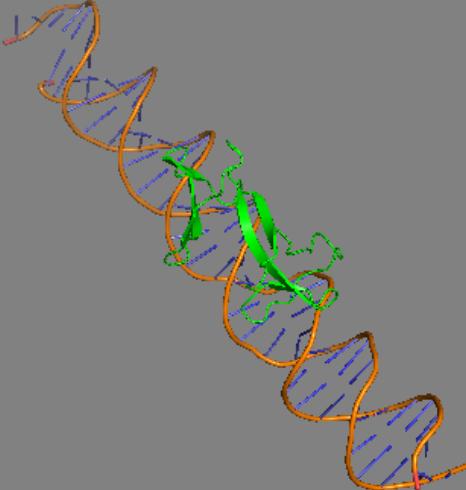
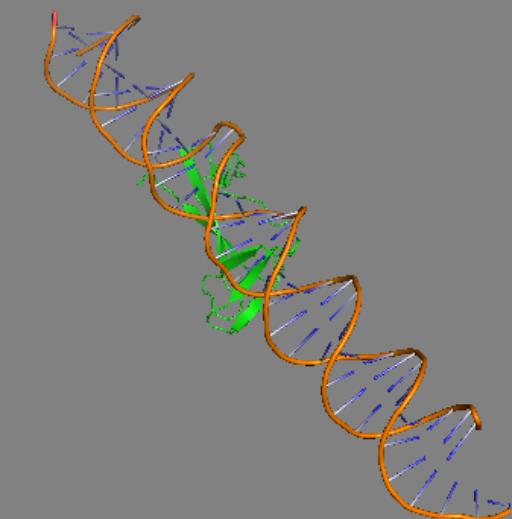
Cluster 4

