

**Differences between wild-type T7 and T7.1.** A listing from left to right on the T7 genome of the changes made during design of T7.1. Changes are shown by comparison of the annotated wild-type T7 (above) and T7.1 (below) sequences. Point mutations are capitalized. The natural ribosome binding sites are underlined. The bracketing restriction sites surrounding parts are orange (left cutter) and blue (right cutter), with overlaps of neighboring bracketing restriction sites in light green. Other features include start codons (green), stop codons (red), and overlaps of start and stop codons (purple).

### Changes in Section Alpha

#### LeftEnd-Part1: TR-SRL/A0

```
T7:      gagtgtctctctgtgtccctatctgttacagtctcctaaagtatcctcct
-----TR----->          <-----SRL-----
T7.1:    gagtgtctctctgtgtccctatcGgttacCgtctcctaaagtatcctcct
-----TR----->          <-D1L->          <-----SRL-----
```

#### Part1-Part2: SRL/A0-ØOL

```
T7:      acctaaagcgccttgtttagccataaagtataacctttaatcattgtctttattaa
--SRL-->          <-----ØOL-----
T7.1:    acctaaagGTTaccgcatgcttgtttagccataaagtataacctttaatcattgtctttattaa
--SRL-->          <D2L->          <-----ØOL-----
          <-D1R->
```

#### Part2-Part3: ØOL-A1

```
T7:      aaggagagacaacttaagagacttaaaagattaatttaaaattatcaaaaag
---ØOL-->          <---A1---
T7.1:    aaggagagacaacttaagagCATgcttaaaagattaatcgattaaaattatcaaaaag
---ØOL-->          <D2R->          <D3L->          <---A1---
```

#### Part3-Part4: A1-A2/A3/BoxA/R0.3

```
T7:      gagagggacacggcgaatagccatcccaatcgacaccgggtcaaccggataagtagacagcctgataagtcgcacgaaaaacagg
---A1----->          <-----A2-----
T7.1:    gagagggacacggcgaatagccatcccaatcgATaccgggtcaaccggataagtagaAagcTtgataagtcgcacgaaaaacagg
---A1----->          <D3R->          <D4L->          <-----A2-----
```

#### Part4-Part5: A2/A3/BoxA/R0.3-0.3

```
T7:      gatattcactaataactgcacgaggttaacacaagatggctatgtctaaca
---R0.3-->          <-0.3RBS->          <-----0.3-----
T7.1:    gatattcactaagccttgccgctgcacgaggttaacacaagatggctatgtctaaca
---R0.3-->          <D5L->          <-0.3RBS->          <-----0.3-----
          <D4R->
```

#### Part5-Part6: 0.3-0.4

```
T7:      cgaggagtacgagggatgaagagtaatgtctactacc
-----0.3----->          <-----0.4-----
          <-0.4RBS->
T7.1:    cgaggagtacgaggaggaCgaagagtaagcgcaccaggctcaggagtacgagggatgaagagtaatgtctactacc
-----0.3----->          <D5R-><-D6L->          <-0.4RBS->          <-----0.4-----
```

#### U1-R0.5: U1/0.4-R0.5

```
T7:      caaagaactgtacgaaaaacaaggcaatagctttagaatctgctgagtgatagactcaaggtc
-----0.4----->          <-----R0.5-----
T7.1:    caaagaGctCtacgaaaaacaaggcaatagctttagaatctgctgagtgaaccagggtgagtgatagactcaaggtc
-----0.4----->          <-D6R-><-----R0.5-----
          <-U1->
```

#### R0.5-Part7: R0.5-0.5

```
T7:      gcctttatgattatcactttactttatgagggagtaatgtatatgctt
-----R0.5----->          <-0.5RBS-><-----0.5-----
T7.1:    gcctttatgattatcacttaccgcttcttatgagggagtaatgtatatgctt
-----R0.5----->          <D7L->          <-0.5RBS-><-----0.5-----
```

