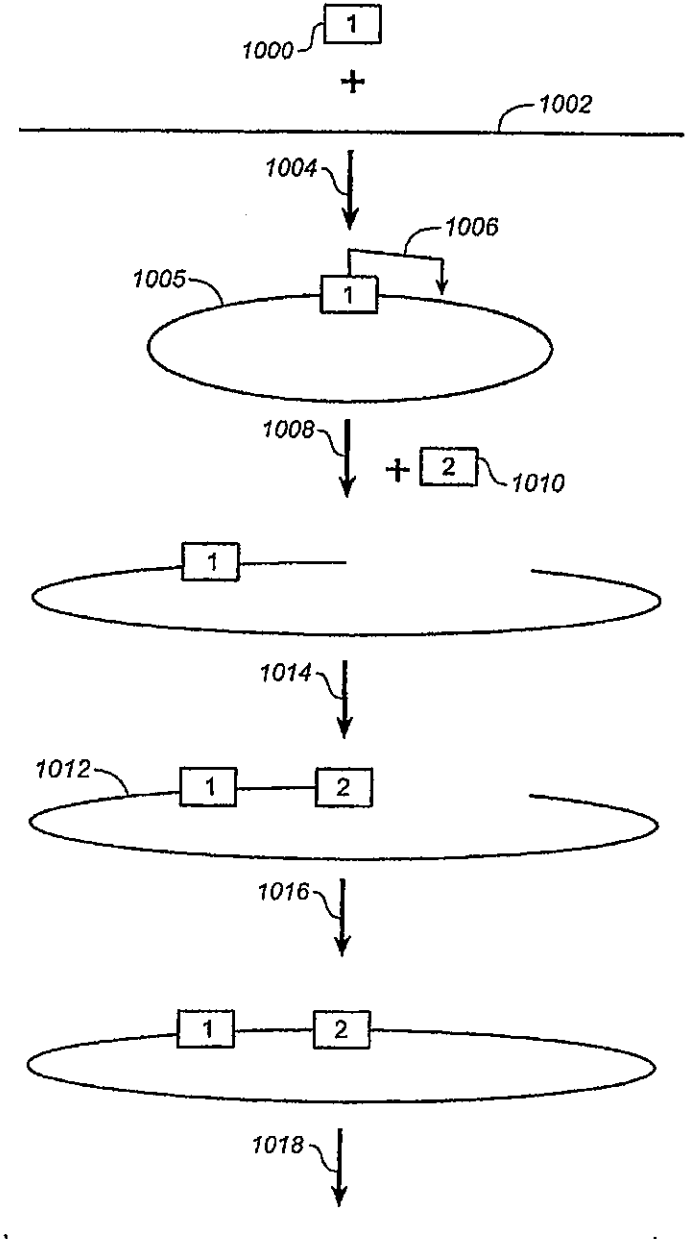

1
1000
+
1002
1004
1006
1005
1
1008
+
2
1010
1
1014
1012
1
2
1016
1
2
1018

FIG. 1A

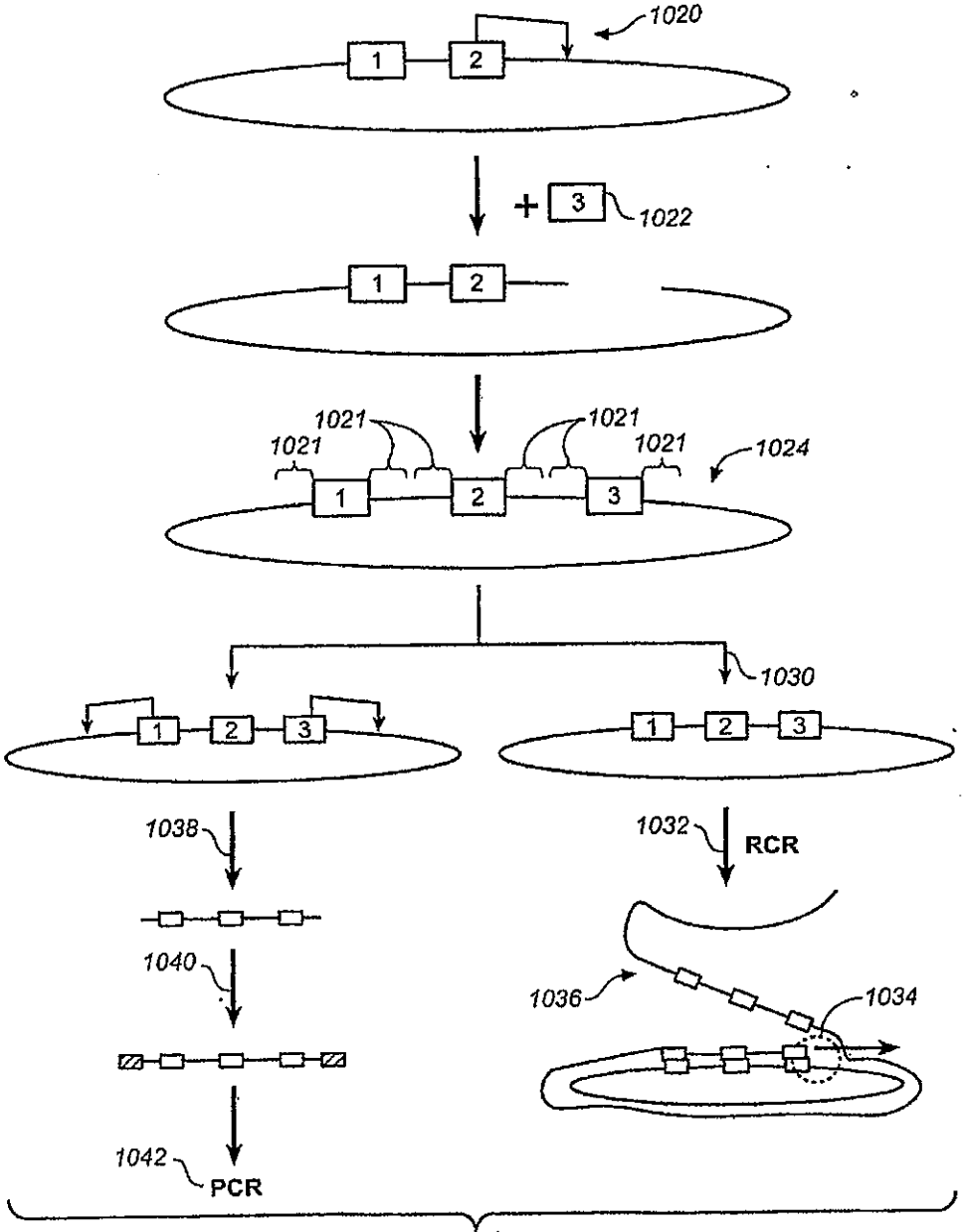

1020
1
2
+
3
1022
1
2
1021
1021
1021
1021
1024
1
2
3
1030
1
2
3
1
2
3
1038
1032
RCR
1040
1036
1034
1042
PCR

FIG. 1B

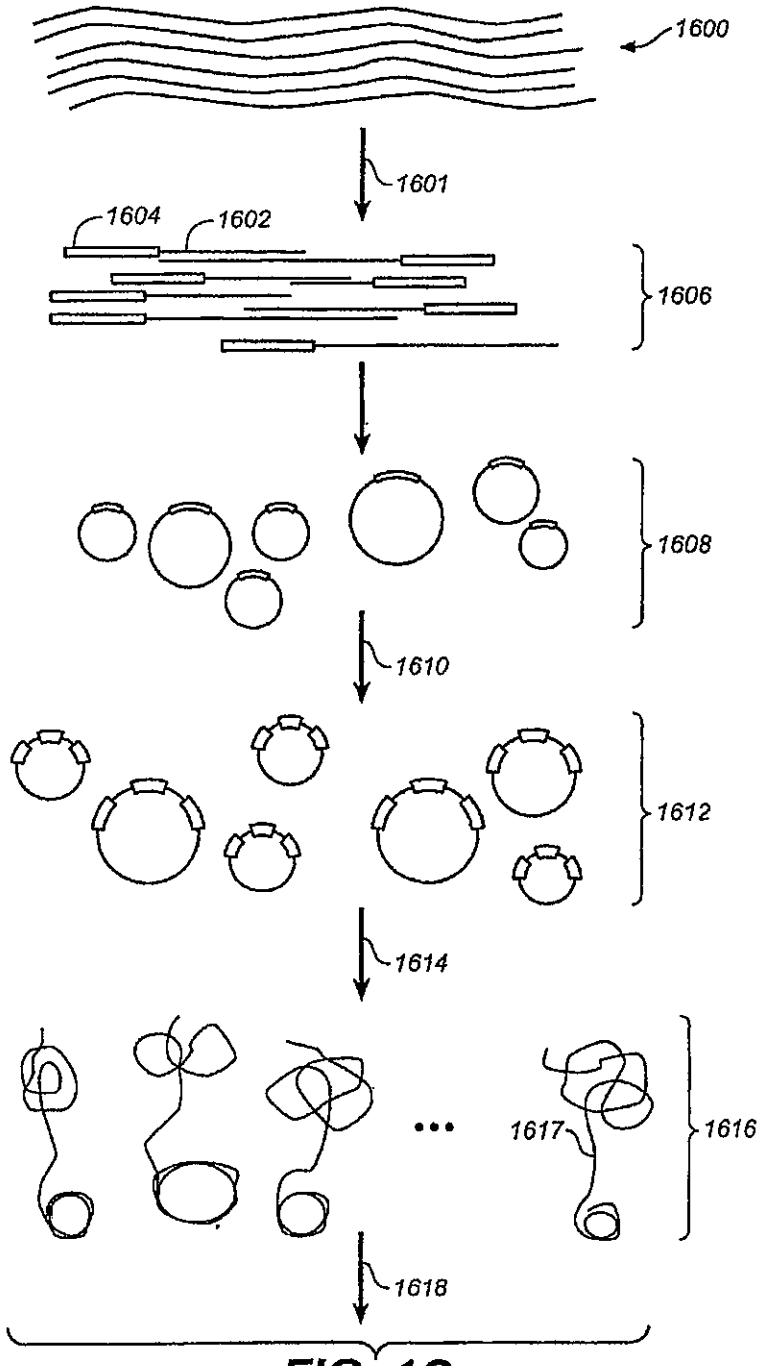


FIG. 1C

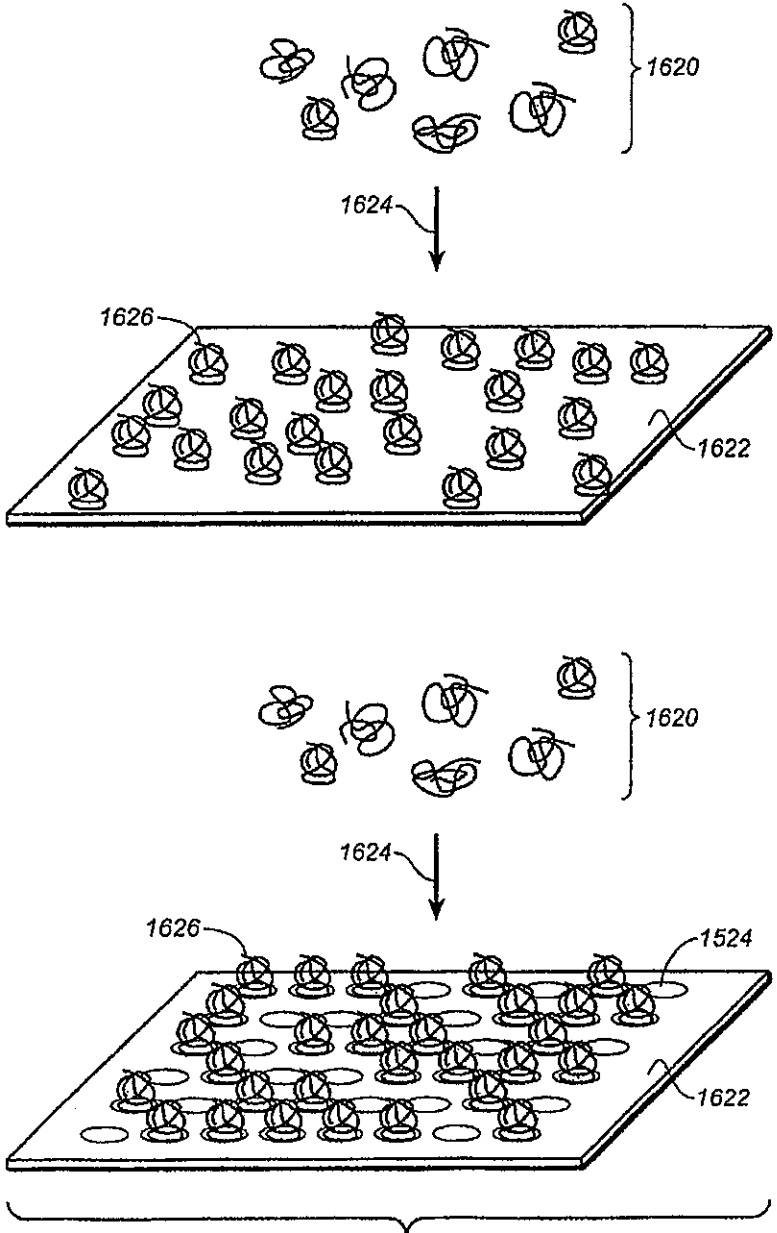


FIG. 1D

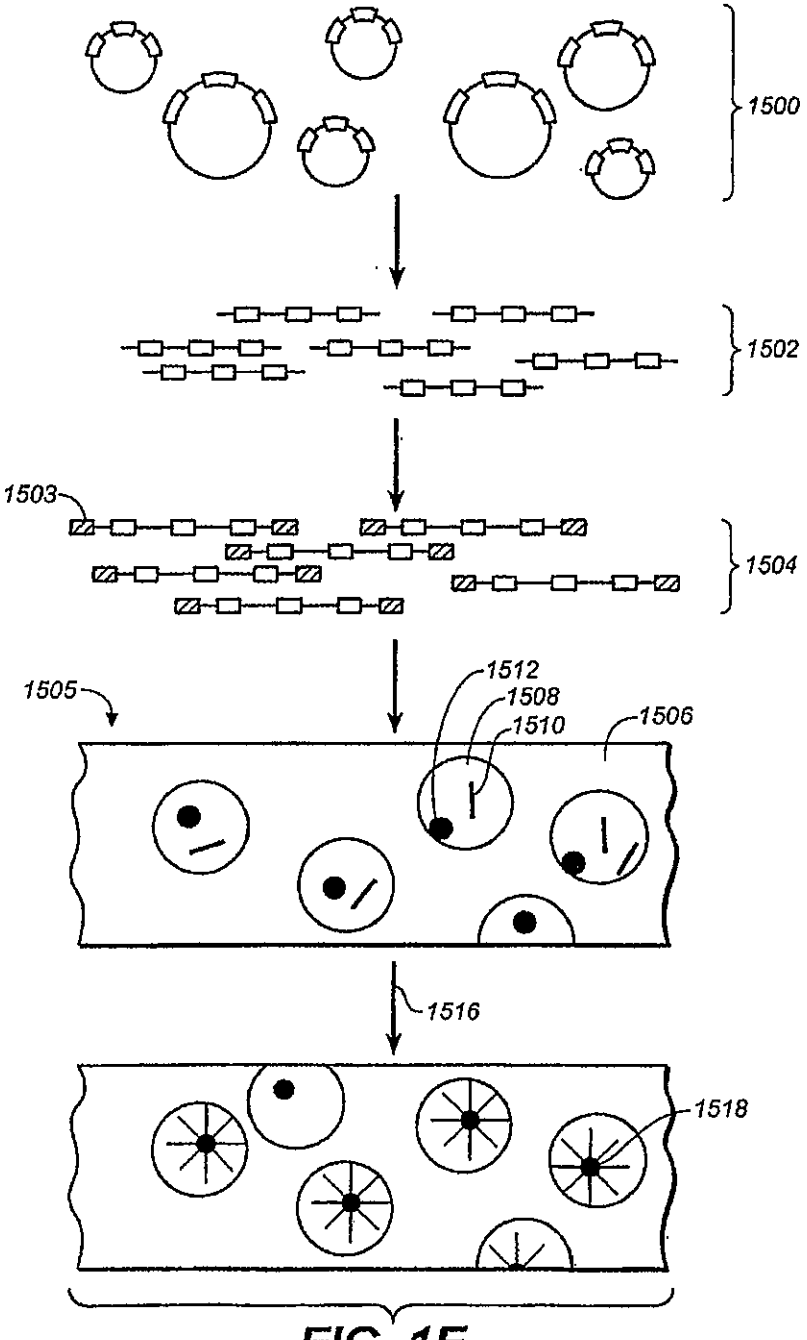


FIG. 1E

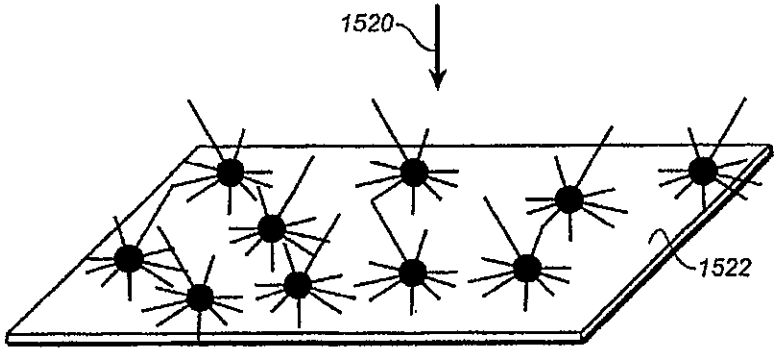


