

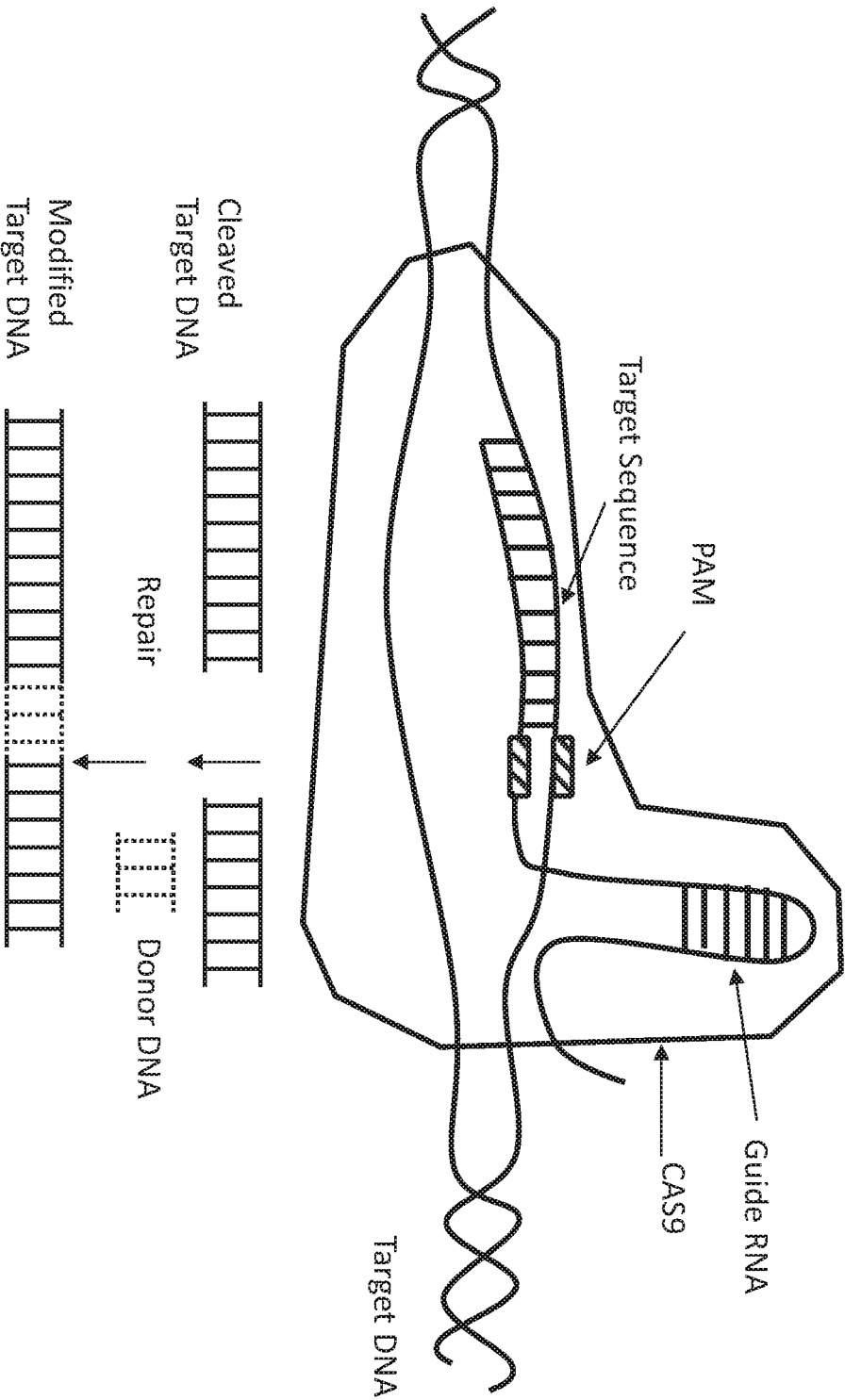


FIG. 1A

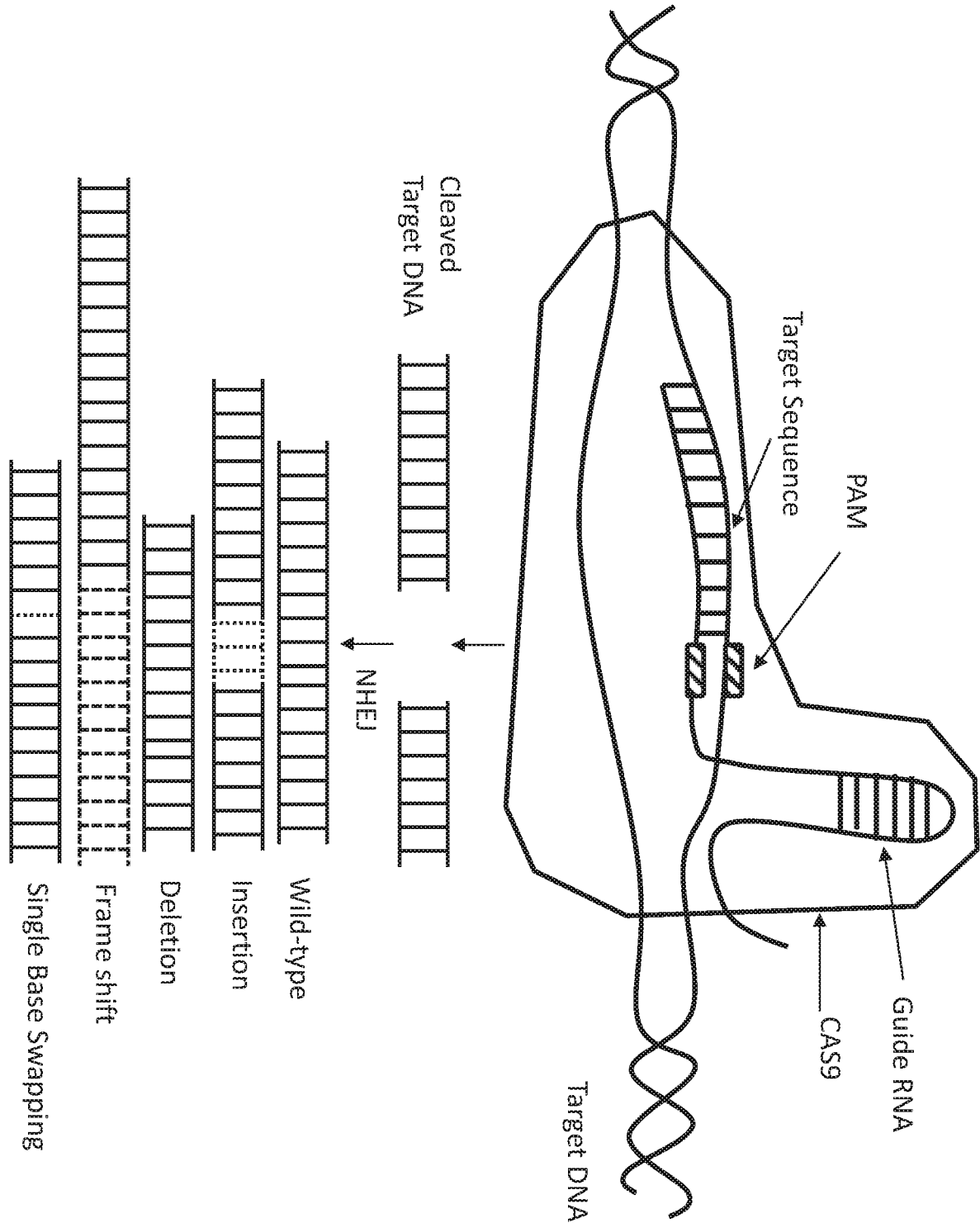


FIG. 1B

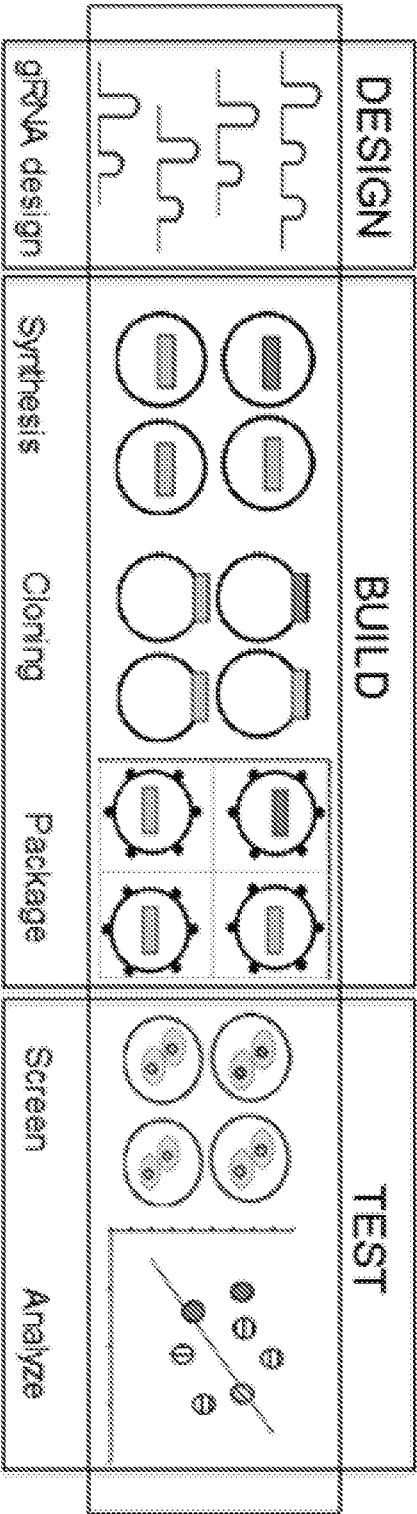


FIG. 2

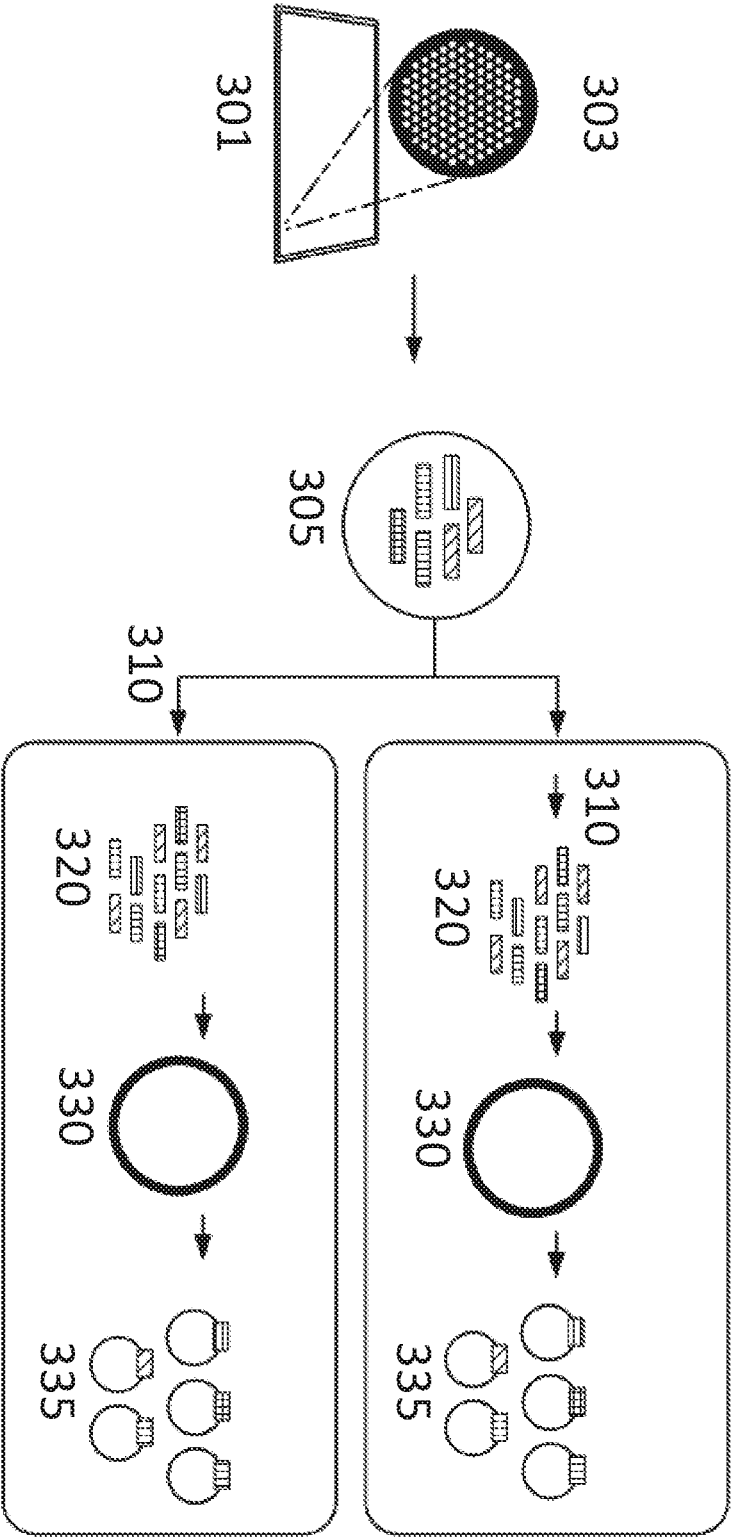


FIG. 3

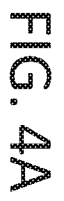


Fig. 4A

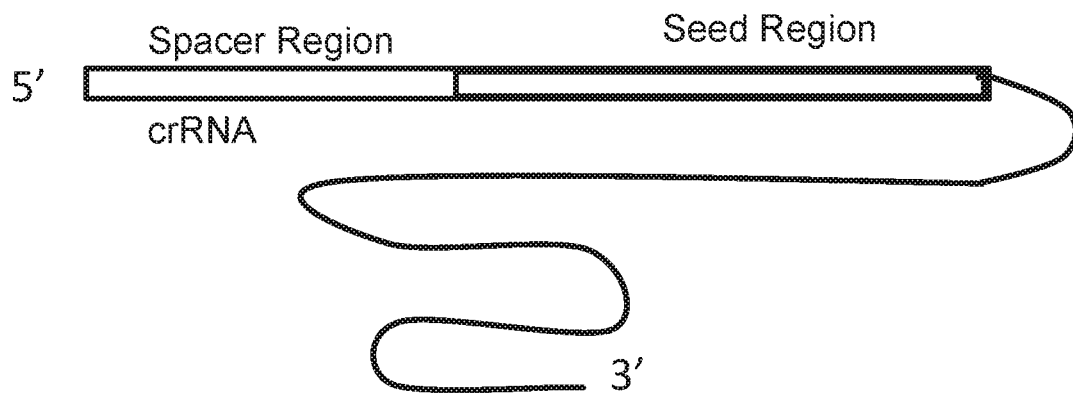


FIG. 4B

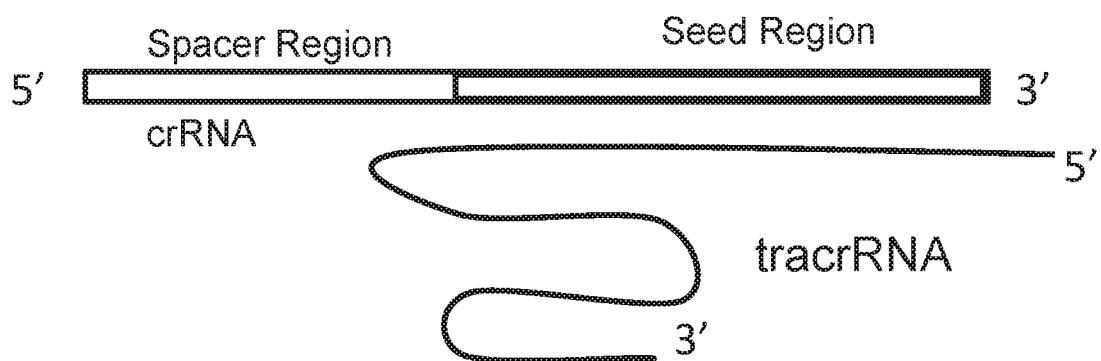


