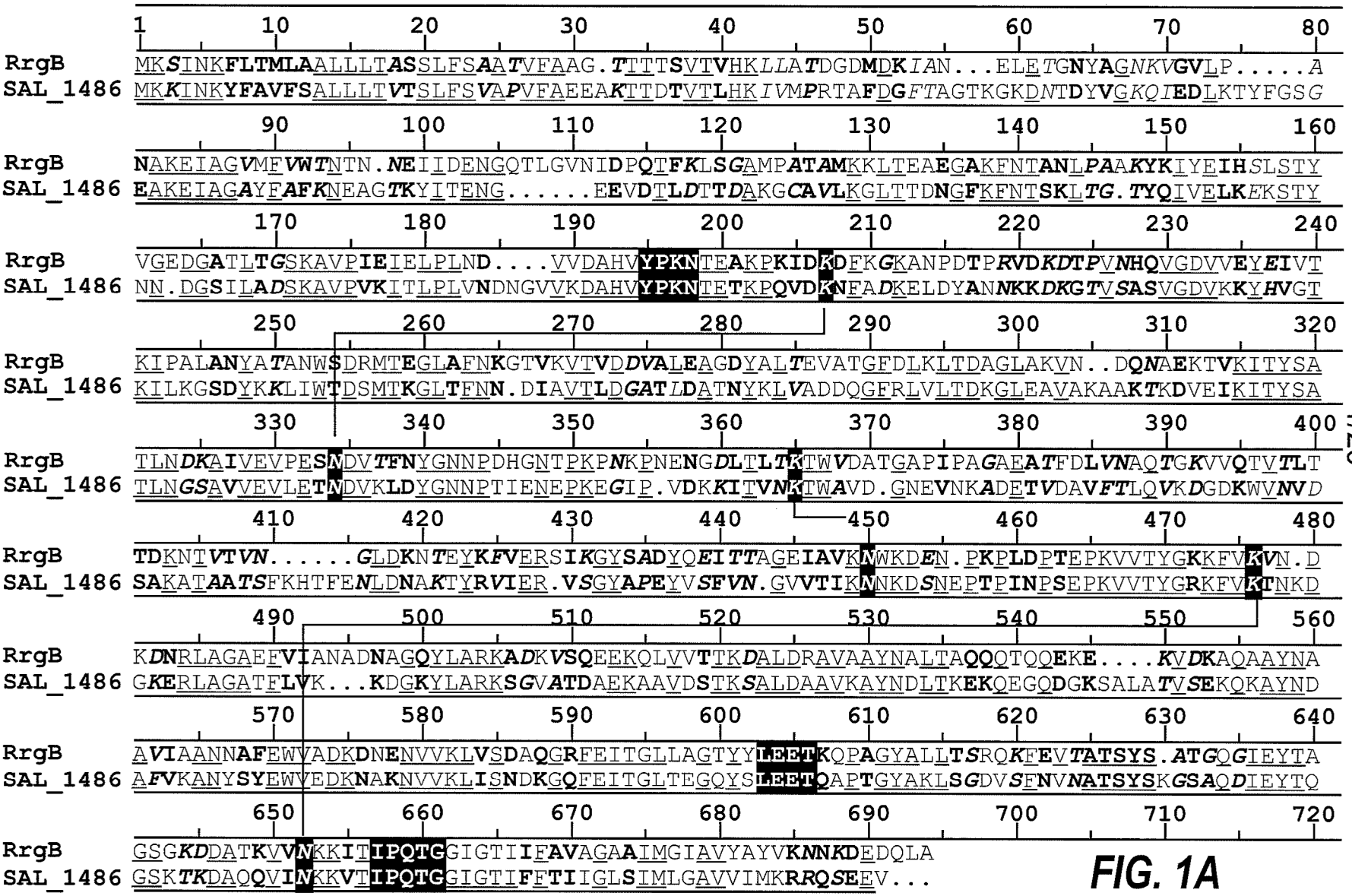


FIG. 1A

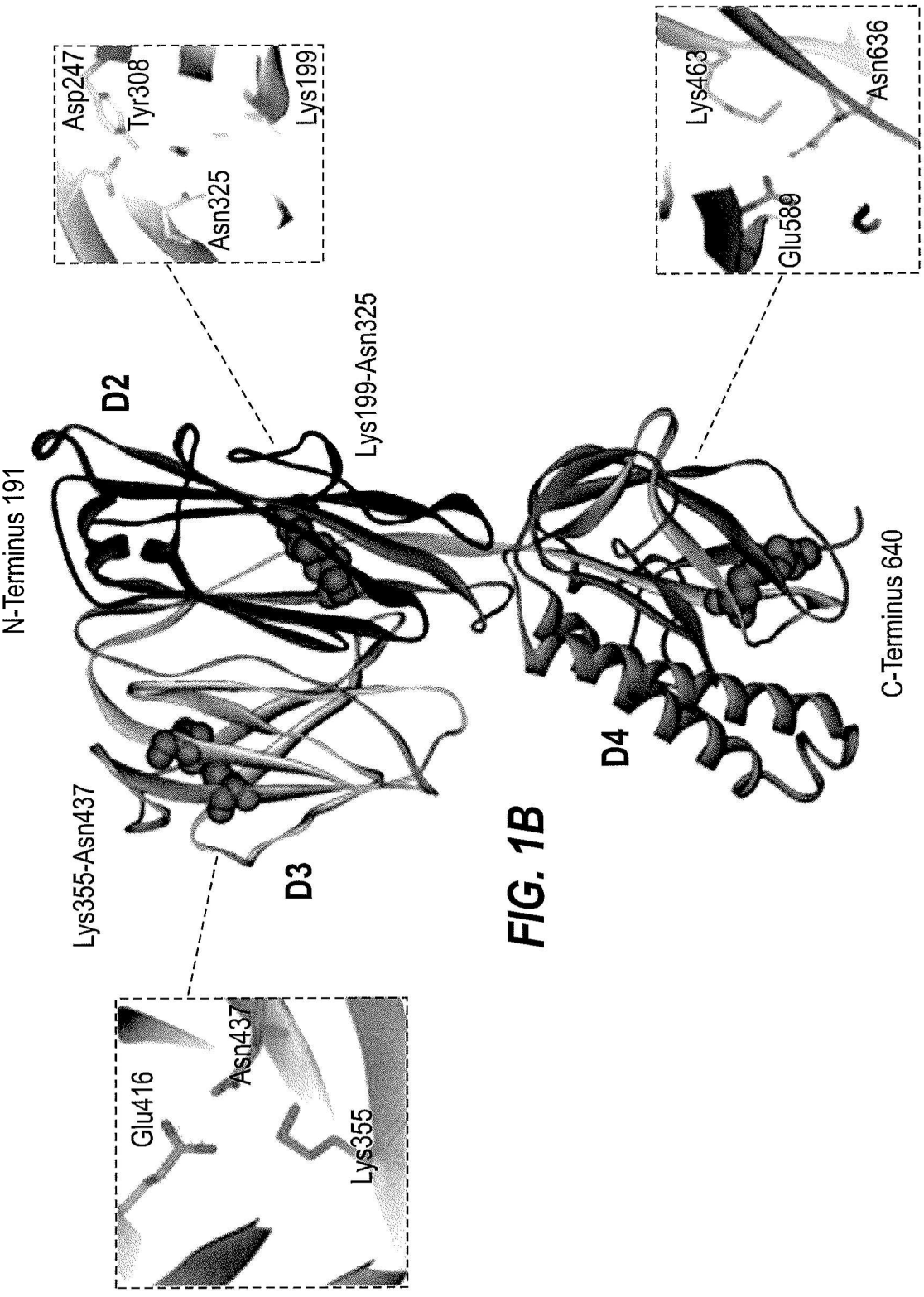

N-Terminus 191
D2
Lys199-Asn325
Asp247
Tyr308
Lys199
Asn325
Lys355-Asn437
D3
Glu416
Asn437
Lys355
D4
Lys463
Asn636
Glu580
C-Terminus 640