Cluster 5

Cluster 6

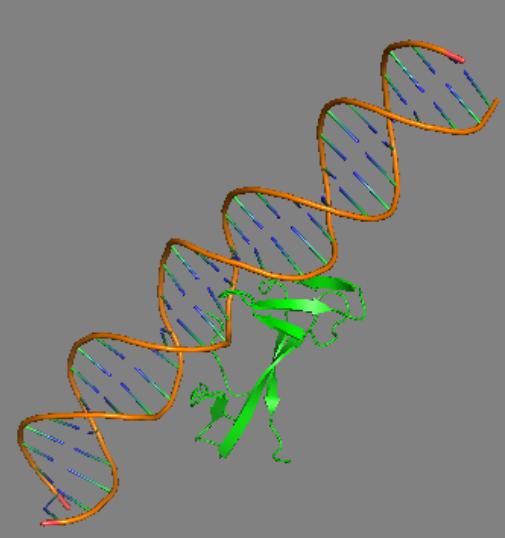
Cluster 8

Cluster 9

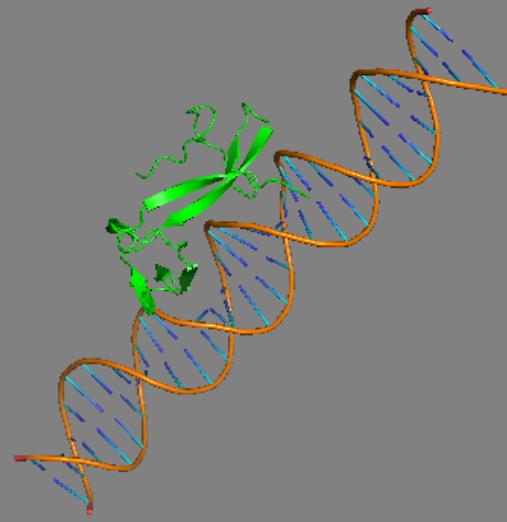


Sub 25-55

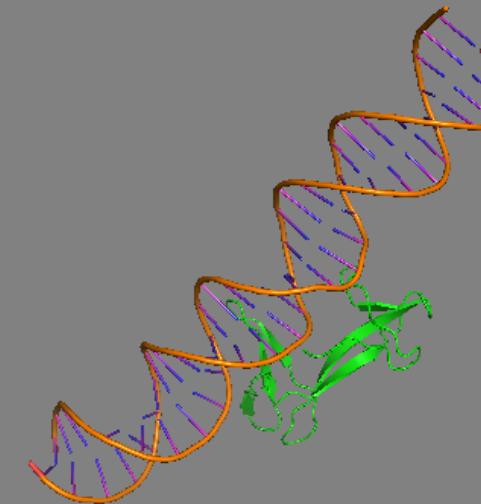
Cluster 1



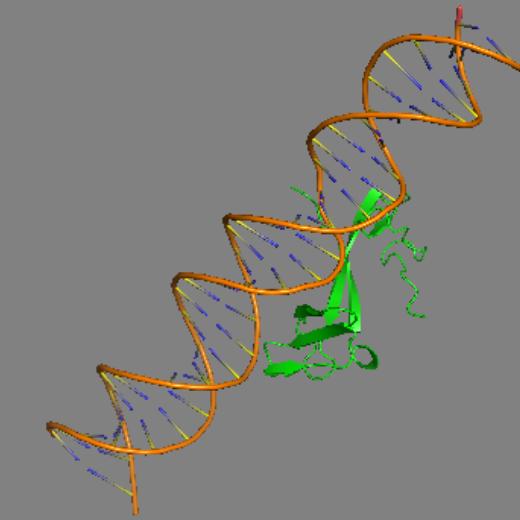
Cluster 2



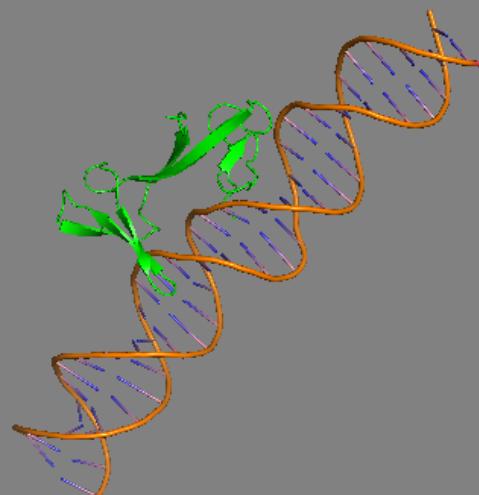
Cluster 3



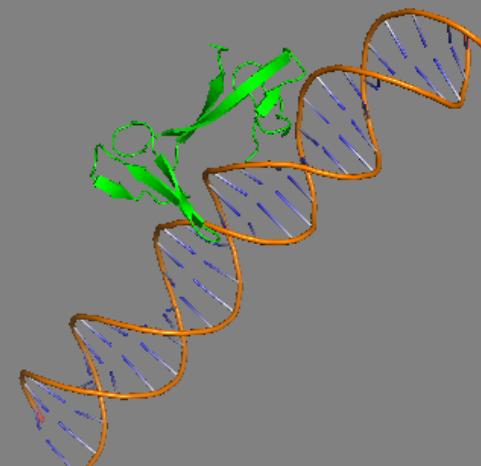
Cluster 4



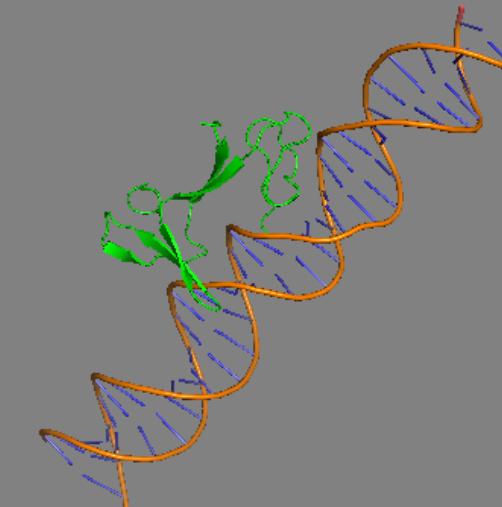
Cluster 5



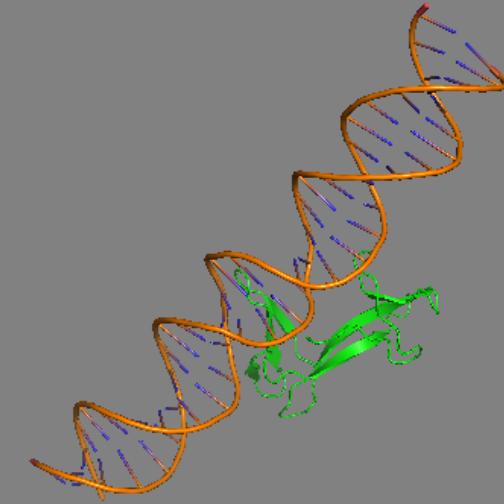
Cluster 6



Cluster 7

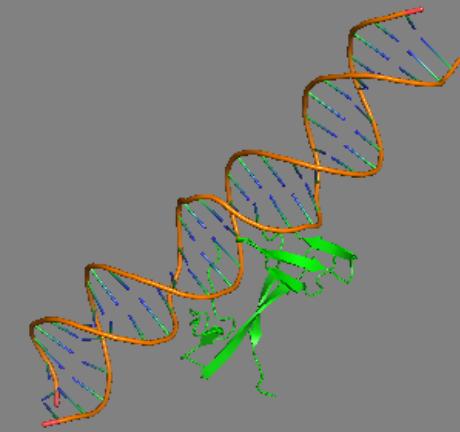


Cluster 8

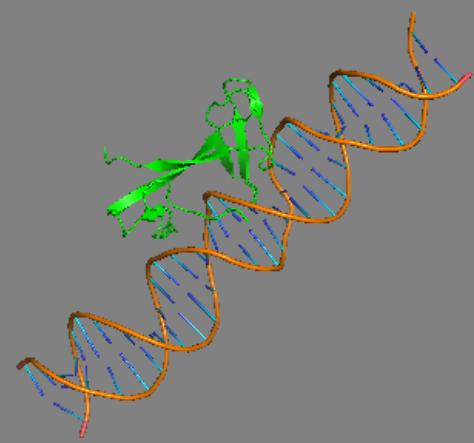


Sub 45-75

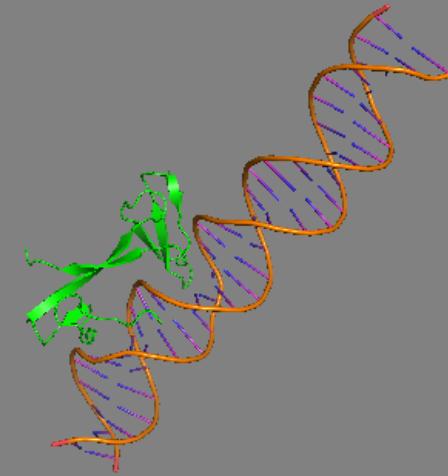
Cluster 11



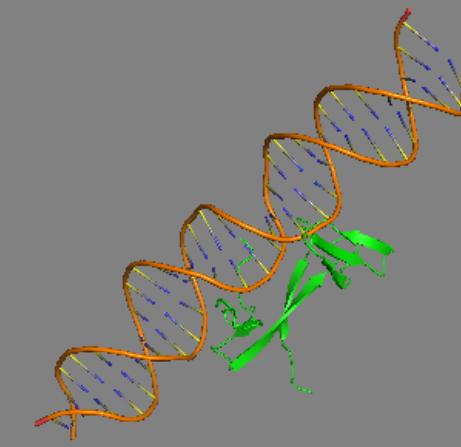
Cluster 12



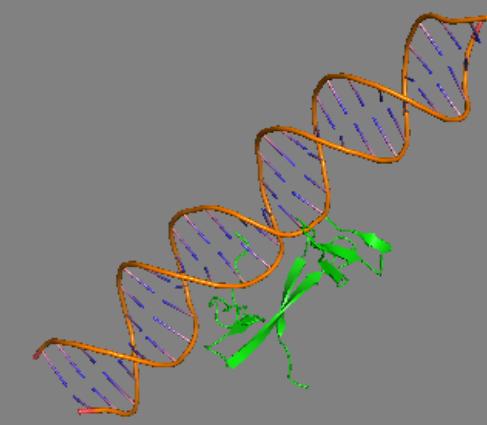
Cluster 1



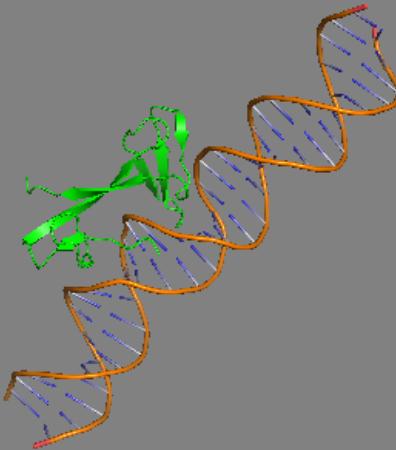
Cluster 2



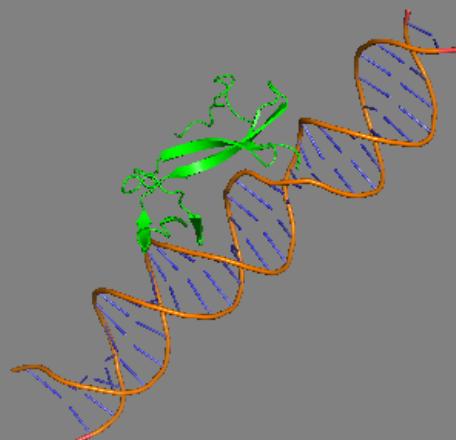
Cluster 3



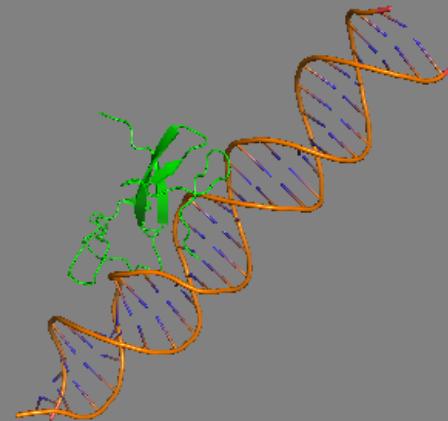
Cluster 4



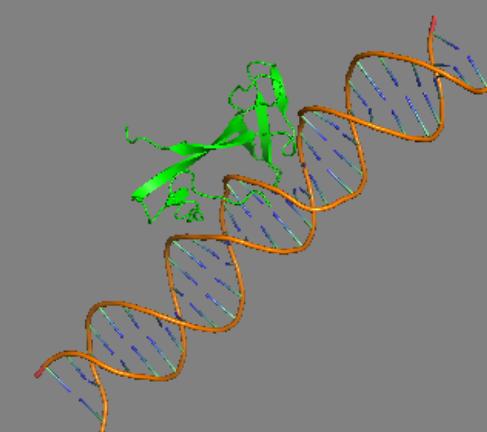
Cluster 6



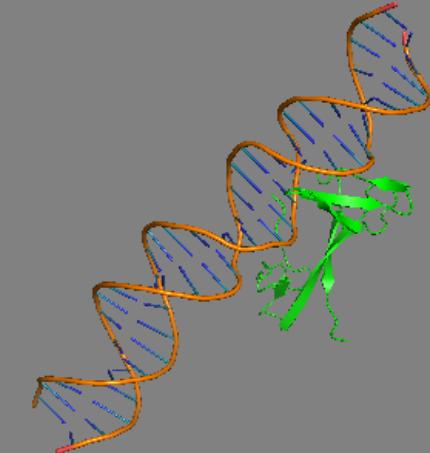
Cluster 7



Cluster 8

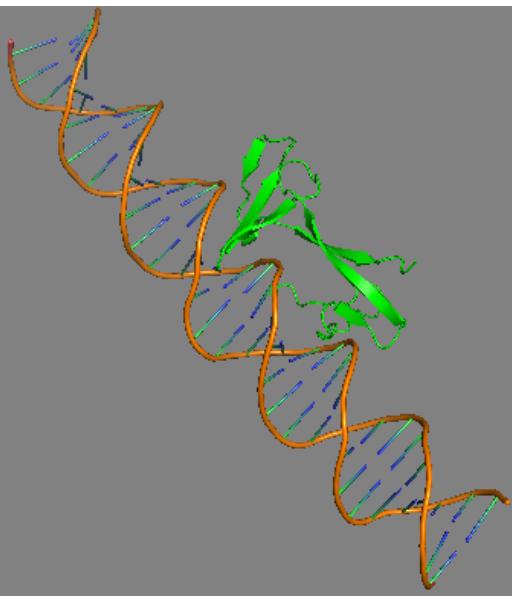


Cluster 9

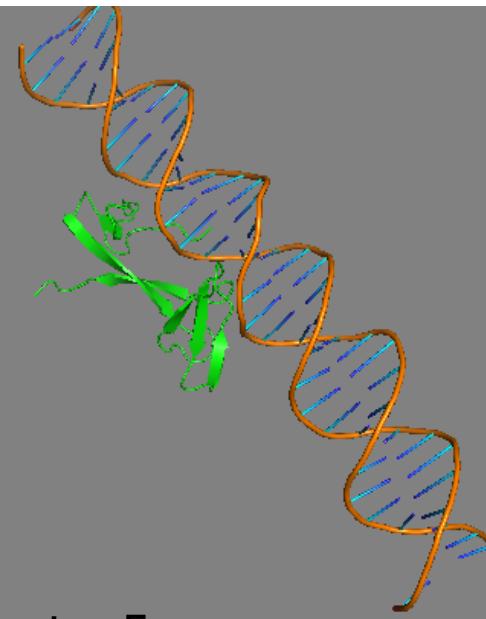


Sub LacOperator

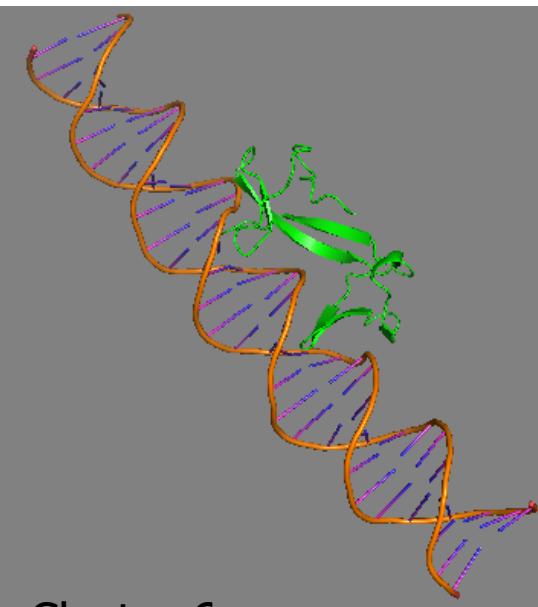
Cluster 1



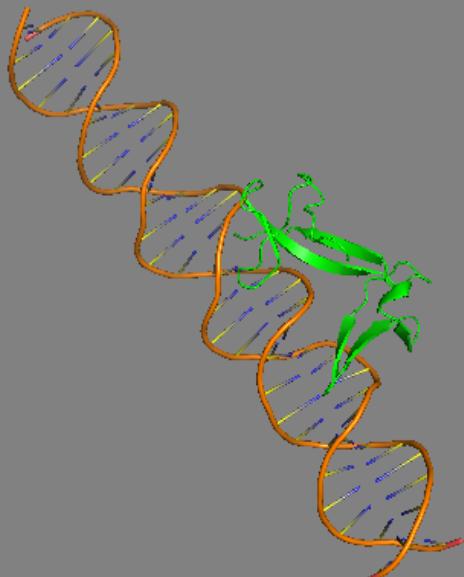
Cluster 2



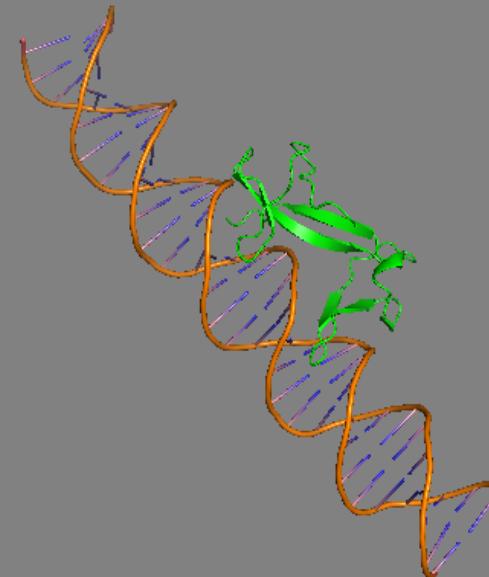
Cluster 3



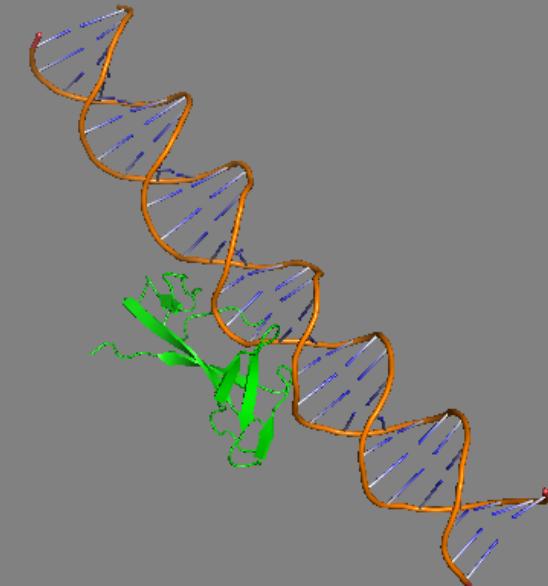
Cluster 4



Cluster 5

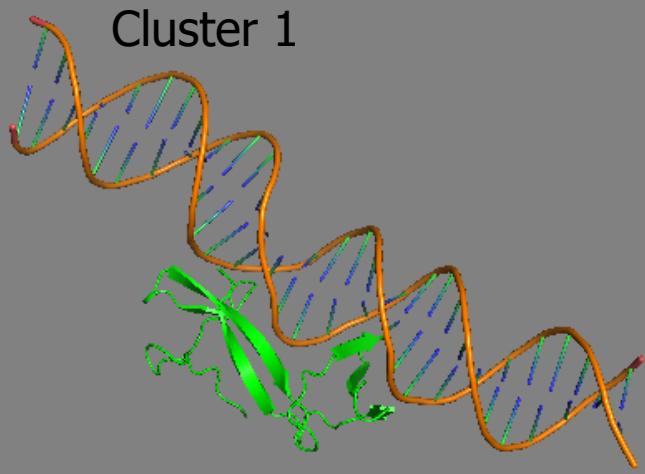


Cluster 6

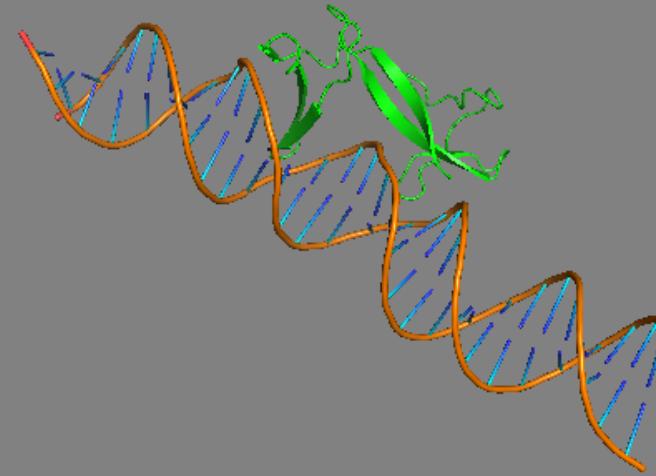


Rev 0-30

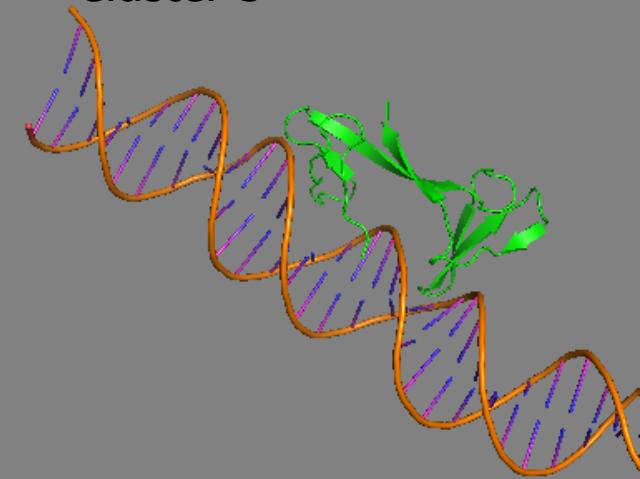
Cluster 1



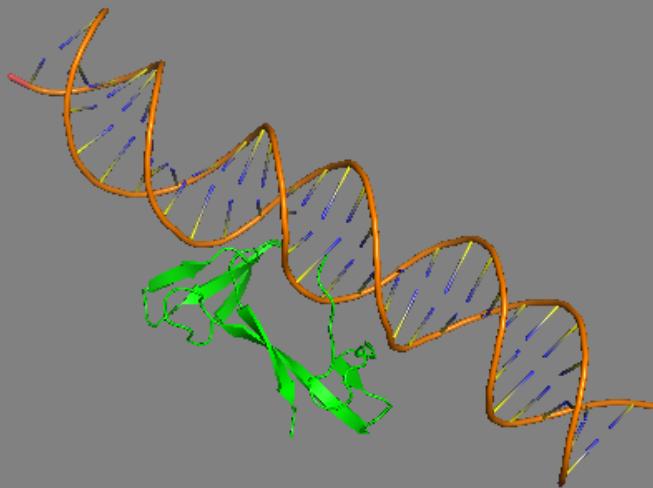
Cluster 2



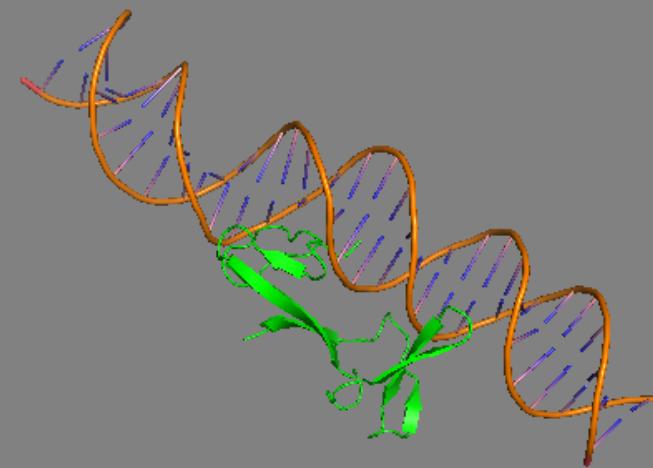
Cluster 3



Cluster 4



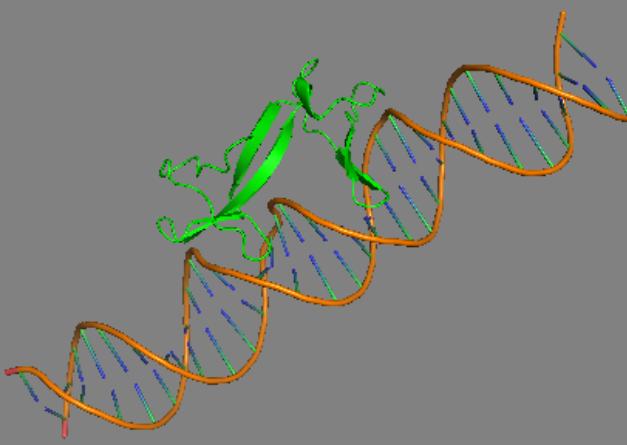
Cluster 5



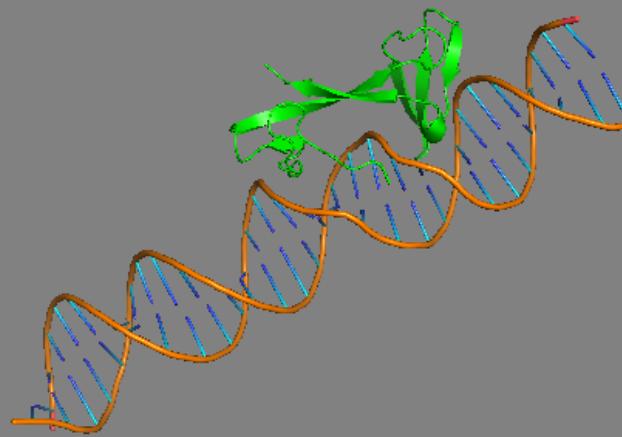
Rev 30-60

Rev 60-90

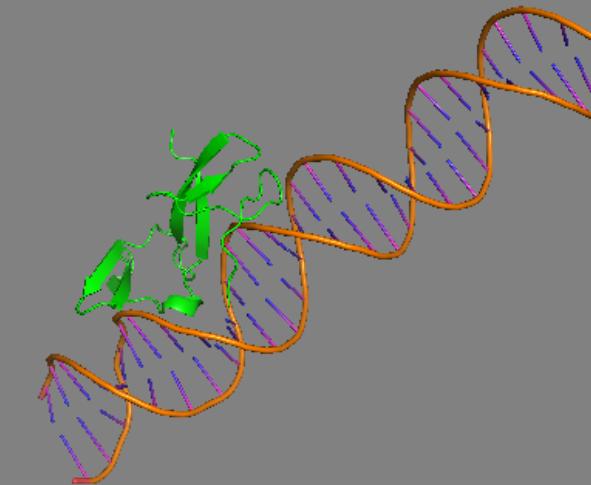
Cluster 1



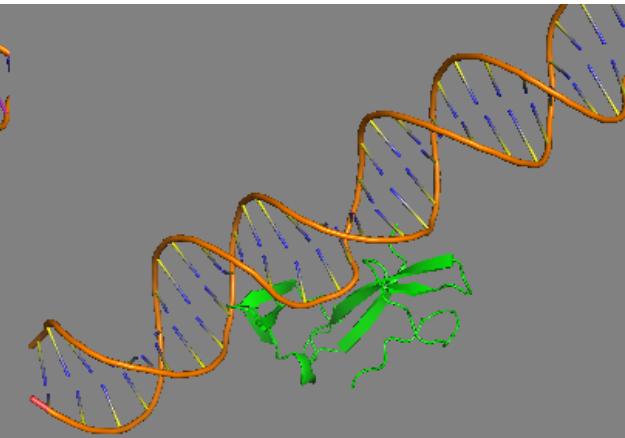
Cluster 2



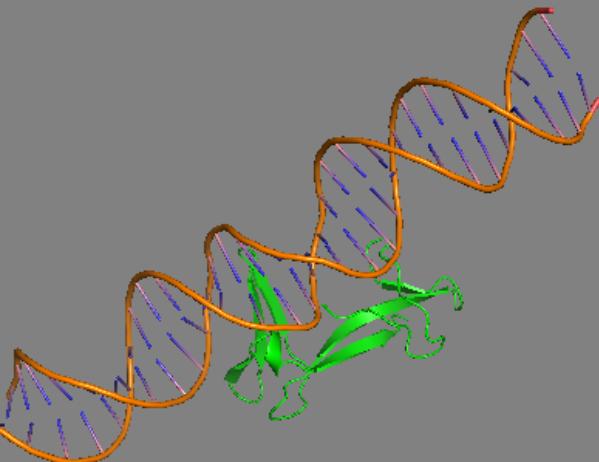
Cluster 3



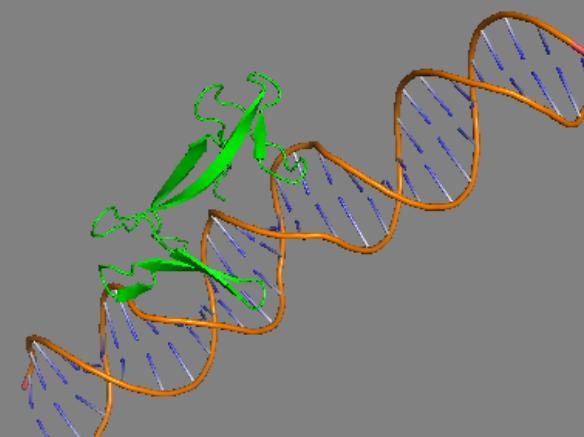
Cluster 4



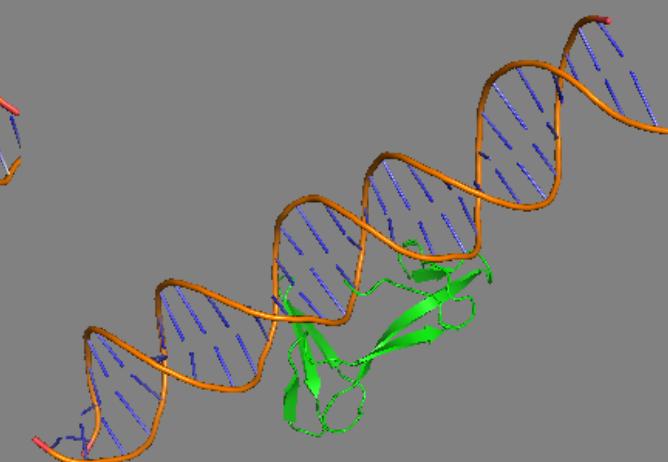
Cluster 5



Cluster 6

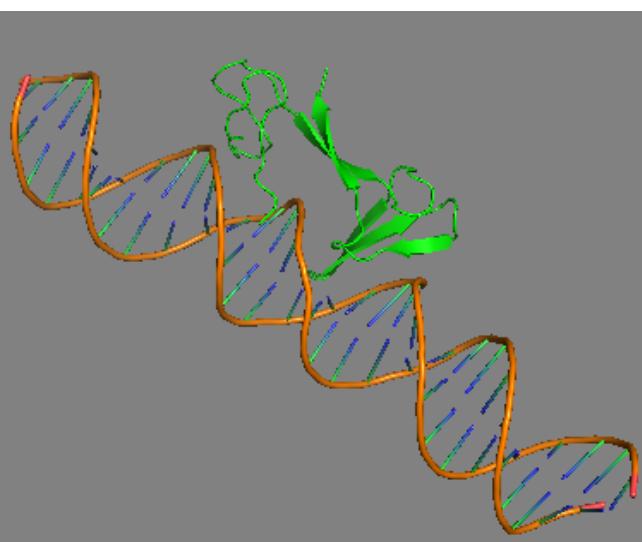


Cluster 7

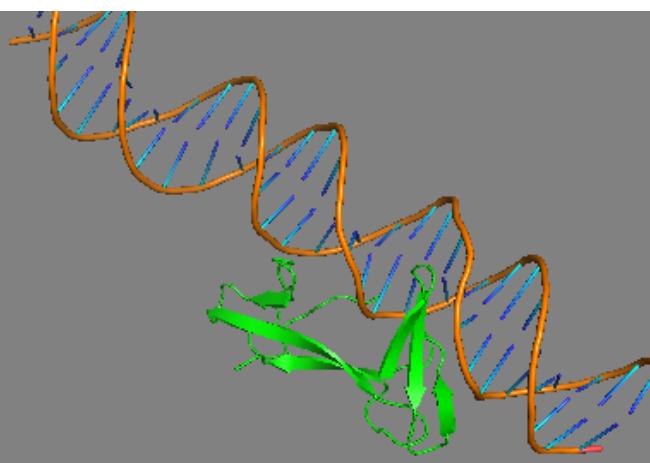


Rev 90-120

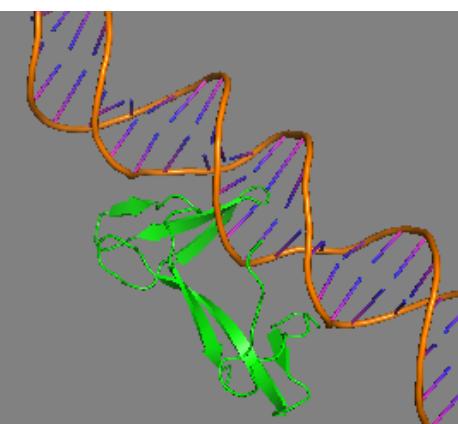
Cluster 1



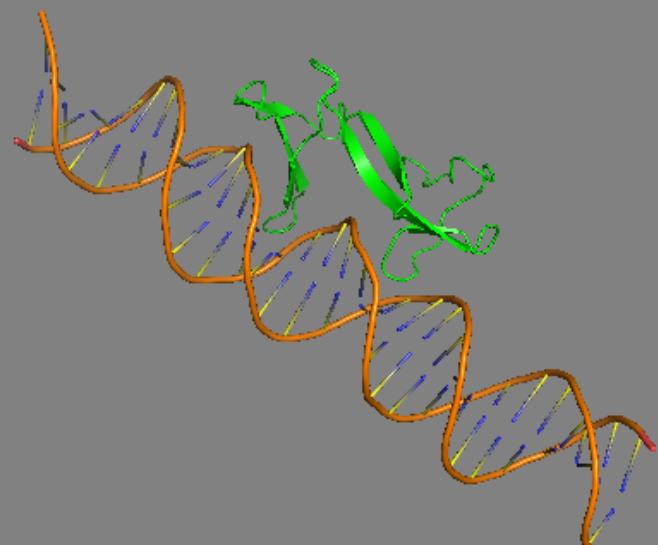
Cluster 2



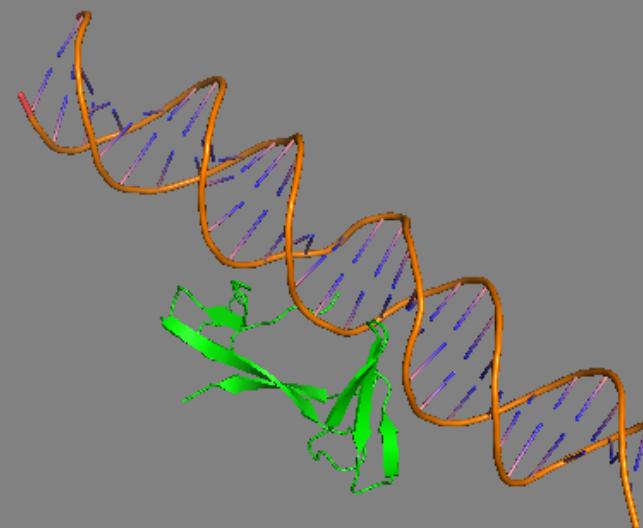
Cluster 3



Cluster 4



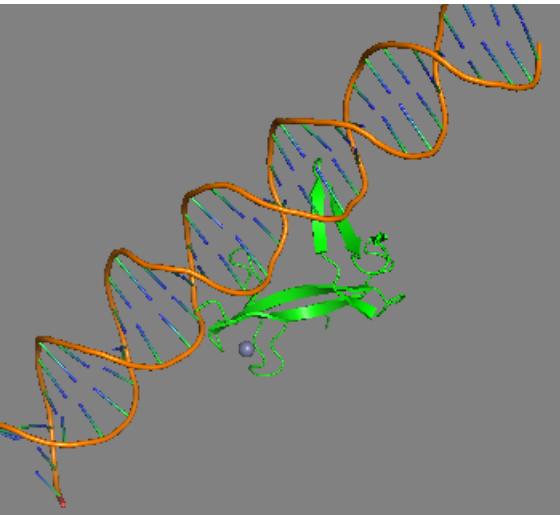
Cluster 5



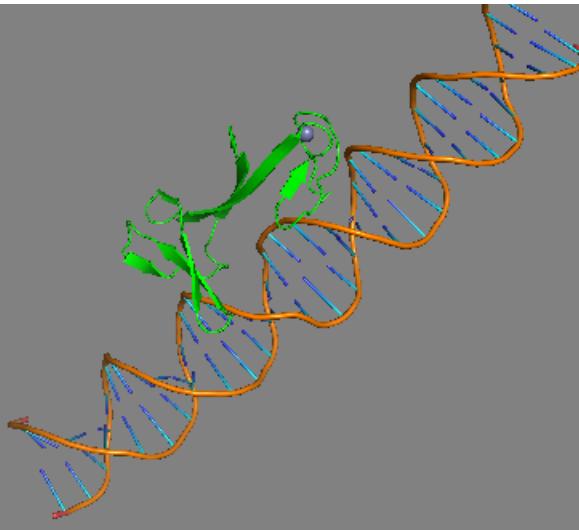
FP3-Zn

Primer

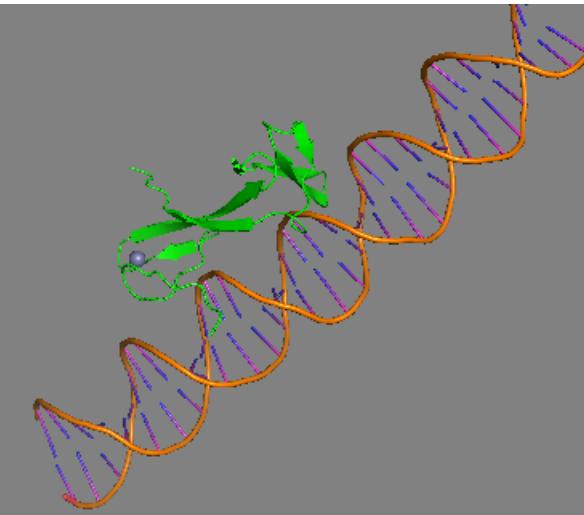
Cluster 1



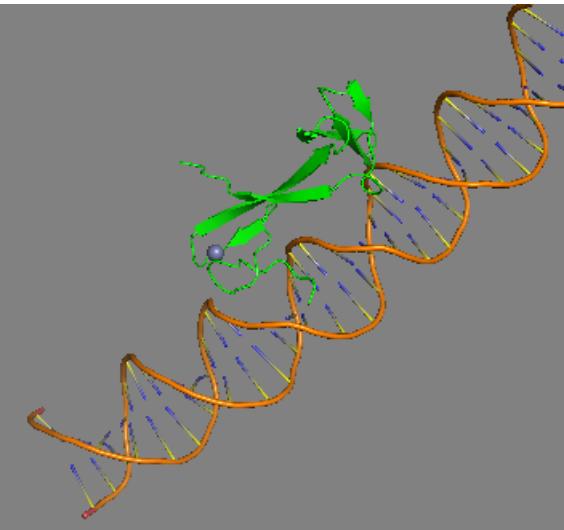
Cluster 2



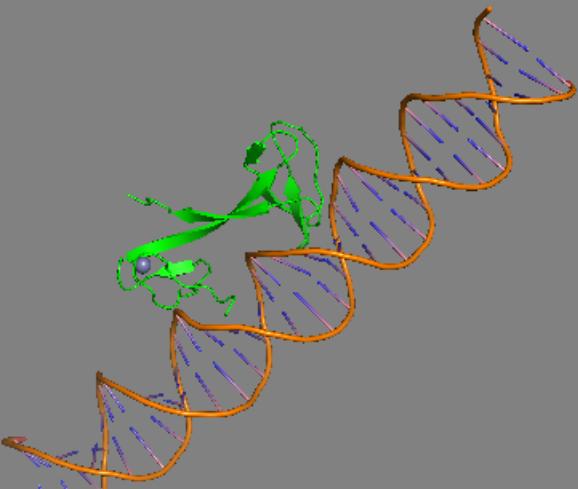
Cluster 3



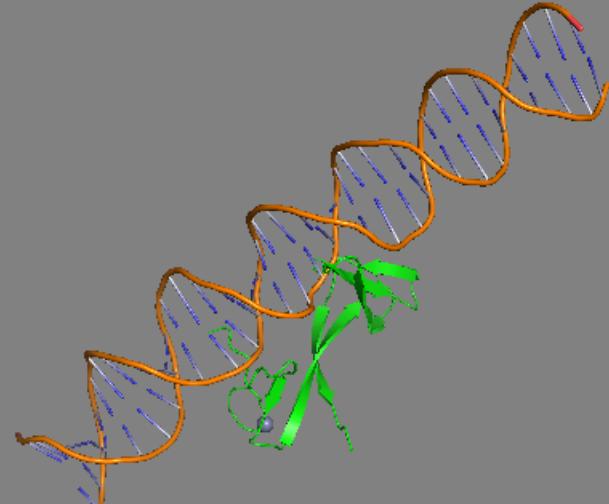
Cluster 4



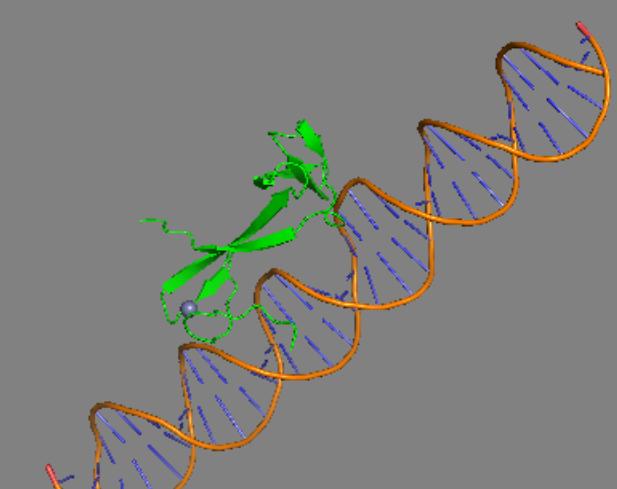
Cluster 5



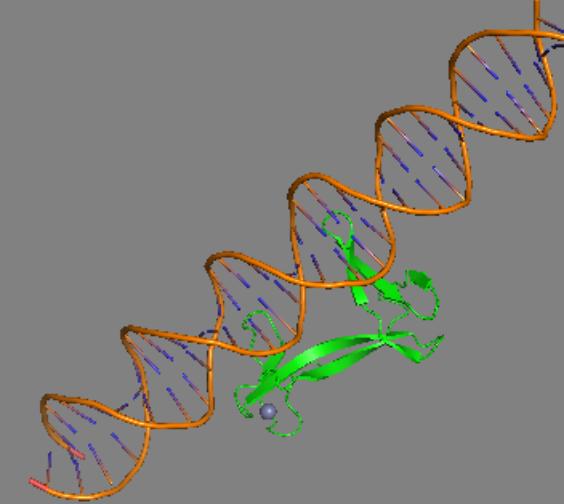
Cluster 6



Cluster 7

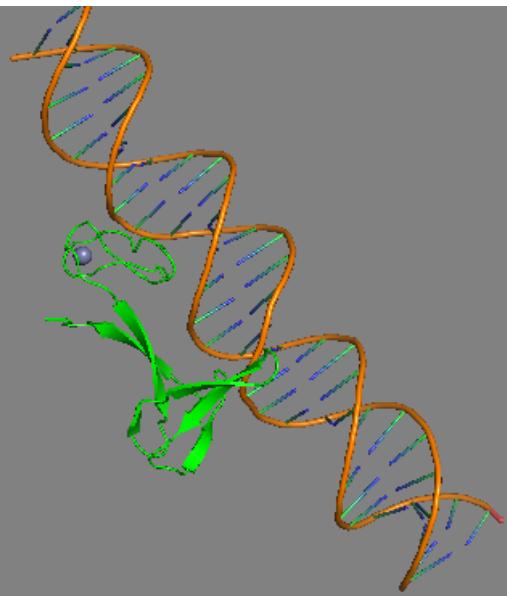


Cluster 8

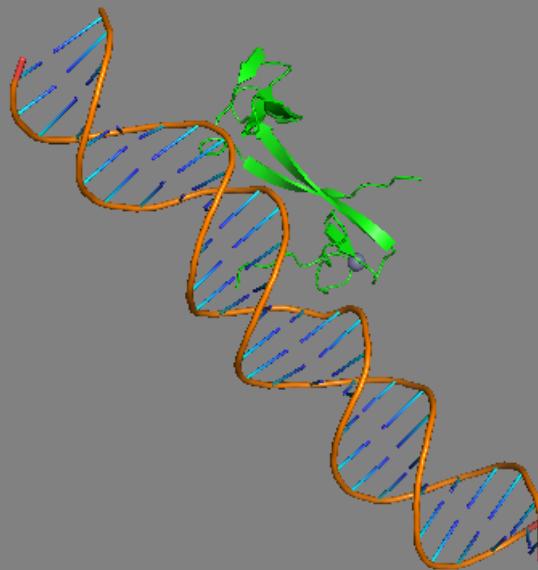


Sub 25-55

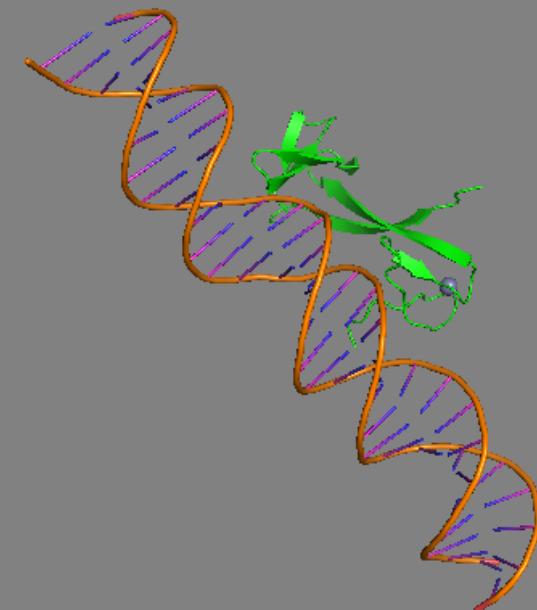
Cluster 1



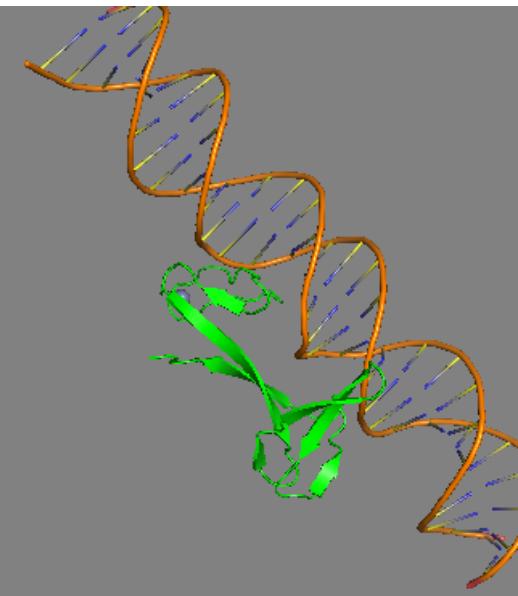
Cluster 2



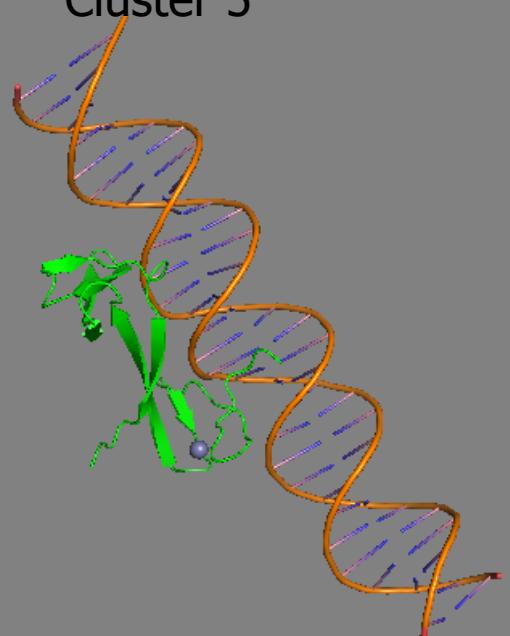
Cluster 3



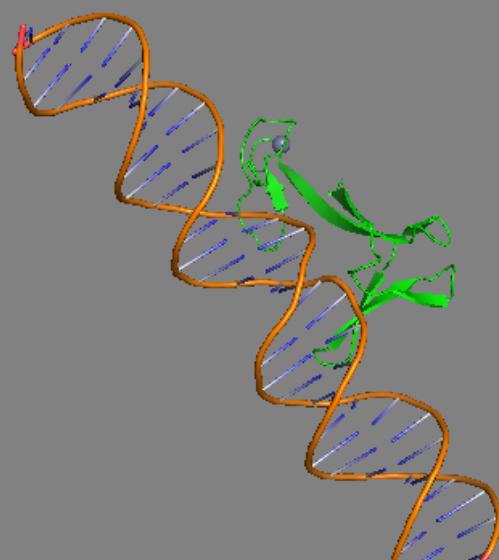
Cluster 4



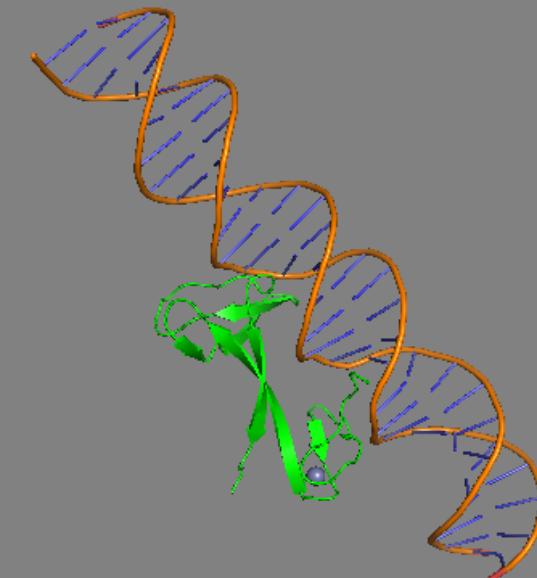
Cluster 5



Cluster 6

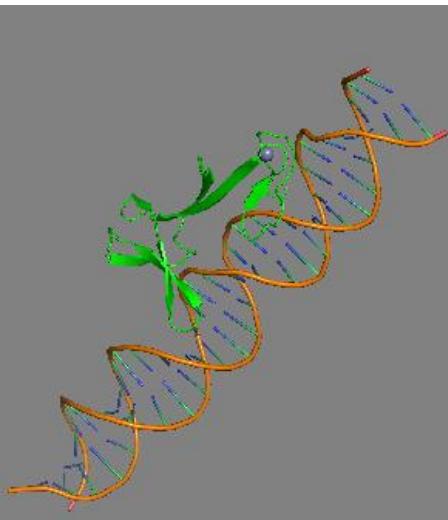


Cluster 7

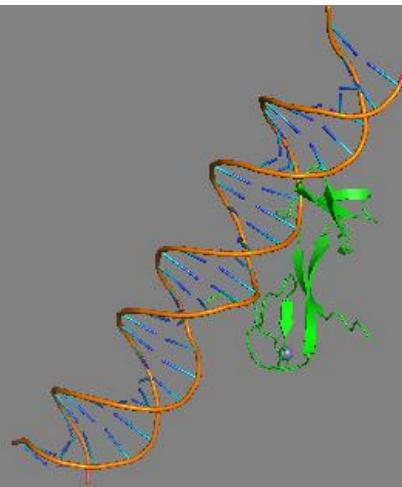


Sub 45-75

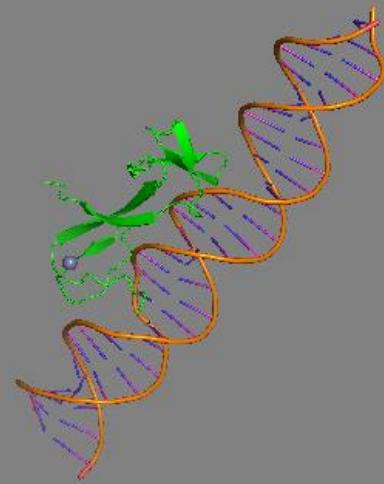
Cluster 11



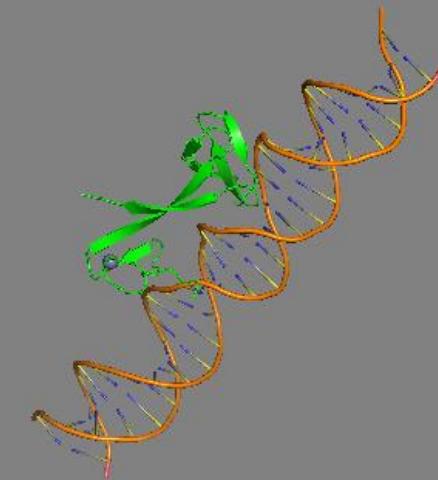