FIG. 4C

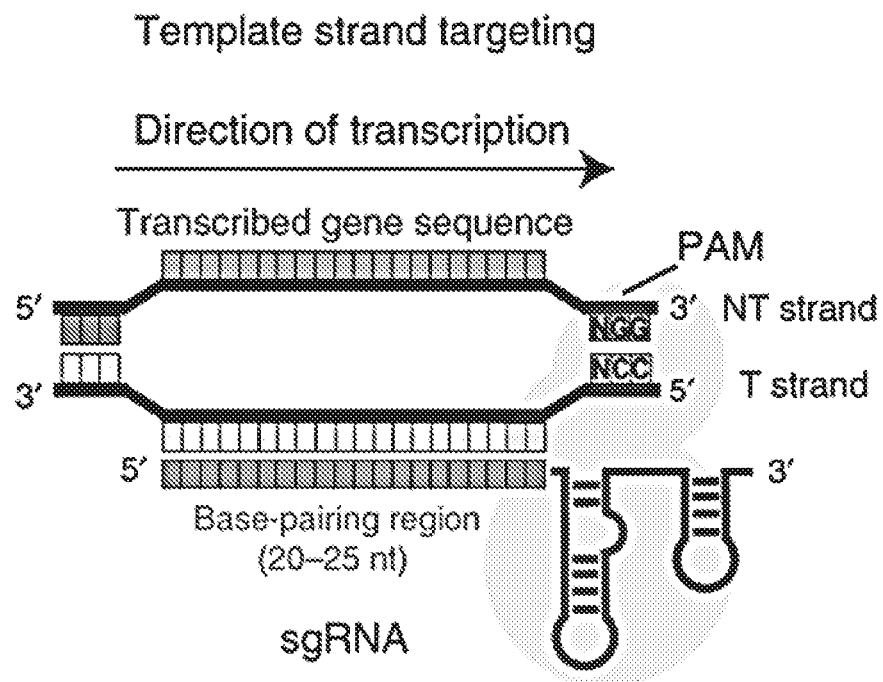


FIG. 5A

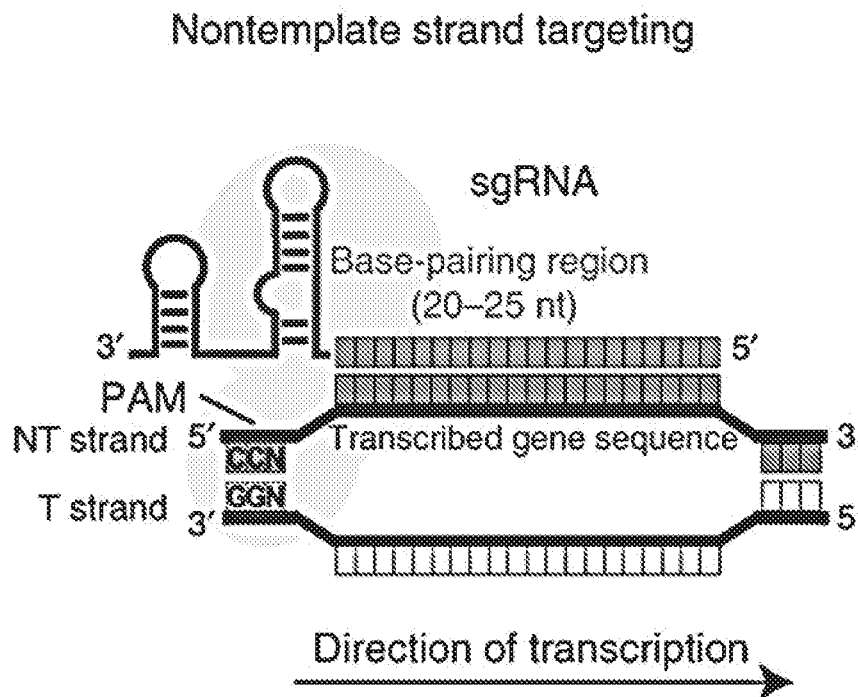


FIG. 5B

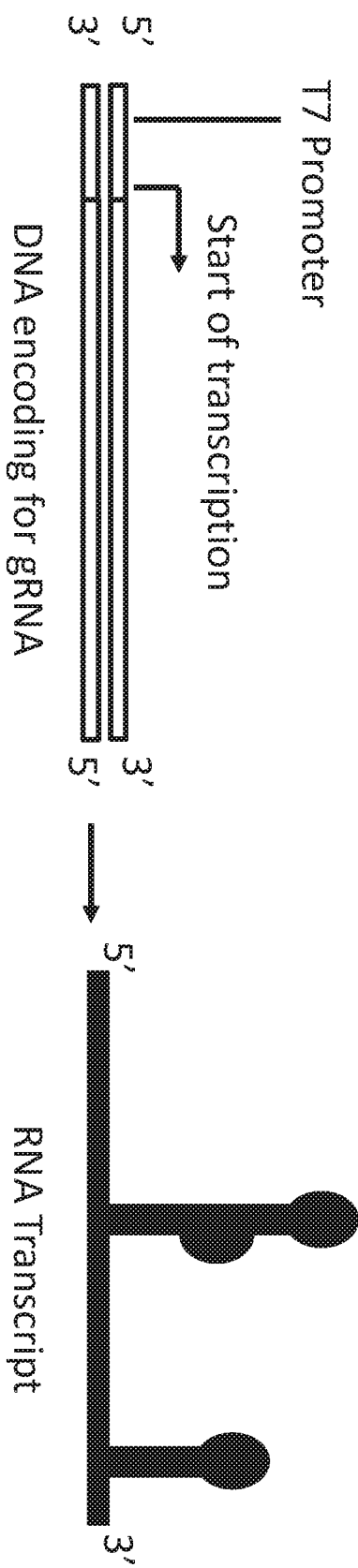


FIG. 6A

8/32

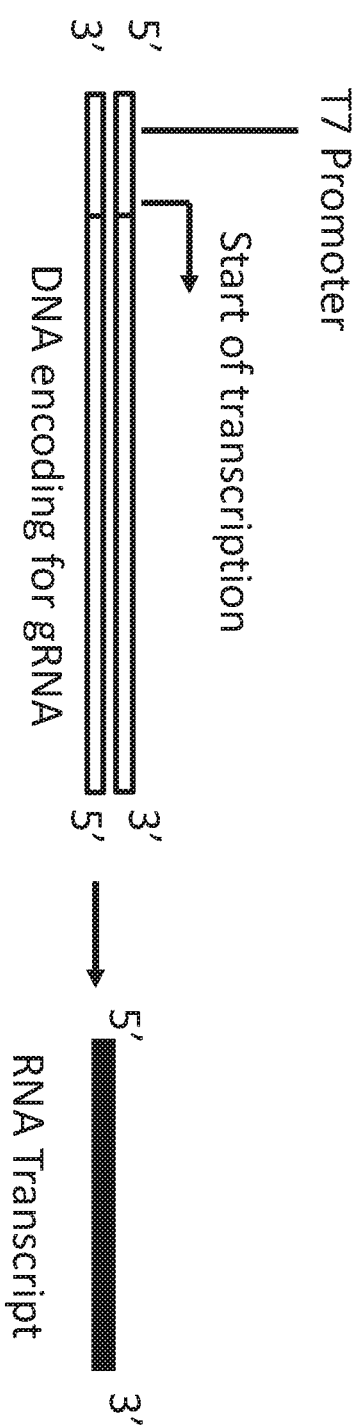


FIG. 6B

9/32

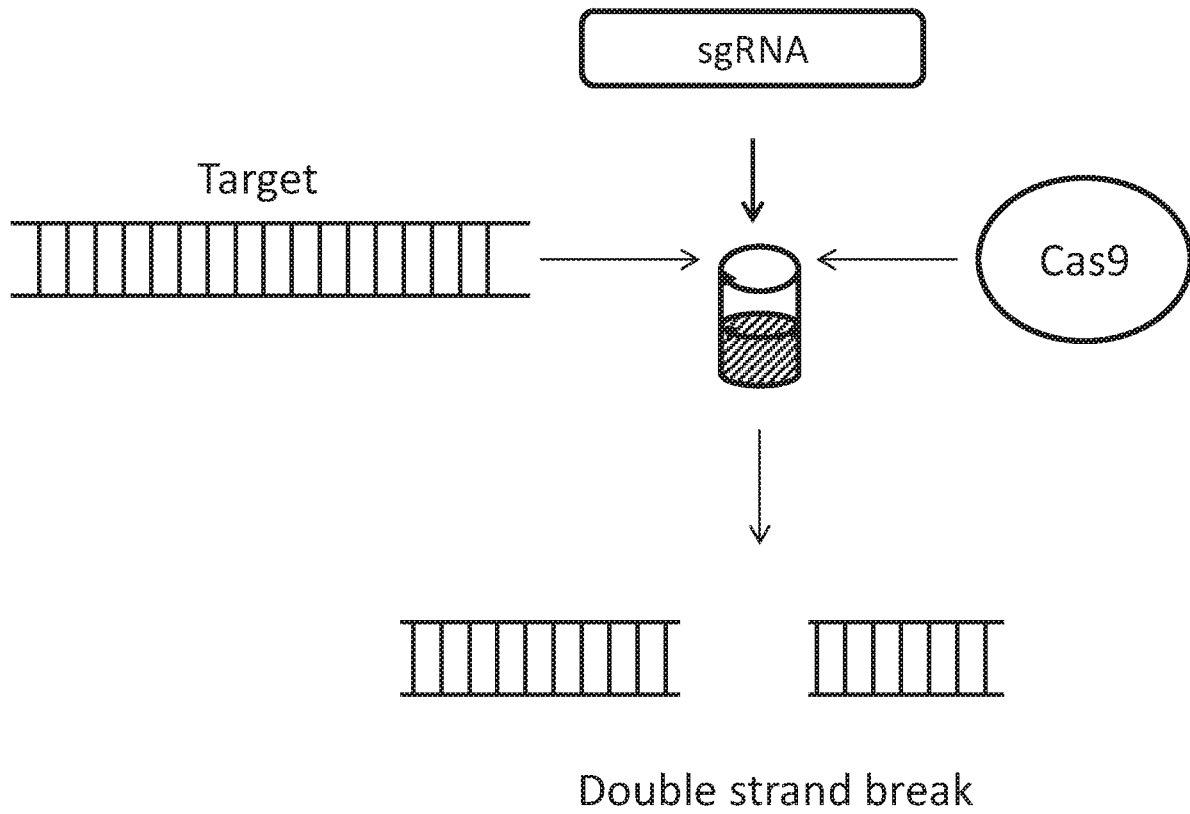


FIG. 7

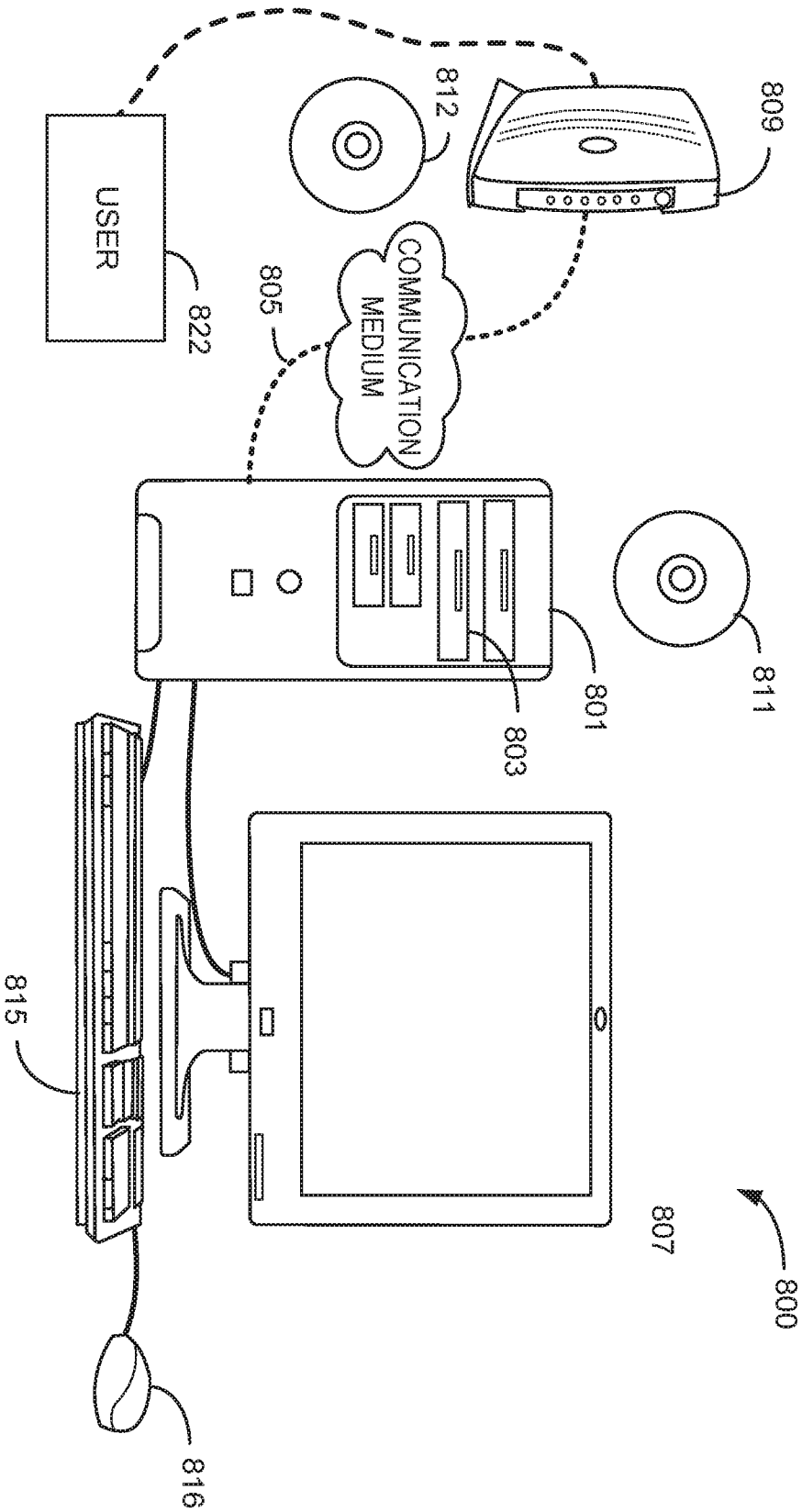


