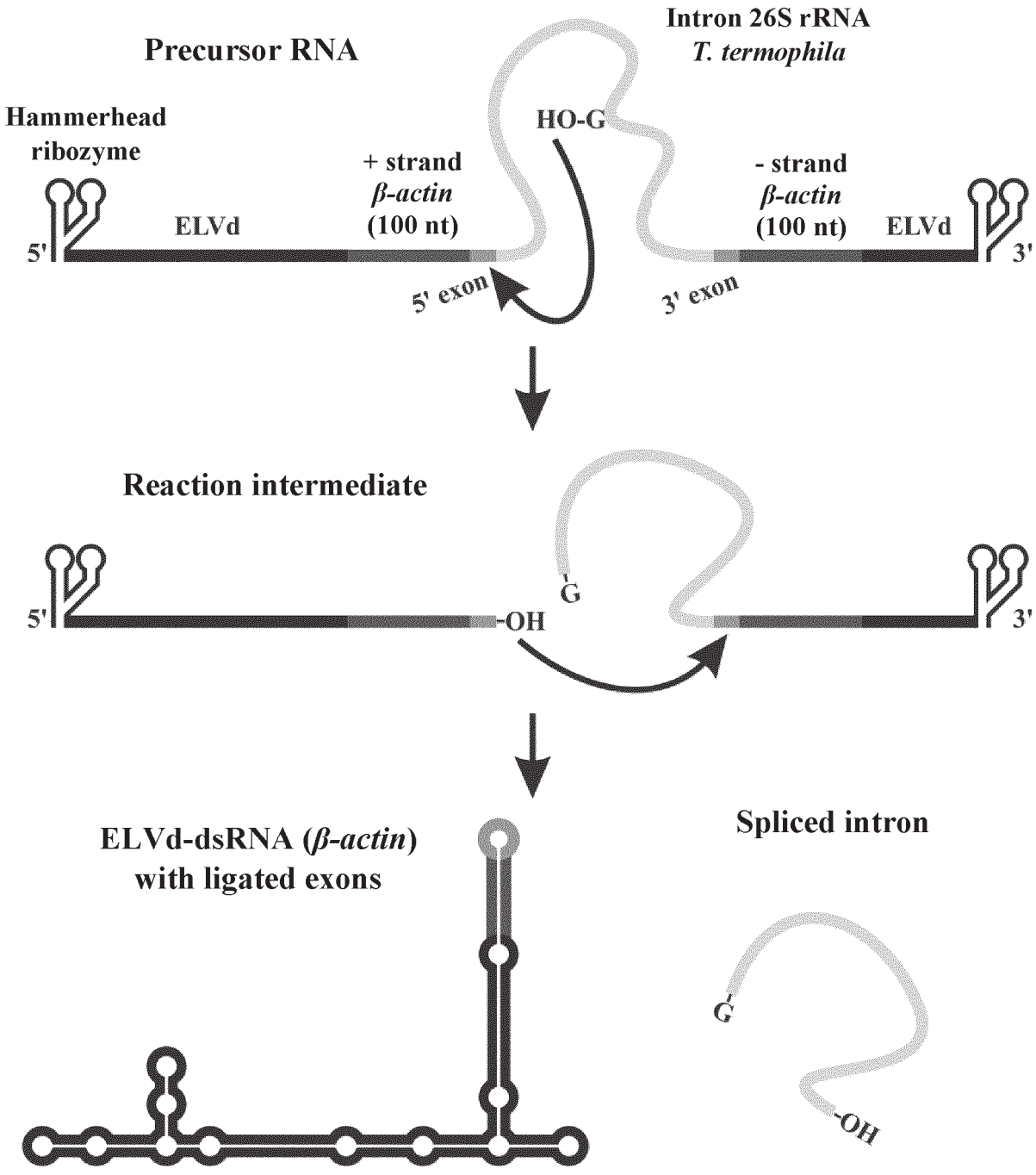
Precursor RNA
Intron 26S rRNA
T. termophila
Hammerhead
ribozyme
HO-G
+ strand
β-actin
(100 nt)
- strand
β-actin
(100 nt)
ELVd
ELVd
5'
3'
5' exon
3' exon
Reaction intermediate
5'
G
-OH
3'
ELVd-dsRNA (β-actin)
with ligated exons
Spliced intron
G
-OH

