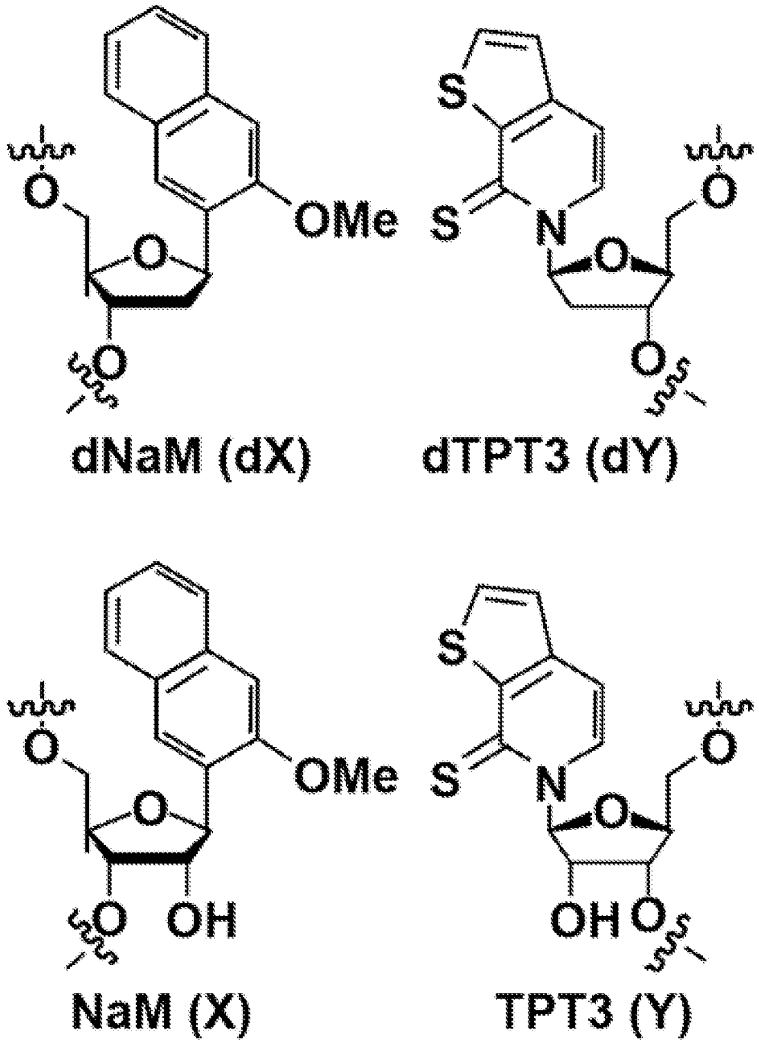
OMe
O
O
O
dNaM (dX)
S
S
N
O
O
O
dTPT3 (dY)
OMe
O
O
O
OH
NaM (X)
S
S
N
O
O
OH
O
TPT3 (Y)

