Supplementary Materials

Mutagenicity of a bi-stranded clustered DNA Lesion containing (5´*S*) or (5´*R*) 5´,8-cyclo-2´-deoxyAdenosine in *Escherichia coli* model

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Table S1. The list of full sequences of double-stranded substrate oligonucleotides containing 2′-deoxyuridine (dU) and 5′,8-cyclo-2′-deoxyadenosine (cdA).

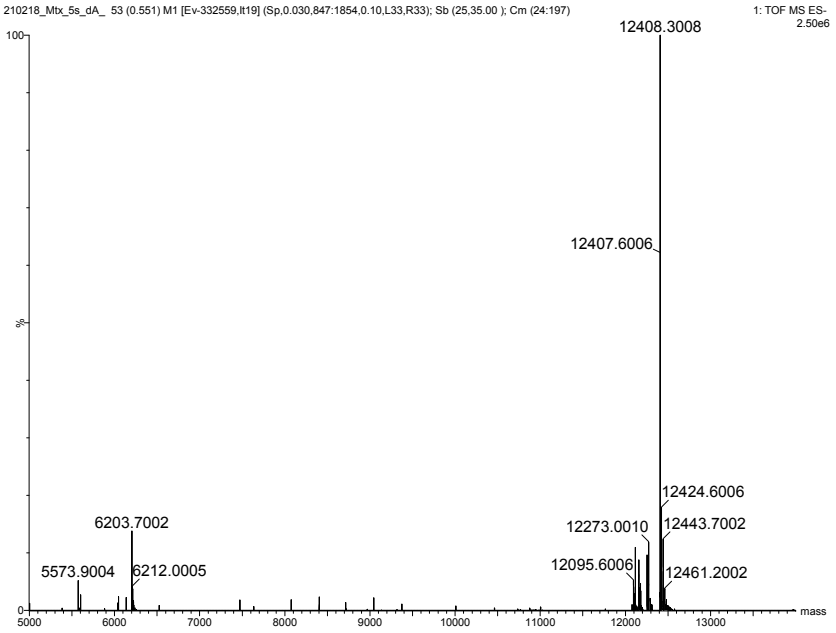
	Sequence
Native	5′-CTCTTGTCAGGAATATTGTCTCTATGCTCCCACCAAAGGC-3′
	3′-GAGAACAGTCCTTATAACAGAGATACGAGGGTGGTTTCCG-5′
Control 1	5′-CTCTTGTCAGGAATATTGTC**U**CTATGCTCCCACCAAAGGC-3′
	3′-GAGAACAGTCCTTATAACAGAGATACGAGGGTGGTTTCCG-5′
Control 2 / Control 3	5′-GCCTTTGGTGGGAGCATAG**X**GACAATATTCCTGACAAGAG-3′
	3′-CGGAAACCACCCTCGTATCTCTGTTATAAGGACTGTTCTC-5′
dU−4	5′-CTCTTGTCAGGAATAT**U**GTCTCTATGCTCCCACCAAAGGC-3′
	3′-GAGAACAGTCCTTATAACAG**X**GATACGAGGGTGGTTTCCG-5′
dU−1	5′-CTCTTGTCAGGAATATTGT**U**TCTATGCTCCCACCAAAGGC-3′
	3′-GAGAACAGTCCTTATAACAG**X**GATACGAGGGTGGTTTCCG-5′
dU0	5′-CTCTTGTCAGGAATATTGTC**U**CTATGCTCCCACCAAAGGC-3′
	3′-GAGAACAGTCCTTATAACAG**X**GATACGAGGGTGGTTTCCG-5′
dU+1	5′-CTCTTGTCAGGAATATTGTCT**U**TATGCTCCCACCAAAGGC-3′
	3′-GAGAACAGTCCTTATAACAG**X**GATACGAGGGTGGTTTCCG-5′
dU+4	5′-CTCTTGTCAGGAATATTGTCTCTA**U**GCTCCCACCAAAGGC-3′
	3′-GAGAACAGTCCTTATAACAG**X**GATACGAGGGTGGTTTCCG-5′

U – represents 2′-deoxyuridine (dU); X – represents (5′*S*)-5′,8-cyclo-2′-deoxyadenosine (ScdA) or (5′*R*)-5′,8-cyclo-2′-deoxyadenosine (RcdA)