FIG. 1F

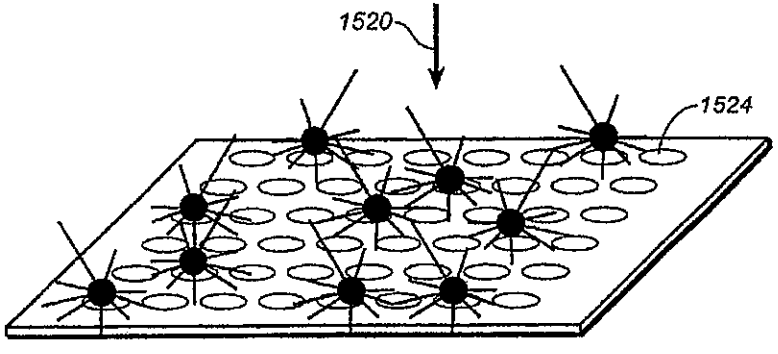


FIG. 1G

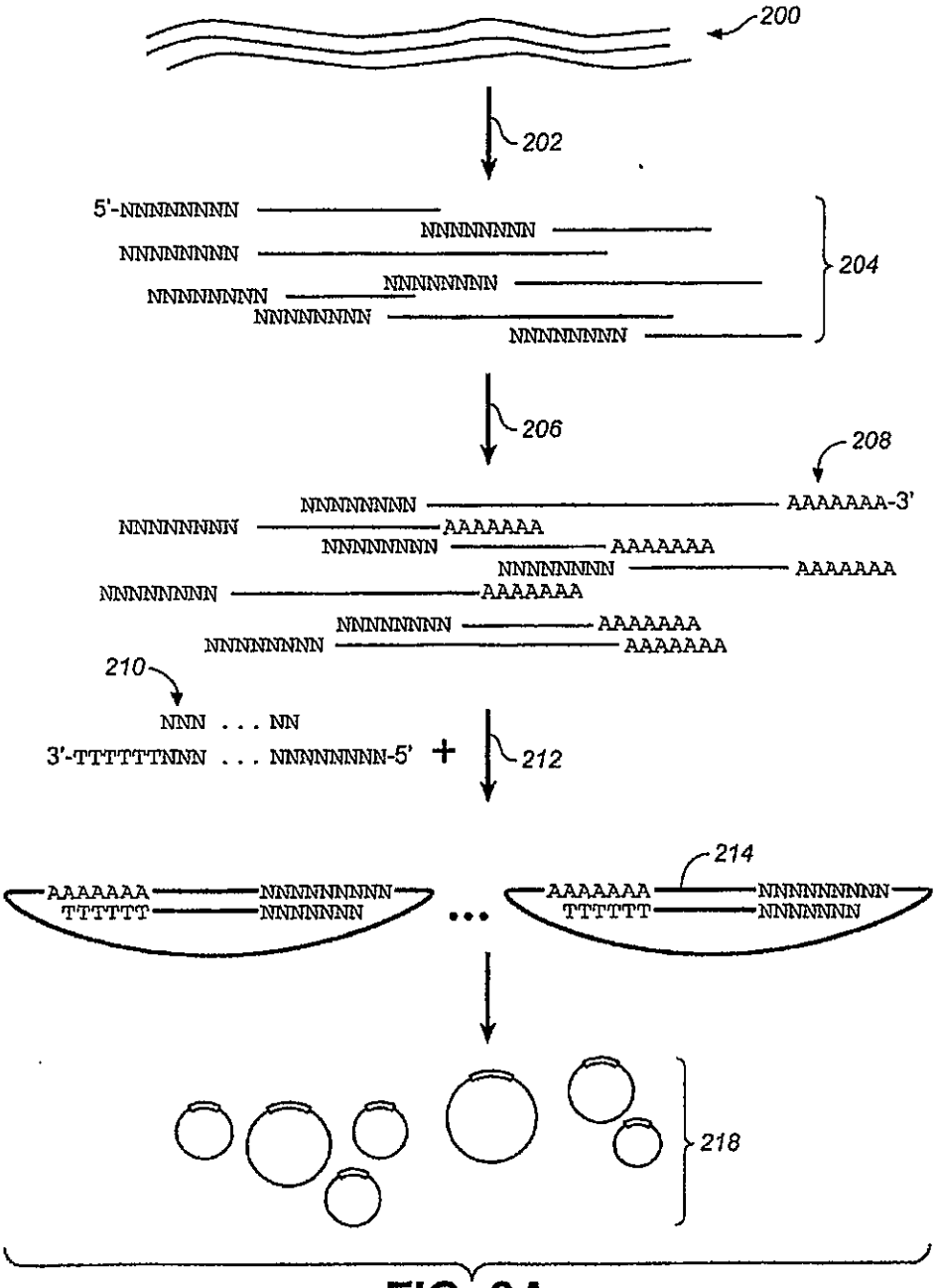

200
202
5'-NNNNNNNNN
NNNNNNNNN
NNNNNNNNN
NNNNNNNNN
NNNNNNNNN
NNNNNNNNN
NNNNNNNNN
204
206
208
NNNNNNNNN
AAAAAAA-3'
NNNNNNNNN
AAAAAAA
NNNNNNNNN
AAAAAAA
NNNNNNNNN
AAAAAAA
NNNNNNNNN
AAAAAAA
NNNNNNNNN
AAAAAAA
NNNNNNNNN
AAAAAAA
210
NNN . . . NN
3'-TTTTTTNNN . . . NNNNNNNNN-5'
+
212
214
AAAAAAA
NNNNNNNNNN
TTTTTT
NNNNNNN
AAAAAAA
NNNNNNNNNN
TTTTTT
NNNNNNN
218