FIG. 8

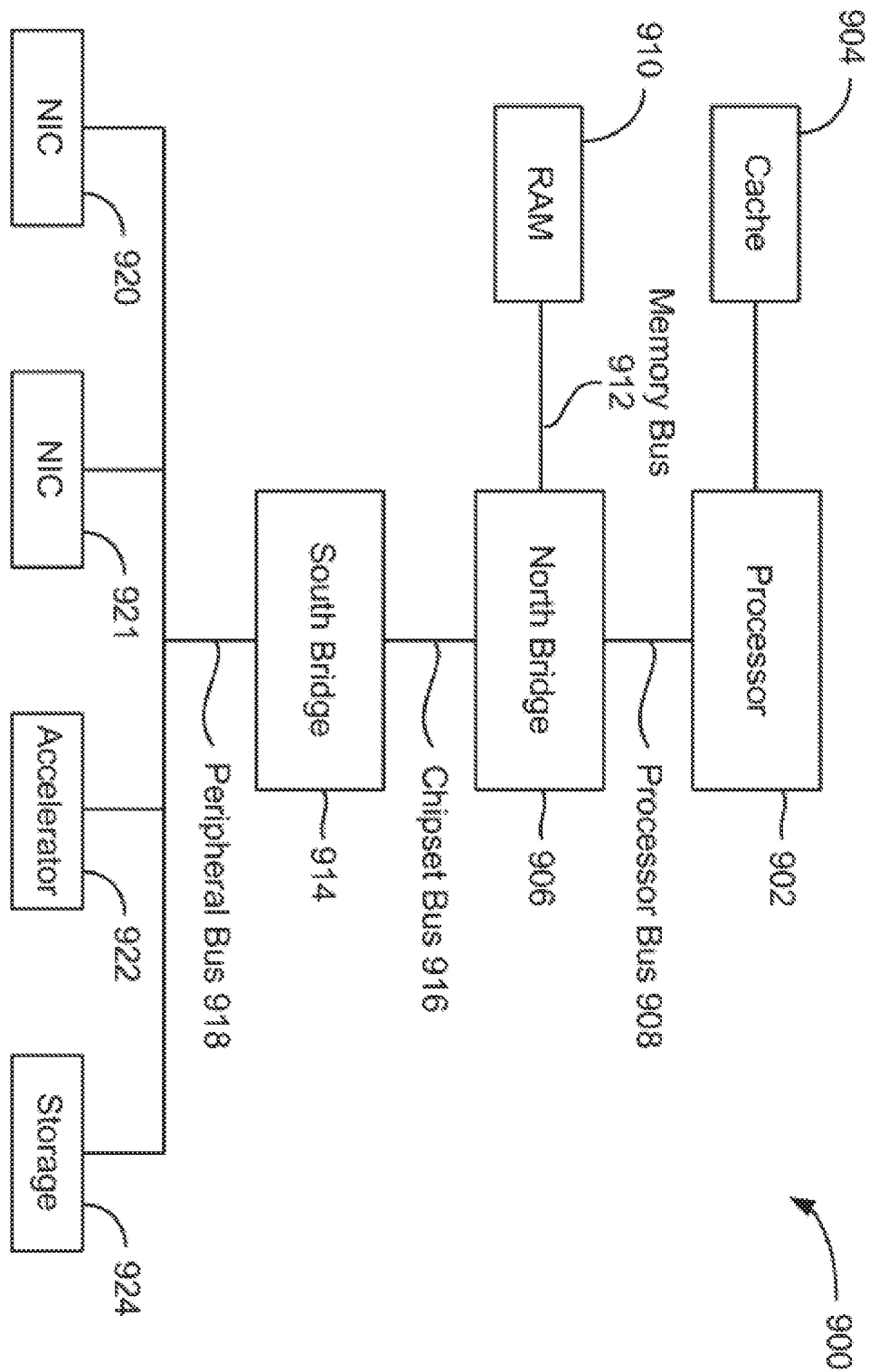


FIG. 9

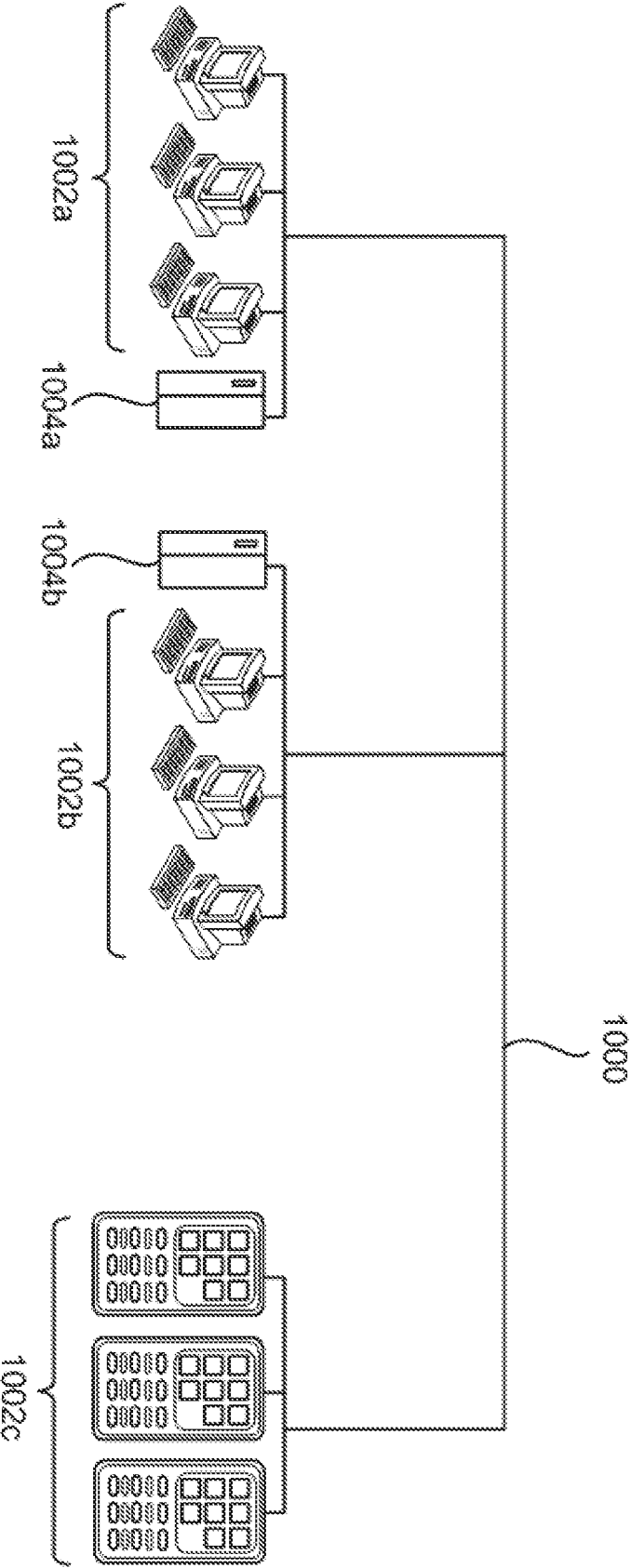


FIG. 10

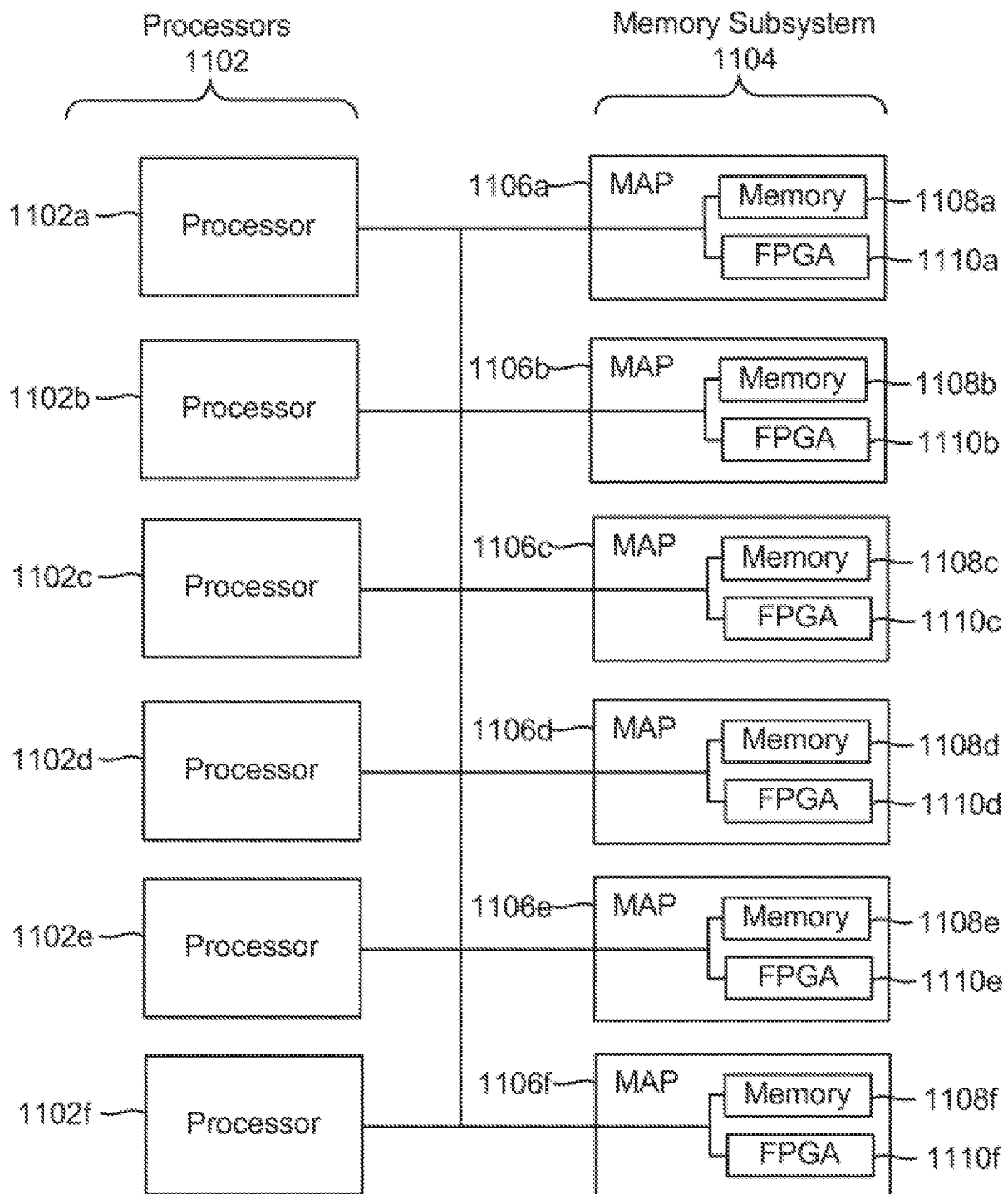


FIG. 11

Design 1 1220

5'TAATACGACTCACTAATAGGGGATGCGCGCAGTTGTCCGTTTAGAGCTAGAAATAGCA^{1201 1233 1211 1213 1215}
3'5'GTTTAGAGCTAGAAATAGCAAGTTAAAA[...]TGGCACCAGTCGGTCTTTT^{1217 1219 1221}