Cluster 12



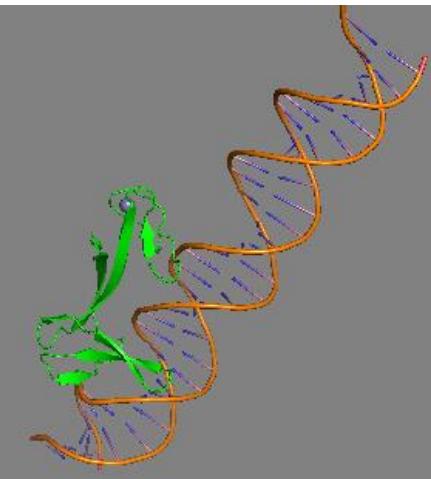
Cluster 13



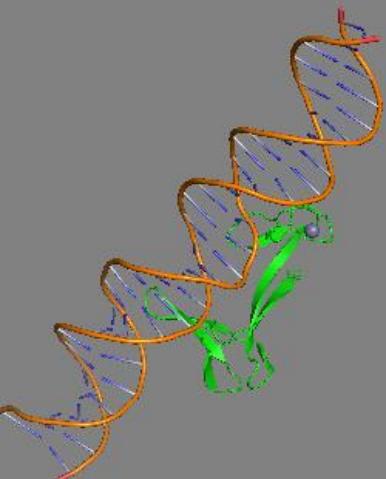
Cluster 14



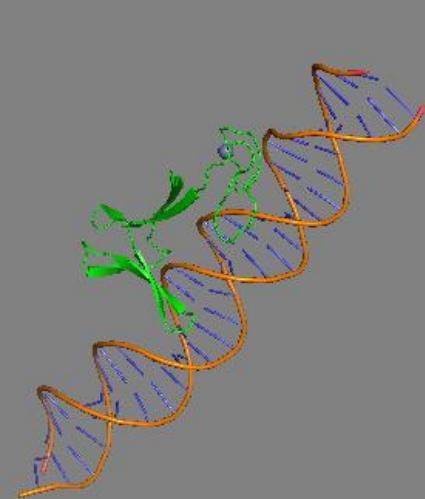
Cluster 15



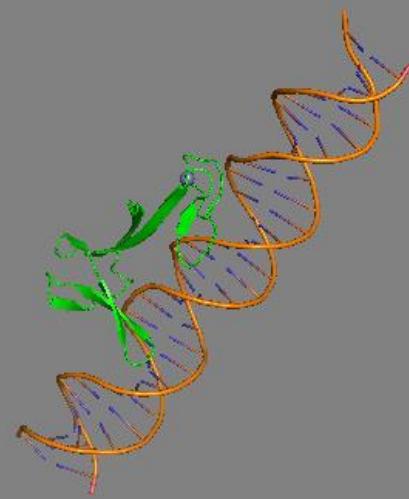
Cluster 1



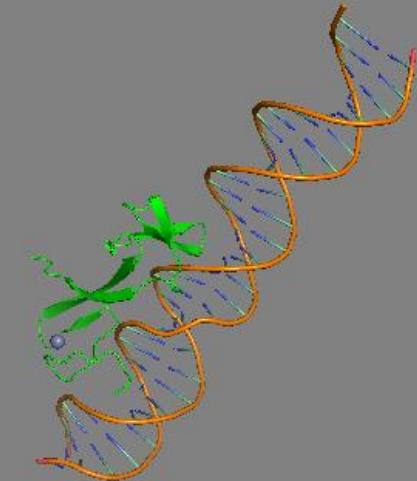
Cluster 2



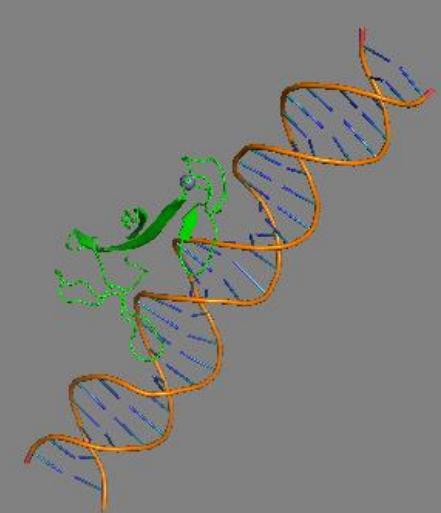
Cluster 4



Cluster 6

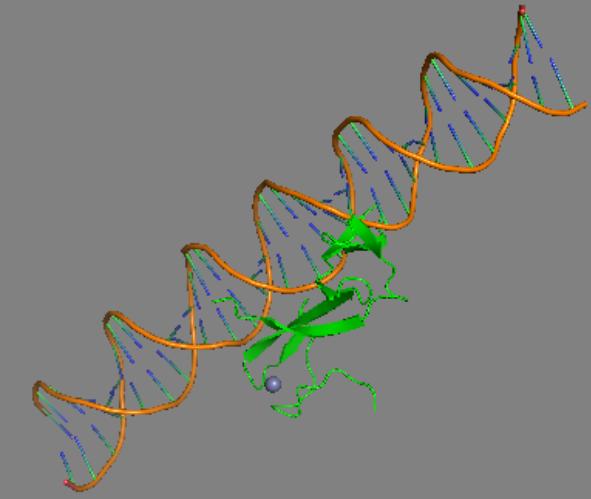


Cluster 7

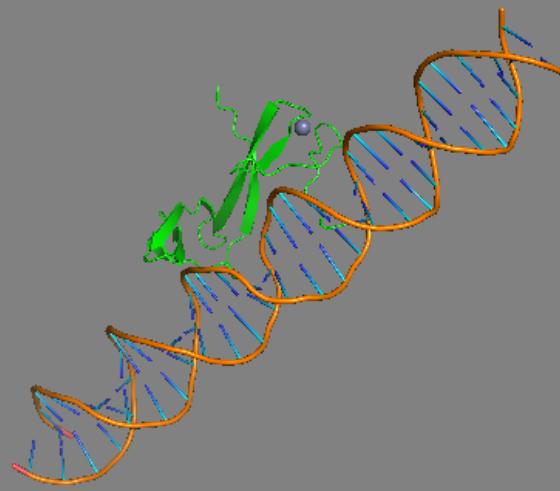


Sub LacOperator

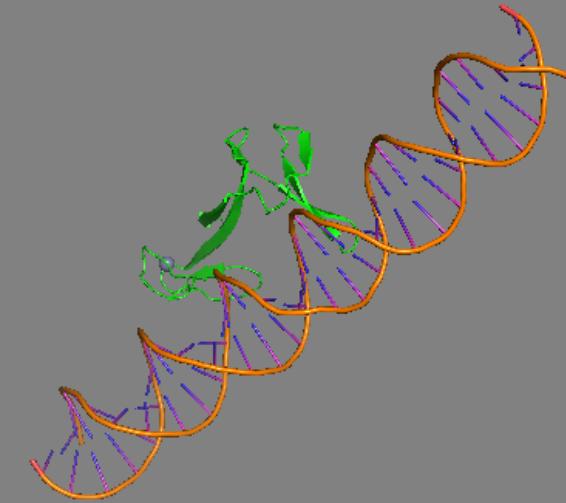
Cluster 1



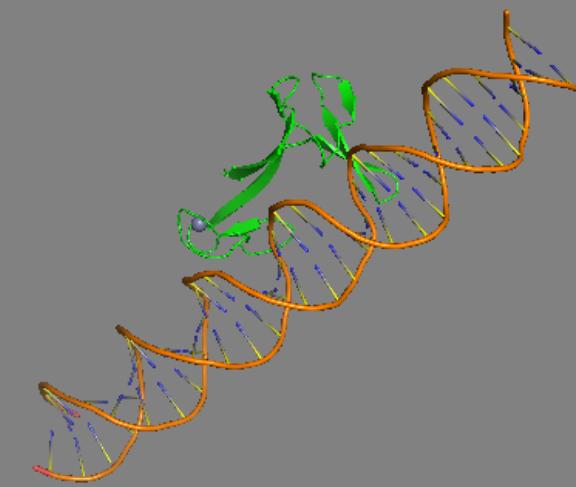
Cluster 2



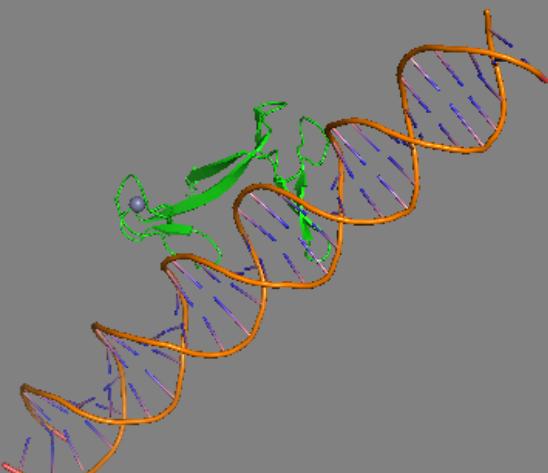
Cluster 3



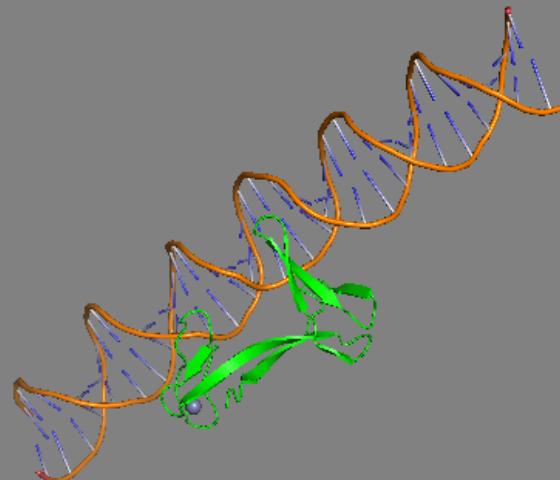
Cluster 4



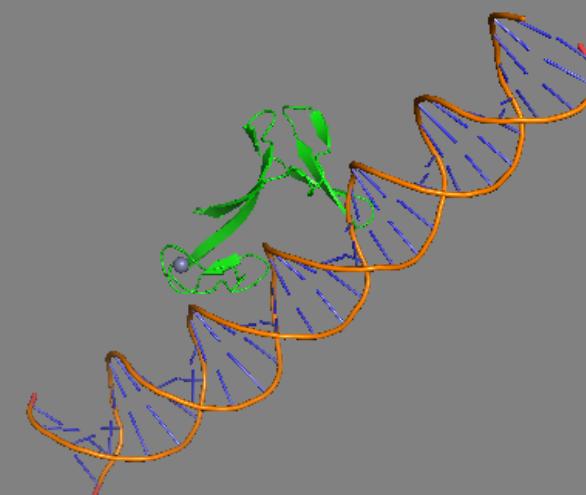
Cluster 5



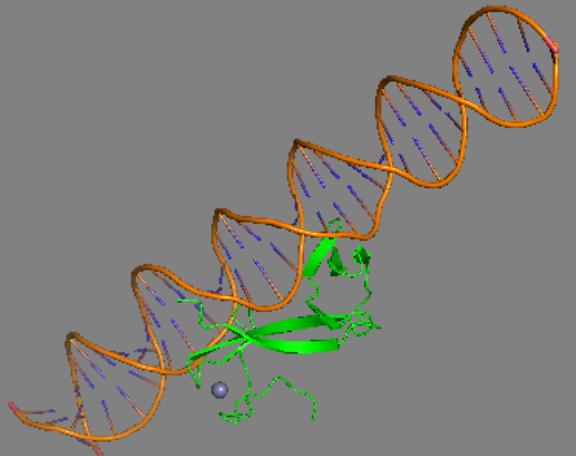
Cluster 6



Cluster 7

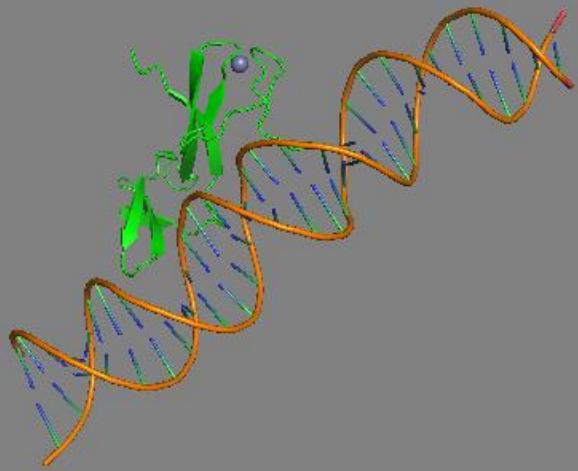


Cluster 8

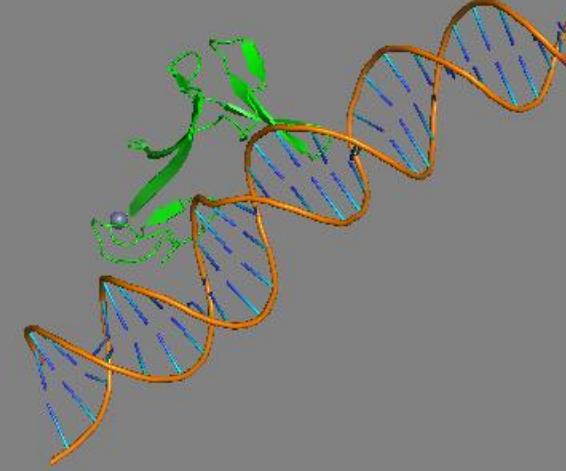


Rev 0-30

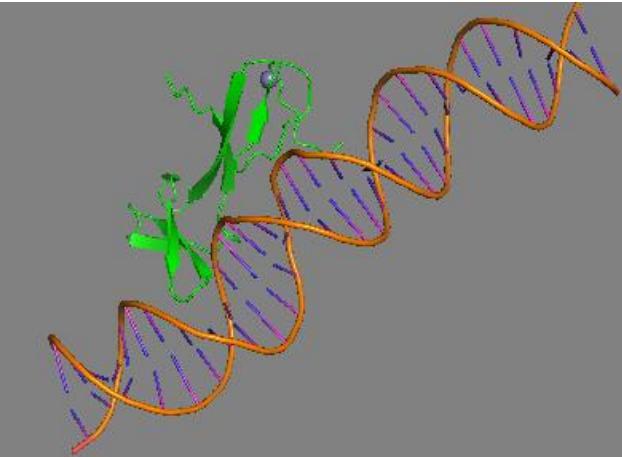
Cluster 1



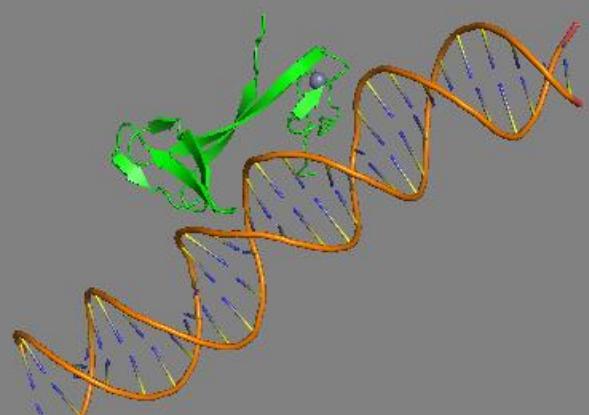
Cluster 2



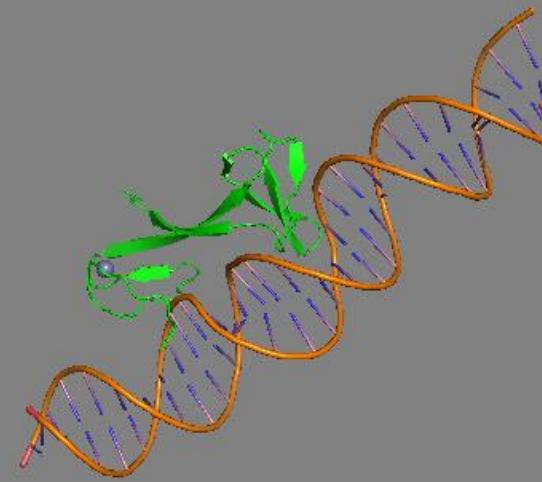
Cluster 3



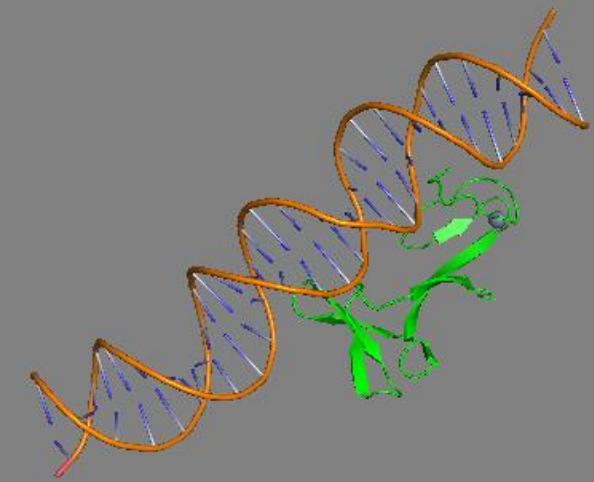
Cluster 4



Cluster 5

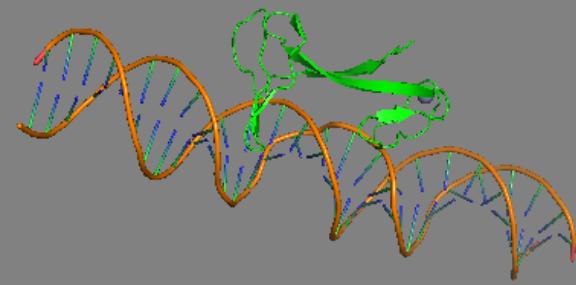


Cluster 6

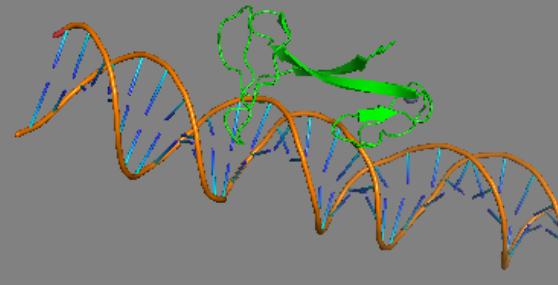


Rev 30-60

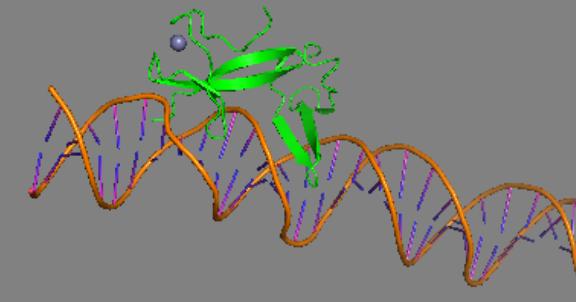
Cluster 1



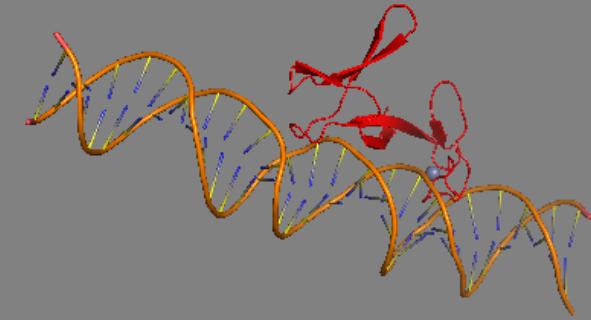
Cluster 2



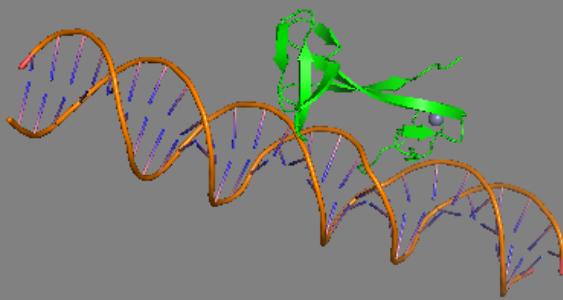
Cluster 3



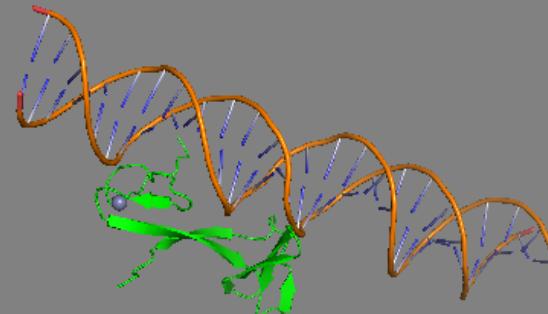
Cluster 4



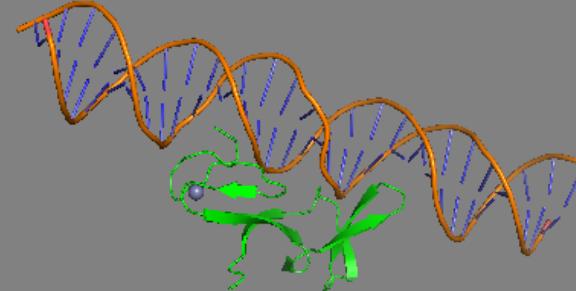
Cluster 5



Cluster 6

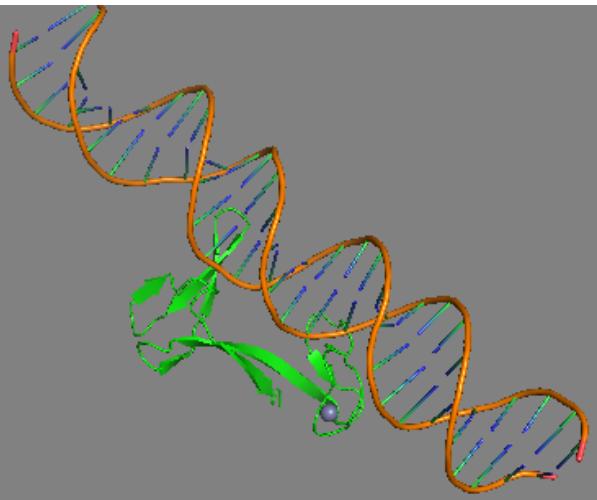


Cluster 7

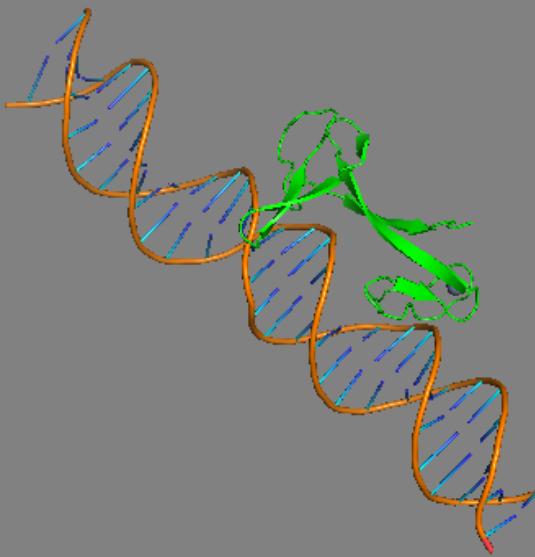


Rev 60-90

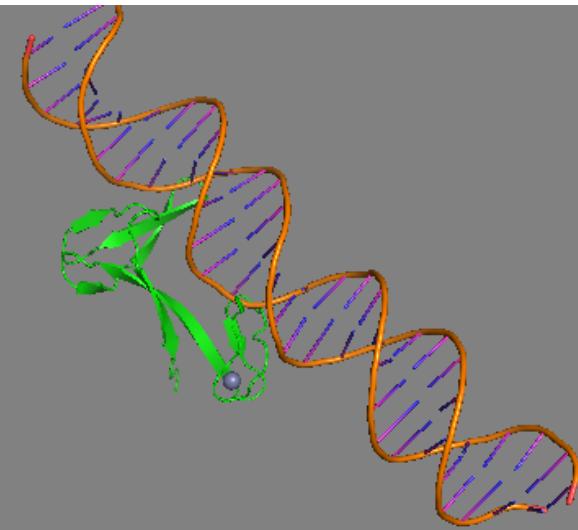
Cluster 1



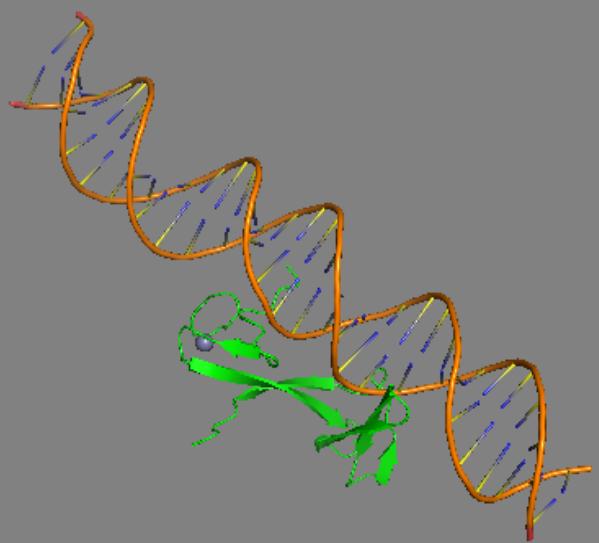
Cluster 2



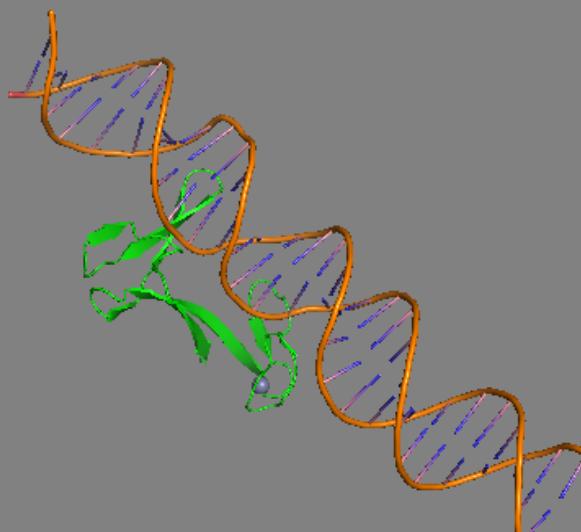
Cluster 3



Cluster 4



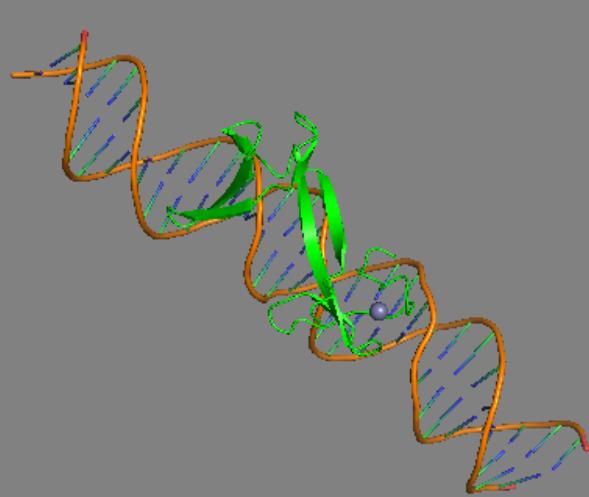
Cluster 5



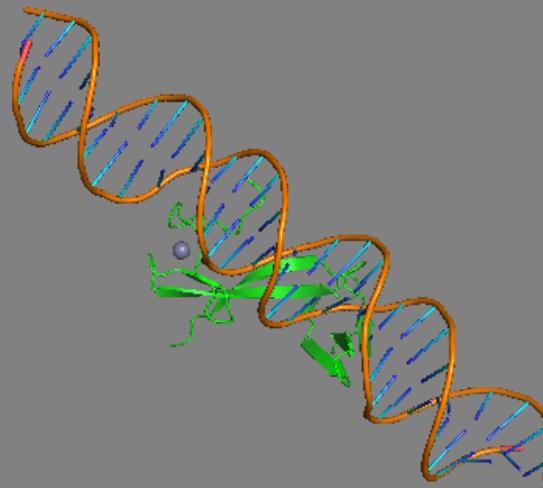
Rev_60_90

Rev 90-120

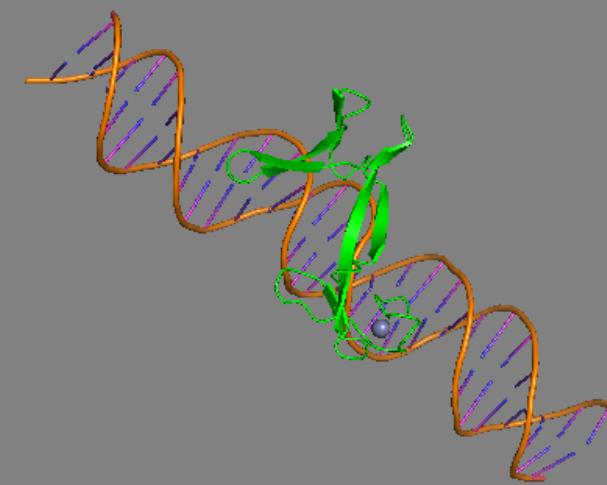
Cluster 1



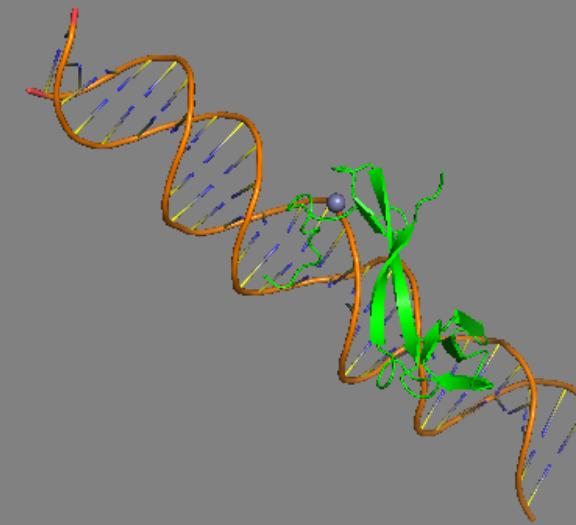
Cluster 2



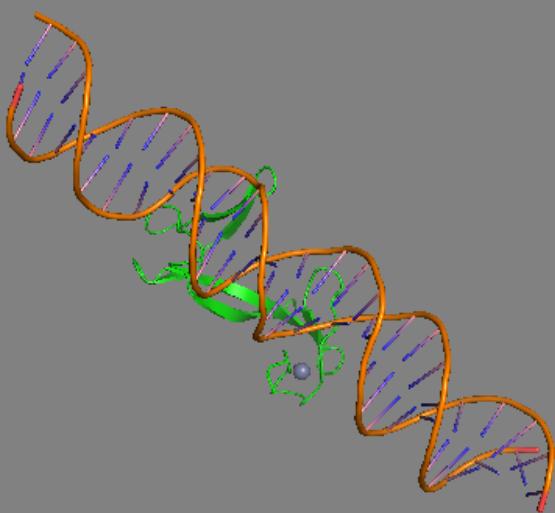
Cluster 3



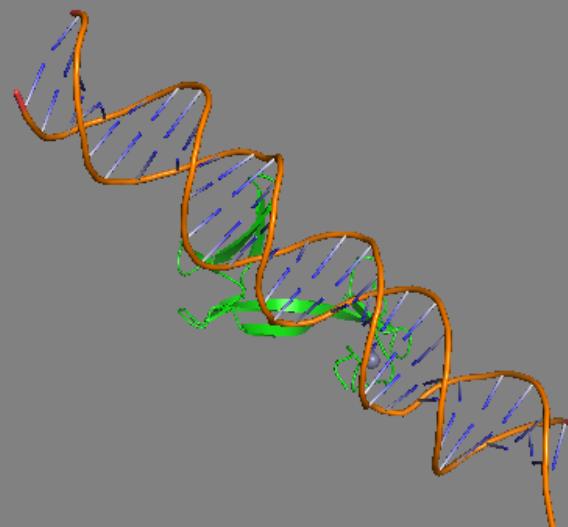
Cluster 4



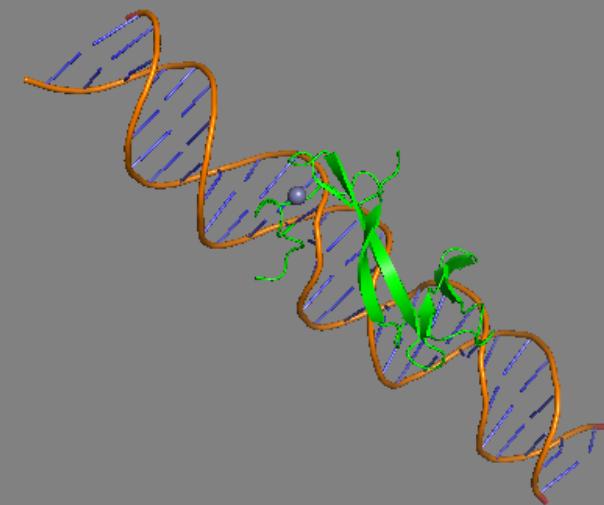
Cluster 5



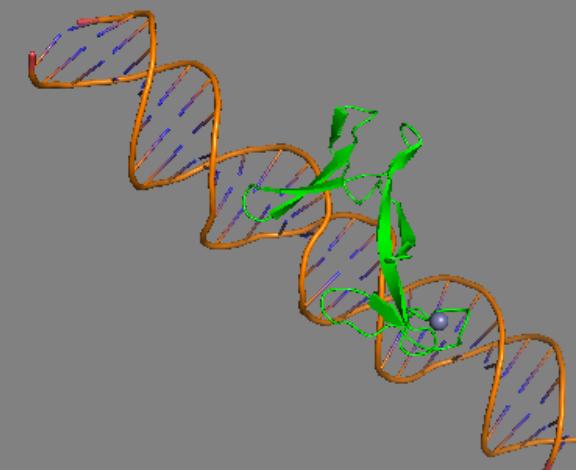
Cluster 6



Cluster 7

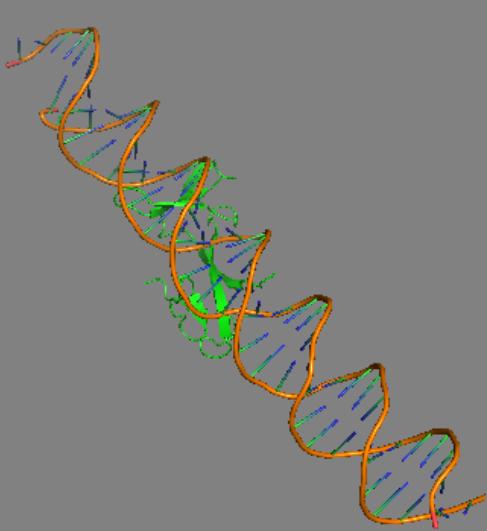


Cluster 8

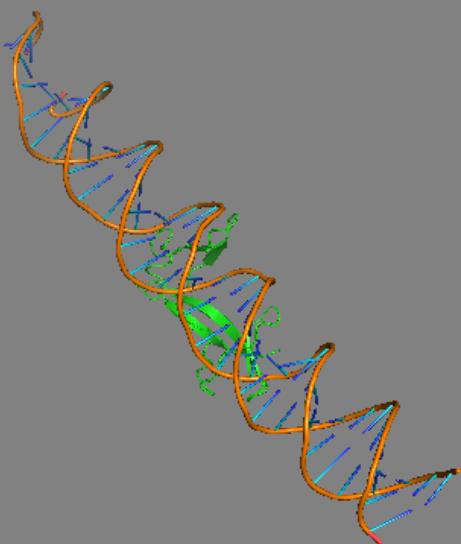


Rev 120-150

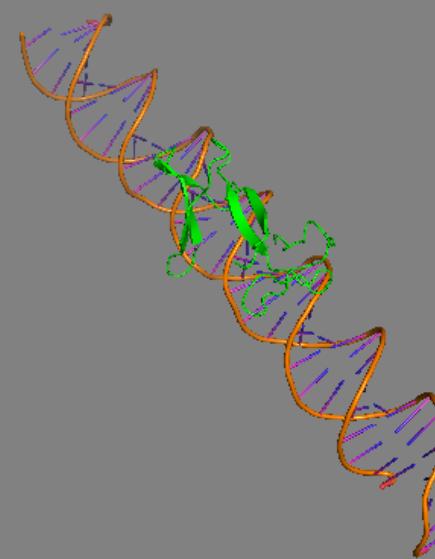
Cluster 10



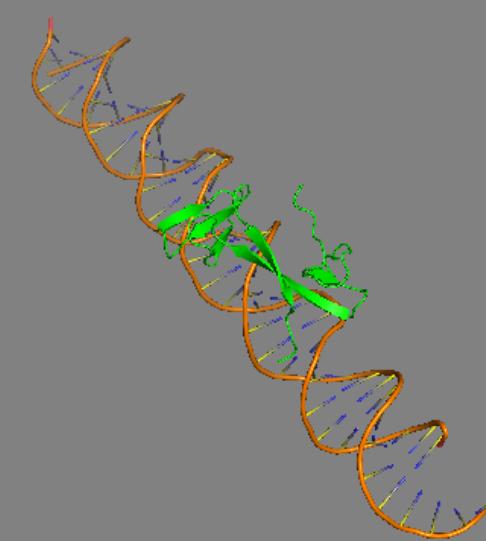
Cluster 1



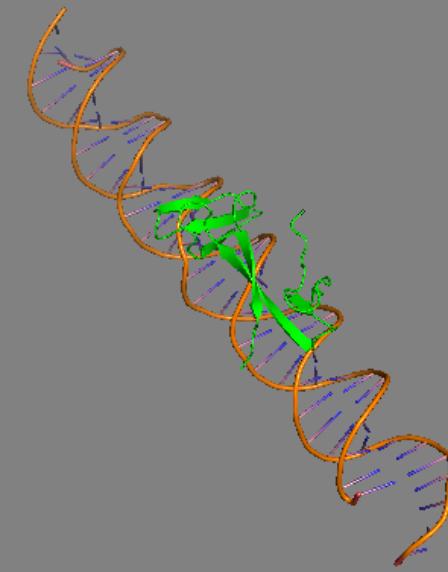
Cluster 2



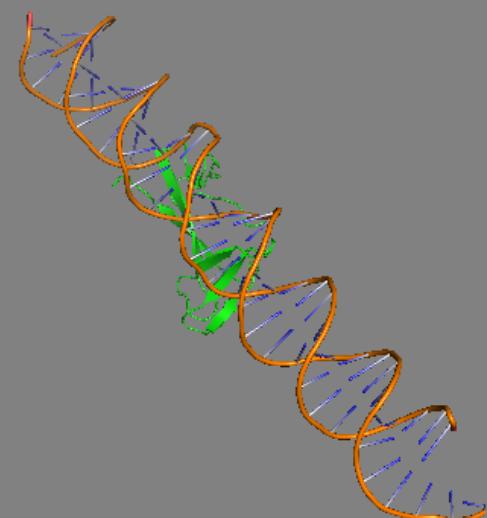
Cluster 3



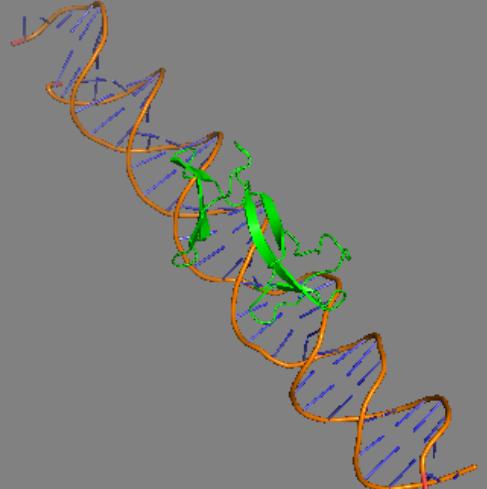
Cluster 4



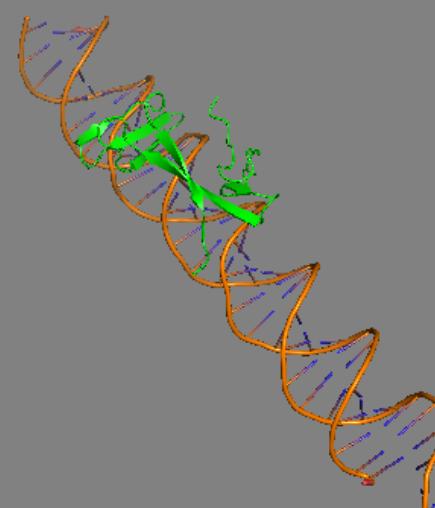
Cluster 5



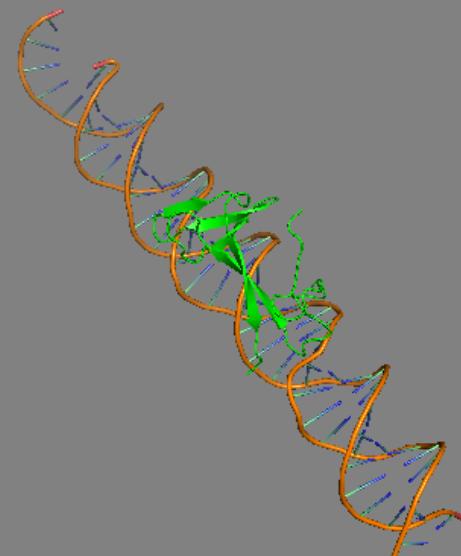
Cluster 6



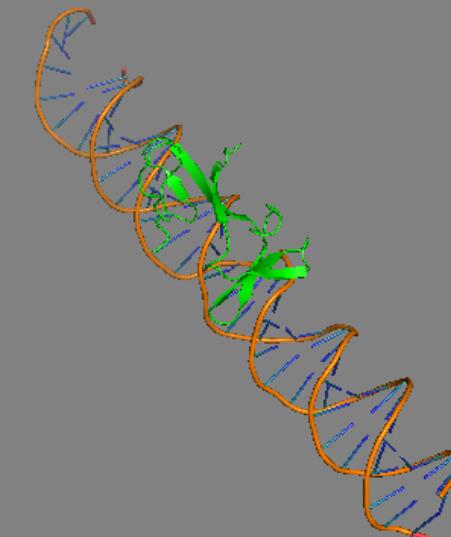
Cluster 7



Cluster 8



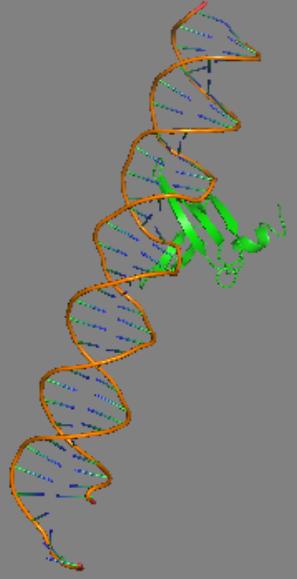
Cluster 9



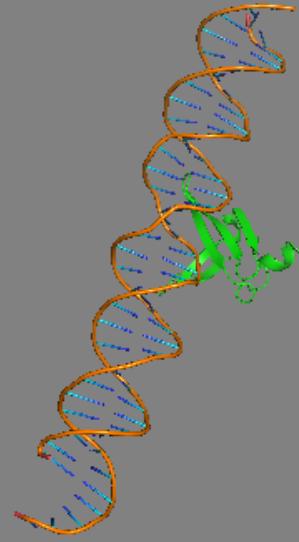
Sso7d

Sub_primer

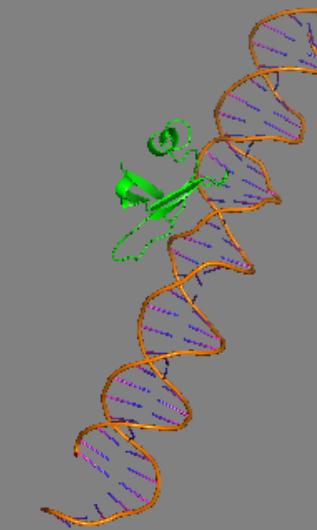
Cluster 1



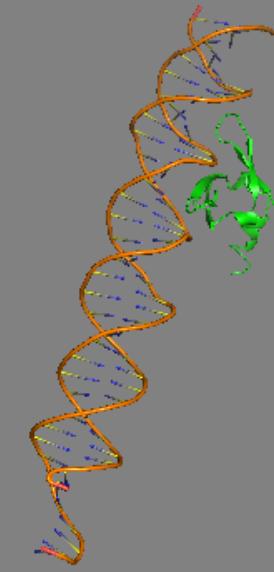
Cluster 2



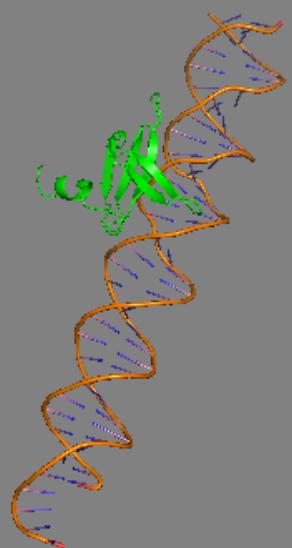
Cluster 3



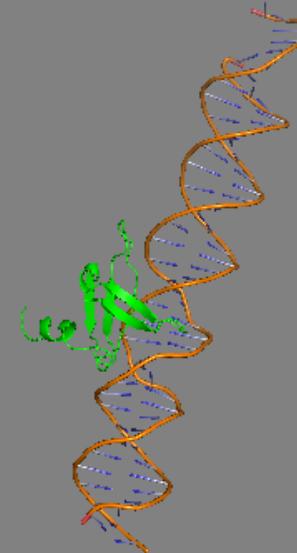
Cluster 4



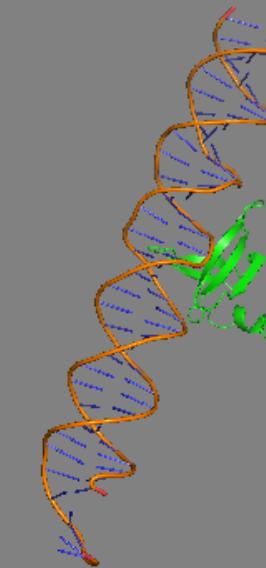
Cluster 5



Cluster 6



Cluster 7



Sub_25_55

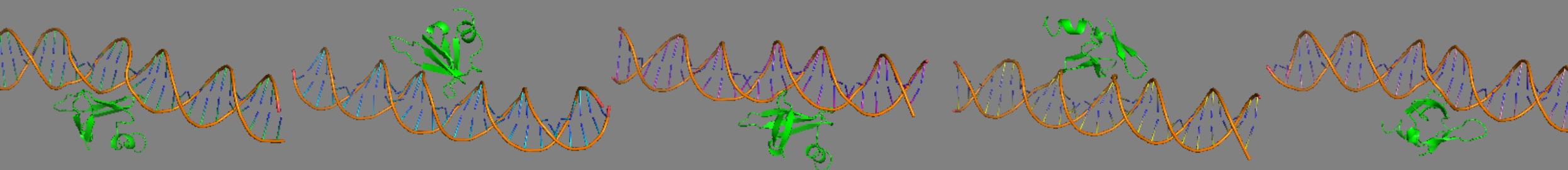
Cluster 1

Cluster 2

Cluster 3

Cluster 4

Cluster 5