FIG. 2A

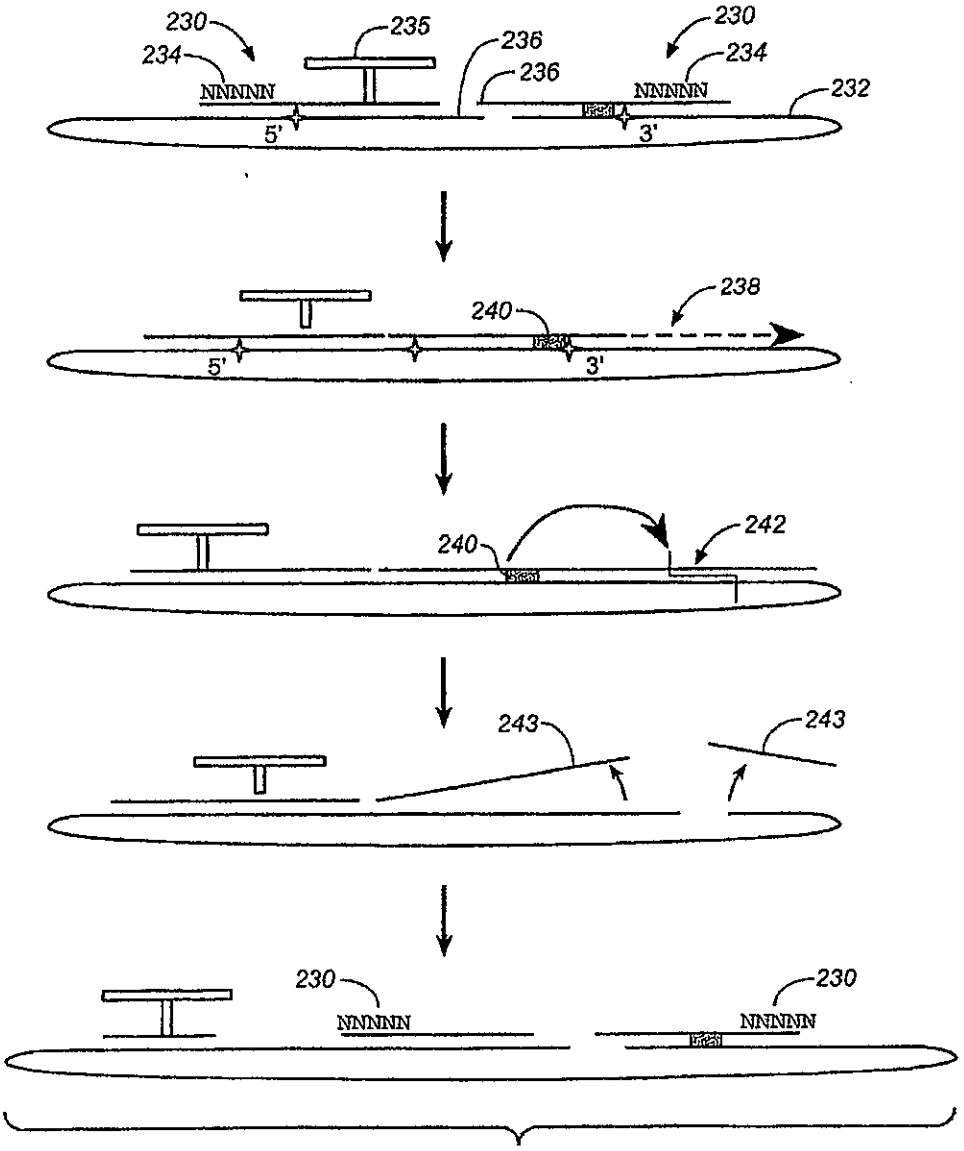

230
234
NNNNN
235
236
236
230
234
NNNNN
232
5'
3'
240
238
5'
3'
240
242
243
243
230
NNNNN
230
NNNNN

FIG. 2B

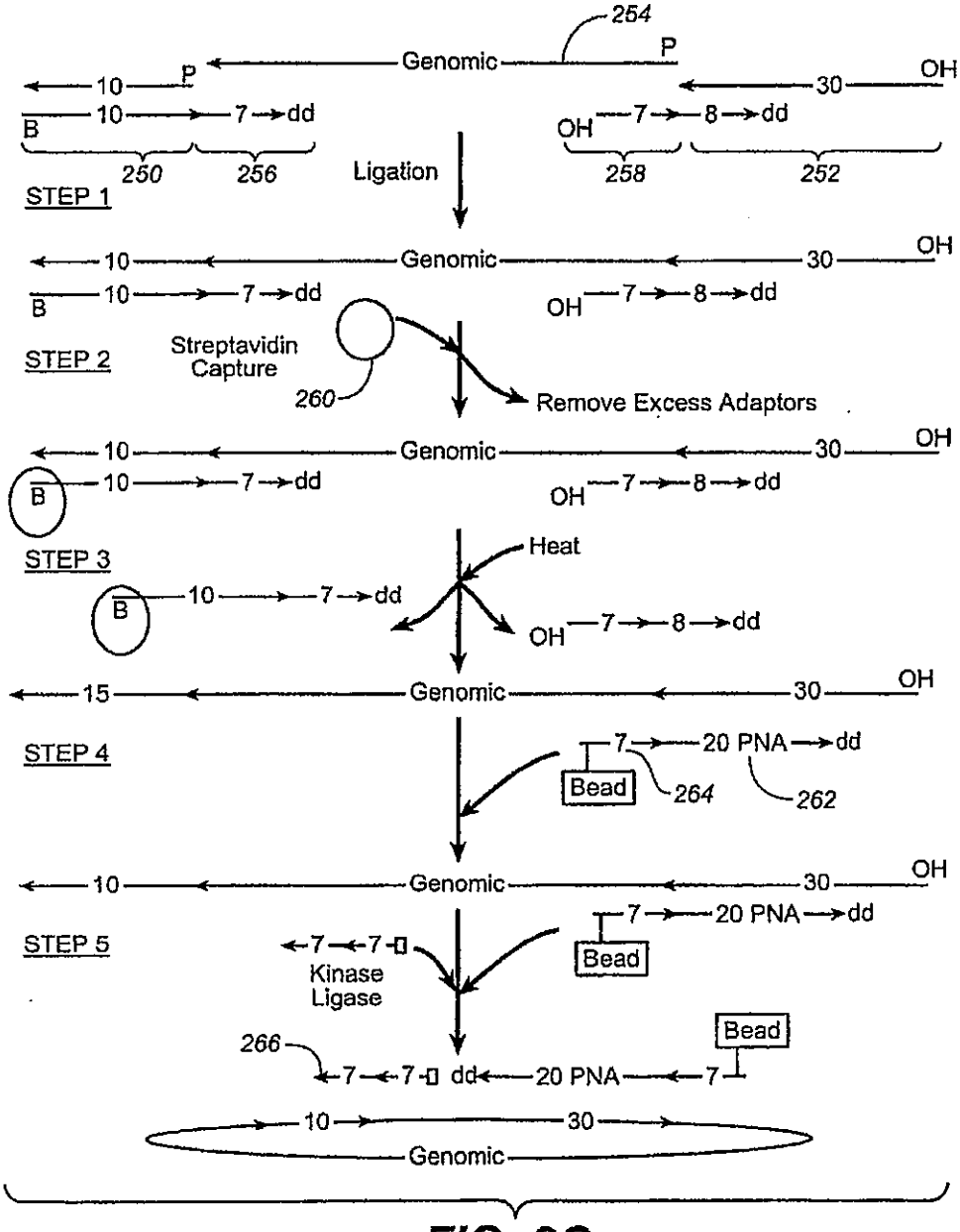

254
Genomic
P
10
P
30
OH
B
10
7
dd
OH
7
8
dd
250
256
Ligation
258
252
STEP 1
Genomic
Streptavidin Capture
260
Remove Excess Adaptors
STEP 2
STEP 3
Heat
STEP 4
15
20 PNA
Bead
264
262
STEP 5
Kinase Ligase
266

FIG. 2C

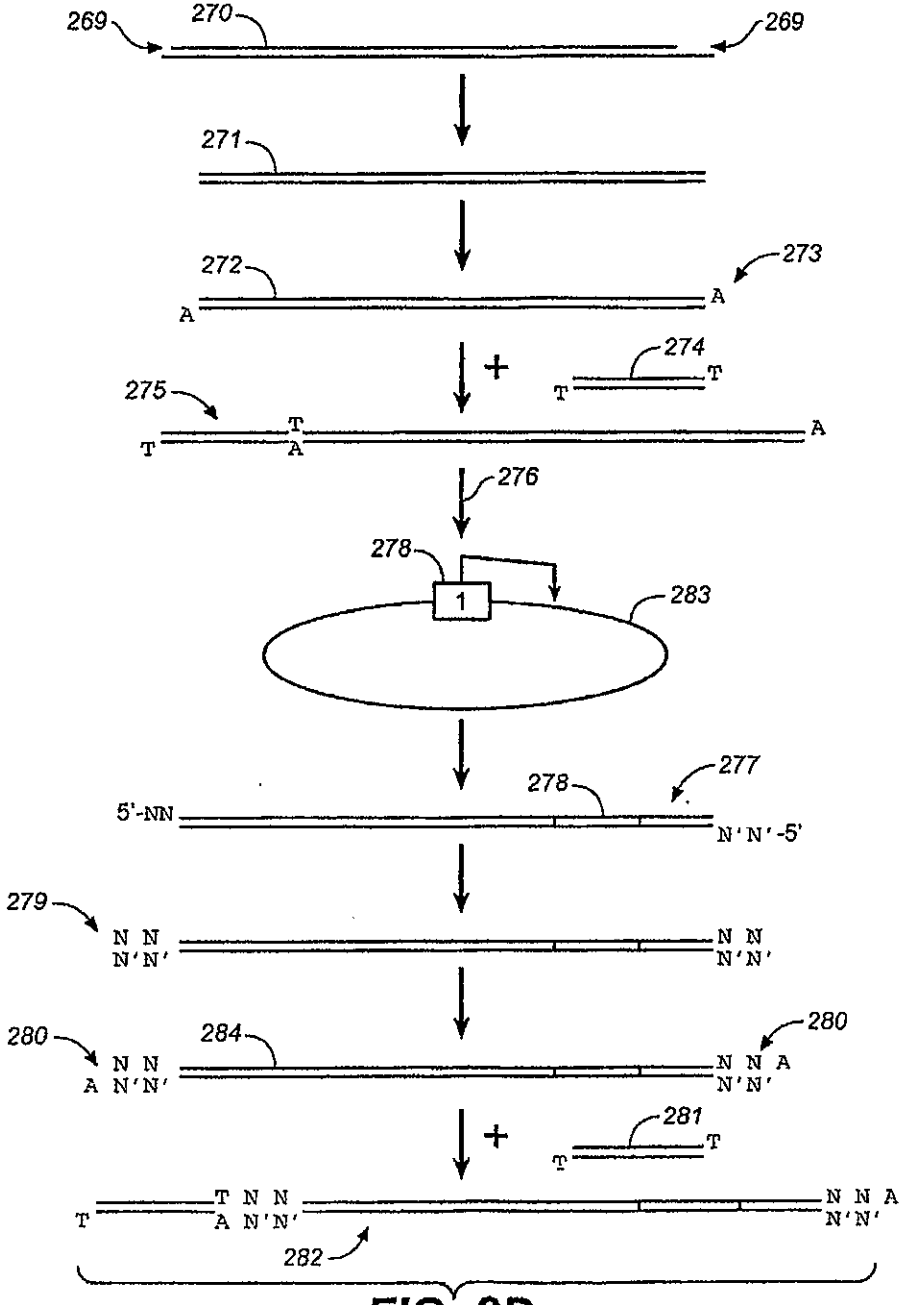

269
270
269
271
272
273
A
A
274
T
T
275
T
T
A
A
276
278
1
283
278
277
5'-NN
N'N'-5'
279
N N
N'N'
N N
N'N'
280
284
280
N N
A N'N'
N N A
N'N'
281
T
T
T N N
A N'N'
N N A
N'N'
T
282