#### U2

```
T7:      gctctaggctagctgtaggtgatcc
-----0.5-----
T7.1:    gctctaggGctagctgtaggtgatcc
-----0.5-----
          <-U2->
```

Part7-Part8: 0.5-0.6A/B

T7: catcaaaagggcactacgcaaatgatgaagcac
-----0.5----->
<-0.6RBS-> <----0.6---->
T7.1: catcaaaagggcactacgcaaatAaacgcgtagcgaagggcactacgcaaatgatgaagcac
-----0.5-----><D7R-> <-0.6RBS-> <----0.6---->
<D8L->

Part8-Part9: 0.6A/B-0.7

T7: aacaggcactagccaacacactgaacgctatctcataacgaacataaggacacaatgcaatgaacattacc
-----0.6-----> <-0.7RBS-> <----0.7---->
T7.1: aacaggcactagcgtaacggccgcgaacataaggacacaatgcaatgaacattacc
-----0.6-----><D8R-> <-0.7RBS-> <----0.7---->
<-D9L->

Part9-Part10: 0.7-C/R1

T7: caacattgataagcaacttgacgcaatgtaatggcgtgatagctttatct
-----0.7-----> <----R1---->
<-----C----->
T7.1: caacattgataagcaacttgacgcaatgtaatggcgtgatagctttatct
-----0.7-----><-D9R-><D10L><-----C----->
<----R1---->

Part10-Part11: C/R1-1

T7: ataggtacgatttactaactggaagggcactaaatgaacacgatt
-----R1-----> <-IRBS-> <----1----->
T7.1: ataggtacgatttactaactcggcggcctggaagggcactaaatgaacacgatt
-----R1-----><D10R> <-IRBS-> <----1----->
<D11L>

Part11-Part12: 1-ø1.1A/R1.1/ø1.1B

T7: gcgttcgctaacgccaaatcaatcagactcactatagaggacaaac
-----1-----> <----R1.1----->
<-----ø1.1A----->
T7.1: gcgttcgctaacggcggcgttaattaaacgccaaatcaatcagactcactatagaggacaaac
-----1-----><D11R><-D12L-><-----ø1.1A----->
<----R1.1----->

Part12-Part13: ø1.1A/R1.1/ø1.1B-1.1

T7: tataggagaaccttaaggtttaactttaagacccttaagtgttaattagagatttaaataaagaattactaagagaggactttaagtatgctgaacttc
---ø1.1B---> <-1.1RBS-> <----1.1---->
T7.1: tataggagaaccttaaggtttaactttaagacccttaagtgttaattaaagatttaaataaagaattCctaagagaggactttaagtatgctgaacttc
---ø1.1B---><-D12R-> <D13L> <-1.1RBS-> <----1.1---->

Part13-Part14: 1.1-1.2

T7: ctgggaggtcagtaagatgggacgttta
-----1.1-----> <----1.2----->
<-1.2RBS->
T7.1: ctgggaggtcagtaagaattccaggactgggaggtcagtaagaatgggacgttta
-----1.1-----><D13R> <-1.2RBS-> <----1.2----->
<D14L->

U3

T7: gacgaggacgttctgttcaatatgtgtactgattggttgaacat
-----1.2----->
T7.1: gacgaggacgttctgttcaatatgtgCactgattggttgaacat
-----1.2----->
<-U3->

Part14-Part15: 1.2-ø1.3/R1.3

T7: gttgaaggactggaagtaatacactcagatagggacaa
-----1.2-----> <----R1.3--->
<-----ø1.3----->
T7.1: gttgaaggactggaagtaatacaggaccggactggaagtaatacactcagatagggacaa
-----1.2-----><D14R-> <-----ø1.3----->
<D15L-> <----R1.3--->

Part15-Part16: ø1.3/R1.3-1.3

T7: atttaaccaataggagataaacattatgatgaacatt
----R1.3---> <----1.3---->
<-1.3RBS->
T7.1: atttaaccaataggagccgggccaataggagataaacattatgatgaacatt
----R1.3---><D16L> <-1.3RBS-> <----1.3---->
<D15L->