FIG. 1

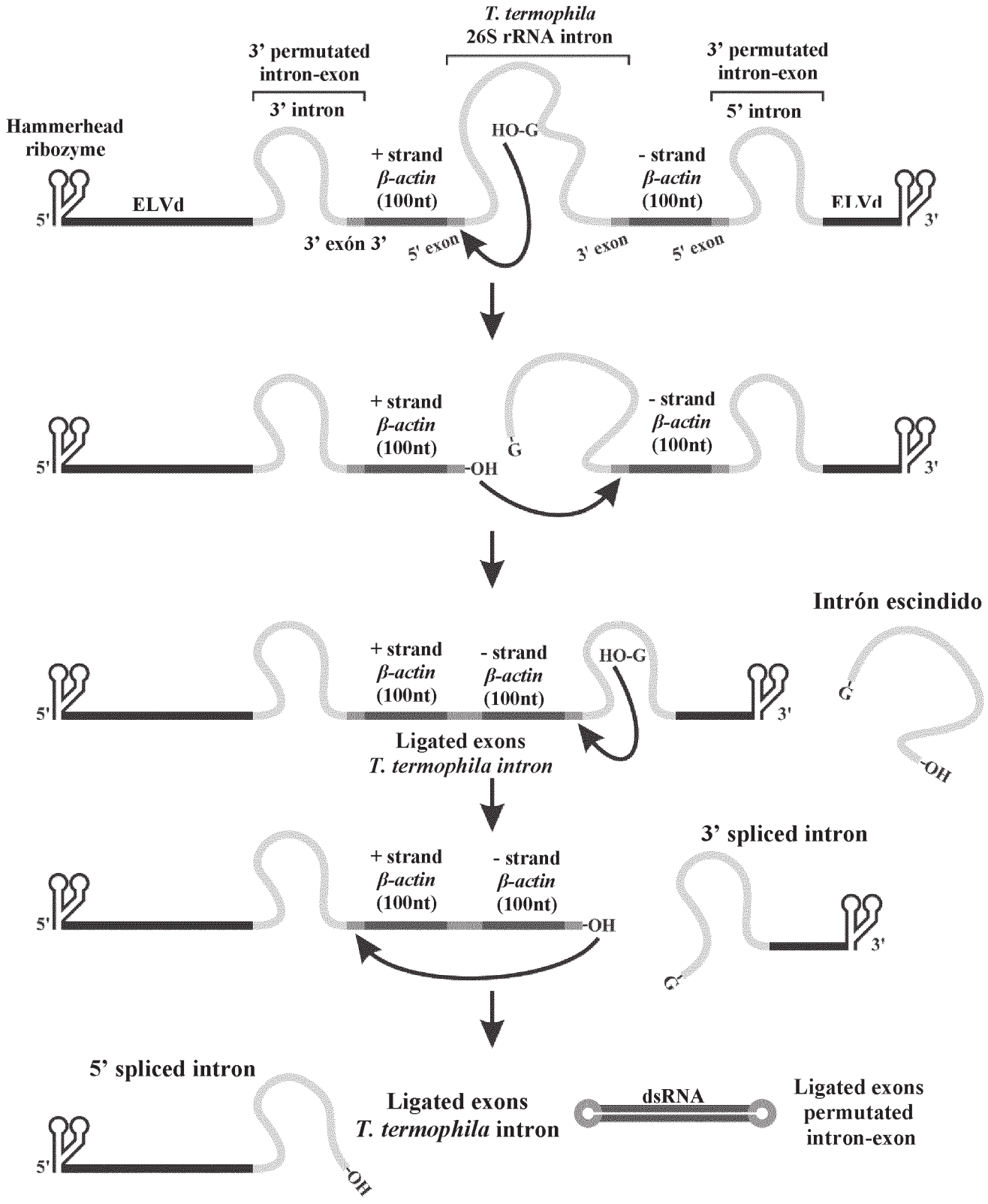
T. termophila
26S rRNA intron
3' permutated
intron-exon
3' intron
3' permutated
intron-exon
5' intron
Hammerhead
ribozyme
ELVd
+ strand
β-actin
(100nt)
HO-G
- strand
β-actin
(100nt)
ELVd
5'
3'
3' exón 3'
5' exon
3' exon
5' exon
+ strand
β-actin
(100nt)
G
- strand
β-actin
(100nt)
-OH
Intrón escindido
Ligated exons
T. termophila intron
3' spliced intron
5' spliced intron
Ligated exons
T. termophila intron
dsRNA
Ligated exons
permutated
intron-exon