FIG. 2D

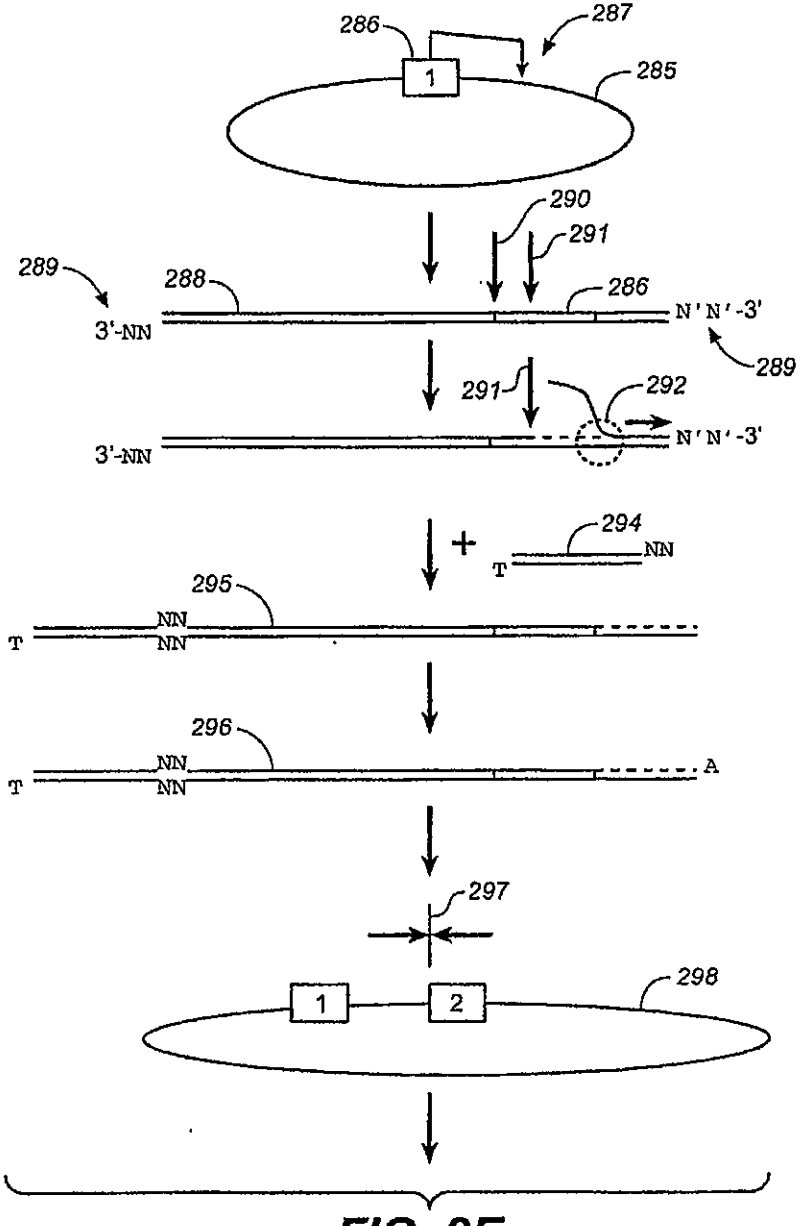

286
287
1
285
290
291
289
288
286
3'-NN
N'N'-3'
289
291
292
3'-NN
N'N'-3'
294
NN
T
295
NN
T
NN
296
NN
T
NN
A
297
1
2
298

FIG. 2E

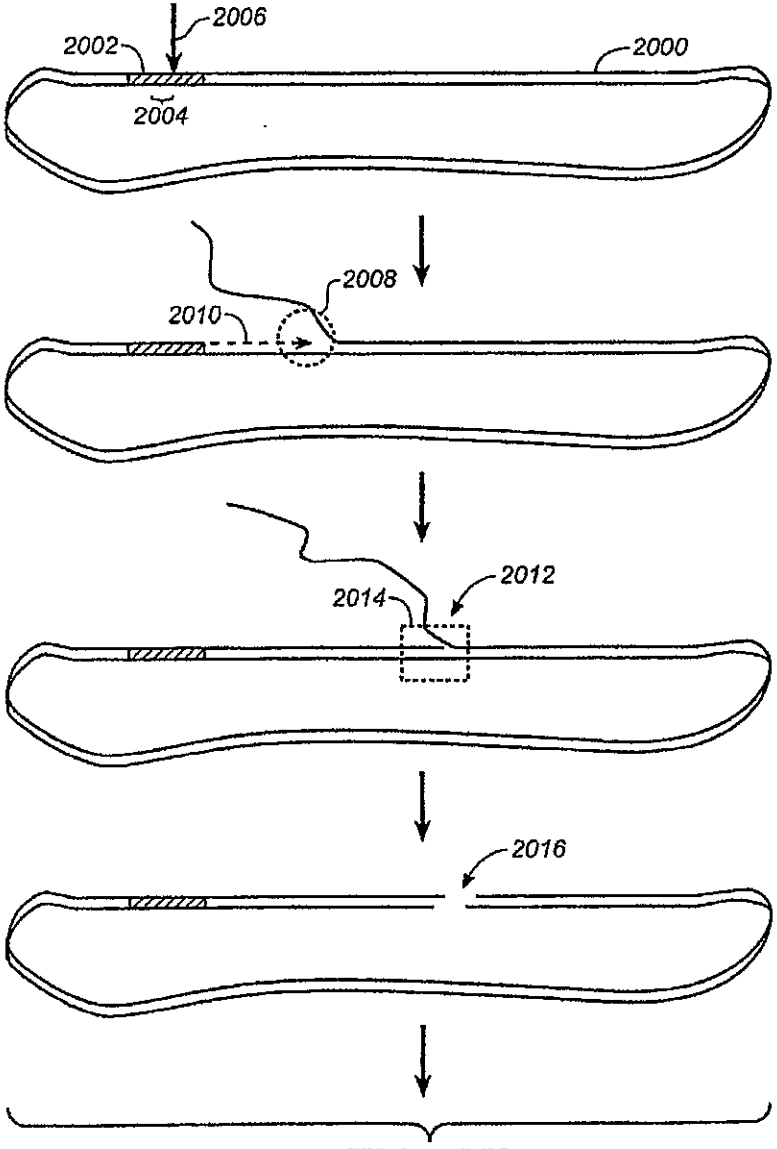


FIG. 2F

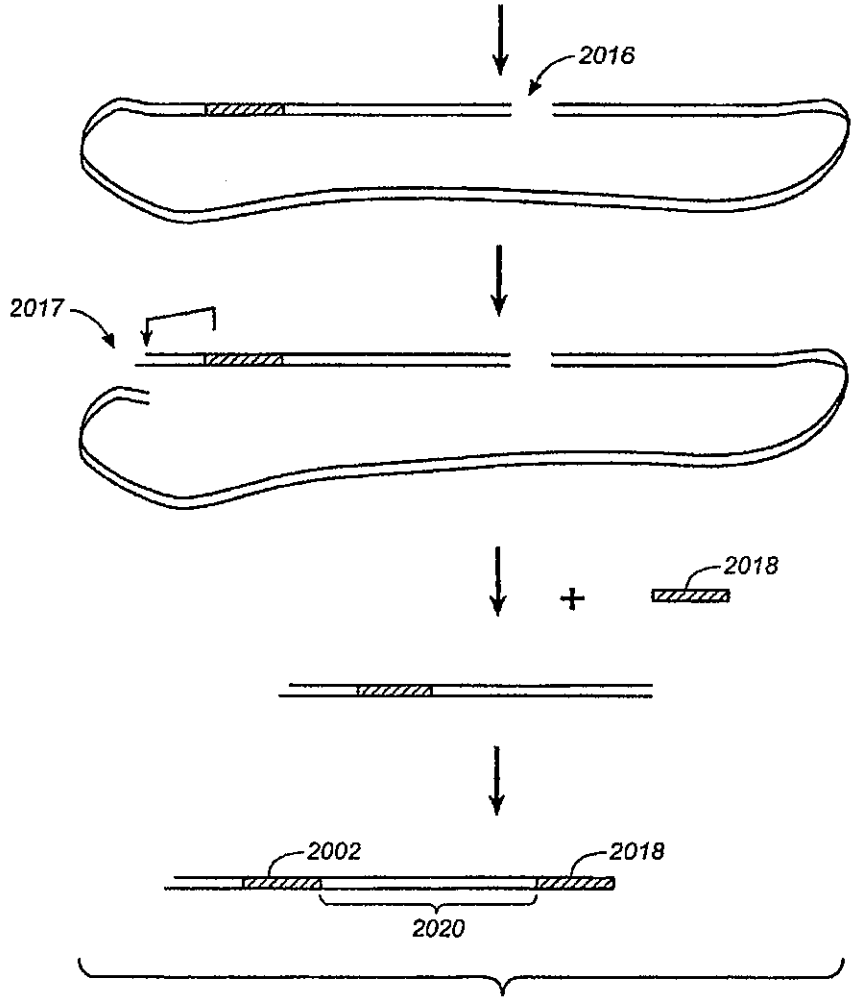


FIG. 2G

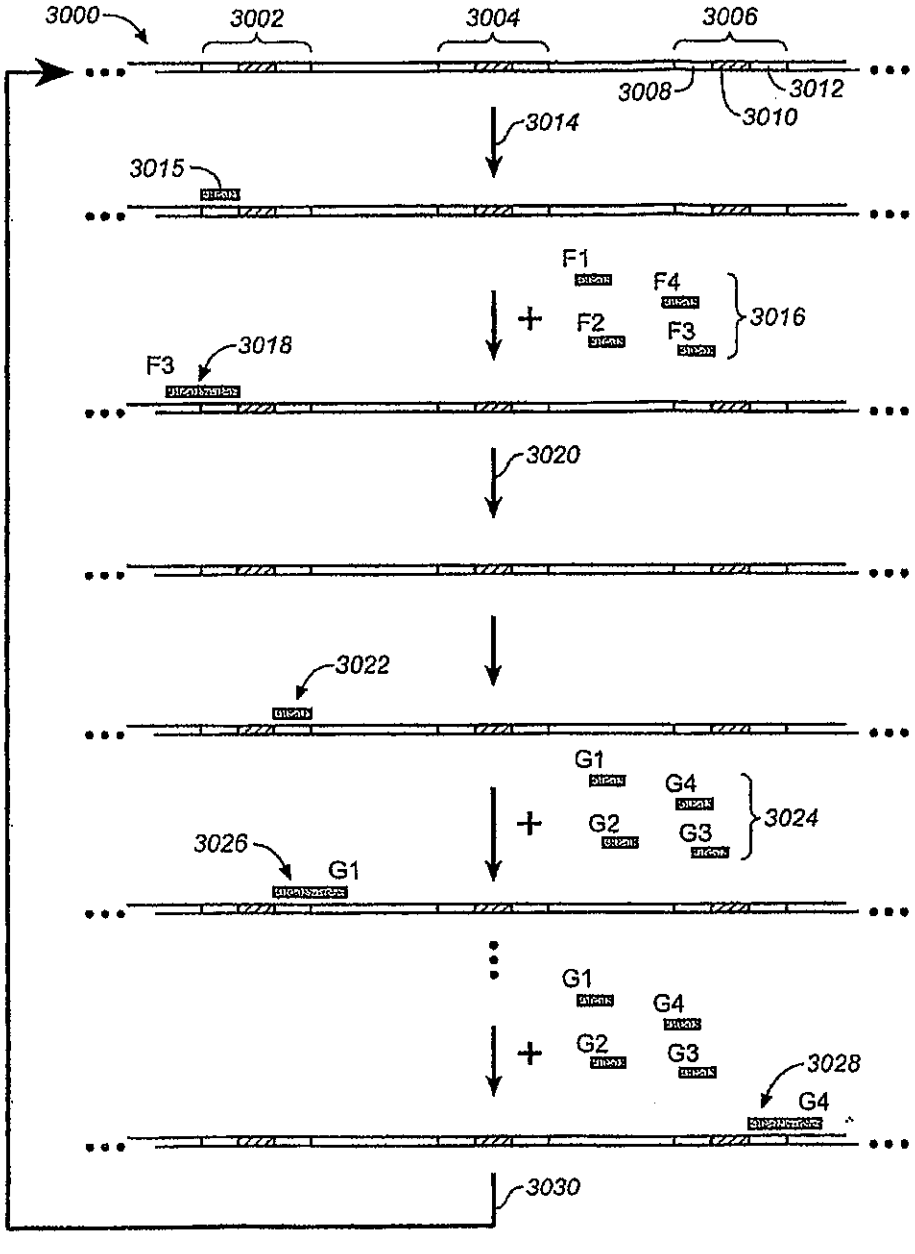