Fig. 1

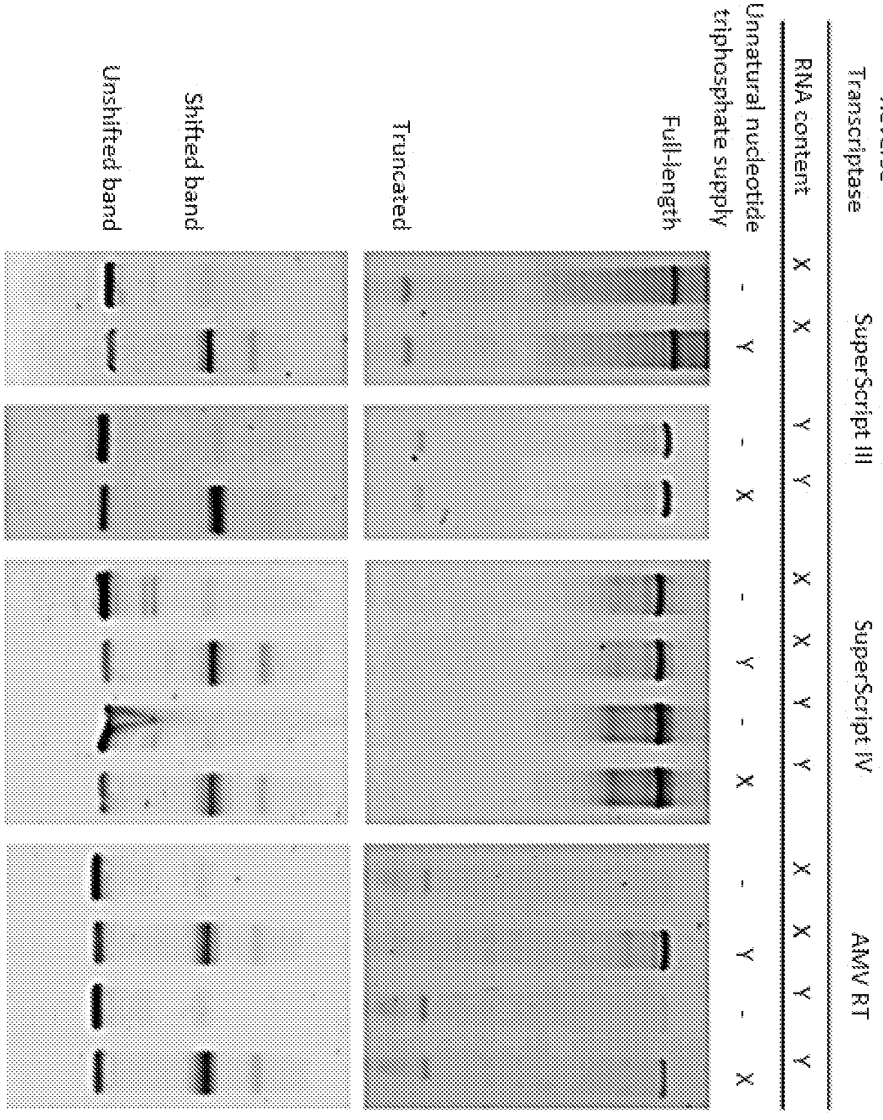
Reverse Transcriptase
SuperScript III
SuperScript IV
AMV RT
RNA content
Unnatural nucleotide triphosphate supply
Full-length
Truncated
Shifted band
Unshifted band

Fig. 2

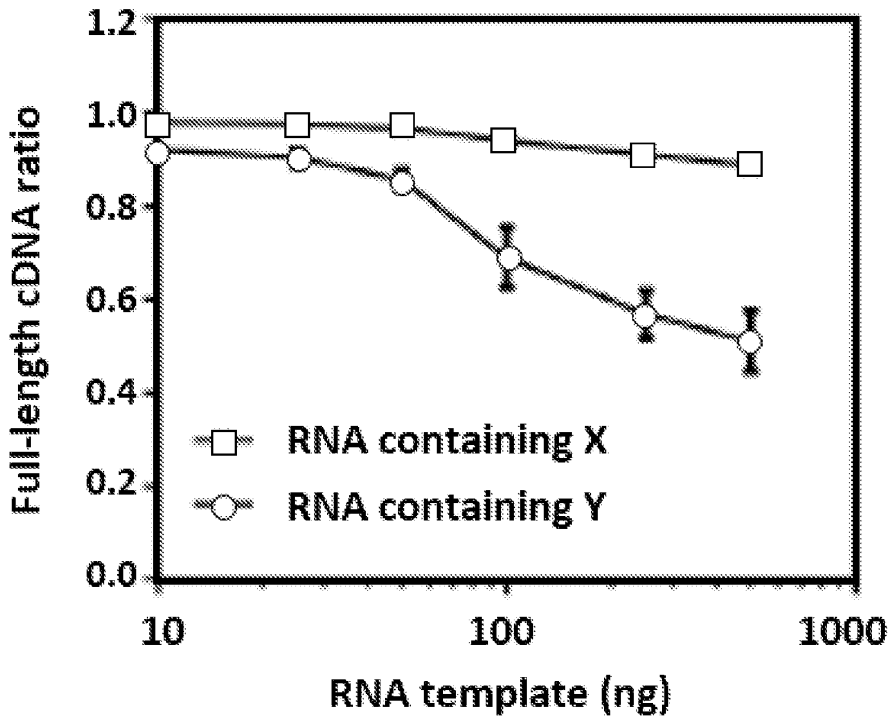
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Full-length cDNA ratio
RNA containing X
RNA containing Y
10
100
1000
RNA template (ng)