FIG. 2

FIG. 3

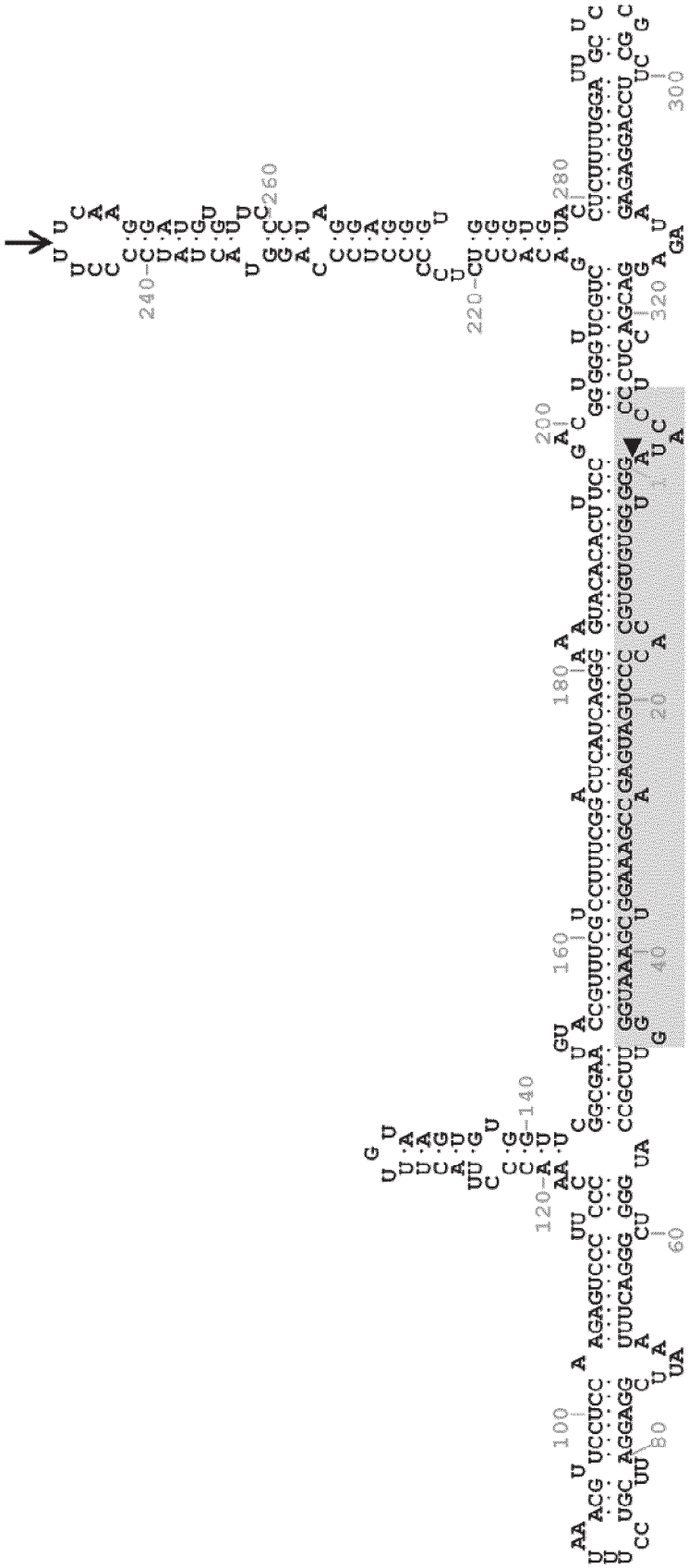

FIG. 4

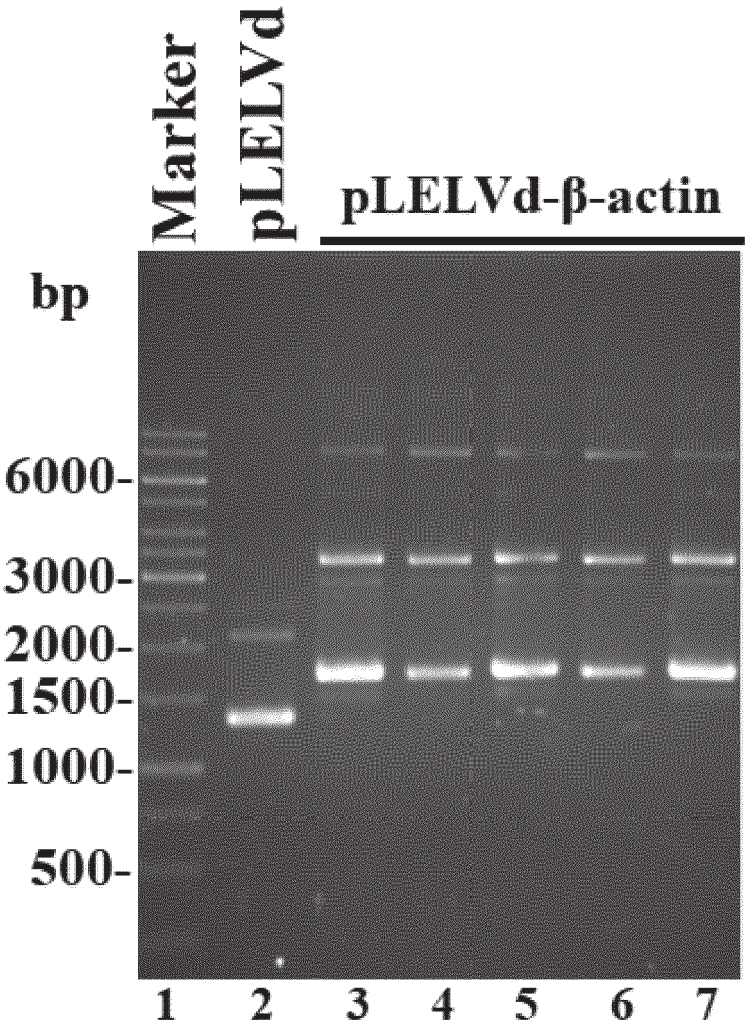
Marker
pLELVd
pLELVd-β-actin
bp
6000-
3000-
2000-
1500-
1000-
500-
1
2
3
4
5
6
7

