FIG. 1

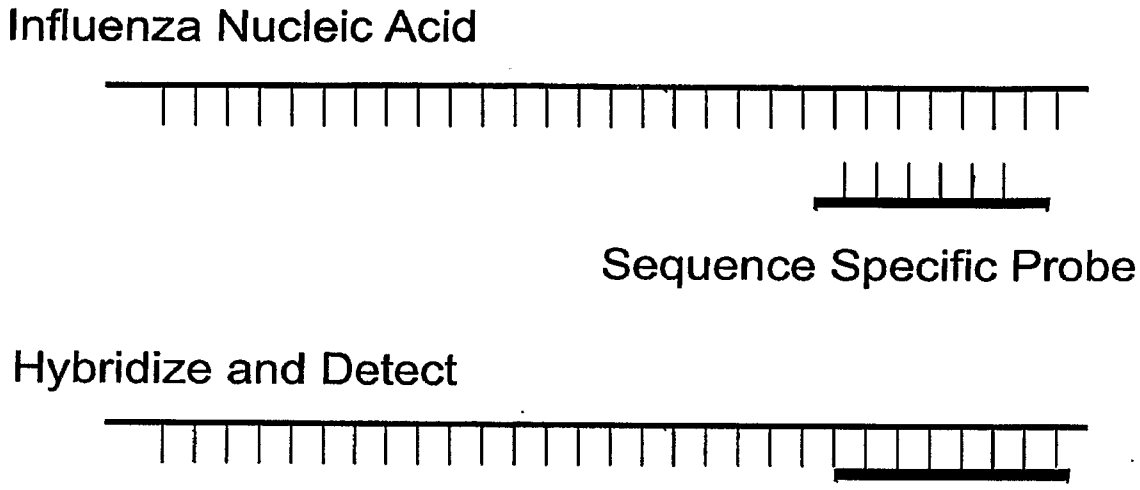

Influenza Nucleic Acid
Sequence Specific Probe
Hybridize and Detect

FIG. 2

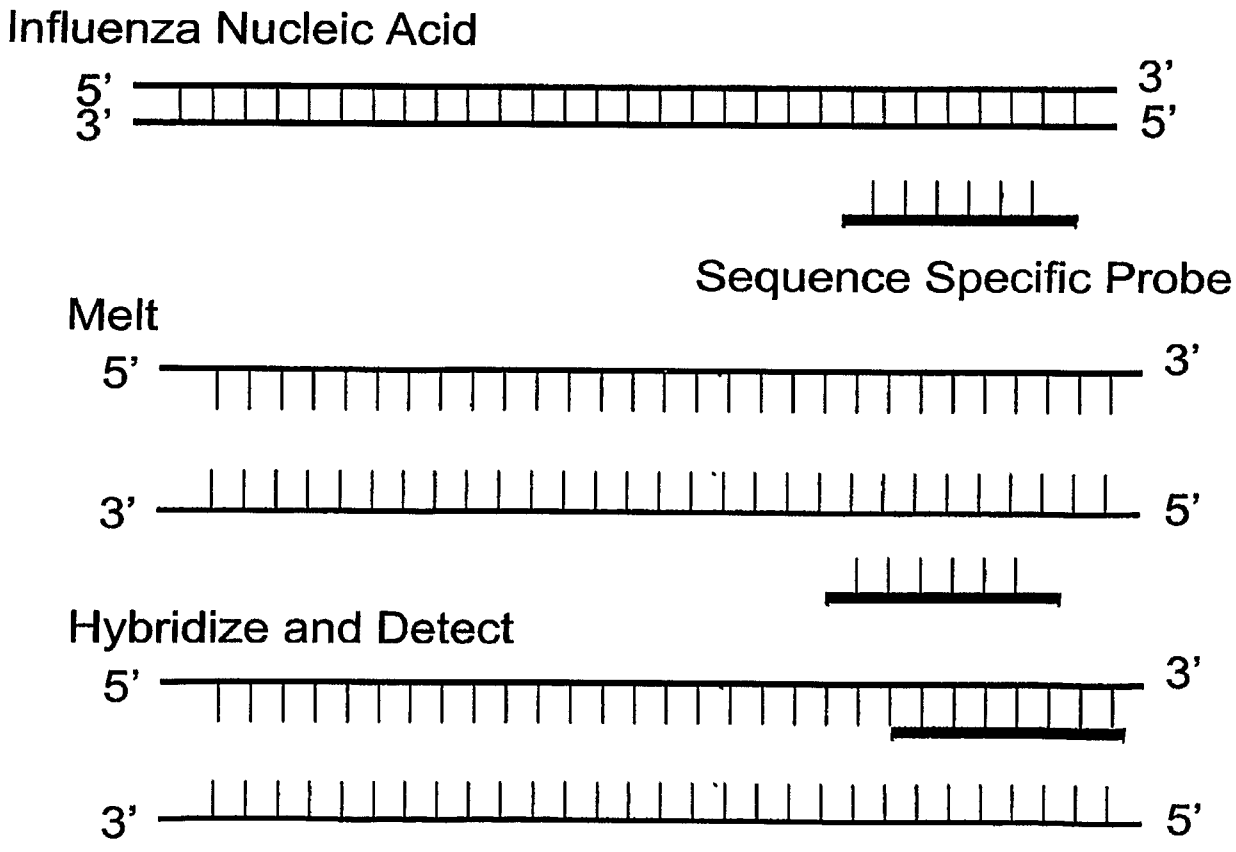

Influenza Nucleic Acid
5'
3'
3'
5'
Sequence Specific Probe
Melt
5'
3'
3'
5'
Hybridize and Detect
5'
3'
3'
5'

FIG. 3

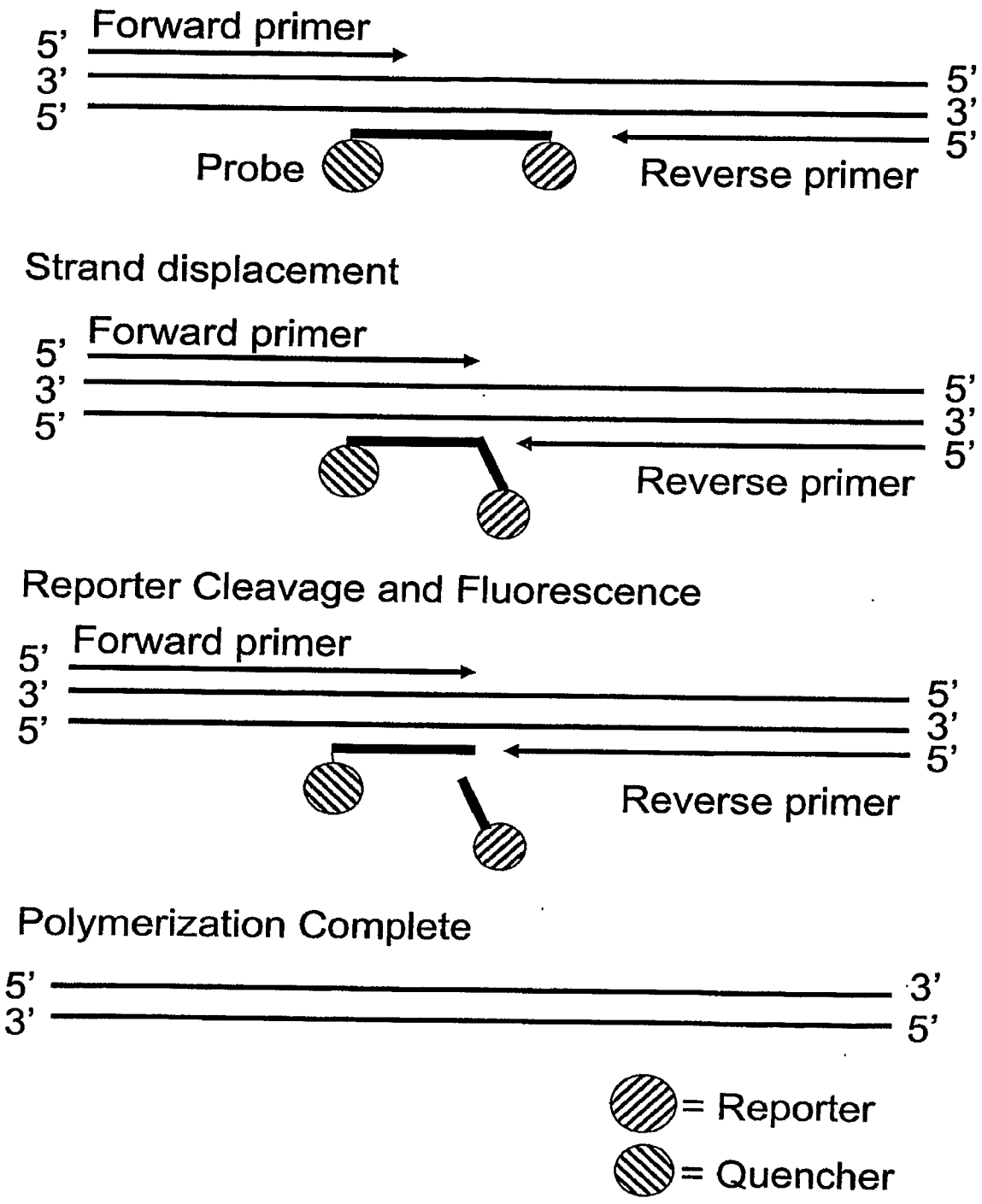

Polymerization
Forward primer
5'
3'
5'
5'
3'
5'
Probe
Reverse primer
Strand displacement
Forward primer
5'
3'
5'
5'
3'
5'
Reverse primer
Reporter Cleavage and Fluorescence
Forward primer
5'
3'
5'
5'
3'
5'
Reverse primer
Polymerization Complete
5'
3'
3'
5'
= Reporter
= Quencher