Fig. 3

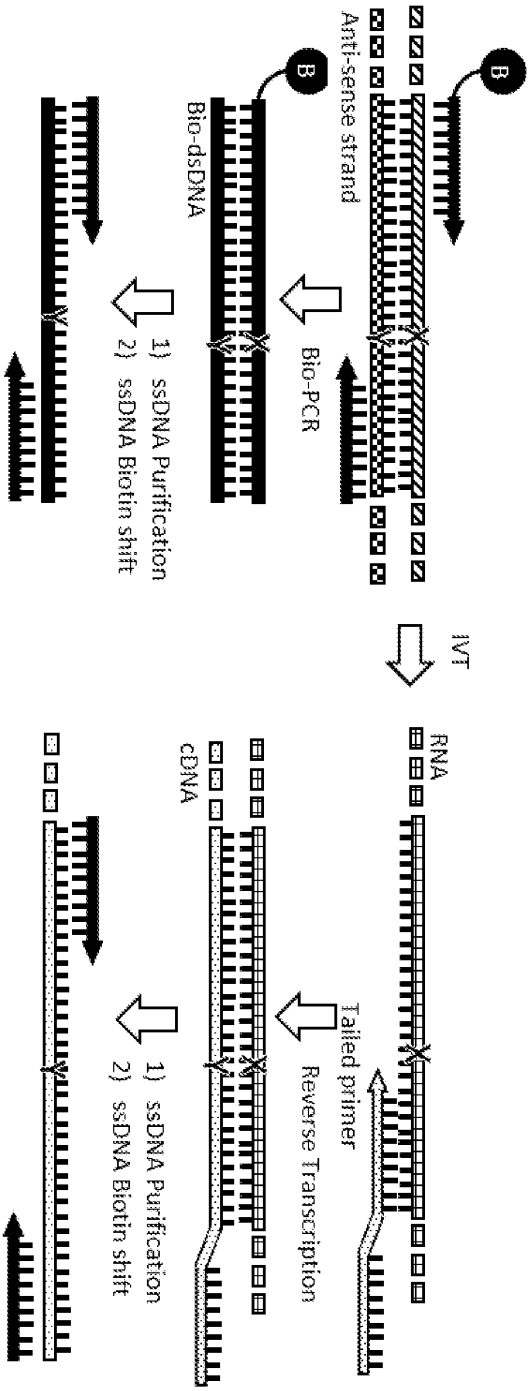
B
Anti-sense strand
Bio-PCR
Bio-dsDNA
1) ssDNA Purification
2) ssDNA Biotin shift
IVT
RNA
Tailed primer
Reverse Transcription
cDNA
1) ssDNA Purification
2) ssDNA Biotin shift