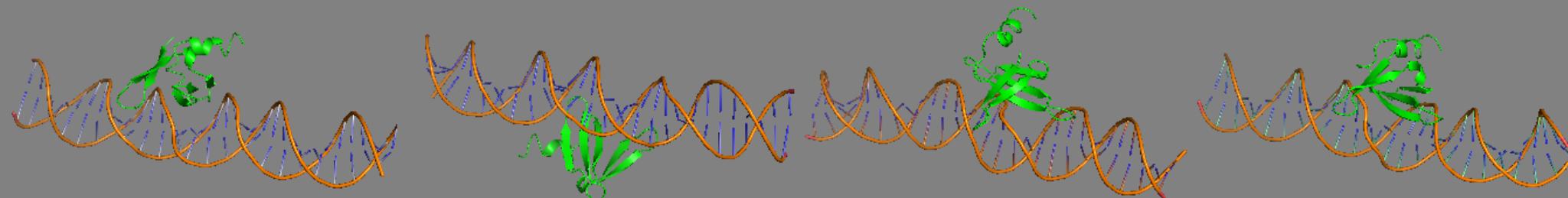


Cluster 6

Cluster 7

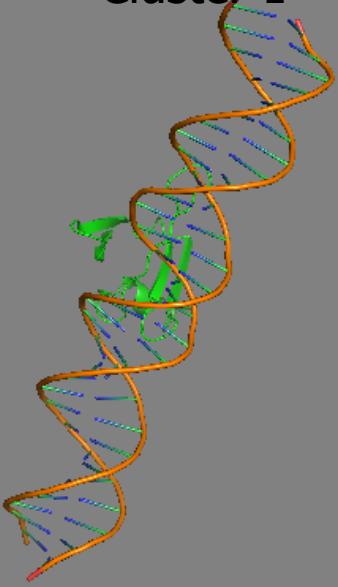
Cluster 8

Cluster 9

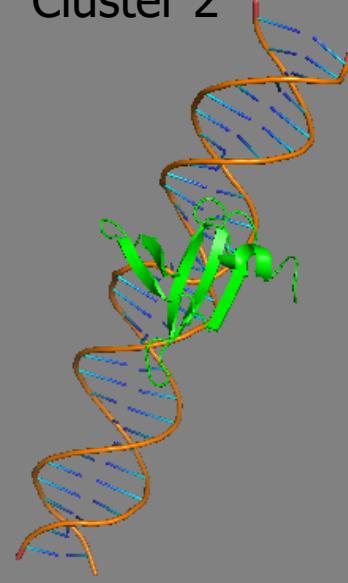


Sub_45_75

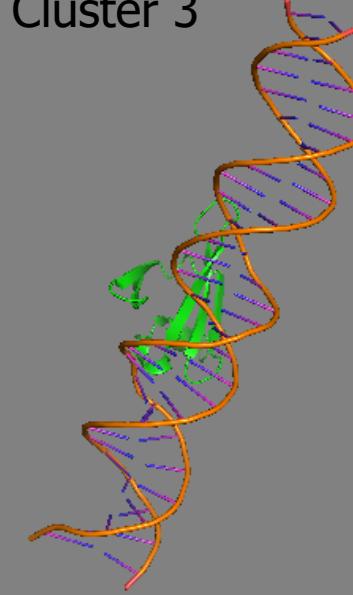
Cluster 1



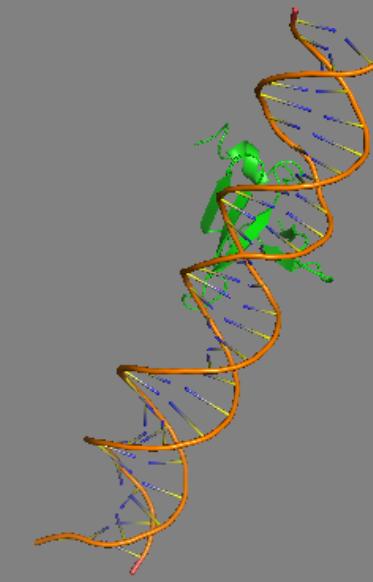
Cluster 2



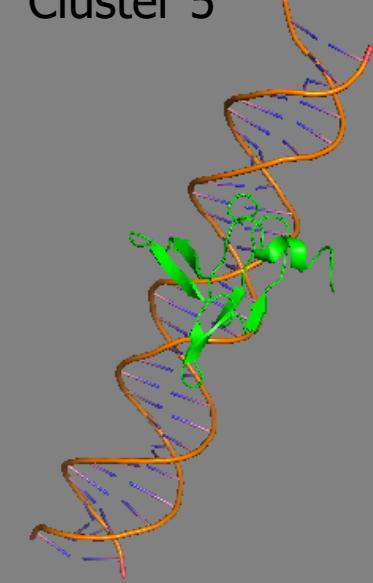
Cluster 3



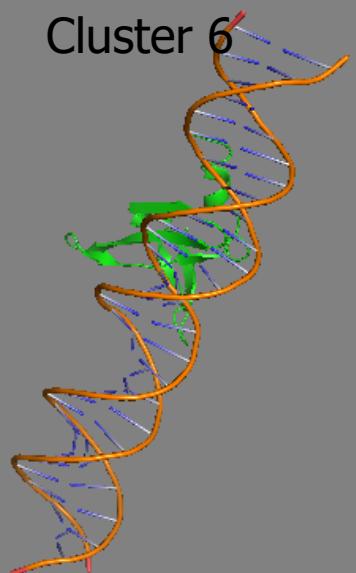
Cluster 4



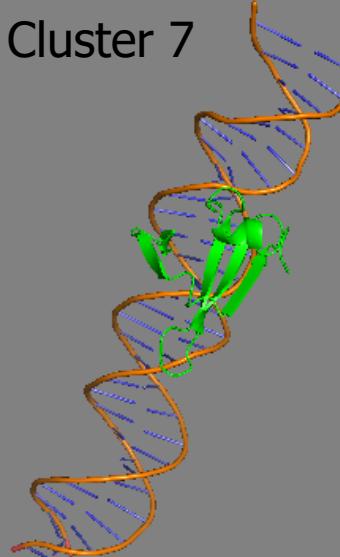
Cluster 5



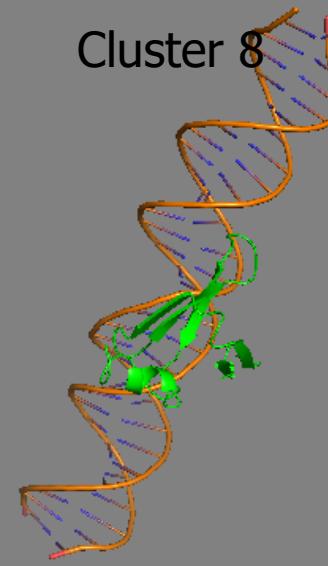
Cluster 6



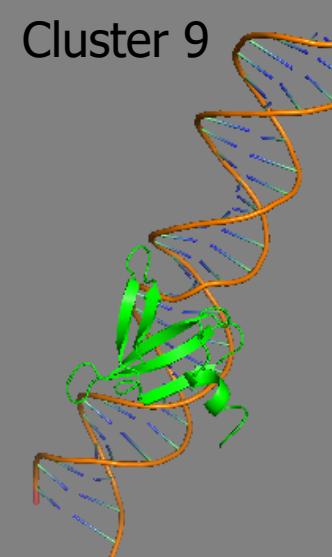
Cluster 7



Cluster 8

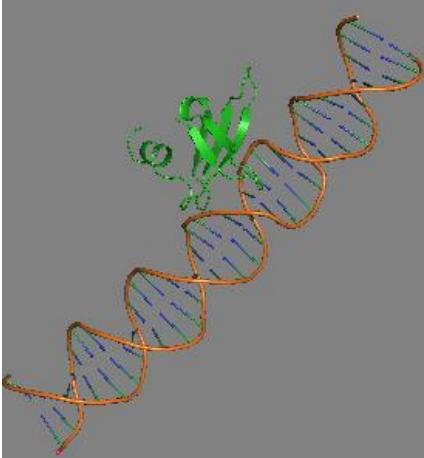


Cluster 9

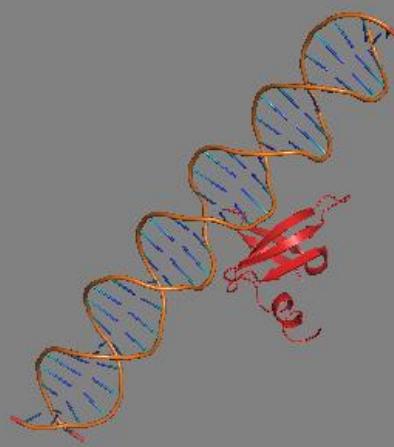


Sub_lacOperator

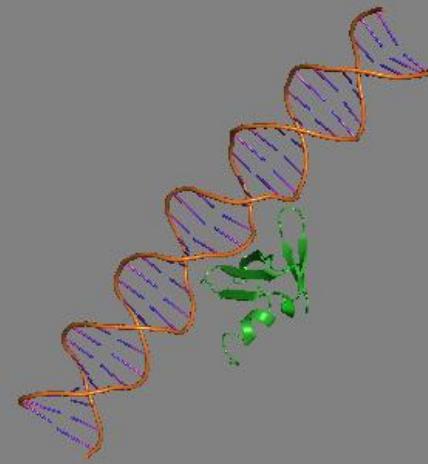
Cluster 10



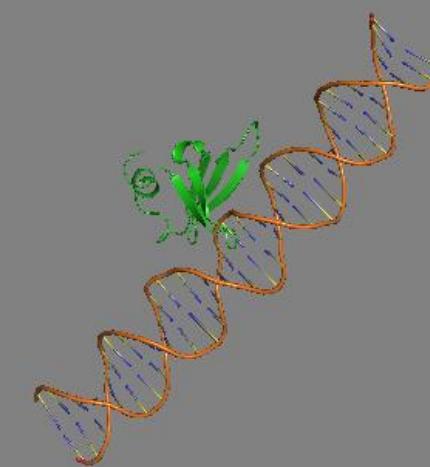
Cluster 1



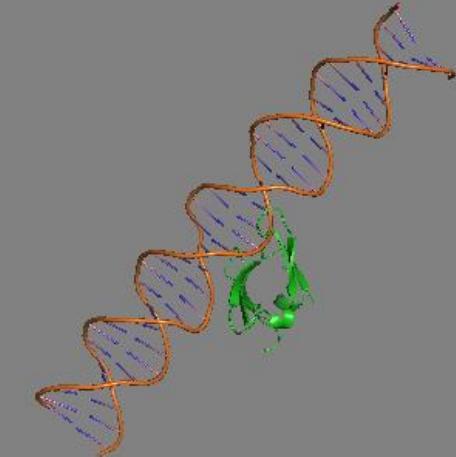
Cluster 2



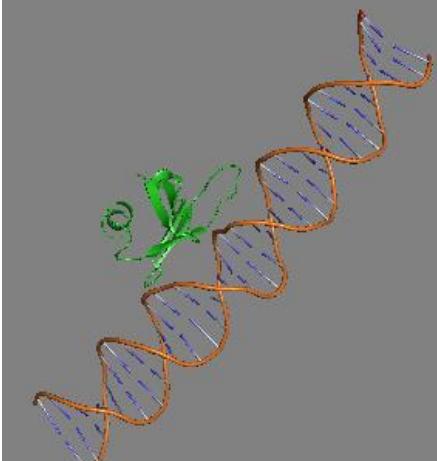
Cluster 3



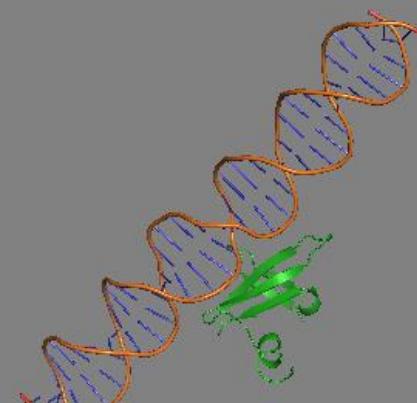
Cluster 4



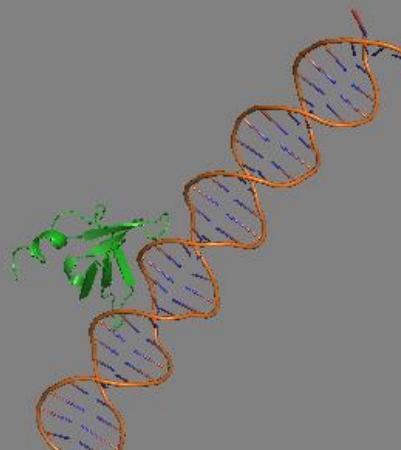
Cluster 5



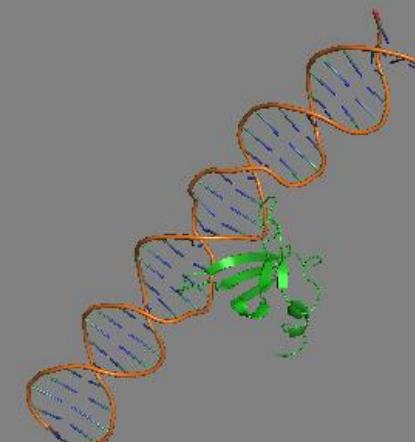
Cluster 6



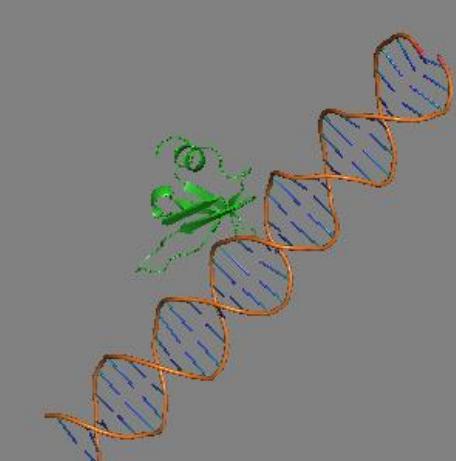
Cluster 7



Cluster 8

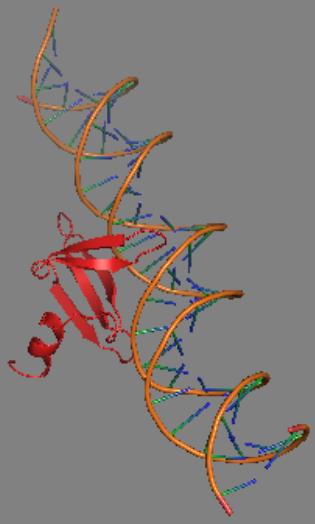


Cluster 9

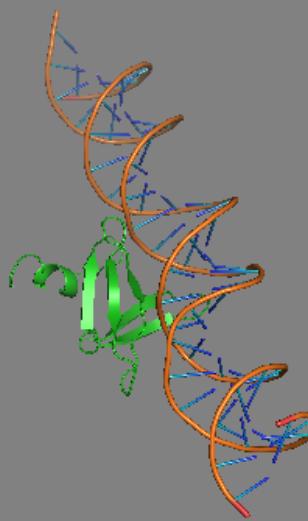


Rev_0_30

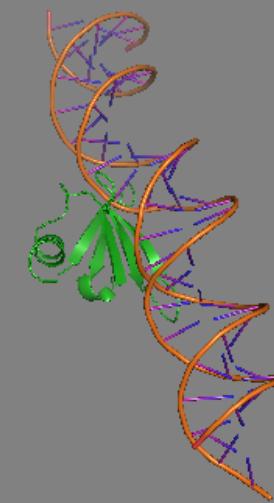
Cluster 1



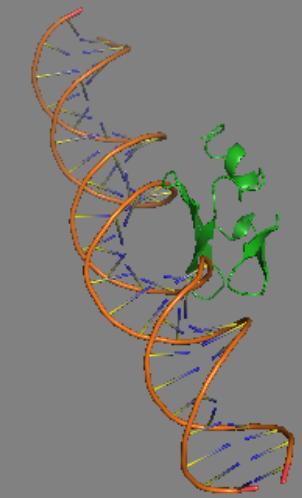
Cluster 2



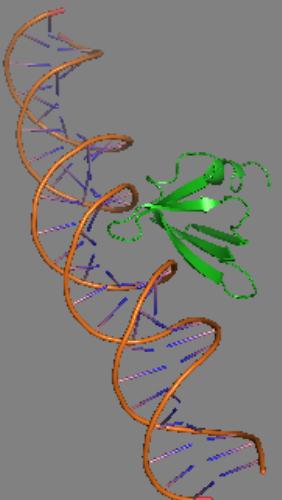
Cluster 3



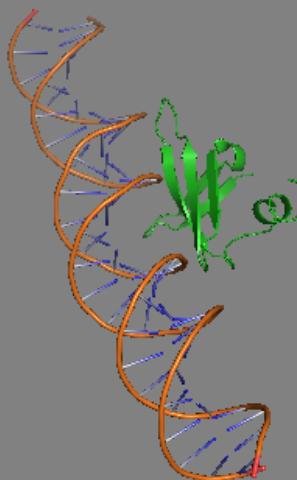
Cluster 4



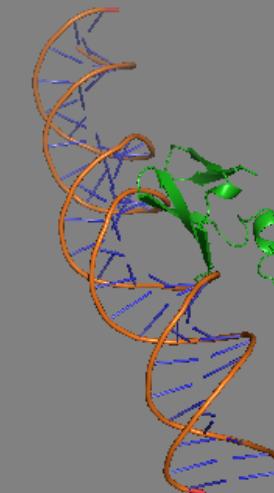
Cluster 5



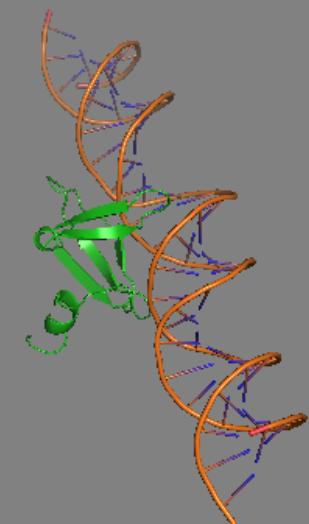
Cluster 6



Cluster 7

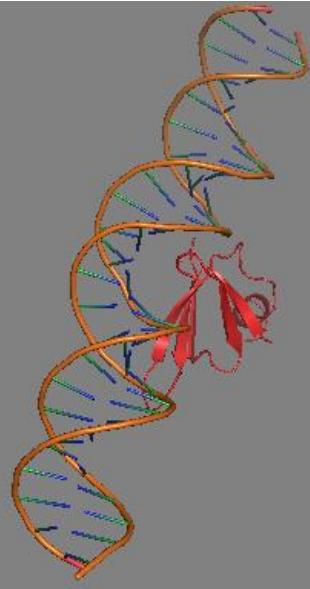


Cluster 8

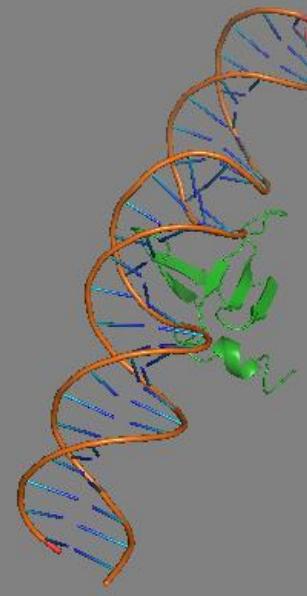


Rev_30_60

Cluster 1



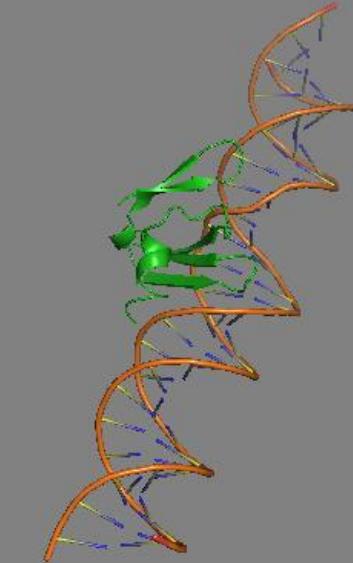
Cluster 2



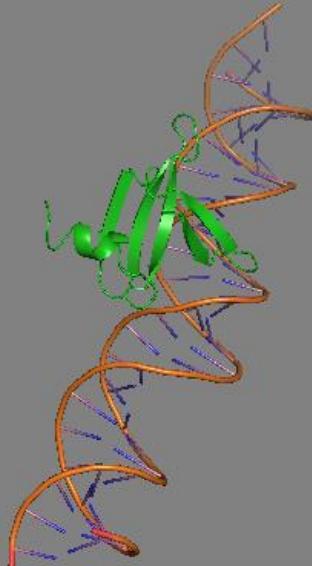
Cluster 3



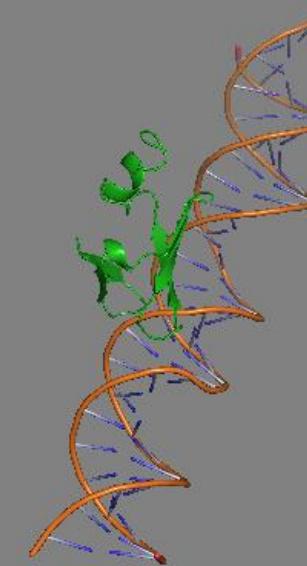
Cluster 4



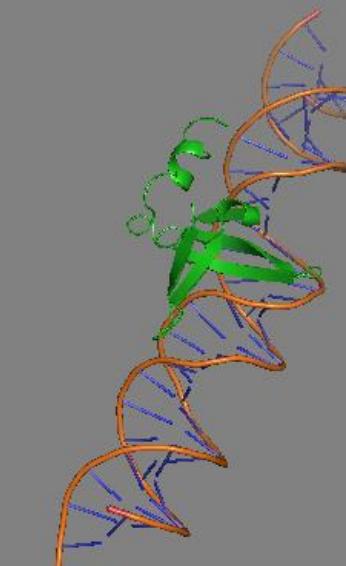
Cluster 5



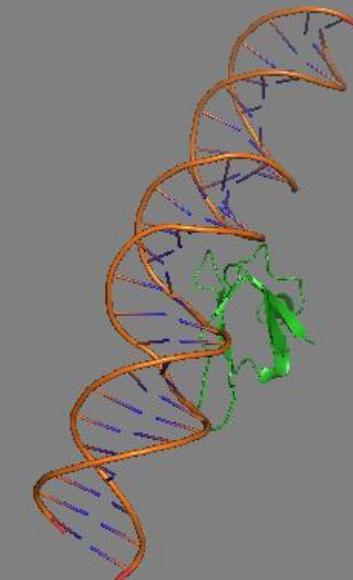
Cluster 6



Cluster 7

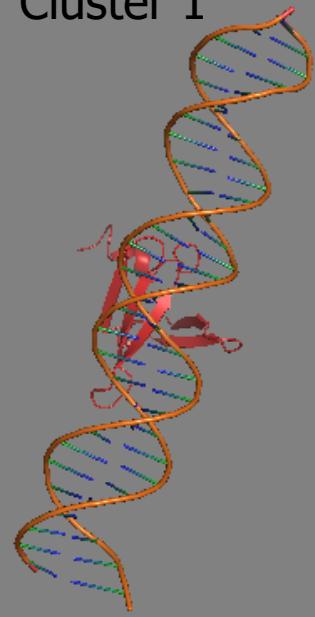


Cluster 8

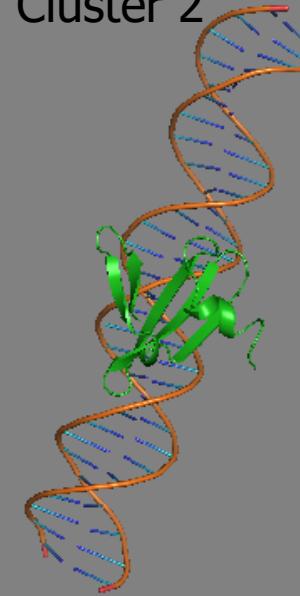


Rev_60_90

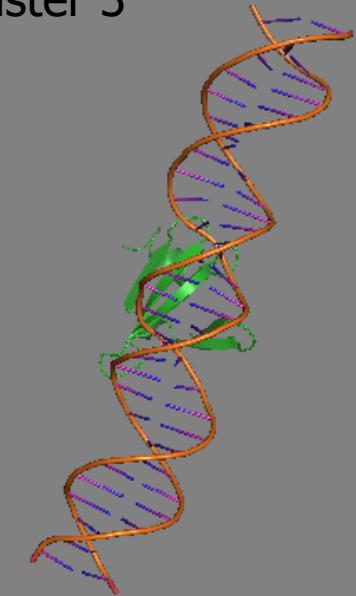
Cluster 1



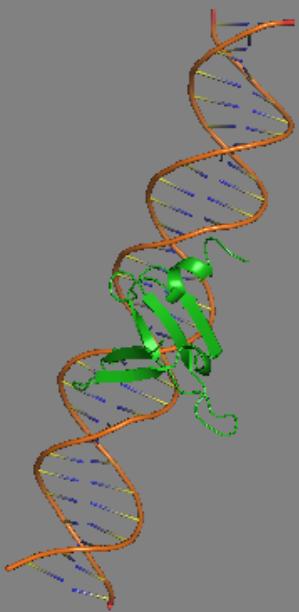
Cluster 2



Cluster 3

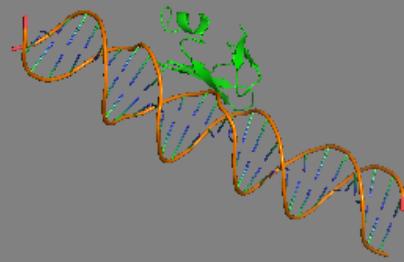


Cluster 4

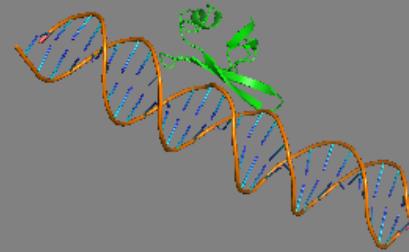


Rev_90_120

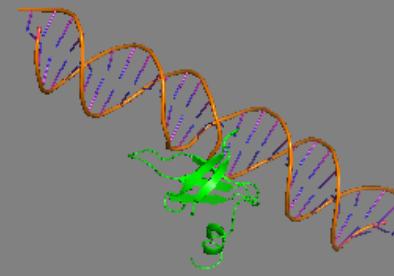
Cluster 1



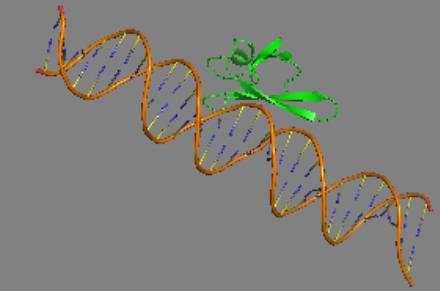
Cluster 2



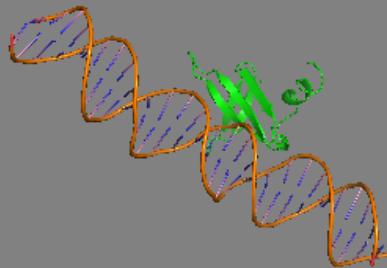
Cluster 3



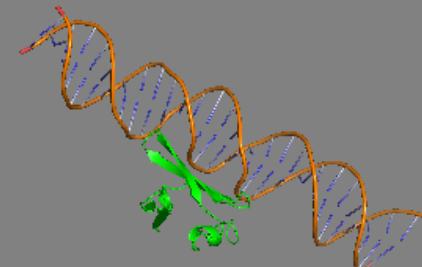
Cluster 4



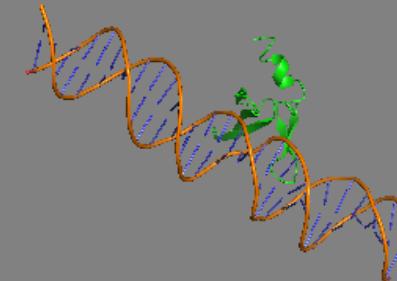
Cluster 5



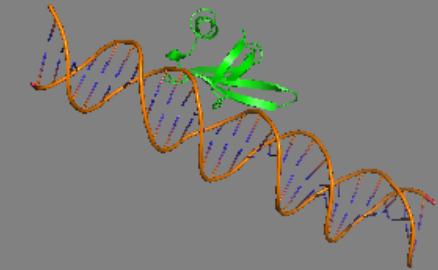
Cluster 6



Cluster 7

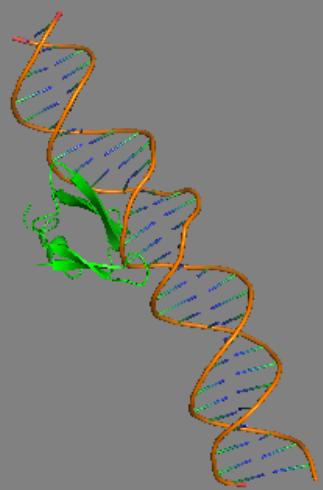


Cluster 8

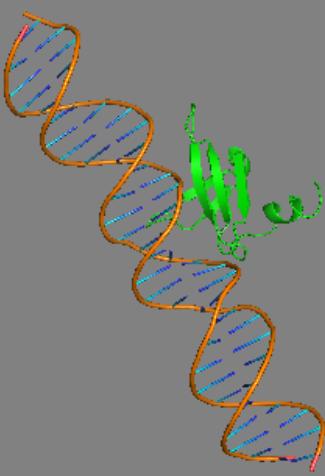


Rev_120_150

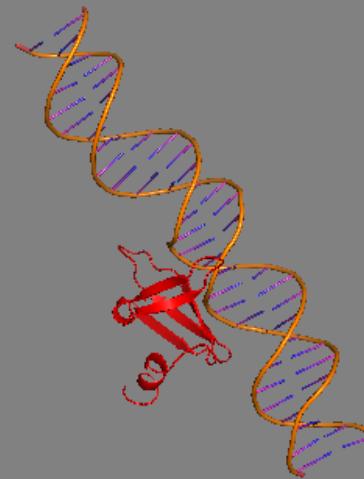
Cluster 10



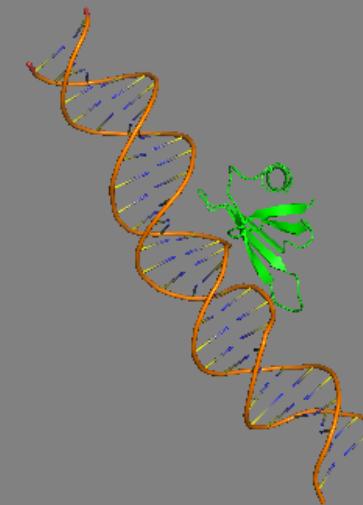
Cluster 1



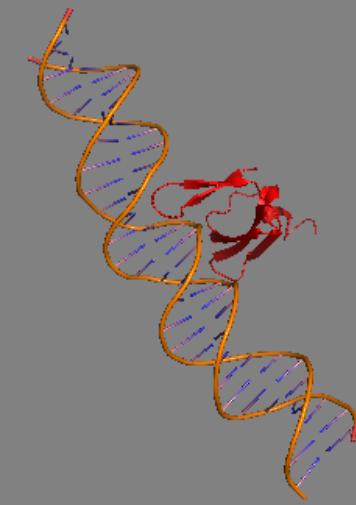
Cluster 2



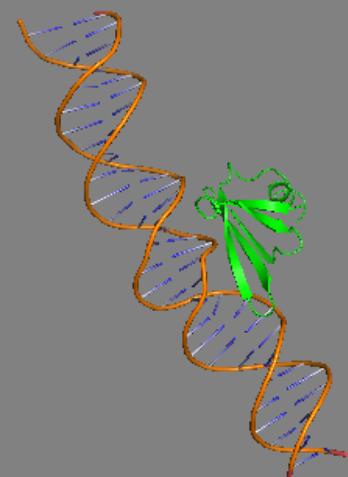
Cluster 3



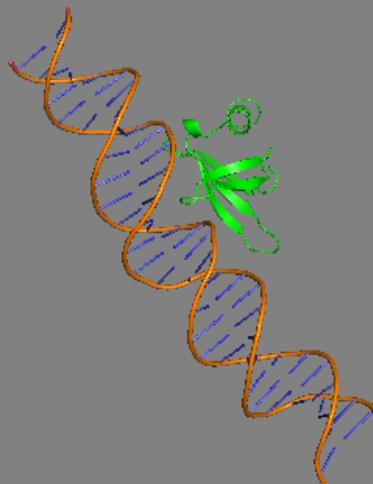
Cluster 4



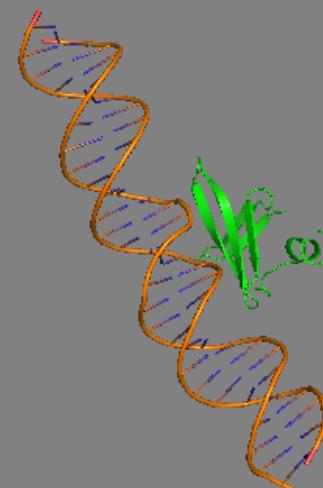
Cluster 5



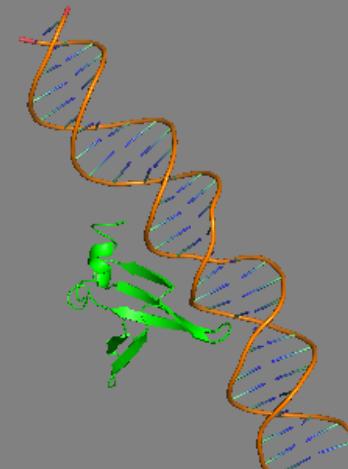
Cluster 6



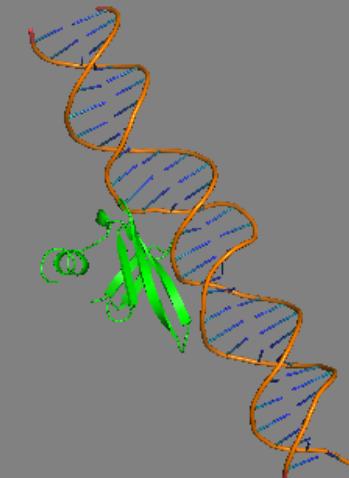
Cluster 7



Cluster 8



Cluster 9



Tandem first part => Docking to
Rev_0_30

All Dockings for **Figure 32**

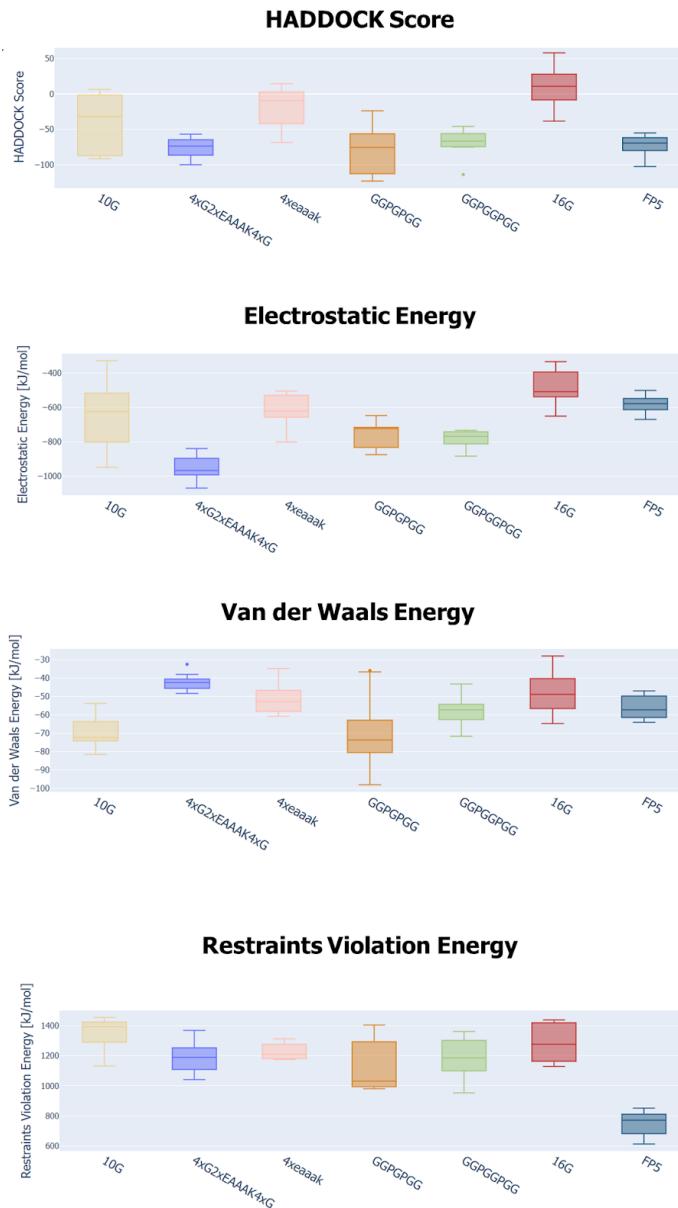
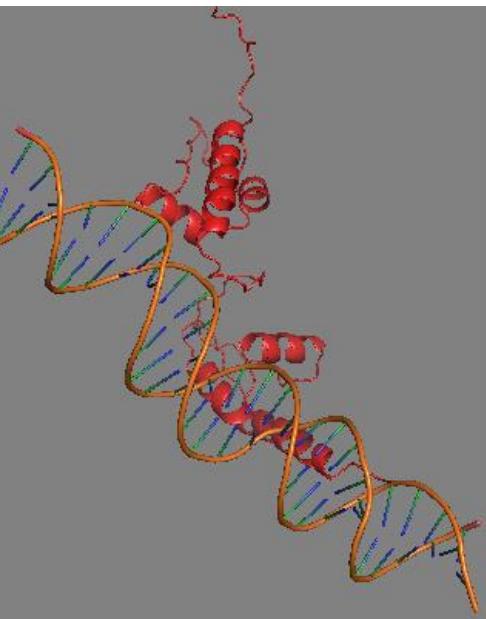


