

### Code not preventing off-target complexes

```
material = dna
trials = 1
temperature[C] = 30.0
magnesium[M] = 0.01
#
# target structures
#
structure adaptor = D5D2D3 (U10D12 (+U5) )
structure virus = U20 U5U12U3 U20
structure fuelstrand = U3U3U9
structure adaptor_intermediate = D5D3D9D3 (U3U4+U20)U20
structure adaptor_byproduct = U5U3 D9D3D3(U4+)
structure trigger = U10U10U12

#
# sequence domains
#
domain arest = N10
domain a1 = N3
domain a2 = N3
domain a3 = N4
domain h1 = N9
domain h2 = N3
domain d = N5

domain upstream_viralDNA = N20
domain downstream_viralDNA = N20

#
# strands (optional, used for threading sequence information
# and for displaying results)
#
strand G = a3* a2* a1* arest* h1* h2*
strand H = d h2 h1 a1 a2 a3
strand V = upstream_viralDNA a1* h1* h2* d* downstream_viralDNA
strand fuel = a2* a1* h1*

#
# thread strand sequence information onto target structures
#
adaptor.seq = G H
virus.seq = V
```

```

fuelstrand.seq=fuel
adaptor_intermediate.seq=H V
adaptor_byproduct.seq=H fuel
trigger.seq=G

# prevent sequence patterns
#
prevent=AAAA, CCCC, GGGG, UUUU, KKKKKK, MMMMMM, RRRRRR, SSSSSS, WWWWWW, YYYYYY

```

### **Code preventing off-target complexes**

New code with detector N7 instead of 5:

```

material = dna
trials = 2
temperature[C] = 25.0
magnesium[M] = 0.01
#
# target structures
#
structure adaptor = D5D2D3 (U10D12 (+U7) )
structure virus = U20 U7U12U3 U20
structure fuelstrand = U3U3U9
structure adaptor_intermediate = D7D3D9D3 (U3U4+U20)U20
structure adaptor_byproduct = U7U3 D9D3D3(U4+)
structure trigger = U10U10U12

```

```

#
# sequence domains
#
domain arest = N10
domain a1 = N3
domain a2 = N3
domain a3 = N4
domain h1 = N9
domain h2 = N3
domain d = N7

domain upstream_viralDNA = N20
domain downstream_viralDNA = N20

```

```

#

```

```

# strands (optional, used for threading sequence information
# and for displaying results)
#
strand G = a3* a2* a1* arest* h1* h2*
strand H = d h2 h1 a1 a2 a3
strand V = upstream_viralDNA a1* h1* h2* d* downstream_viralDNA
strand fuel = a2* a1* h1*

#
# thread strand sequence information onto target structures
#
adaptor.seq = G H
virus.seq = V
fuelstrand.seq = fuel
adaptor_intermediate.seq = H V
adaptor_byproduct.seq = H fuel
trigger.seq = G

#
# target test tubes
tube reactants = adaptor fuelstrand
reactants.adaptor.conc[uM] = 0.1
reactants.fuelstrand.conc[uM] = 0.1
reactants.maxsize = 2

tube products = adaptor_byproduct virus trigger
products.adaptor_byproduct.conc[uM] = 0.1
products.virus.conc[uM] = 0.1
products.trigger.conc[uM] = 0.1
products.maxsize = 2

# prevent sequence patterns
#
prevent = AAAA, CCCC, GGGG, UUUU, KKKKKK, MMMMMM, RRRRRR, SSSSSS, WWWWWW, YYYYYY

```