Fig. 4

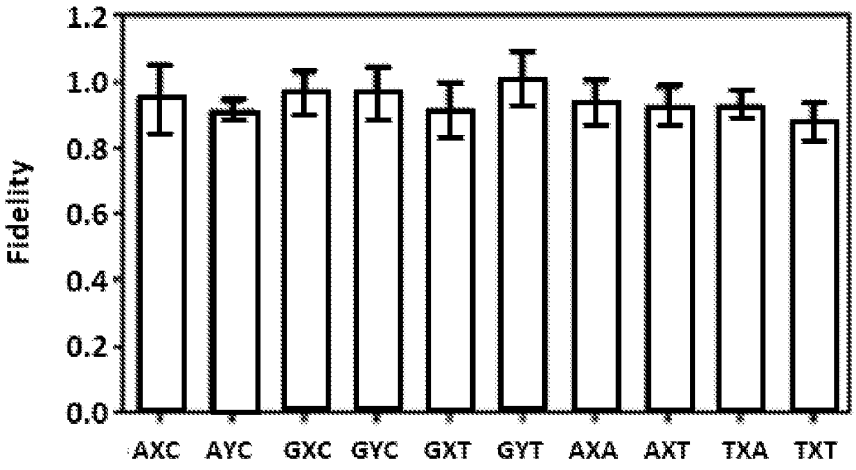
Fidelity
1.2
1.0
0.8
0.6
0.4
0.2
0.0
AXC
AYC
GXC
GYC
GXT
GYT
AXA
AXT
TXA
TXT

Fig. 5A

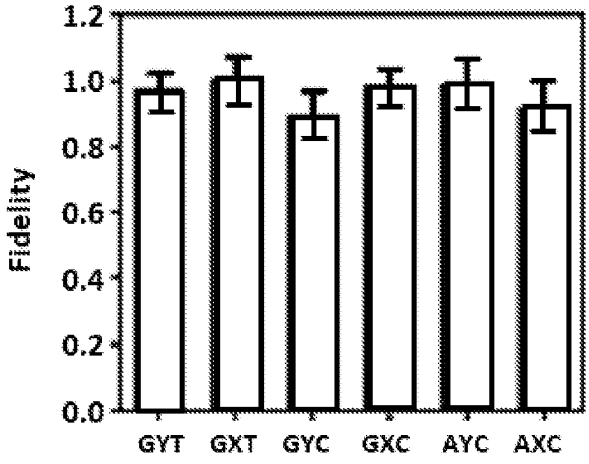
Fidelity
1.2
1.0
0.8
0.6
0.4
0.2
0.0
GYT
GXT
GYC
GXC
AYC
AXC