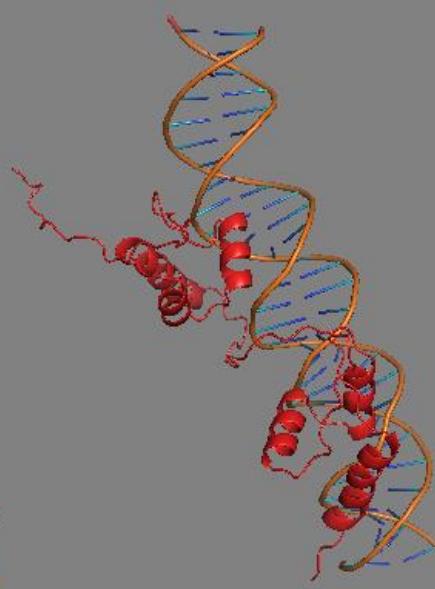
Figure 32: Energy output by HADDOCK for each Tandem to the rev_0_30 DNA sequence in comparison to the single FP5 protein. The tandems are labeled with their linker sequence.

16G linker

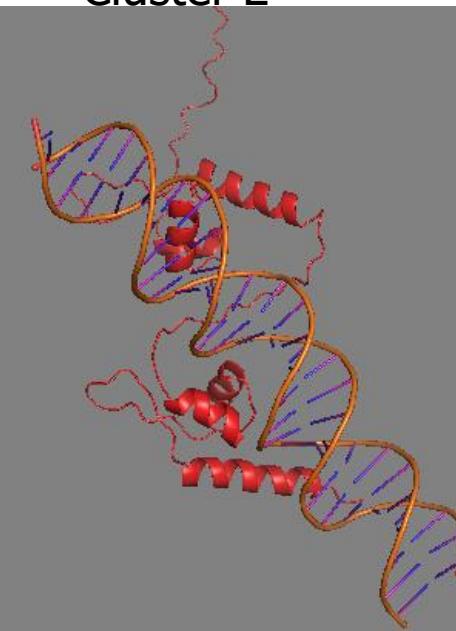
Cluster 10



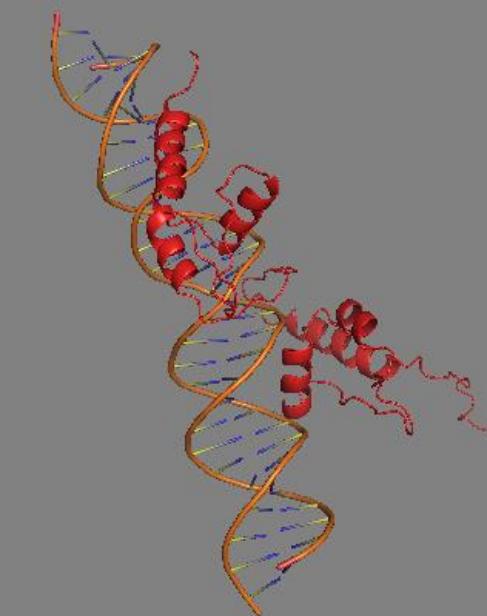
Cluster 1



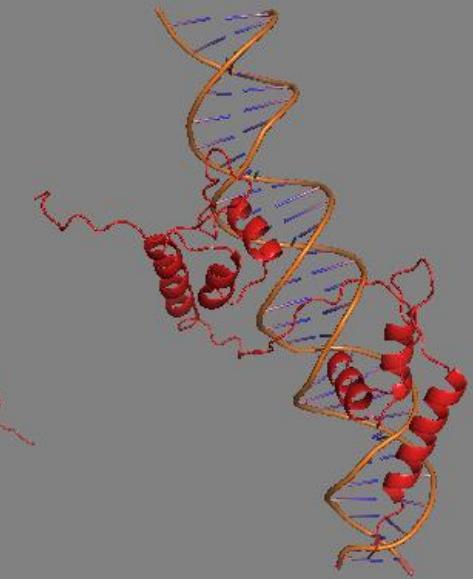
Cluster 2



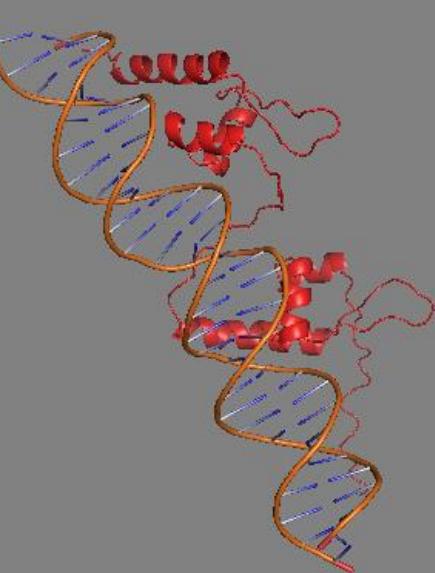
Cluster 3



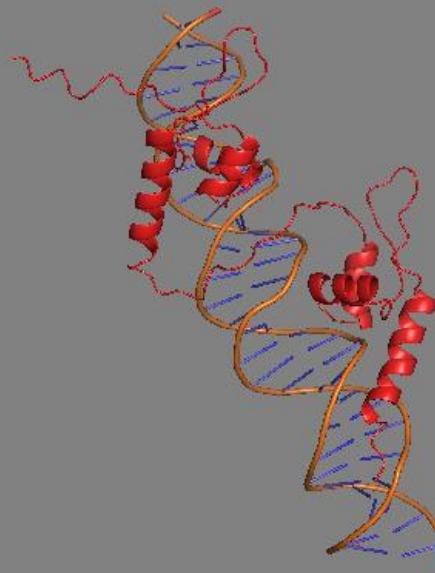
Cluster 4



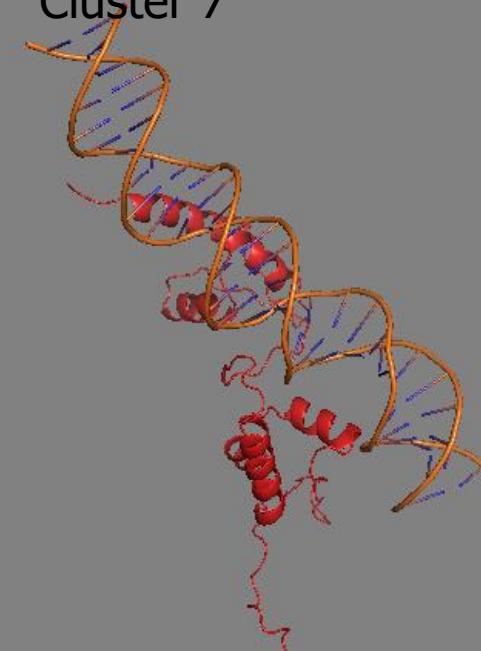
Cluster 5



Cluster 6



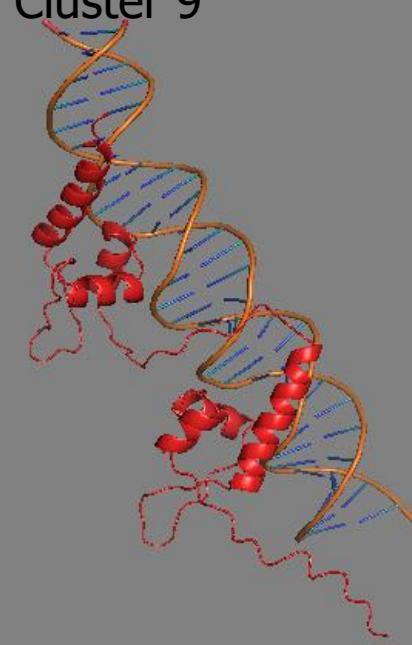
Cluster 7



Cluster 8

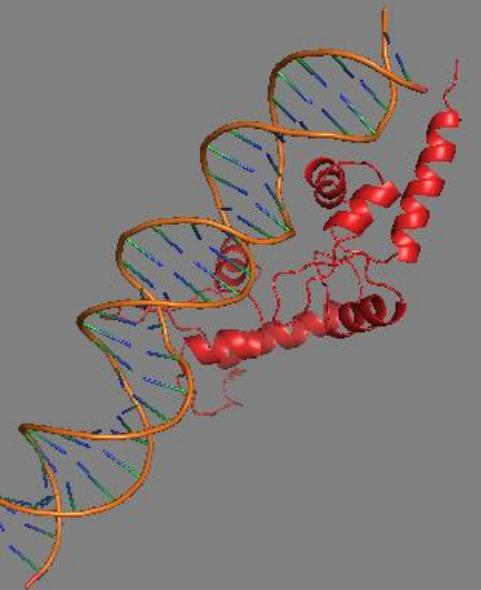


Cluster 9

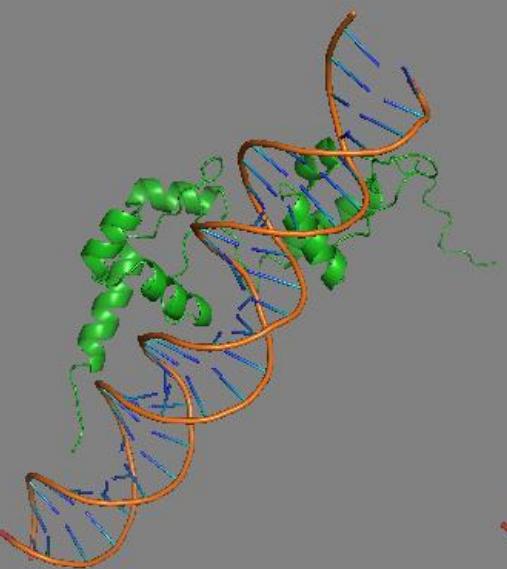


4xG - 2xEAAK - 4xG

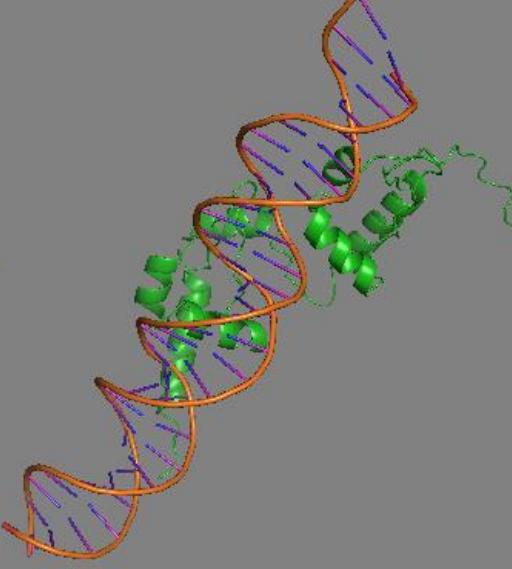
Cluster 13



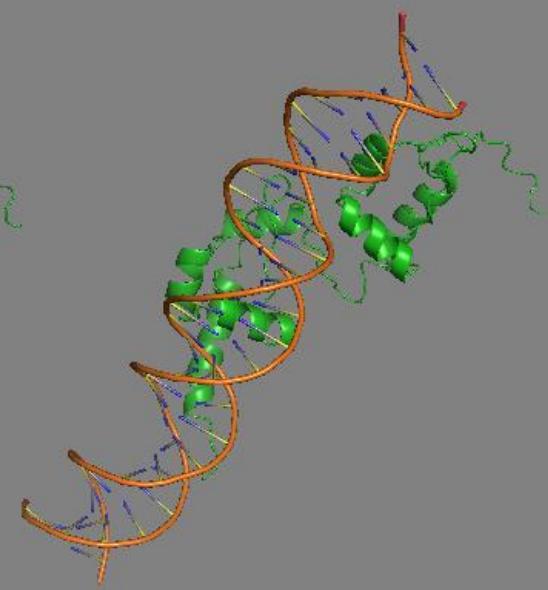
Cluster 14



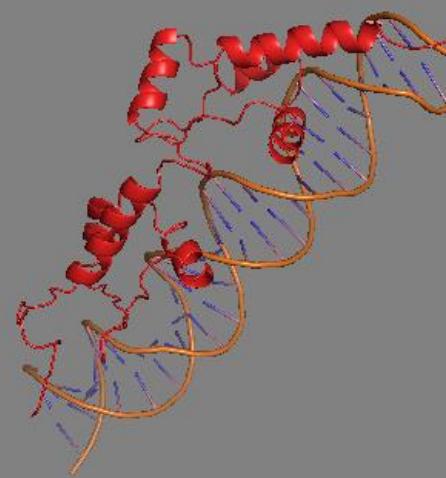
Cluster 15



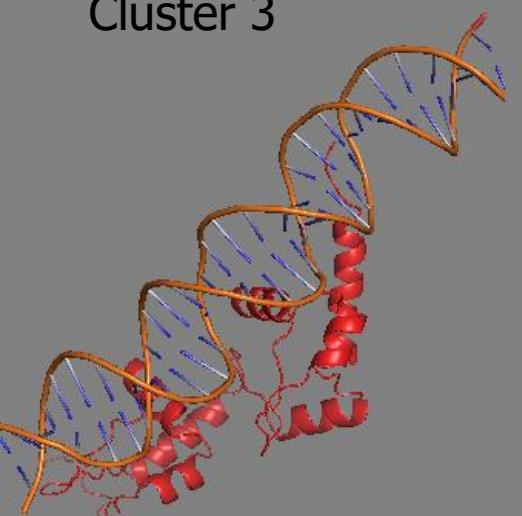
Cluster 1



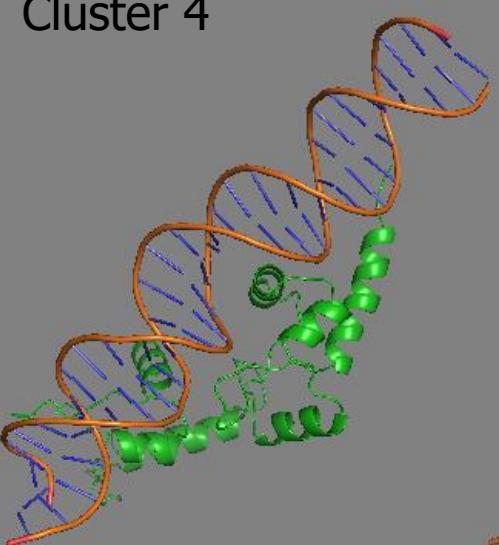
Cluster 2



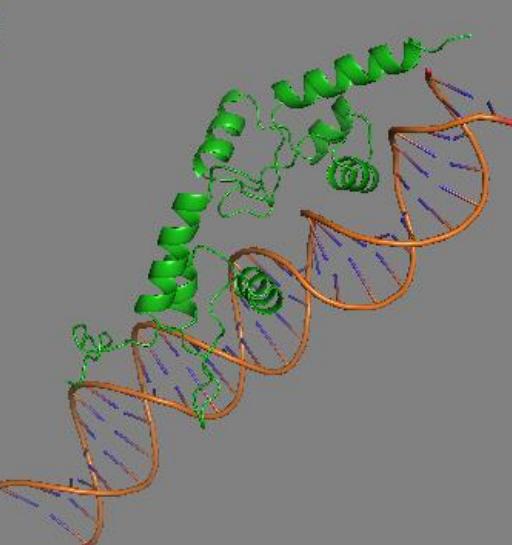
Cluster 3



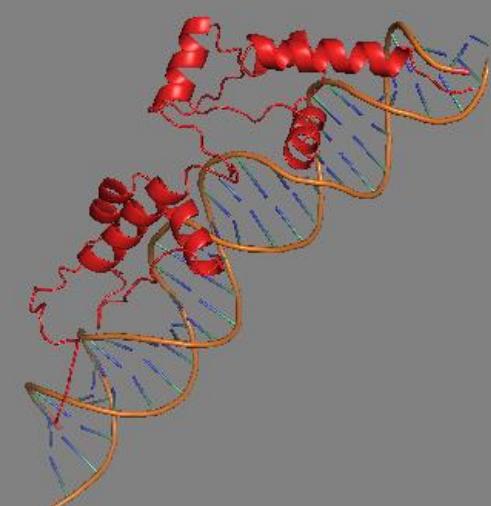
Cluster 4



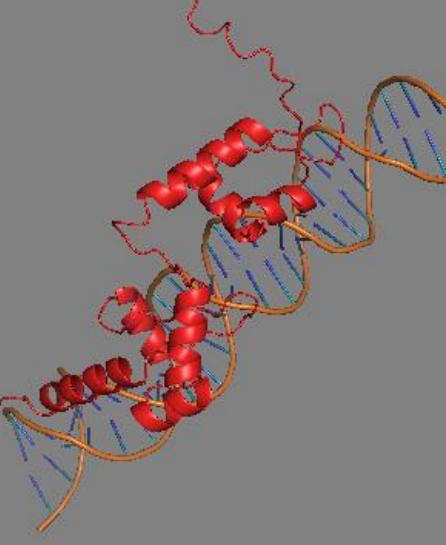
Cluster 6



Cluster 7



Cluster 8

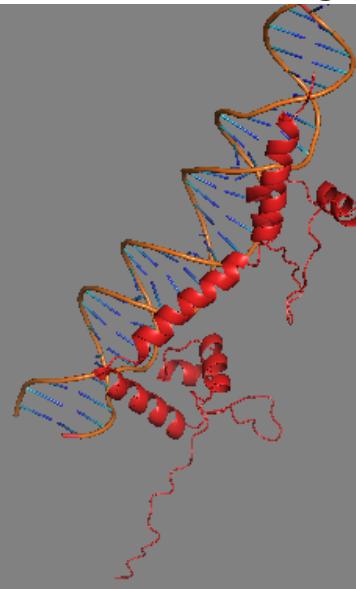


4x EAAAK Linker

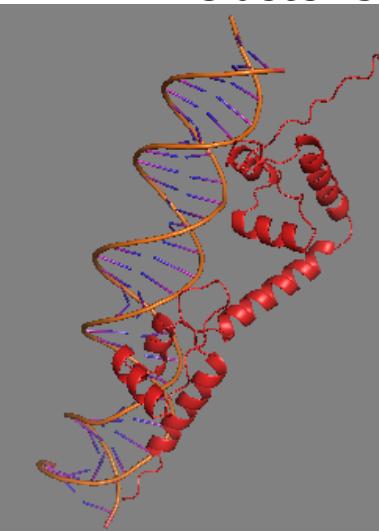
Cluster 1



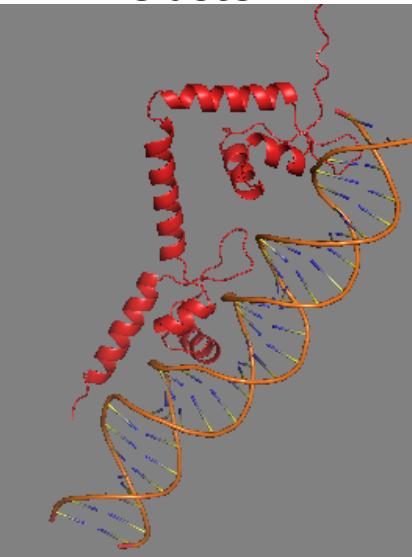
Cluster 2



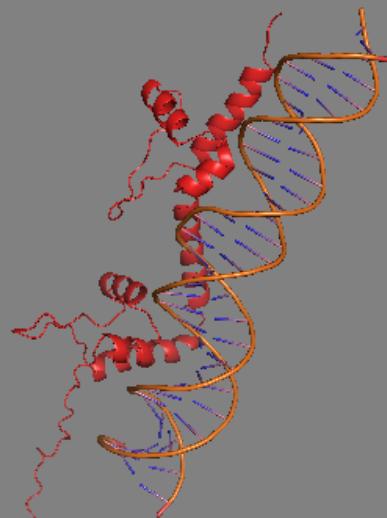
Cluster 3



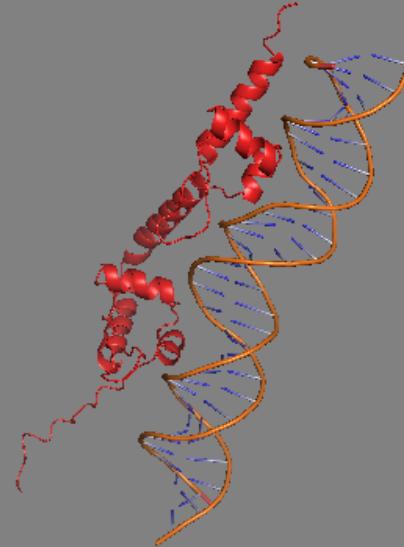
Cluster 4



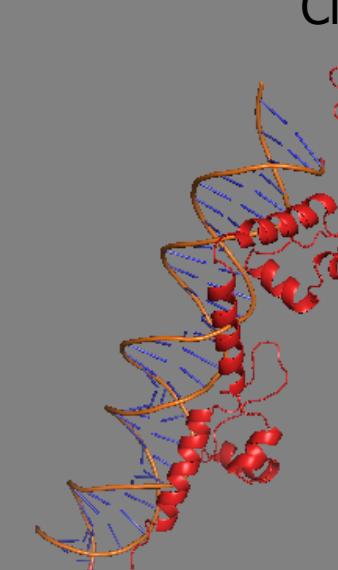
Cluster 5



Cluster 6

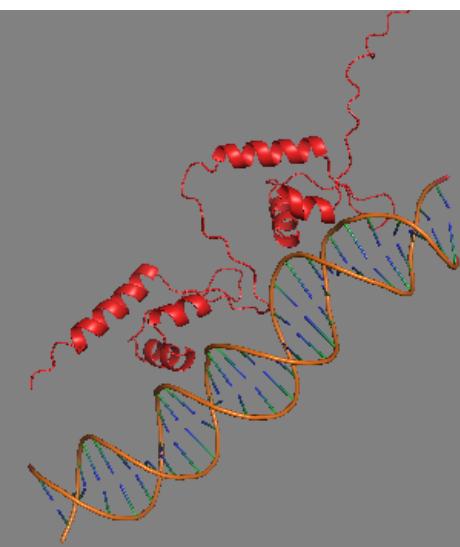


Cluster 7

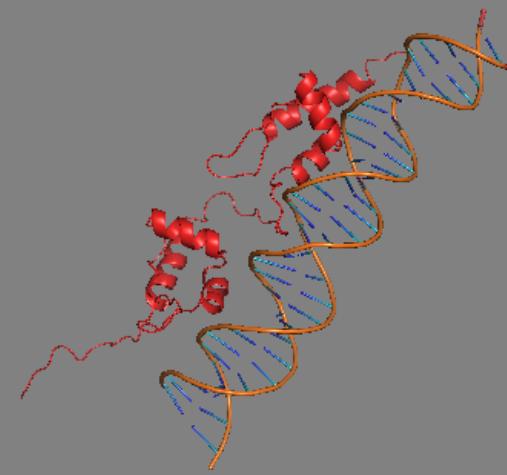


10xG Linker

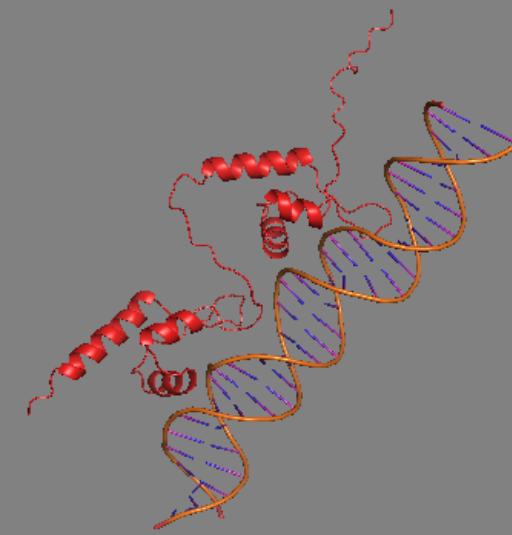
Cluster 10



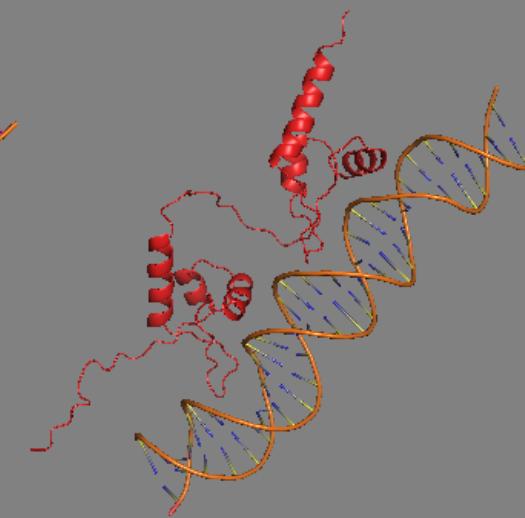
Cluster 1



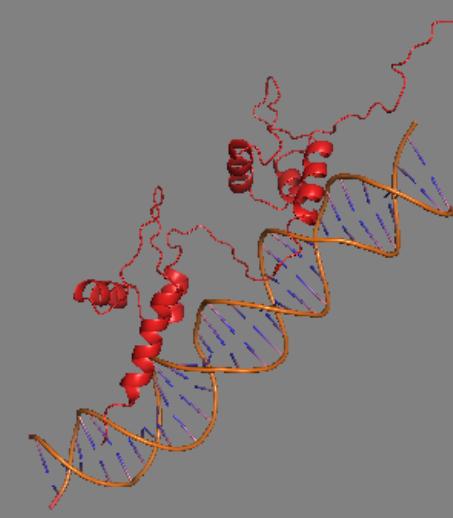
Cluster 2



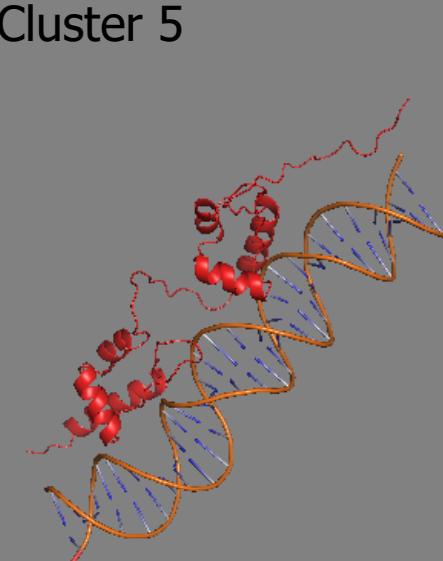
Cluster 3



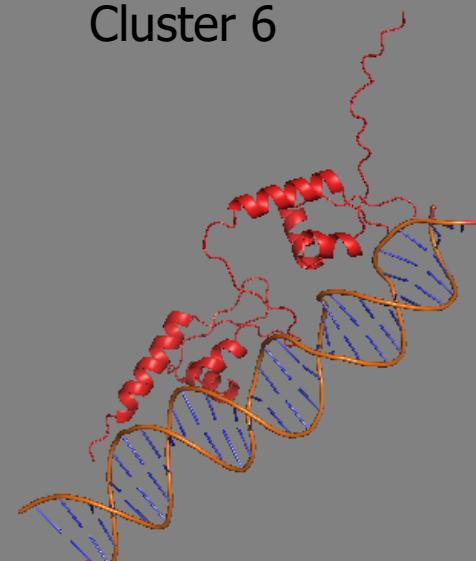
Cluster 4



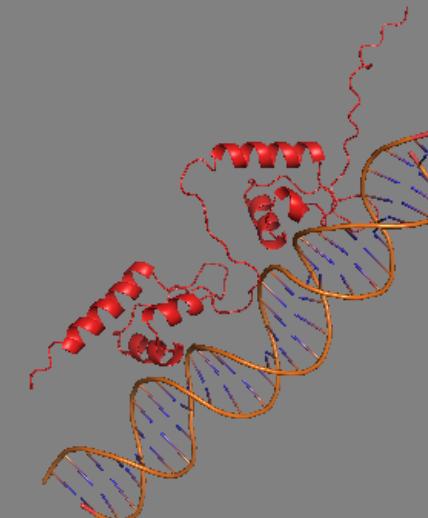
Cluster 5



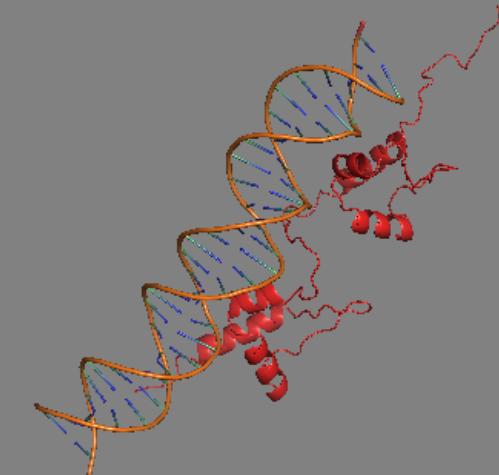
Cluster 6



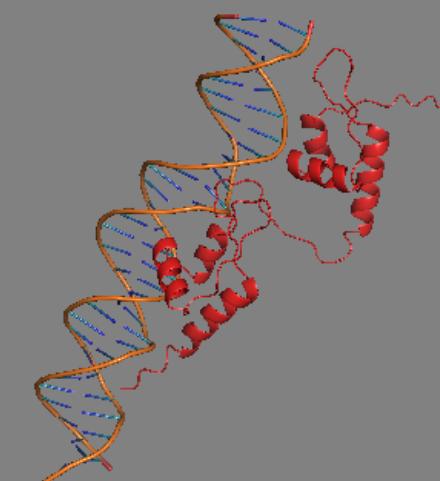
Cluster 7



Cluster 8

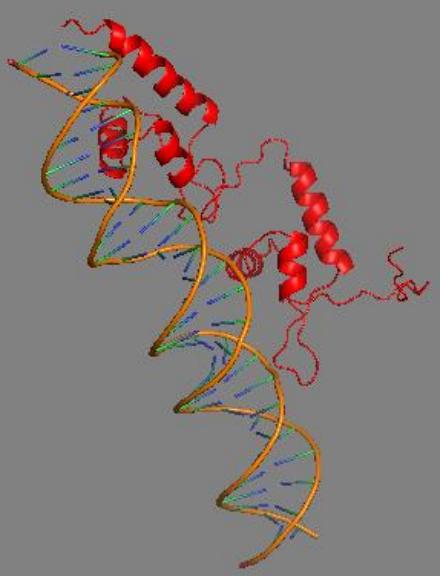


Cluster 9

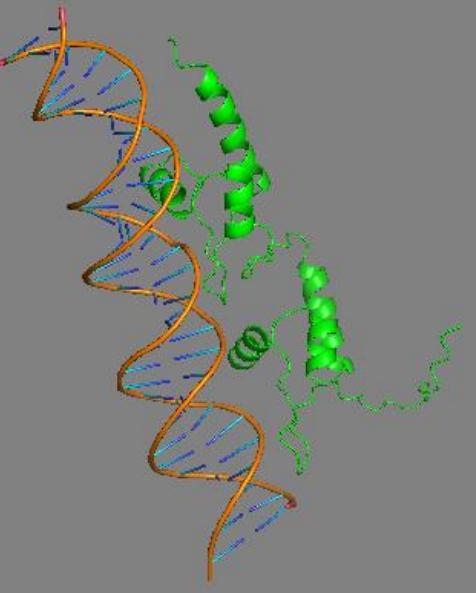


GGPGGGPGG Linker

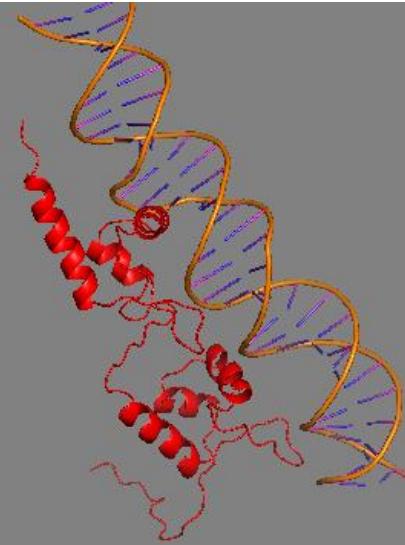
Cluster 11



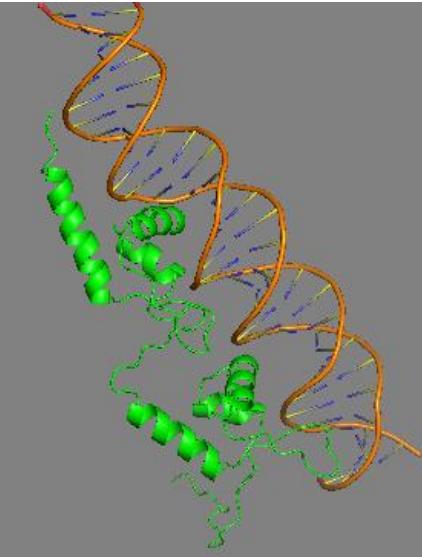
Cluster 12



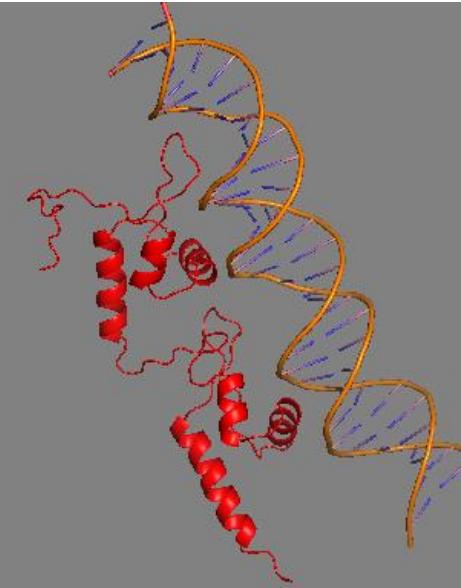
Cluster 13



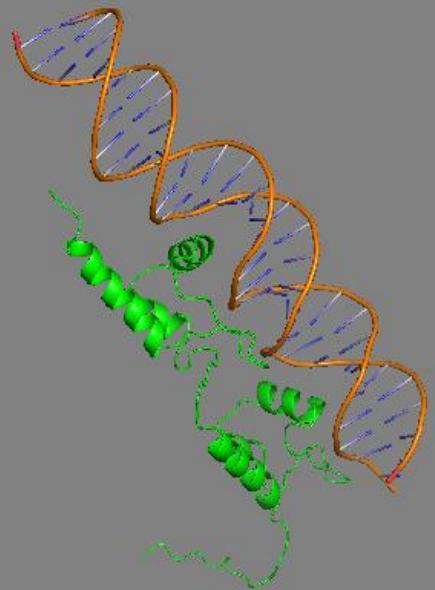
Cluster 1



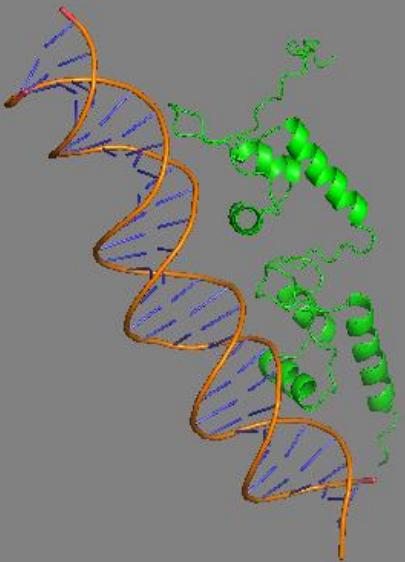
Cluster 2



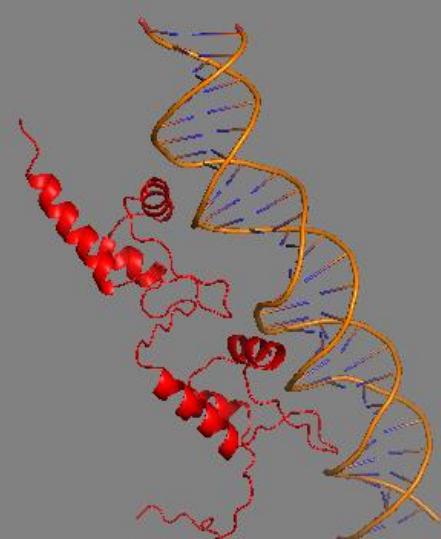
Cluster 4



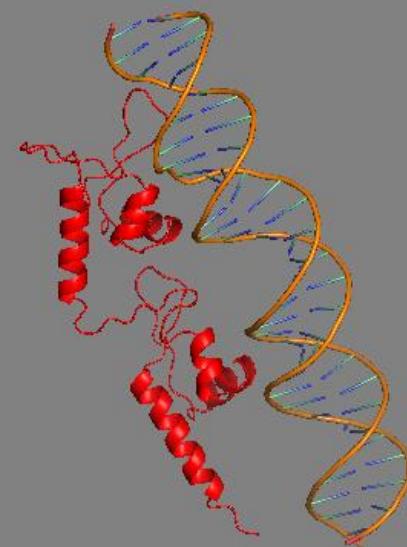
Cluster 6



Cluster 7



Cluster 8

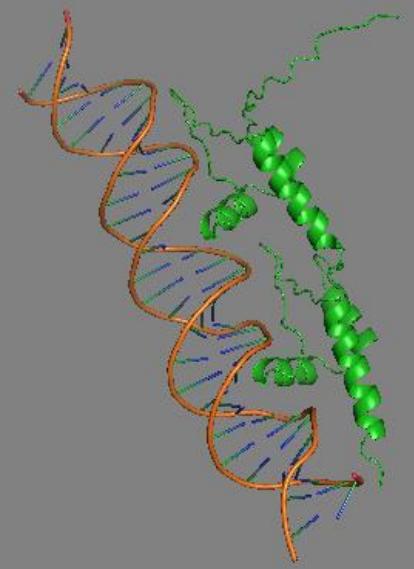


Cluster 9

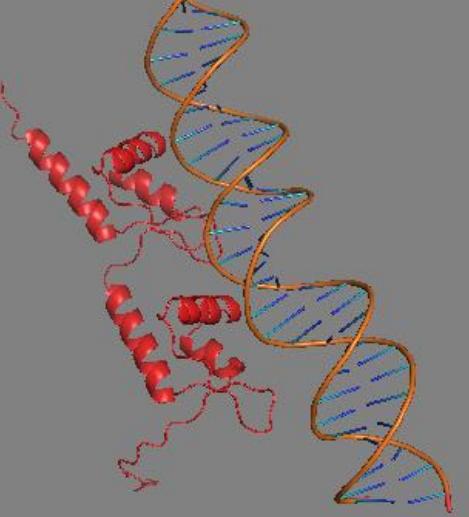


GGPGPGG Linker

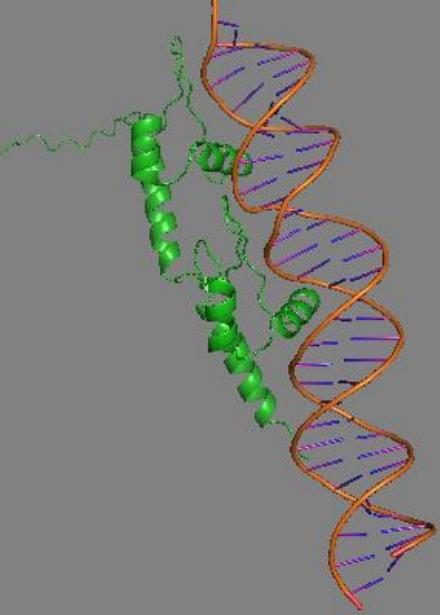
Cluster 10



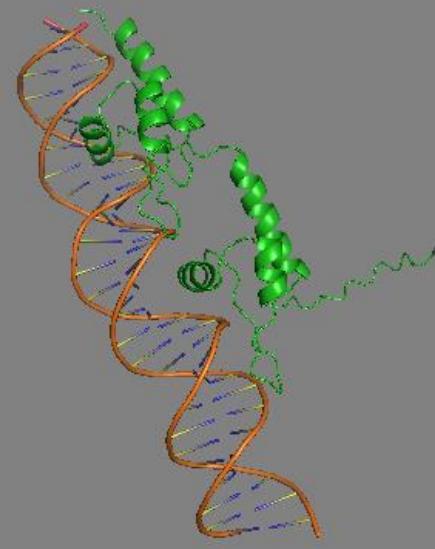
Cluster 11



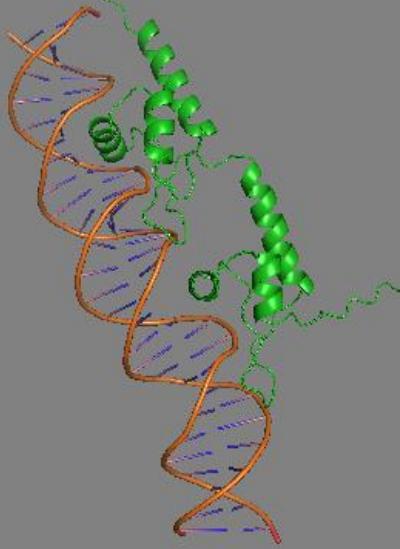
Cluster 12



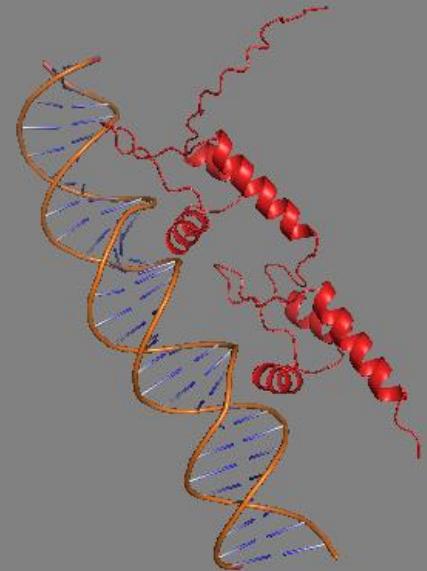
Cluster 1



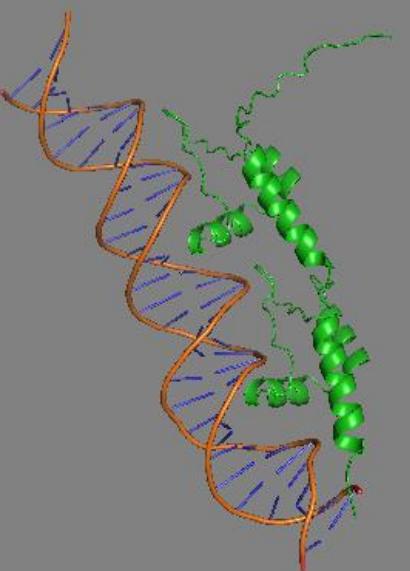
Cluster 2



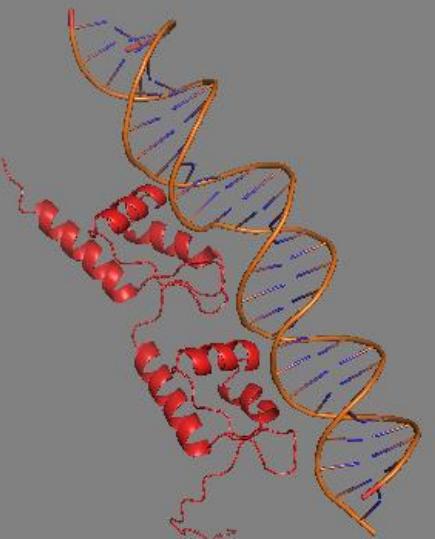
Cluster 4



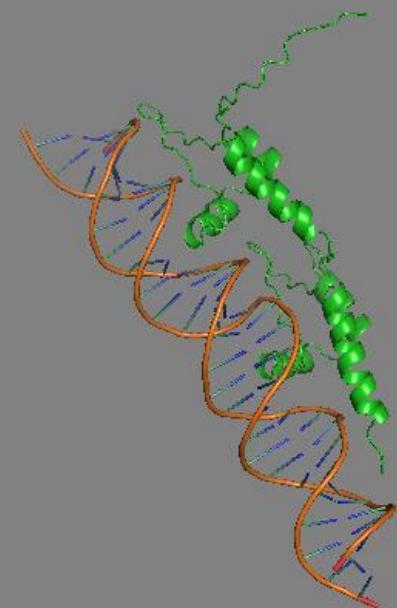
Cluster 6



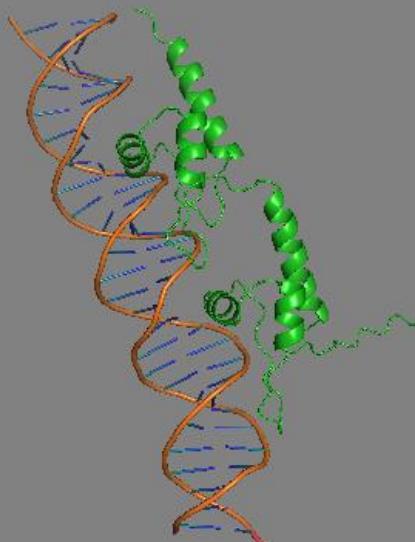
Cluster 7



Cluster 8



Cluster 9



Second Docking => Linker design

All Dockings for Figure 34

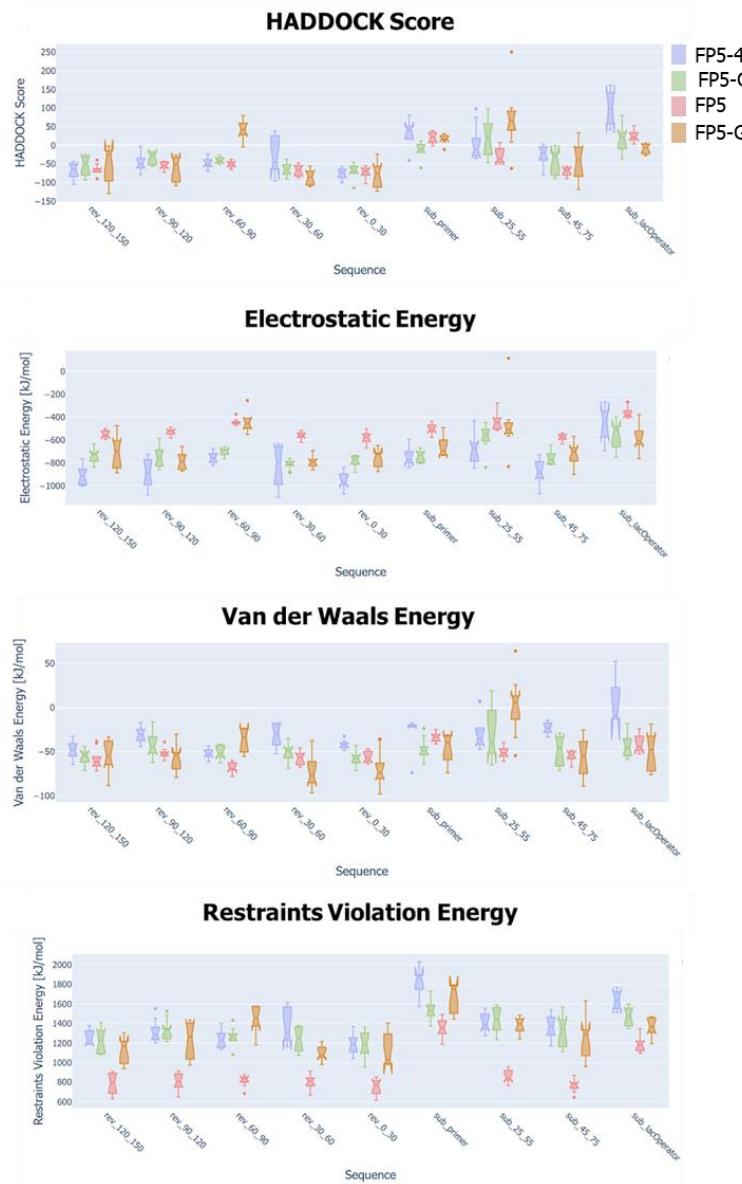
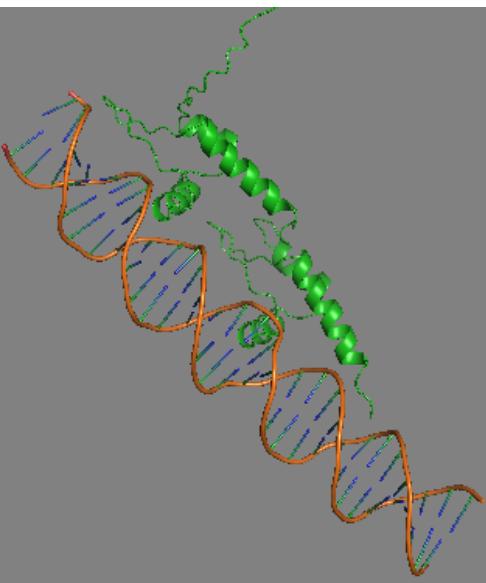


Figure 34: Energy output by HADDOCK for each linker in comparison to FP5 in relation to the DNA sequence to which it was docked. .