FIG. 4

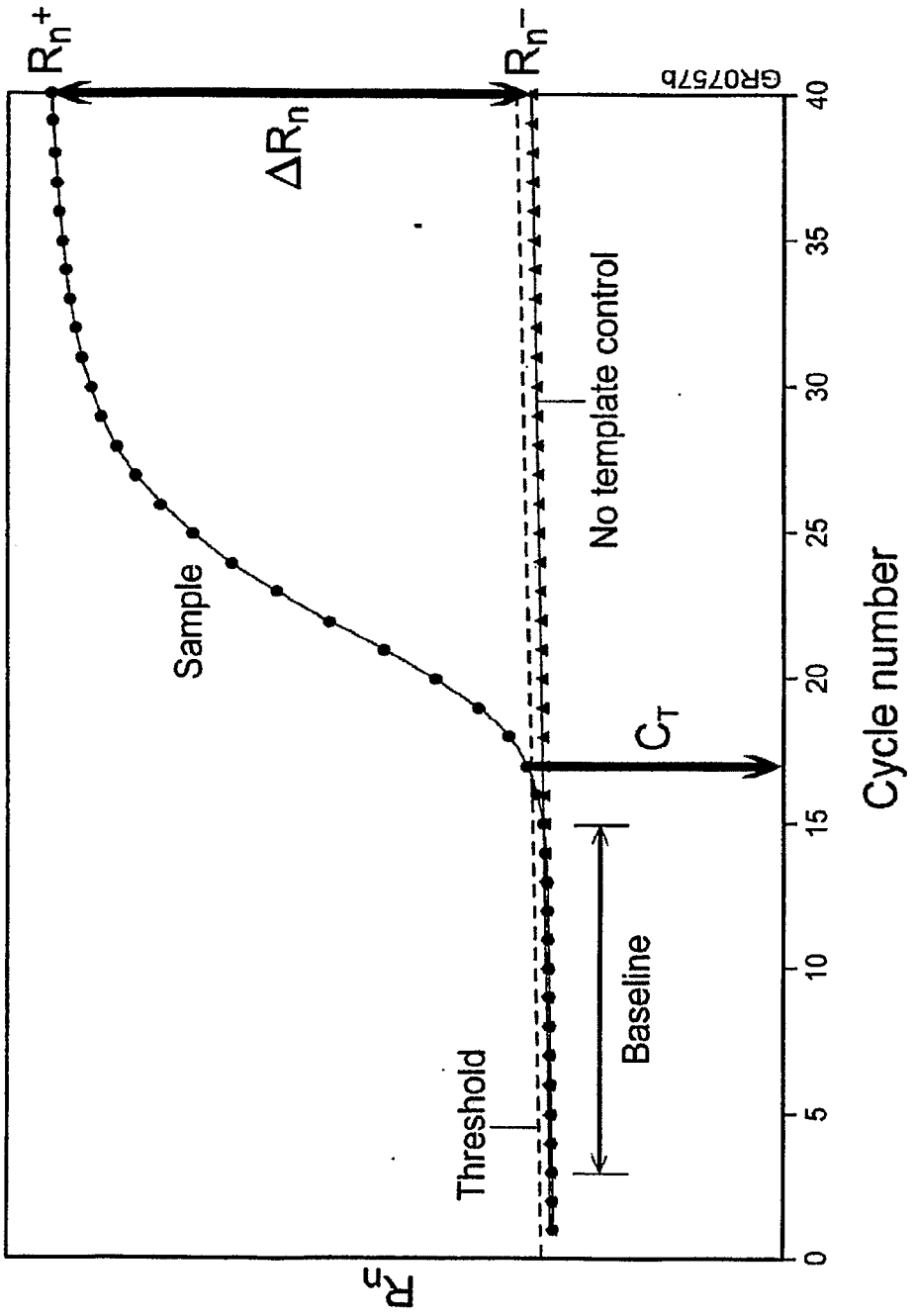

R_n^+
R_n^-
ΔR_n
GR0757b
Sample
No template control
C_T
Threshold
Baseline
R_n
Cycle number
0
5
10
15
20
25
30
35
40

FIG. 5A

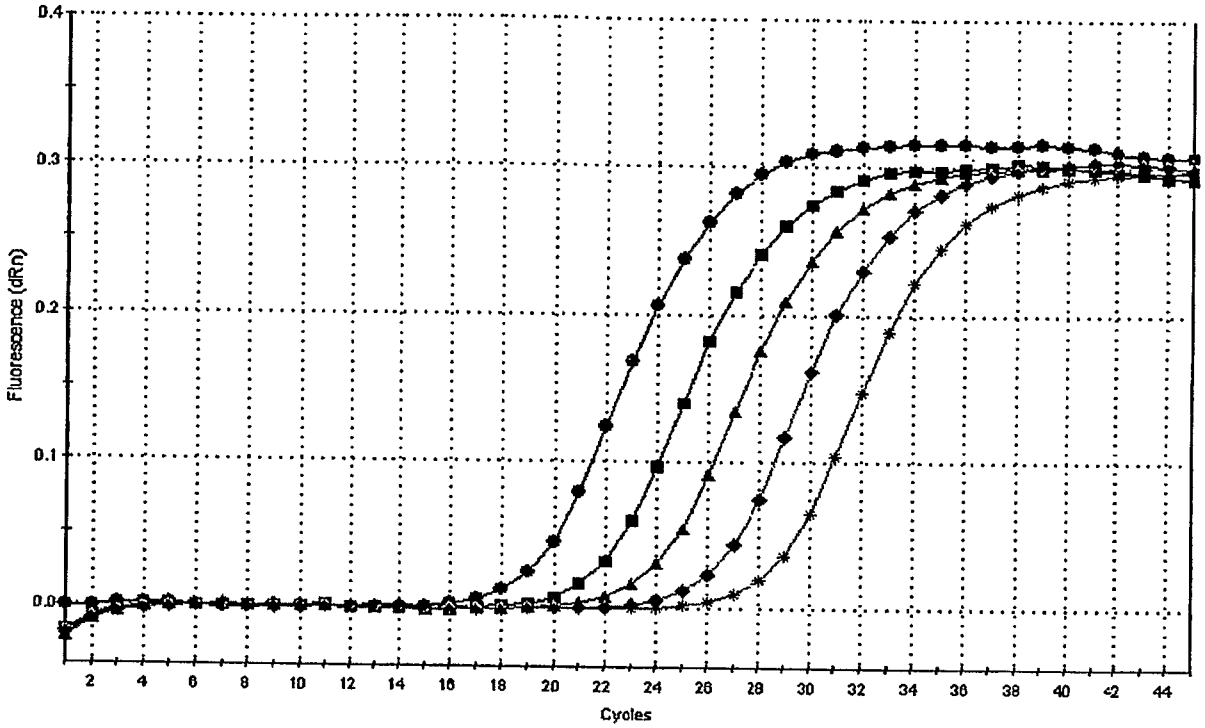
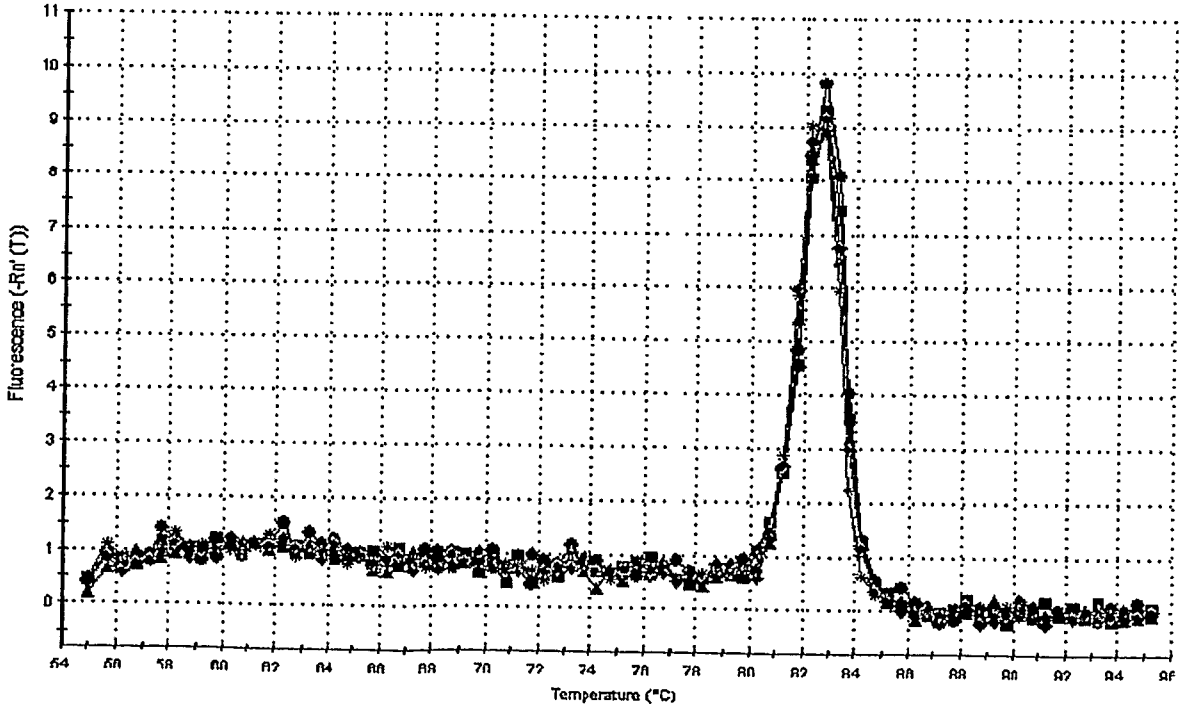

Fluorescence (dRn)
0.4
0.3
0.2
0.1
0.0
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44
Cycles

FIG. 5B


Fluorescence (-Rn' (T))
11
10
9
8
7
6
5
4
3
2
1
0
Temperature (°C)