Part16-Part17: 1.3-TE

T7: agagaaaatgtaatacactggctcaccttcgggtgggcctt
-----1.3-----> <-----TE----->
T7.1: agagaaaatgtaaccgggccaataatgtaatacactggctcaccttcgggtgggcctt
-----1.3-----><D16R> <-----TE----->
<D17L>

Part17-Part18: TE-1.4

T7: gcctttctcgctttataaggagacactttatgtttaagaag
-TE--> <1.4RBS > <----1.4---->

T7.1: gcctttcagggaaaacgggcccattggttataaggagacactttatgtttaagaag  
-TE--> <D17R> <1.4RBS> <----1.4---->  
<D18L>

#### Part18-Part19: 1.4-ø1.5

T7: cgtgtggagatagtttaactggtaatcacgactcactaaagg  
-----1.4----->  
<-----ø1.5----->  
T7.1: cgtgtggagatagtttaactggtaatccatggcgccggttaactggtaacgactcactaaagg  
-----1.4-----> <D18R> <-----ø1.5----->  
<D19L>

#### Part19-Part20: ø1.5-1.5

T7: taaaggaggtacacaccatgatgtactta  
-----ø1.5--> <----1.5---->  
<-1.5RBS->  
T7.1: taaaggaggtacggcgcttaggcactaaaggaggtacacaccatgatgtactta  
-----ø1.5--><D19R> <-1.5RBS-> <----1.5---->  
<D20L>

#### U4

T7: gtcattgtaggatgccttgcgctccactgtagcgatgat  
-----1.5----->  
T7.1: gtcattgtaggatgccttgcTctTcactgtagcgatgat  
-----1.5----->  
<-U4-->

#### Part20-Part21: 1.5-ø1.6

T7: tgccagatggtcacgcttaatacagactcact  
-----1.5----->  
<-----ø1.6----->  
T7.1: tgccagatggtcacgcttaacctaggacgtctggtcacgcttaatacagactcact  
-----1.5-----><D20L> <-----ø1.6----->  
<D21L>

#### Part21-Part22: ø1.6-1.6

T7: taaaggagacactatattttcagactt  
-----ø1.6--> <----1.6---->  
<-1.6RBS->  
T7.1: taaaggagacacgagctctagacactaaaggagacactatattttcagactt  
-----ø1.6--><D21R> <-1.6RBS-> <----1.6---->  
<D22L>

#### Par22-Part23: 1.6-1.7

T7: tcaggaggttcttgatgggactgtta  
-----1.6----->  
<--1.7RBS--> <----1.7---->  
T7.1: tcAAAgatgttcttgatctagaccggttcaaggaggttcttgatgggactgtta  
-----1.6-----><D22R><D23L> <--1.7RBS--> <----1.7---->

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### Changes in Section Beta

#### Part23-Part24: 1.7-1.8

T7: gaactctttgagaaacataaggataaatgttatgcatcaacttcaagtca  
-----1.7----->  
<-1.8RBS-> <-----1.8----->  
T7.1: gaactctttgagaaacataAAAgataaatgttaCgcataaccggtgacctctttgagaaacataaggataaatgttatgcatcaacttcaagtca  
-----1.7-----> <D24L-> <-1.8RBS-> <-----1.8----->  
<D23R>

#### Part24-Part25: 1.8-2

T7: gaactttgaaatcgagaggtcaatgactatgtcaaacgta  
-----1.8-----> <-----2----->  
<--RBS-->  
T7.1: gaactttgaaatcgagaggtcaatgaggtcacggtacgtttgaaatcgagaggtcaatgactatgtcaaacgta  
-----1.8-----><D24R> <--2RBS--> <-----2----->  
<D25L>

#### Part25-Part26: 2-ø2.5

T7: ttgtgtagcaccgaagtatacagactcactat  
-----2----->  
<-----ø2.5----->  
T7.1: ttgtgtagcaccgaagttaacgtacgaattcagcaccgaagtaatacagactcactat  
-----2-----><D25R> <-----ø2.5----->  
<D26L>