Design 2 1222

5'GAAATTAAATACGACTCACTAATAGGGGATGCGCGCAGTTGTCCGTTTAGAGCTAGAAATAGCAAG^{1201 1233 1211 1213 1215}
3'5'GTTTAGAGCTAGAAATAGCAAGTTAAAA[...]TGGCACCAGTCGGTCTTTT^{1217 1219 1221}

Design 3 1224

5'GAGCTAATACGACTCACTAATAGGGGATGCGCGCAGTTGTCCGTTTAGAGCTAGAAATAGCAAGTT^{1201 1233 1211 1213 1215 1223}
3'5'GTTTAGAGCTAGAAATAGCAAGTTAAAA[...]TGGCACCAGTCGGTCTTTT^{1217 1219 1221}

Design 4 1226

5'CGAGCTAATACGACTCACTAATAGGGGATGCGCGCAGTTGTCCGTTTAGAGCTAGAAATAGCAAGTTAAAAATAGG^{1201 1233 1211 1213 1215 1225}
3'5'GTTTAGAGCTAGAAATAGCAAGTTAAAAATAGG[...]GACCGAGTCGGTCTTTT^{1217 1219 1221}

Design 1, 2, 3: [...] = TAAGGCTAGTCCGTTATCAACTGAAAAAG
Design 4: [...] = CTAAGTCCGTTATCAACTGAAAAAGTG

FIG. 12

FIG. 13A

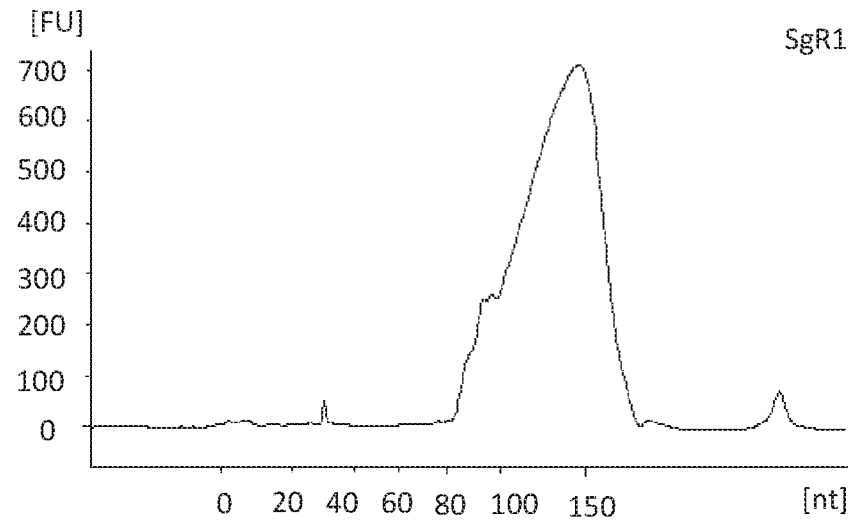
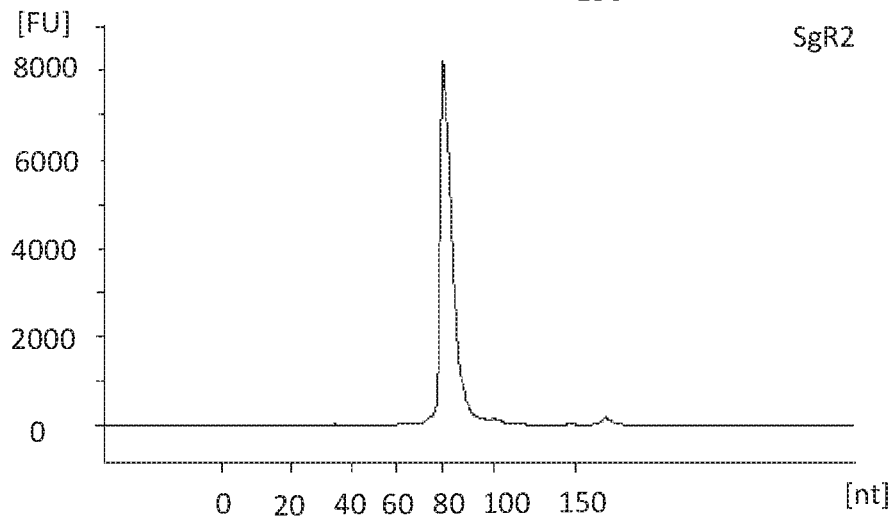


