

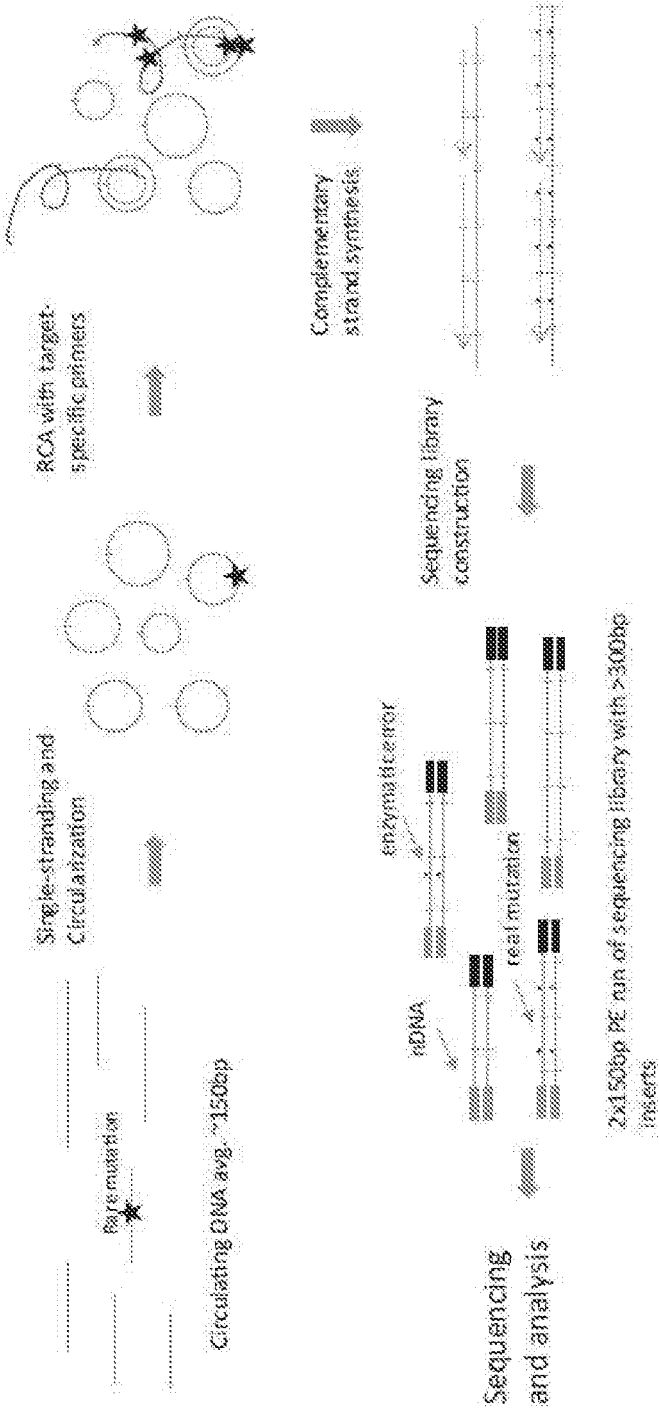


FIG. 1

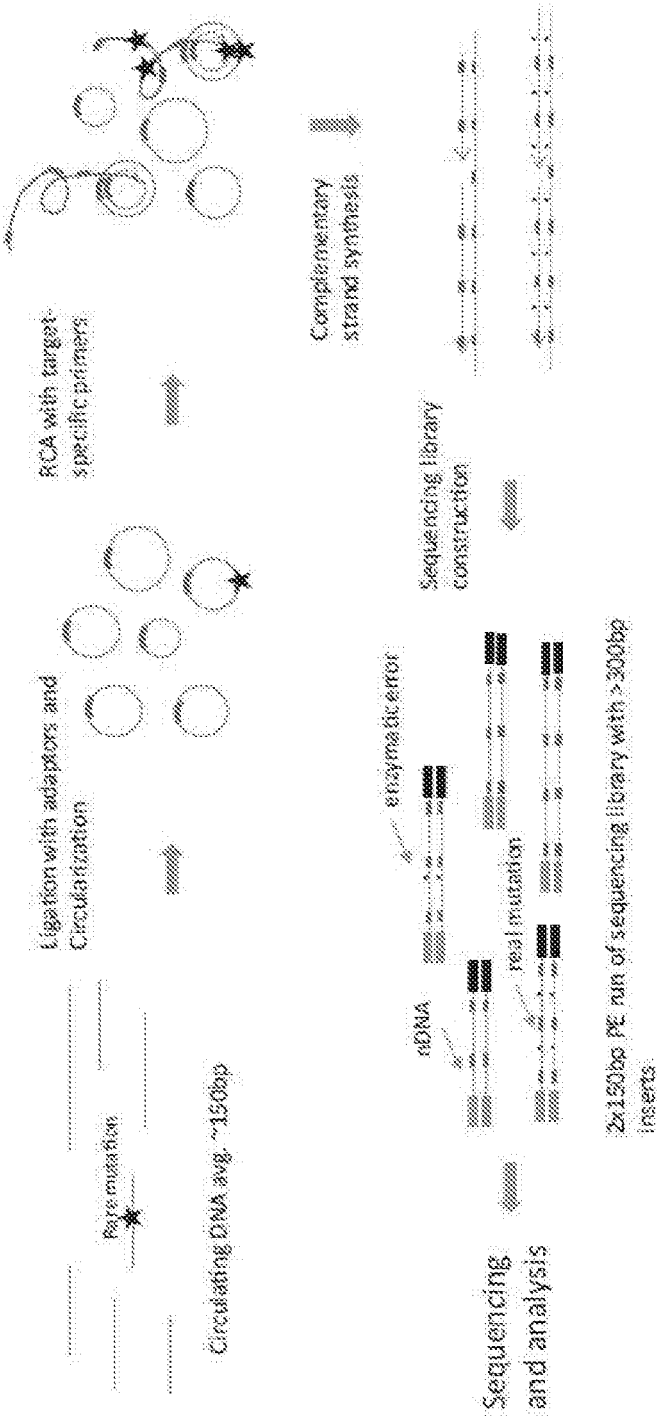


FIG. 2

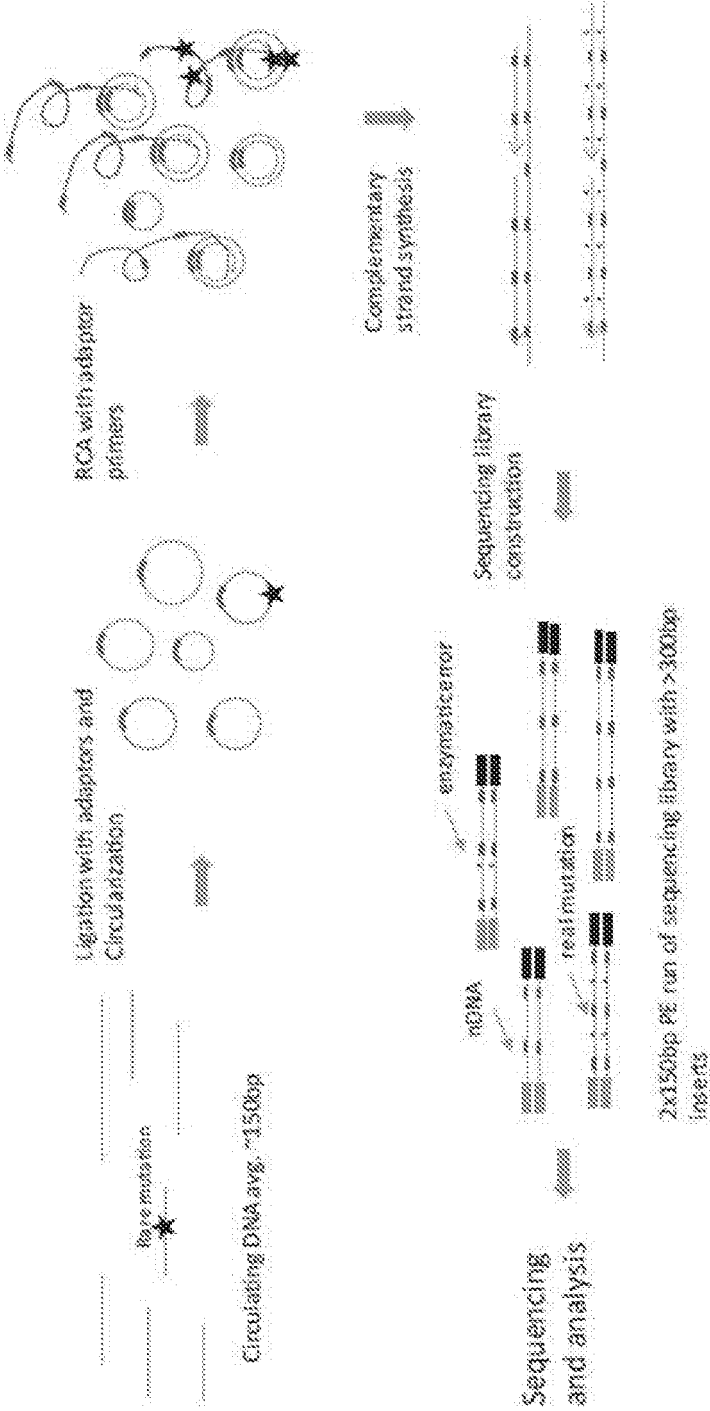


FIG. 3

FIG. 4A

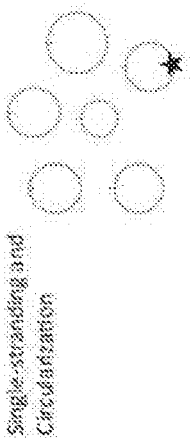


FIG. 4B

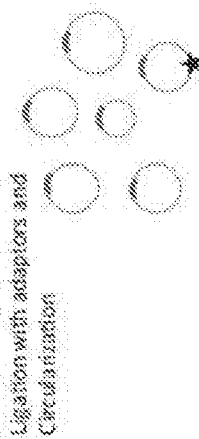
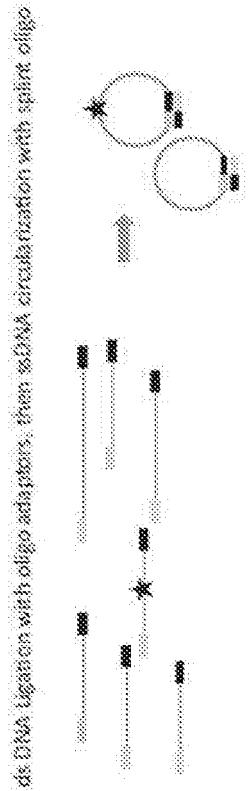


FIG. 4C



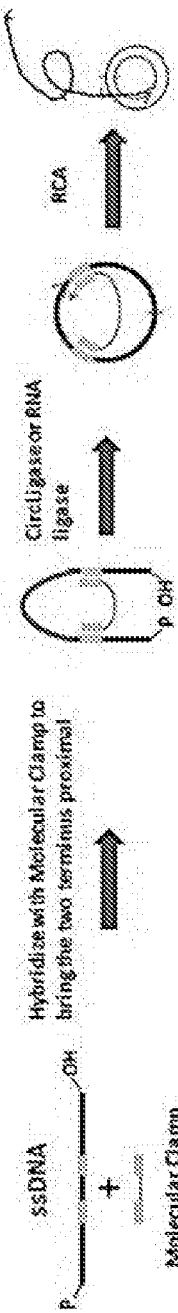


FIG. 5

FIG. 6A

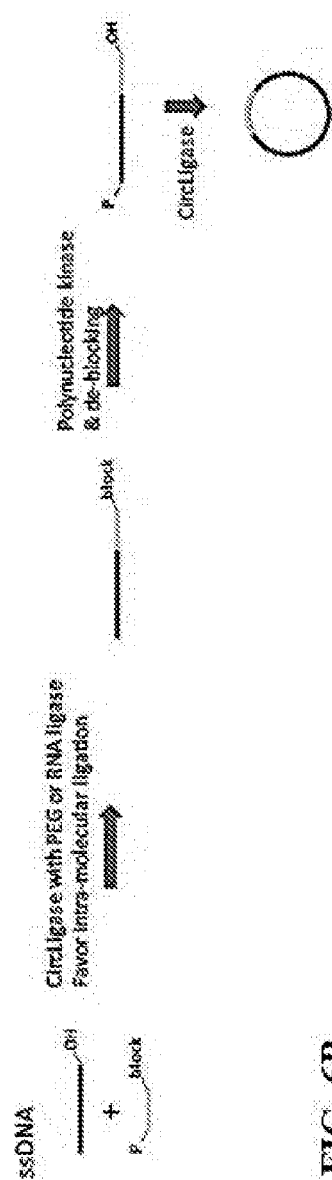
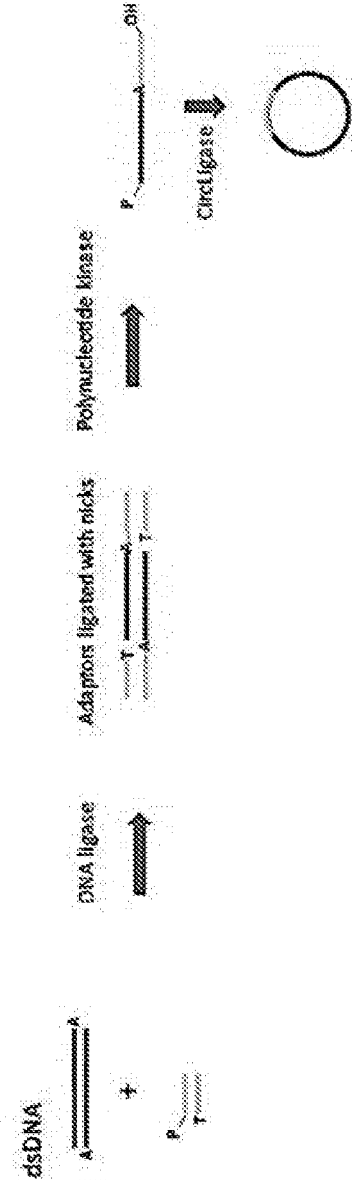
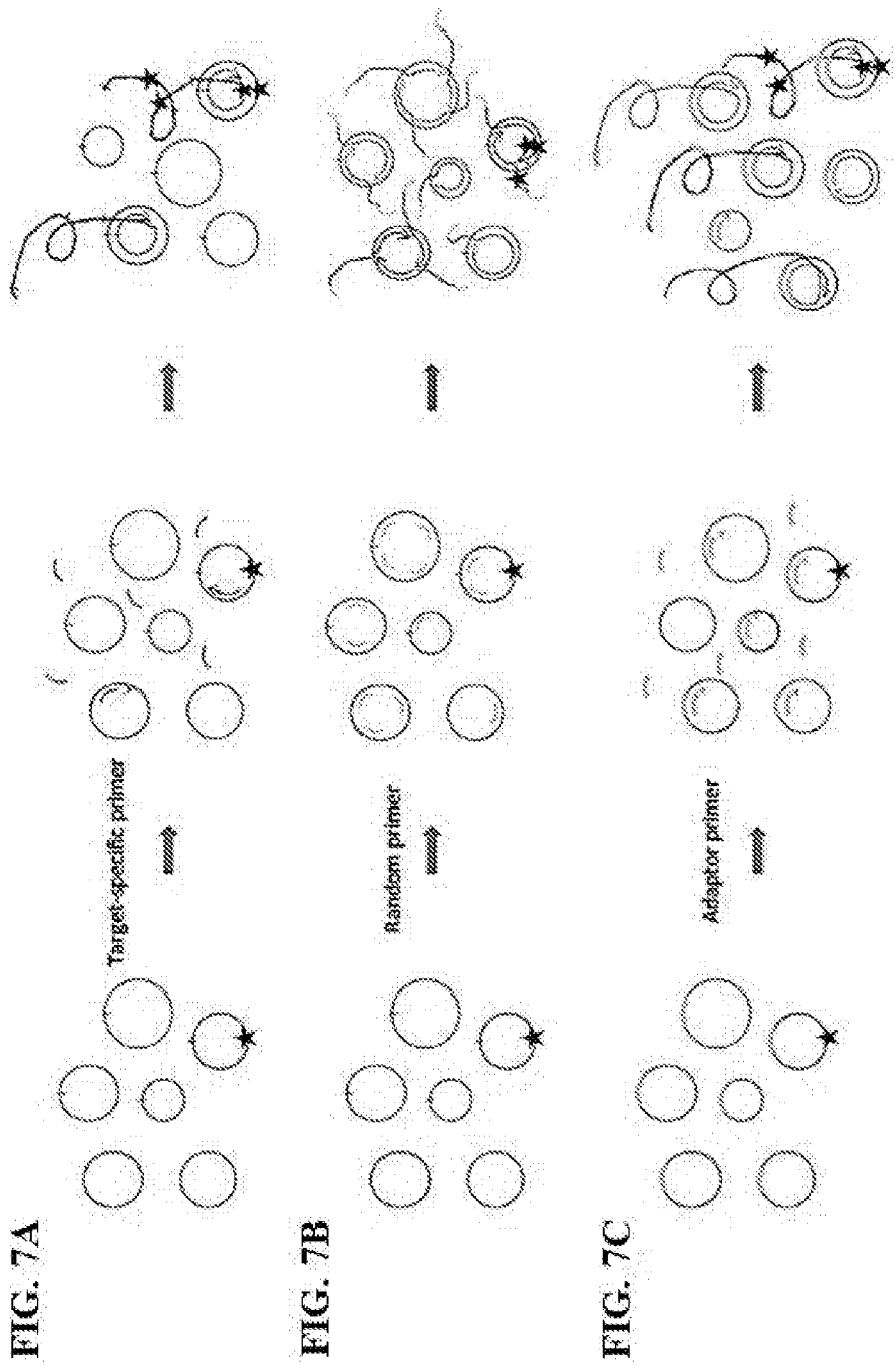