#### Part26-Part27: ø2.5-2.5

T7: cactattagggaaagactcctctgagaaccaaacgaaacctaaggagattaacattatggctaagaag  
-----ø2.5-----> <-2.5RBS-> <-----2.5----->  
T7.1: cactattagggaaagaattcccgggcgaaacctaaggagattaacattatggctaagaag  
-----ø2.5-----><D26R> <-2.5RBS-> <-----2.5----->  
<D27L>

#### Part27-Part28: 2.5-2.8

T7: gcagacgaagacggagacttctaagtgaactgcgg  
-----2.5-----><-----2.8----->  
<-2.8RBS->

T7.1: gcagacgaagacggGgacttctaa**cccg**gatccgaagacggagacttcta**gtg**gaactcgcg  
-----2.5-----><D27R> <-2.8RBS-> <----2.8---->  
<D28L>

### Part28-Part29: 2.8-3

T7: acgcaaa**gggag**cgacat**ggc**aggttacggcgctaa**agga**atccgaaa  
-----2.8----->  
<-3RBS-> <-----3----->  
T7.1: acgcaaa**gggag**Acgaca**Cggc**aggttacggcgctaa**ggatc**cg**gcg**c**aaagg**gagcgacat**ggc**aggttacggcgctaa**agga**atccgaaa  
-----2.8-----><D28R> <-3RBS-> <-----3----->  
<D29L>

### Part29-Part30: 3-3.5

T7: gattaaaaagga**aaagg**gaaagaa**ataat**ggctcgtgta  
-----3----->  
<-3.5RBS-> <----3.5---->  
T7.1: gattaaaa**CaaGggGgg**Gaagaa**ataa**cg**ccg**cg**cg**g**aaagg**gaaagaa**ataat**ggctcgtgta  
-----3-----><D29R><D30L> <-3.5RBS-> <----3.5---->

### Part30-Part31: 3.5-ø3.8/R3.8

T7: tctgaccgtgga**ta**attaattgaactcactaaag  
-----3.5----->  
<-----ø3.8----->  
T7.1: tctgaccgtgga**ta**ac**ccg**g**acat**gctggataattaattgaactcactaaag  
-----3.5-----><D30R><D31R><-----ø3.8----->

### Part31-Part32: ø3.8/R3.8-3.8

T7: tttccctttgttcgattg**ga**ggtc**aa**ataat**at**gcgcaagtct  
-----R3.8-----> <----3.8---->  
<-3.8RBS->  
T7.1: tttccctttgttcgattg**ga**ggtc**aa**ataat**at**gcgcaagtct  
-----R3.8-----><D31R> <-3.8RBS-> <----3.8---->  
<D32L>

---

## Changes in Section Gamma

### Part32-Part33: 3.8-4A/4B/4.1/4.2

T7: tagaact**agg**ggaattgca**tg**gacaattcgcacgattccgat**ag**tgt  
-----3.8----->  
<-4ARBS-> <-----4A----->  
T7.1: tagaact**agAa**ggaattgca**Cgg**acaattcgcacgattccgat**ag**gt**cg**ac**g**ct**ag**g**g**ggaattgca**tg**gacaattcgcacgattccgat**ag**tgt  
-----3.8-----><D32R> <-4ARBS-> <-----4A----->  
<D33L>

### Part33-Part34: 4A/4B/4.1/4.2-ø4.3

T7: ggagagtccattc**ta**atcagactcactaaa  
-----4.2----->  
<-----ø4.3----->  
T7.1: ggagagtccattc**ta**ac**g**ta**cg**ccgagtcctccattc**ta**atcagactcactaaa  
-----4.2-----><D33R> <-----ø4.3----->  
<D34L>