FIG. 1B

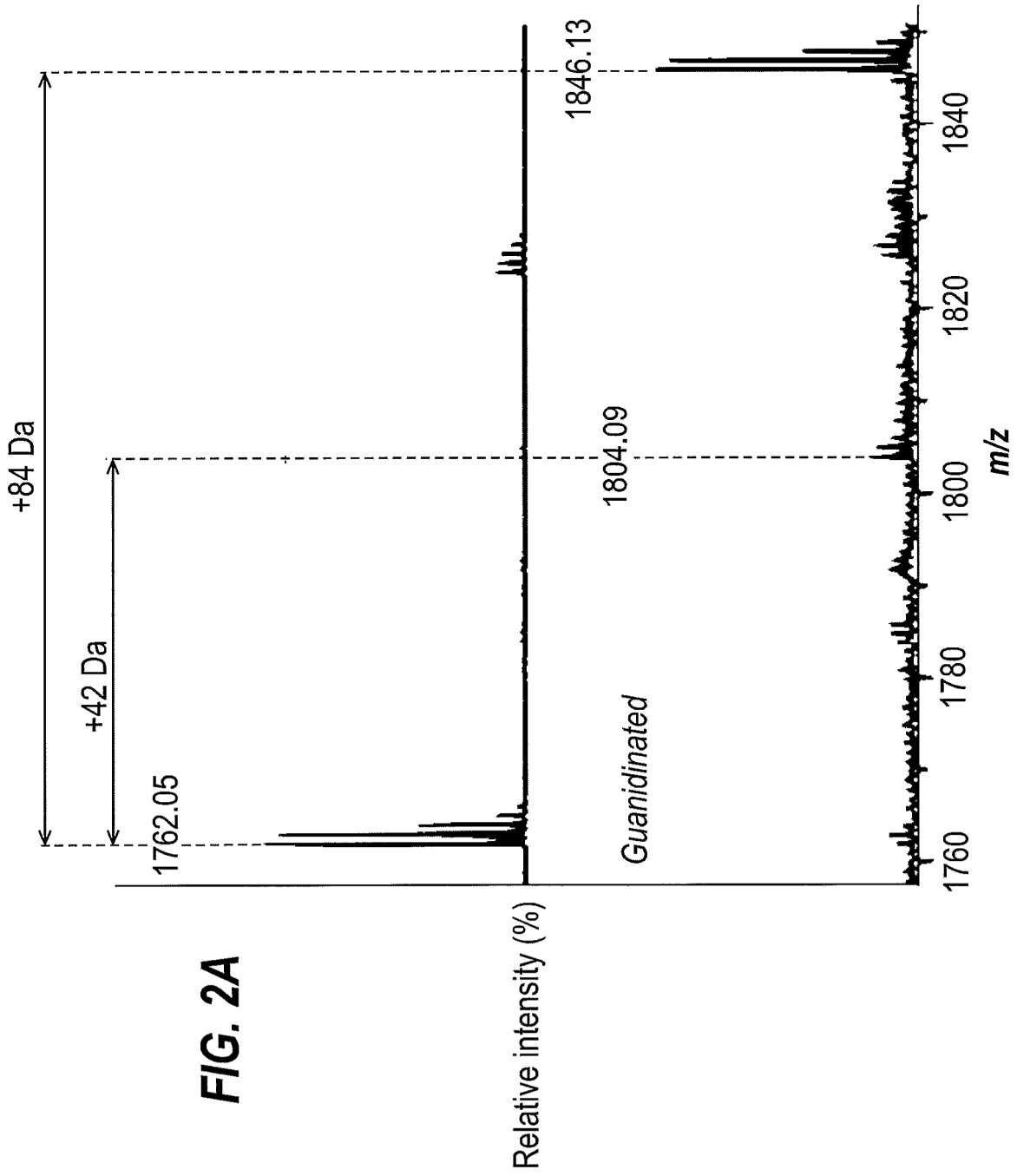

+84 Da
+42 Da
1762.05
1804.09
1846.13
Guanidinated
Relative intensity (%)
1760
1780
1800
1820
1840
m/z

FIG. 2A

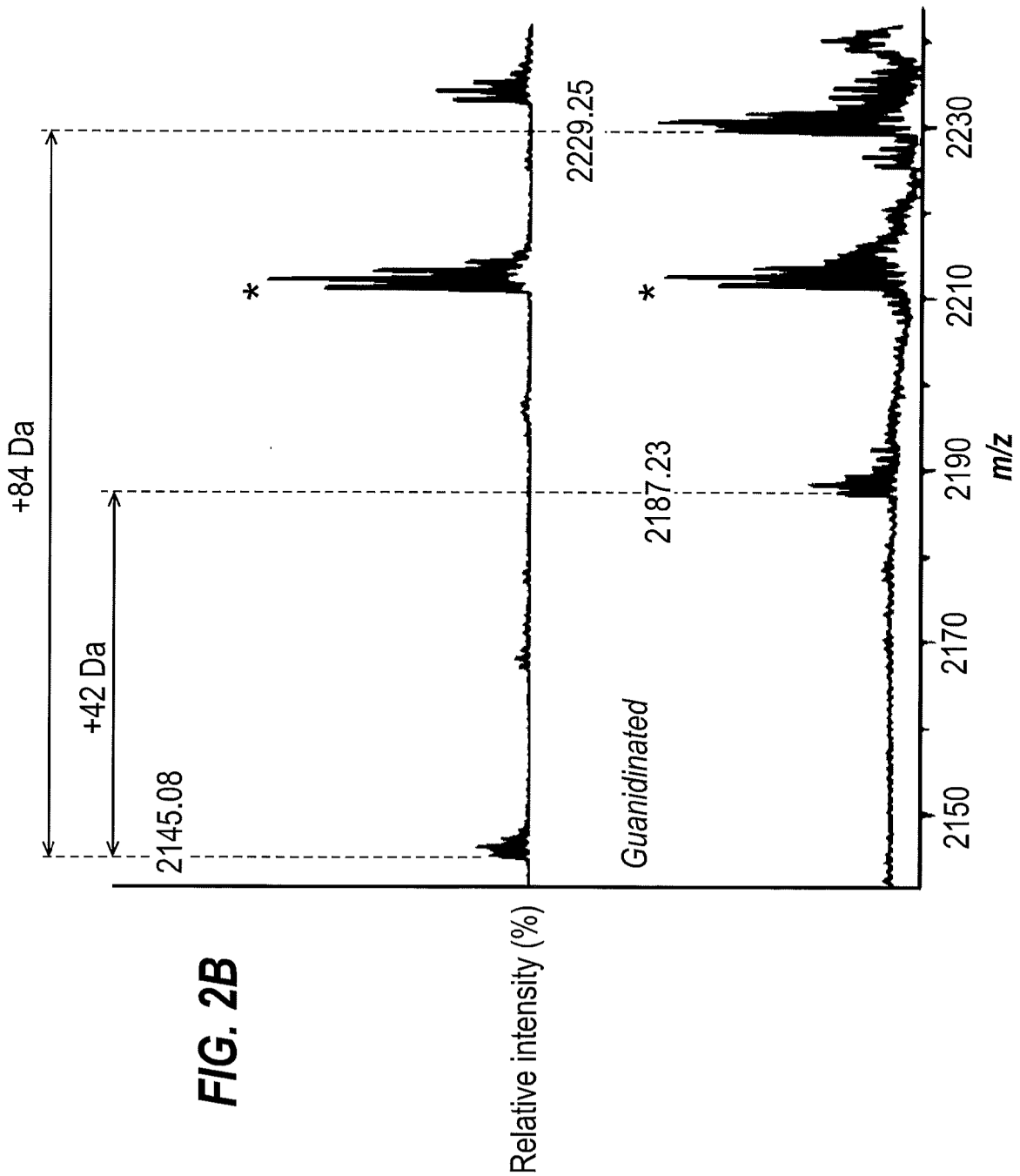

+84 Da
+42 Da
2145.08
2229.25
2187.23
Guanidinated
*
*
Relative intensity (%)
2150
2170
2190
2210
2230
m/z