FIG. 13B



sgRNA Template Assembly

FIG. 14A

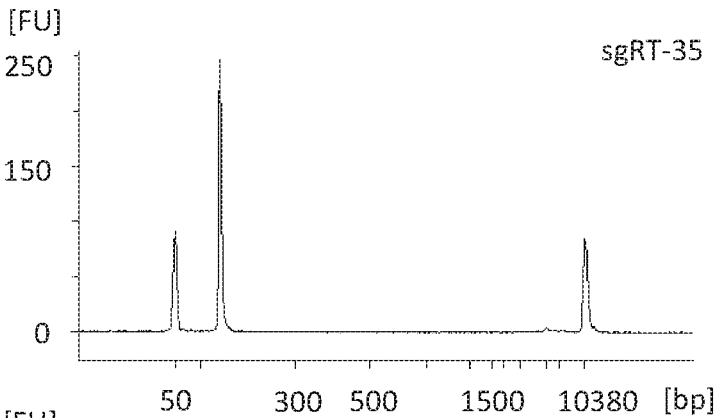


FIG. 14B

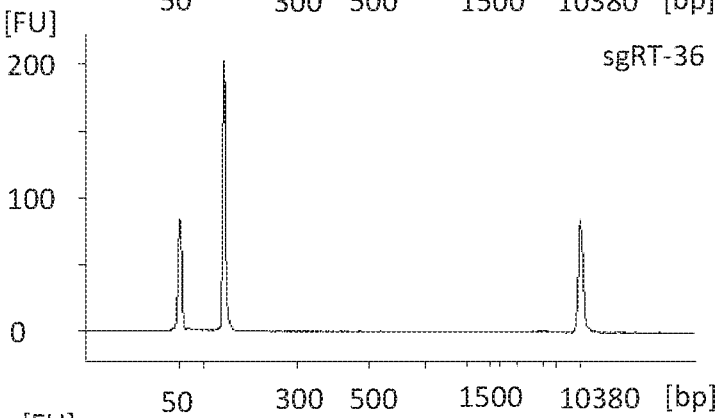


FIG. 14C

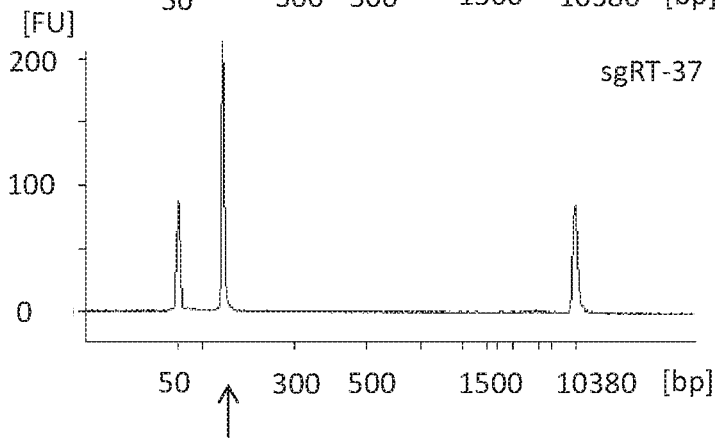


FIG. 14D

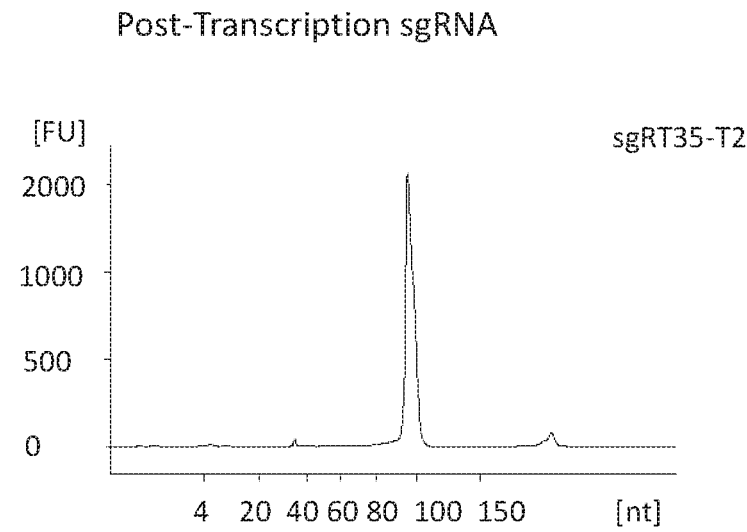


FIG. 14E

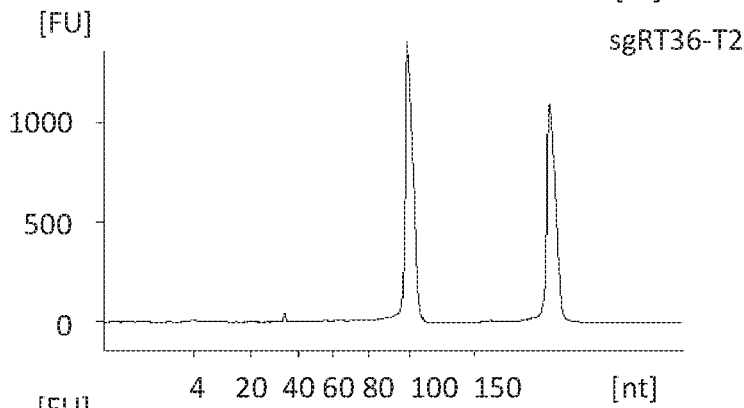


FIG. 14F

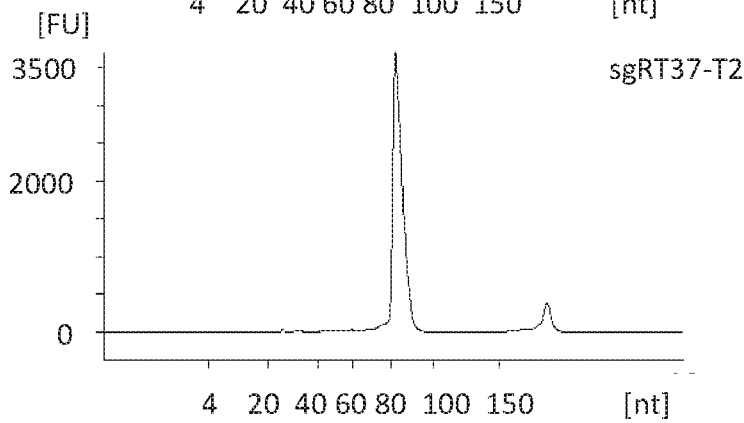


FIG. 14G

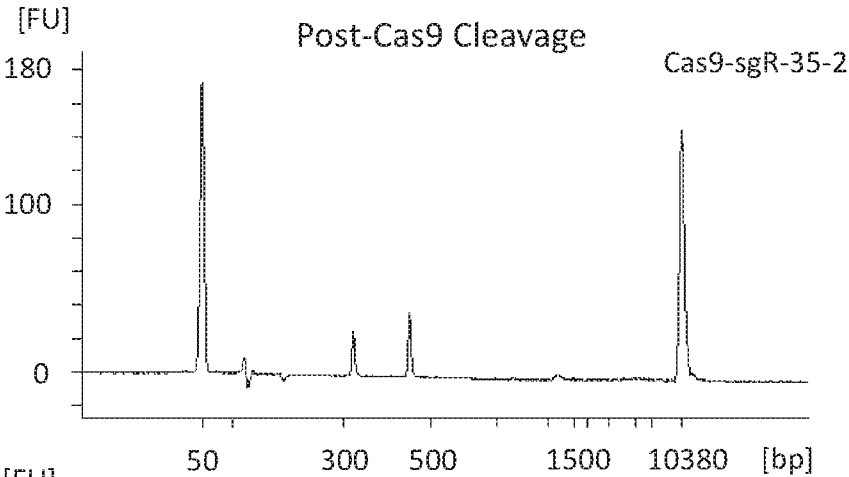


FIG. 14H

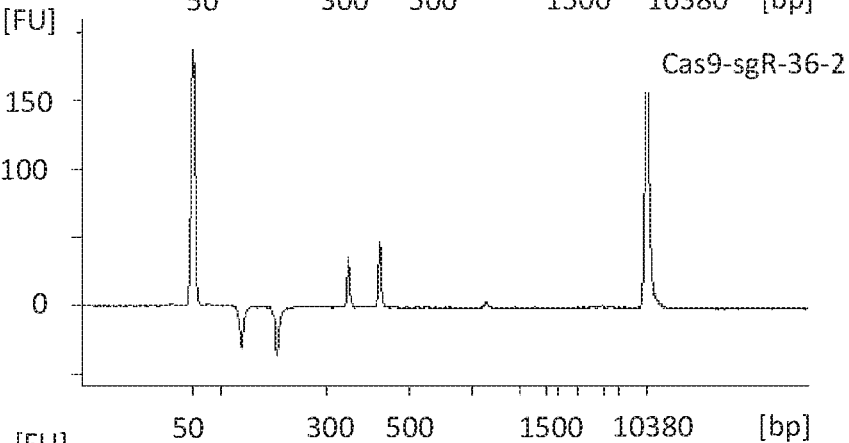
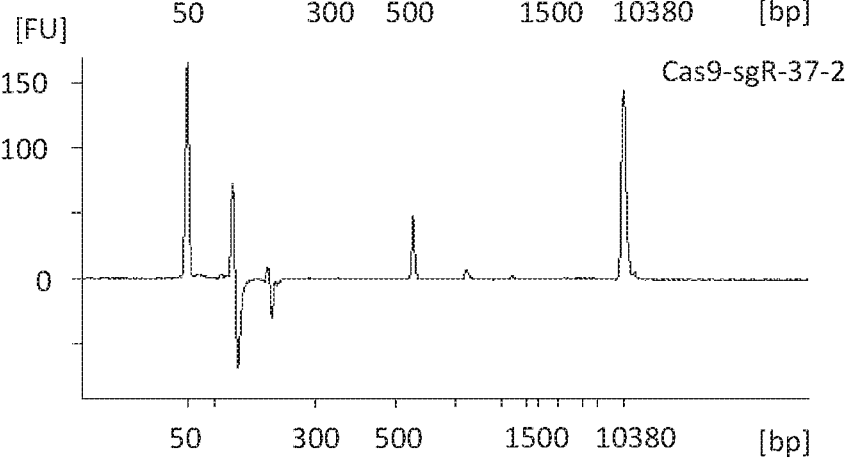