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3002
3004
3006
3008
3010
3012
3014
3015
F1
F4
F2
F3
3016
F3
3018
3020
3022
G1
G4
G2
G3
3024
3026
G1
G1
G4
G2
G3
3028
G4
3030

FIG. 3A

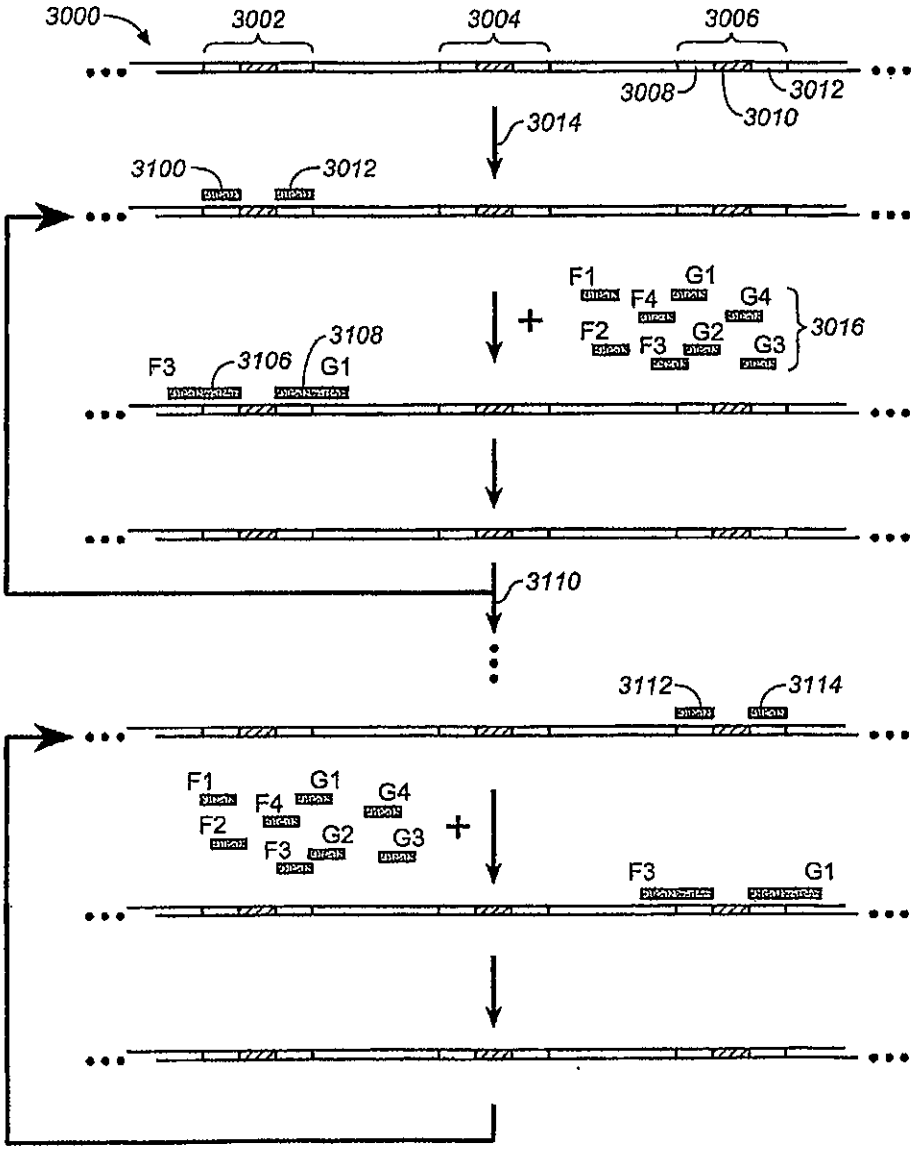

3000
3002
3004
3006
3008
3010
3012
3014
3100
3012
F1
G1
F4
G4
F2
G2
F3
G3
3016
F3
3106
3108
G1
3110
3112
3114
F1
G1
F4
G4
F2
G2
F3
G3
F3
G1