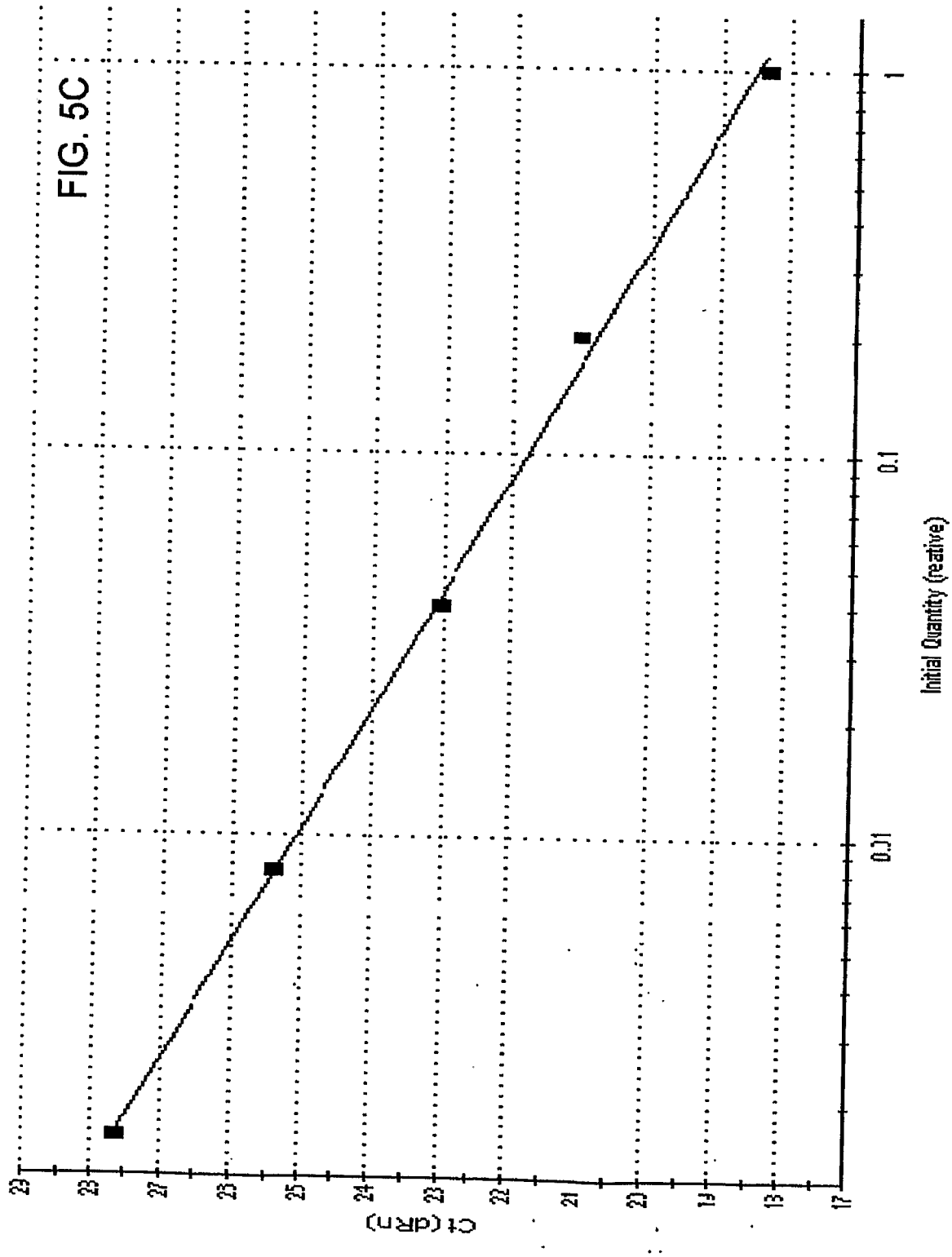

Ct (dRn)
29
28
27
26
25
24
23
22
21
20
19
18
17
0.01
0.1
1
Initial Quantity (relative)

FIG. 5C

FIG. 6A

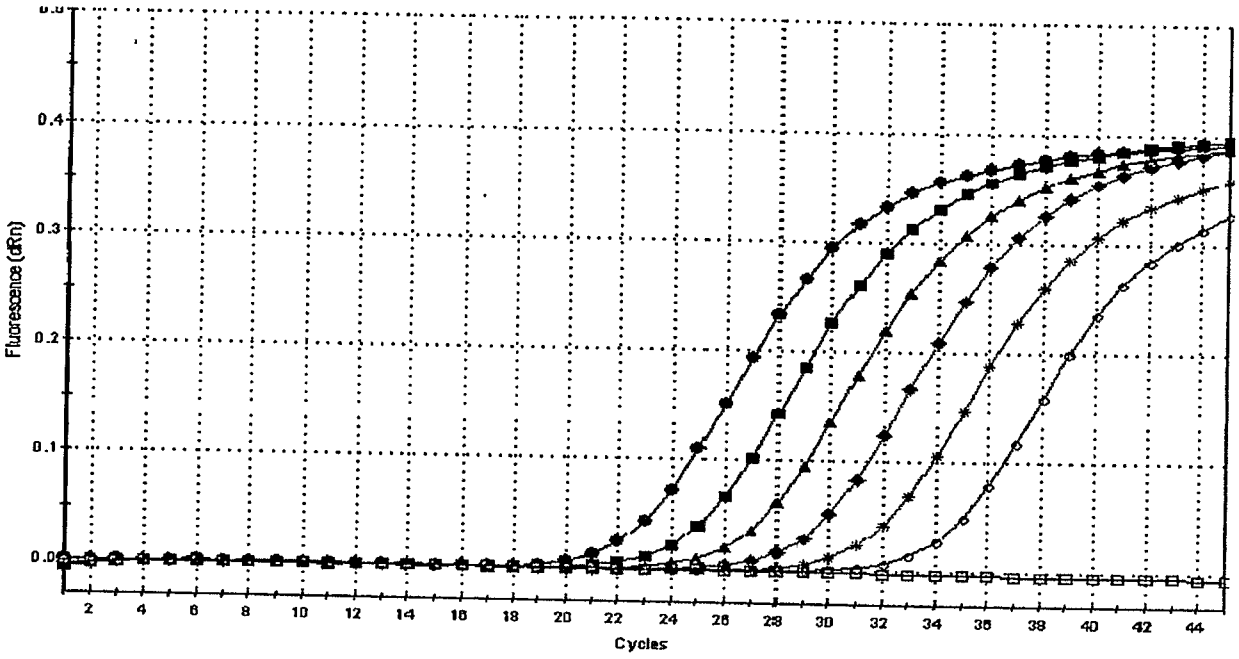

Fluorescence (dRn)
0.4
0.3
0.2
0.1
0.0
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44
Cycles

FIG. 6B

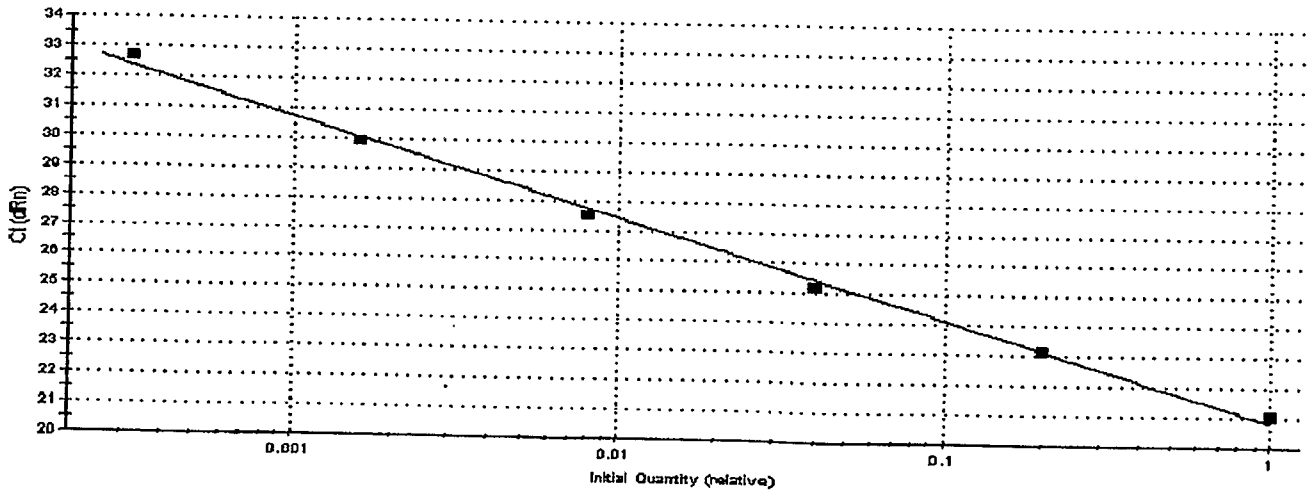

Ct (dRn)
34 33 32 31 30 29 28 27 26 25 24 23 22 21 20
0.001
0.01
0.1
1
Initial Quantity (relative)