FIG. 6B





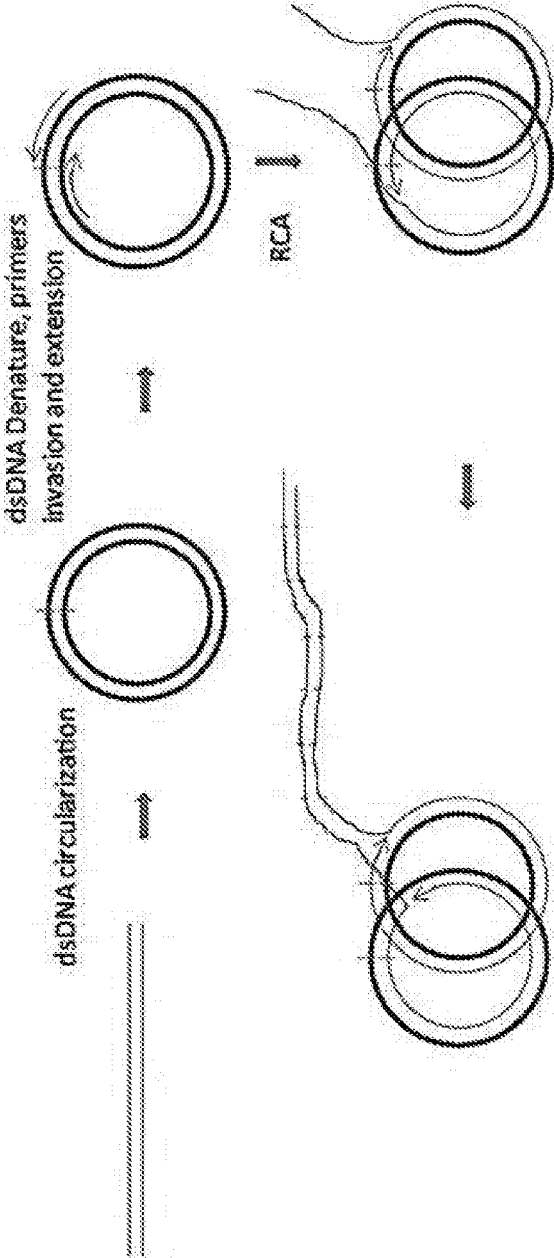


FIG. 8

FIG. 9A



FIG. 9B



FIG. 9C



FIG. 9D



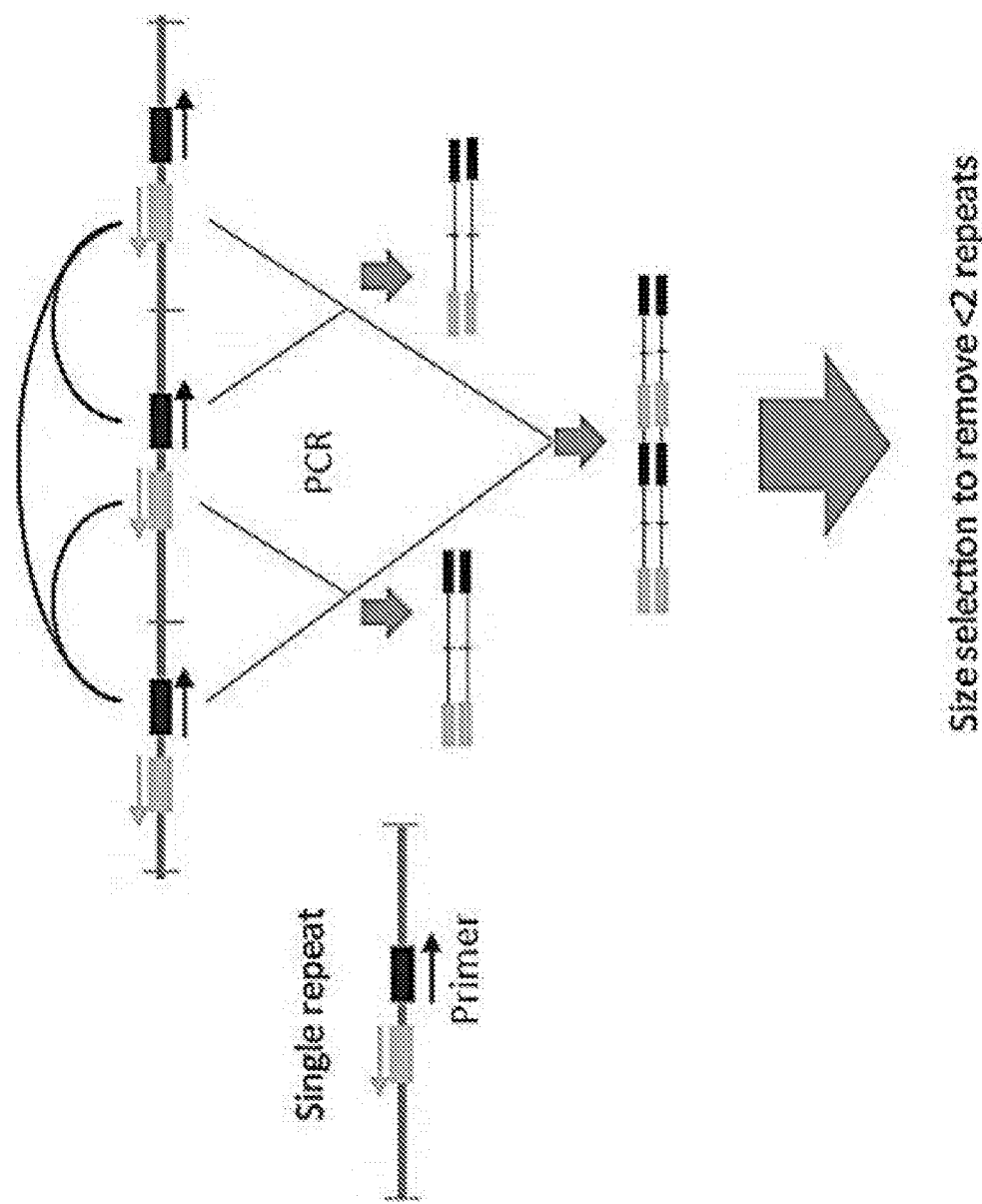
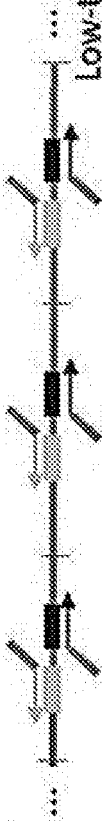


FIG. 10

FIG. 11A



Low-temperature annealing

Chimeric primers (gene-specific + adaptor) bind to gene-specific sites, which are on the tandem repeats.

Low-temperature products

Various length amplicons are generated in this step. If low-temperature annealing keep going, shorter amplicons will be in favor due to the internal binding sites

FIG. 11B

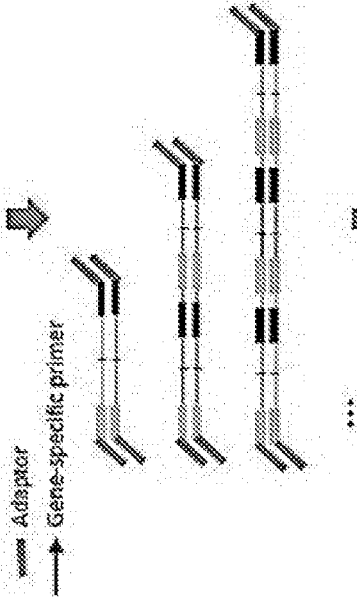


FIG. 11C



High-temperature annealing

Chimeric primers bind to chimeric sites (amplicon terminus) only, no internal binding/extension.

High-temperature products

Amplicon length is "locked" in high-temperature cycles, short amplicons will not be in favor