FIG. 2B

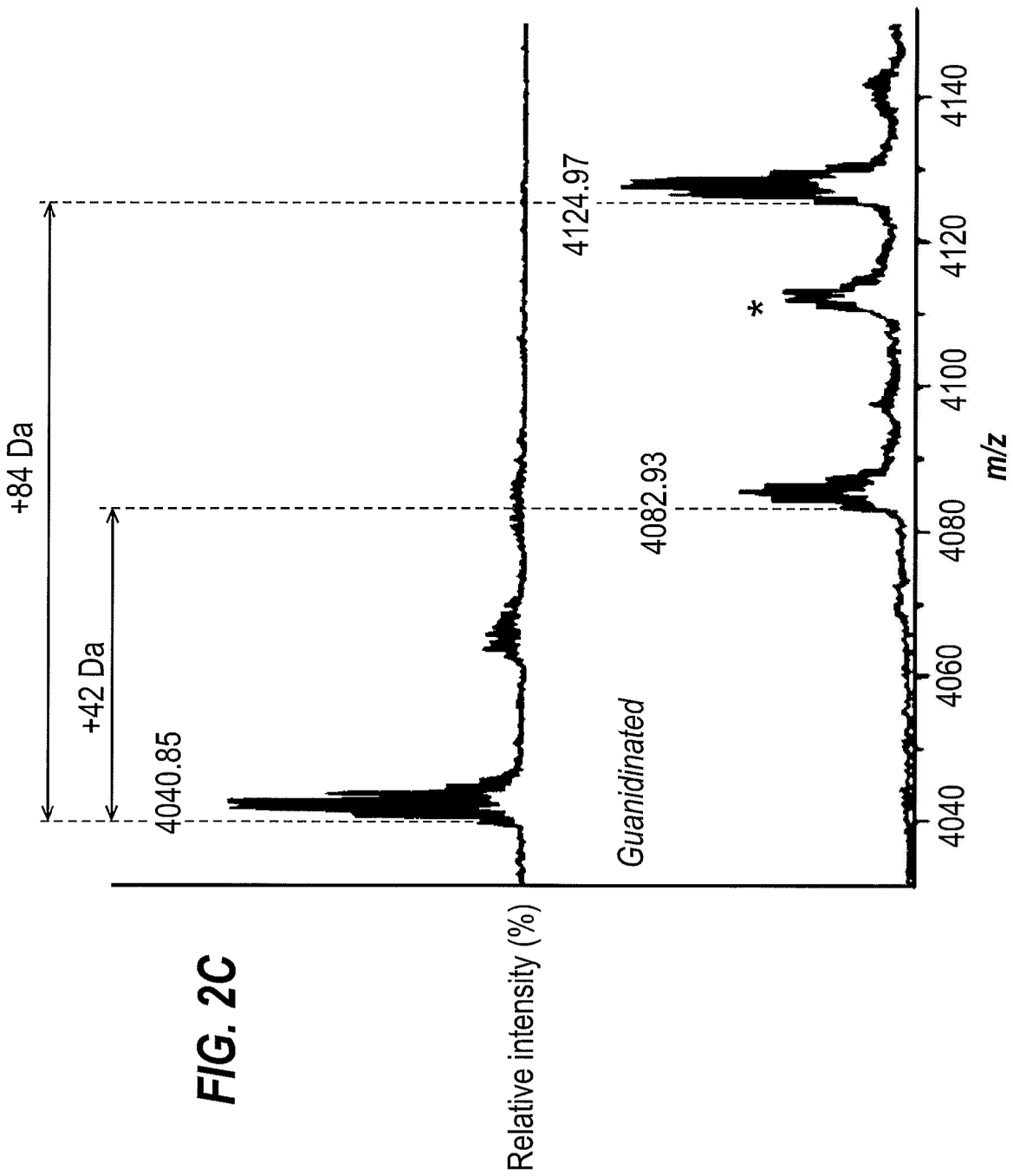

+84 Da
+42 Da
4040.85
4124.97
4082.93
Guanidinated
*
Relative intensity (%)
4040
4060
4080
4100
4120
4140
m/z

FIG. 2C

KDa
98
62
49
WT
ΔIB

FIG. 3A

Log CFU (To -T1)
3.0
2.5
2.0
1.50
1.0
0.5
0.0
-0.5
-1.0
-1.5
BP-2aWT
BP-2aΔIB
preimmune
immune