FIG. 7

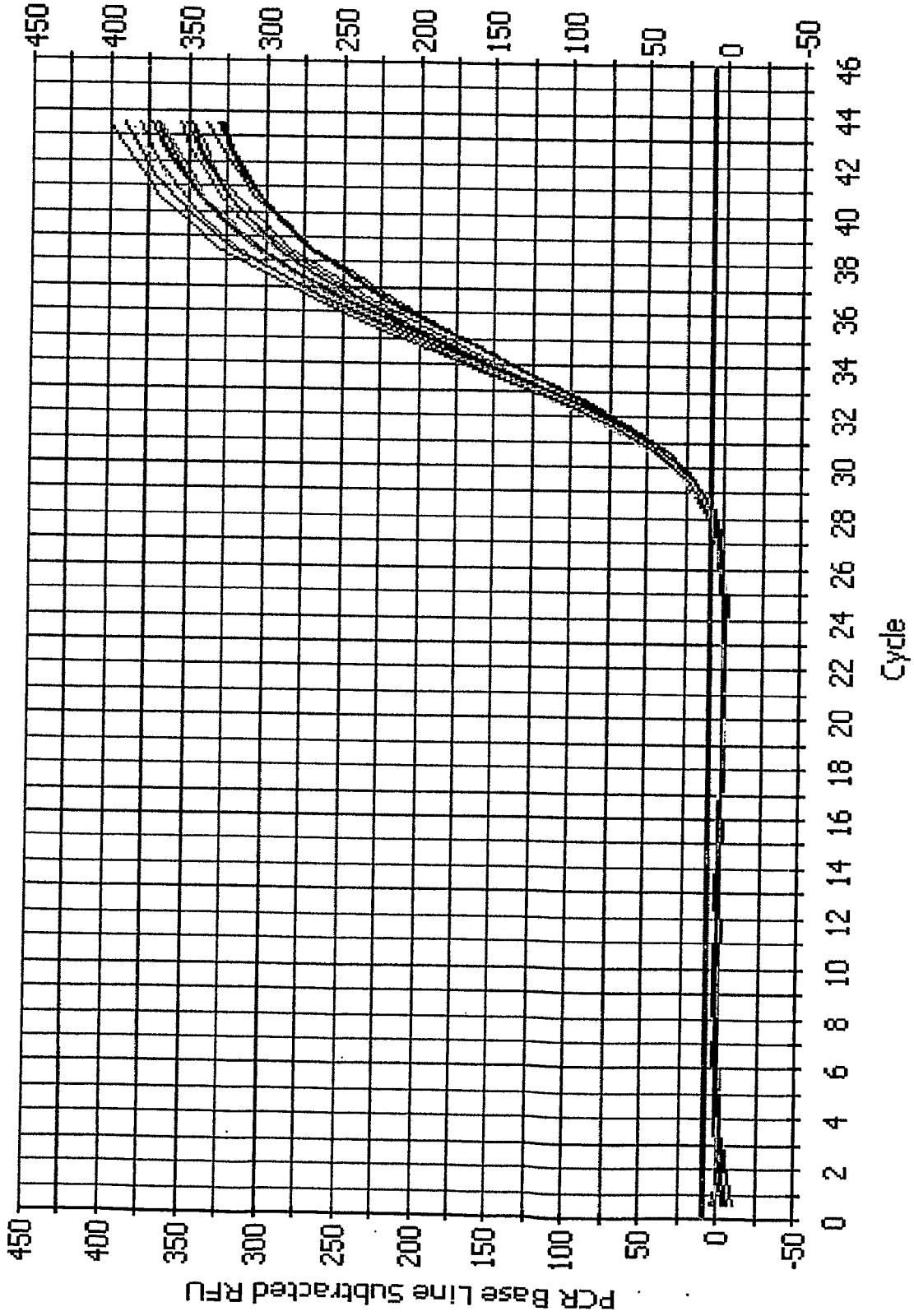

PCR Base Line Subtracted RFU
450
400
350
300
250
200
150
100
50
0
-50
Cycle
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46