FIG. 5

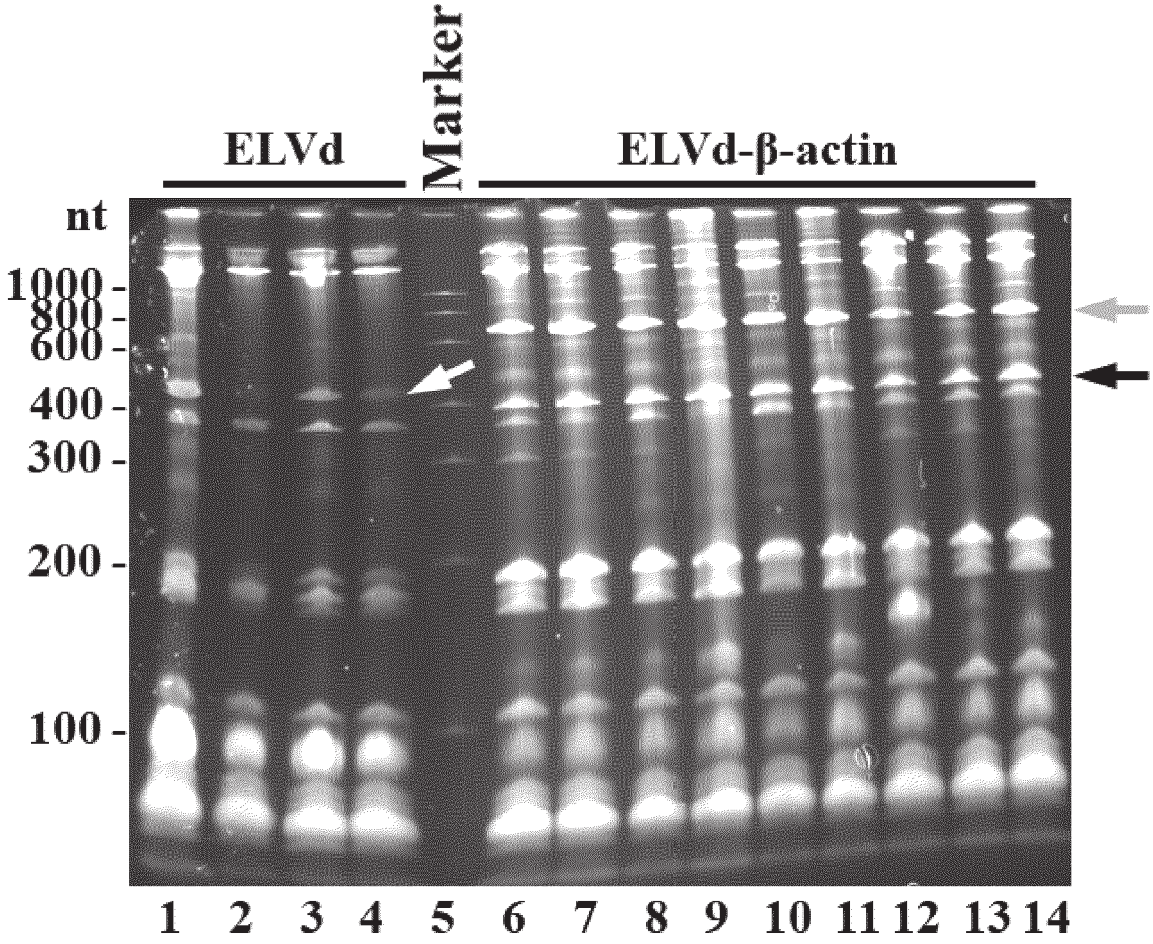
ELVd
Marker
ELVd-β-actin
nt
1000
800
600
400
300
200
100
1 2 3 4 5 6 7 8 9 10 11 12 13 14