FIG. 11D

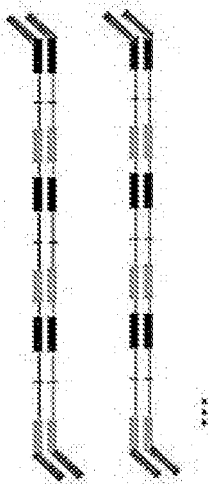


FIG. 12A

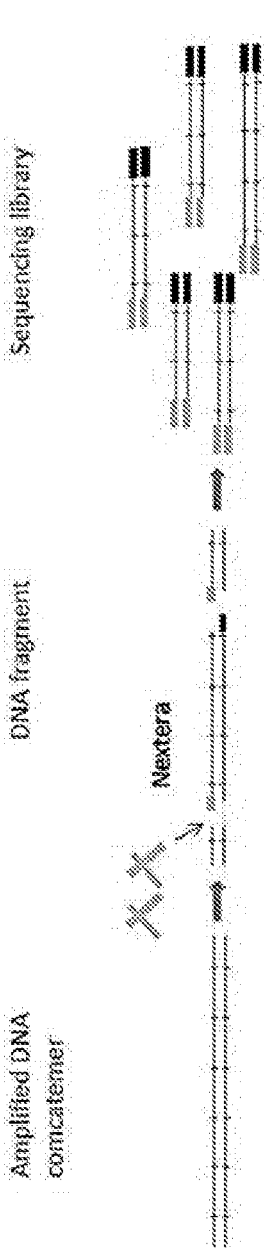


FIG. 12B

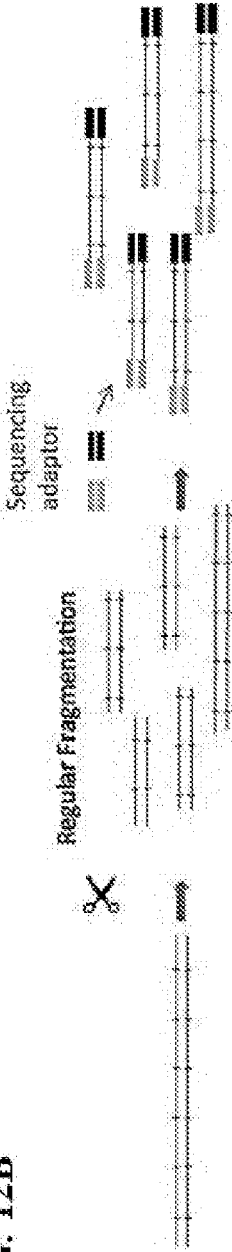


FIG. 13A

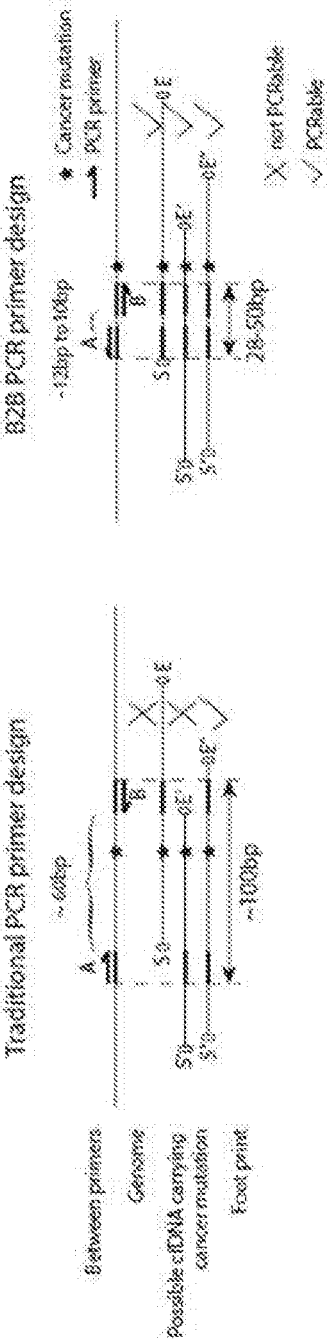


FIG. 13B

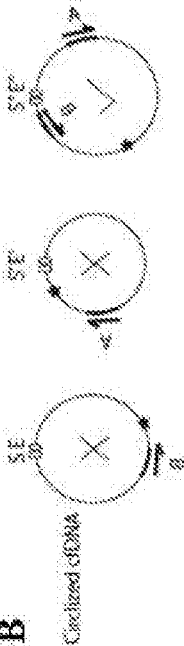


FIG. 13C



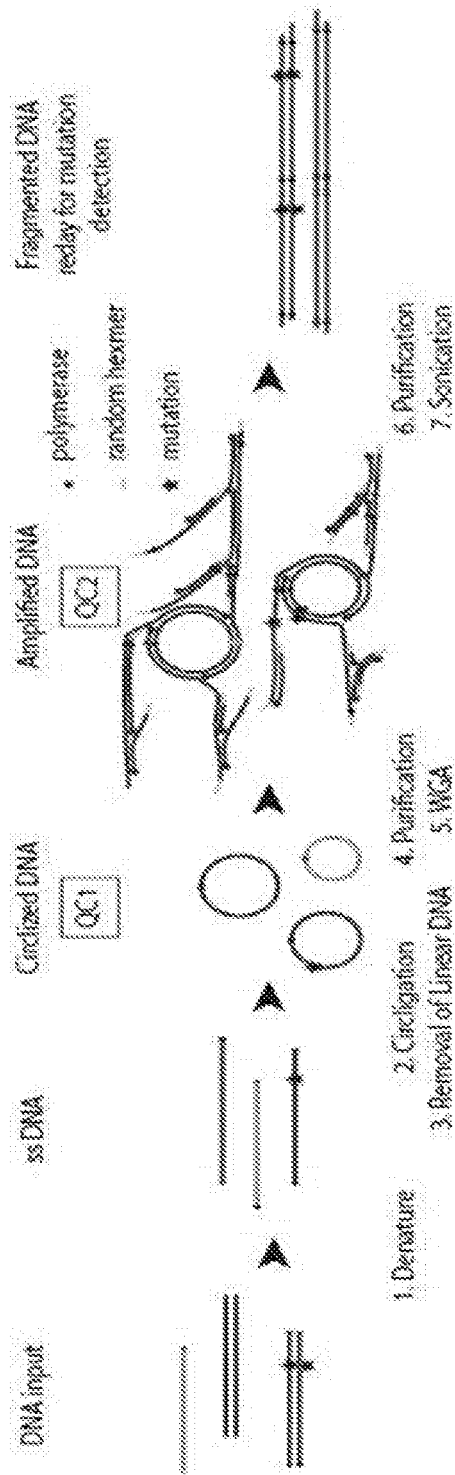


FIG. 14

FIG. 15A

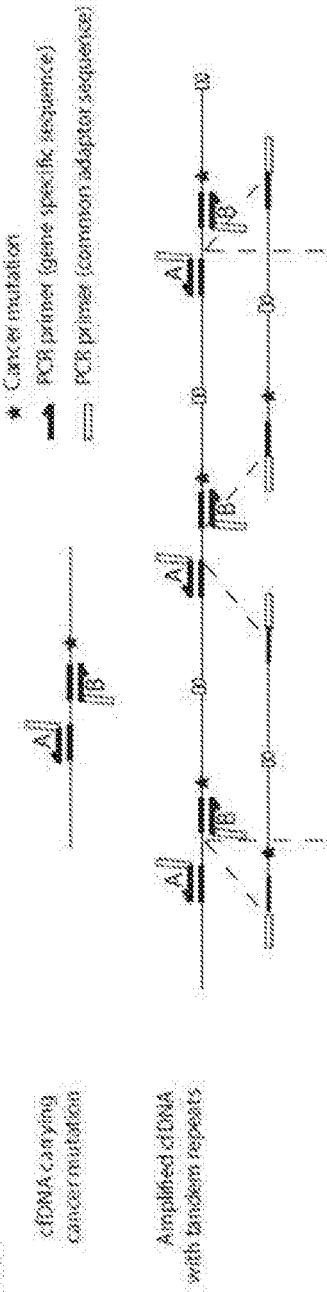
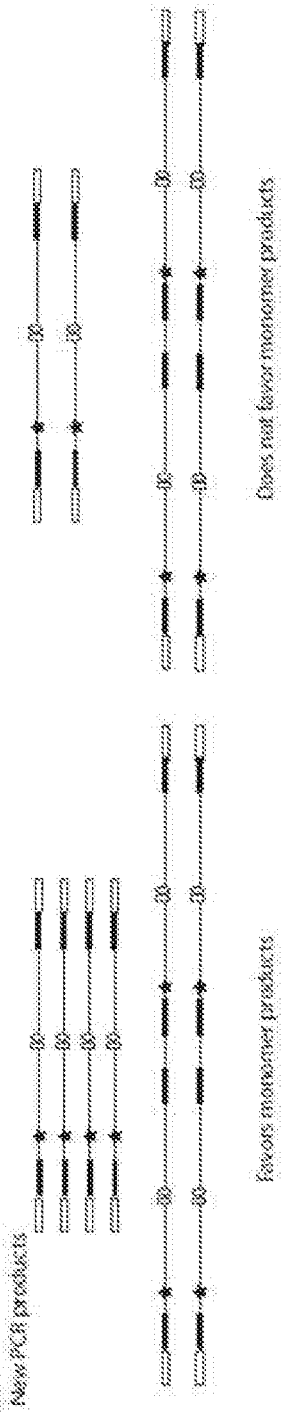


FIG. 15B



FIG. 15C



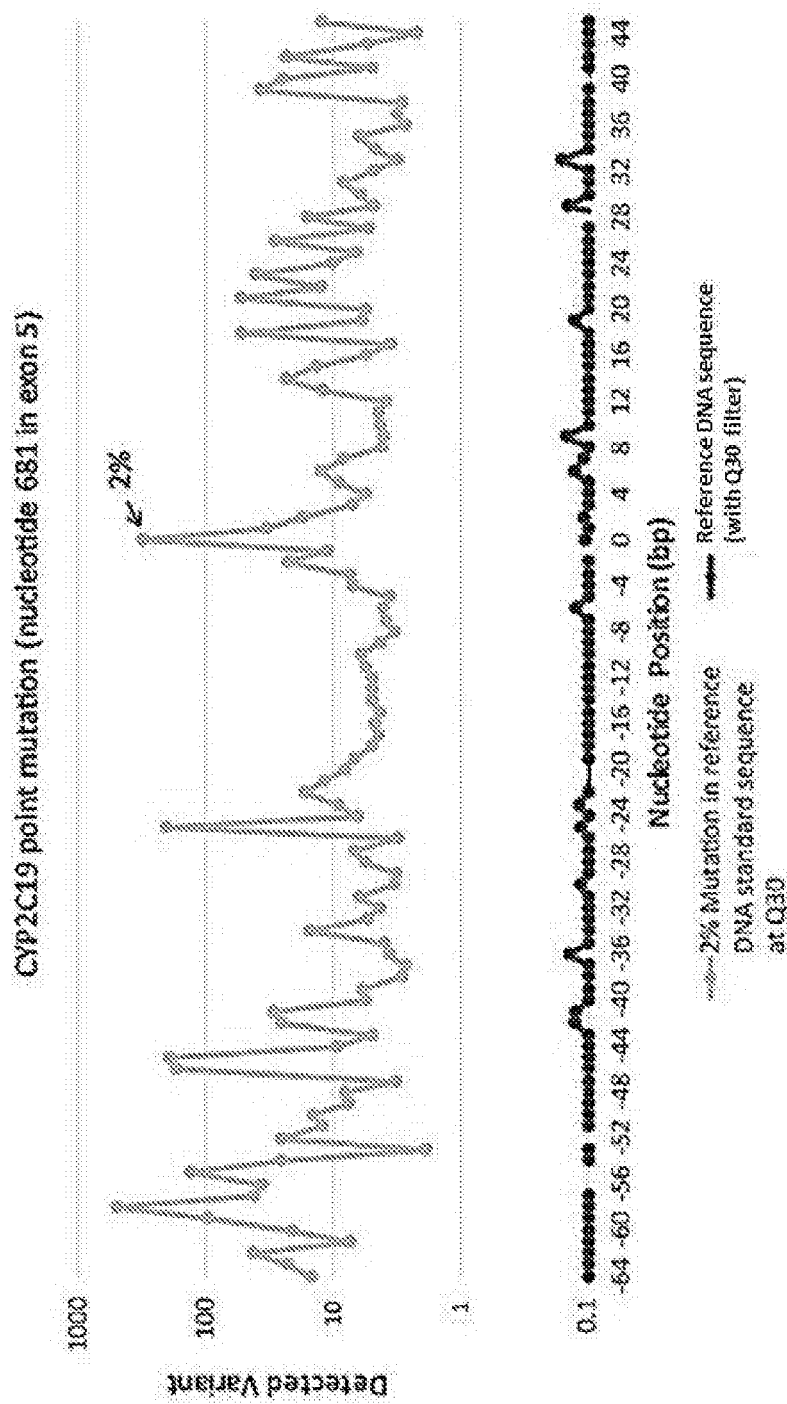


FIG. 16

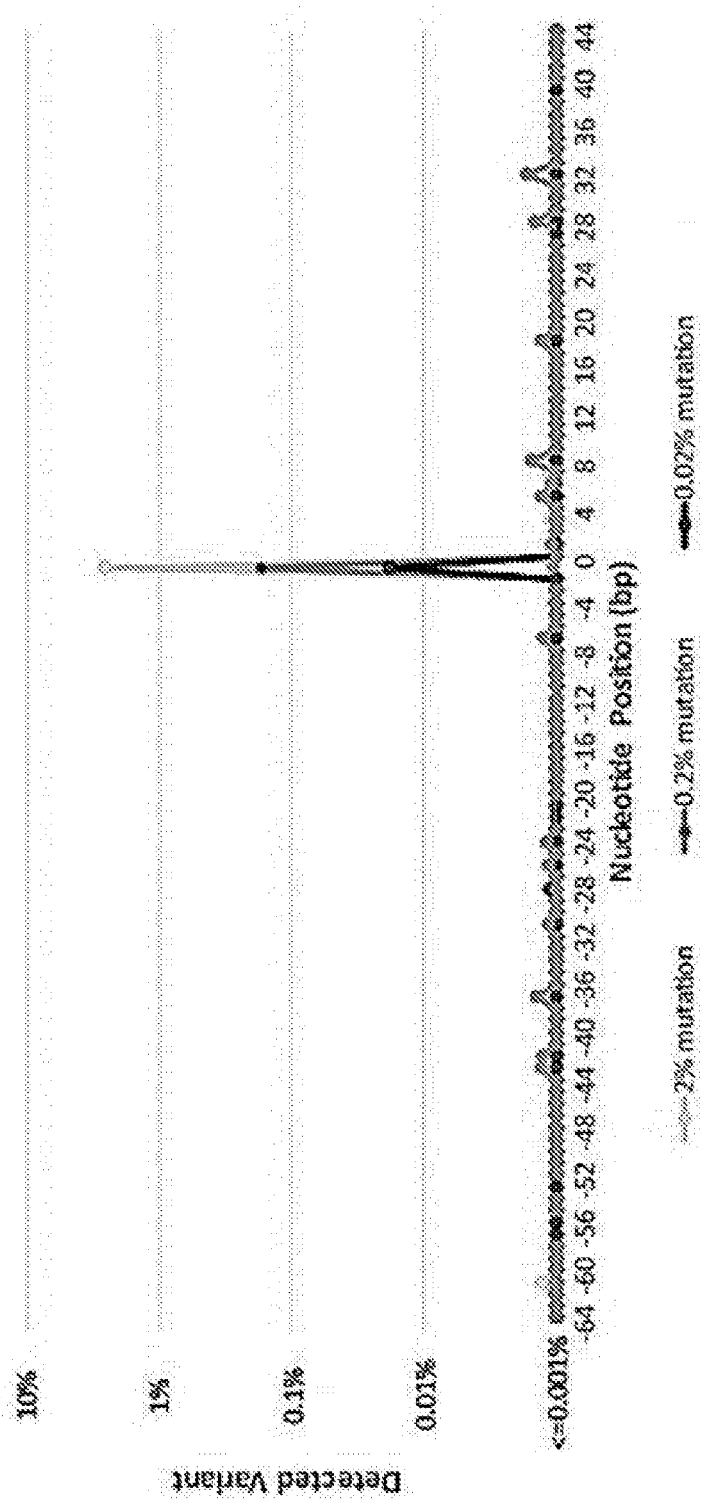


FIG. 17

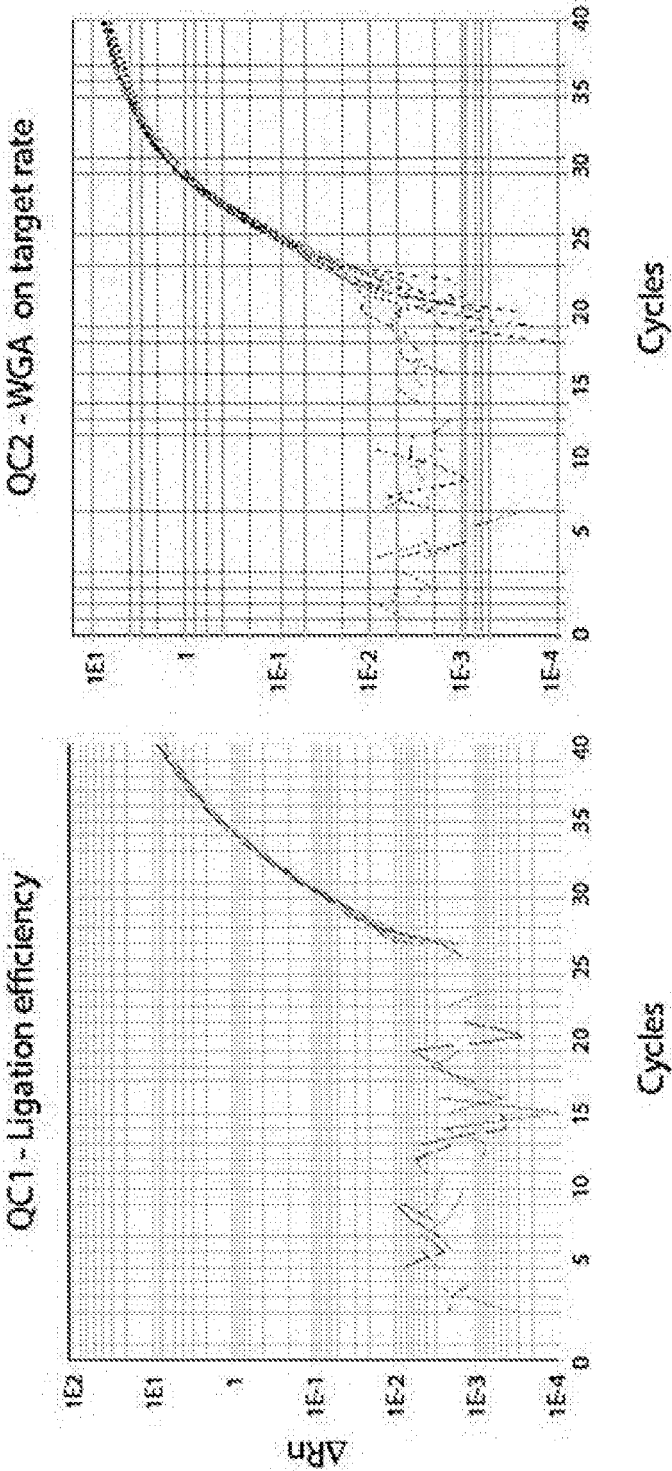
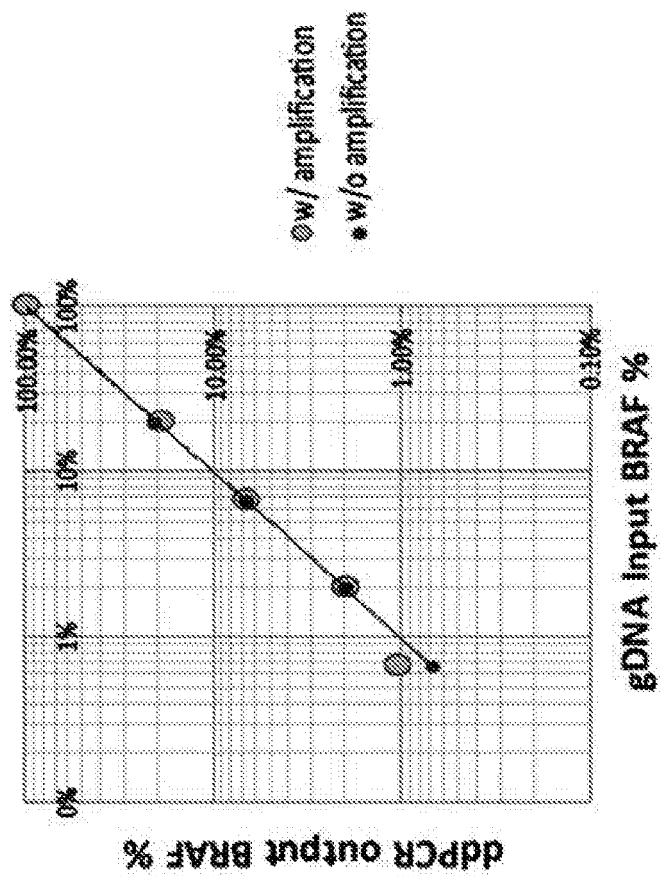