FIG. 3B

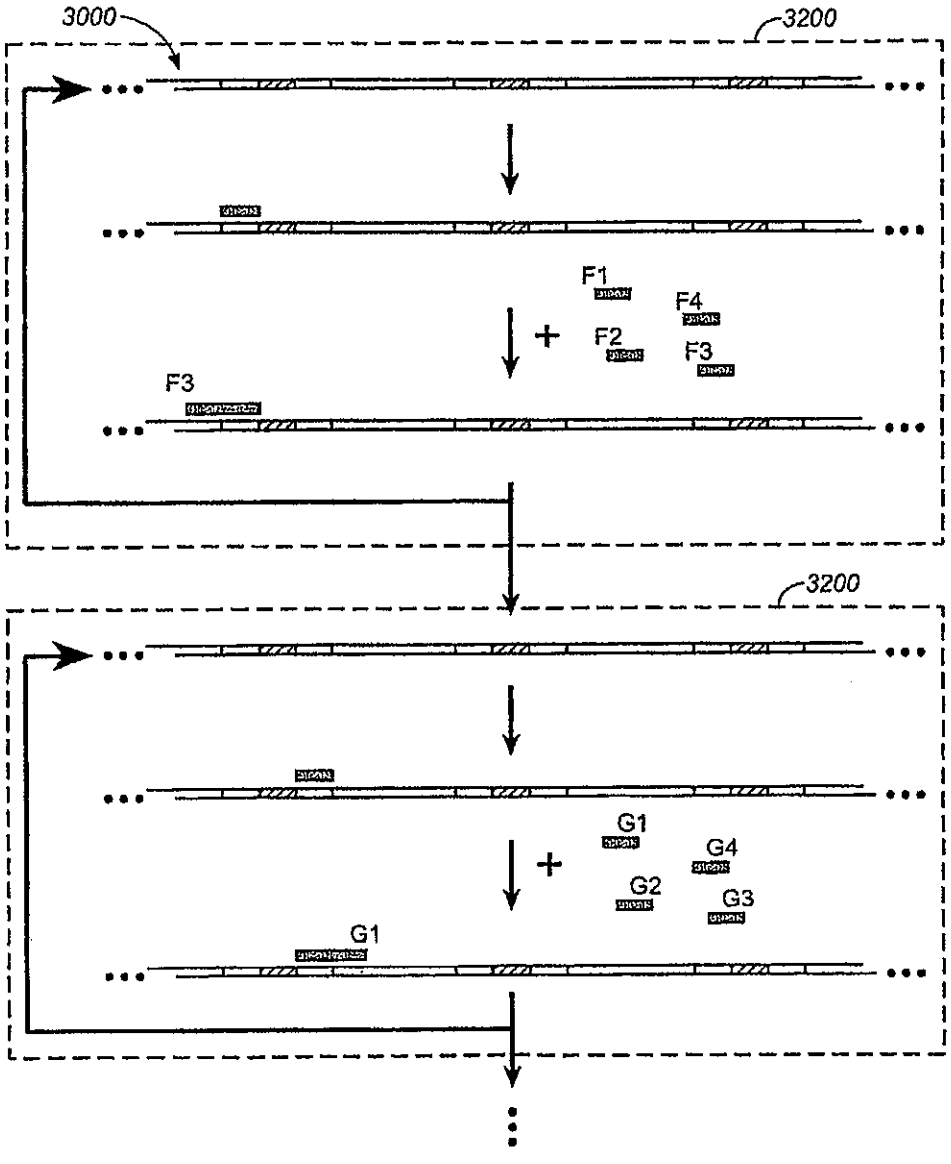


FIG. 3C

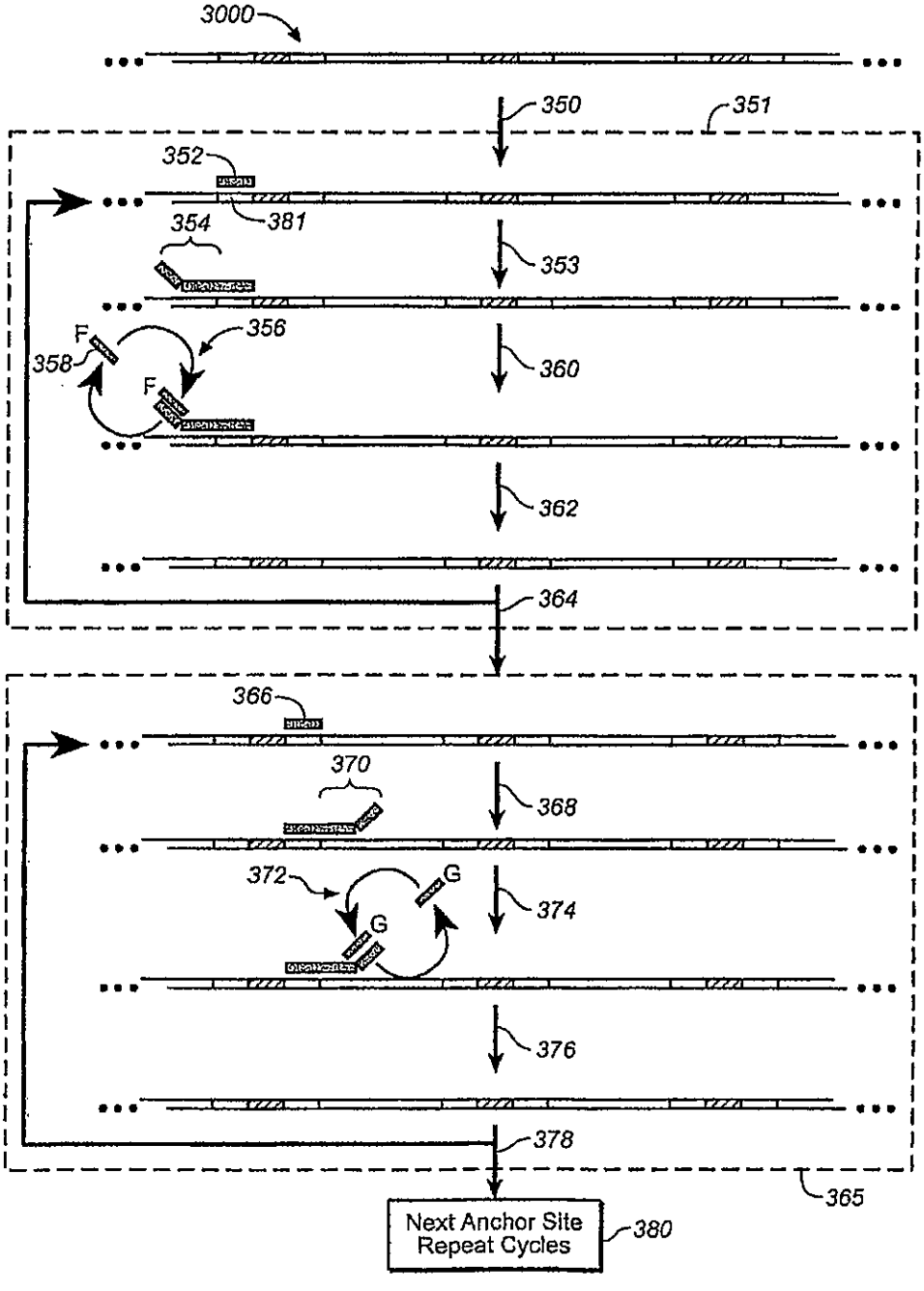

3000
350
351
352
381
354
353
356
F
358
F
360
362
364
366
370
368
372
G
G
374
376
378
365
Next Anchor Site
Repeat Cycles
380