FIG. 8A

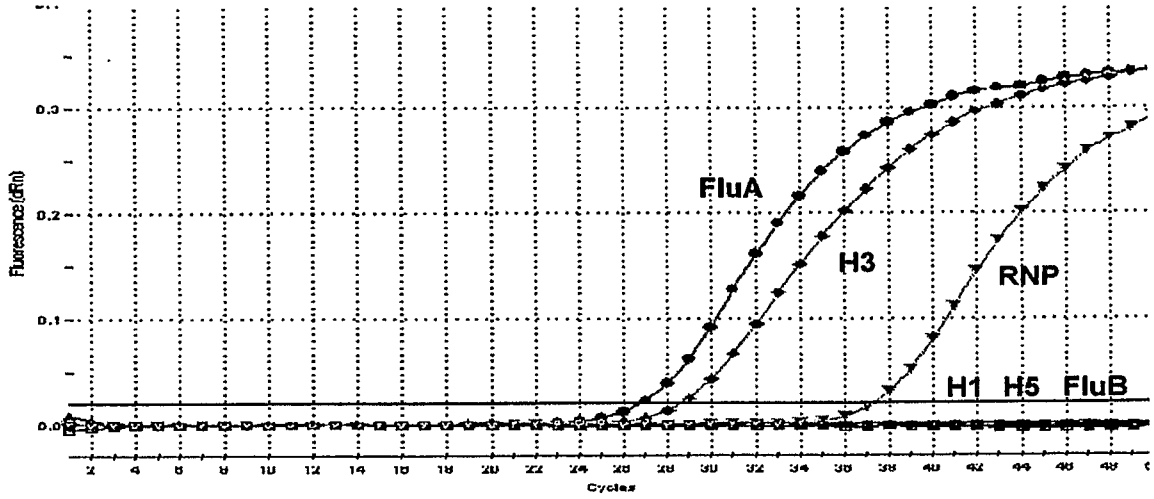


FIG. 8B

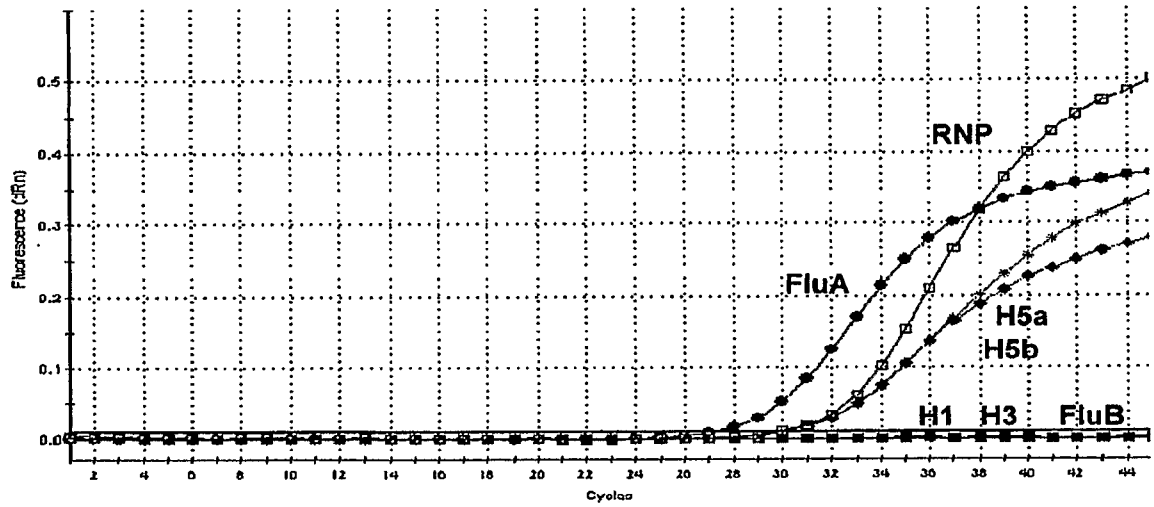


FIG. 8C

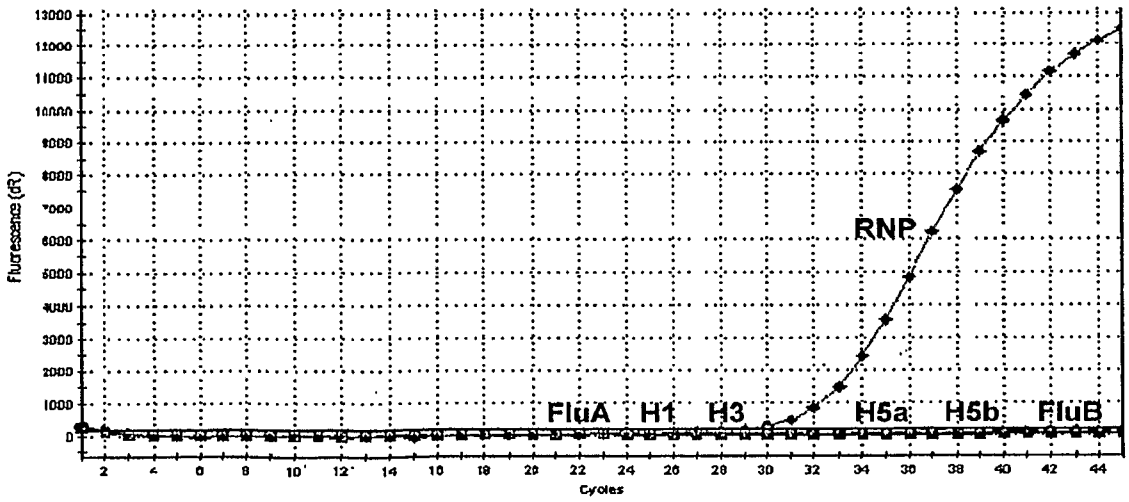


FIG. 9

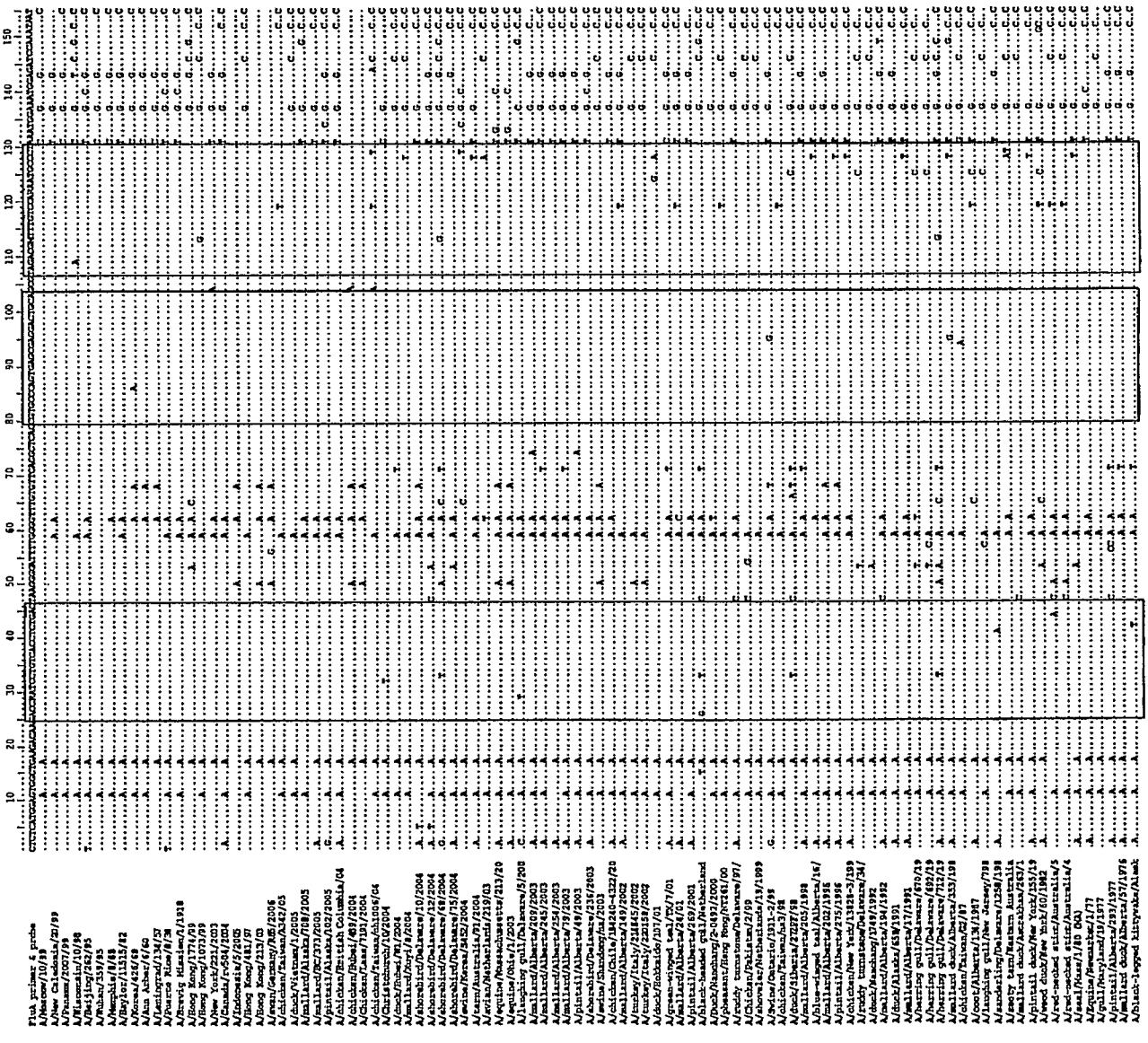


FIG. 10

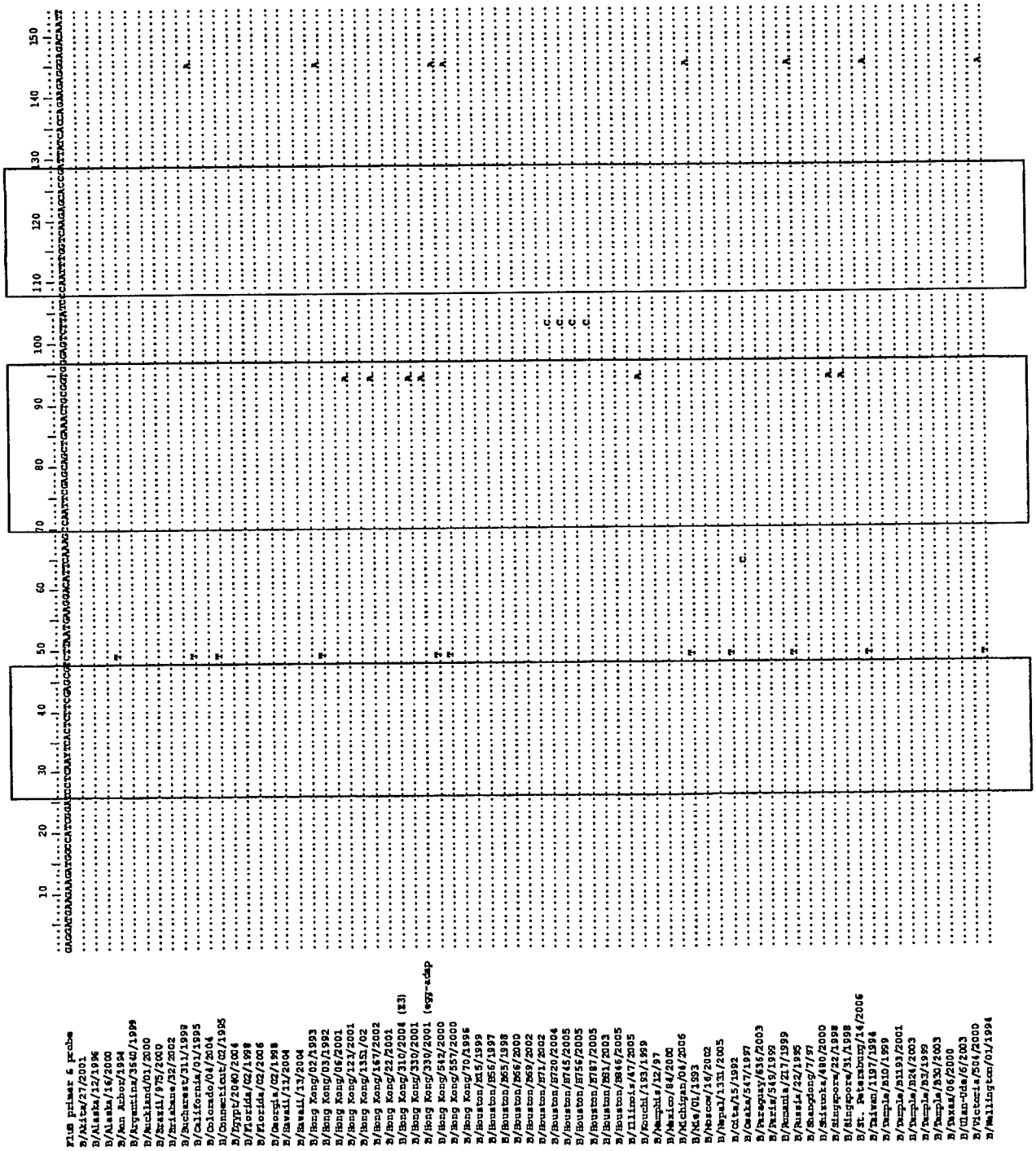

FLU primer 5 probe
B/Nice/27/2001
B/Alaska/12/1996
B/Alaska/16/2000
B/Ann Arbor/1994
B/Argentina/3640/1999
B/Auckland/01/2000
B/Brazil/975/2000
B/Brisbane/32/2002
B/Bucharest/311/1999
B/California/01/1995
B/Colorado/04/2004
B/Connecticut/02/1995
B/Egypt/2040/2004
B/Florida/02/1998
B/Florida/02/2006
B/Georgia/02/1998
B/Hawaii/13/2004
B/Hong Kong/02/1993
B/Hong Kong/03/1992
B/Hong Kong/06/2001
B/Hong Kong/123/2001
B/Hong Kong/133L/02
B/Hong Kong/167/2002
B/Hong Kong/22/2001
B/Hong Kong/310/2004 (23)
B/Hong Kong/330/2001
B/Hong Kong/330/2001 (egg-adap
B/Hong Kong/542/2000
B/Hong Kong/557/2000
B/Hong Kong/70/1996
B/Houston/S15/1999
B/Houston/S56/1997
B/Houston/S65/1998
B/Houston/S66/2000
B/Houston/S69/2002
B/Houston/S71/2002
B/Houston/S720/2004
B/Houston/S745/2005
B/Houston/S756/2005
B/Houston/S787/2005
B/Houston/S81/2003
B/Houston/S846/2005
B/Illinois/47/2005
B/Kochi/193/1999
B/Memphis/12/97
B/Mexico/84/2005
B/Michigan/04/2006
B/Ms/01/1993
B/Moscow/14/2002
B/Nepal/1133L/2005
B/Oita/15/1992
B/Osaka/547/1997
B/Paraguay/635/2003
B/Paris/549/1999
B/Rumania/217/1999
B/Russia/22/1995
B/Shanghong/7/97
B/Shizuoka/480/2000
B/Singapore/22/1998
B/Singapore/31/1998
B/St. Petersburg/14/2006
B/Taiwan/1197/1994
B/Temple/S10/1999
B/Temple/S1193/2001
B/Temple/S24/2003
B/Temple/S3/1999
B/Temple/S30/2003
B/Texas/06/2000
B/Ulan-Ude/6/2003
B/Victoria/504/2000
B/Wellington/01/1994