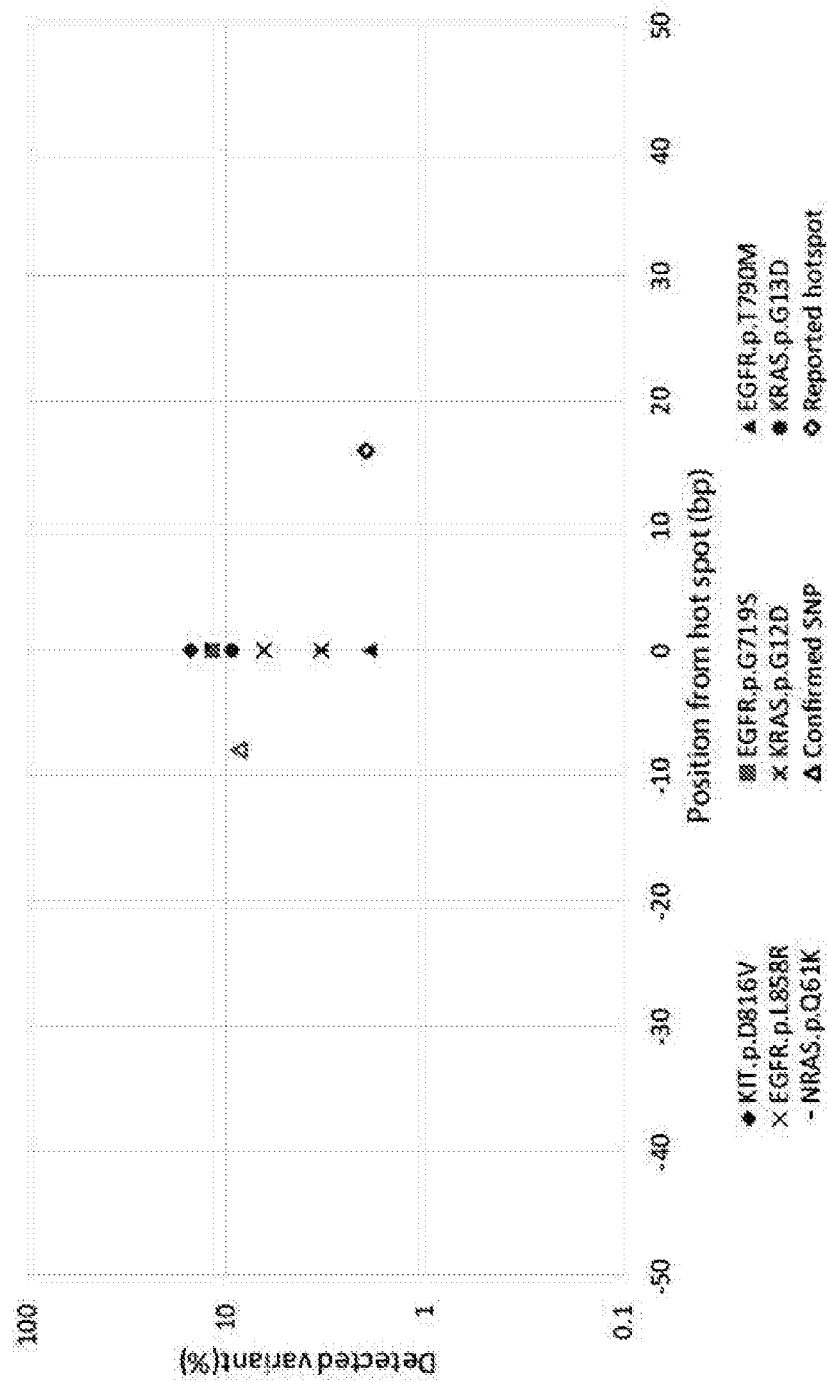
FIG. 18A

FIG. 18B



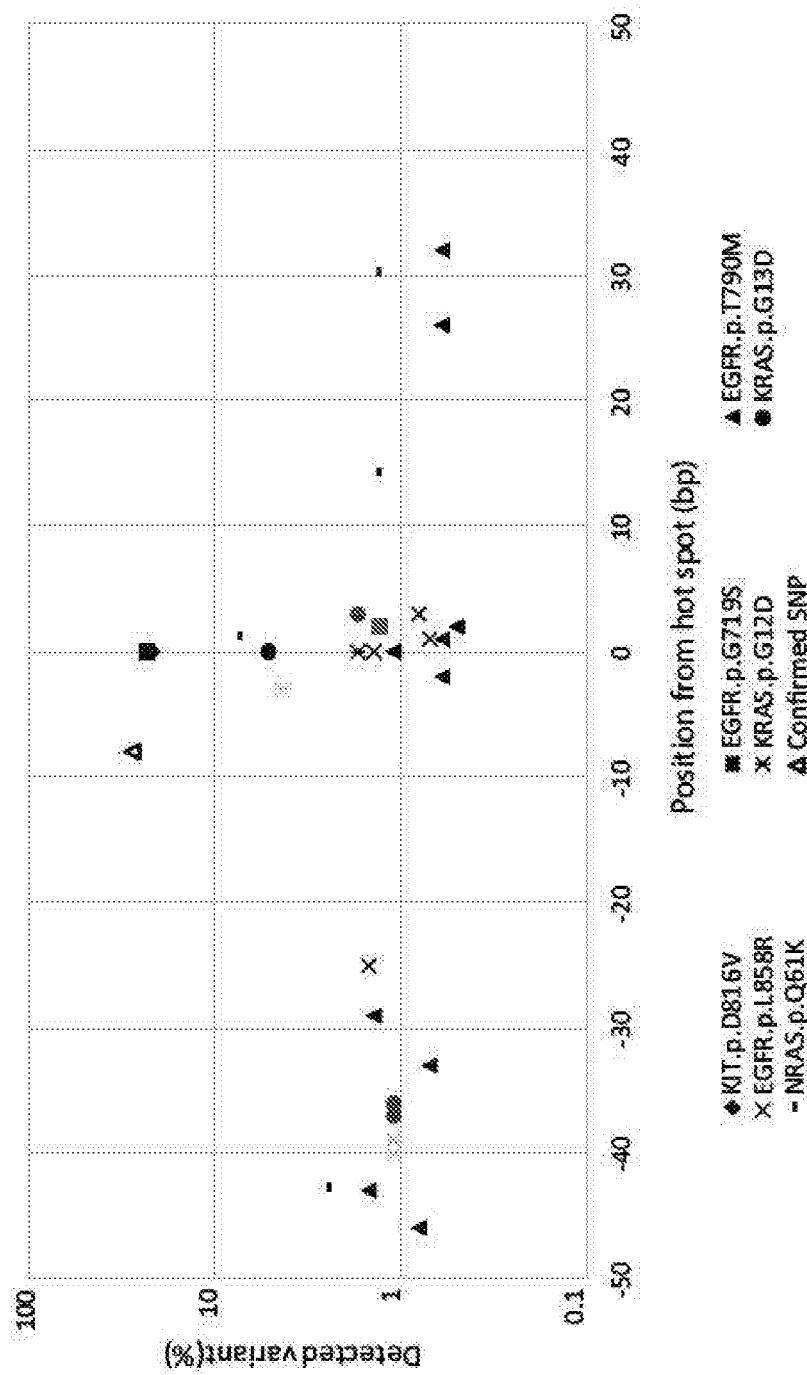
Expected %	0%	0.67%	2.00%	6.67%	20.00%	100%
w/ Amplification	0%	1.07%	2.04%	6.77%	19.41%	100%
w/o Amplification		0.66%	1.97%	6.67%	20.26%	

FIG. 19



Variant mapping using a validation filter, +/- 50 bp from reference hotspots

FIG. 20



Variant mapping of Rubicon Q30, +/- 50bp from reference hotspots

FIG. 21

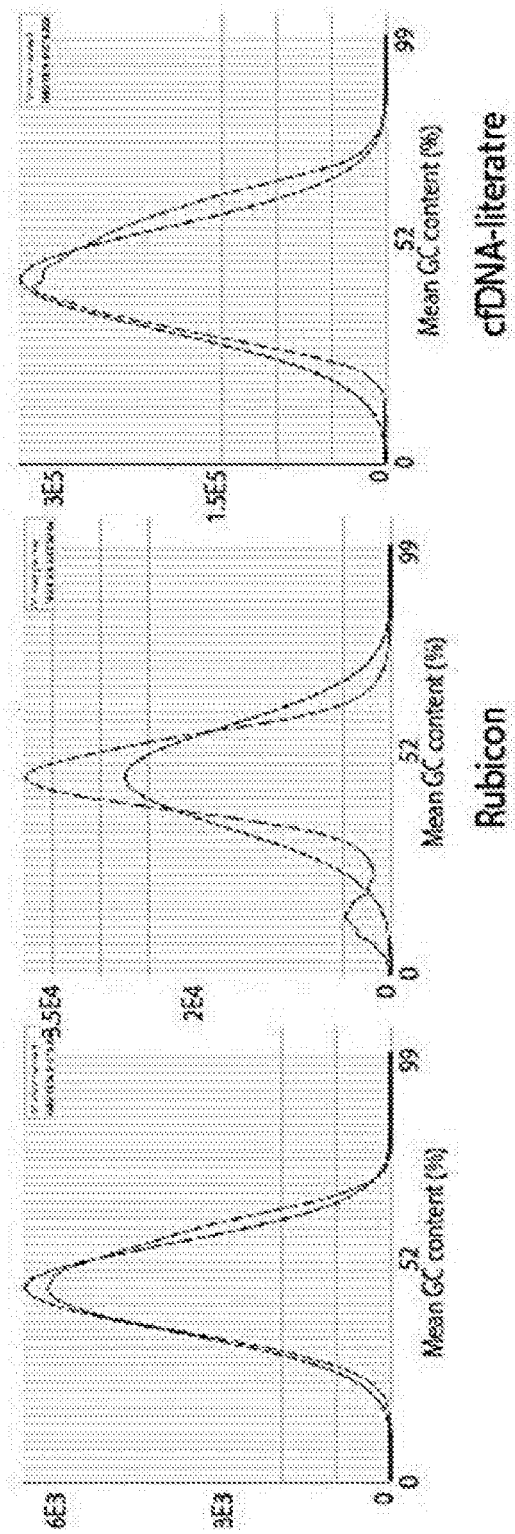


FIG. 22

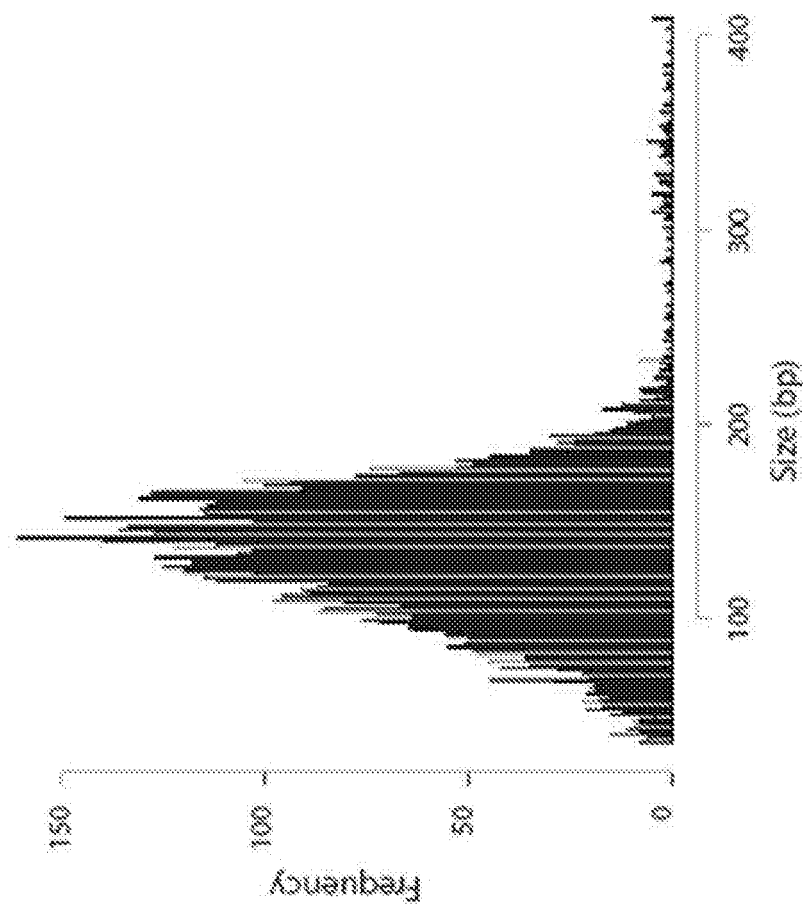


FIG. 23

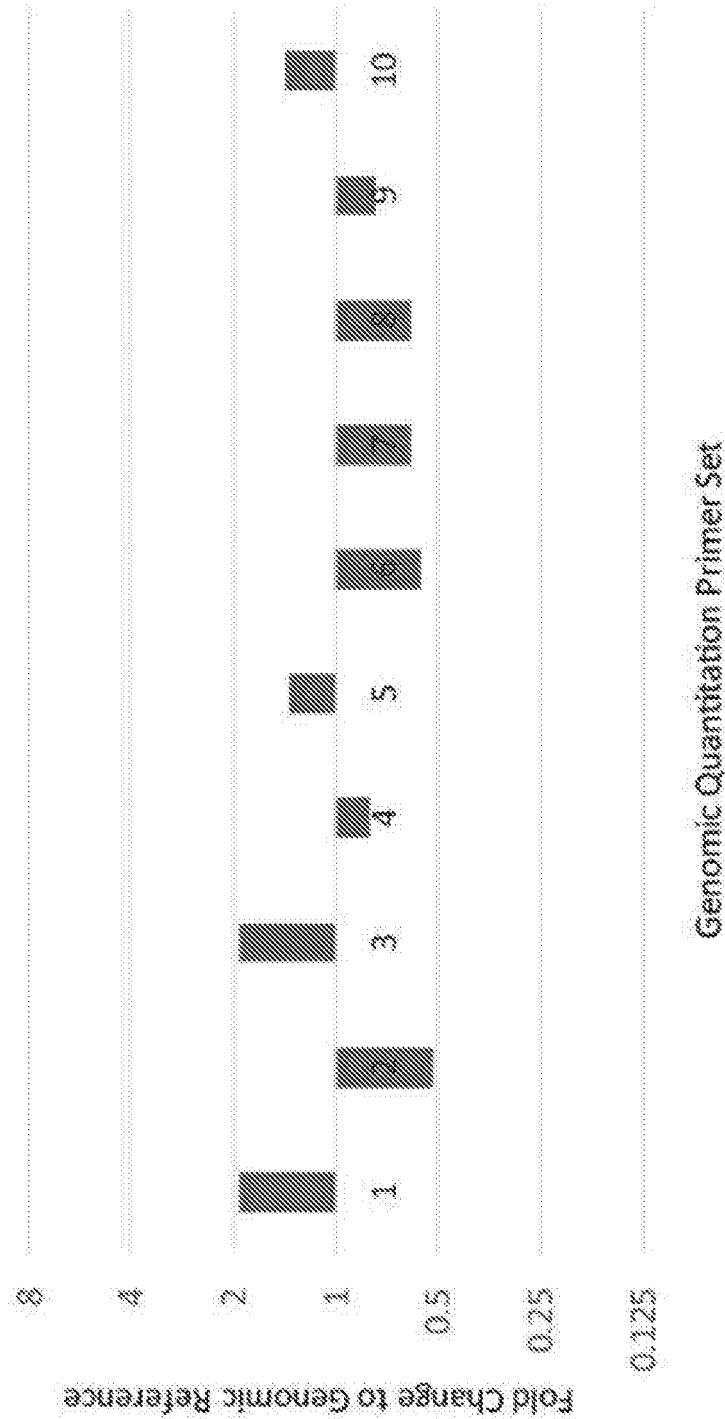


FIG. 24

FIG. 25A

Blunt end ligation (auto tag)