FIG. 3B

FIG. 4A

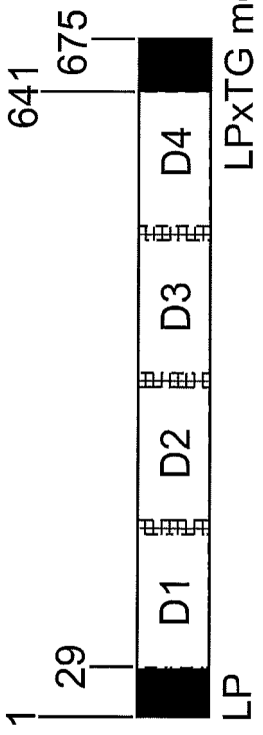


FIG. 4B

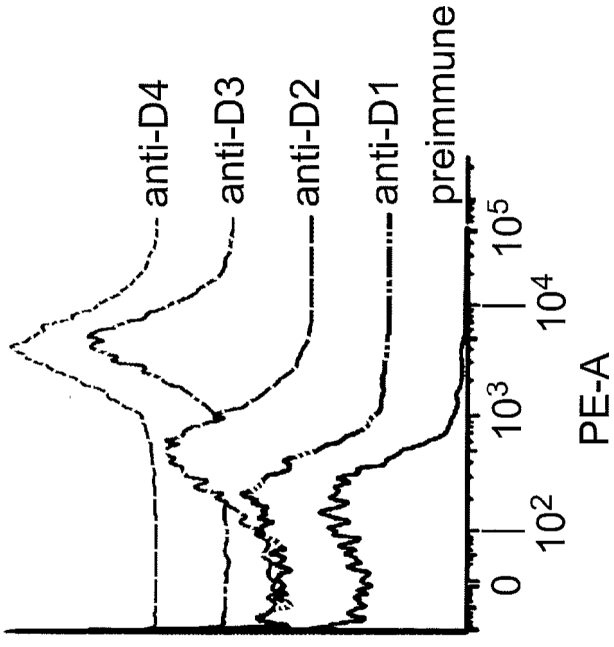


FIG. 4C

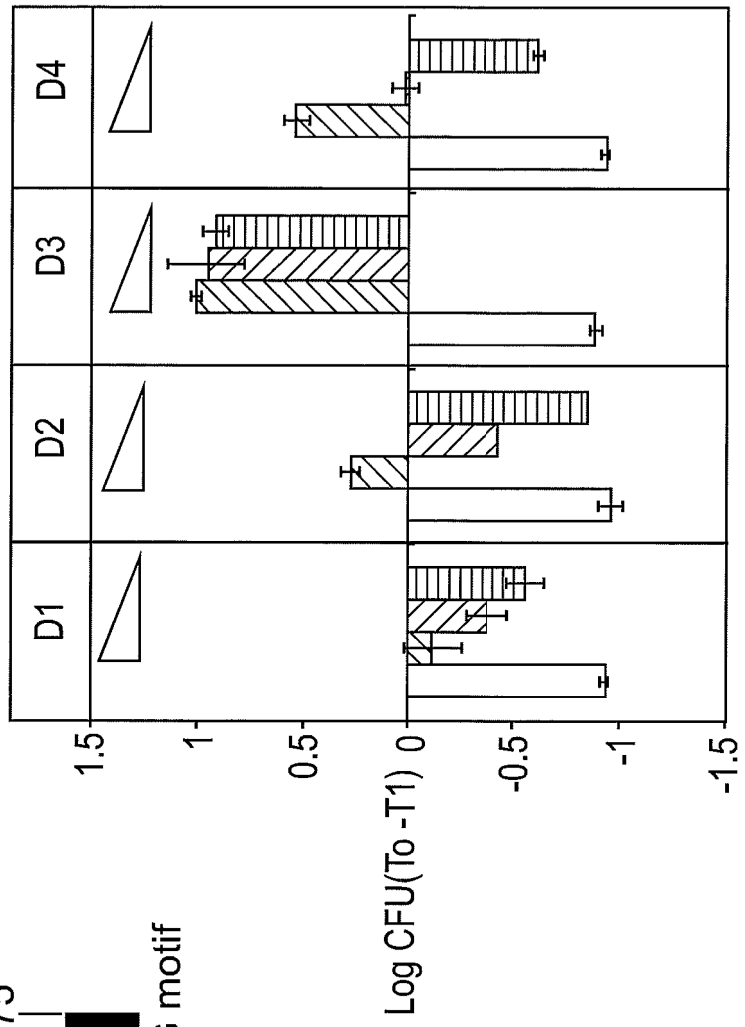


FIG. 5A

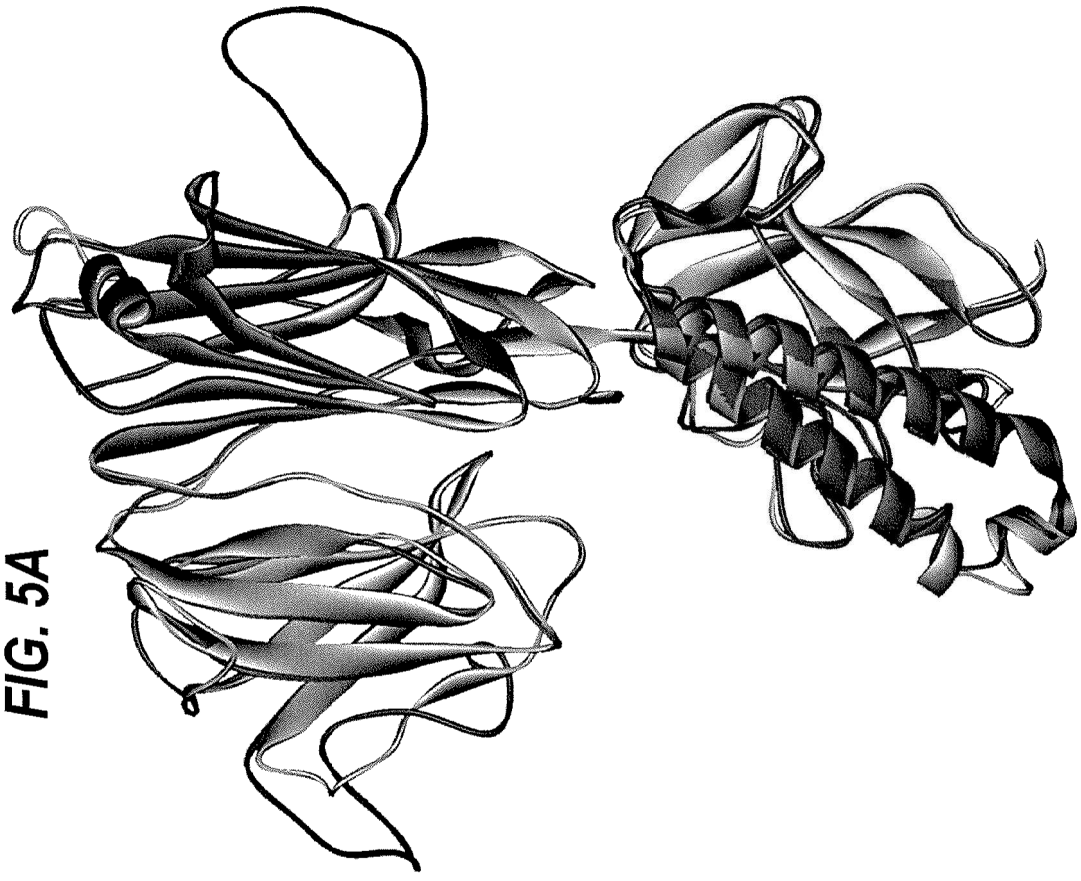


FIG. 5B

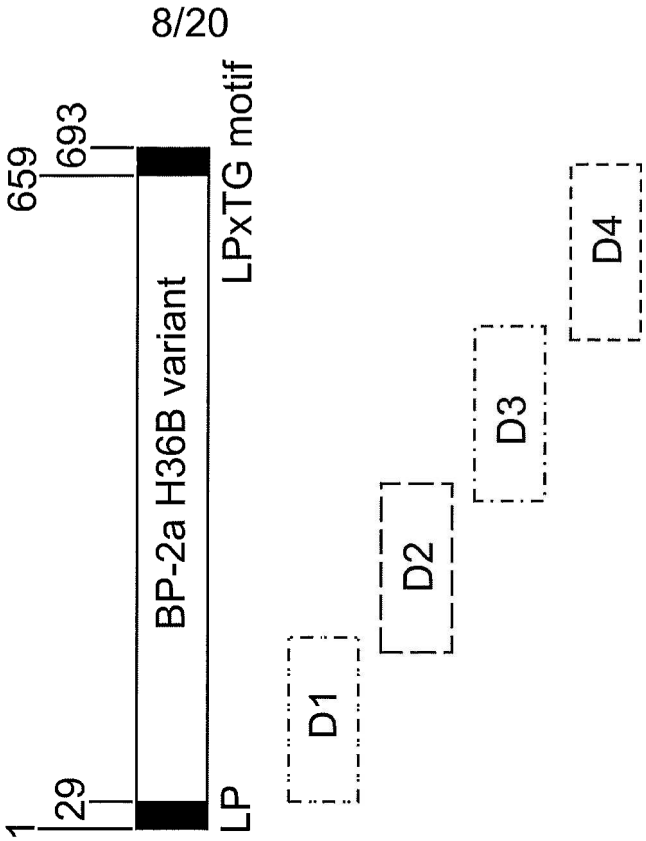


FIG. 6A(i)

D3+Helices



D3and2H_515
D3and2H_CJB111
D3and2H_DK21
D3and2H_090
D3and2H_H36B
D3and2H_2603
D3
D3

FIG. 6A(ii)