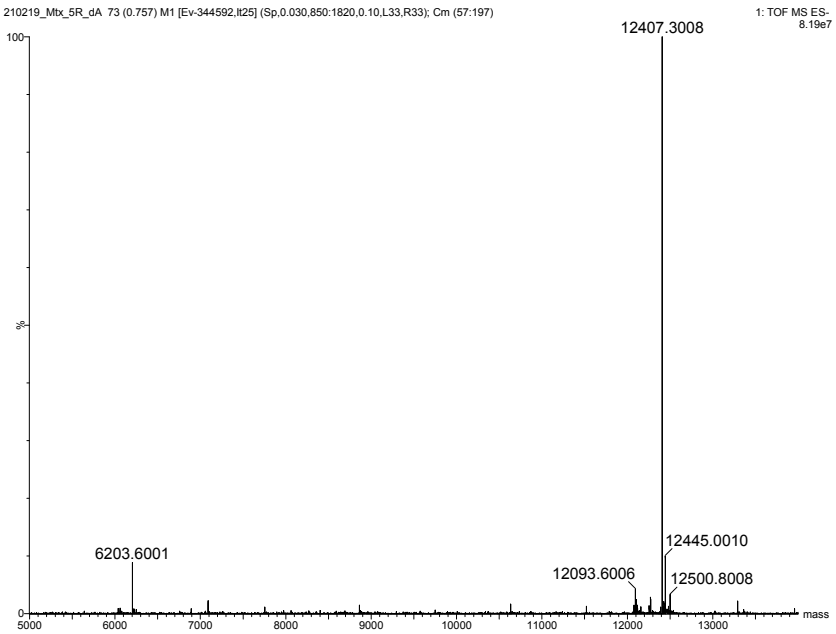
Table S2. The masses (calculated vs. found) of chosen substrate oligonucleotides (40 bp).

Oligonucleotide	Calculated Mass	Found Mass
Control 1 (dU strand)	12,167.90	12,168.25
Native	12,181.98	12,182.42
Mtx-ScdA	12,407.00	12,408.30
Mtx-RcdA	12,407.00	12,407.30

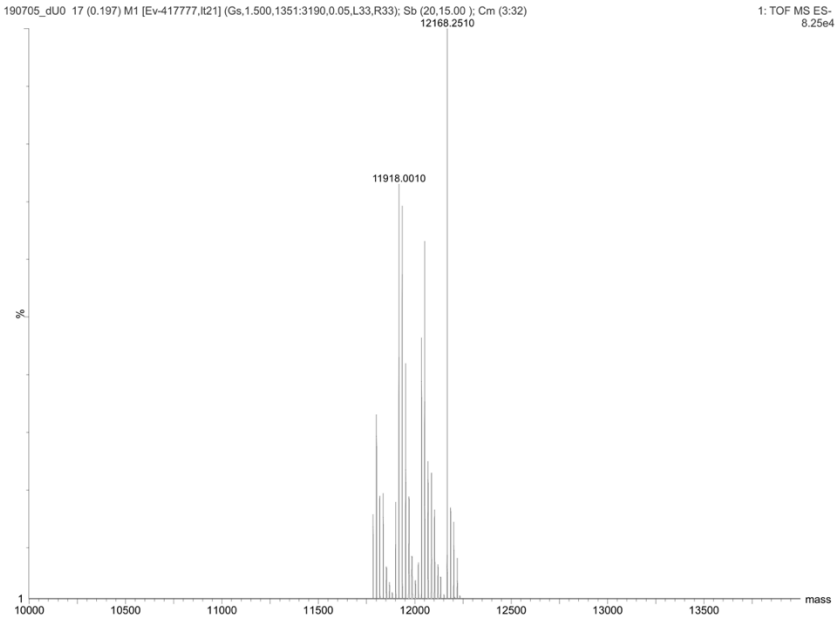
A. ssDNA with (5′S)-5′,8-cyclo-2′-deoxyadenosine (Mtx-ScdA)