### Part34-Part35: ø4.3-4.3

T7: ct**aa**ggagacacacc**at**gttcaactg  
-----ø4.3-----> <----4.3---->  
<-4.3RBS->  
T7.1: ct**aa**ggagacacacc**cg**cg**g**gtg**cg**cg**g**ct**aa**ggagacacacc**at**gttcaactg  
-----ø4.3-----><D34R> <D35L> <-4.3RBS-> <----4.3---->

### Part35-Part36: 4.3-4.5

T7: ttctttgag**ta**atcaaac**gg**gaaaccatt**at**gttcaactgta  
-----4.3-----> <-4.5RBS-> <----4.5---->  
T7.1: ttctttgag**ta**at**g**cg**cg**cg**g**caacc**gg**gaaaccatt**at**gttcaactgta  
-----4.3-----><D35R><D36L-> <-4.5RBS-> <----4.5---->

### Part36-Part37: 4.5-R4.7/ø4.7

T7: attgataac**ta**agagtgtatcct  
-----4.5-----><-----R4.7--->  
T7.1: attgataac**ta**ac**cc**g**cg**agagcttaagagtgtatcct  
-----4.5-----><D36R-><D37L> <-----R4.7--->

### Part37-Part38: R4.7/ø4.7-4.7

T7: ctat**agg**gatattacc**at**gctgaccct  
-----ø4.7-----> <----4.7---->  
<-4.7RBS->  
T7.1: ctat**agg**gatattacc**aa**gct**c**ctgga**ct**at**agg**gatattacc**at**gctgaccct  
-----ø4.7-----><D37R> <-4.7RBS-> <----4.7---->  
<D38L->

### Part38-Part39: 4.7-5

T7: aagtcacg**at**aatcaat**agg**gaaatcaat**at**gacgtttct  
-----4.7-----> <-5RBS-> <-----5----->  
T7.1: aagtcacg**at**aat**c**ct**g**gag**ct**agc**at**caat**agg**gaaatcaat**at**gacgtttct  
-----4.7-----><D38R-><D39L> <-5RBS-> <-----5----->

### Part39-Part40: 5-5.3

T7: attgcccac**g**ataca**gg**gctactc**at**gaaacgaaaga  
-----5-----> <-5.3RBS-> <-----5.3---->  
T7.1: attgcccac**g**ag**ct**ag**ct**acag**gg**gctactc**at**gaaacgaaaga

-----5-----><D39R> <-5.3RBS-> <-----5.3----->  
<D40L>

#### Part40-Part41: 5.3-5.5

T7: ataaaacta**ag**gagaaattatt**atgg**ctatgaca  
-----5.3-----> <-----5.5----->  
<-5.5RBS->  
T7.1: ataaaacta**ag**cat**gcc**atgggtatagggagaaattatt**atgg**ctatgaca  
-----5.3-----> <D41L> <-5.5RBS-> <-----5.5----->  
<D40R>

#### Part41-Part42: 5.5-5.7

T7: acggaggtttc**ga**tgtctgactac  
-----5.5----->  
<-5.7RBS-> <-----5.7----->  
T7.1: acgCgaggtttc**ga**ccatggatccgggaggtttct**ga**tgtctgactac  
-----5.5-----><41R> <-5.7RBS-> <-----5.7----->  
<42L>

#### Part42-Part43: 5.7-5.9

T7: tggaggtgtgtc**ta**atgtctctgac  
-----5.7----->  
<-5.9RBS-> <-----5.9----->  
T7.1: tggCggtgtgtc**ta**aggatccggcgaatggaggtgtgtc**ta**tgtctctgac  
-----5.7-----><D42R> <-5.9RBS-> <-----5.9----->  
<D43L>

#### Part43-Part44: 5.9-6

T7: ct**ag**gagaaactta**at**ggcacttct**ga**cc  
-----5.9----->  
<-6RBS-> <-----6----->  
T7.1: ct**ag**AgaAaaacttaaCggcacttct**ga**cc**gc**gggcccgaact**ag**ggagaaactta**at**ggcacttct**ga**cc  
-----5.9-----><D43R> <-6RBS-> <-----6----->  
<D44L>