FIG. 11

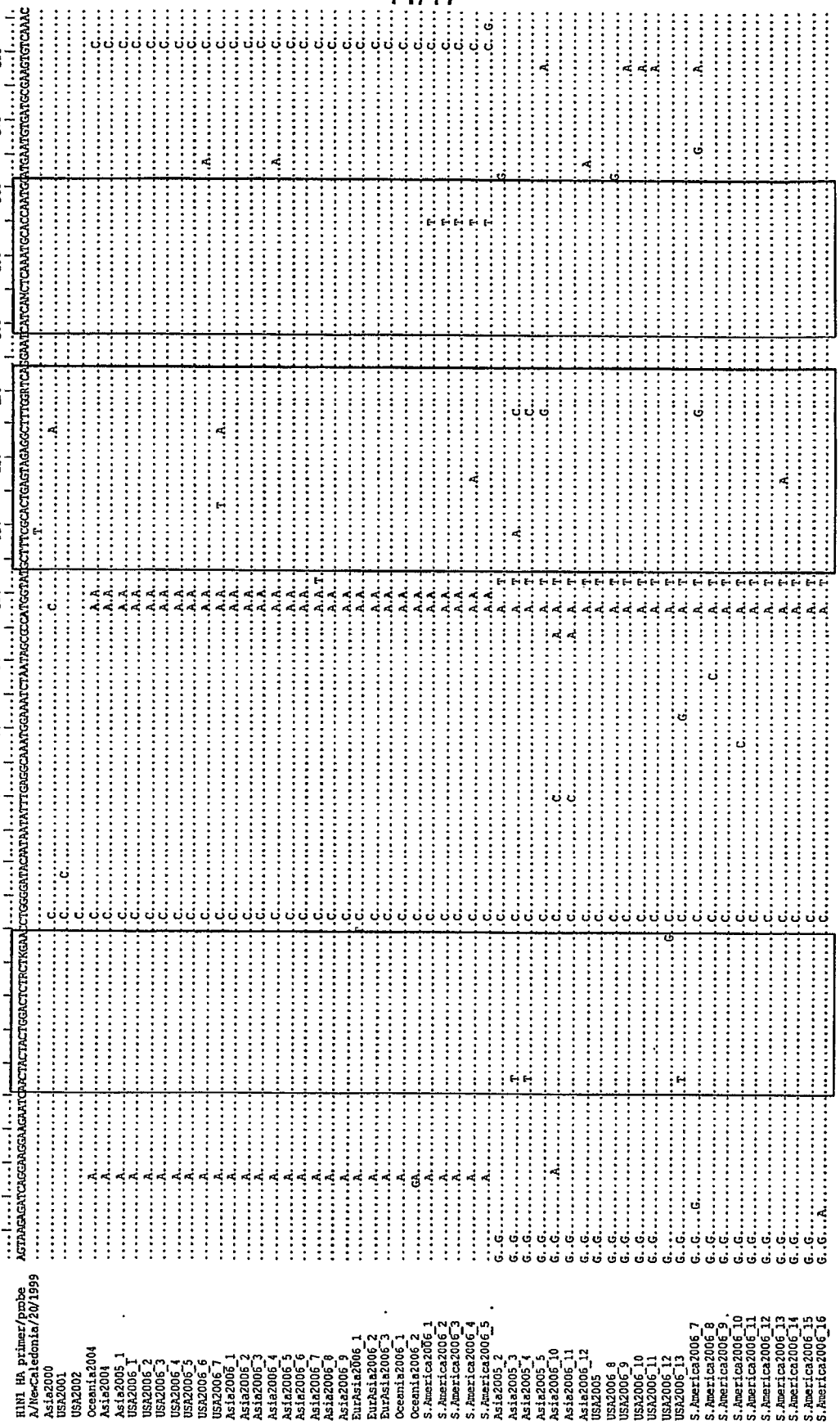

H1N1 HA primer/probe
A/NewCaledonia/20/1999
Asia2000
USA2001
USA2002
Oceania2004
Asie2004
Asie2005_1
USA2006_1
USA2006_2
USA2006_3
USA2006_4
USA2006_5
USA2006_6
USA2006_7
Asia2006_1
Asia2006_2
Asia2006_3
Asia2006_4
Asia2006_5
Asia2006_6
Asia2006_7
Asia2006_8
Asia2006_9
EurAsia2006_1
EurAsia2006_2
EurAsia2006_3
Oceania2006_1
Oceania2006_2
S.America2006_1
S.America2006_2
S.America2006_3
S.America2006_4
S.America2006_5
Asia2005_2
Asia2005_3
Asia2005_4
Asia2005_5
Asia2006_10
Asia2006_11
Asia2006_12
USA2005
USA2006_8
USA2006_9
USA2006_10
USA2006_11
USA2006_12
USA2006_13
S.America2006_7
S.America2006_8
S.America2006_9
S.America2006_10
S.America2006_11
S.America2006_12
S.America2006_13
S.America2006_14
S.America2006_15
S.America2006_16

FIG. 12

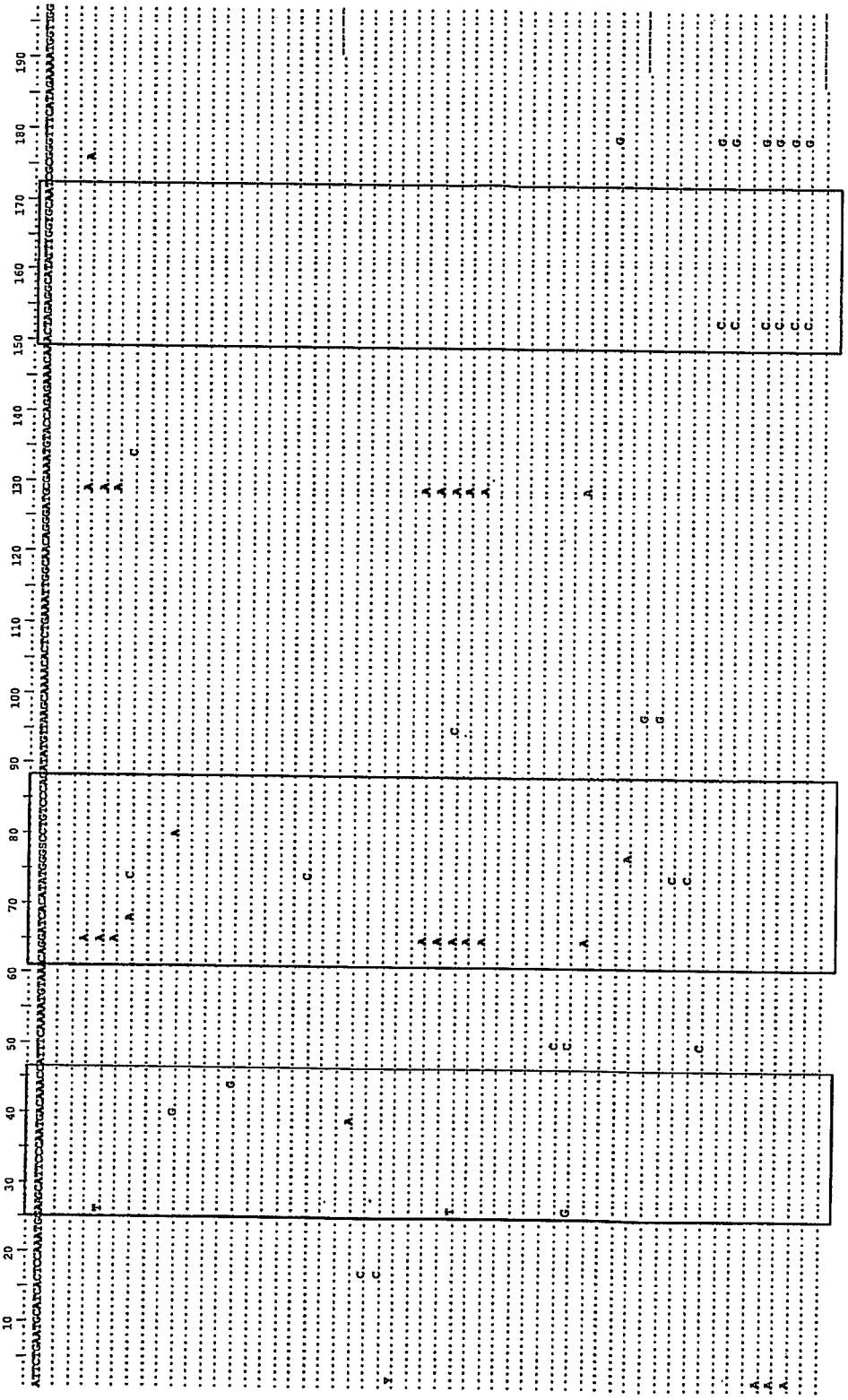

H3N2 HA primers/probe
A/New York/55/2004
A/Wisconsin/67/05
USA2006_1
USA2006_2
USA2006_3
USA2006_4
USA2006_5
USA2006_7
USA2006_8
USA2006_9
USA2006_10
USA2006_11
USA2006_12
USA2006_13
USA2006_14
USA2006_15
USA2006_16
USA2006_17
USA2006_18
USA2006_19
USA2006_20
USA2006_21
USA2006_22
N.America2006_1
N.America2006_2
S.America2006_1
S.America2006_2
S.America2006_3
S.America2006_4
S.America2006_5
S.America2006_6
S.America2006_7
S.America2006_8
S.America2006_9
S.America2006_10
S.America2006_11
Asia2006_1
Asia2006_2
Asia2006_3
Asia2006_4
Asia2006_5
Asia2006_6
Asia2006_7
Asia2006_8
Asia2006_9
EurAsia2006_1
EurAsia2006_2
EurAsia2006_3
EurAsia2006_4
EurAsia2006_5
EurAsia2006_6
EurAsia2006_7
Oceania2006