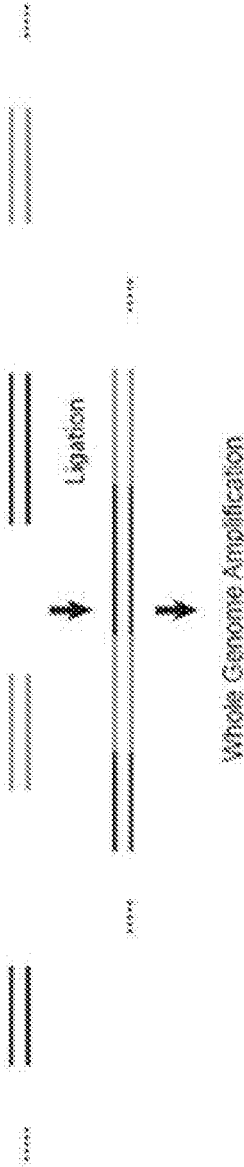
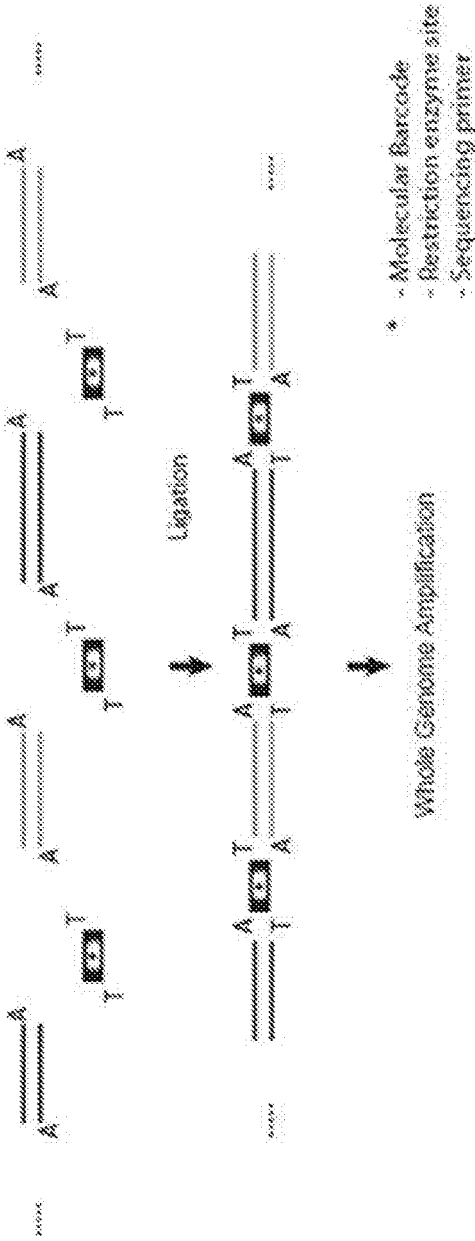


FIG. 25B

Adaptor (barcode) ligation



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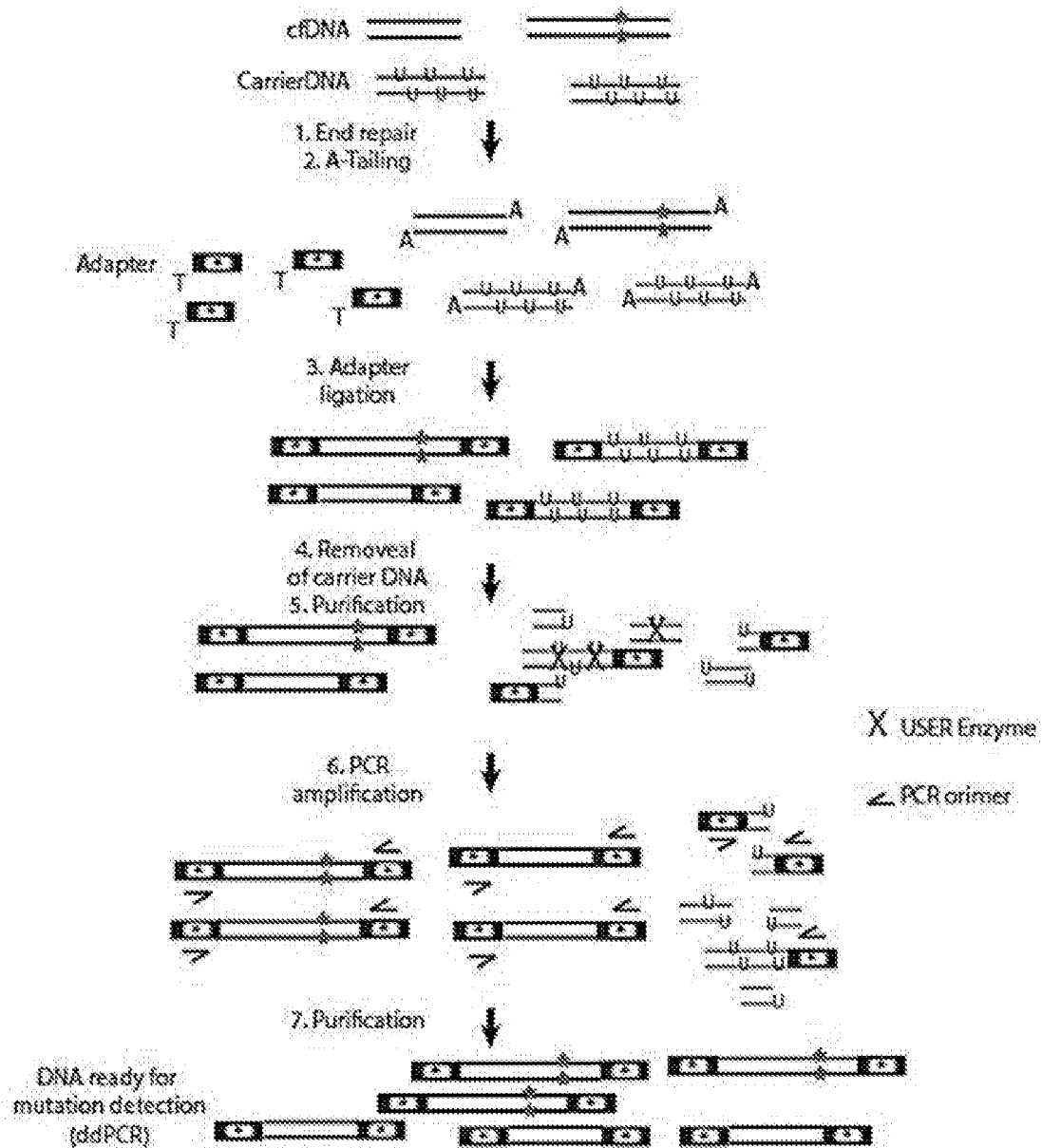
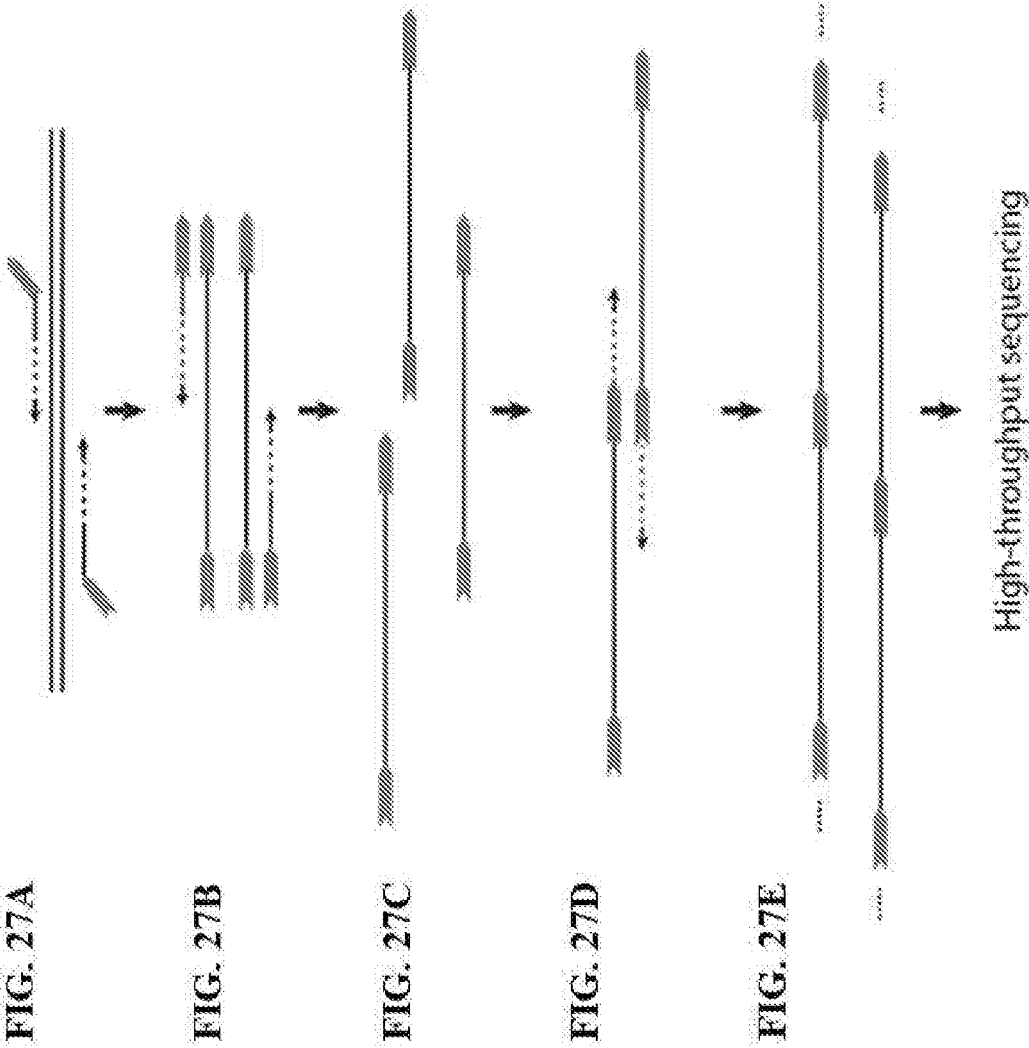
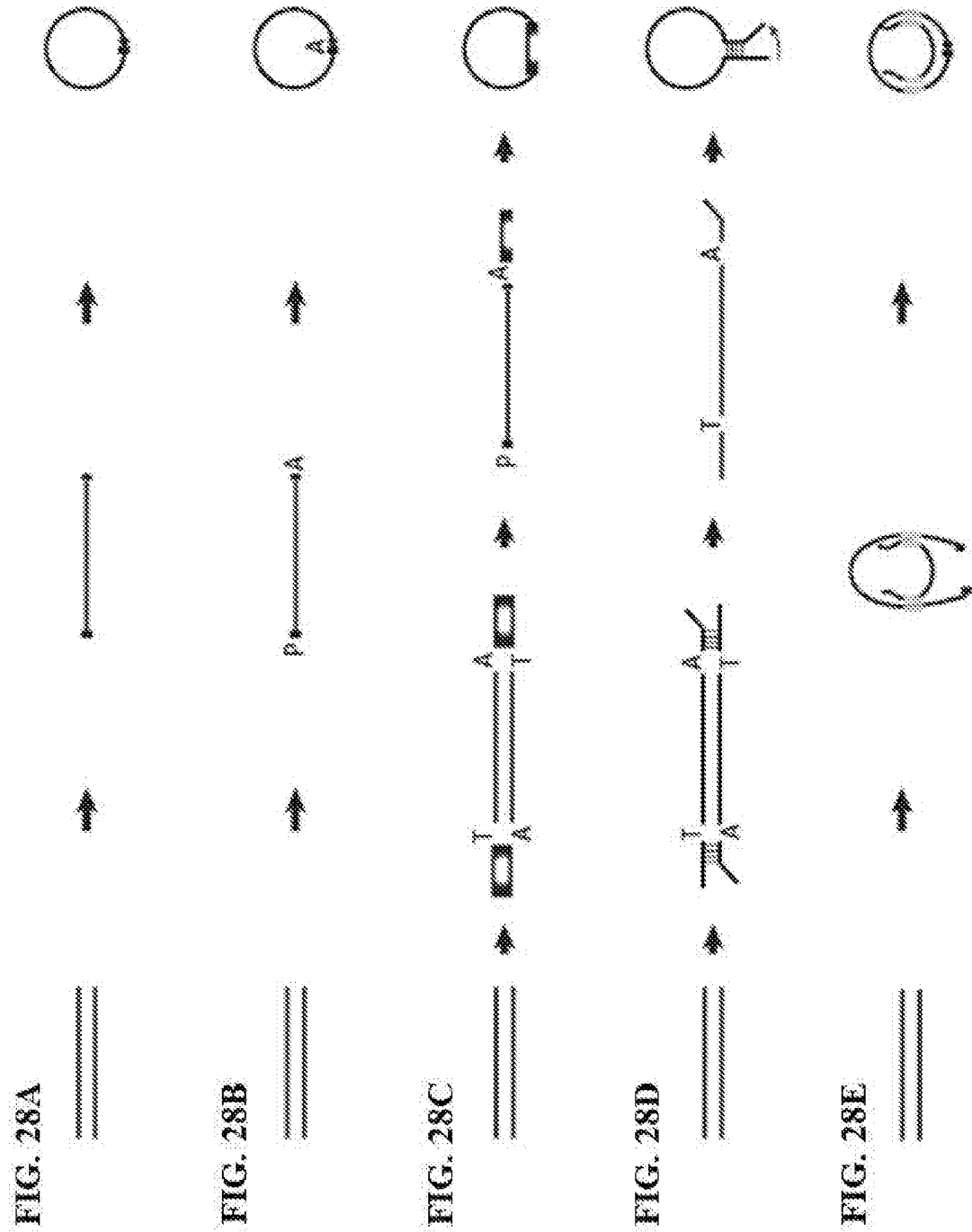