FIG. 14I



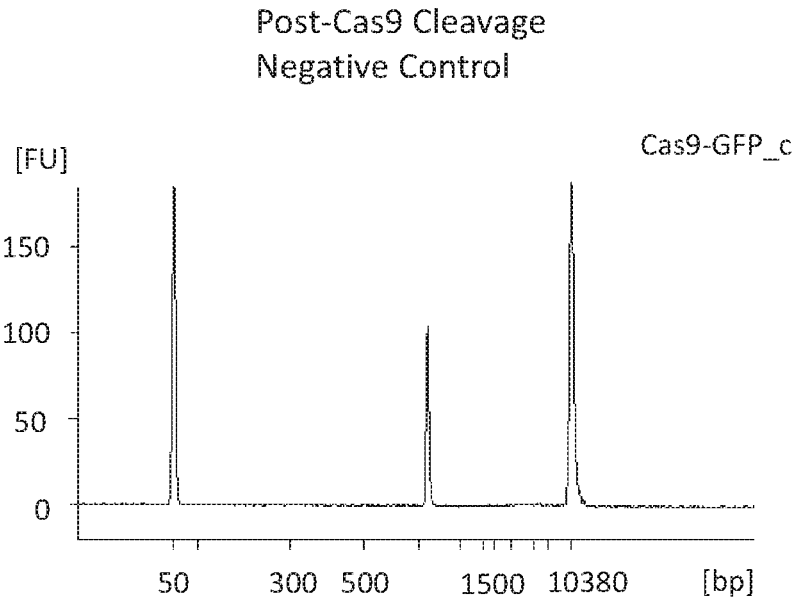


FIG. 14J

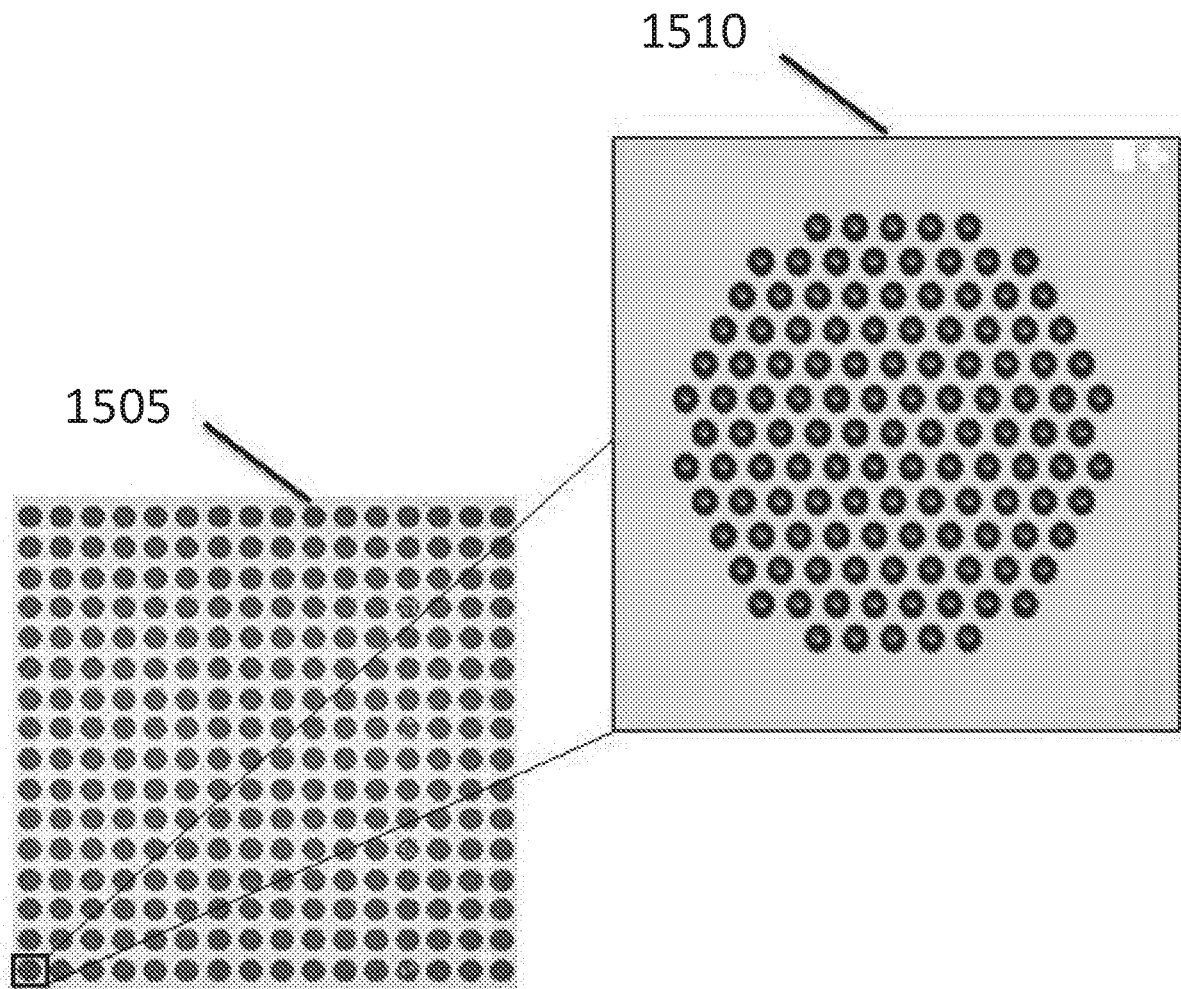


FIG. 15

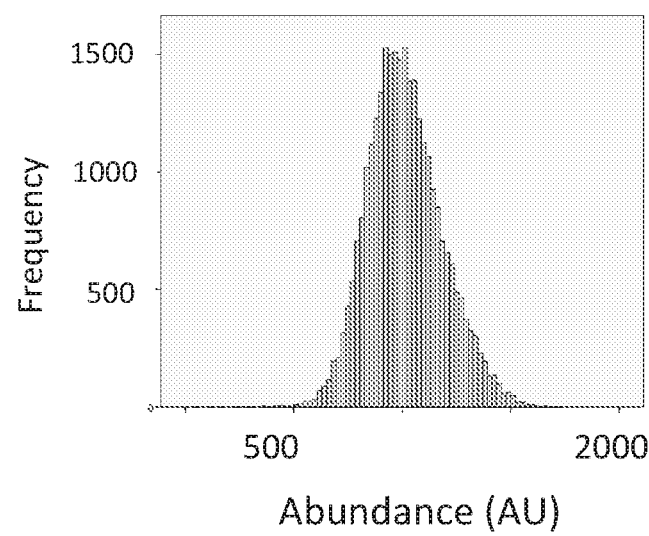


FIG. 16A

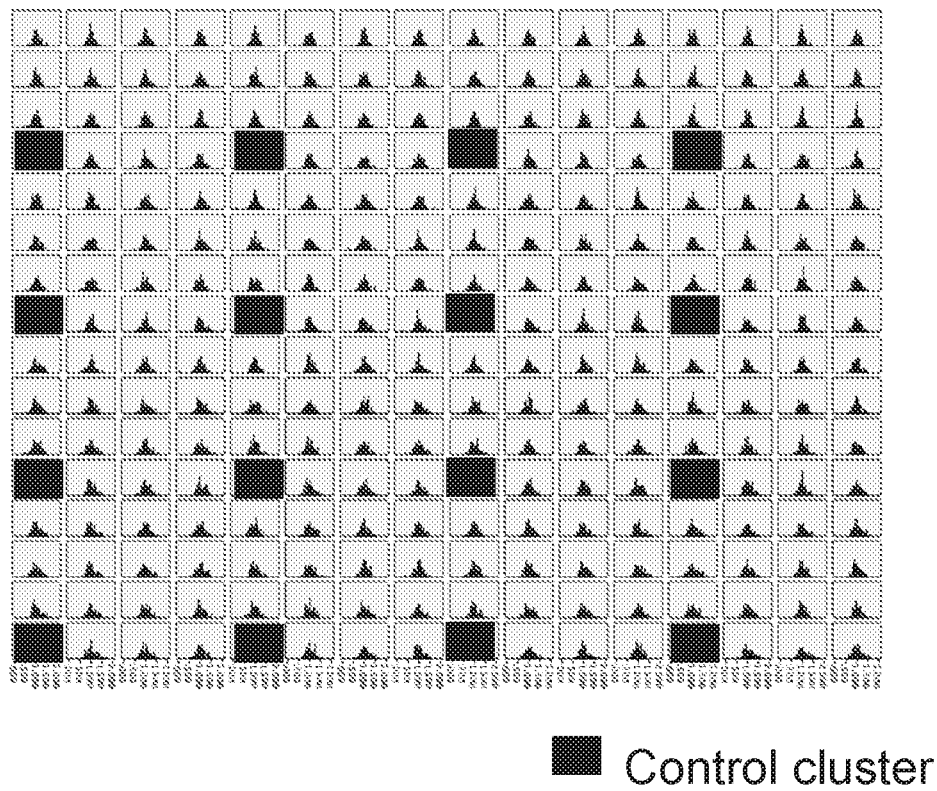


FIG. 16B

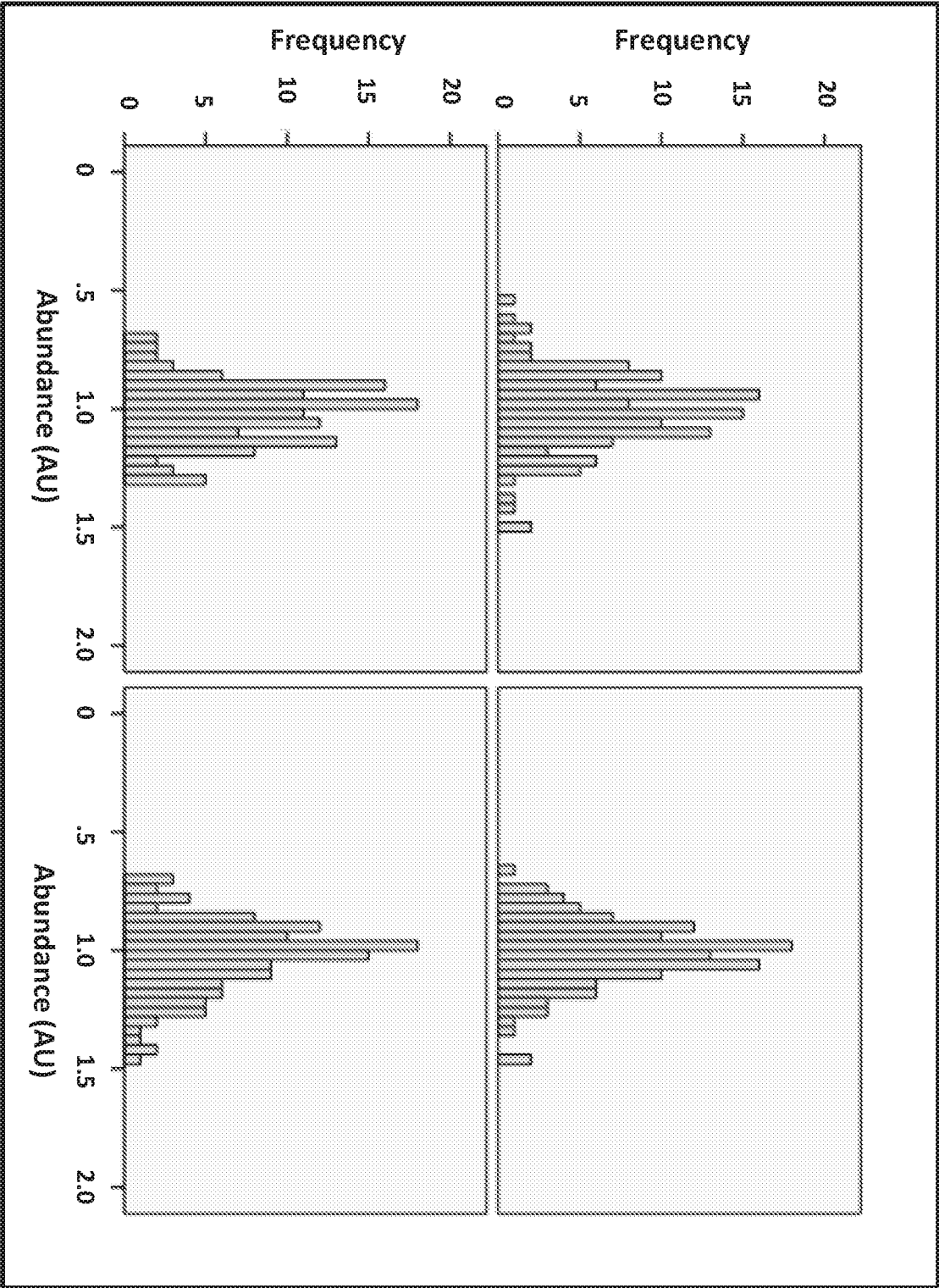


FIG. 17

23/32

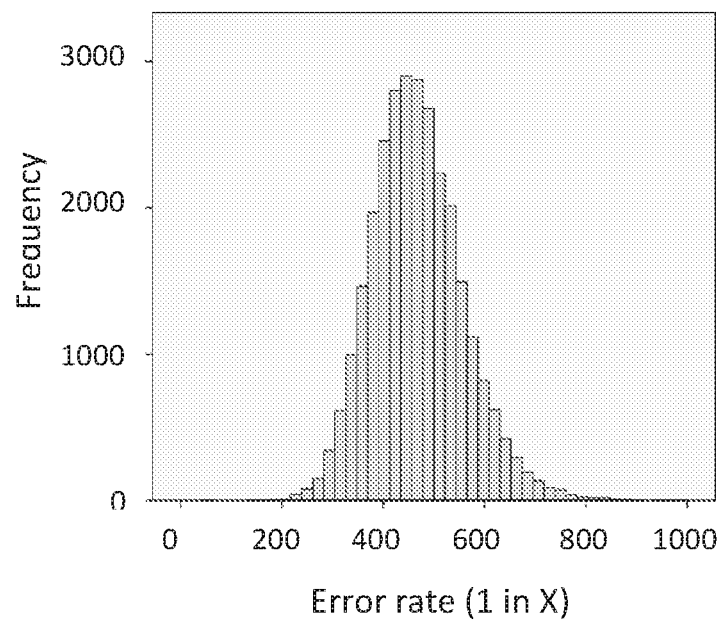