FIG. 3D

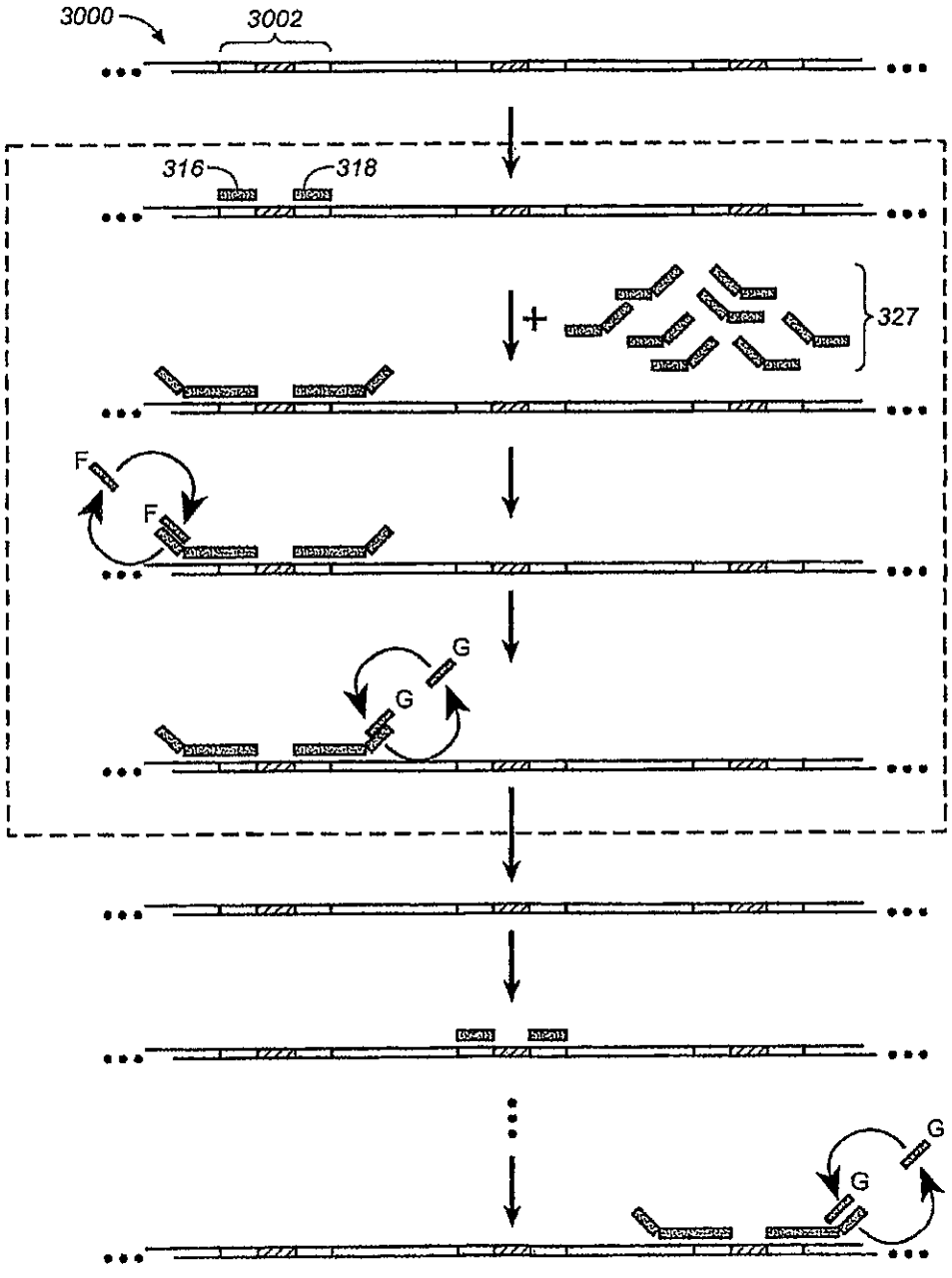


FIG. 3E

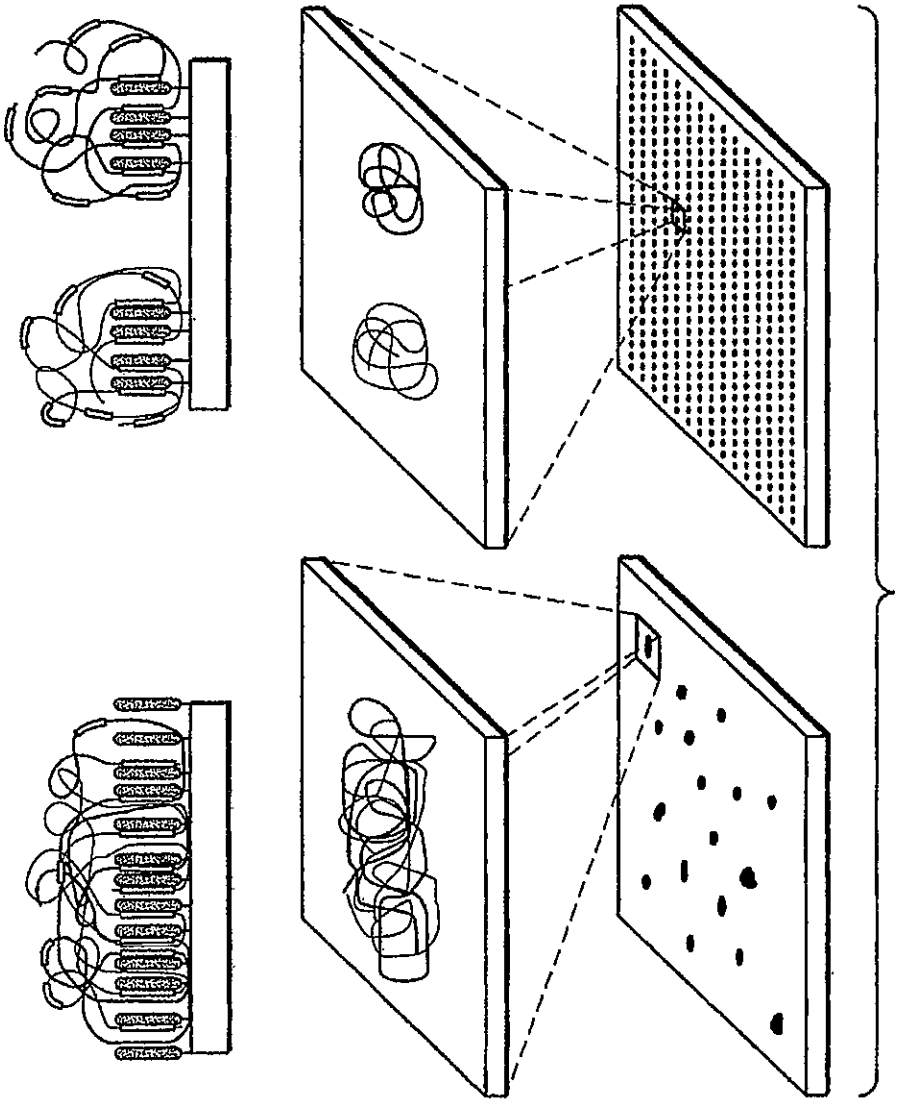


FIG. 4

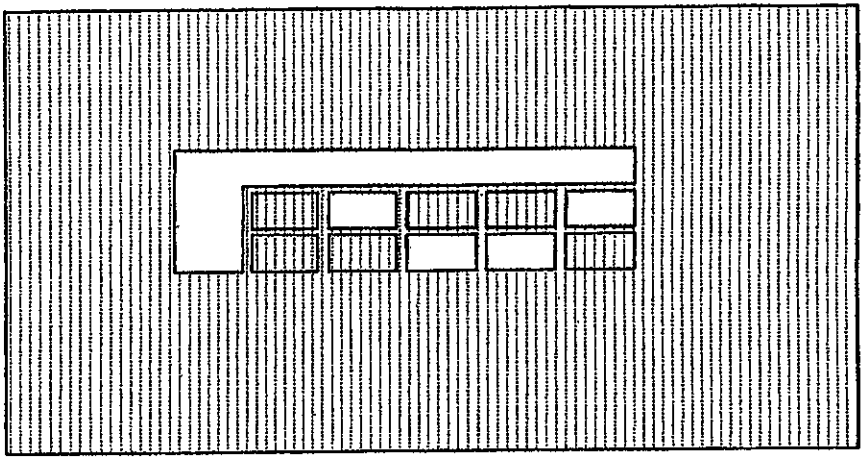


FIG. 5

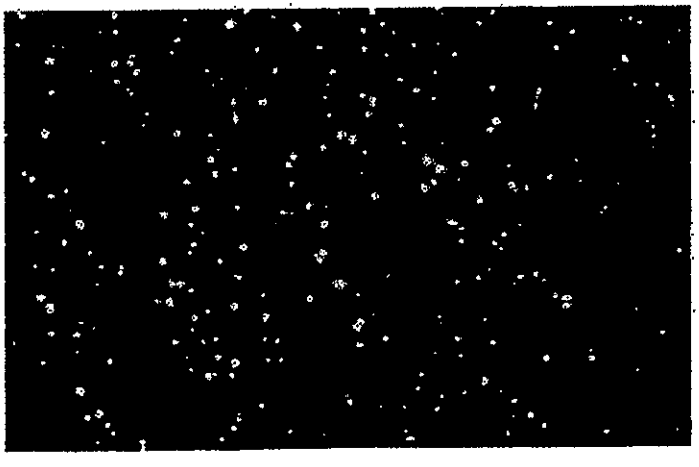