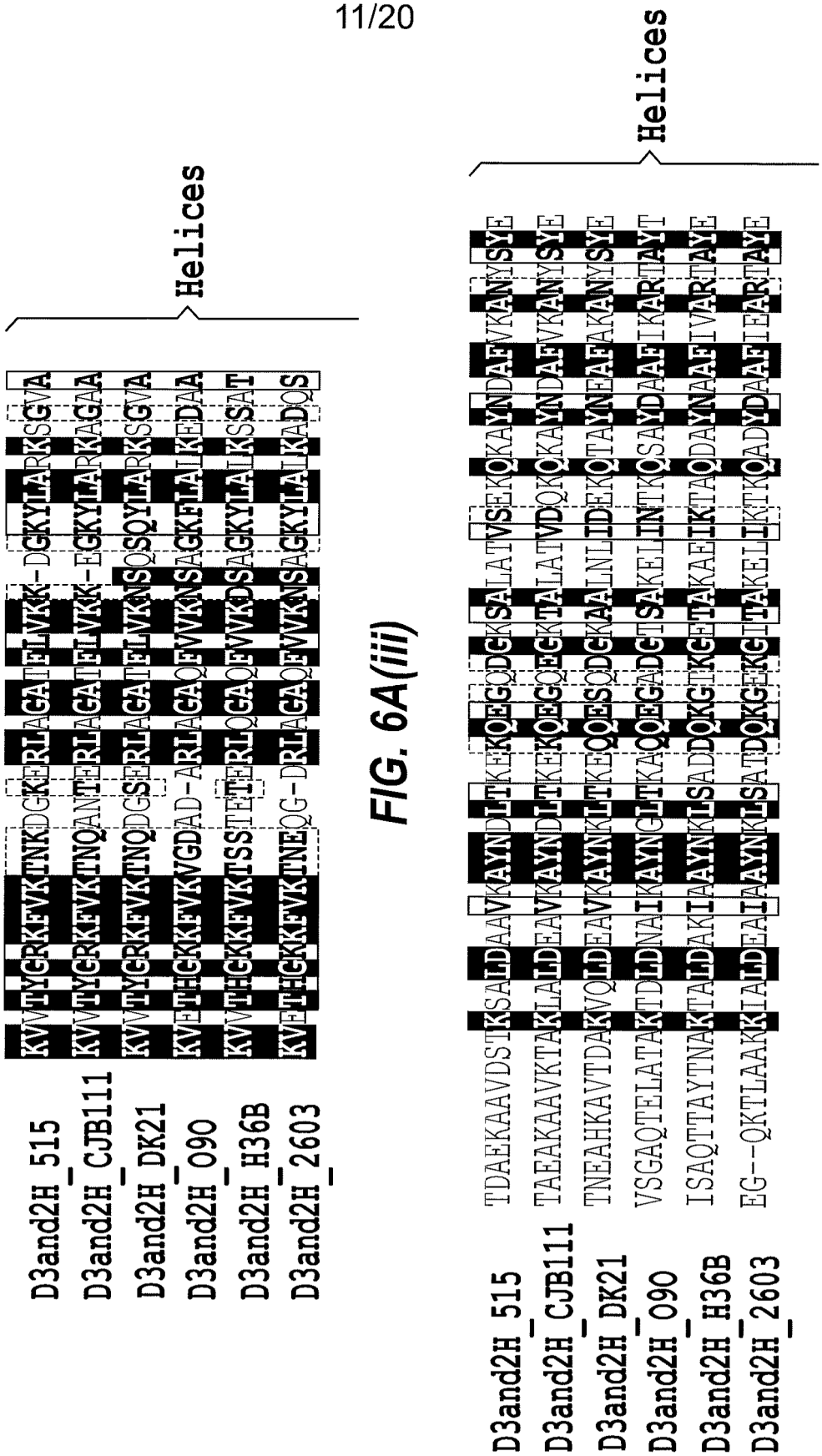

Helices
D3and2H_515
D3and2H_CJB111
D3and2H_DK21
D3and2H_O90
D3and2H_H36B
D3and2H_2603
Helices
D3and2H_515
D3and2H_CJB111
D3and2H_DK21
D3and2H_O90
D3and2H_H36B
D3and2H_2603

FIG. 6A(iii)

FIG. 6B

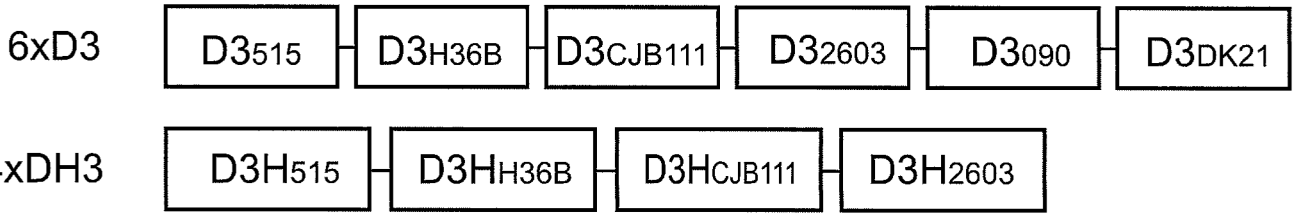


FIG. 6C

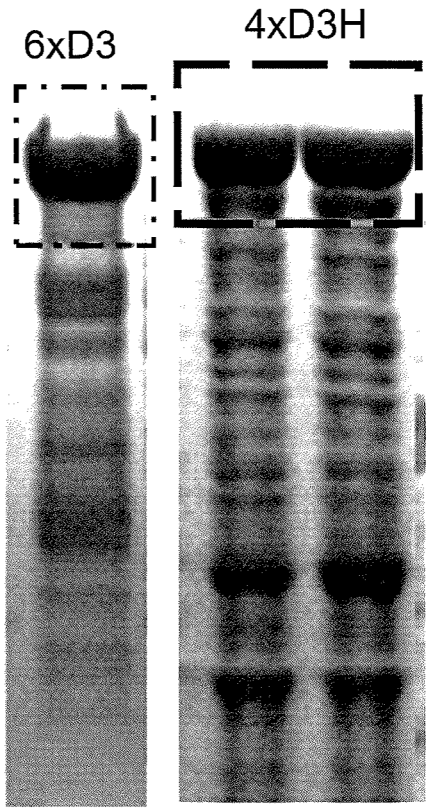
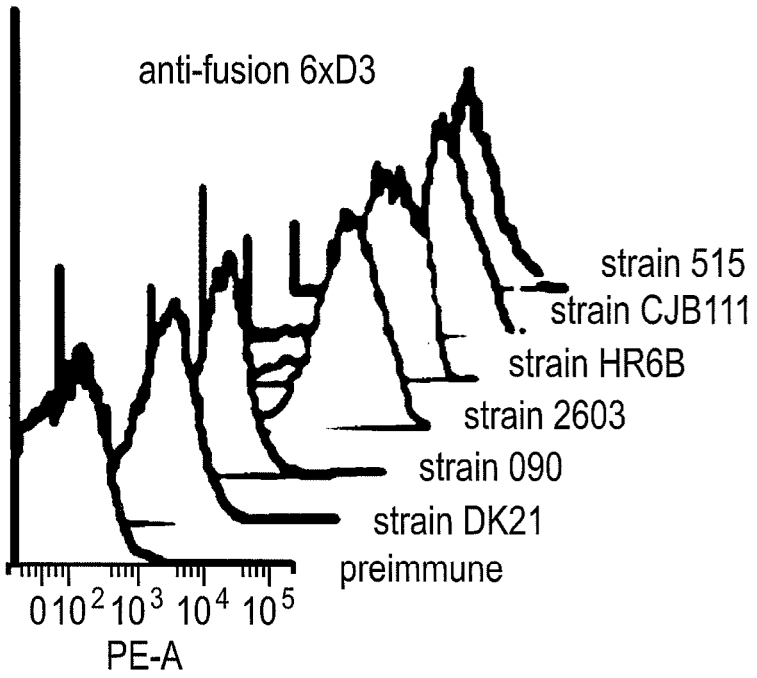