FIG. 18A

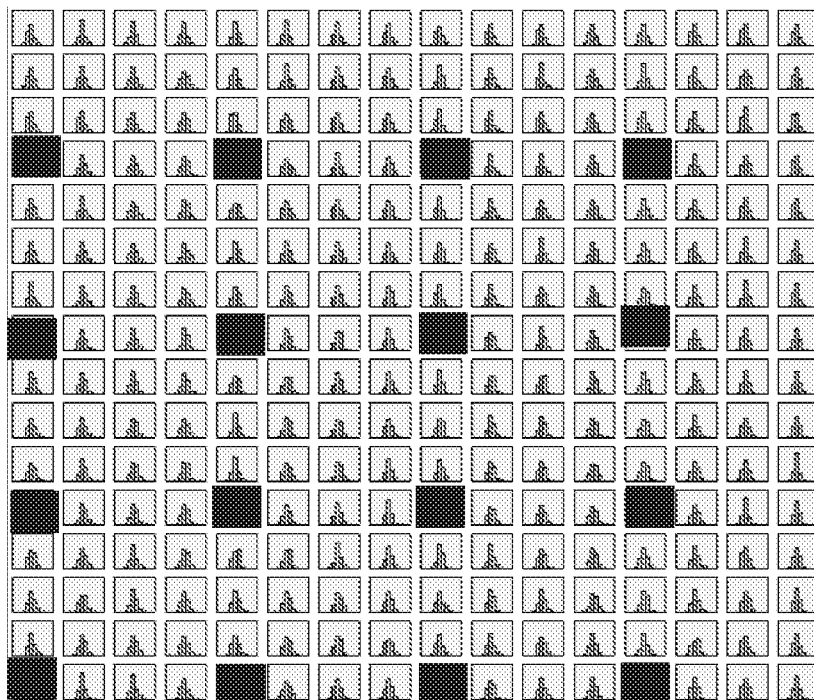
 Control cluster

FIG. 18B

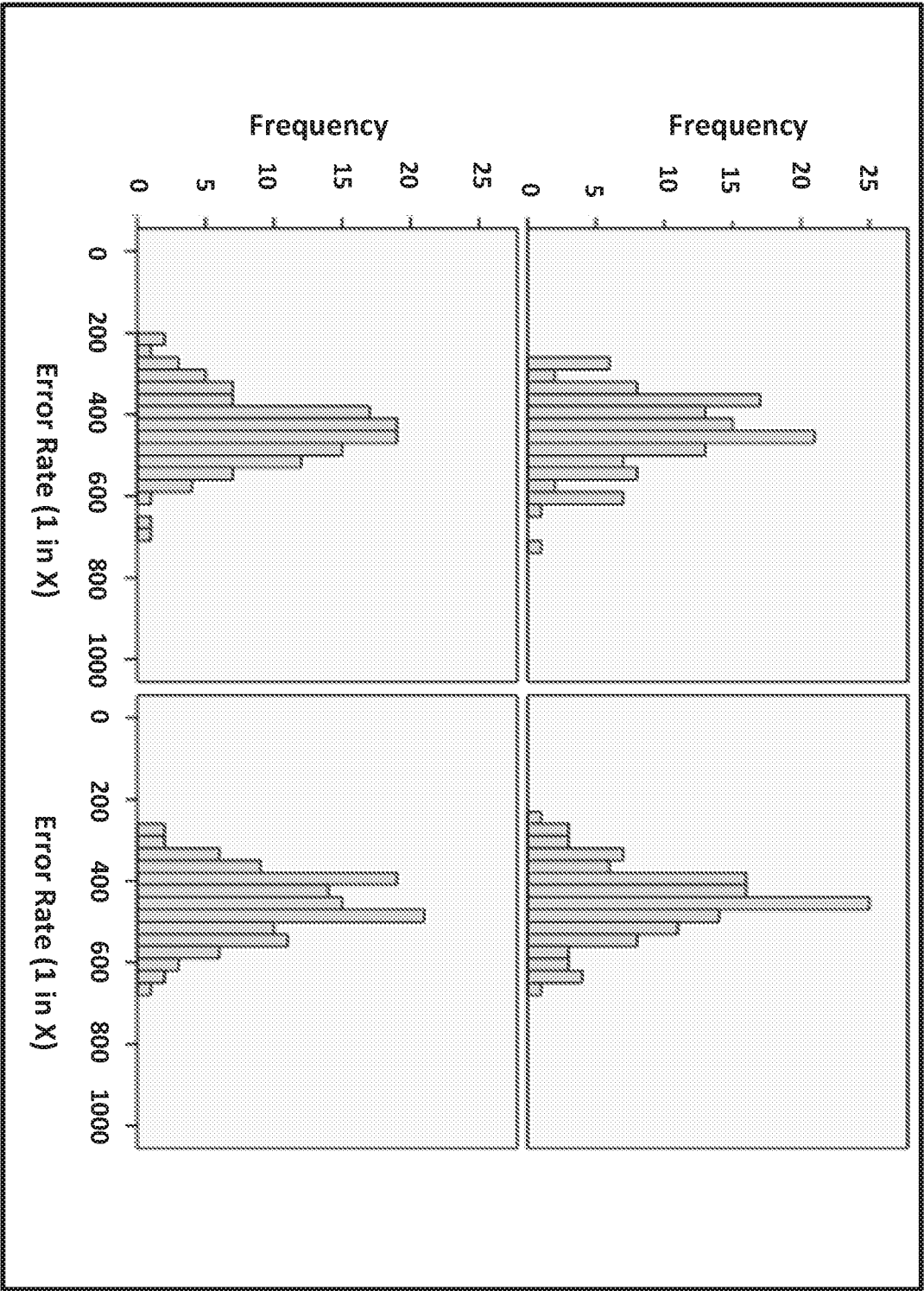


FIG. 19

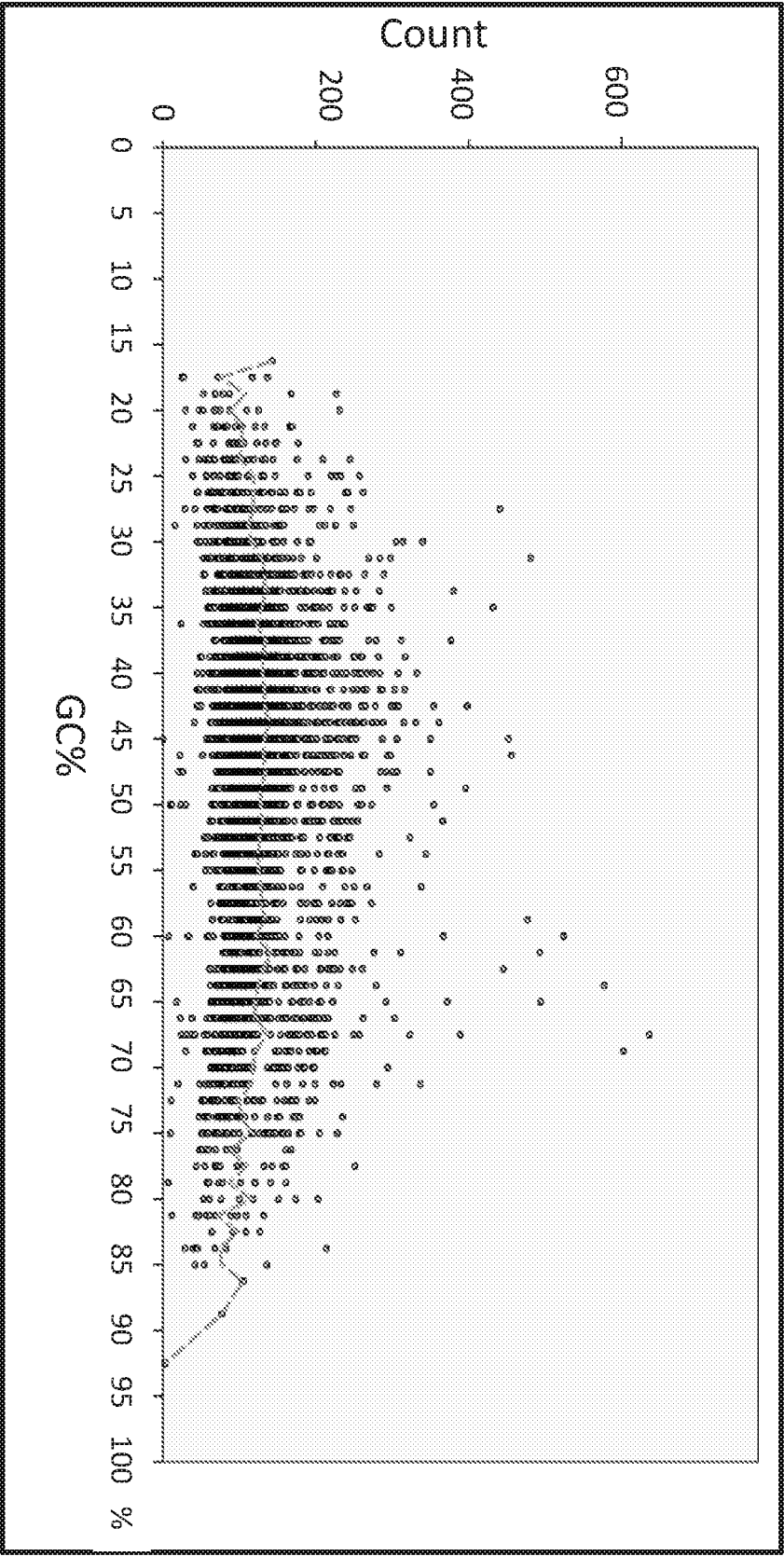


FIG. 20

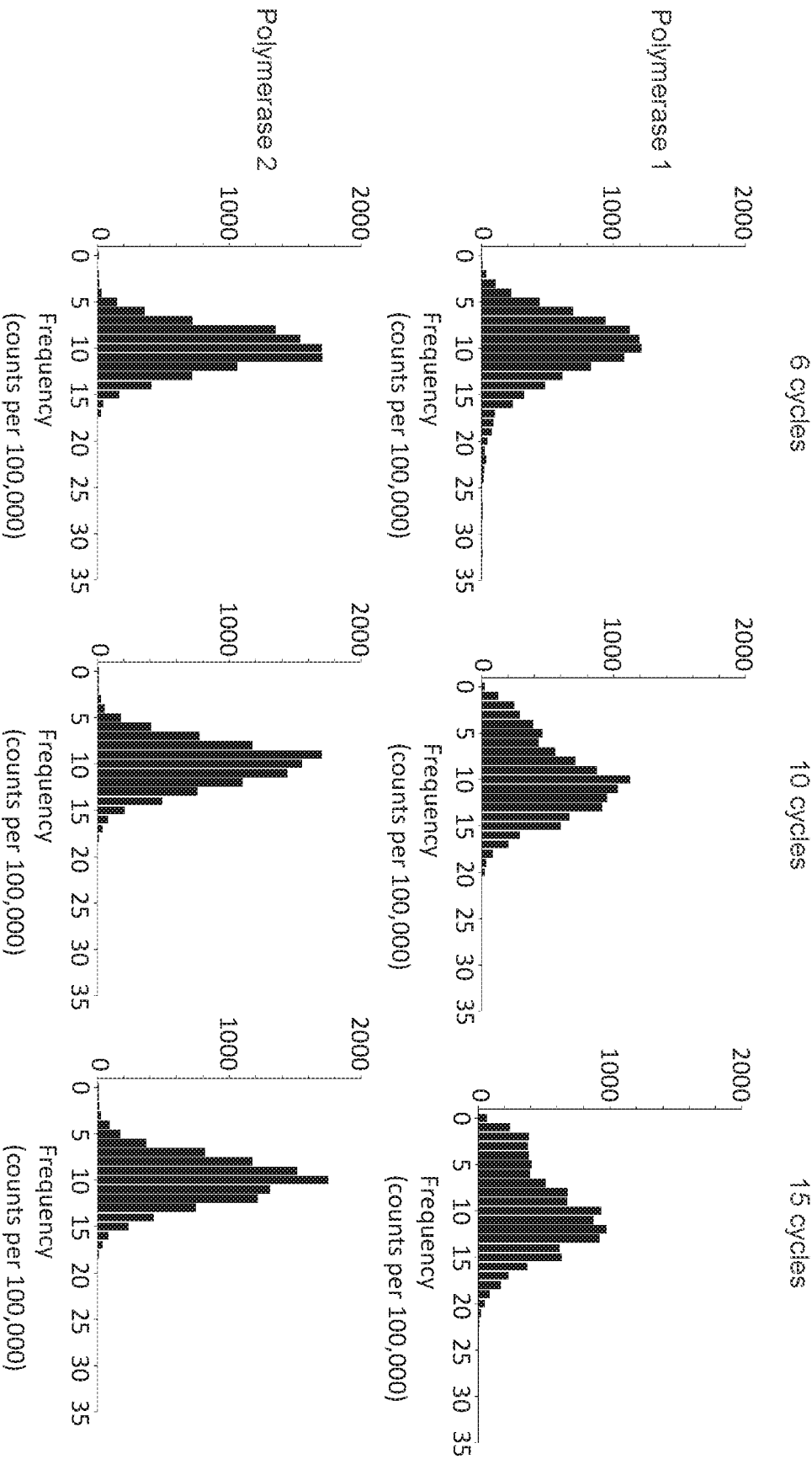


FIG. 21

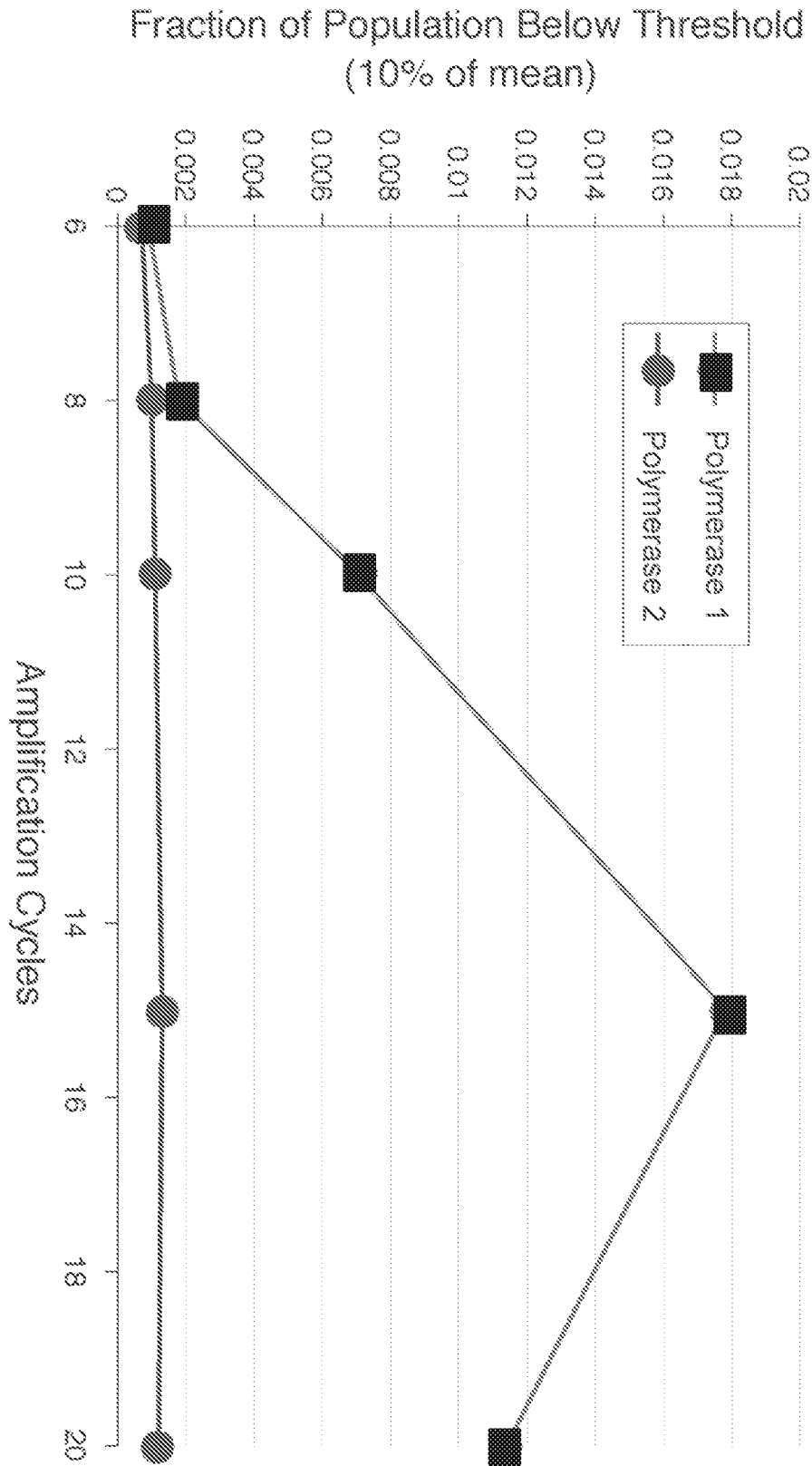


FIG. 22

28/32