B. ssDNA with (5′R)-5′,8-cyclo-2′-deoxyadenosine (Mtx-RcdA)



C. ssDNA with 2′-deoxyuridine (Control 1 – dU strand)



D. native ssDNA

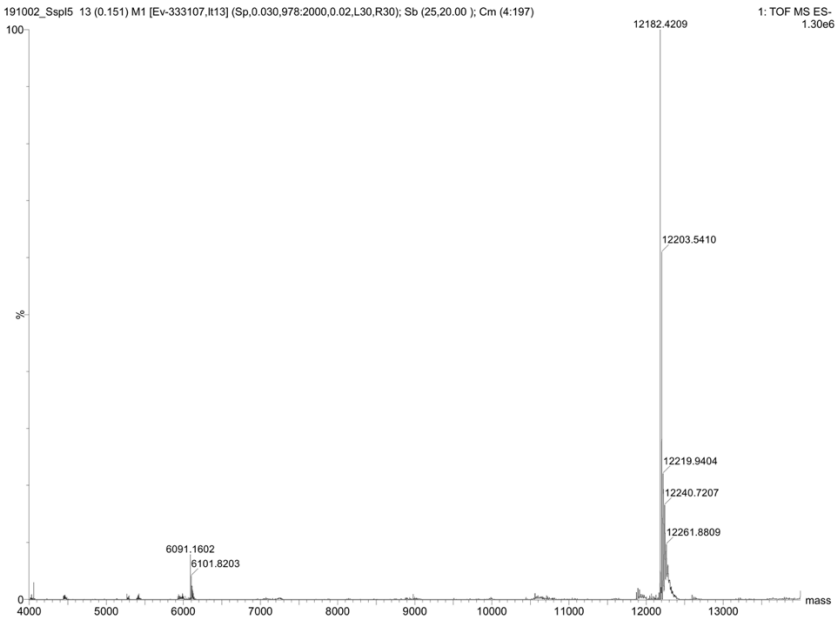


Figure S1. Mass spectra of substrate oligonucleotides containing cdPu.

A. Native

Oligo	Sequence - before E.coli transformation
Native	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

B. Control 1

Oligo	Sequence - before E.coli transformation
Control 1	5' C T C T T G T C A G G A A T A T T G T C **U** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

C. Control 2

Oligo	Sequence - before E.coli transformation
Control 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **SX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

D. Control 3

Oligo	Sequence - before E.coli transformation
Control 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **RX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

E. ScdA/dU0

Oligo	Sequence - before E.coli transformation
ScdA/dU0	5' C T C T T G T C A G G A A T A T T G T C **U** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **RX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G Δ C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' G C T C C C A C C A A A G G C 3' 3' Δ C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T C Δ C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G G A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C C C A C C A A A G G C 3' 3' Δ G A G G G T G G T T T C C G 5'
Sample 10	5' C T C T T Δ T C A G G A A T A T T G T C **T** Δ Δ A T G C T C C C A C C A A A G G C 3' 3' G A G A A A G T C C T T A T A A C A G **A** T A C G A G G G T G G T T T C C G 5'
Sample 11	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

F. RcdA/dU0

Oligo	Sequence - before E.coli transformation
RcdA/dU0	5' C T C T T G T C A G G A A T A T T G T C **U** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **RX** G A T A C G A G G G T G G T T T C C G 5'

Sequence - after plasmid recovery from E.coli	
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G A A T A T T G T C Δ C T A T G C T C C C A C C A A Δ G G C 3' 3' G A G A A C A G T C C T T A T A A C A G G A T A C G A G G G T G G T T C C G 5'
Sample 10	5' C T C T T G T C A G G A A T A T T G T C Δ C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G G A T A C G A G G G T G G T T T C C G 5'
Sample 11	5' C T C T T G T C A G G A A T A T T G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

G. ScdA/dU-1

Oligo	Sequence - before E.coli transformation
ScdA/dU-1	5' C T C T T G T C A G G A A T A T T G T **U** T C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **SX** G A T A C G A G G G T G G T T T C C G 5'

Sequence - after plasmid recovery from E.coli	
Sample 1	5' C T C T T G T C A G G A A T A T T G T **C** Δ C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T Δ **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T **C** **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T Δ **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T **T** **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T Δ **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T **T** **T** C T A T G C T C C C A C C A A A G G Δ 3' 3' G A G A A C A G T C C T T A T A A C A **A** G A T A C G A G G G T G G T T T C C 5'
Sample 8	5' C T C T T G T C A G G A A T A Δ T G T **C** Δ C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A C A G G A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G A A T A T T G T C Δ C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G G G G T G G T T T C C G 5'
Sample 10	5' C T C T T G T C A G G A A T A T T G Δ T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