FIG. 26





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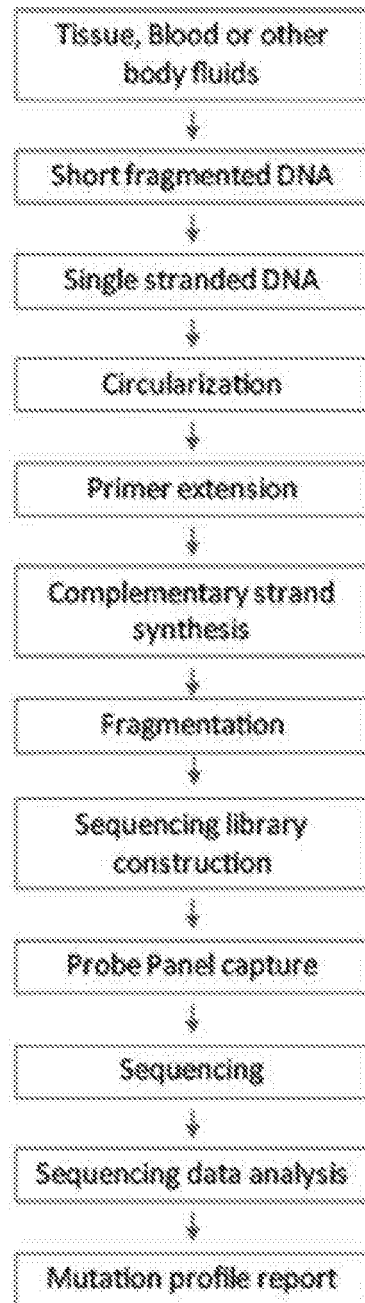


FIG. 29

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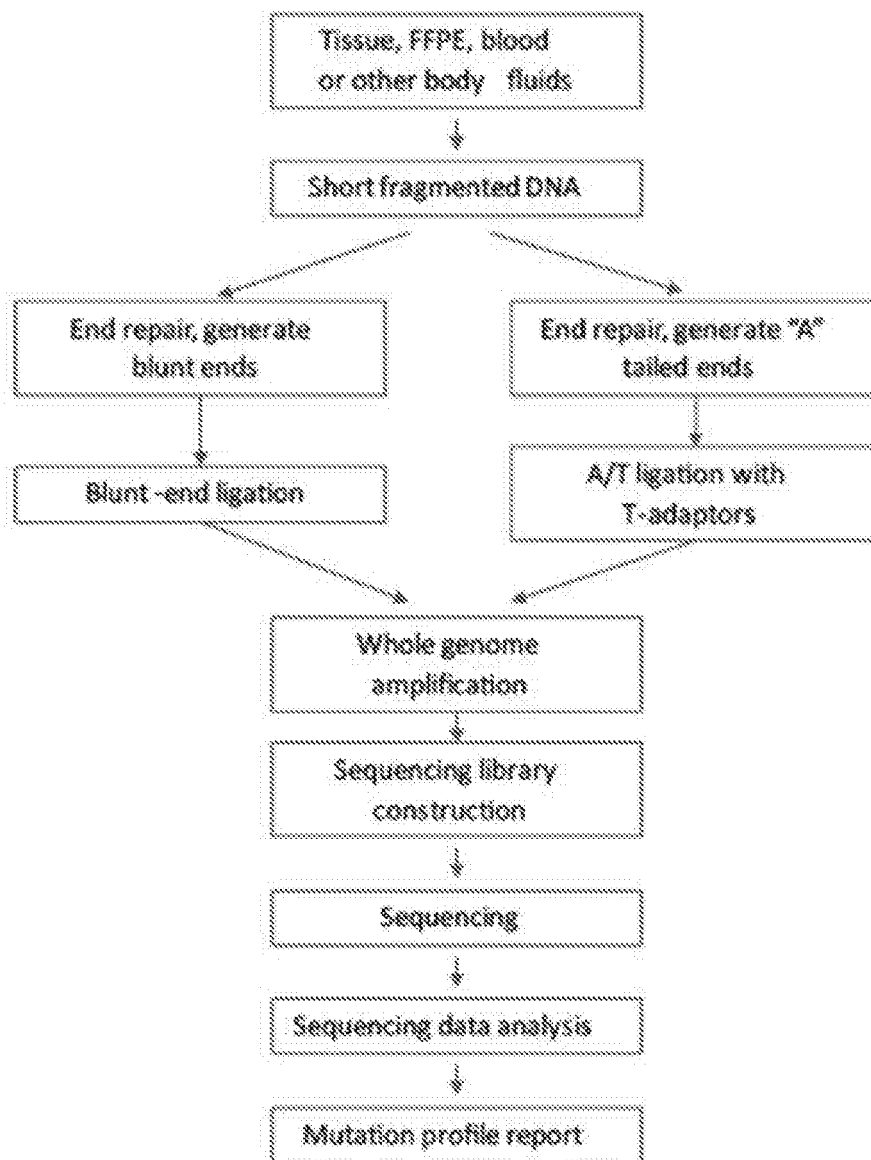