#### Part44-Part45: 6-6.3

T7: gacaaggagatttacct**gt**ggagacc**ga**gcgt  
-----6----->  
<-6.3RBS-> <-----6.3----->  
T7.1: gaca**agga**Aatttacct**C**ggagacc**ga**gc**gc**gggcaaggagatttacct**gt**ggagacc**ga**gcgt  
-----6-----><D45L><-6.3-RBS-> <-----6.3----->  
<D44R>

#### Part45-Part46: 6.3-R6.5/ø6.5

T7: gacactaa**g**taaaact  
-----6.3----->  
<---R6.5--->  
T7.1: gacactaa**A**aacc**gg**agctcactaagtataaact  
-----6.3-----><D45R> <---R6.5--->  
<D46L>

#### Part46-Part47: R6.5/ø6.5-6.5

T7: cgattattactttaagatttaactc**ta**agggaatctttatt**at**gttaacacct  
-----R6.5-----> <-6.5RBS-> <-----6.5----->  
T7.1: cgattattactttaagattta**ag**ct**cg**ag**ta**agggaatctttatt**at**gttaacacct  
-----R6.5-----> <D46R> <-6.5RBS-> <-----6.5----->  
<D47L>

#### Part47-Part48: 6.5-6.7

T7: t**ga**tgaggagatt**ga**cactat**gt**tttctca  
-----6.5-----> <-----6.7----->  
<-6.7RBS->  
T7.1: t**ga**tg**C**ga**A**gat**ga**ct**cg**aattctgatgggagattgacactat**gt**tttctca  
-----6.5-----><D47R> <-6.7RBS-> <-----6.7----->  
<D48L>

#### Part48-Part49: 6.7-7

T7: tttgaggttaagaag**ga**tg**gt**ctgagttc  
-----6.7----->  
<-7RBS-> <-----7----->  
T7.1: tttgaggttaagaag**ga**at**cg**at**cg**catttgaggttaagaag**ga**tg**gt**ctgagttc  
-----6.7-----><D48R> <-7RBS-> <-----7----->  
<D49L>

#### Part49-Part50: 7-7.3

T7: ttt**ag**gaggt**ta**agtt**at**gggtaagaaa  
-----7-----> <-----7.3----->  
<-7.3RBS->  
T7.1: ttt**ag**gaggt**ta**ac**ga**tc**gg**tc**cg**ctt**ta**aggaggtataagtt**at**gggtaagaaa  
-----7-----><D49L> <-7.3RBS-> <-----7.3----->  
<D50R->

#### Part50-Part51: 7.3-7.7

T7: atcaacatt**ta**atcagaggttatc**gt**ggaagactgc  
-----7.3-----> <-7.7RBS-> <-----7.7----->  
T7.1: atcaacatt**ta**ac**gt**tc**cg**ct**gc**agtcagaggttatc**gt**ggaagactgc  
-----7.3-----><D50R-><D51L> <-7.7RBS-> <-----7.7----->

## Changes in Section Delta

### Part51-Part52: 7.7-8

T7: gacatggagacacatt**ta**atggctgagaaa  
-----7.7----->  
<-8RBS-> <-----8----->  
T7.1: gacatggagacacatt**ta**actg**cg**cgctacgagacatggagacacatt**ta**atggctgagaaa  
-----7.7-----><D51R><D52L> <-8RBS-> <-----8----->

### Part52-Part53: 8-ø9

T7: cagccgggaatt**ta**atcagactcactatag  
-----8----->  
<-----ø9----->  
T7.1: cagccgggaatt**ta**acg**ta**cgatcgccgggaatt**ta**atcagactcactatag  
-----8-----><D52L> <-----ø9----->  
<D53L>

### Part53-Part54: ø9-9

T7: tagggagacctcatctttgaaatgagcgatgacaagaggttgagctcctcggtcttctctgtagttcaactttaaggagacaataata**at**ggctgaat  
-----ø9-----> <-----9----->  
<-9RBS-> <-----9----->  
T7.1: tagggagacctcatctttgaaatgag**cg**at**cg**aacaagaggttgagctcctcggtcttctctg**ta**gaat**ta**acgagacaataata**at**ggctgaat  
-----ø9-----> <D53R> <D54L> <-9RBS-> <-----9----->