H. RcdA/dU-1

Oligo	Sequence - before E.coli transformation
RcdA/dU-1	5' C T C T T G T C A G G A A T A T T G T **U** T C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **RX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T **C** **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T Δ **T** Δ T A T G Δ T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A **A** A T A C A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T Δ **T** C T A T G C T C C C A C C A A A G C G 3' 3' G A G A A C A G T C C T T A T A A C A **A** G A T A C G A G G G T G G T T T C G C 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T **C** **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T **C** **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T **T** **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A **A** **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T Δ A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T **C** **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G A A T A T T G T **C** Δ C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A Δ **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 10	5' C T C T T G T C A G G A A T A T T G Δ 3' 3' G A G A A C A G T C C T T A T A A C 5'
Sample 11	5' C T C T T G T C A G G A A T A T T G T **C** **T** Δ Δ A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** T A C G A G G G T G G T T T C C G 5'

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

I. ScdA/dU+1

Oligo	Sequence - before E.coli transformation
ScdA/dU+1	5' C T C T T G T C A G G A A T A T T G T C T **U** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **SX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** **A** A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** Δ T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** A T Δ C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** Δ Δ T A Δ G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A **A** **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** **A** A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** Δ T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C Δ **C** T A Δ G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G G A T C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T C **T** **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** **A** A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G A A T A T T G T C **T** Δ T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** A T A C G A G G G T G G T T T C C G 5'
Sample 10	5' C T C T T G T C A G G A A T A T T G T Δ T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A A C G A G G G T G G T T T C C G 5'
Sample 11	5' C T C T T G T C A G G A Δ 3' 3' G A G A A C A G T C C T 5'

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

J. RcdA/dU+1

Oligo	Sequence - before E.coli transformation
RcdA/dU+1	5' C T C T T G T C A G G A A T A T T G T C T **U** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **RX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** **A** A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** **A** A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** Δ A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **C** **C** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **G** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** **C** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** **A** A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C **T** Δ T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T C **T** **T** T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** **A** A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G A Δ T A T T G T C **T** Δ Δ A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T G C C C T T A A C A G **A** T A C G A G G G T G G T T T C C G 5'
Sample 10	5' C T C T T G T C A G G A A T A T T G T C G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G Δ C G A G G G T G G T T T C C G 5'
Sample 11	5' C T C T T G T C A G G Δ A T A T T G T C **T** Δ T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C Δ T A T A A C A G **A** G A T A C G A Δ G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

K. ScdA/dU-4

Oligo	Sequence - before E.coli transformation
ScdA/dU-4	5' C T C T T G T C A G G A A T A T **U** G T C T C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **SX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G G Δ 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C 5'
Sample 9	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 10	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G G 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C Δ Δ 5'
Sample 11	5' C T C T T G T C A G G A A T A T **T** G 3' 3' G A G A A C A G T C C T T A T A A C Δ 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

L. RcdA/dU-4

Oligo	Sequence - before E.coli transformation
RcdA/dU-4	5' C T C T T G T C A G G A A T A T **U** G T C T C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **RX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G Δ A T A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 10	5' C T C T T G T C A G G A A Δ A T **T** G T C **T** C T A T G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

M. ScdA/dU+4

Oligo	Sequence - before E.coli transformation
ScdA/dU+4	5' C T C T T G T C A G G A A T A T T G T C T C T A **U** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **SX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

N. RcdA/dU+4

Oligo	Sequence - before E.coli transformation
RcdA/dU+4	5' C T C T T G T C A G G A A T A T T G T C T C T A **U** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **RX** G A T A C G A G G G T G G T T T C C G 5'

	Sequence - after plasmid recovery from E.coli
Sample 1	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 2	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 3	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 4	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 5	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 6	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 7	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 8	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
Sample 9	5' C T C T T G T C A G G A A T A T T G T C **T** C T A **T** G C T C C C A C C A A A G G C 3' 3' G A G A A C A G T C C T T A T A A C A G **A** G A T A C G A G G G T G G T T T C C G 5'
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

Figure S2. The full sequence comparison of investigated oligonucleotides before *E.coli* transformation and after plasmid recovery from bacteria. Grey color – marks the nucleobases corresponding to the location of lesions. Red color – marks the mutations found within the site of damage (± 3 bp).