FIG. 30

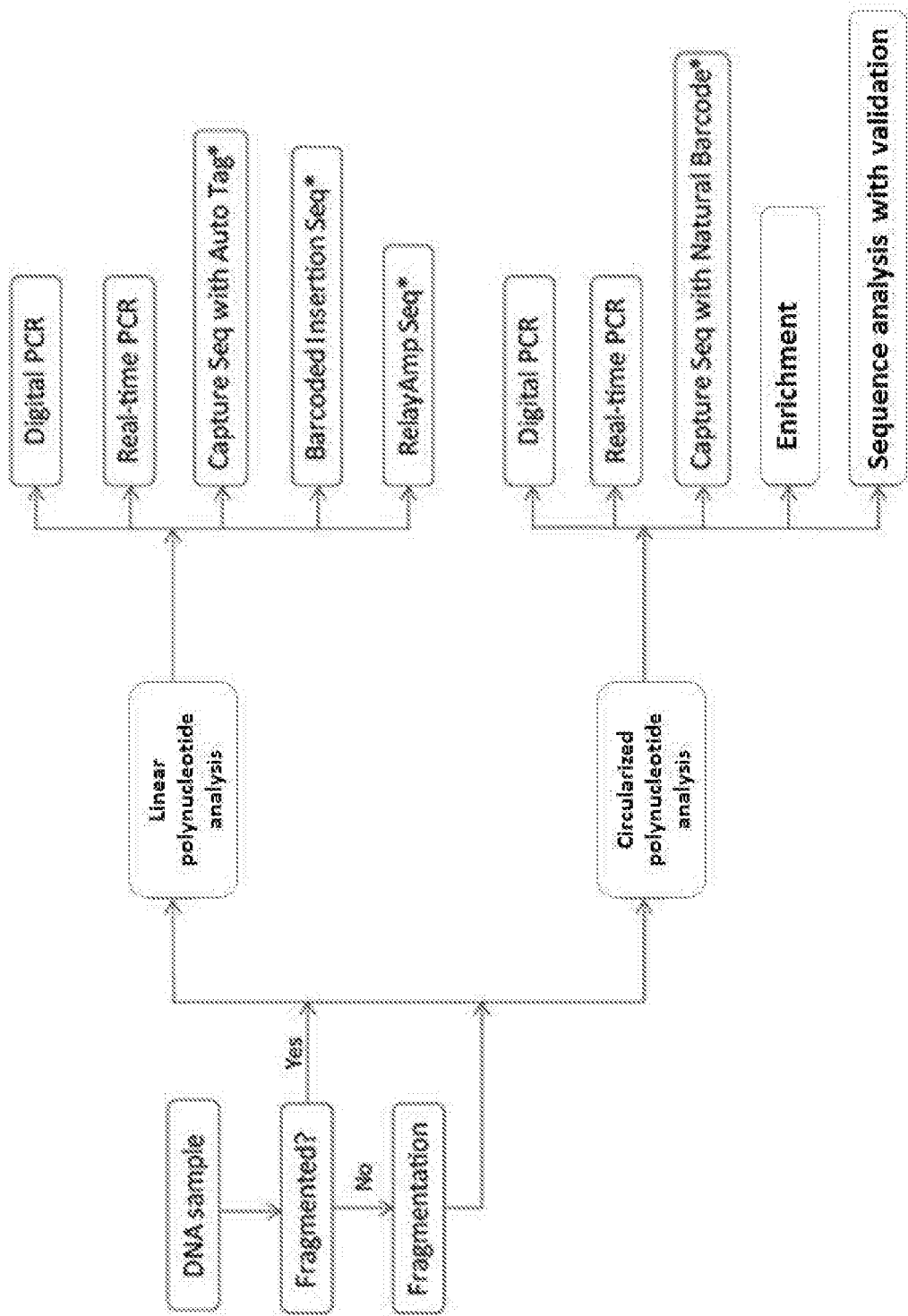


FIG. 31

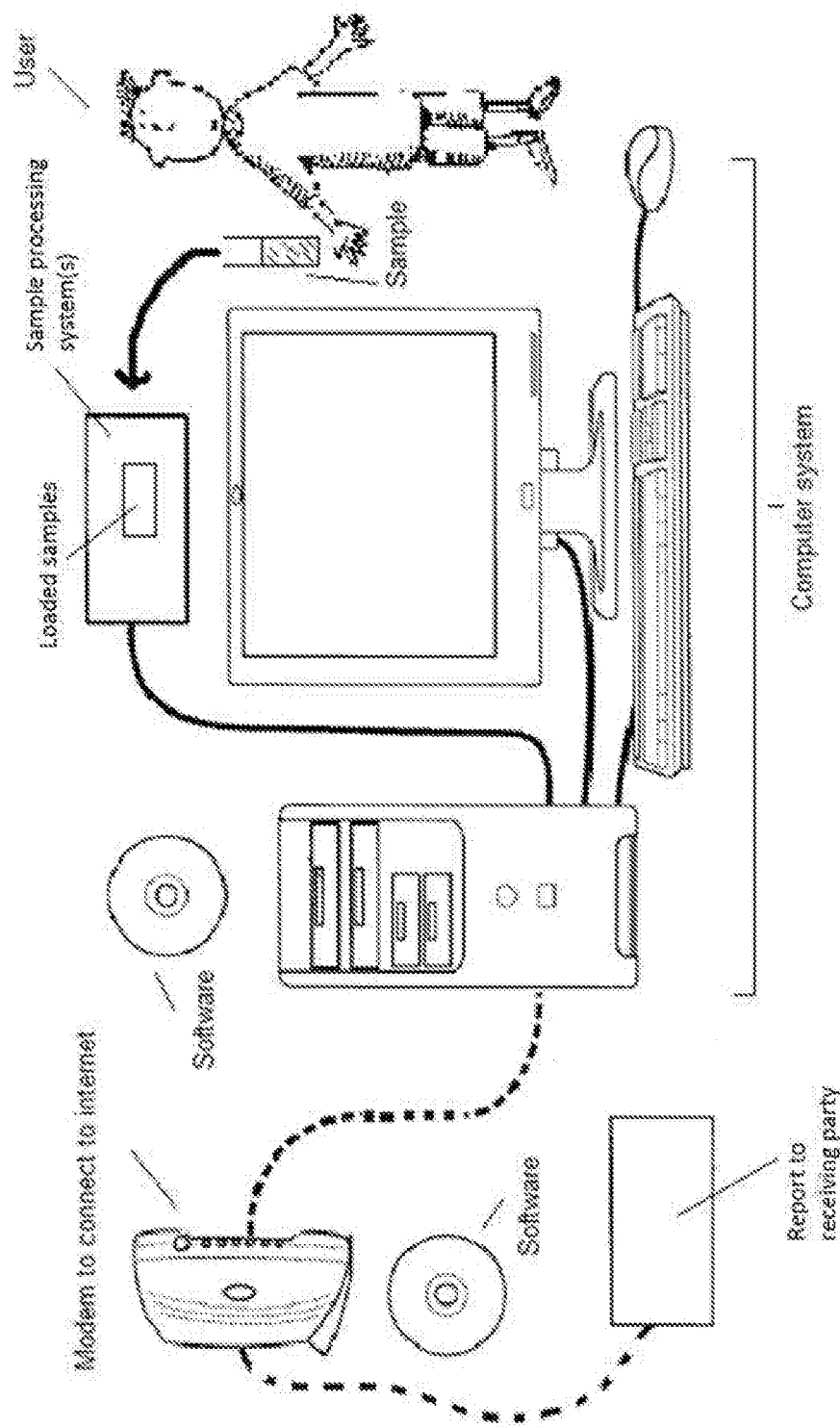


FIG. 32

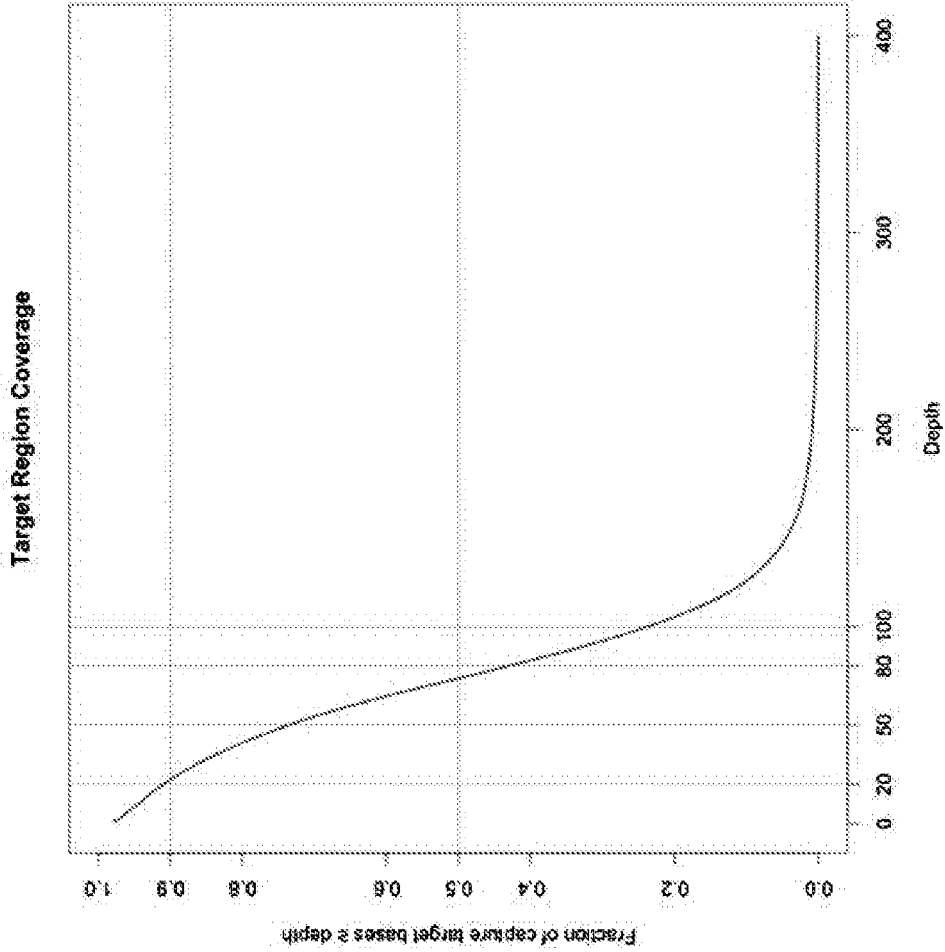


FIG. 33

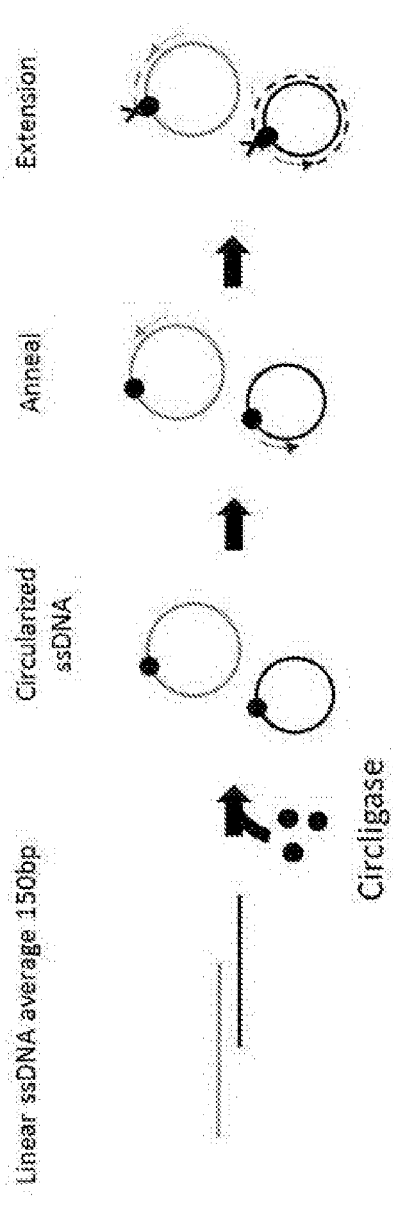


FIG. 34A

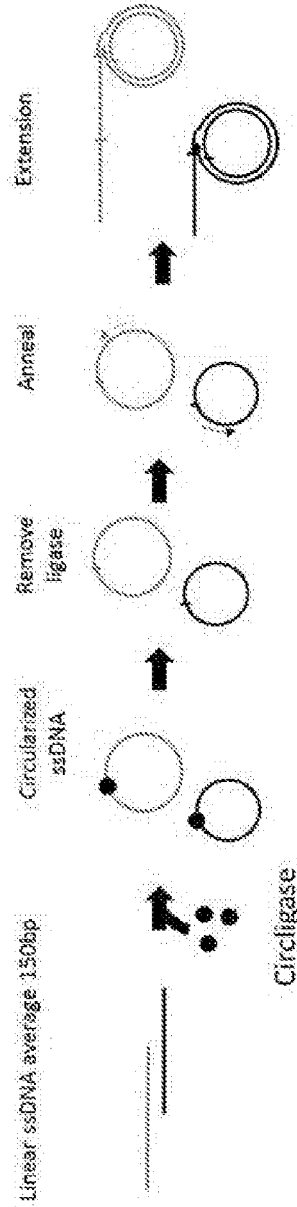


FIG. 34B

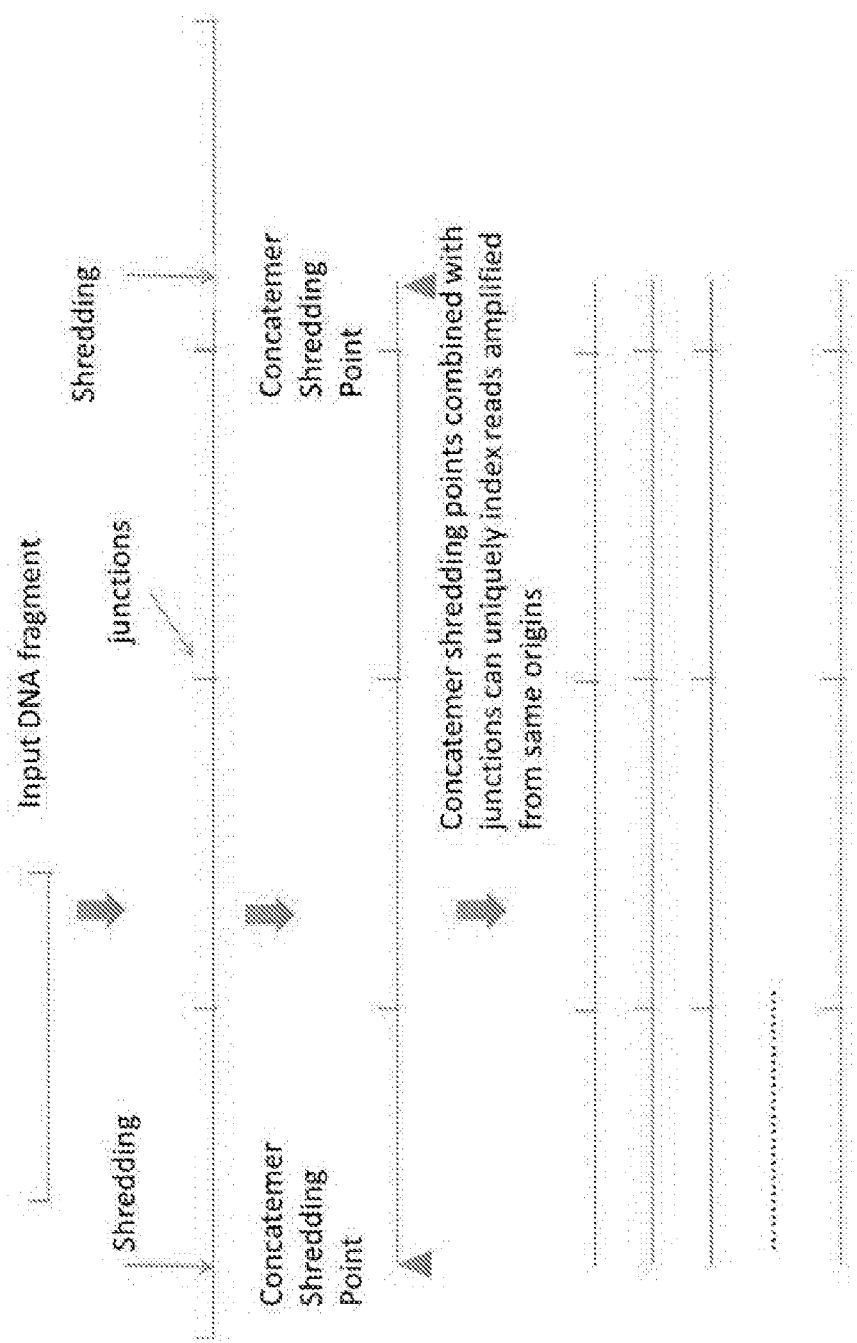


FIG. 35

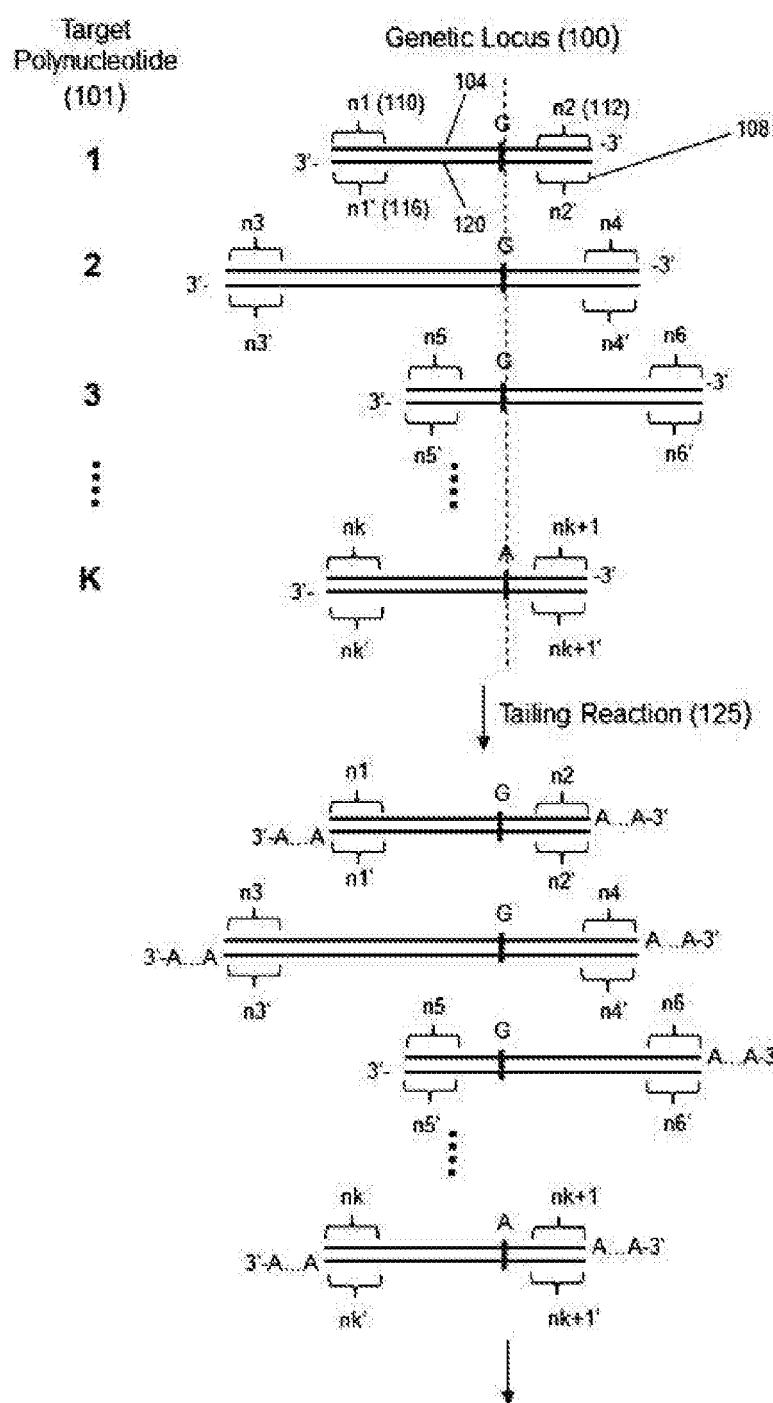


FIG. 36A

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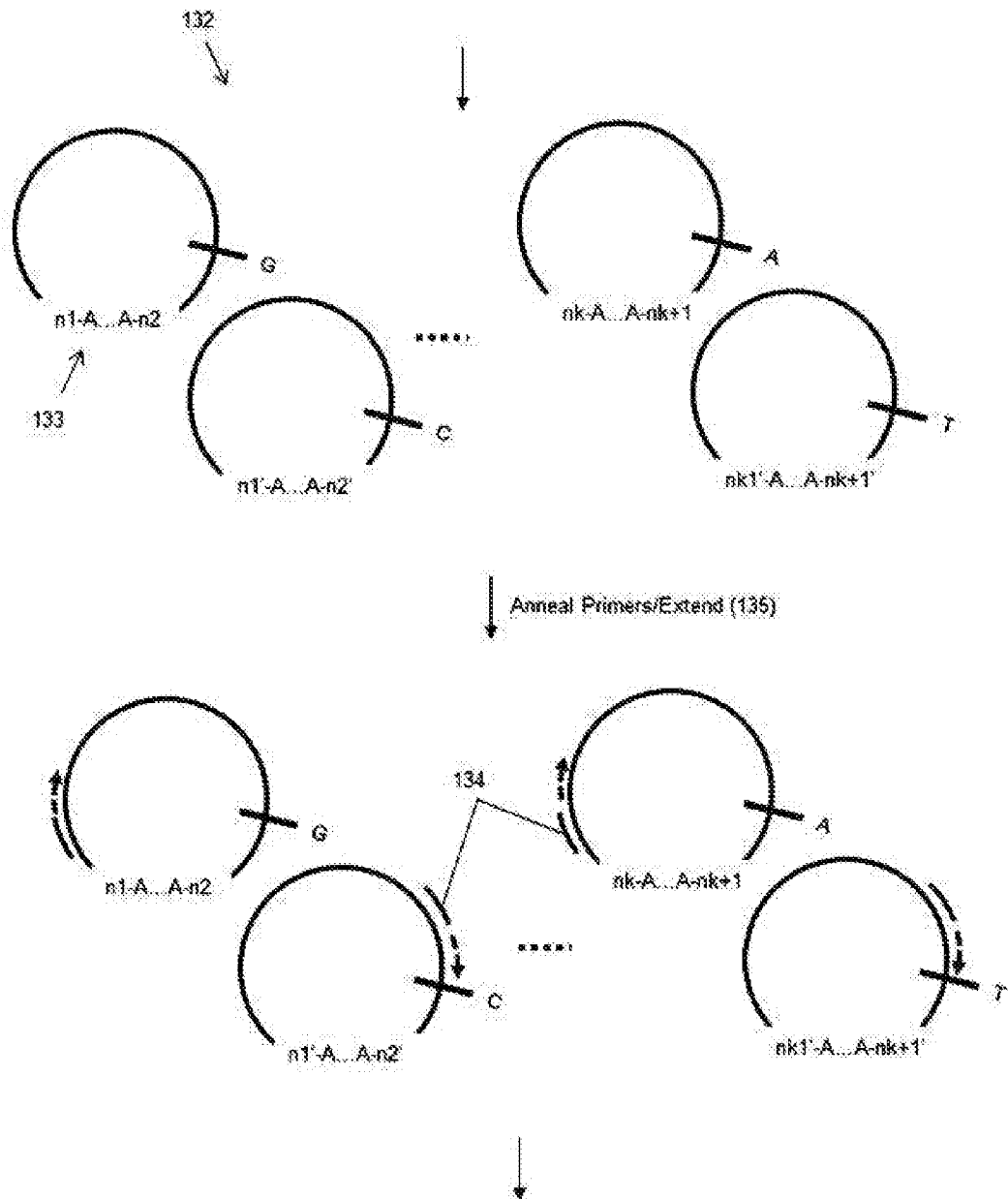


FIG. 36B

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FIG. 36C

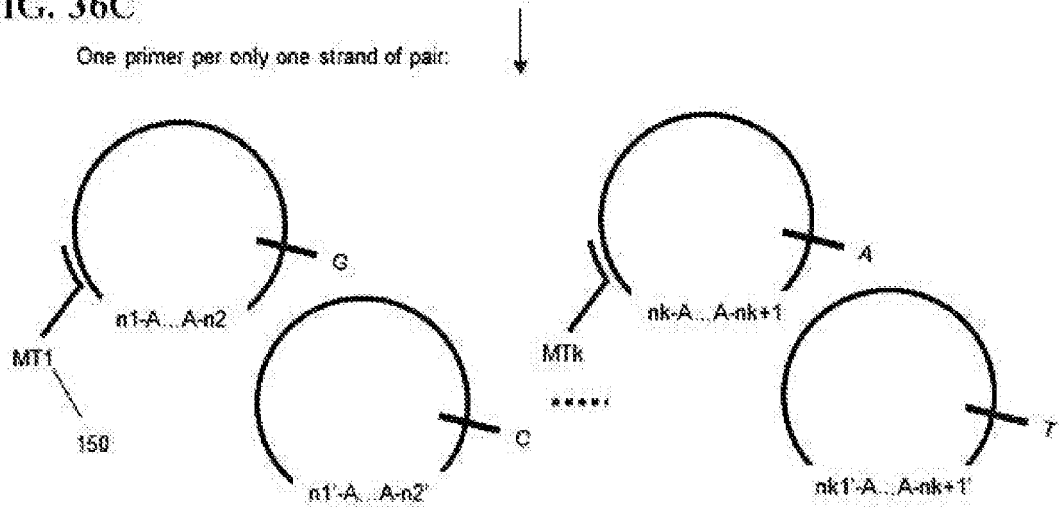
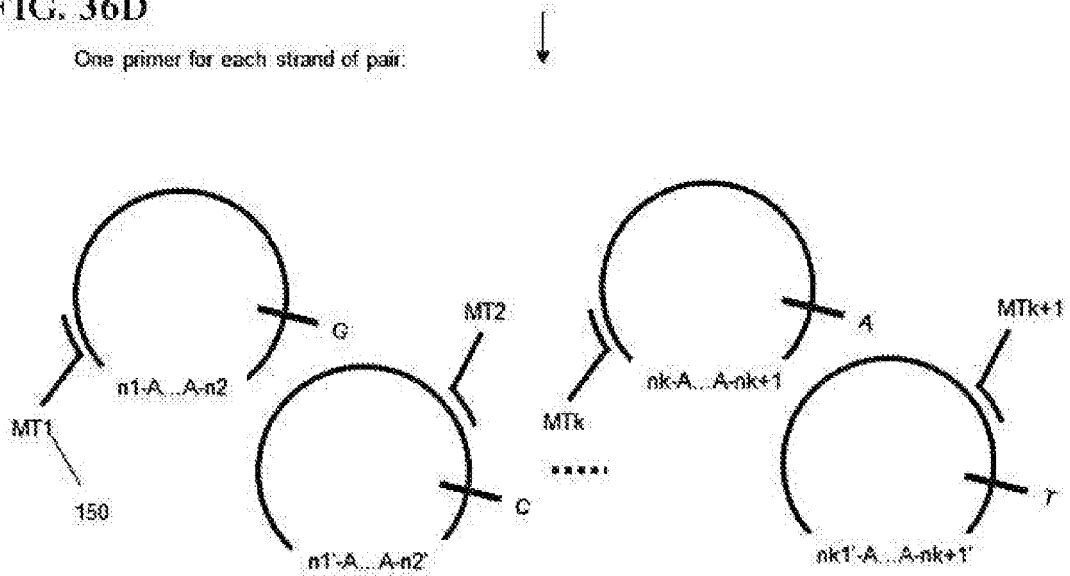