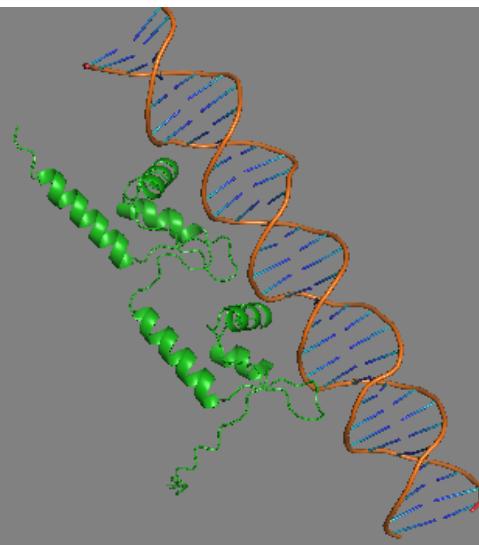
GGPGPGG

Sub_primer

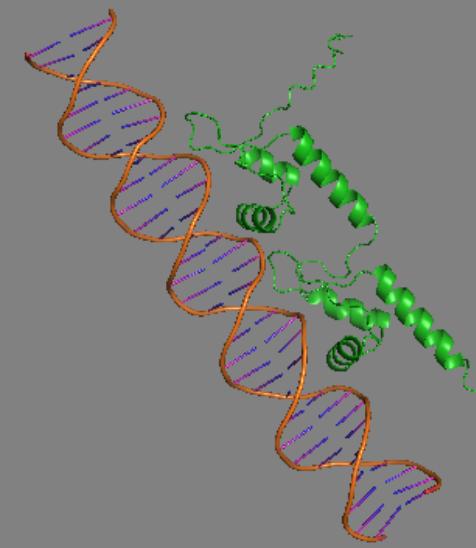
Cluster 10



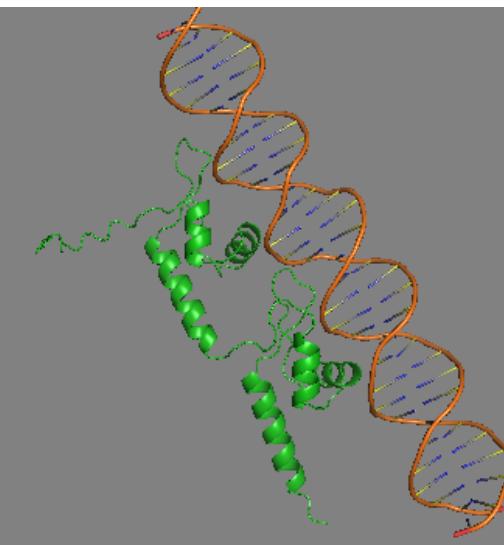
Cluster 12



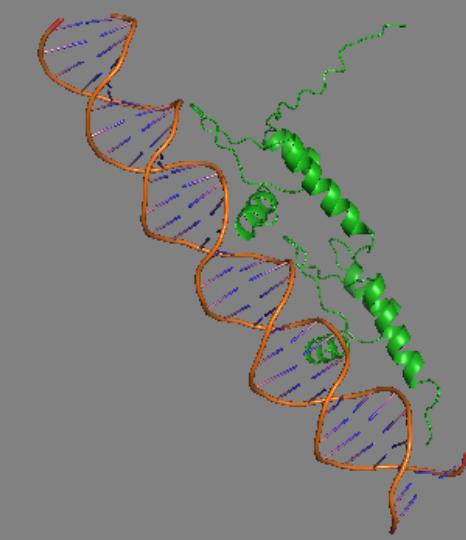
Cluster 13



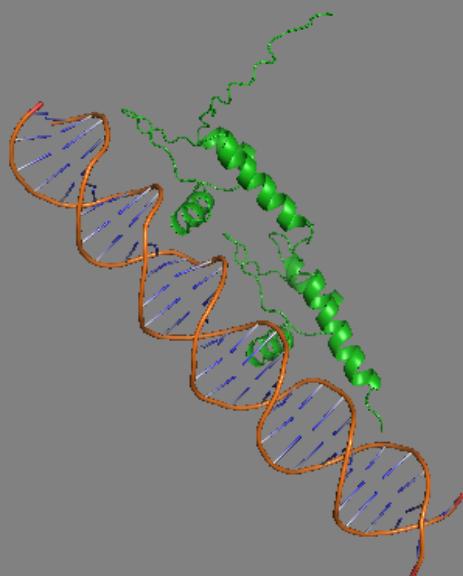
Cluster 14



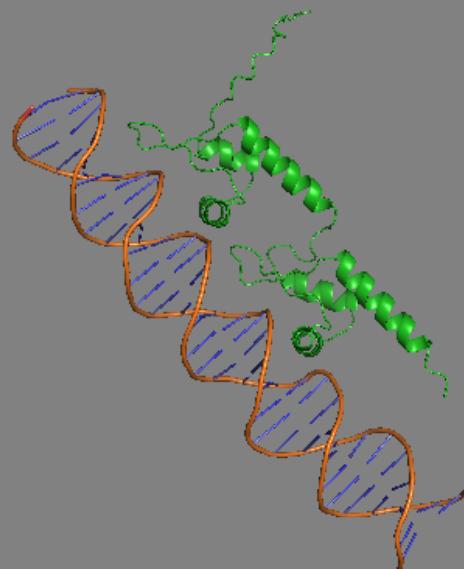
Cluster 1



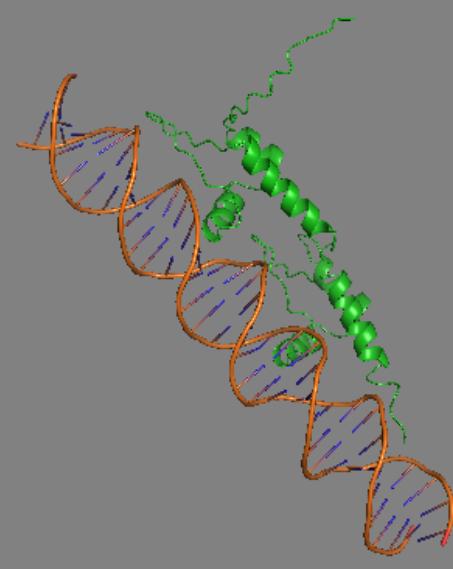
Cluster 2



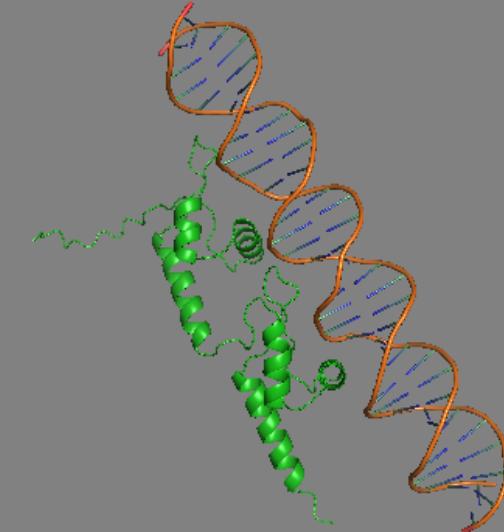
Cluster 3



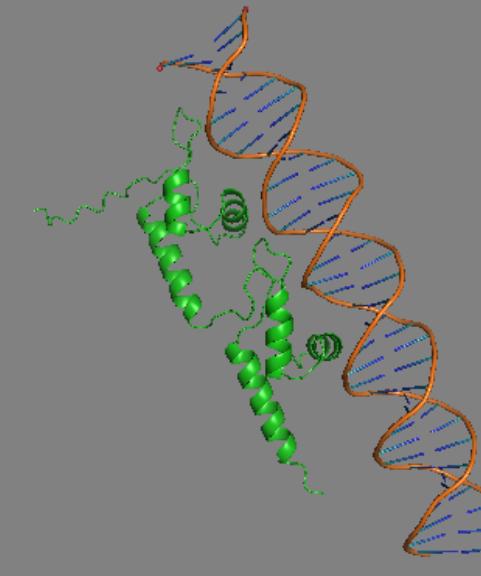
Cluster 5



Cluster 7

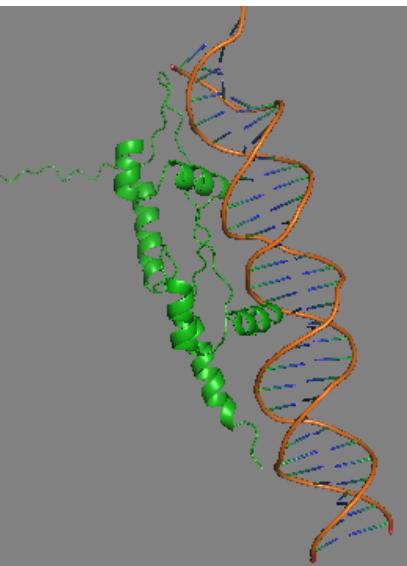


Cluster 8

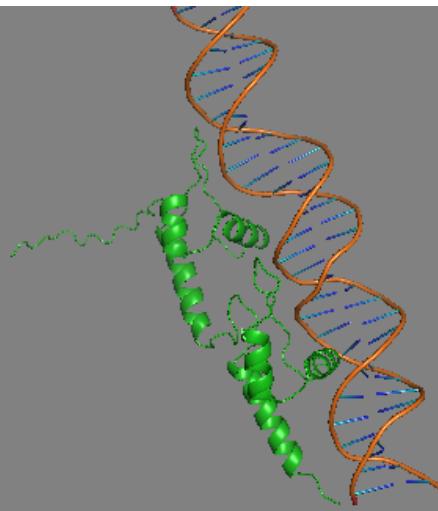


Sub_25_55

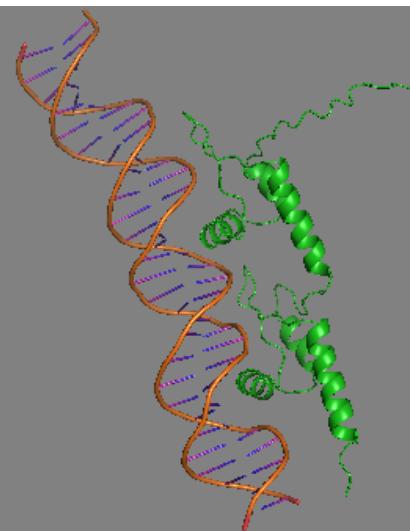
Cluster 10



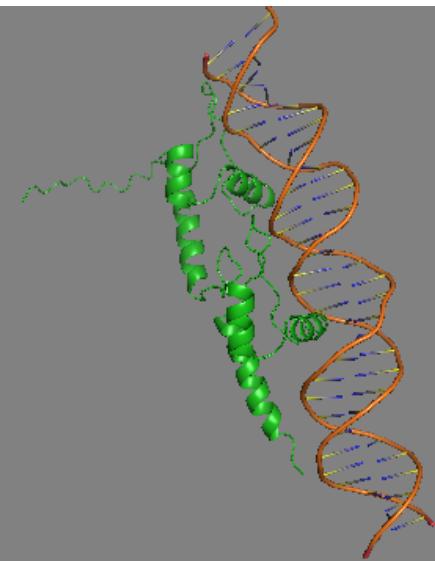
Cluster 11



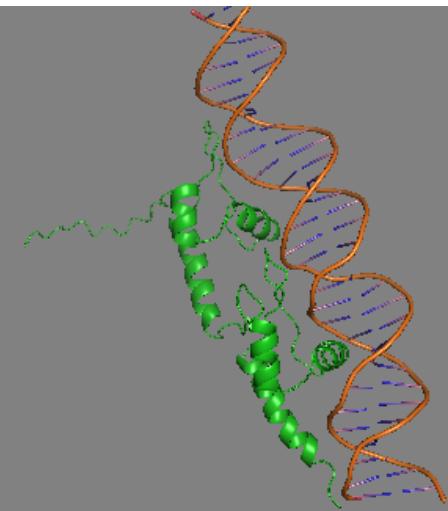
Cluster 12



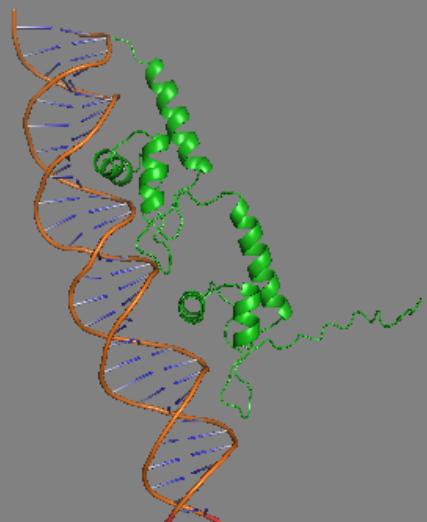
Cluster 1



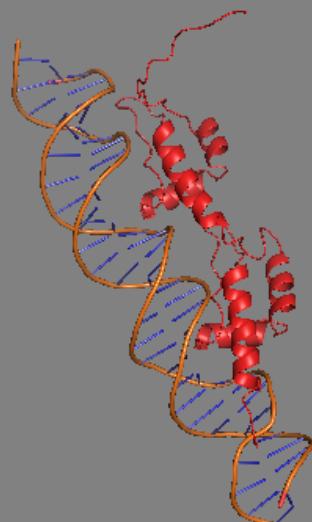
Cluster 2



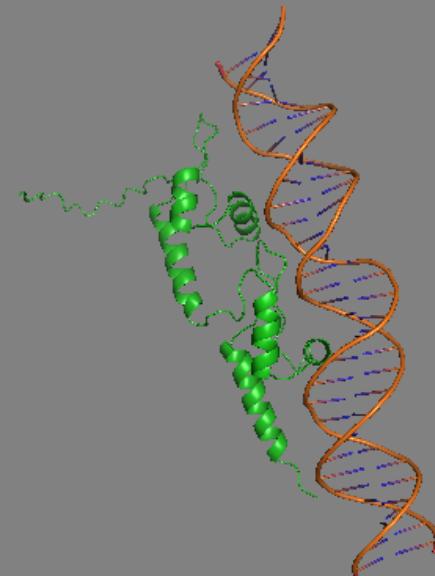
Cluster 3



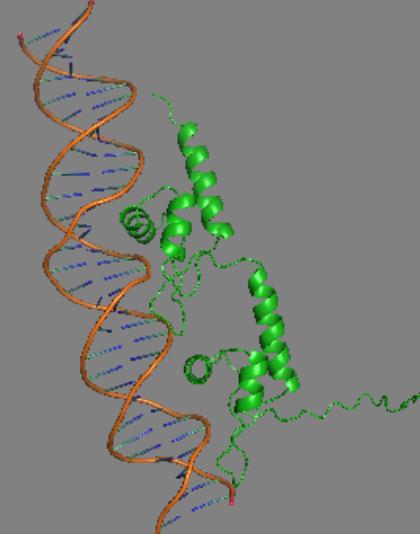
Cluster 4



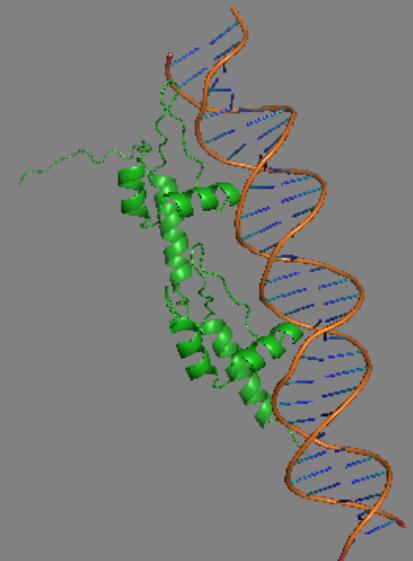
Cluster 5



Cluster 6

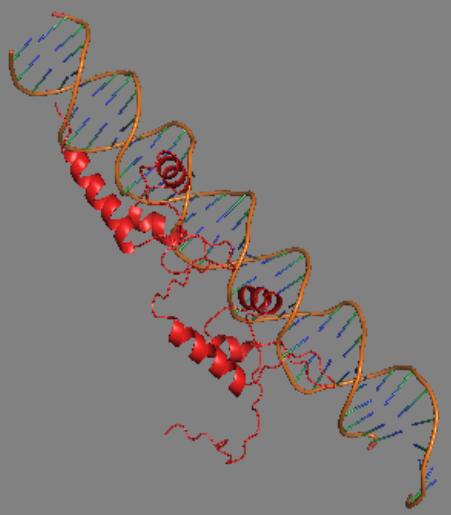


Cluster 7

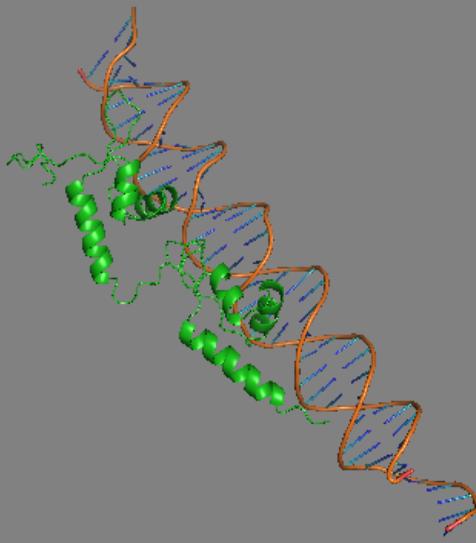


Sub 45-75

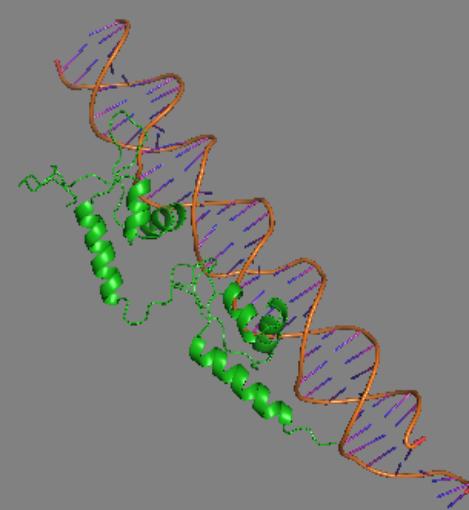
Cluster 10



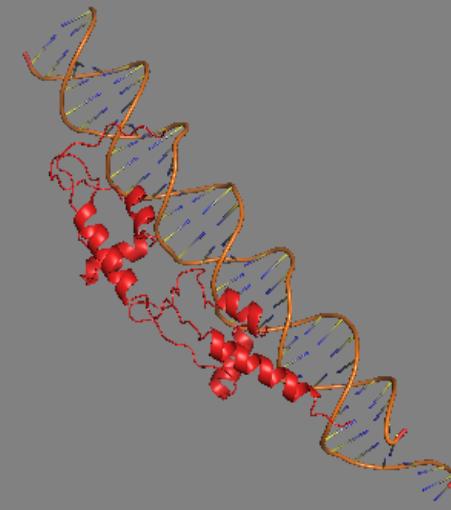
Cluster 14



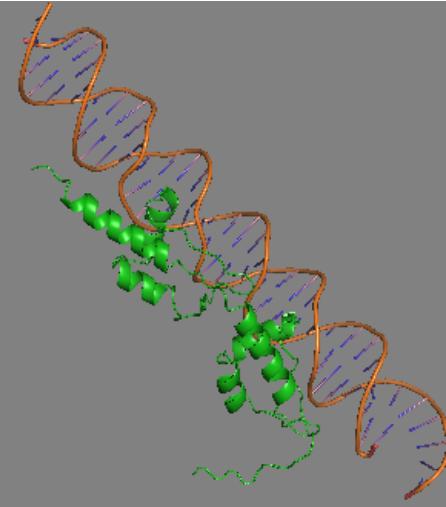
Cluster 15



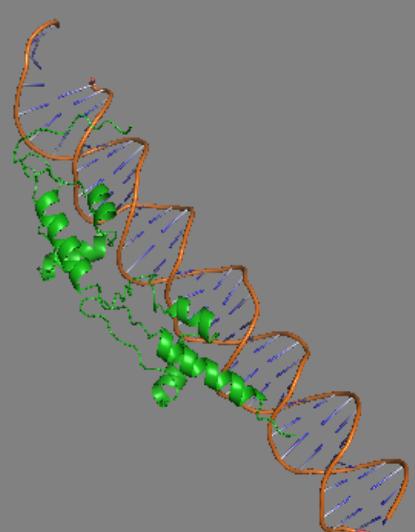
Cluster 1



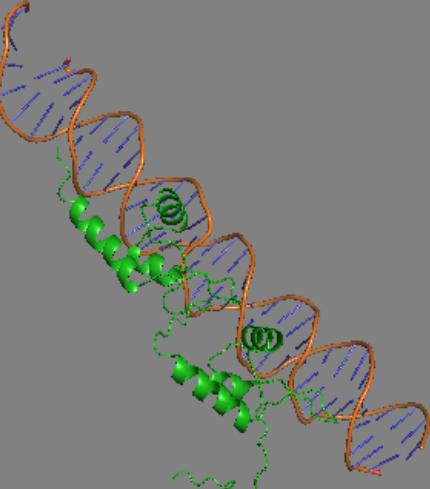
Cluster 2



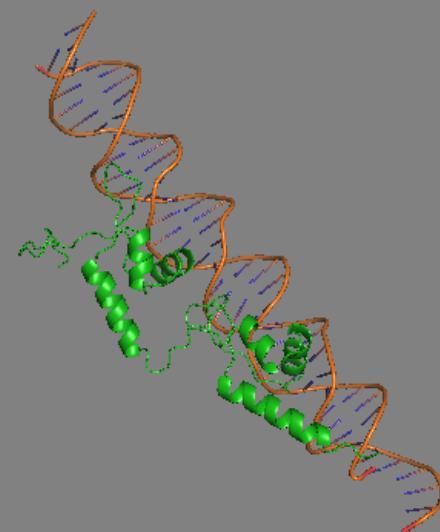
Cluster 3



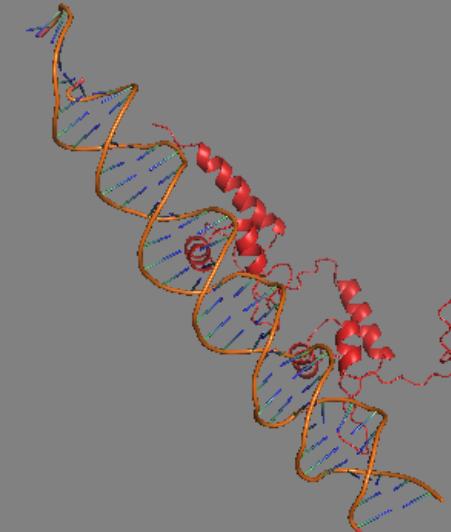
Cluster 4



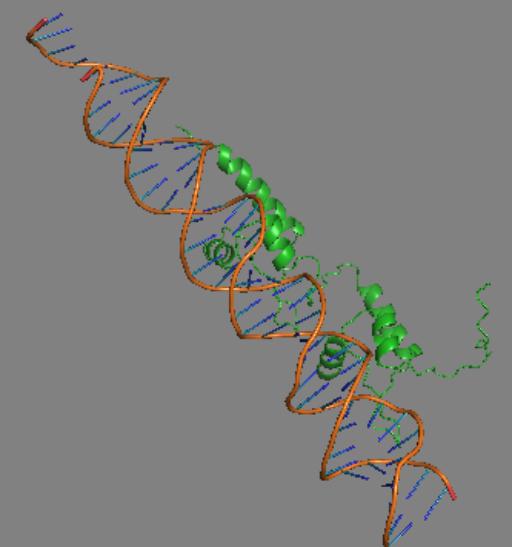
Cluster 5



Cluster 7

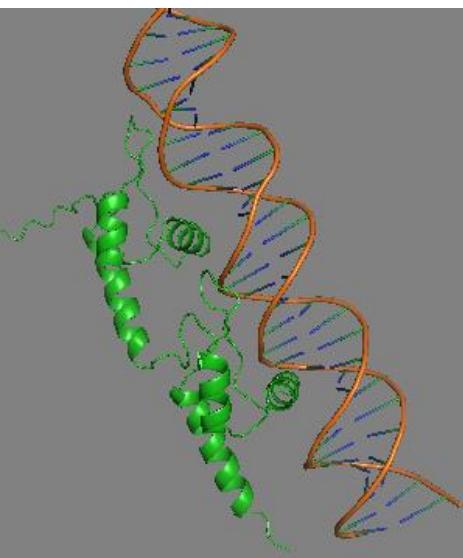


Cluster 9

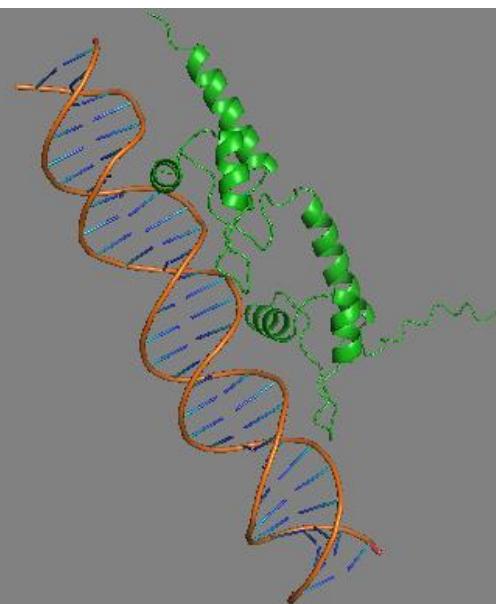


Sub_LacOperator

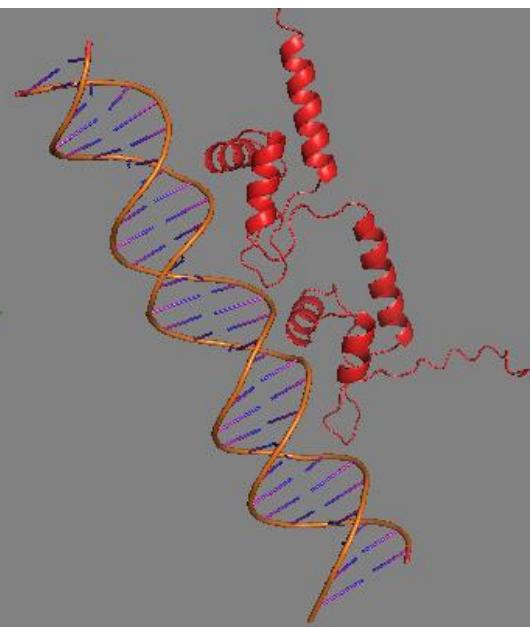
Cluster 1



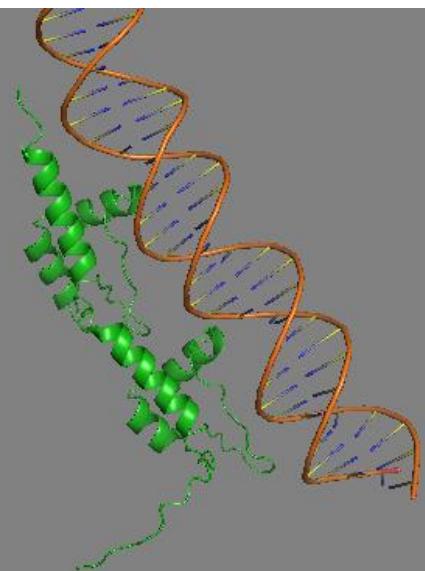
Cluster 2



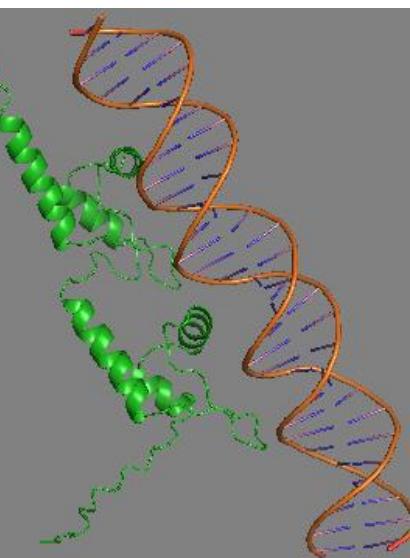
Cluster 3



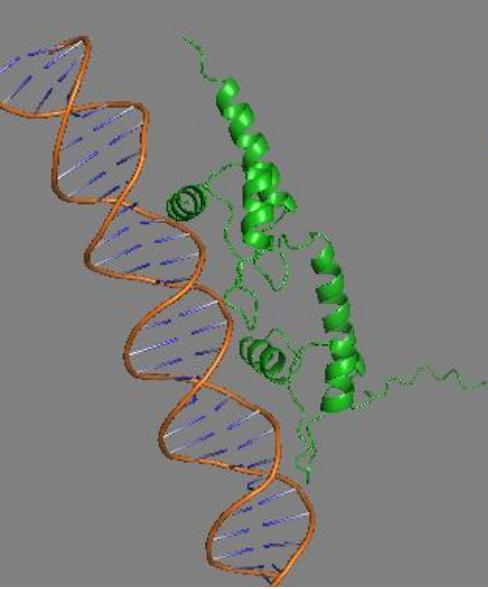
Cluster 4



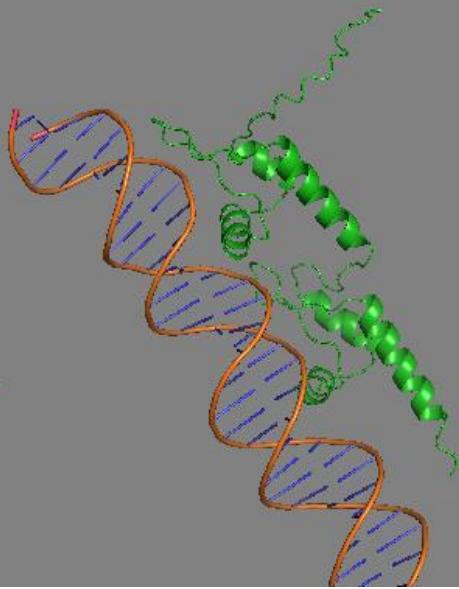
Cluster 5



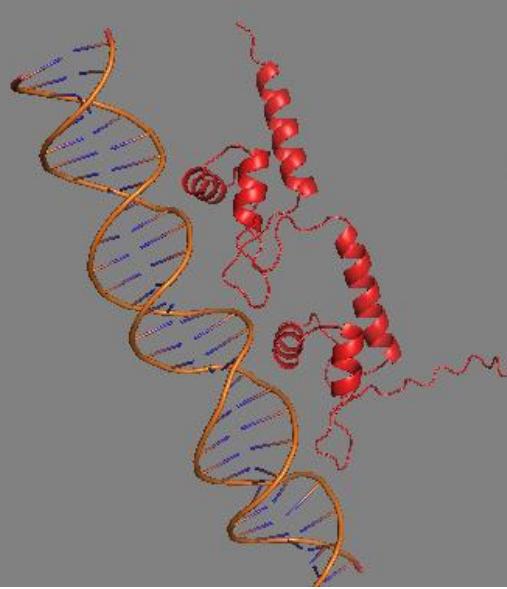
Cluster 6



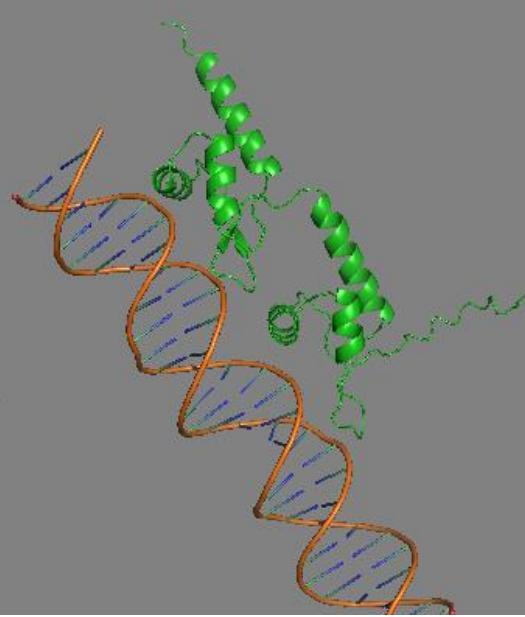
Cluster 7



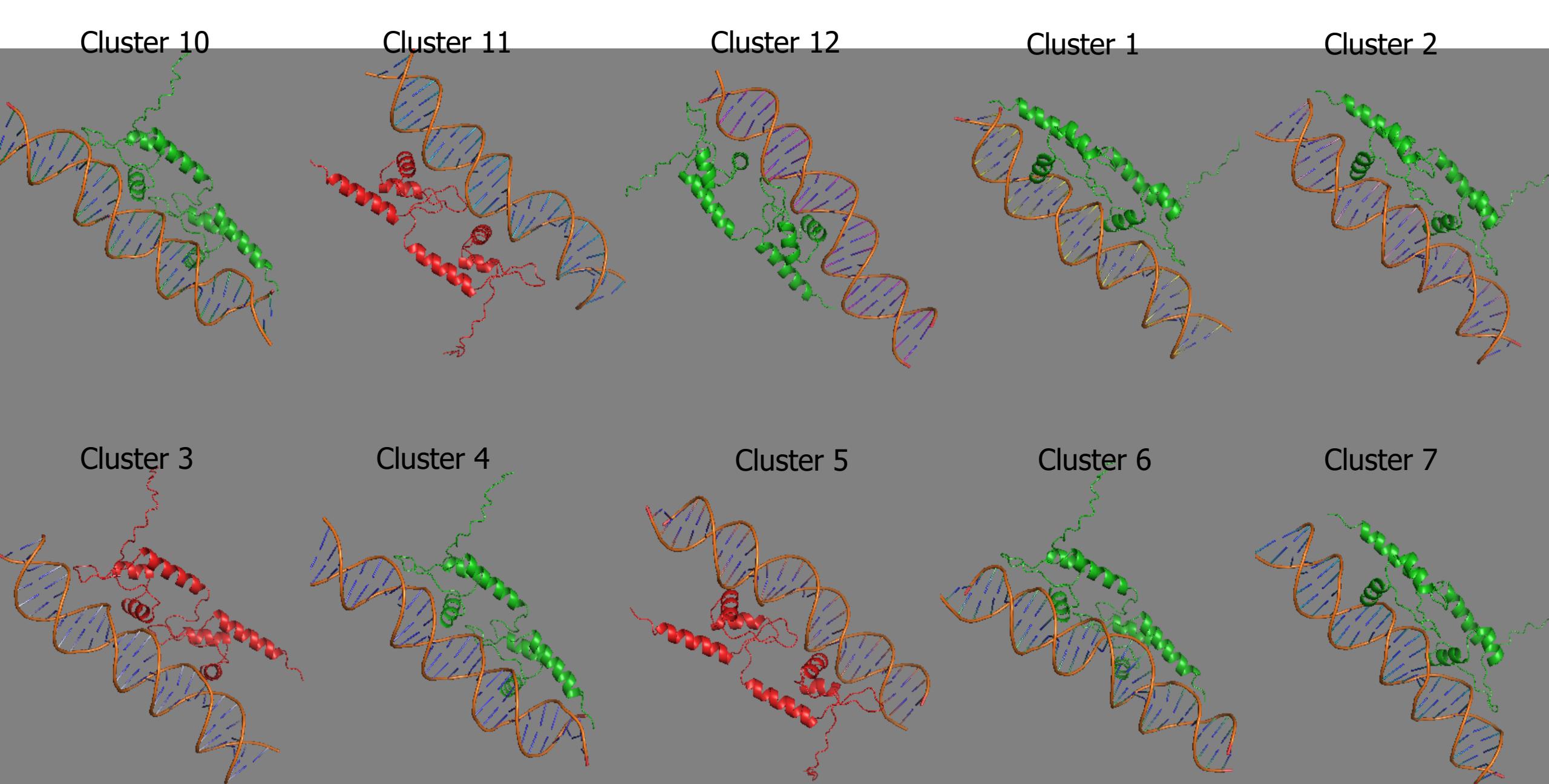
Cluster 8



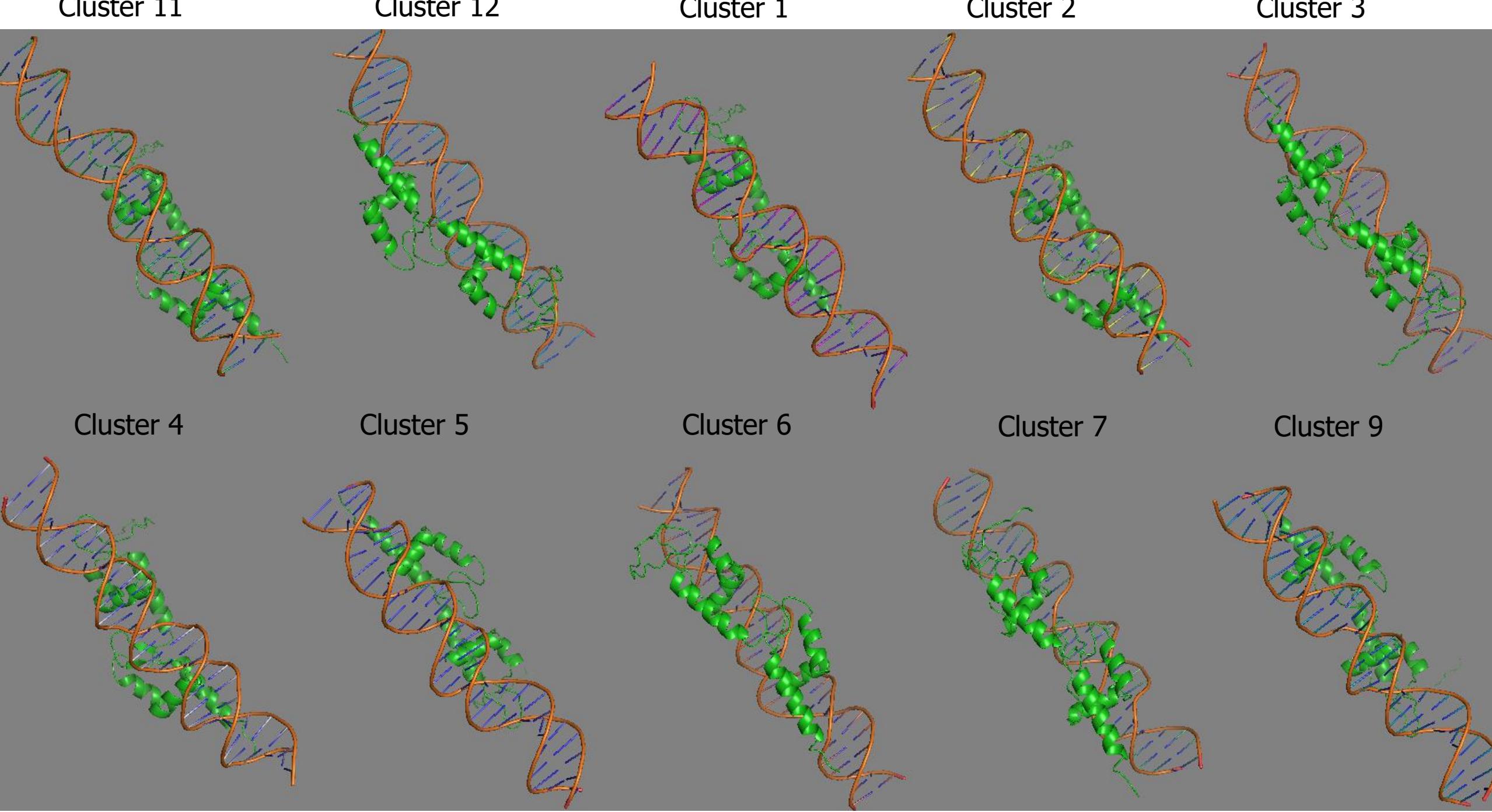
Cluster 9



Rev_0_30

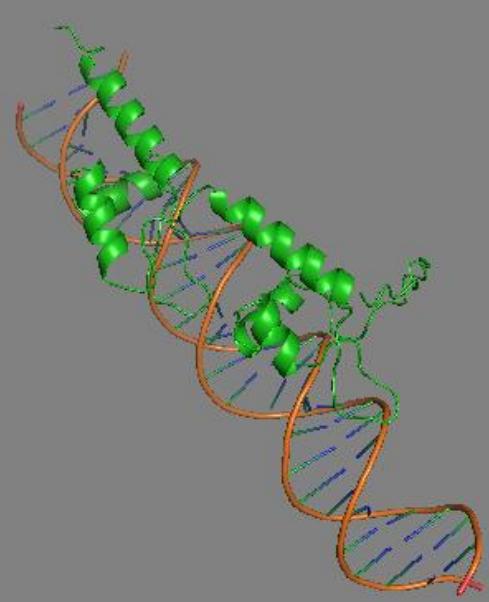


Rev_30_60

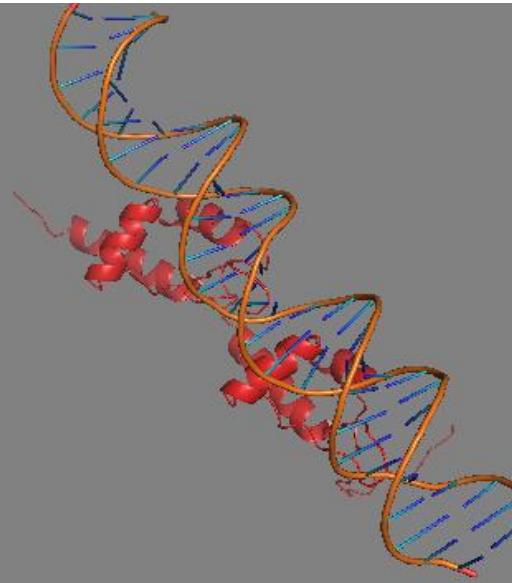


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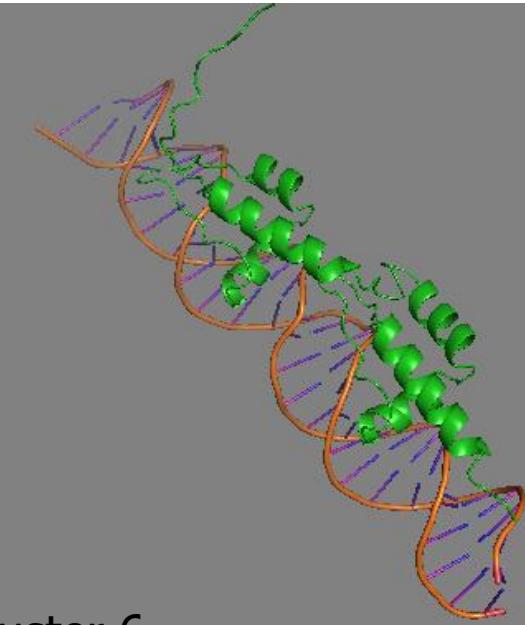
Cluster 1



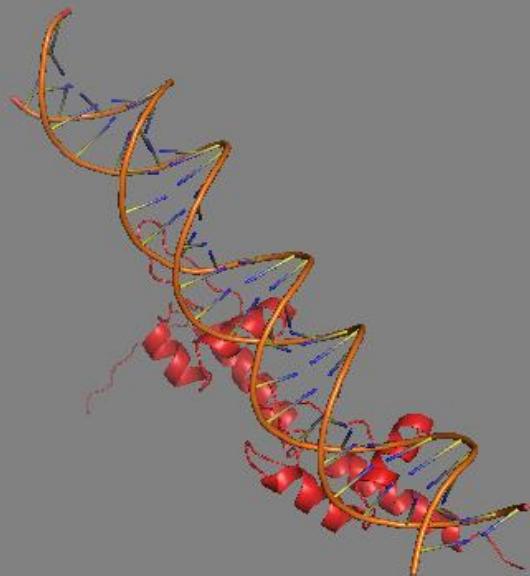
Cluster 2



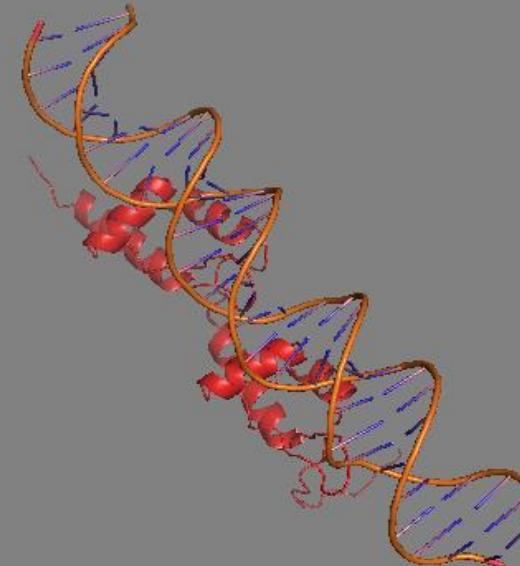
Cluster 3



Cluster 4



Cluster 5

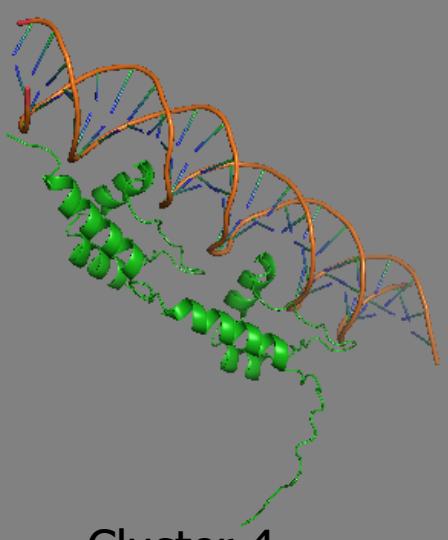


Cluster 6

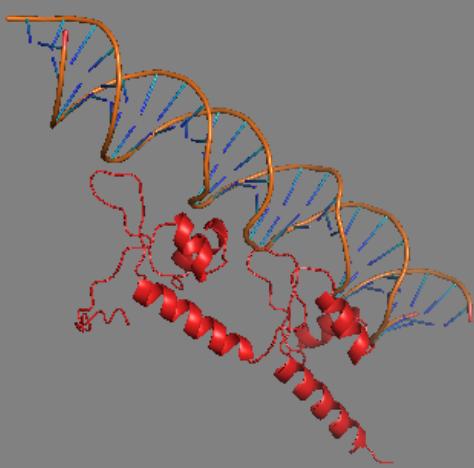


Rev_90_120

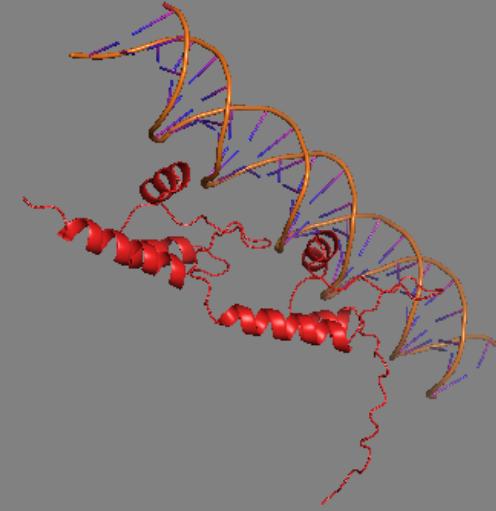
Cluster 12



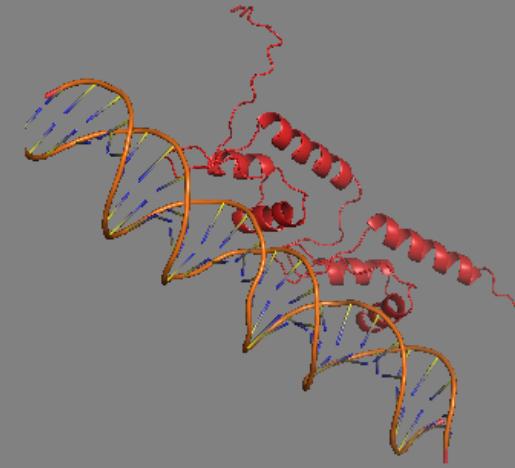
Cluster 13



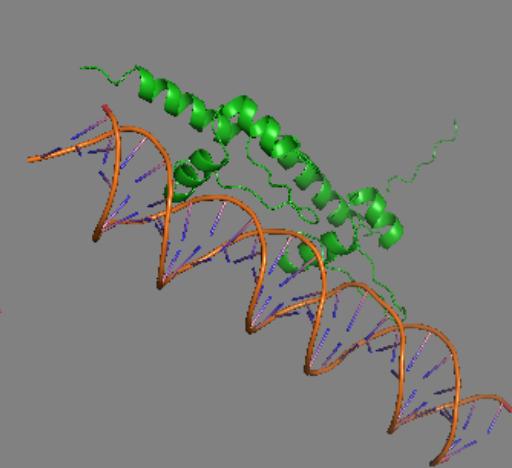
Cluster 1



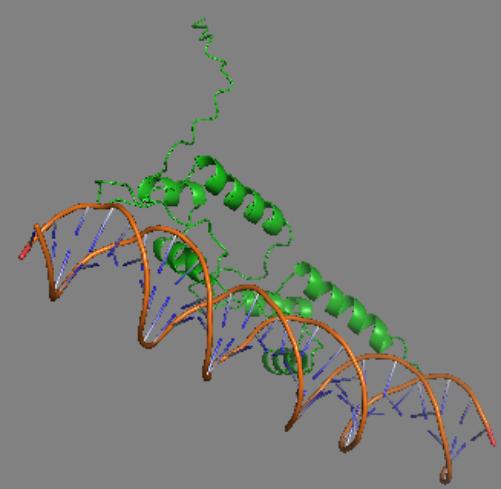
Cluster 2



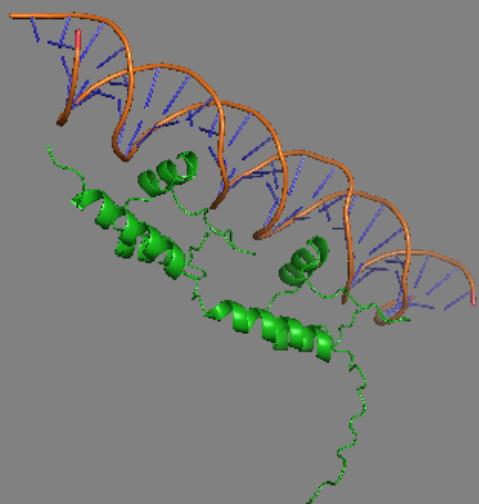
Cluster 3



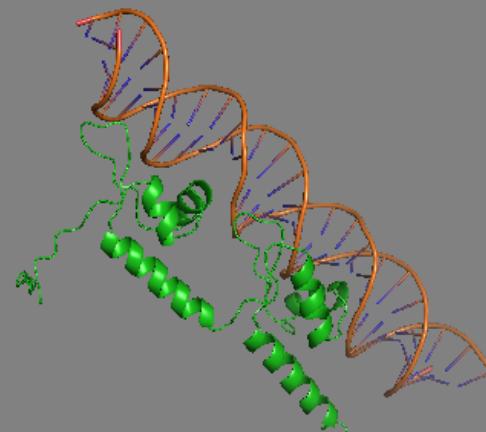
Cluster 4



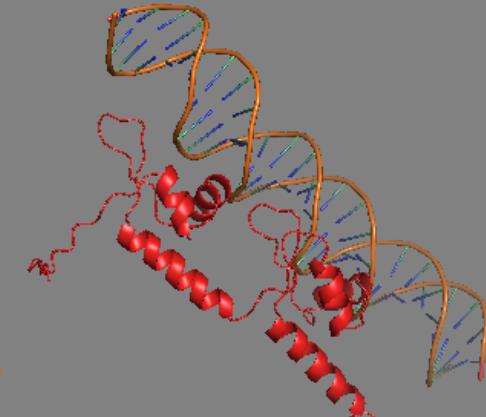
Cluster 6



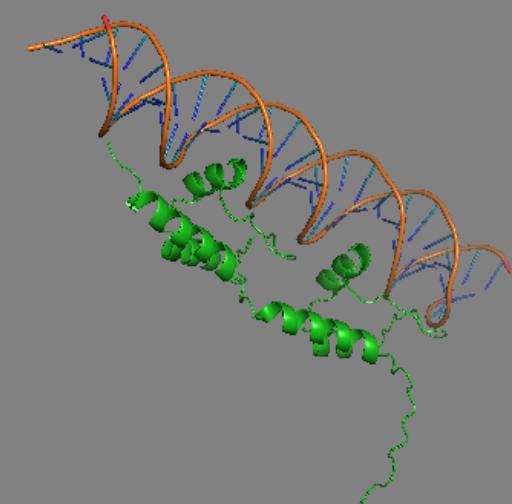
Cluster 7



Cluster 8

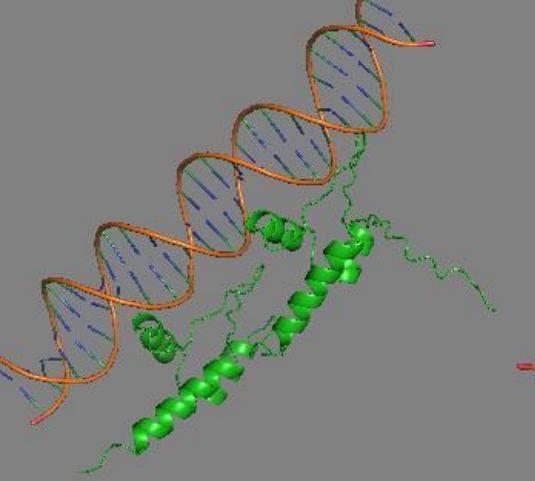


Cluster 9

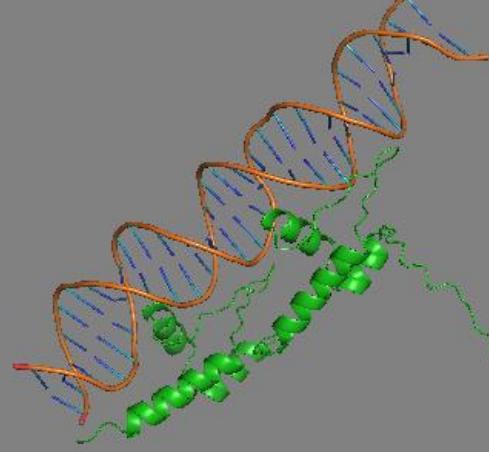


Rev_120_150

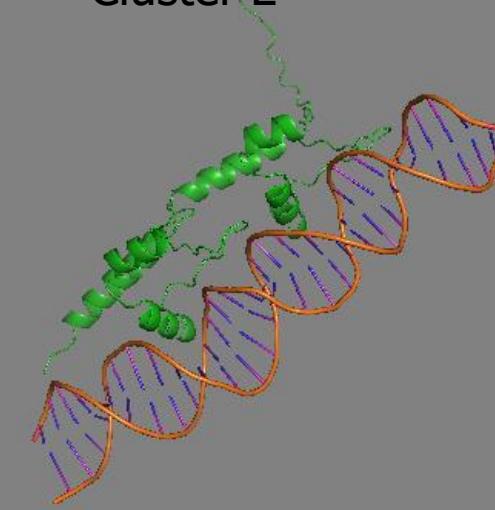
Cluster 10



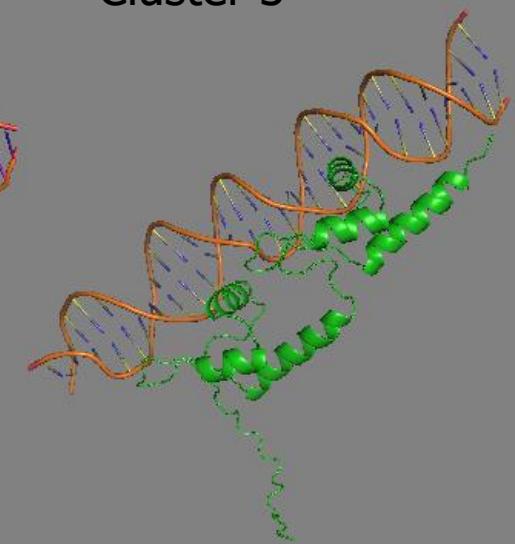
Cluster 1



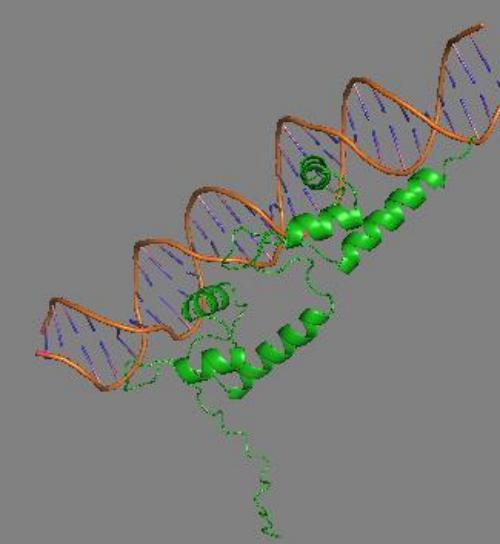
Cluster 2



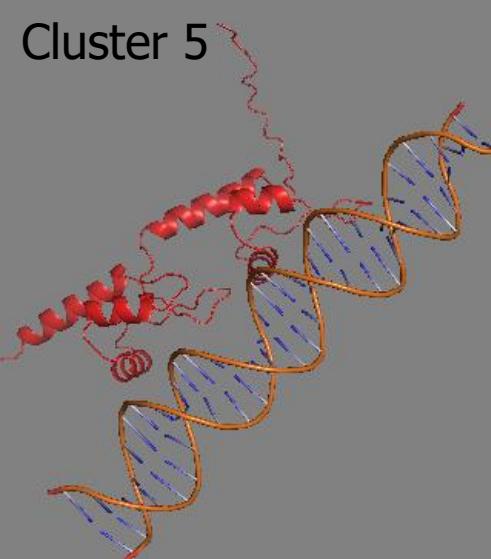
Cluster 3



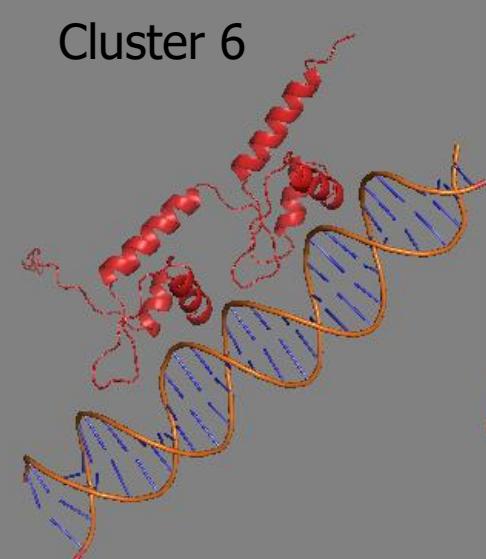
Cluster 4



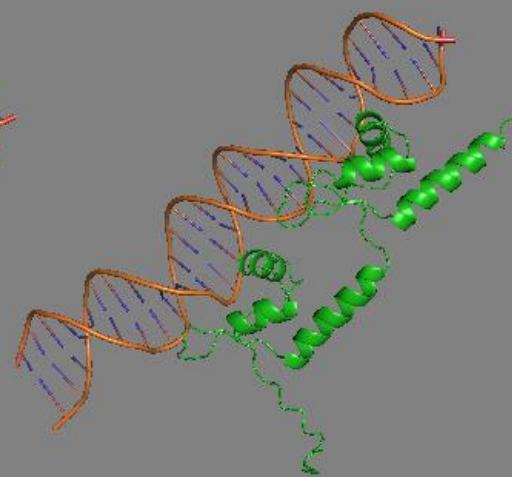
Cluster 5



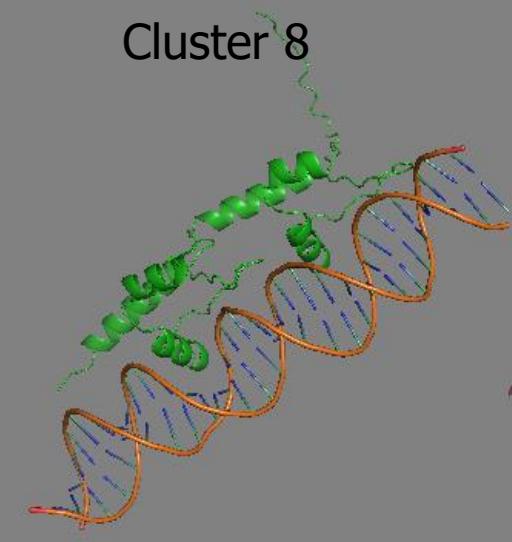
Cluster 6



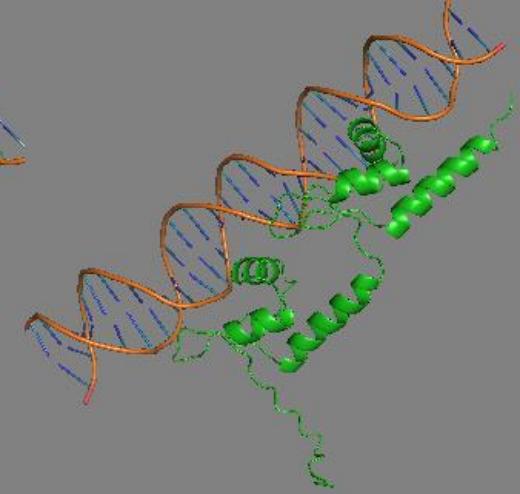
Cluster 7



Cluster 8



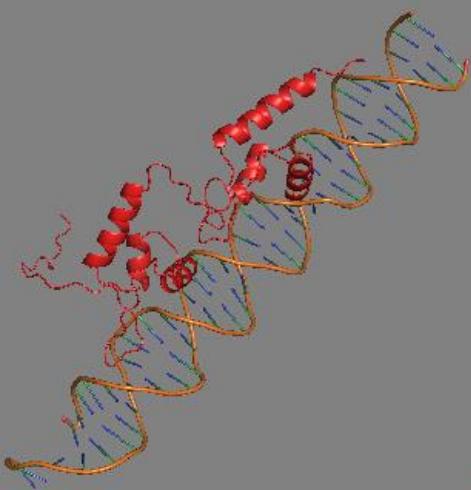
Cluster 9



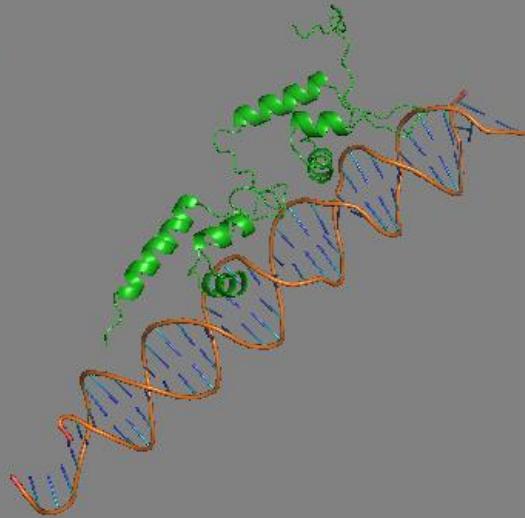
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Sub_primer

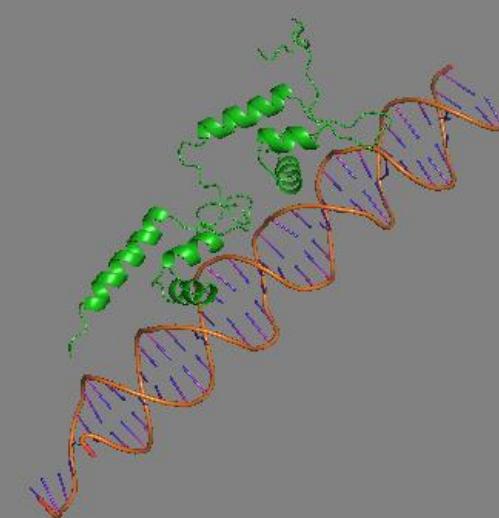
Cluster 10



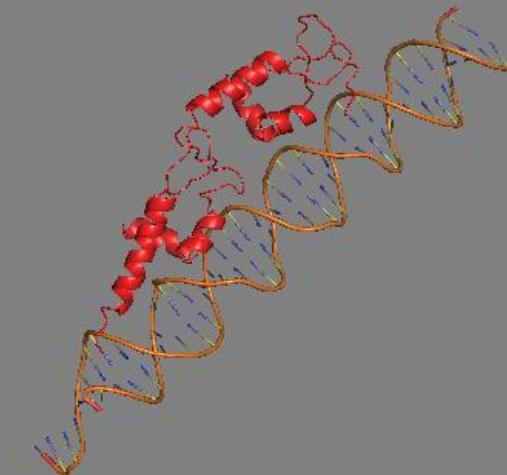
Cluster 1



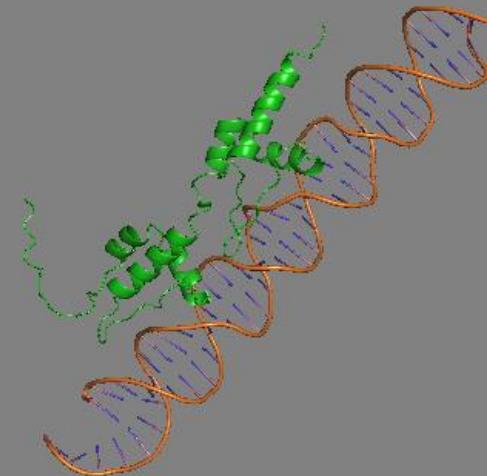
Cluster 2



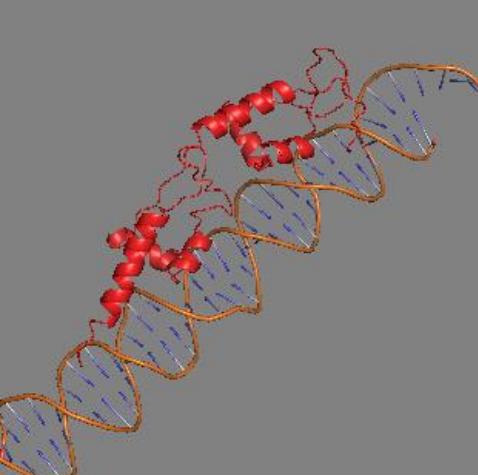
Cluster 3



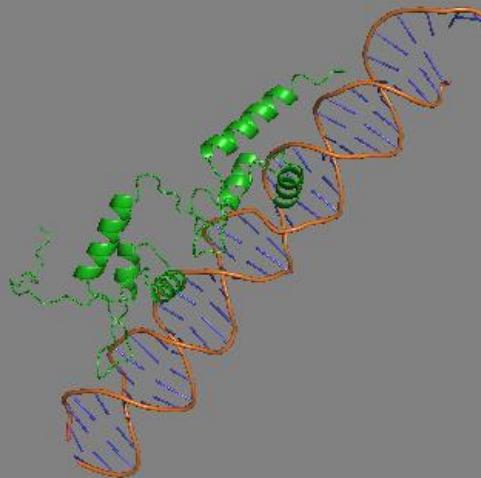
Cluster 4



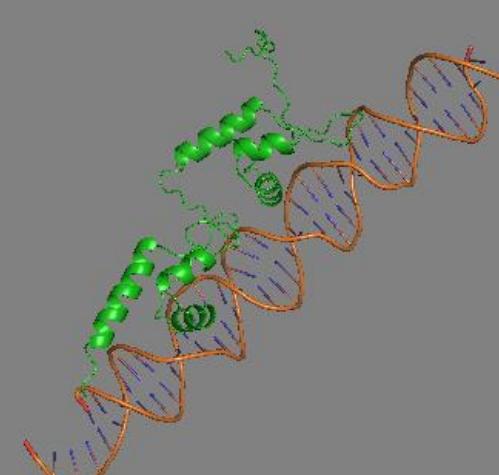
Cluster 5



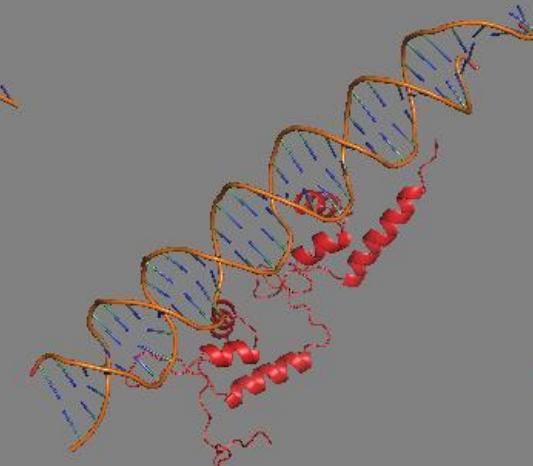
Cluster 6



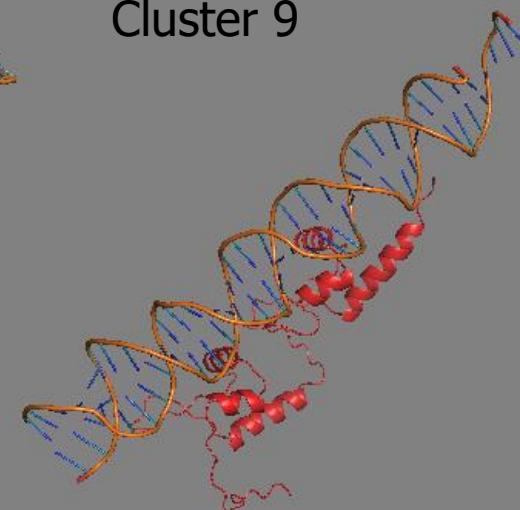
Cluster 7



Cluster 8

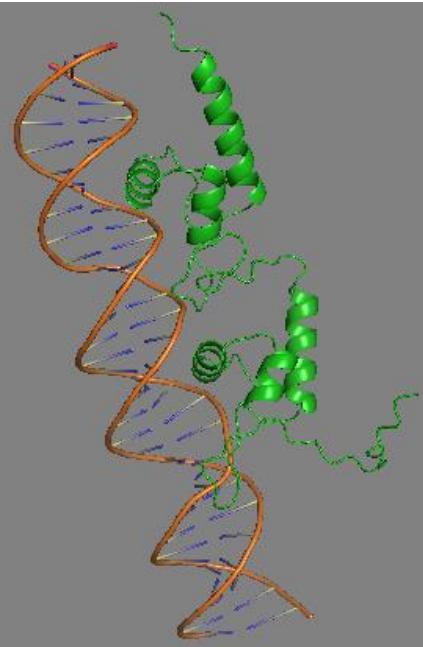


Cluster 9

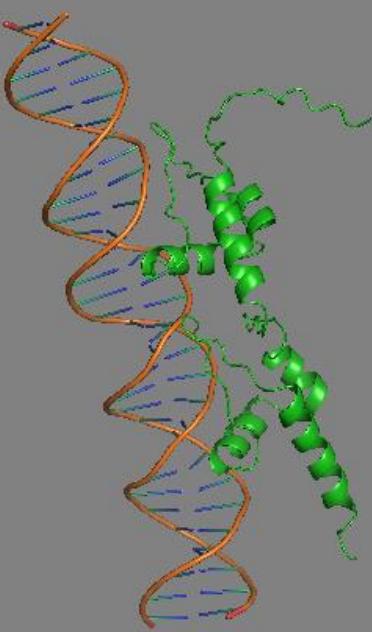


Sub_25_55

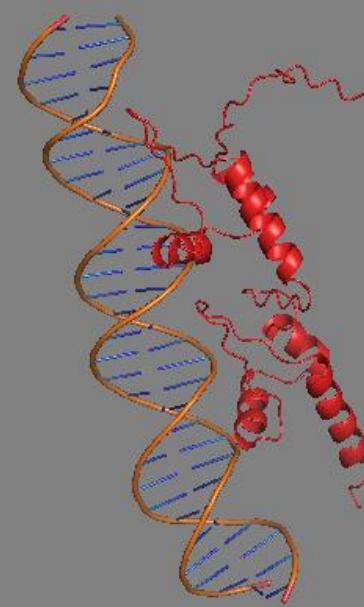
Cluster 10



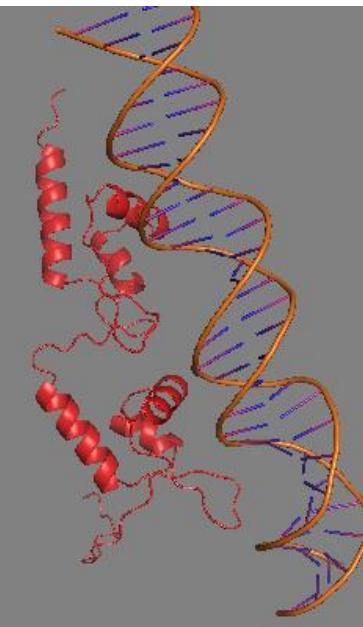
Cluster 1



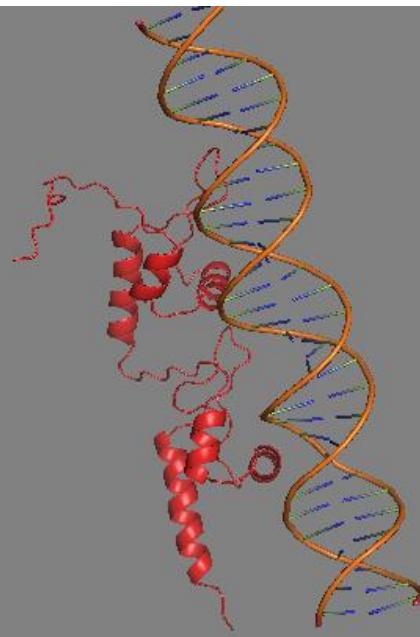
Cluster 2



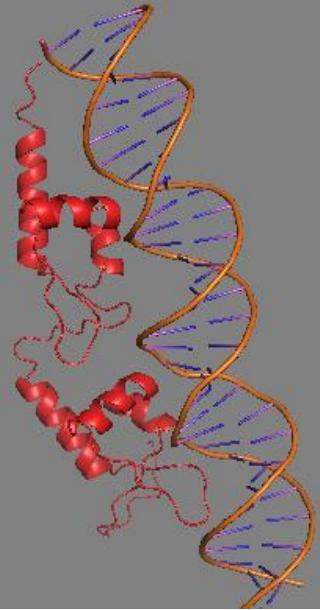
Cluster 3



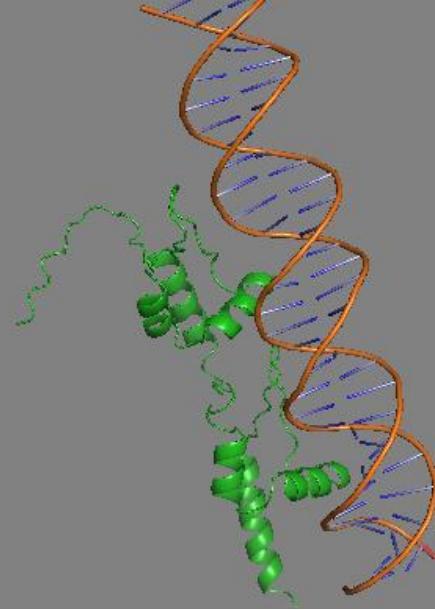
Cluster 4



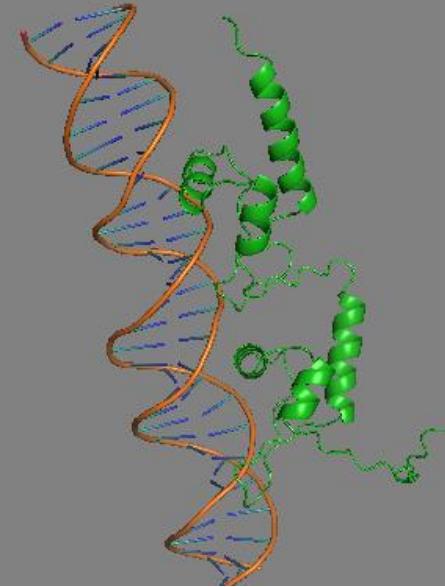
Cluster 5



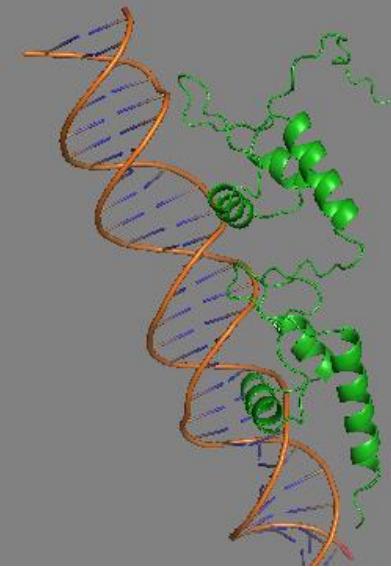
Cluster 6



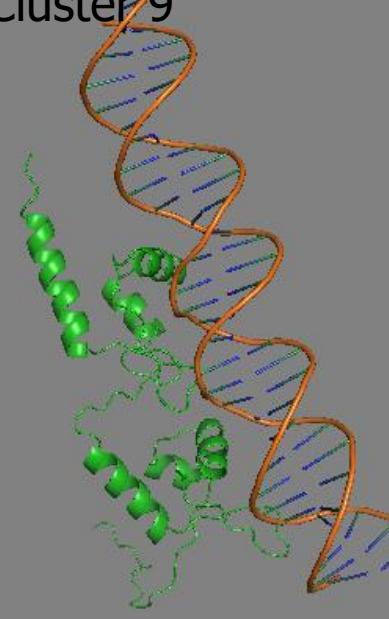
Cluster 7



Cluster 8

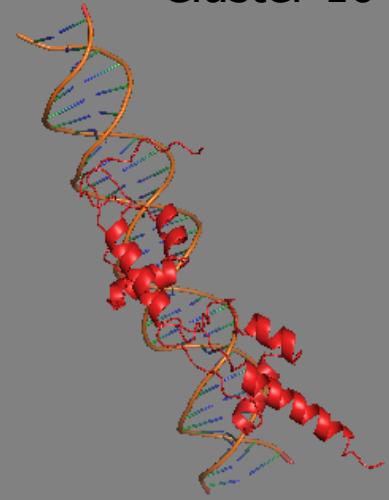


Cluster 9

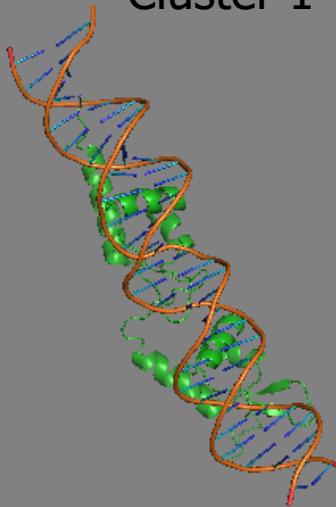


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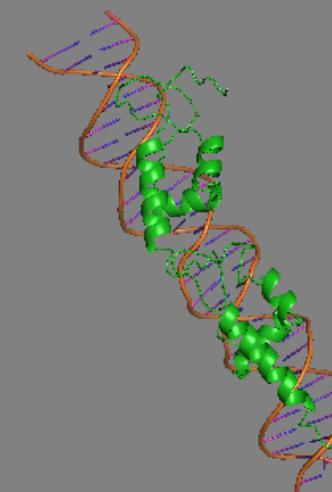
Cluster 10