FIG. 6

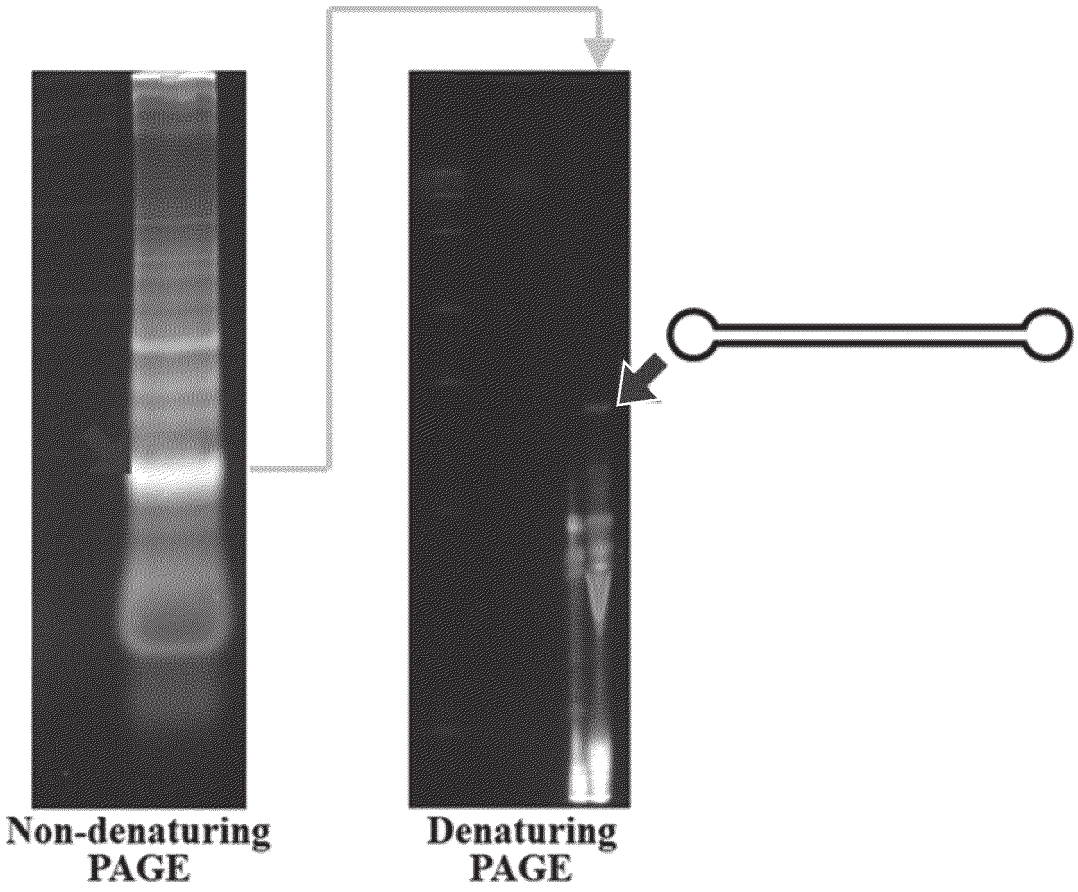

FIG. 7

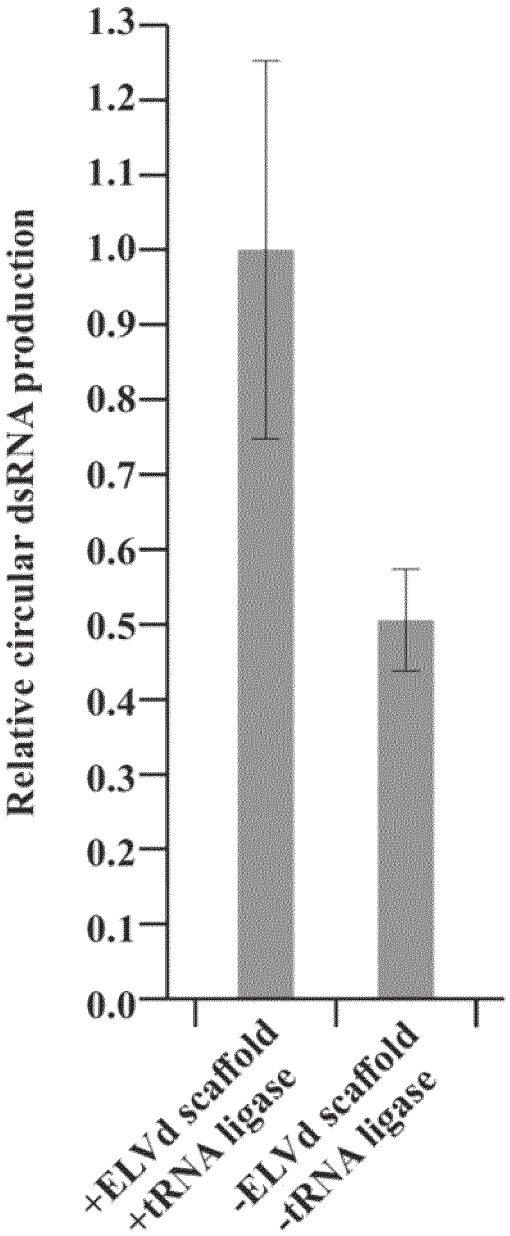
Relative circular dsRNA production
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
+ELVd scaffold
+tRNA ligase
-ELVd scaffold
-tRNA ligase