FIG. 6D



Log Diff (To-T1)
CJB111
515
5401
3050
BT-2a
wt
6xD3
4xD3H
4xD3H
AP1-2a
wt
anti-fusion proteins

FIG. 6E

FIG. 7B

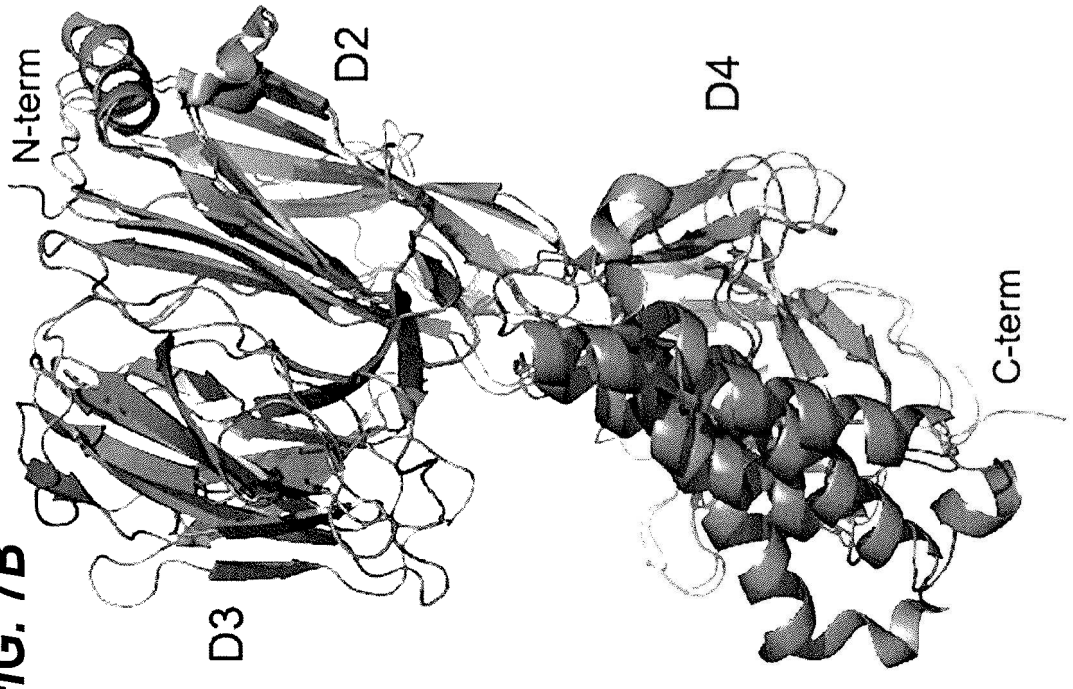
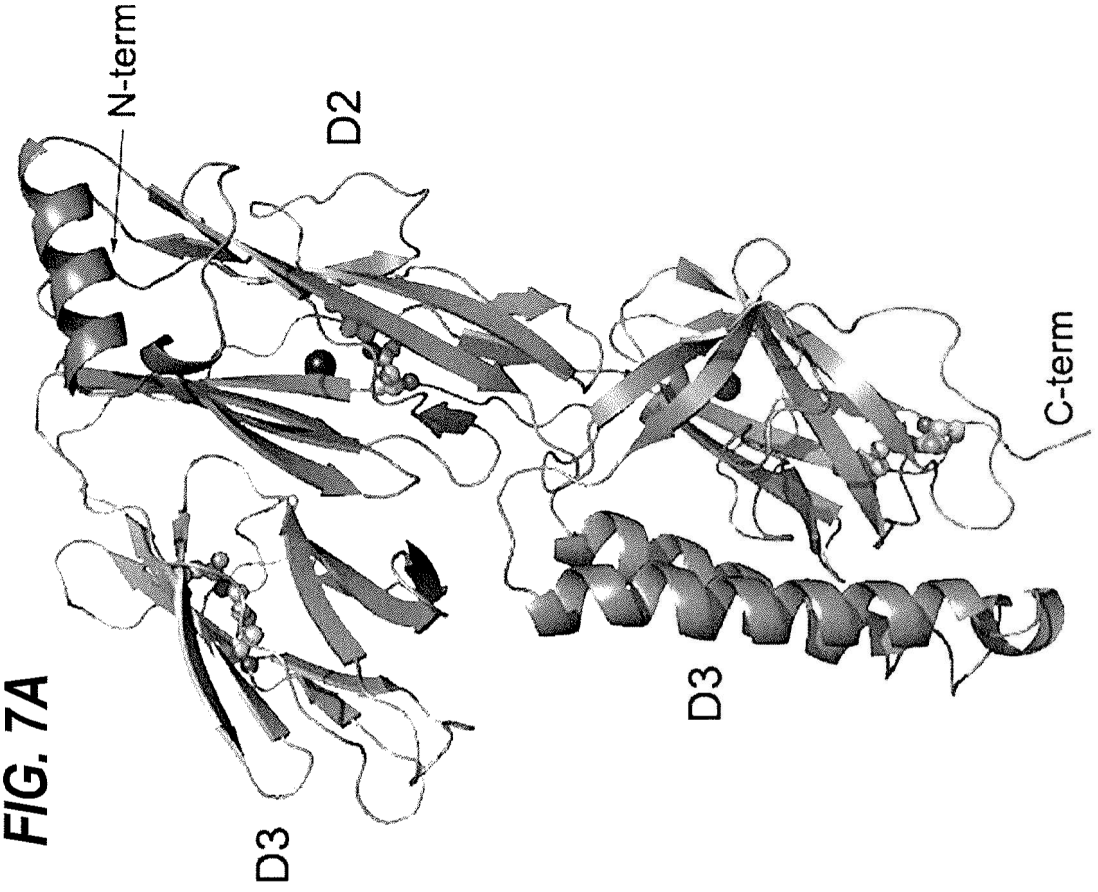