### Part54-Part55: 9-ø10

T7: tcgaactt**ct**gatagacttcgaatta  
-----9-----> <-----ø10----->  
T7.1: tcgaactt**ct**gata**ga**at**tc**cgcgacttcgaatta  
-----9-----> <D54R> <-----ø10----->  
<D55L>

### Part55-Part56: ø10-10A/B

T7: tataggagaccacaacggtttcctctagaataatttgtttaactttaagaaggagatatacat**at**ggctagcatg  
-----ø10-----> <-10RBS-> <-----10----->  
T7.1: tataggagaccaca**acc**gggat**cc**ctctagaataatttgtttaactttaagaaggagatatacat**at**ggctagcatg  
-----ø10-----> <D55R> <-10RBS-> <-----10----->  
<D56L>

### Part56-Part57: 10A/B-Tø

T7: gctgagcaat**aa**ctagcataaacccttggggcct  
-----10-----> <-----Tø----->  
T7.1: gctgagcaat**aa**ggat**cc**gggctagcataaacccttggggcct  
-----10-----><D56R> <-----Tø----->  
<D57L>

### Part57-Part58: Tø-11

T7: gtttttctgtaaaaggaggaactat**at**cgctcata  
--Tø--> <-11RBS-> <-----11----->  
T7.1: gtttttctgta**cc**ggg**cc**ctgaaaggaggaactat**at**cgctcata  
--Tø--> <D57R> <-11RBS-> <-----11----->  
<D58L>

### Part58-Part59: 11-12

T7: tgactcgc**ta**cattataaataaaggagctct**aa**tgccactcat  
-----11-----> <-12RBS-> <-----12----->  
T7.1: tgactcgc**ta**aggg**cc**aagct**ta**ataaataaaggagctct**aa**tgccactcat  
-----11-----><D58R><D59L> <-12RBS-> <-----12----->

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## Changes in Section Epsilon

### Part59-Part60: 12-R13/ø13

T7: ccggtatt**ta**ataaatctccctgtgg  
-----12-----> <-----R13----->  
T7.1: ccggtatt**ta**atta**ag**ct**cc**cgga**tt**ctccctgtgg  
-----12-----> <D59L> <-----R13----->  
<D60R->

### Part60-Part61: R13/ø13-13

T7: tatagggagaacaatacactacggaagggttttct**at**gatgactat  
-----ø13-----> <-13RBS-> <-----13----->  
-----R13----->  
T7.1: tatagggagaacaata**cc**cg**ga**att**ct**acggaggggttttct**at**gatgactat  
-----ø13-----> <D60R-> <-13RBS-> <-----13----->  
-----R13-----> <D61L>

### Part61-Part62: 13-14

T7: acgaaaggagg**ta**accat**at**gtgtgggc  
-----13-----> <-----14----->  
<-14RBS->  
T7.1: acgaaagg**C**gg**ta**agaa**tt**cg**ta**cgacgaaaggaggataaccat**at**gtgtgggc  
-----13-----><D61R> <-14RBS-> <-----14----->  
<D62L>

### Part62-Part63: 14-15

T7: gacggggagg**ta**atgagct**at**gagtaaaa  
-----14-----> <-----15----->  
<-15RBS->  
T7.1: gac**C**gg**ta**ag**ta**ag**tt**cg**ta**cgccaagacggggaggaatgagct**at**gagtaaaa  
-----14-----><D62R> <-15RBS-> <-----15----->

<D63L>

Part63-Part64: 15-16

T7: gtaaggagtaactaaaggctacataaaggagccctaaatggataagta  
----15----> <-16RBS-> <----16---->  
T7.1: gtaaggagtaacgatcgccgctaaaggctacataaaggagccctaaatggataagta  
----15----><D63R> <-16RBS-> <----16---->  
<D64L>