FIG. 13

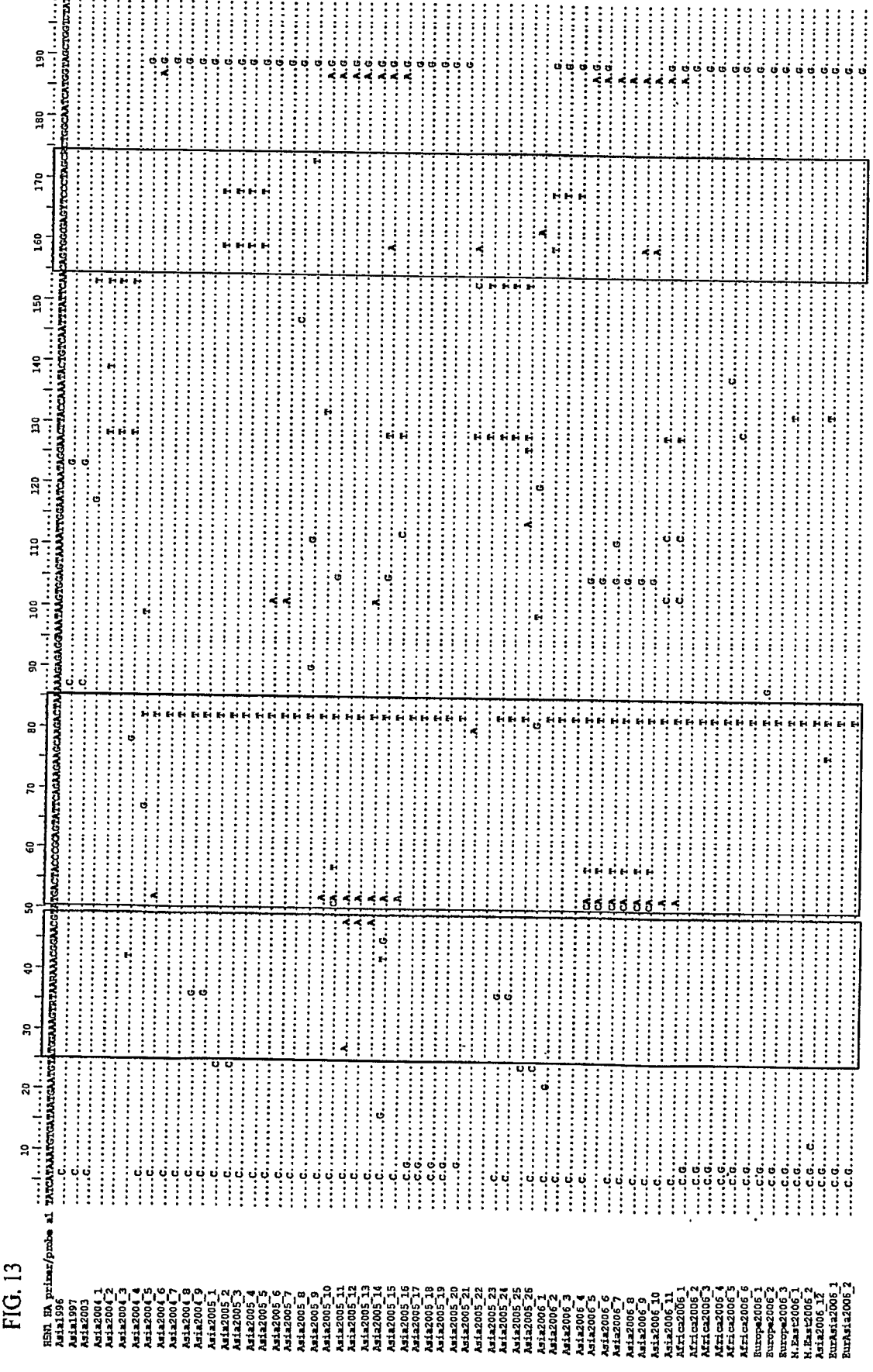

H5N1 HA primer/probe sa
Asia1996
Asia1997
Asia2003
Asia2004_1
Asia2004_2
Asia2004_3
Asia2004_4
Asia2004_5
Asia2004_6
Asia2004_7
Asia2004_8
Asia2004_9
Asia2005_1
Asia2005_2
Asia2005_3
Asia2005_4
Asia2005_5
Asia2005_6
Asia2005_7
Asia2005_8
Asia2005_9
Asia2005_10
Asia2005_11
Asia2005_12
Asia2005_13
Asia2005_14
Asia2005_15
Asia2005_16
Asia2005_17
Asia2005_18
Asia2005_19
Asia2005_20
Asia2005_21
Asia2005_22
Asia2005_23
Asia2005_24
Asia2005_25
Asia2005_26
Asia2006_1
Asia2006_2
Asia2006_3
Asia2006_4
Asia2006_5
Asia2006_6
Asia2006_7
Asia2006_8
Asia2006_9
Asia2006_10
Asia2006_11
Africa2006_1
Africa2006_2
Africa2006_3
Africa2006_4
Africa2006_5
Africa2006_6
Europe2006_1
Europe2006_2
Europe2006_3
M.East2006_1
M.East2006_2
Asia2006_12
EurAsia2006_1
EurAsia2006_2