FIG. 7A



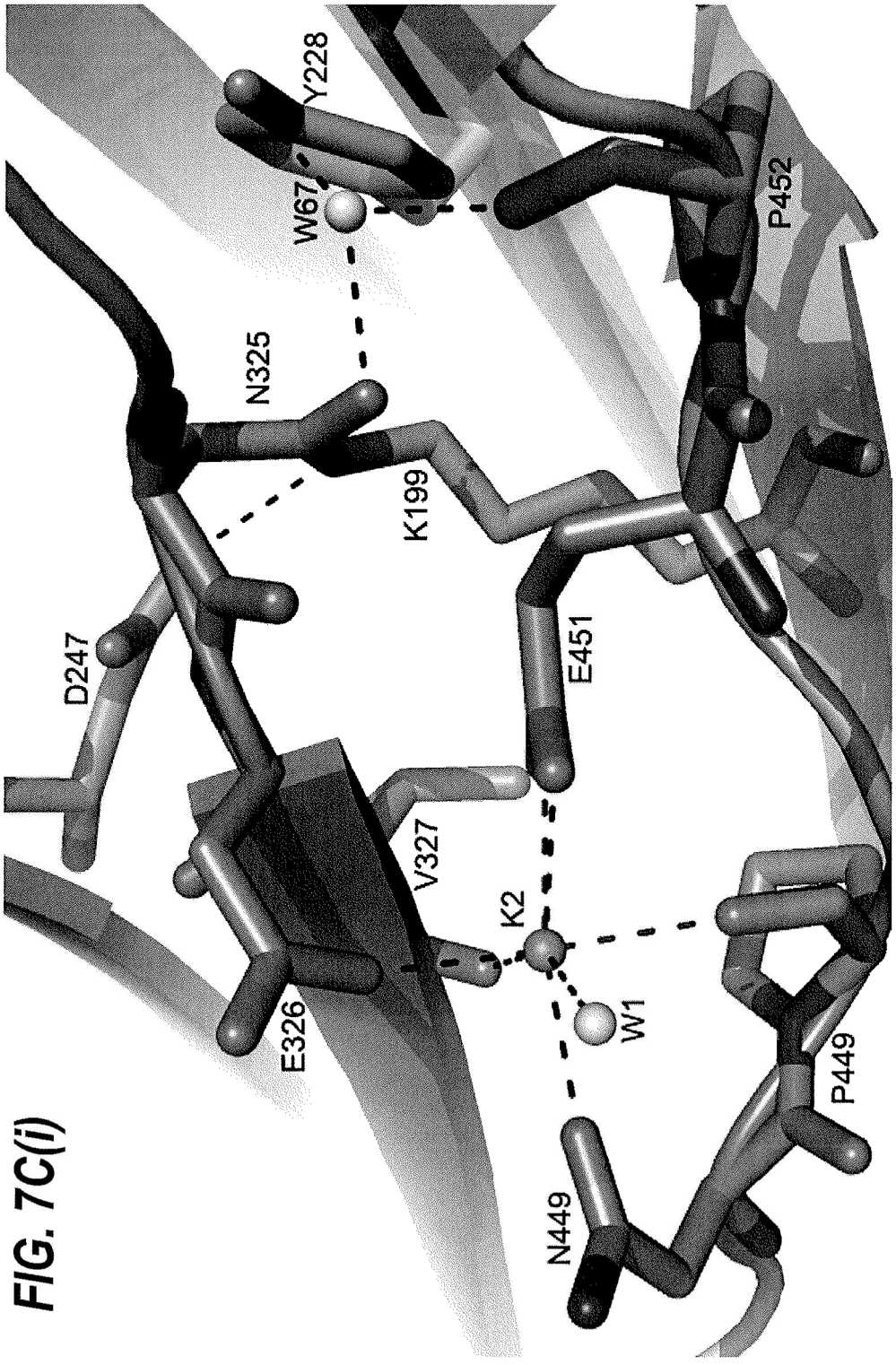

IP1
Y228
W67
P452
N325
K199
D247
E451
V327
K2
E326
W1
P449
N449

FIG. 7C(i)

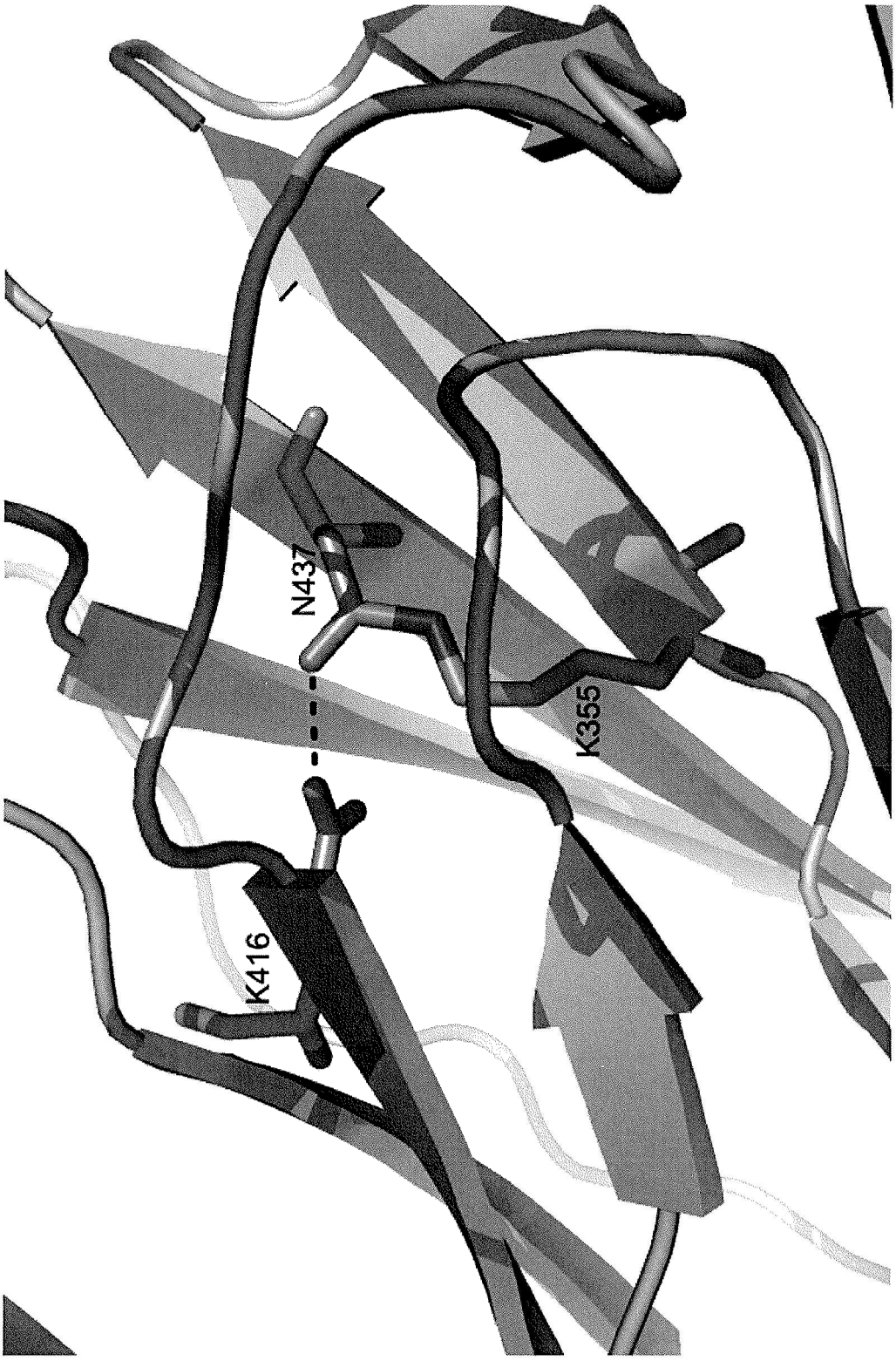


FIG. 7C(ii)