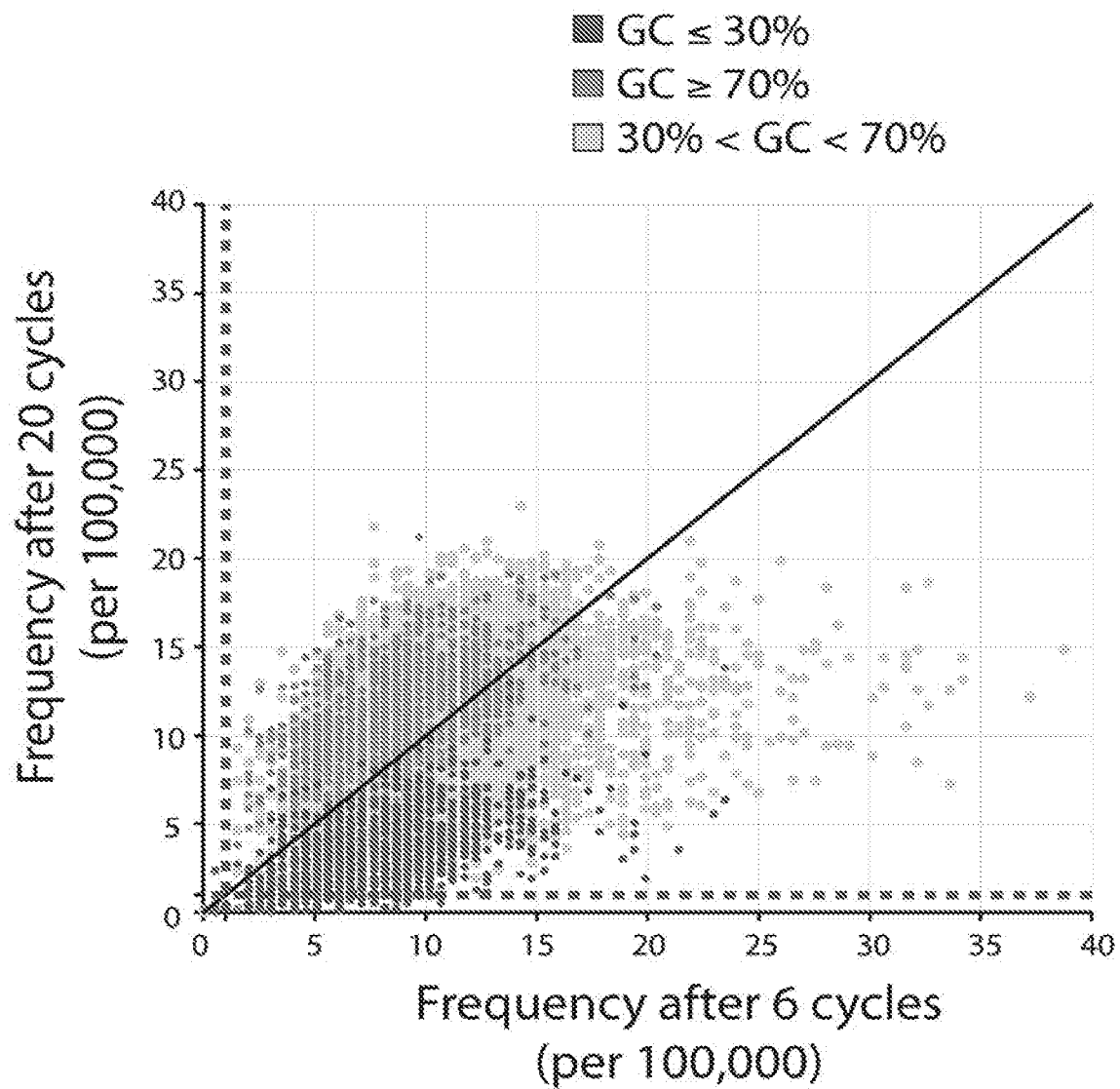


FIG. 23

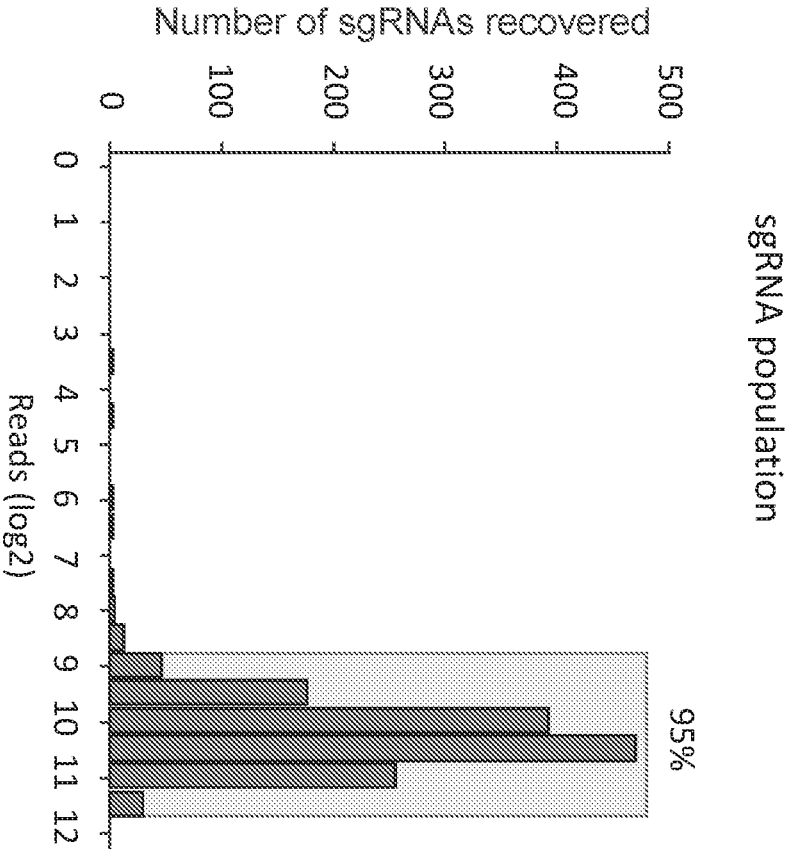


FIG. 24A

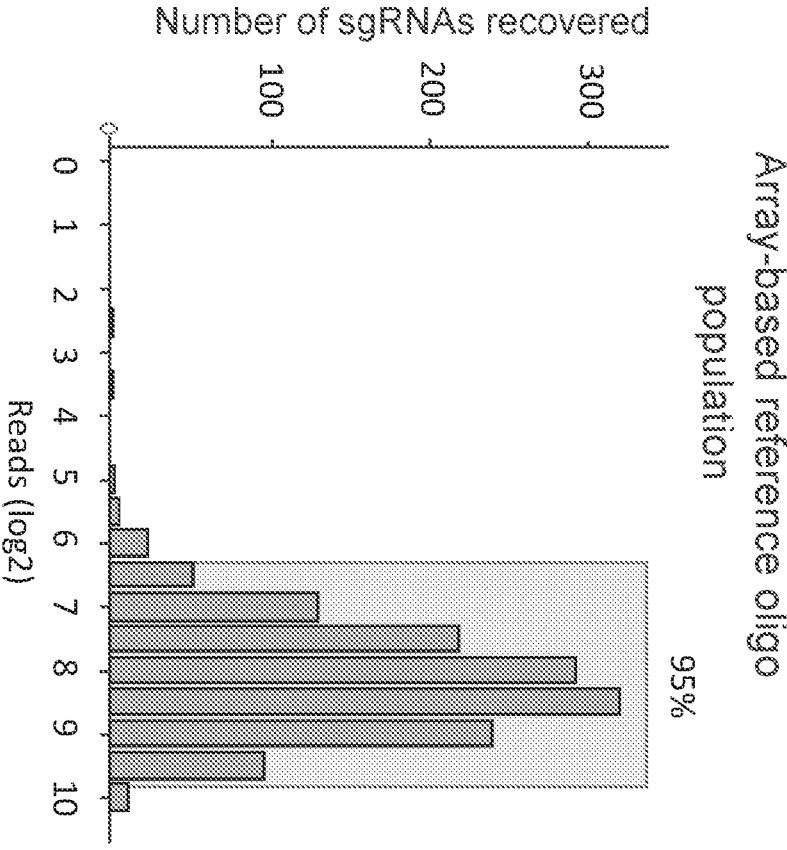


FIG. 24B

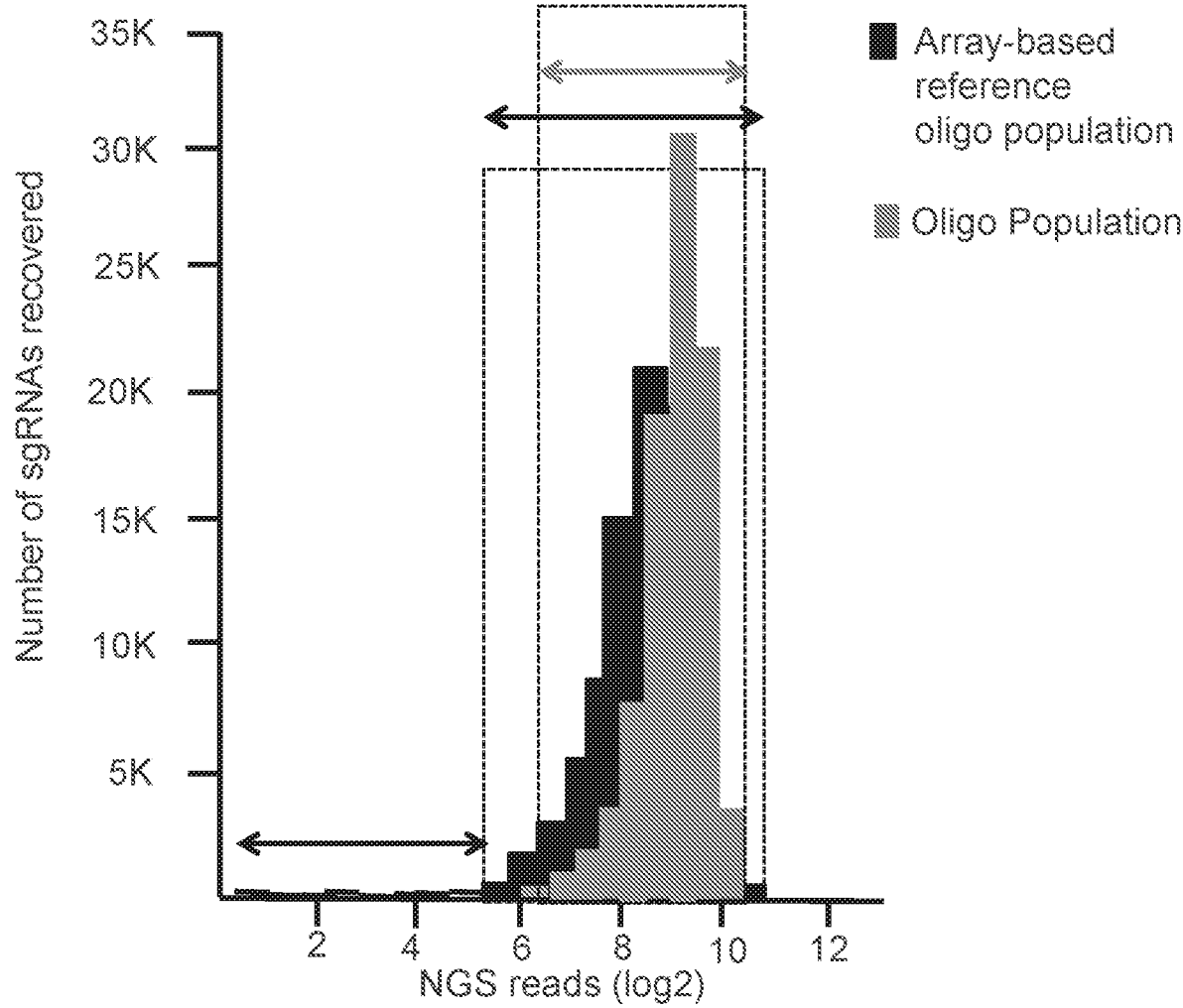


FIG. 25

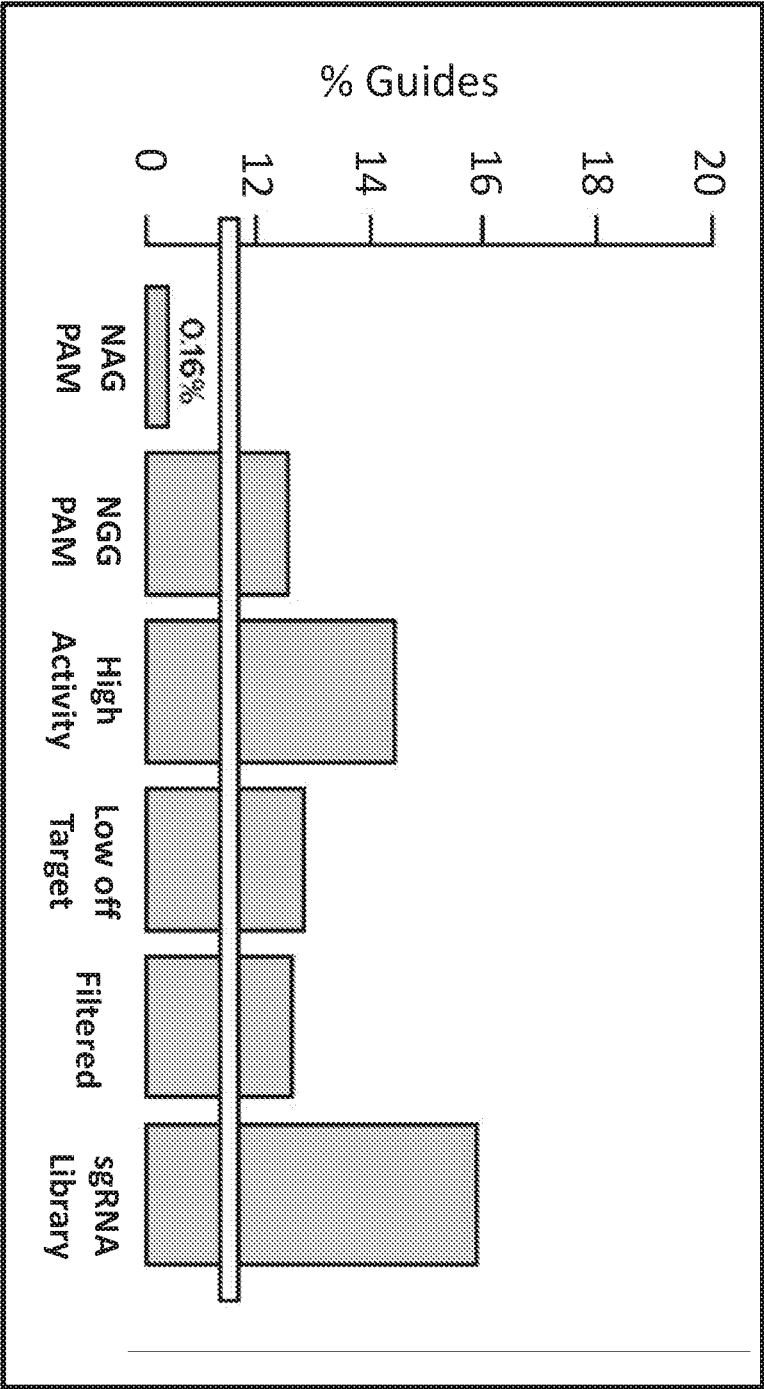


FIG. 26A

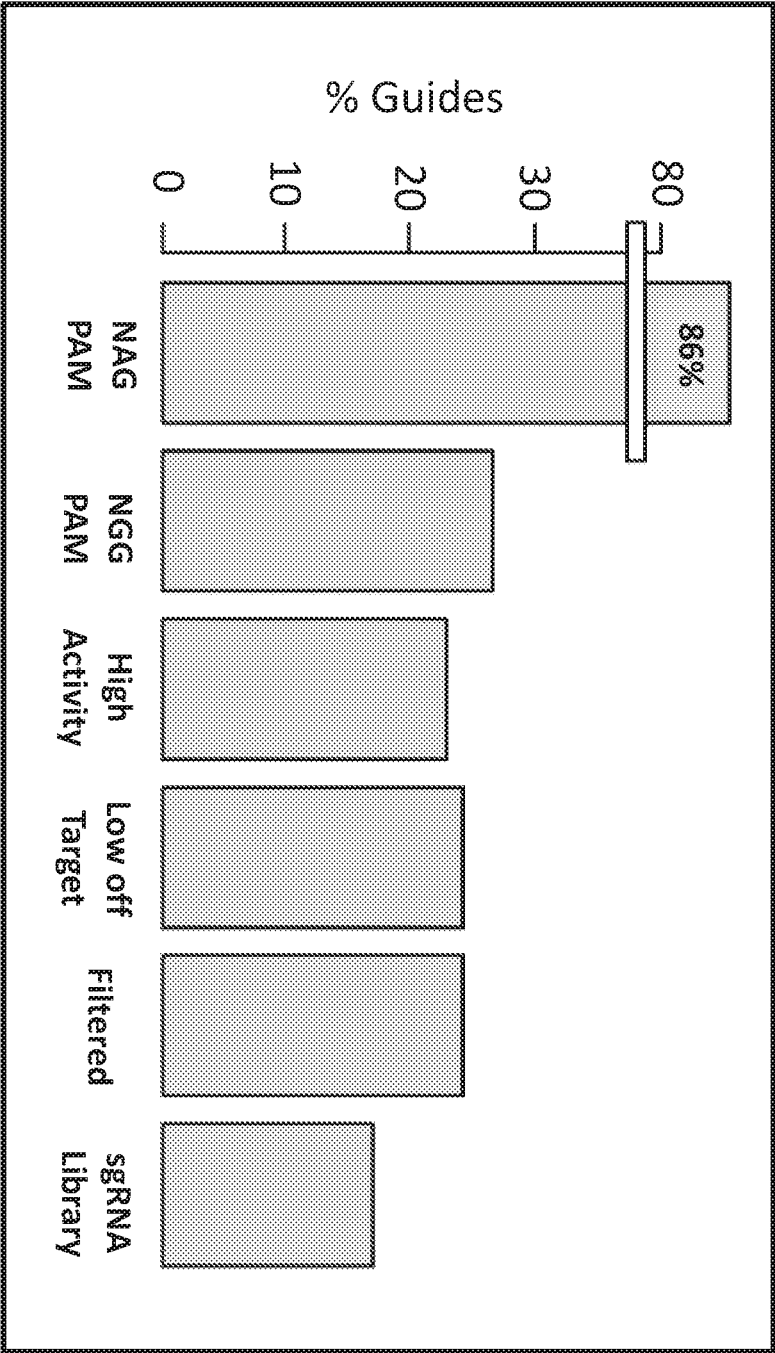


FIG. 26B