FIG. 14

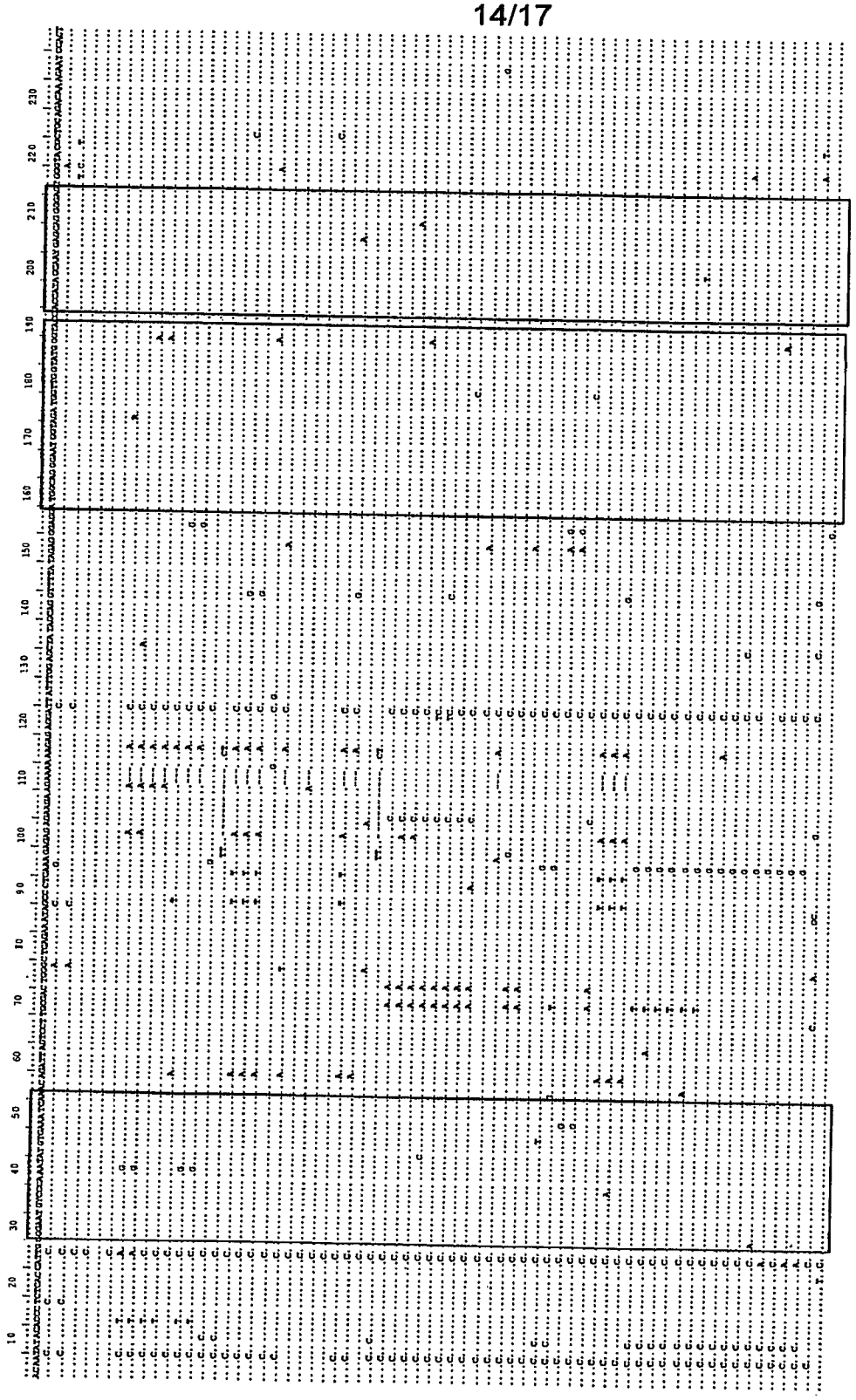


FIG. 15

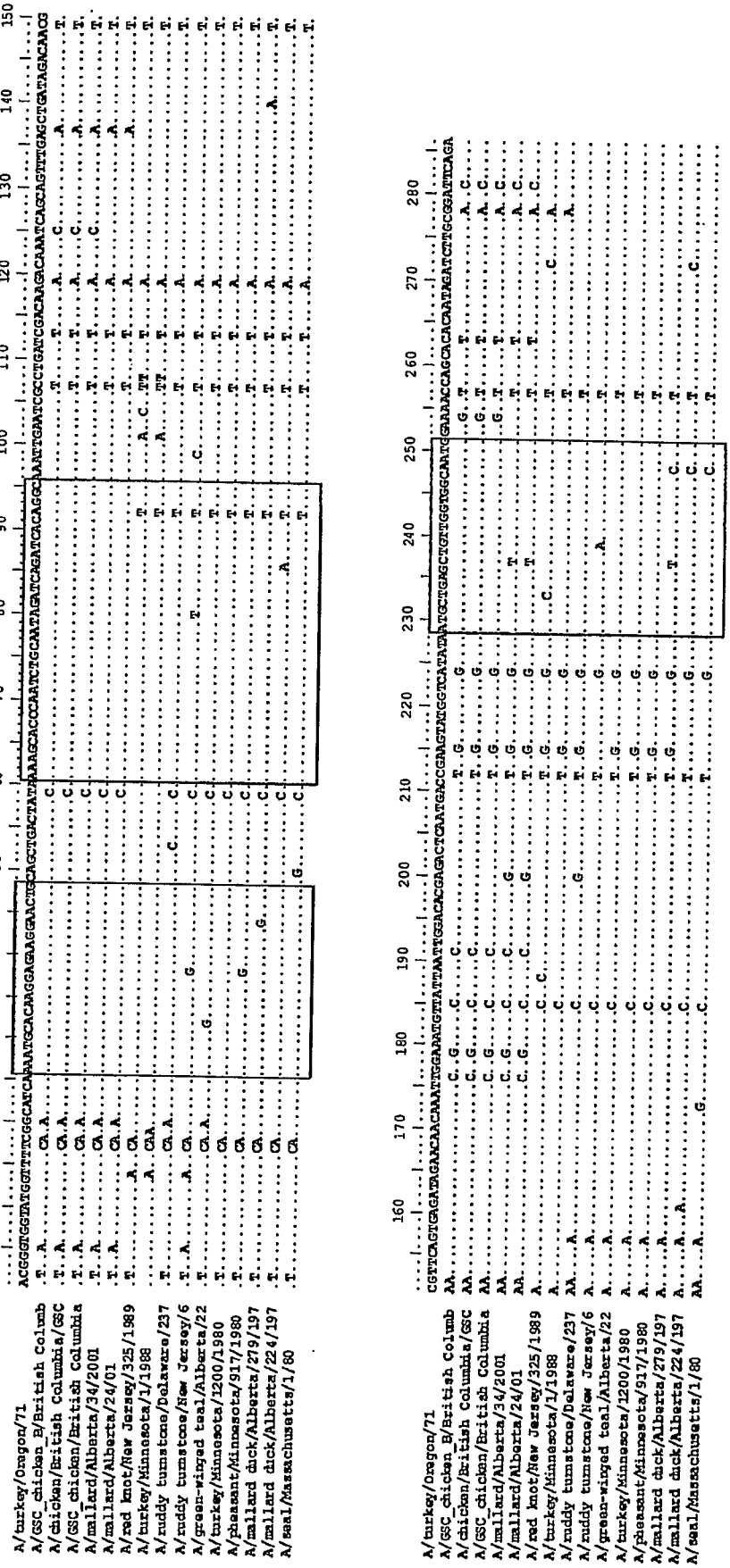
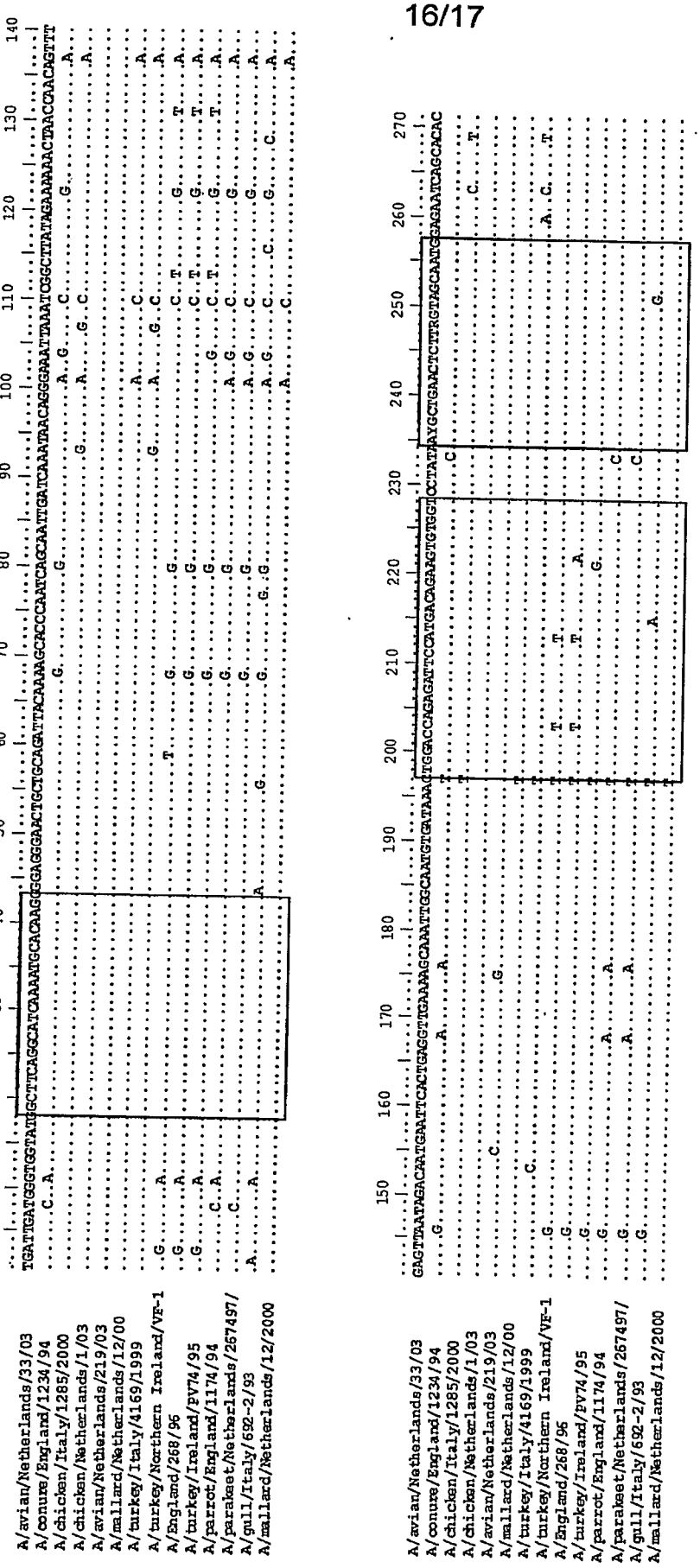

A/turkey/Oregon/71
A/GSC_chicken_B/British Columb
A/chicken/British Columbia/GSC
A/GSC_chicken/British Columbia
A/mallard/Alberta/34/2001
A/mallard/Alberta/24/01
A/red knot/New Jersey/325/1989
A/turkey/Minnesota/1/1988
A/ruddy turnstone/Delaware/237
A/ruddy turnstone/New Jersey/6
A/green-winged teal/Alberta/22
A/turkey/Minnesota/1200/1980
A/pheasant/Minnesota/917/1980
A/mallard dick/Alberta/279/197
A/mallard dick/Alberta/224/197
A/seal/Massachusetts/1/80

FIG. 16


A/avian/Netherlands/33/03
A/conure/England/1234/94
A/chicken/Italy/1285/2000
A/chicken/Netherlands/1/03
A/avian/Netherlands/219/03
A/mallard/Netherlands/12/00
A/turkey/Italy/4169/1999
A/turkey/Northern Ireland/VF-1
A/England/268/96
A/turkey/Ireland/PV74/95
A/parrot/England/1174/94
A/parakeet/Netherlands/267497/
A/gull/Italy/692-2/93
A/mallard/Netherlands/12/2000

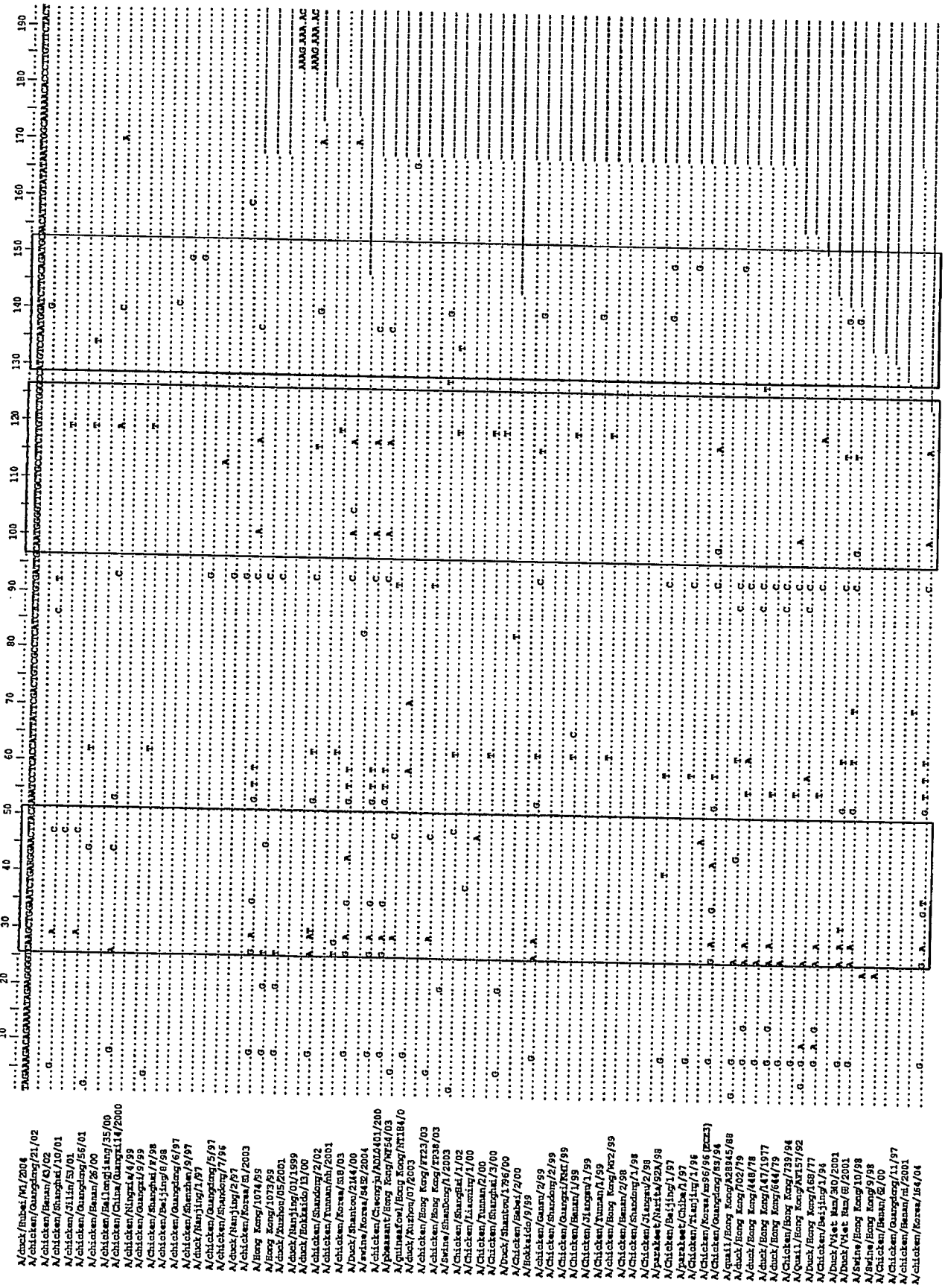



FIG. 17