Fig. 5B

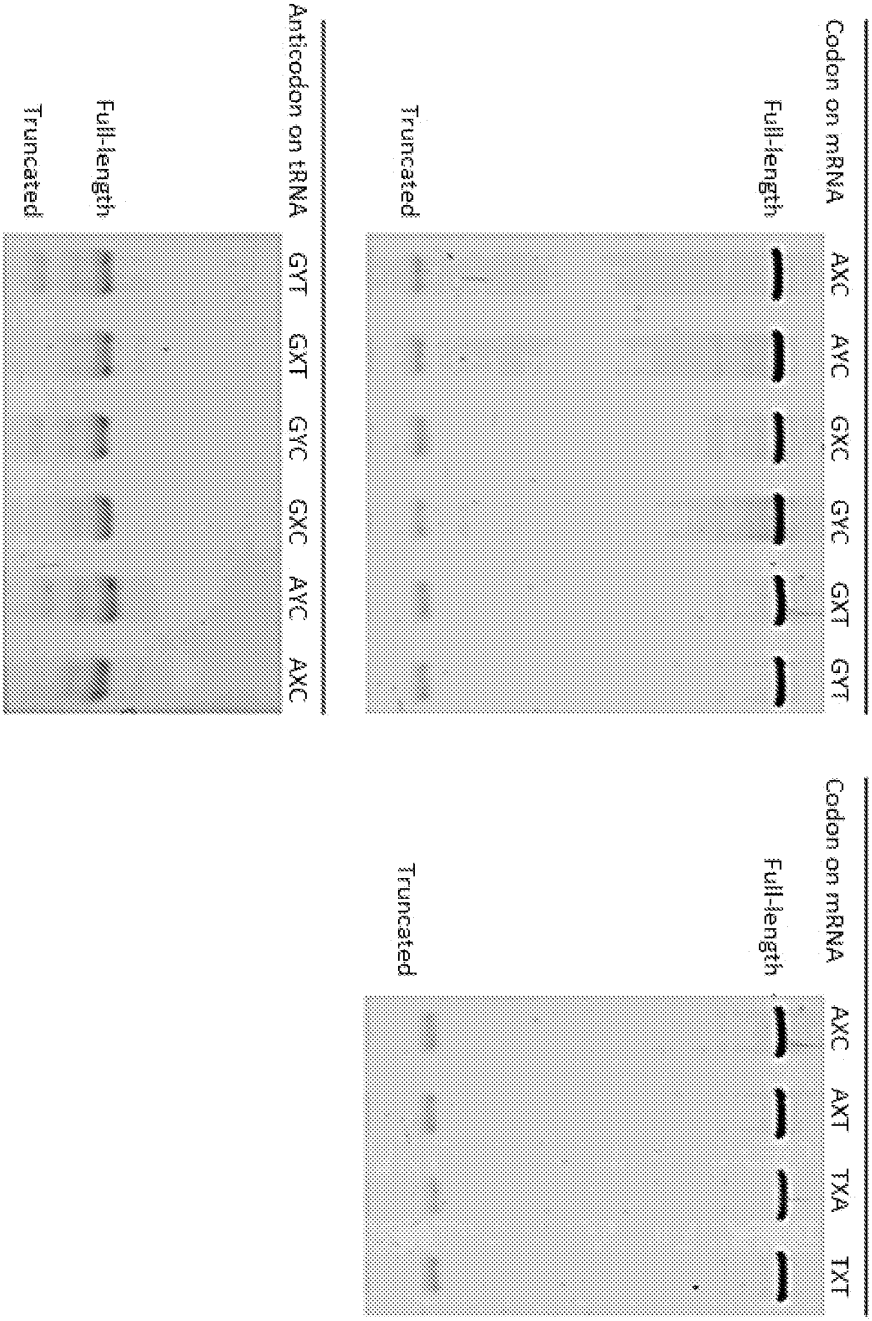
Codon on mRNA
AXC AYC GXC GYC GXT GYT
Full-length
Truncated
Anticodon on tRNA
GYT GXT GYC GXC AYC AXC
Full-length
Truncated
Codon on mRNA
AXC AXT TXA TXT
Full-length
Truncated

Fig. 6

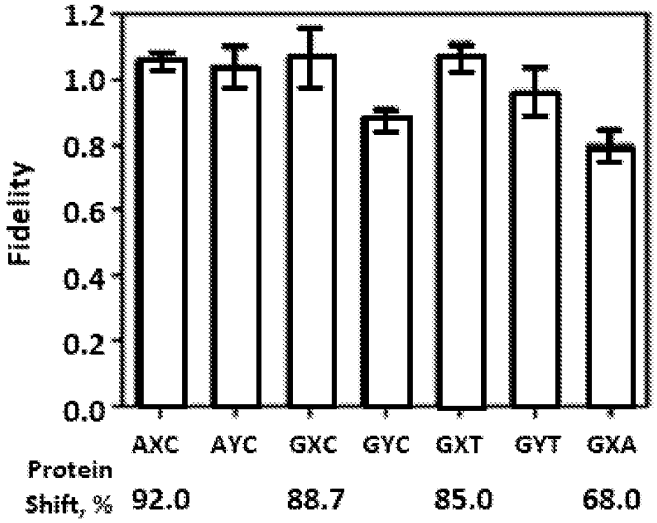
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Fidelity
AXC
AYC
GXC
GYC
GXT
GYT
GXA
Protein Shift, %
92.0
88.7
85.0
68.0