FIG. 6

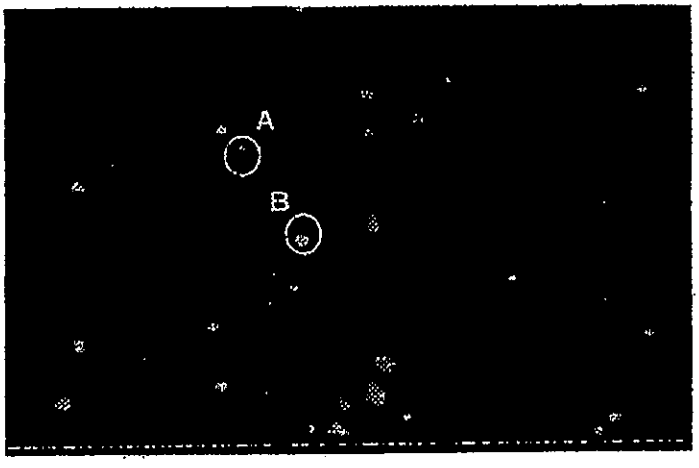


FIG. 7

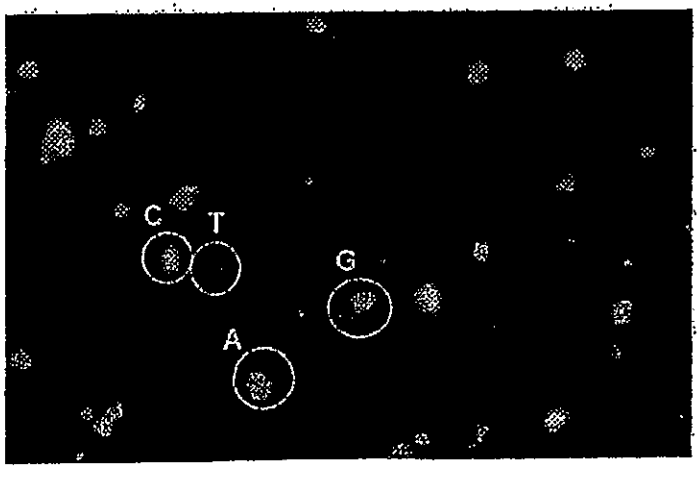


FIG. 8

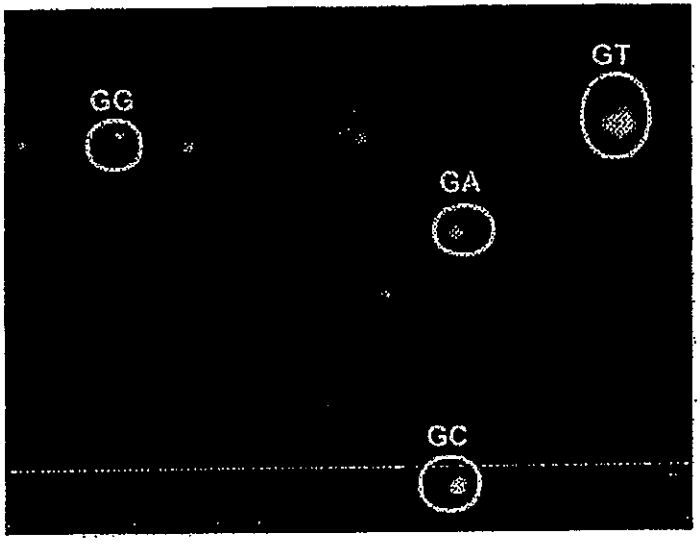


FIG. 9

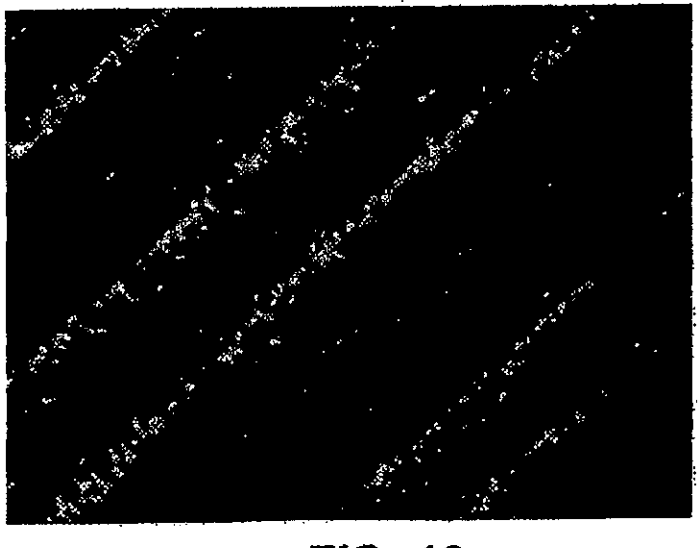


FIG. 10