FIG. 8

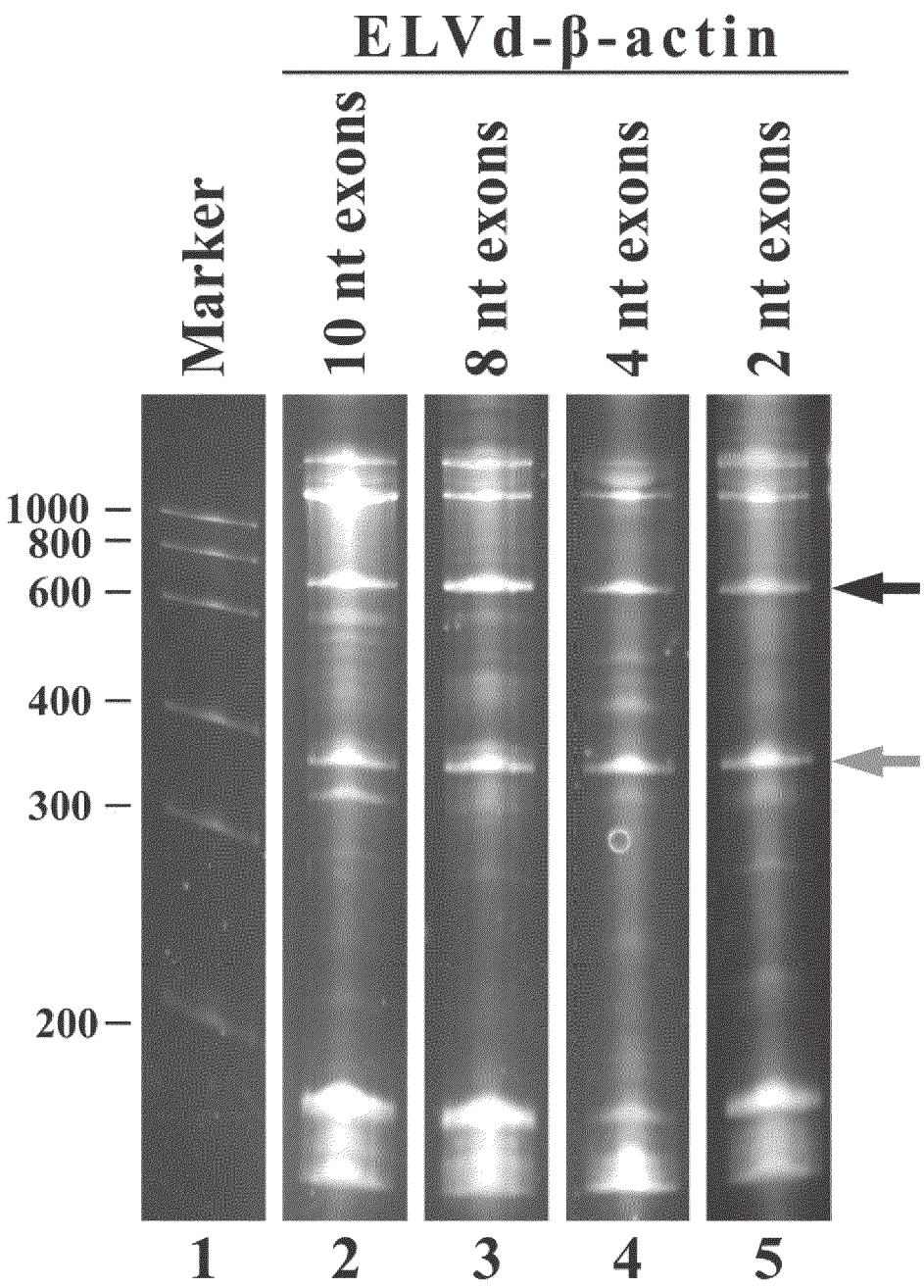
ELVd-β-actin
Marker
10 nt exons
8 nt exons
4 nt exons
2 nt exons
1000
800
600
400
300
200
1
2
3
4
5

FIG. 9