Changes in Section Zêta

Part64-Part65: 16-ø17

T7: gggagcgtaggaataaacacgactcactatag  
-----16----->  
<-----ø17----->  
T7.1: gggagcgtaggaataaacggcgcgcgctaggaataaacgactcactatag  
-----16-----><D64R> <-----ø17----->  
<D65L>

Part65-Part66: ø17-17

T7: gggagagcgaaataatctctcctctgtagctcttagatttactttaaggaggtcaaatggctaacgt  
--ø17--> <-17RBS-> <----17---->  
T7.1: gggagagcgaaataatctctcctcggcggtgttaagctcttagatttactttaaggaggtcaaatggctaacgt  
--ø17--> <D65R> <D66L> <-17RBS-> <----17---->

Part66-Part67: 17-17.5

T7: aacgagtaattggttaaatcacaaggaagcgtgtagctccacggatggactctcaaggaggtacaaggtgctatca  
---17---> <-17.5RBS-> <--17.5-->  
T7.1: aacgagtaattggttaaatcacaaagcttgaagcgtgtagctccacggatccggactctcaaggaggtacaaggtgctatca  
---17---> <D66R> <D67L> <-17.4RBS-> <--17.5-->

Part67-Part68: 17.5-18

T7: caataaaggagtgatatgtaaggaaaagga  
----17.5----> <----18---->  
<-18RBS->  
T7.1: caataaAgaAtgaggatccgggaataaaggagtgatatgtaaggaaaagga  
----17.5----><D67R> <-18RBS-> <----18---->  
<D68L>

Part68-Part69: 18-R18.5

T7: cattacagtgtatataactcaa  
----18---->  
<-----R18.5----->  
T7.1: cattacaatagccgggcccacattacagtgatataactcaa  
----18----><D68R> <-----R18.5----->  
<D69L>

Part69-Part70: R18.5-E/18.5/18.7

T7: gtcattgtctatacagatgctcctacgtgaaatctgaaagttaacggagcattatgctagaatt  
-R18.5-> <-----E----->  
<-18.5RBS-> <----18.5--->  
T7.1: gtcattgtctatacagatgctgggcccacgtgaattctgaaagttaacggagcattatgctagaatt  
-R18.5-> <D69R> <D70L> <-18.5RBS-> <----18.5--->

Part70-Part71: E/18.5/18.7-19/19.2/19.3

T7: aacgtaagttaggaatcaagtaaggagcgaatgtgtctactca  
---18.5---> <-19RBS-> <----19---->  
T7.1: aacgtaagttaggaattcgtacgaagtaaggagcgaatgtgtctactca  
---18.5---><D70R> <-19RBS-> <----19---->  
<D71L>

Part71-Part72: 19/19.2/19.3-øOR

T7: gggtattatgcatagtagctgcatagggatgactatagaccacggatggtcagttctttaagttactgaaagacacgat  
-19-> <-øOR->  
T7.1: gggtattatgcatagtagctgcatagggatgactatagaccacgtacgatggtcagttctttaagttactgagaaaagacacgat  
-19-> <D71R> <D72L> <-øOR->

Part72-Part73: øOR-19.5

T7: gagagga...94nt... gattatattgtattagatcaccttaactaaggaccaacataaaggagagactcattgttcc  
-øOR-> <-19.5RBS-> <-19.5->  
T7.1: gagagga...94nt... gattatattgtattagatcaccttaactgacgtcgaccaacataaaggagagactcattgttcc  
-øOR-> <D72R> <-19.5RBS-> <-19.5->  
<D73L>

Part73-SRR/TR: 19.5-SRR/TR

T7: cgatagggtctctgaccgactgatggctcaccgaggttcagcggtatgattgcatcacaccacttcacccctata  
-19.5-> <-SRR->  
T7.1: cgatagggtcgactctctgaccgactgatggctcaccgaggttcagcggtatgattgcatcacaccacttcacccctata  
-19.5-> <D73R> <-SRR->