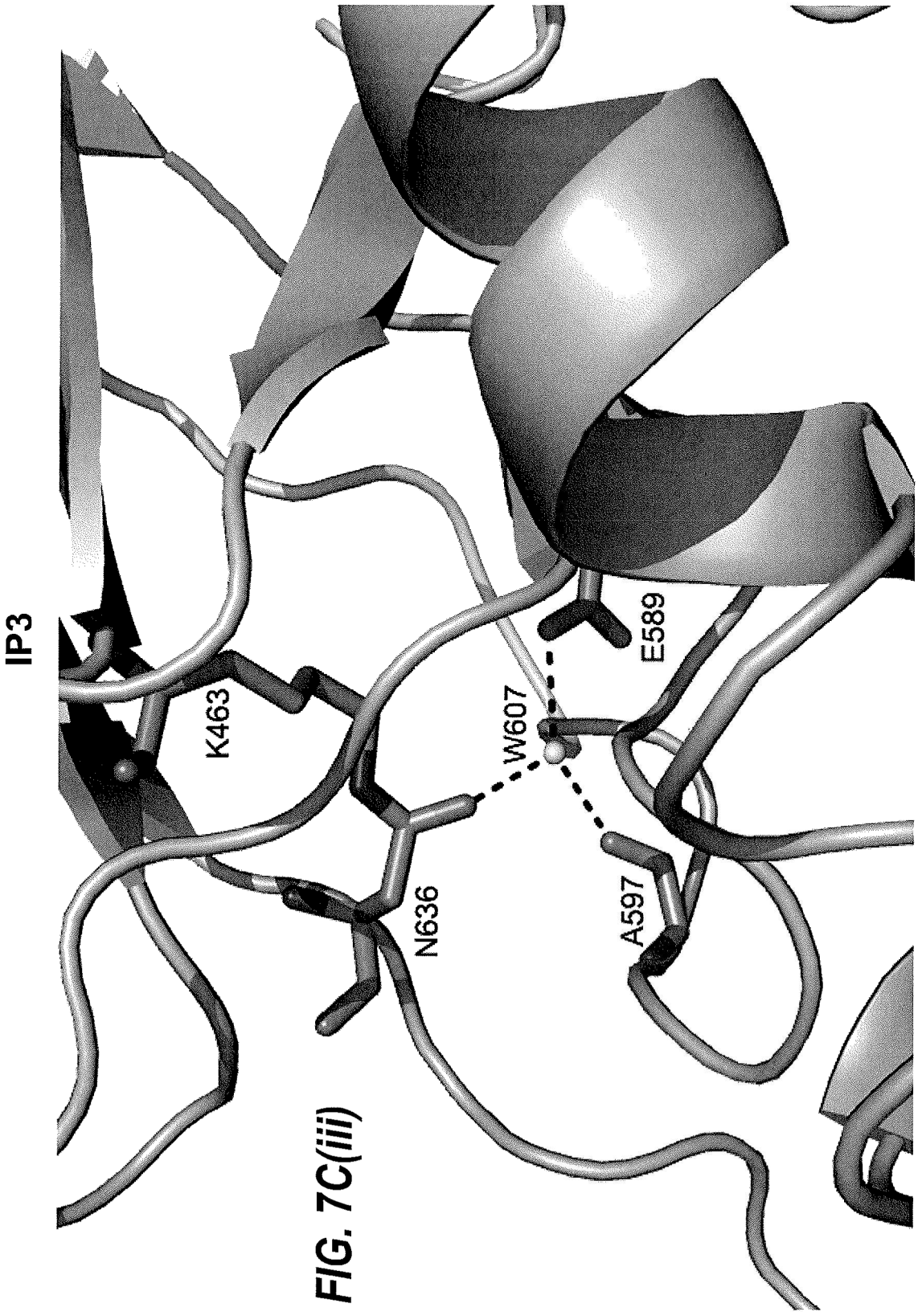


FIG. 7C(iii)

190NTETKPQVDKKNFADK204
307ITYSATLNGSAVVEVLETNNDVK328
+84 Da
+42 Da
4040.85
Guanidinated
4082.93
4124.97
Relative Intensity (%)
4040
4060
4080
4100
4120
4040
m/z

FIG. 7D(i)

351 ITVNKTWAVDGNEVNK366
437 NNK439
+84 Da
+42 Da
2145.18
2229.25
Guanidinated
2187.23
Relative Intensity (%)
2150
2170
2190
2210
2230
m/z

FIG. 7D(ii)

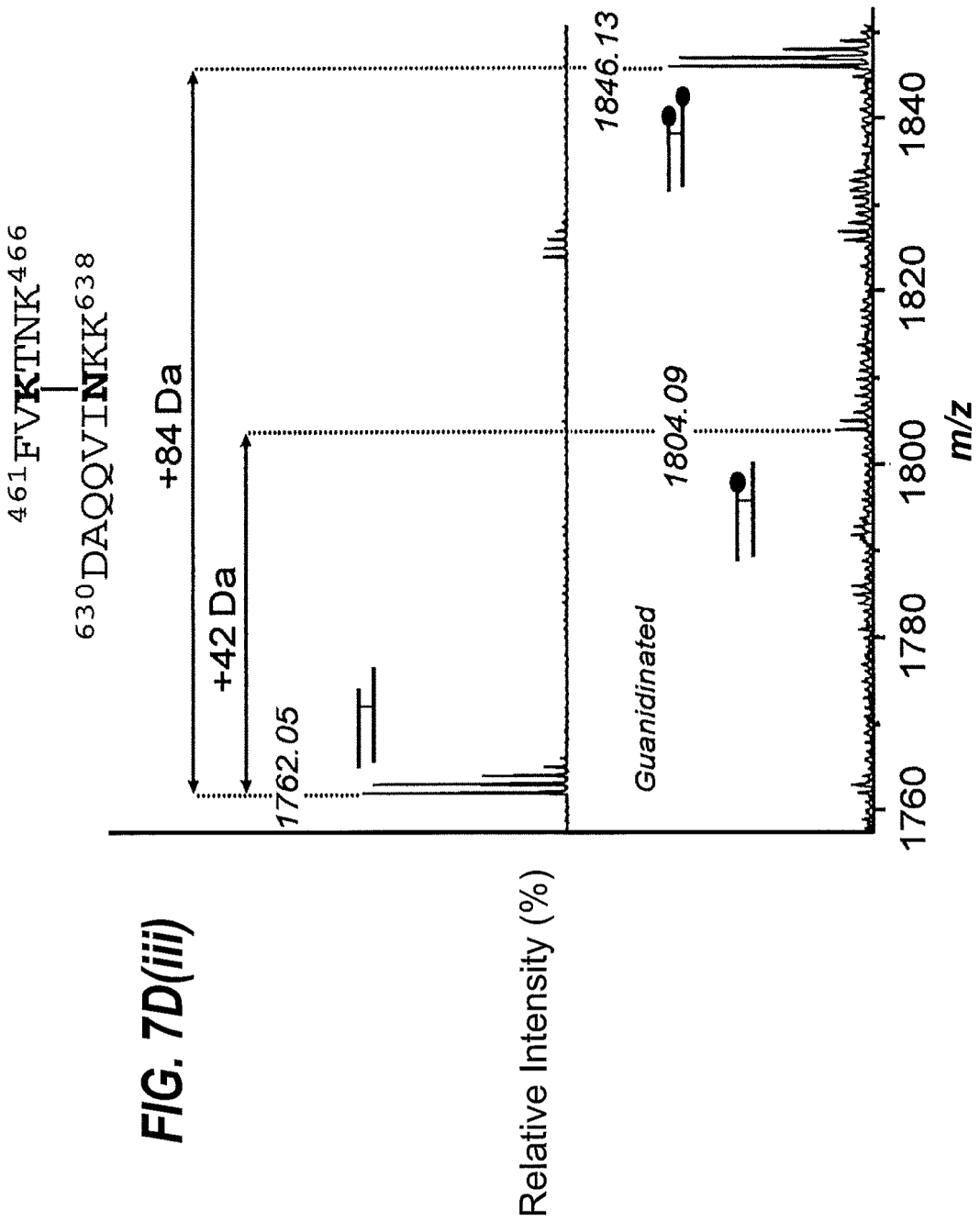

461FVKTNK466
630DAQQVINKK638
+84 Da
+42 Da
1762.05
1804.09
1846.13
Guanidinated
Relative Intensity (%)
1760
1780
1800
1820
1840
m/z

FIG. 7D(iii)