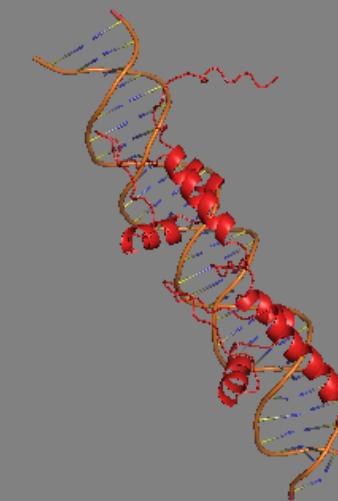
Cluster 1



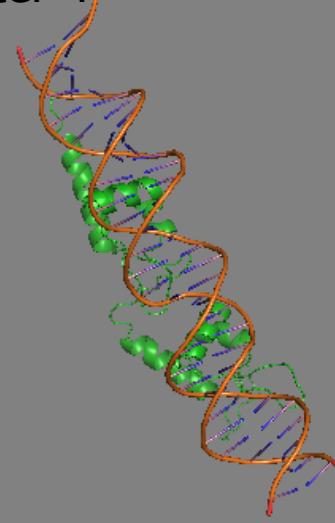
Cluster 2



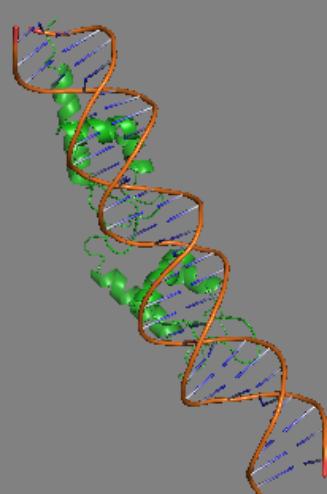
Cluster 3



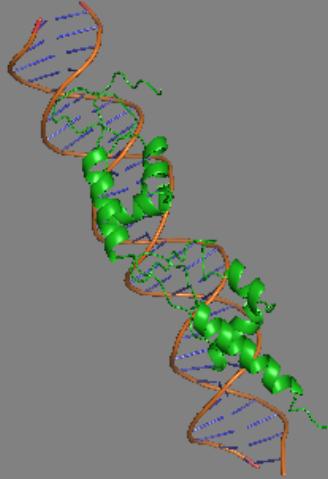
Cluster 4



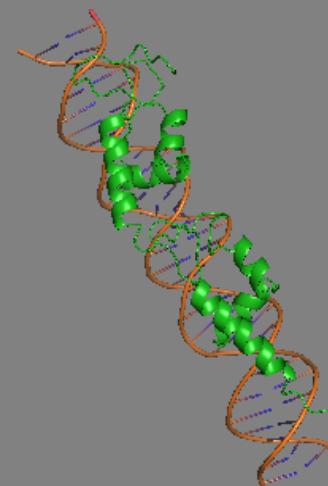
Cluster 5



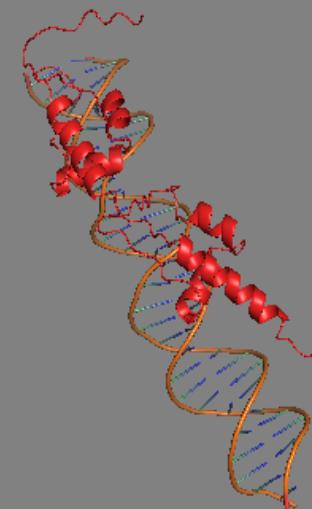
Cluster 6



Cluster 7



Cluster 8

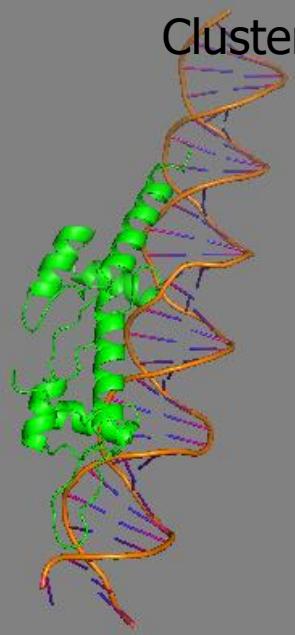


Cluster 9

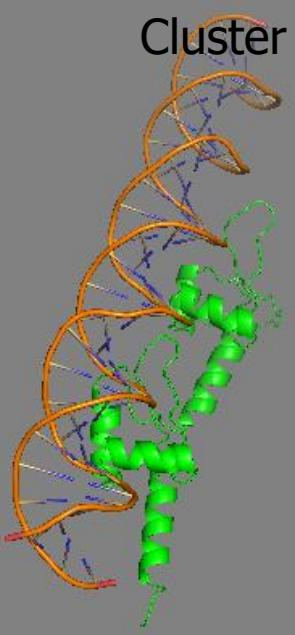


Sub_lacOperator

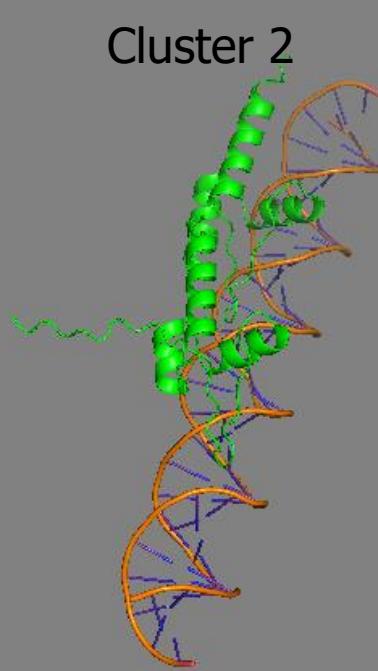
Cluster 10



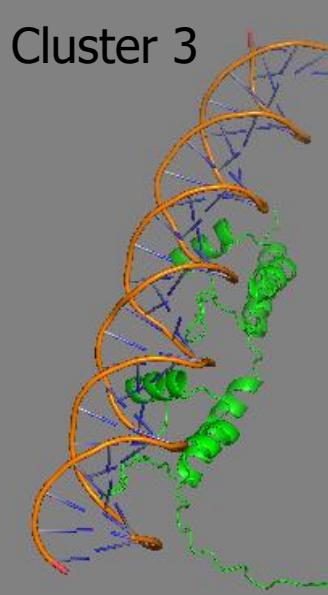
Cluster 1



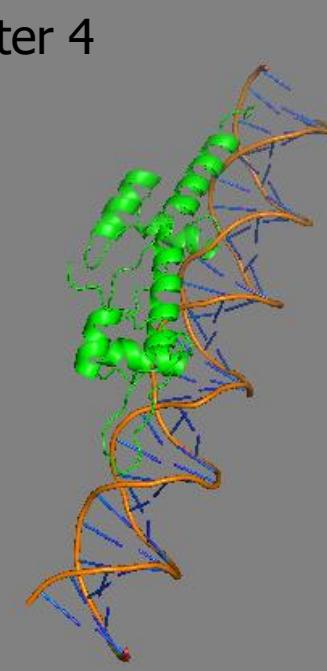
Cluster 2



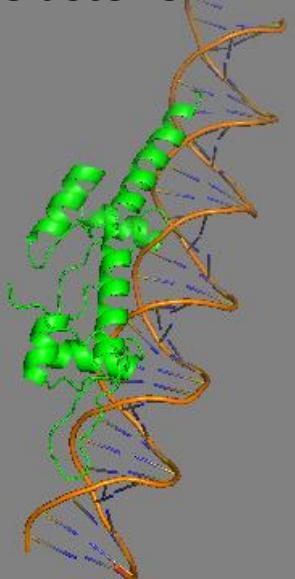
Cluster 3



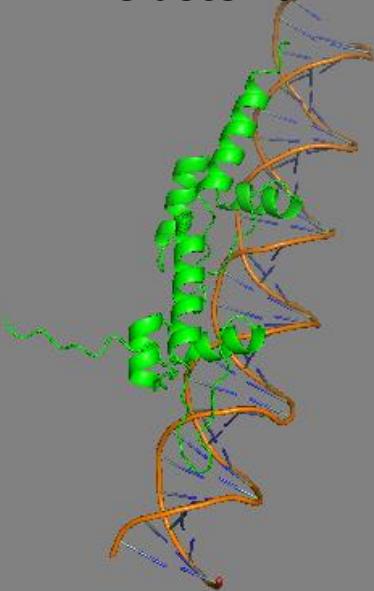
Cluster 4



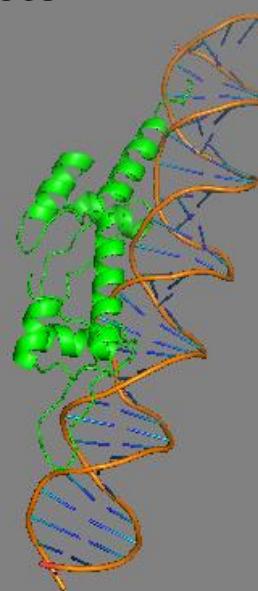
Cluster 5



Cluster 6



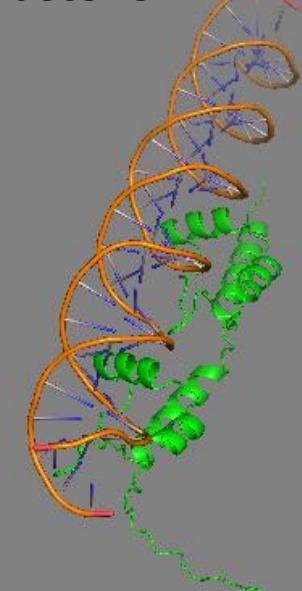
Cluster 7



Cluster 8

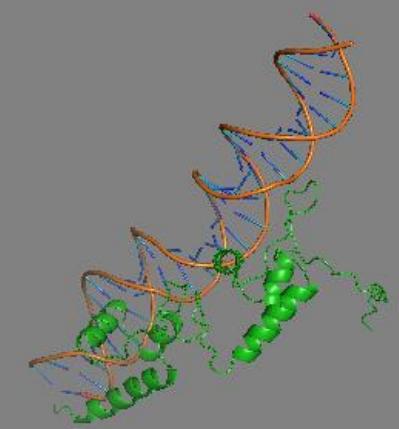


Cluster 9

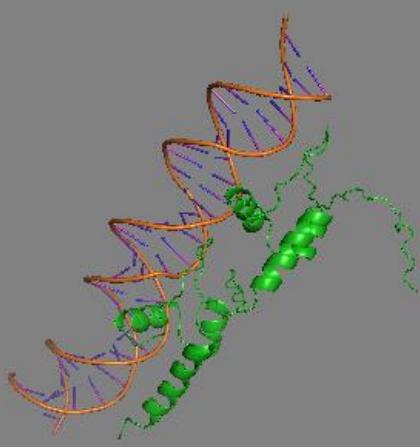


Rev_0_30

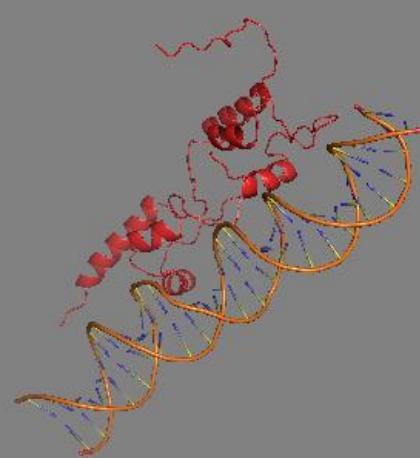
Cluster 12



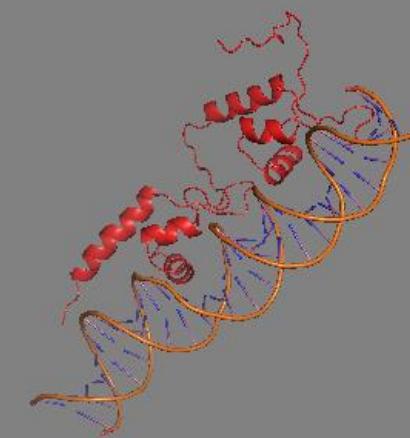
Cluster 13



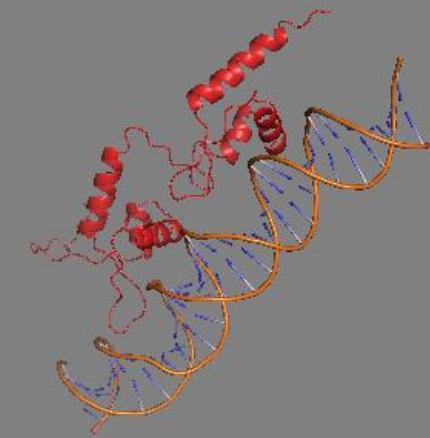
Cluster 1



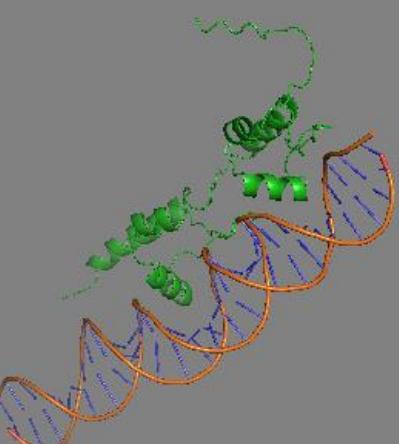
Cluster 2



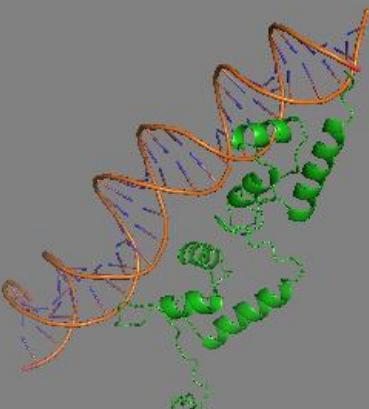
Cluster 3



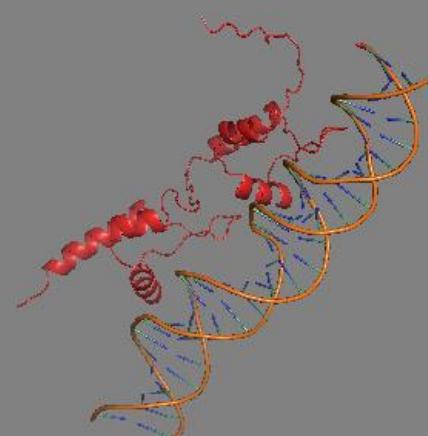
Cluster 4



Cluster 6



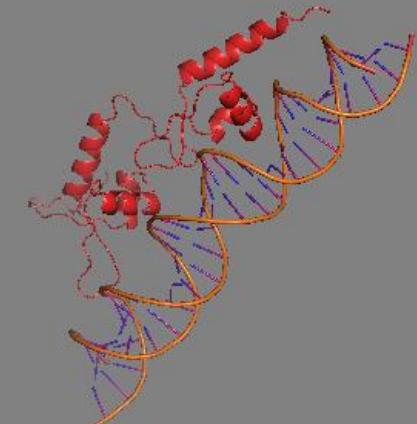
Cluster 7



Cluster 8

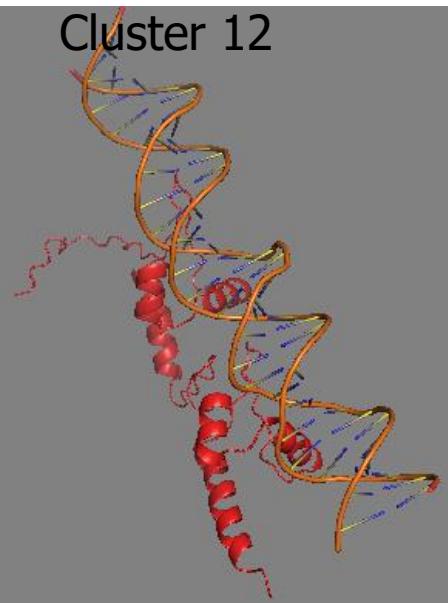


Cluster 9

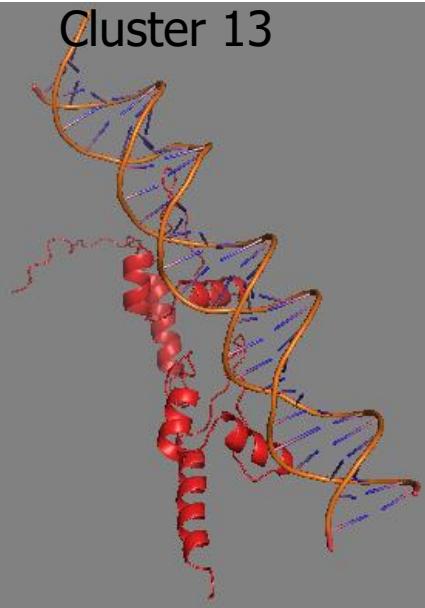


Rev_30_60

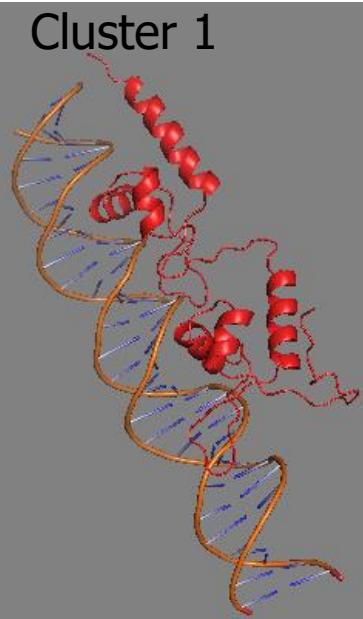
Cluster 12



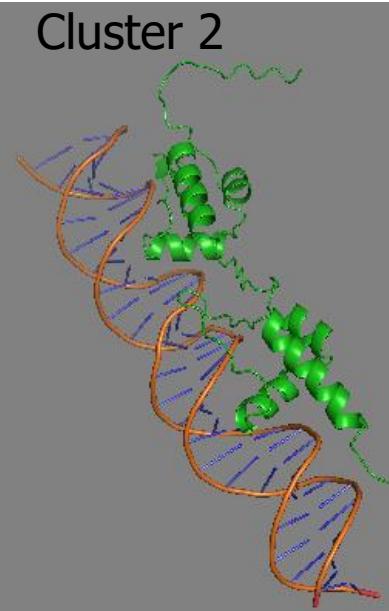
Cluster 13



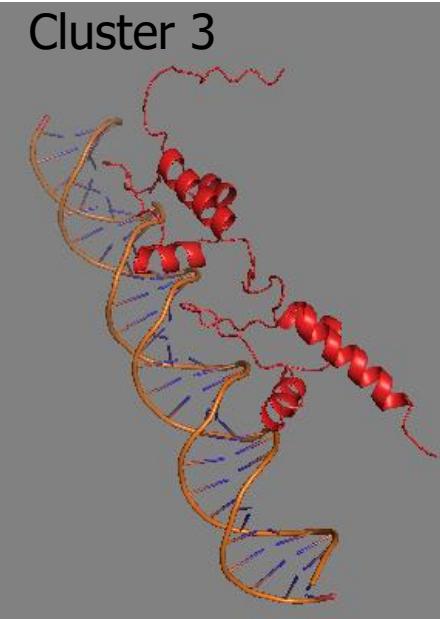
Cluster 1



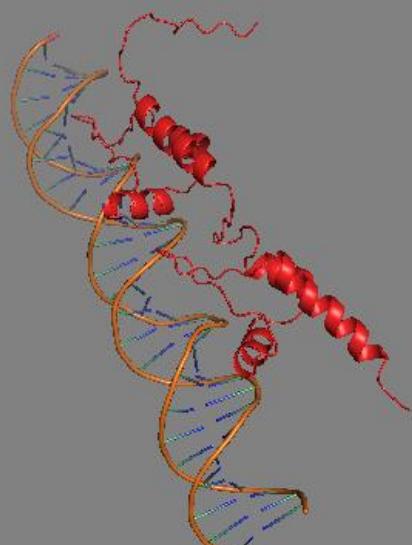
Cluster 2



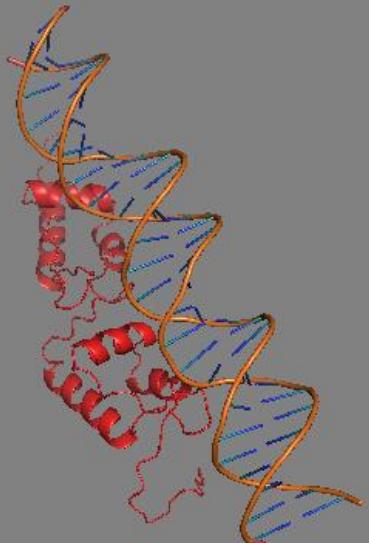
Cluster 3



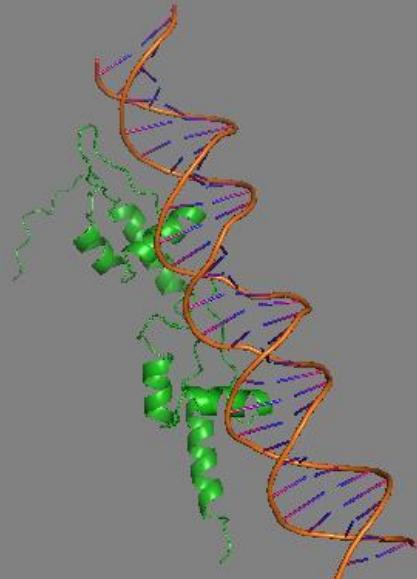
Cluster 4



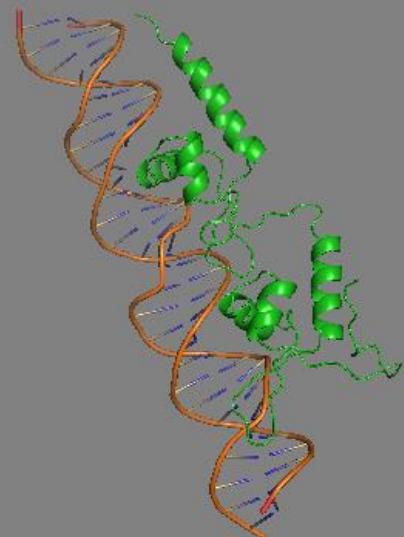
Cluster 6



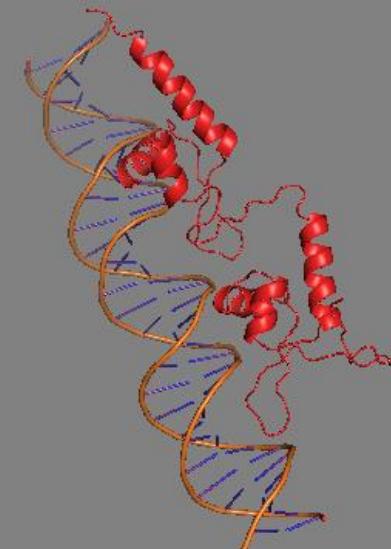
Cluster 7



Cluster 8

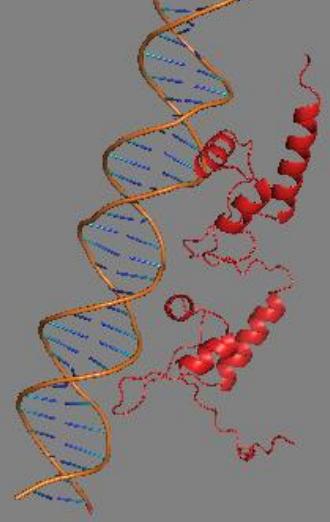


Cluster 9

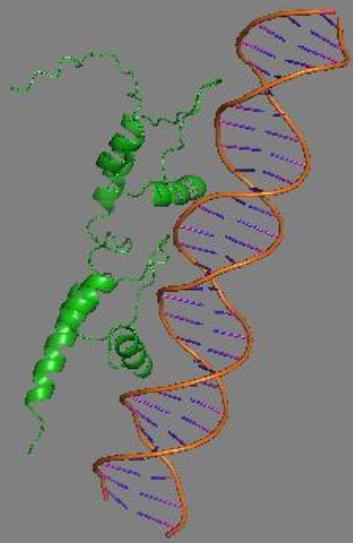


Rev_60_90

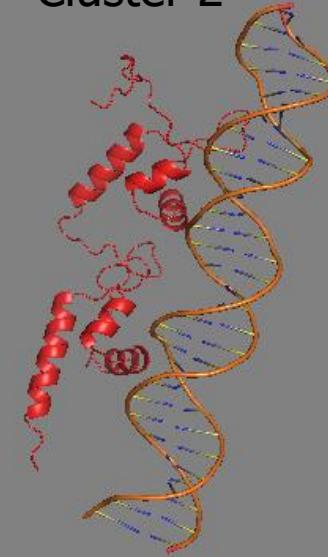
Cluster 10



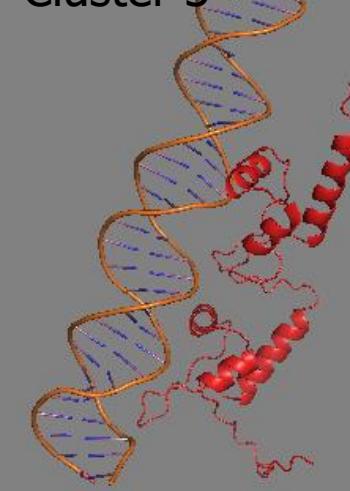
Cluster 1



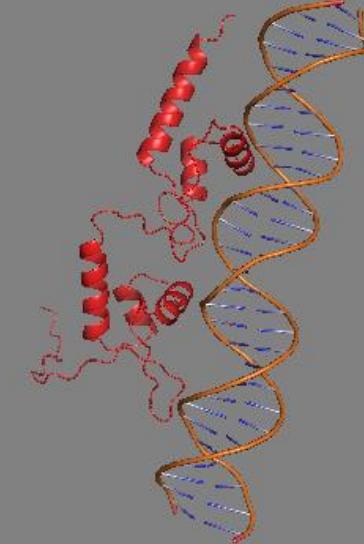
Cluster 2



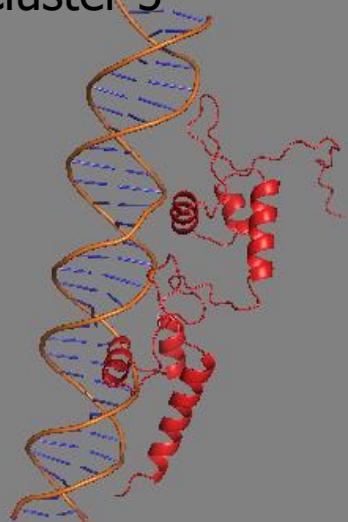
Cluster 3



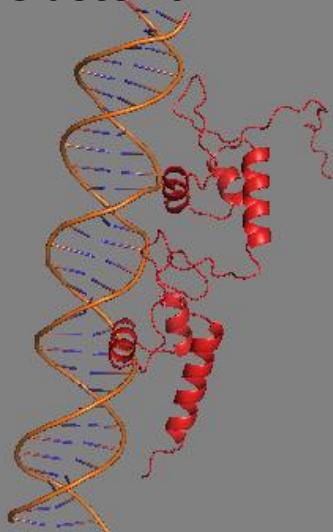
Cluster 4



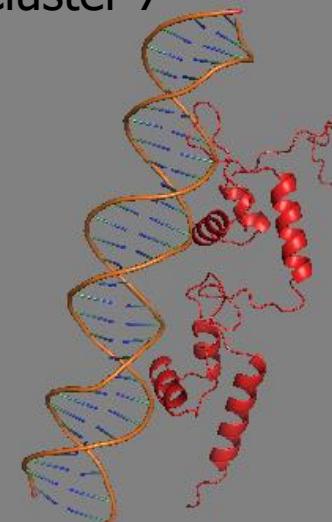
Cluster 5



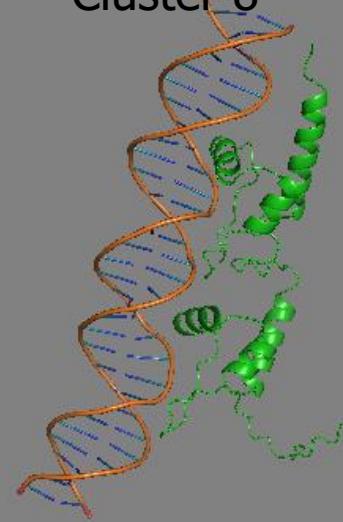
Cluster 6



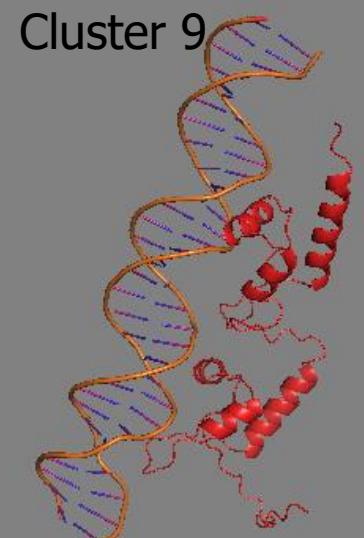
Cluster 7



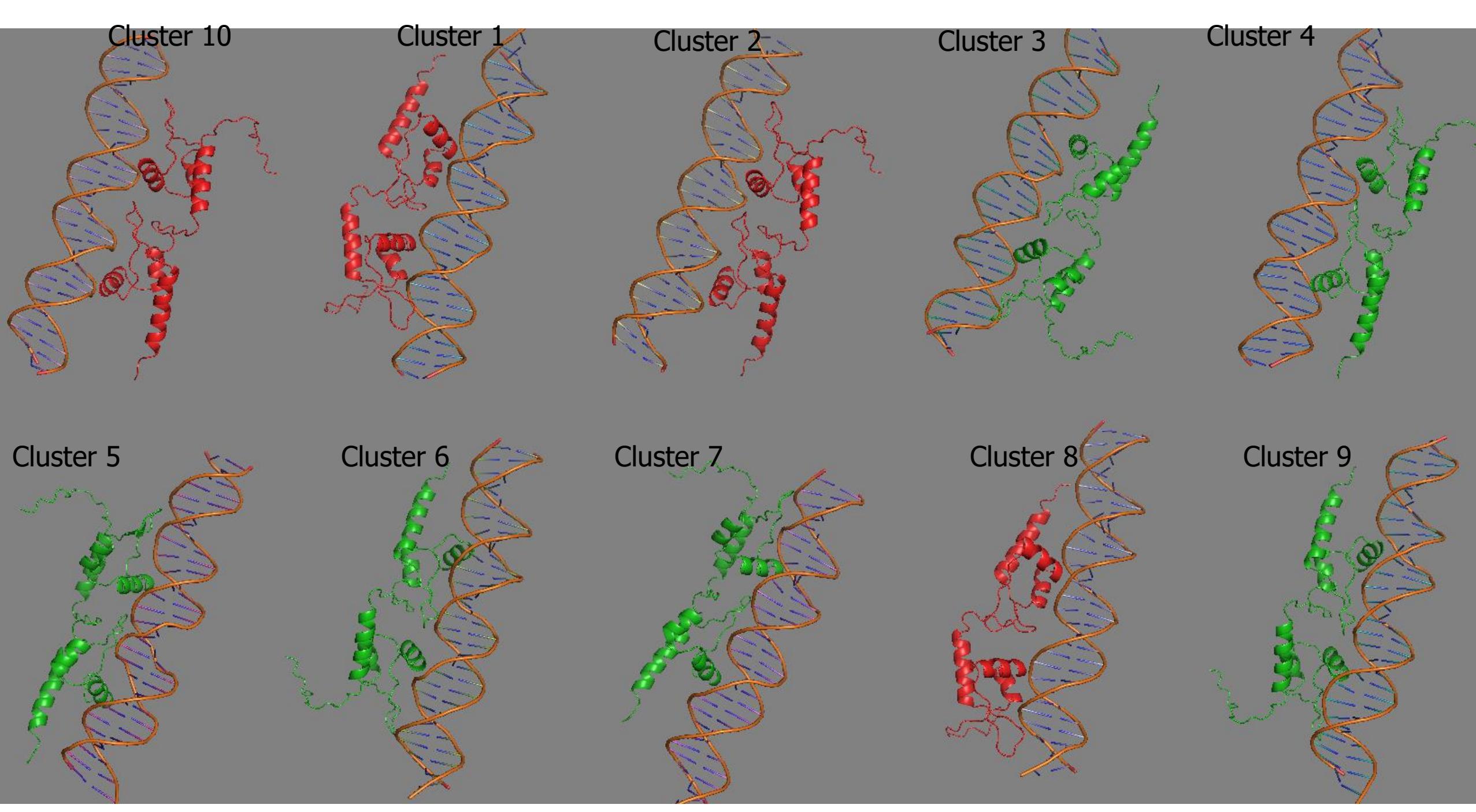
Cluster 8



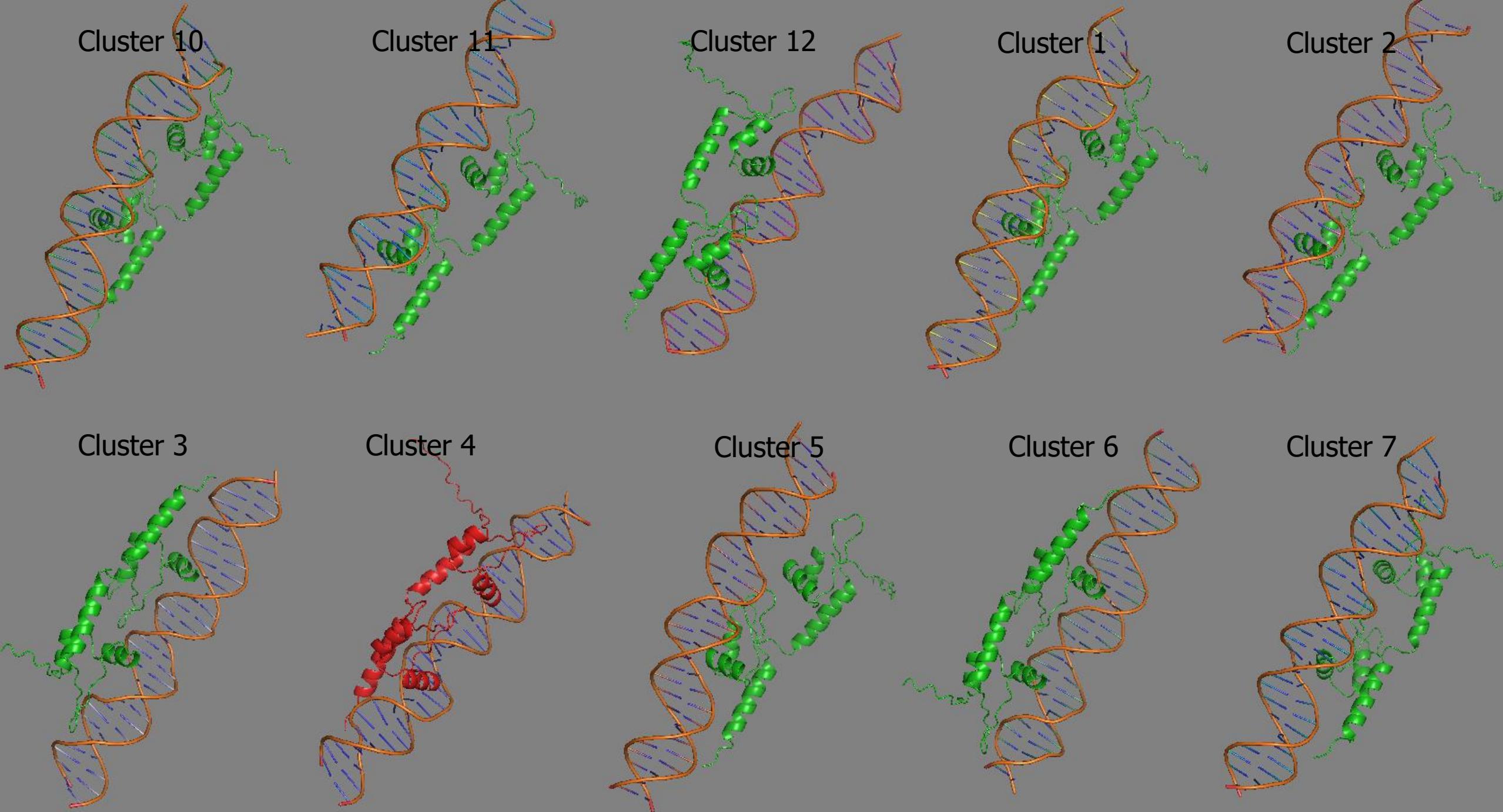
Cluster 9



Rev_90_120



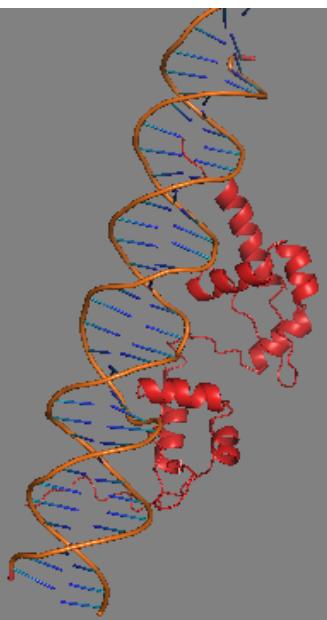
Rev_120_150



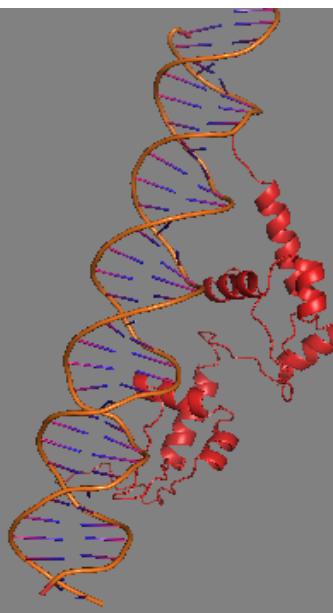
4xG-2xEAAK-4xG

Sub_primer

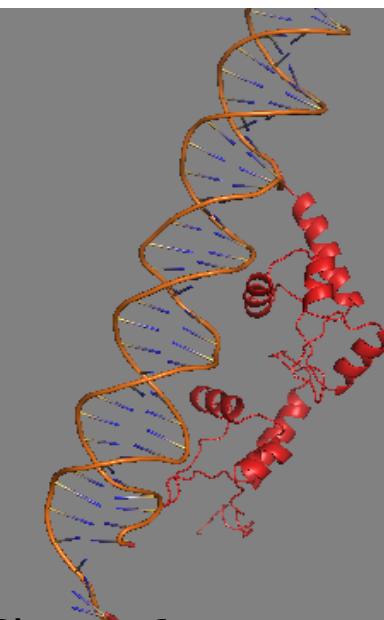
Cluster 1



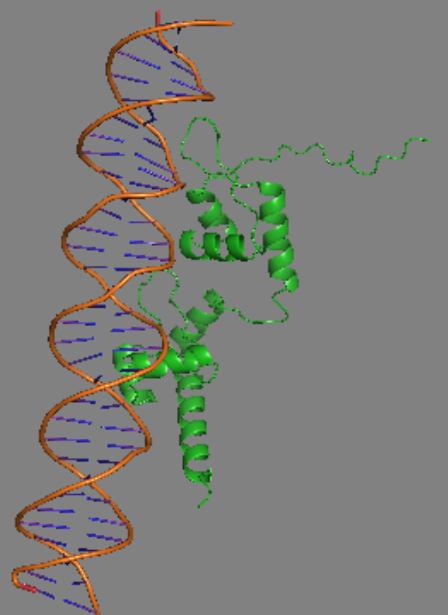
Cluster 2



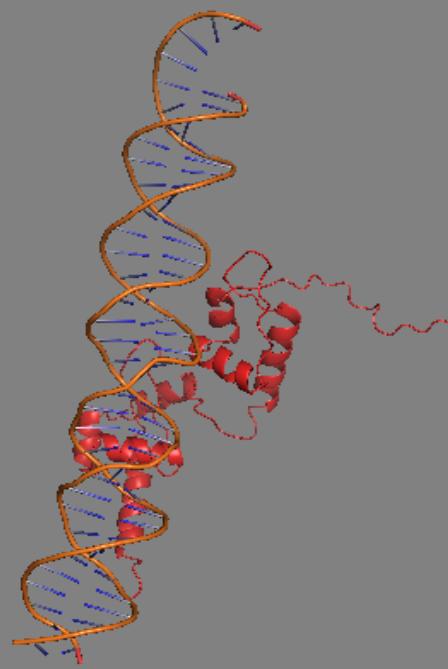
Cluster 3



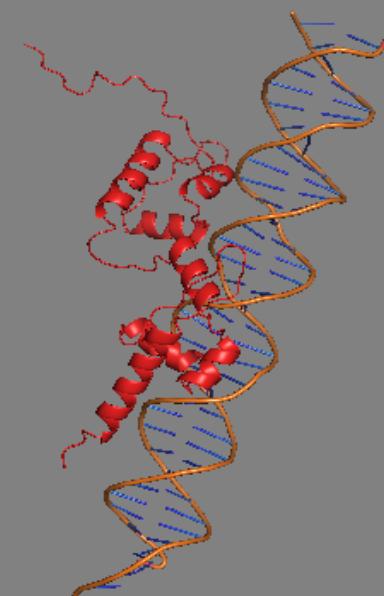
Cluster 4



Cluster 5

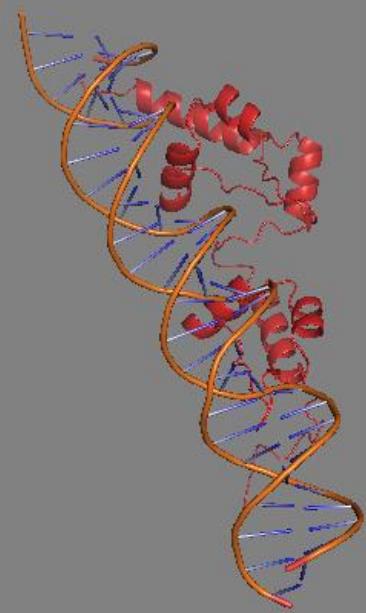


Cluster 6

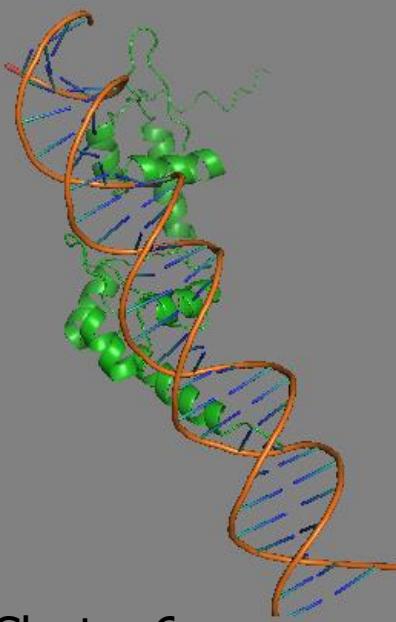


Sub_25_55

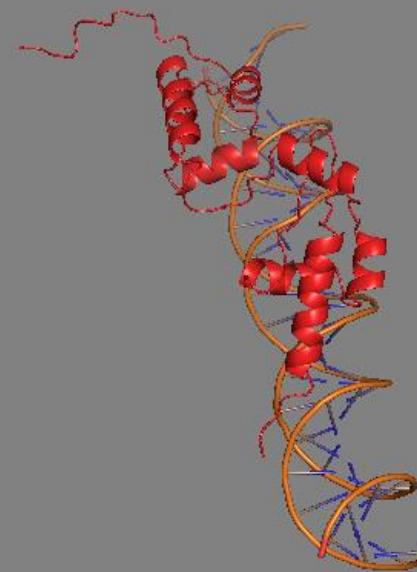
Cluster 10