Fig. 7A

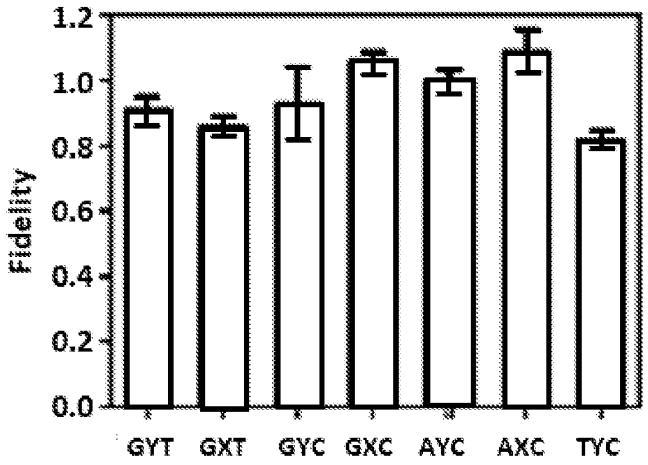
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Fidelity
GYT
GXT
GYC
GXC
AYC
AXC
TYC

Fig. 7B

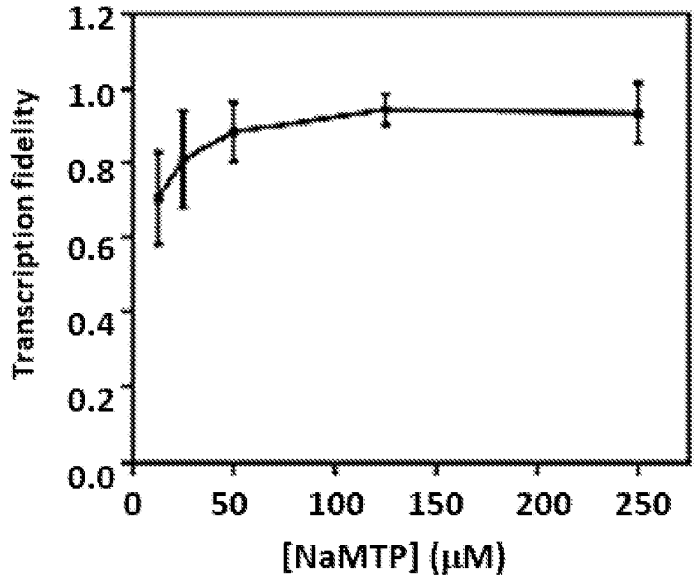
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Transcription fidelity
0
50
100
150
200
250
[NaMTP] (μM)

Fig. 8A

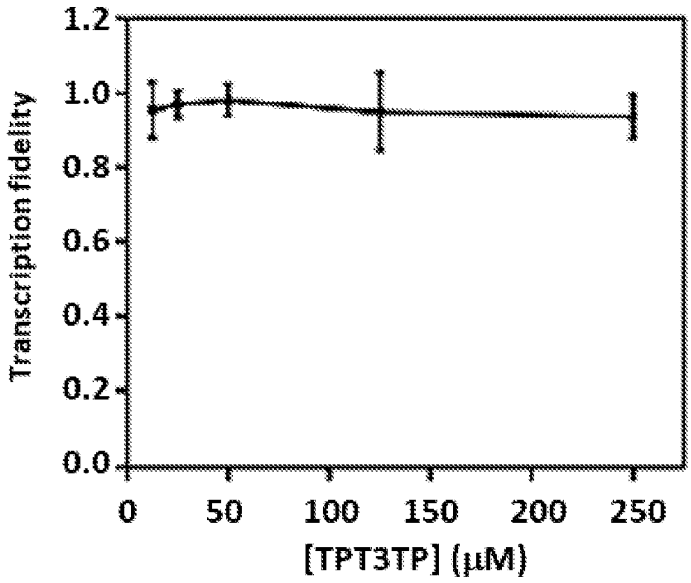
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Transcription fidelity
0
50
100
150
200
250
[TPT3TP] (μM)

Fig. 8B