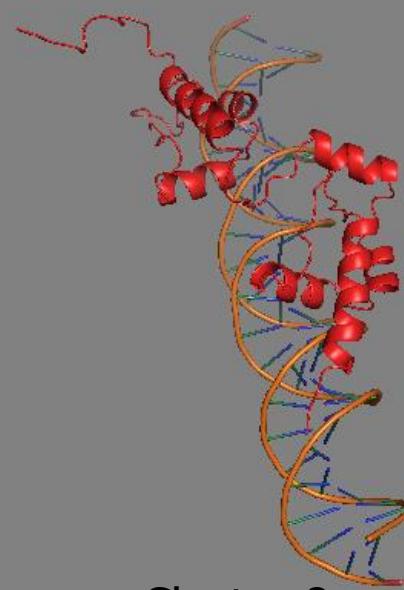
Cluster 1



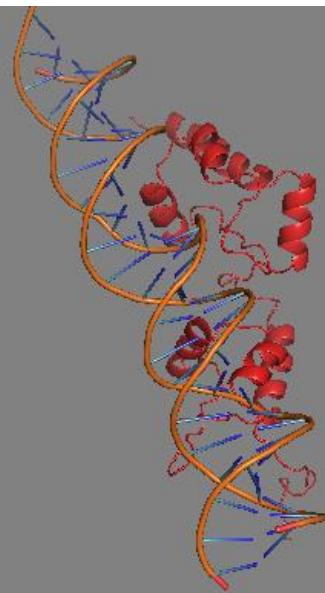
Cluster 2



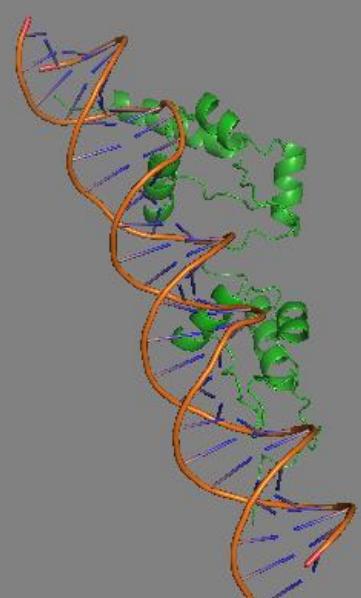
Cluster 3



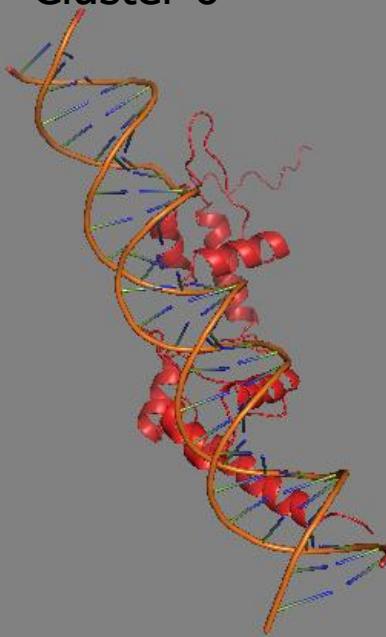
Cluster 4



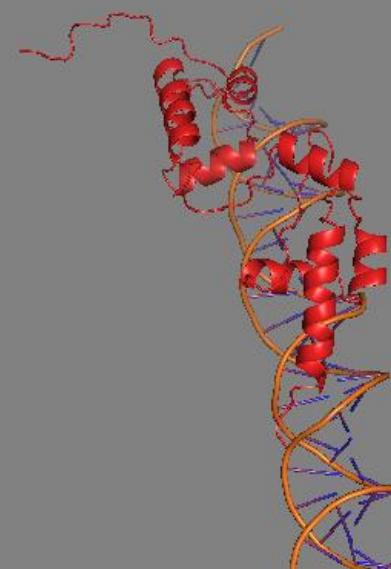
Cluster 5



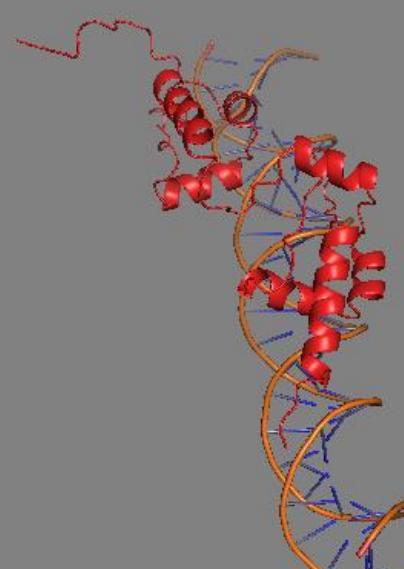
Cluster 6



Cluster 7



Cluster 8

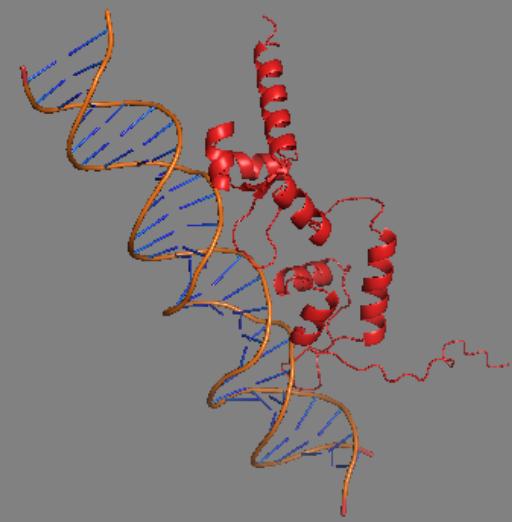


Cluster 9

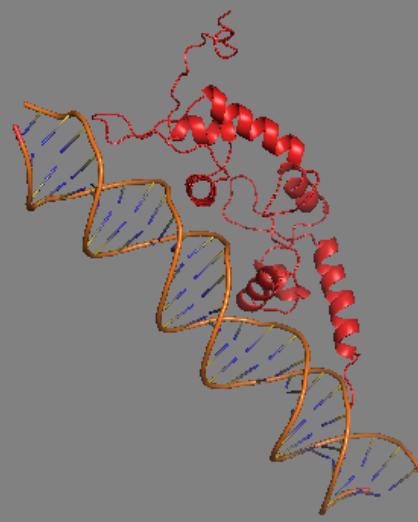


Sub_45-75

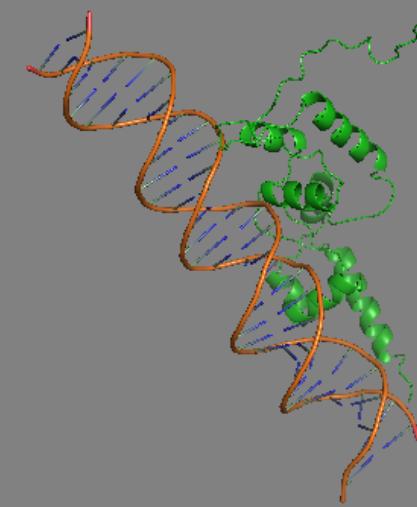
Cluster 10



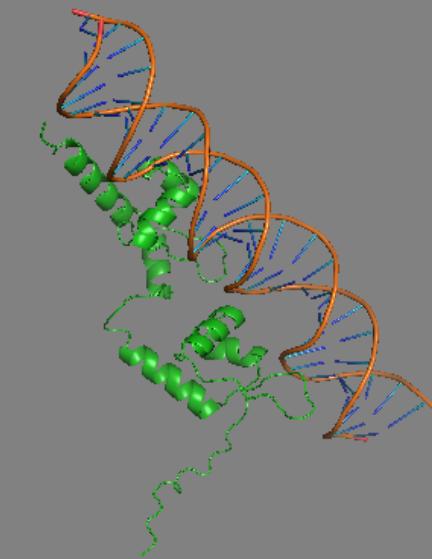
Cluster 1



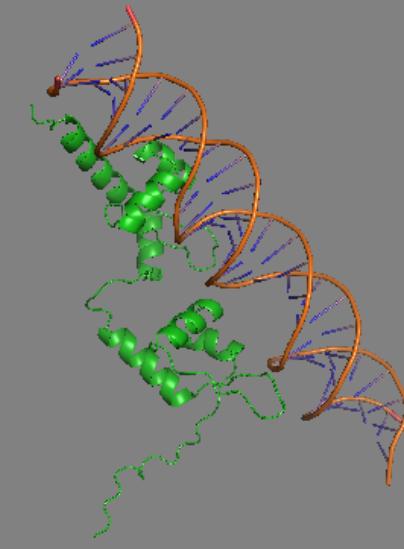
Cluster 2



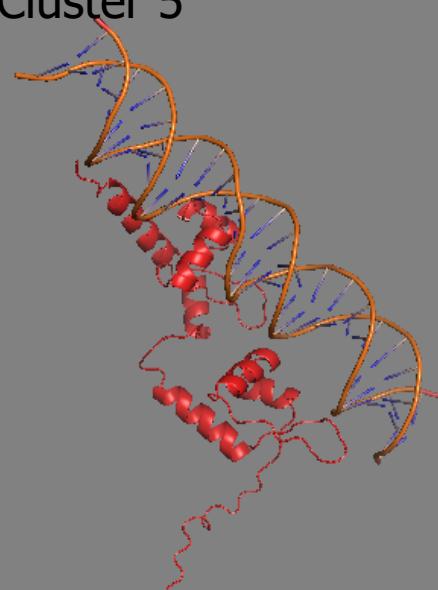
Cluster 3



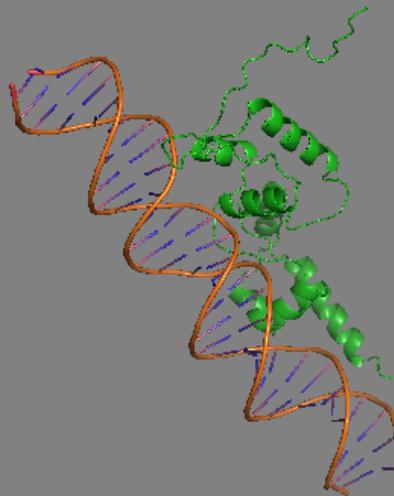
Cluster 4



Cluster 5



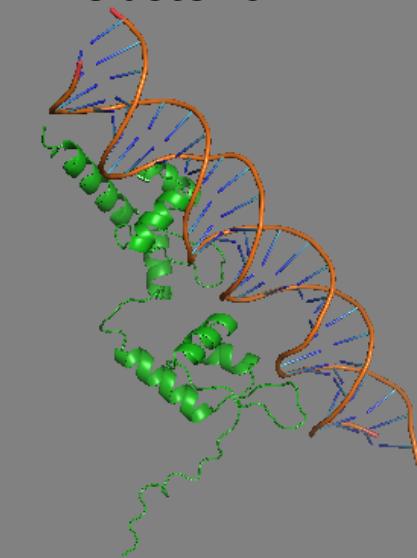
Cluster 6



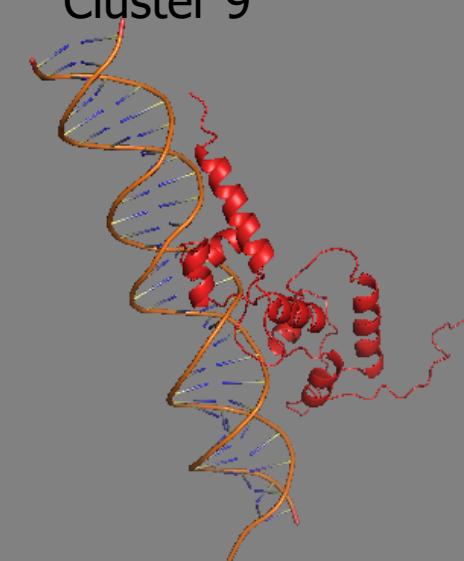
Cluster 7



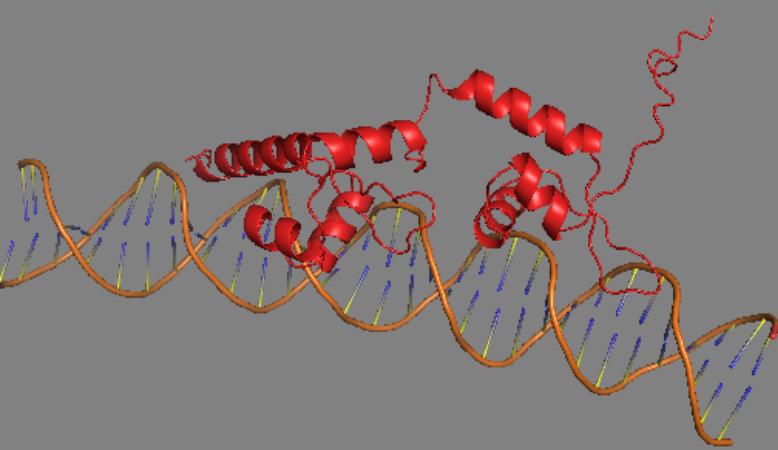
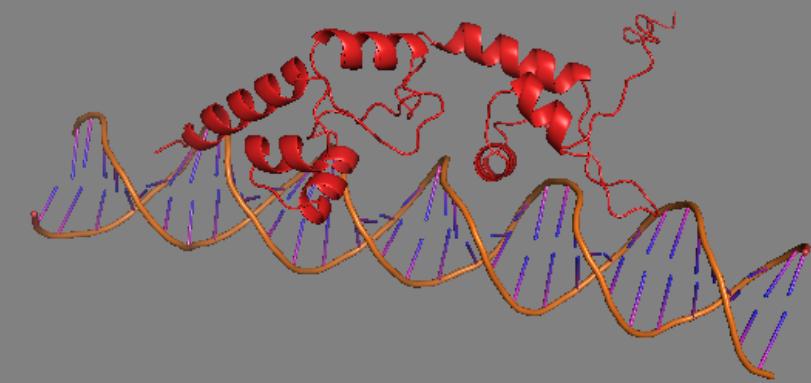
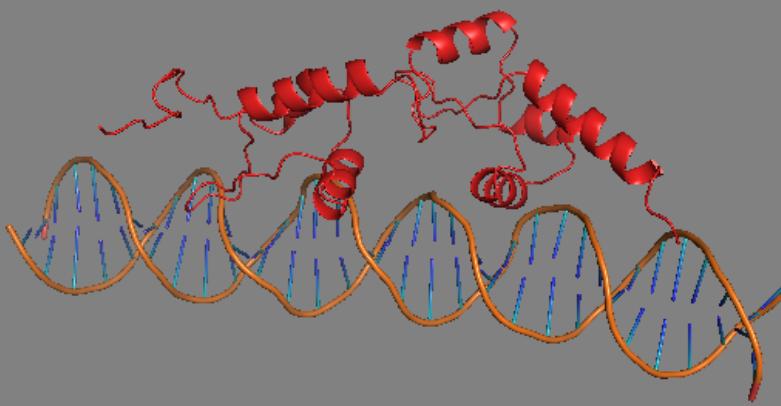
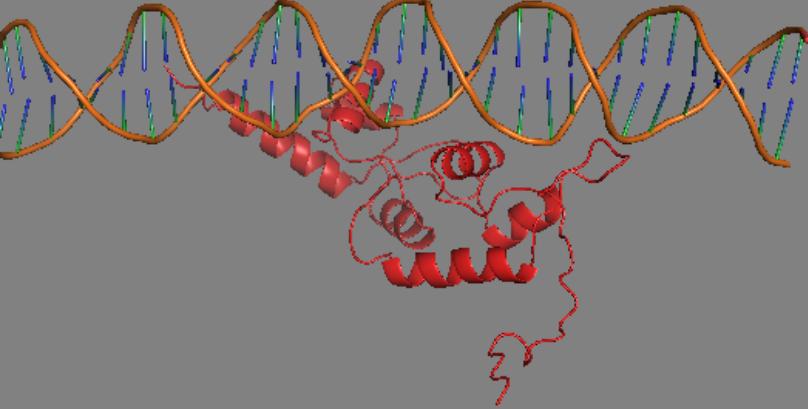
Cluster 8



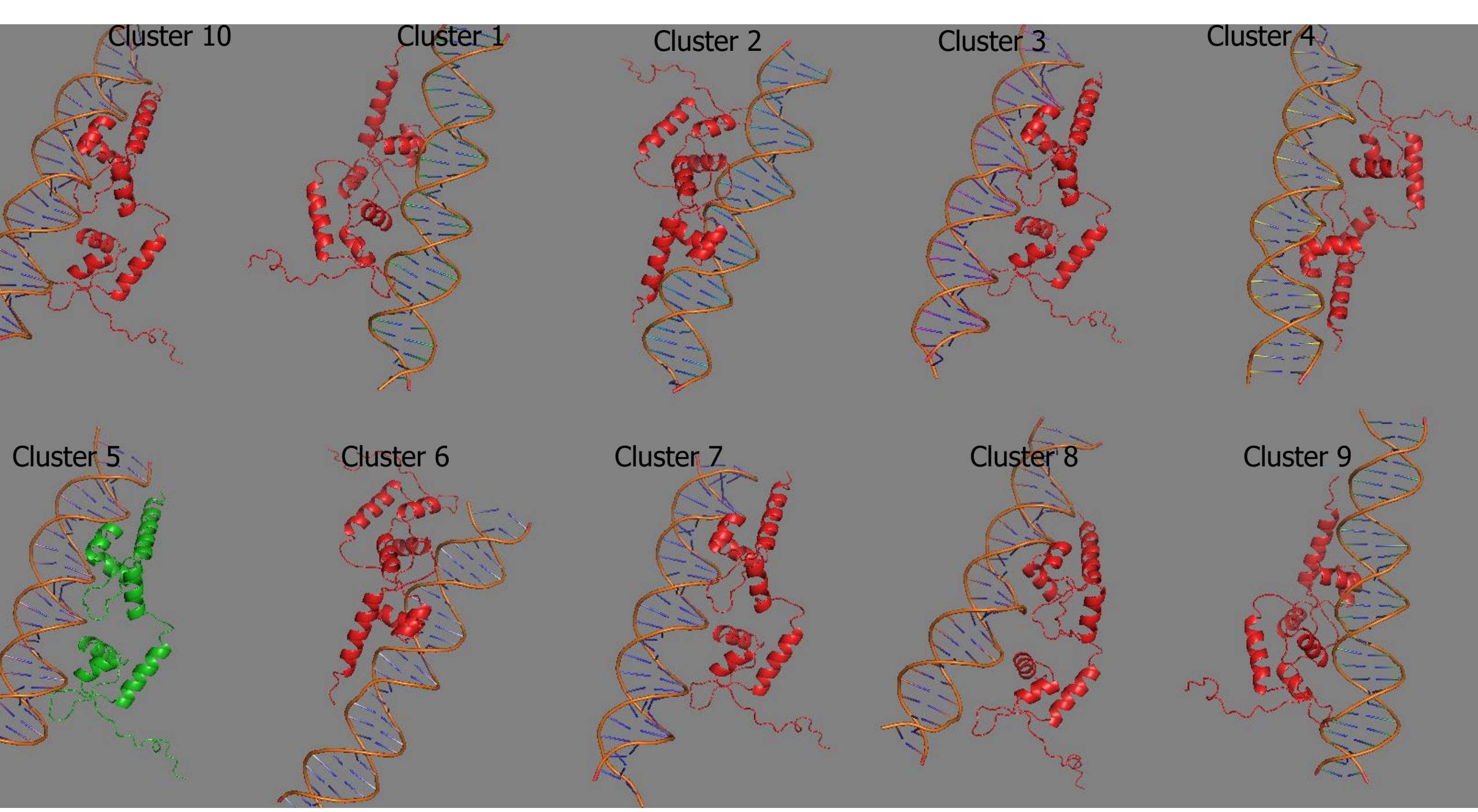
Cluster 9



Sub_lacOperator

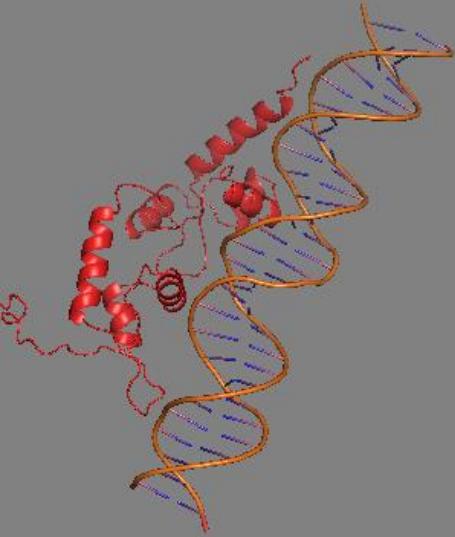


Rev_0_30

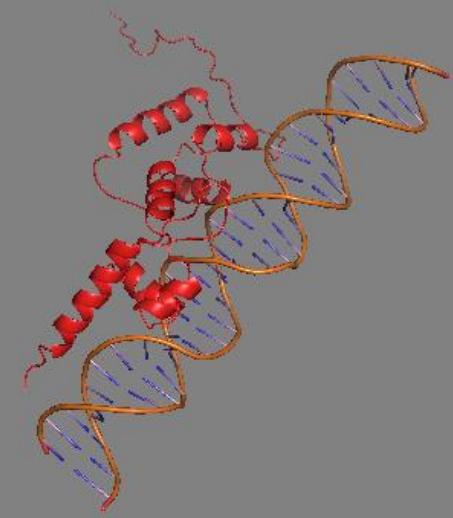


Rev_30_60

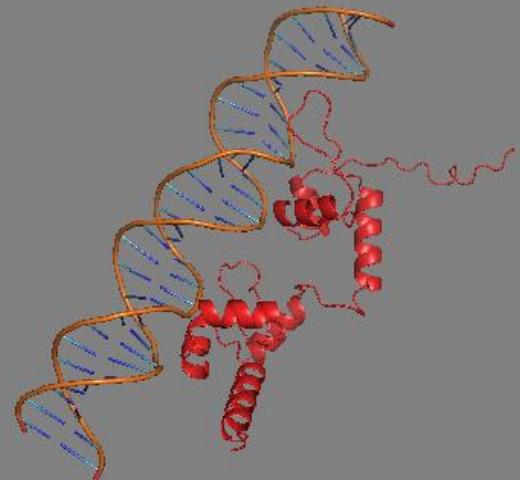
Cluster 1



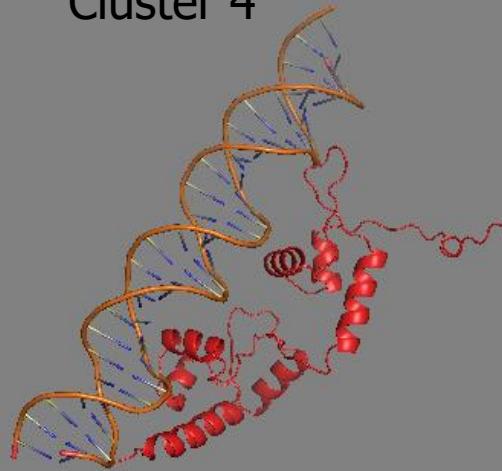
Cluster 2



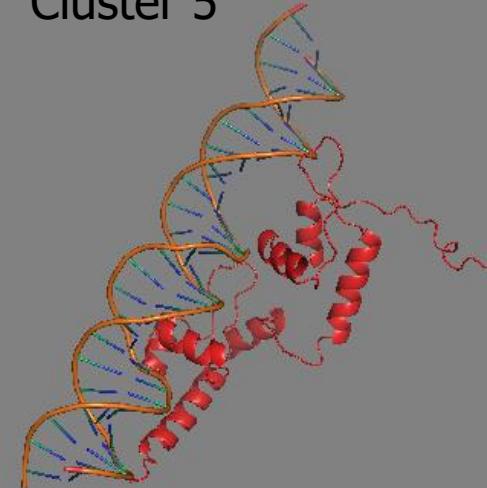
Cluster 3



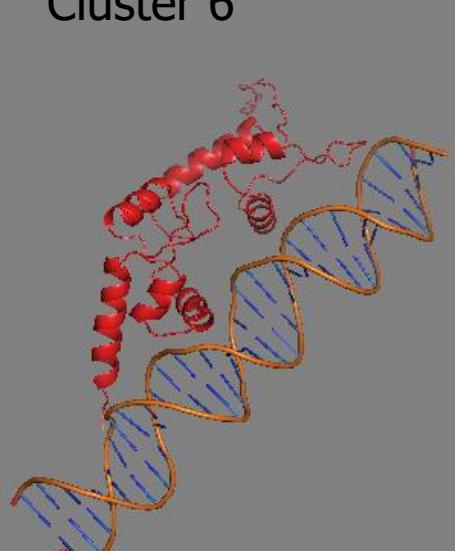
Cluster 4



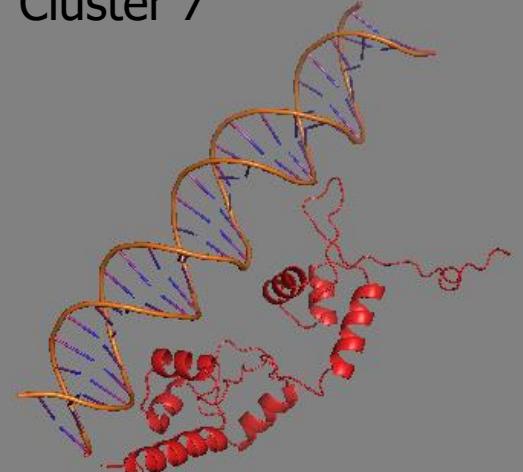
Cluster 5



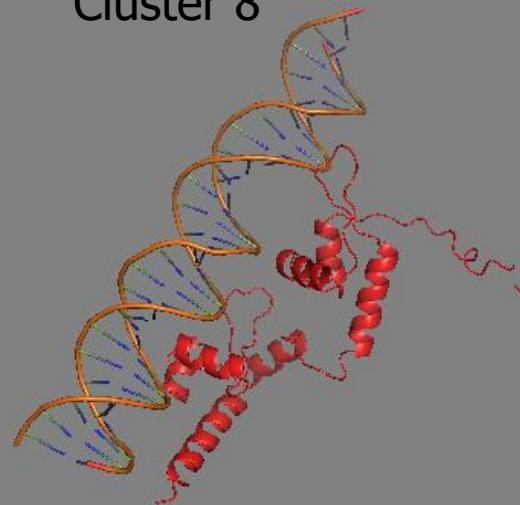
Cluster 6



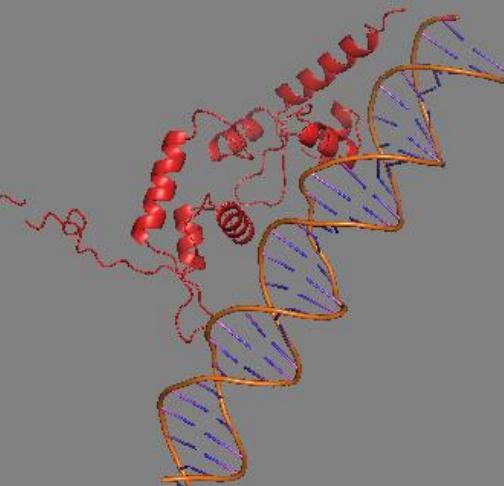
Cluster 7



Cluster 8

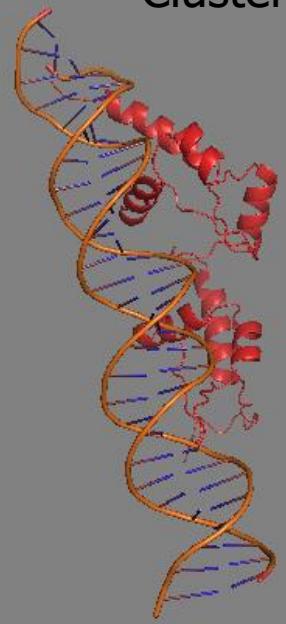


Cluster 9

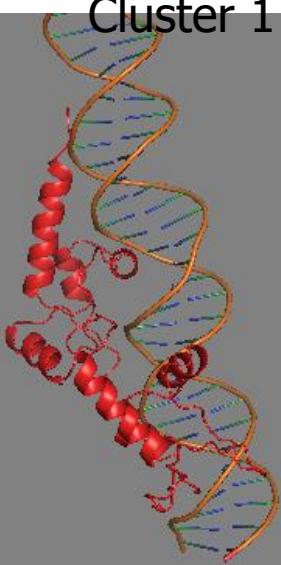


Rev_60_90

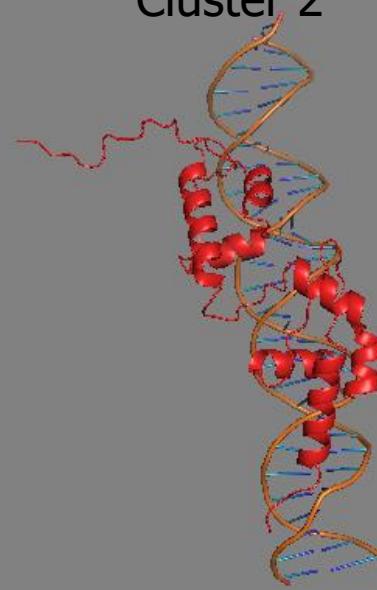
Cluster 10



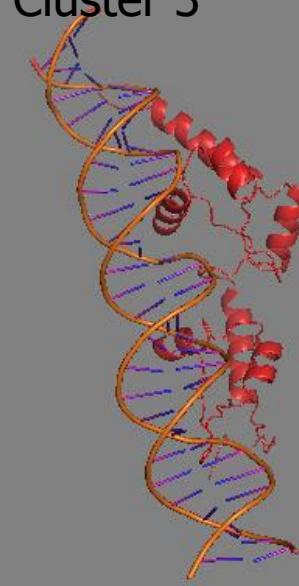
Cluster 1



Cluster 2



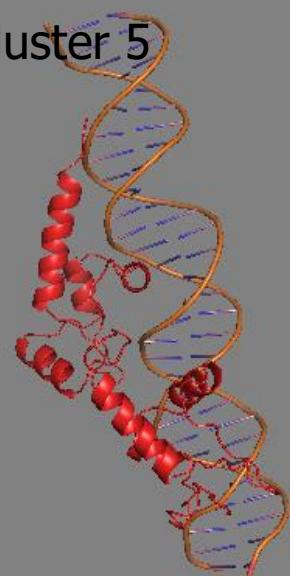
Cluster 3



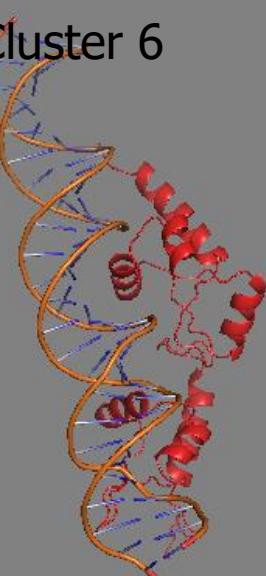
Cluster 4



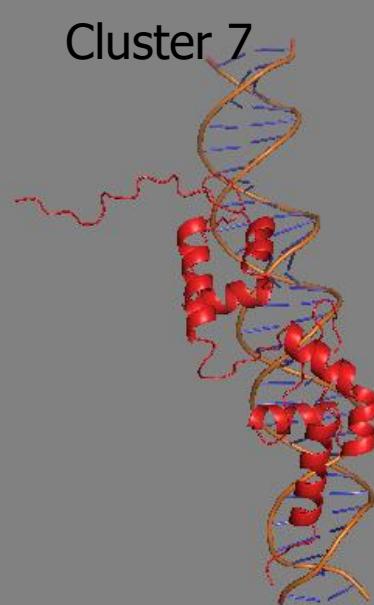
Cluster 5



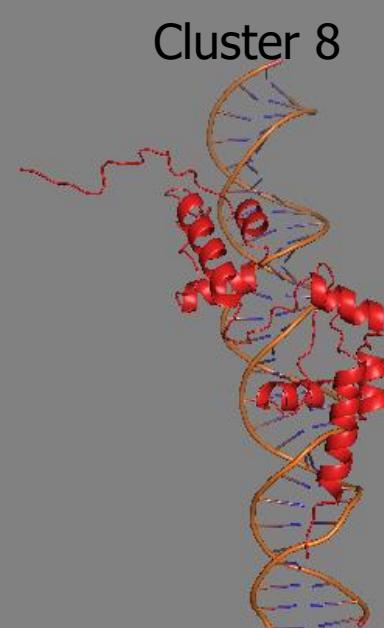
Cluster 6



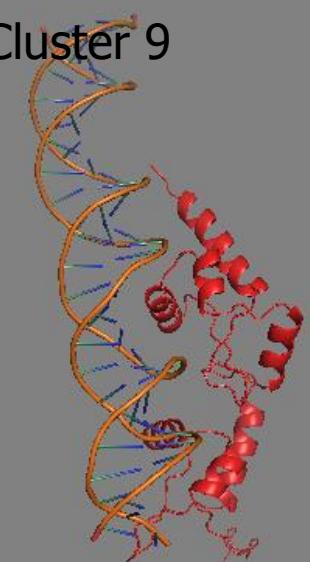
Cluster 7



Cluster 8

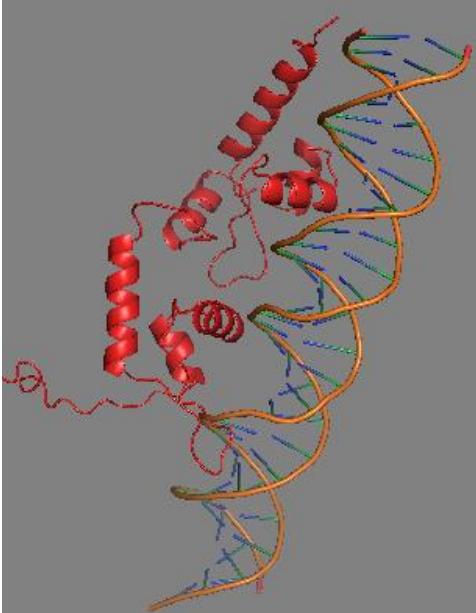


Cluster 9

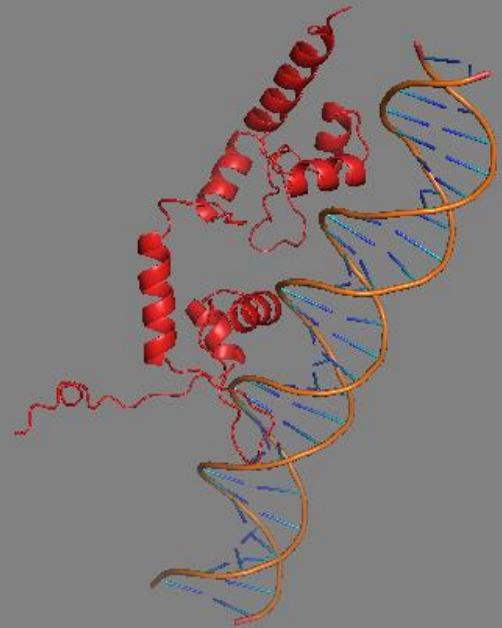


Rev_90_120

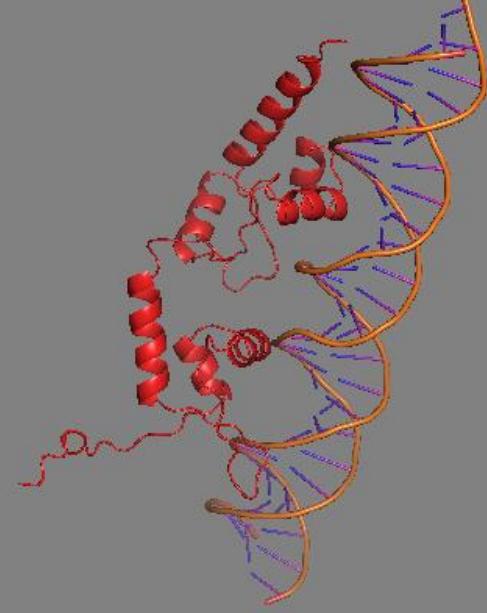
Cluster 10



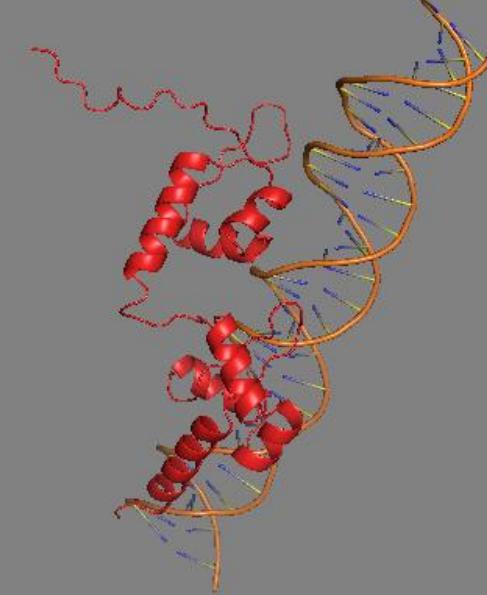
Cluster 1



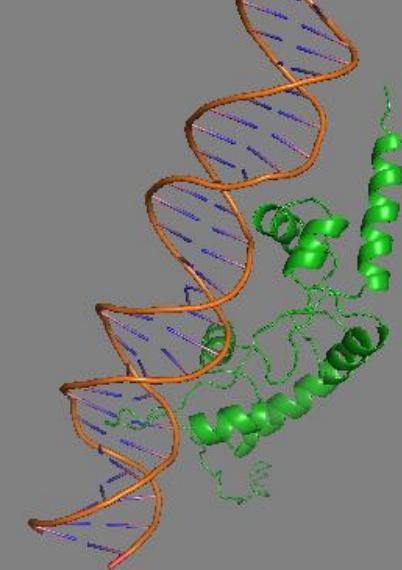
Cluster 2



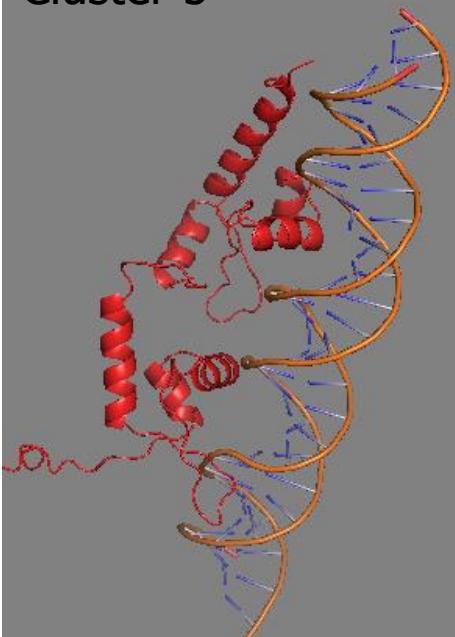
Cluster 3



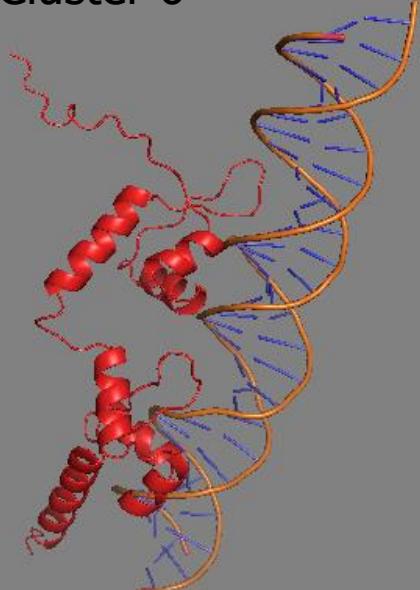
Cluster 4



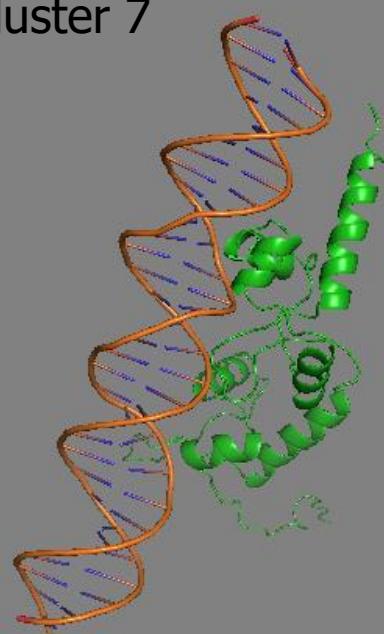
Cluster 5



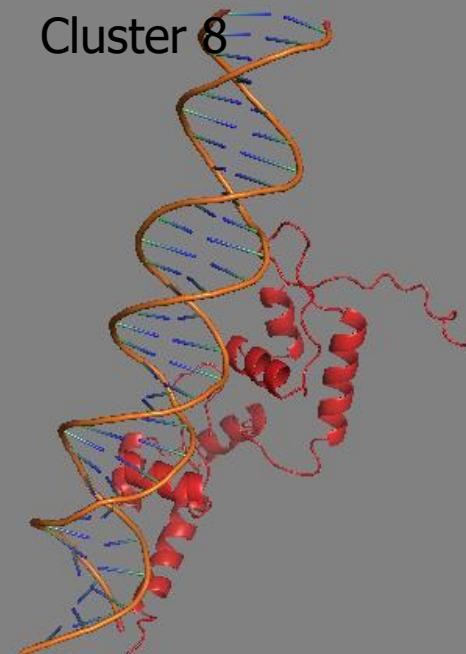
Cluster 6



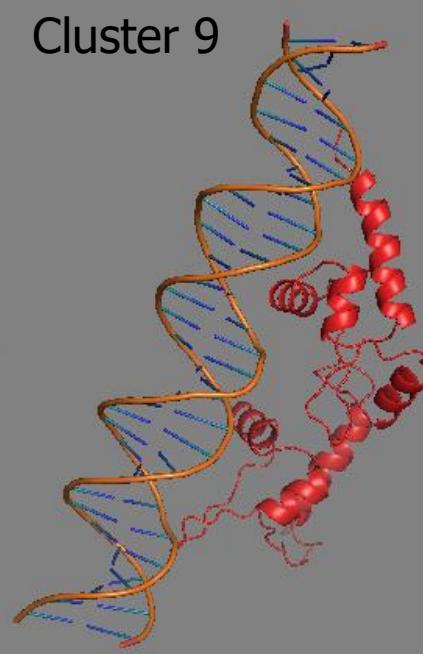
Cluster 7



Cluster 8

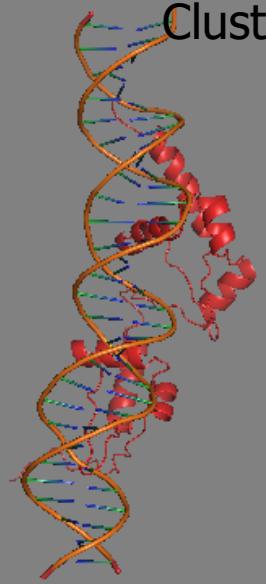


Cluster 9

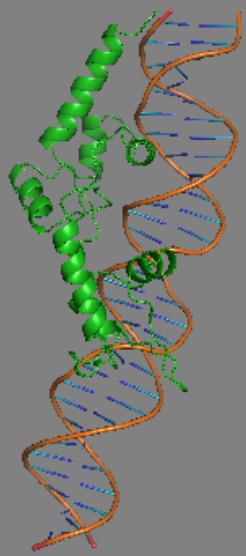


Rev_120_150

Cluster 10



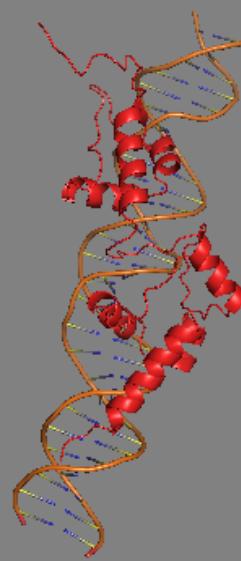
Cluster 1



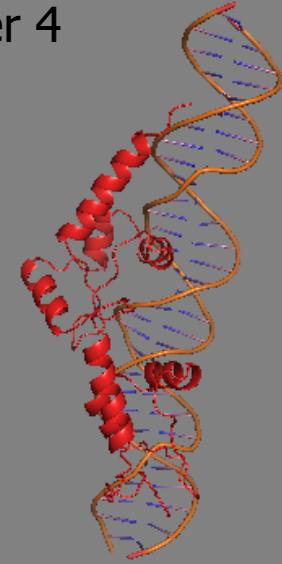
Cluster 2



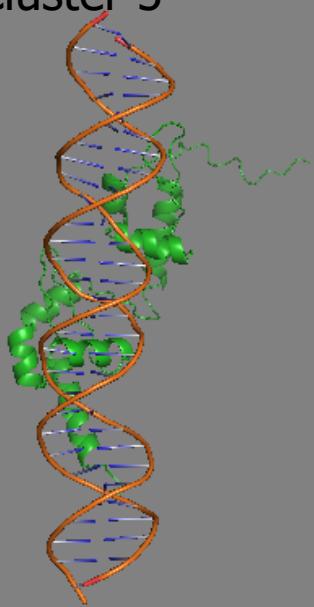
Cluster 3



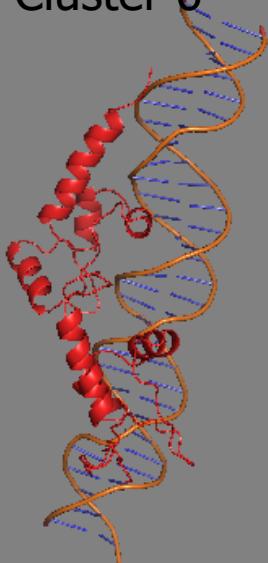
Cluster 4



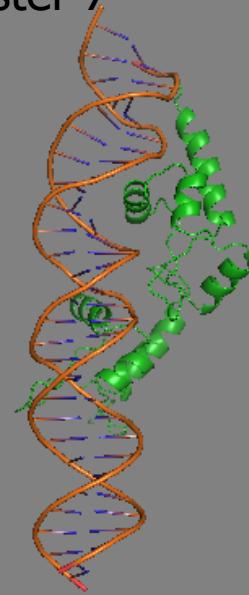
Cluster 5



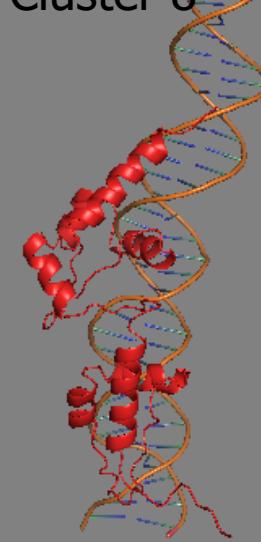
Cluster 6



Cluster 7



Cluster 8



Cluster 9