FIG. 36D



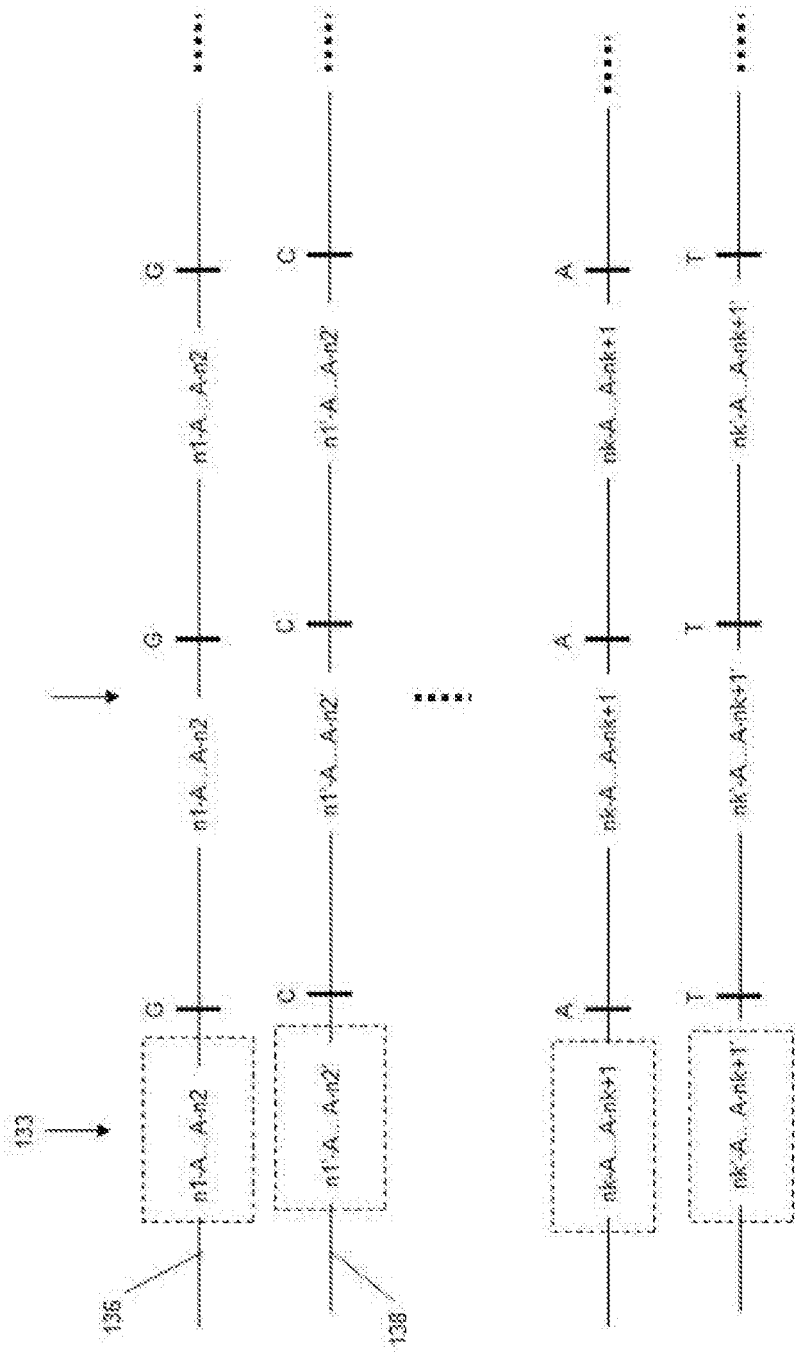


FIG. 36E

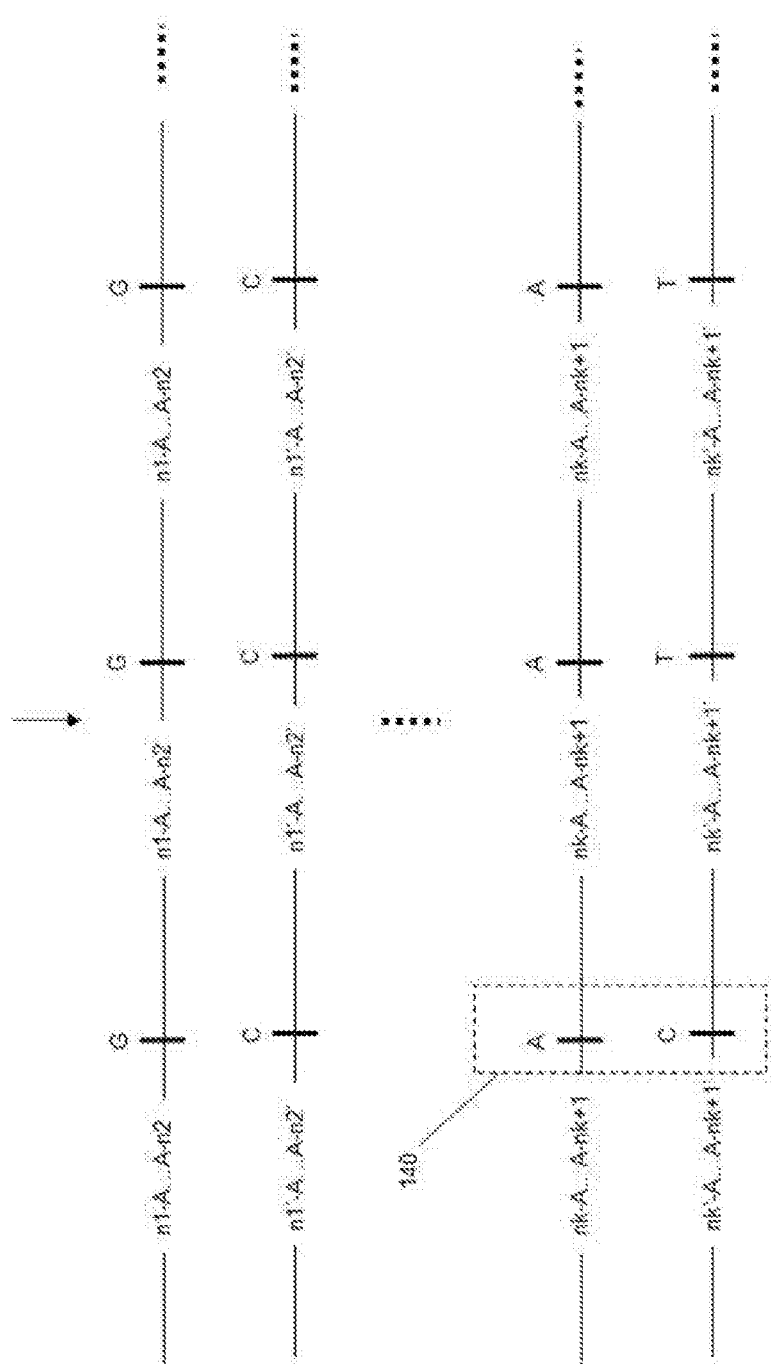


FIG. 36F

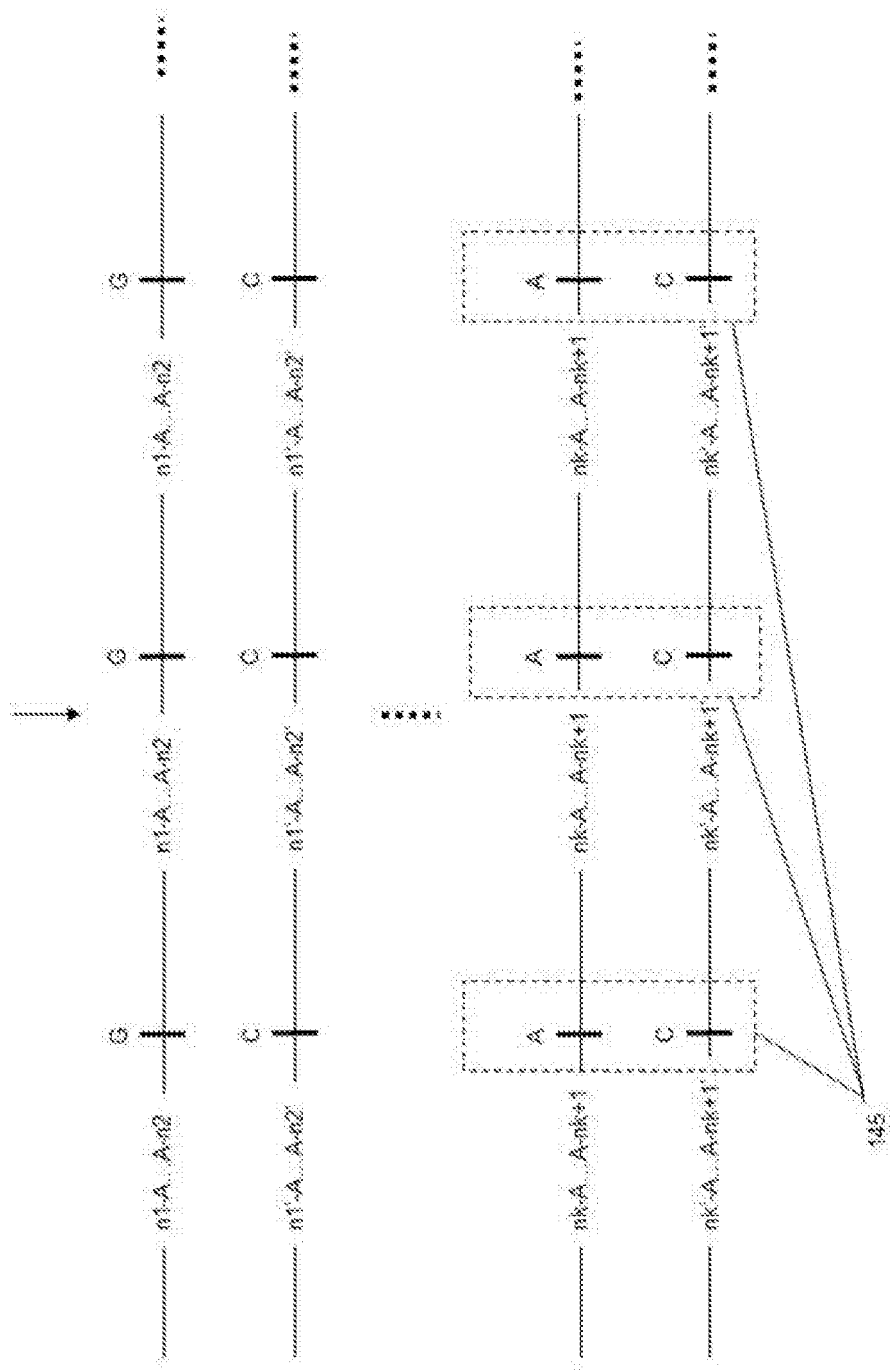


FIG. 36G

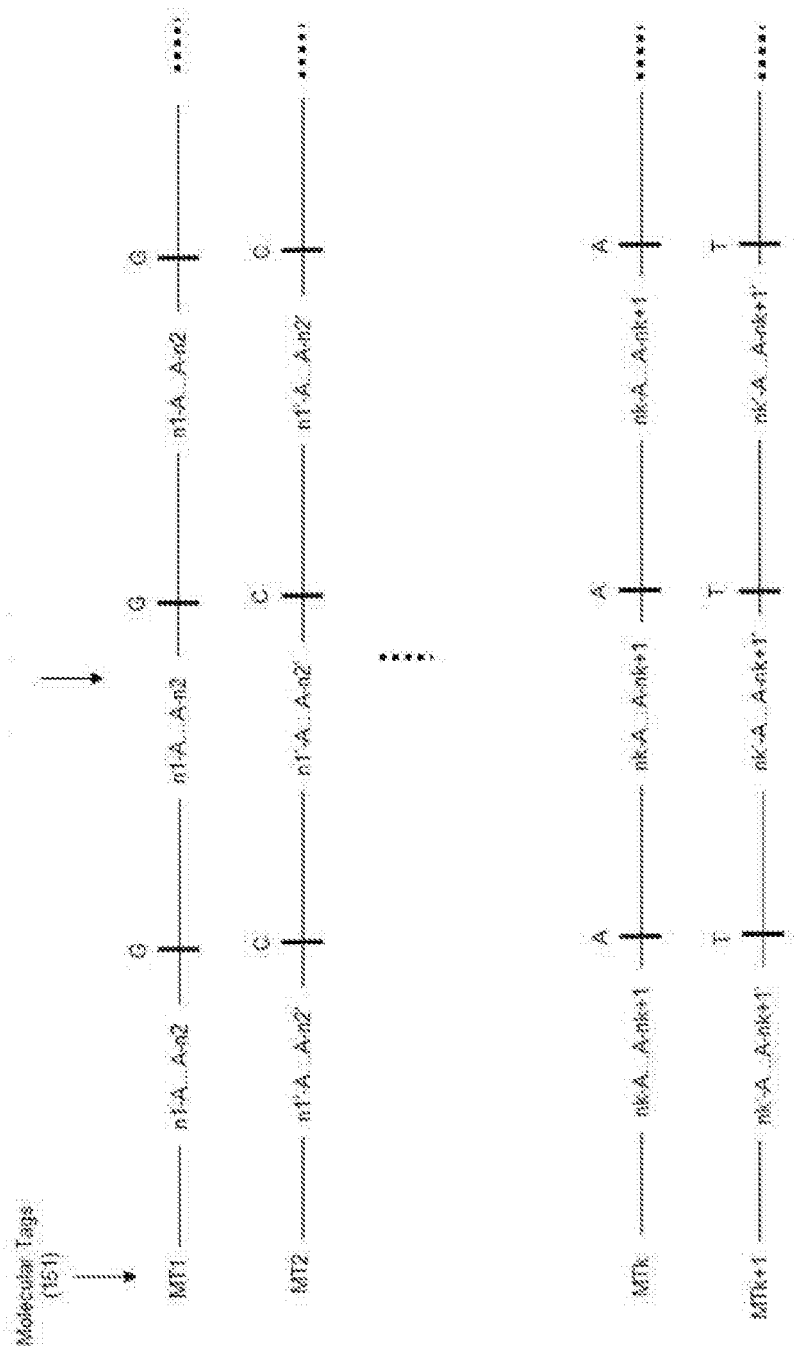


FIG. 36H

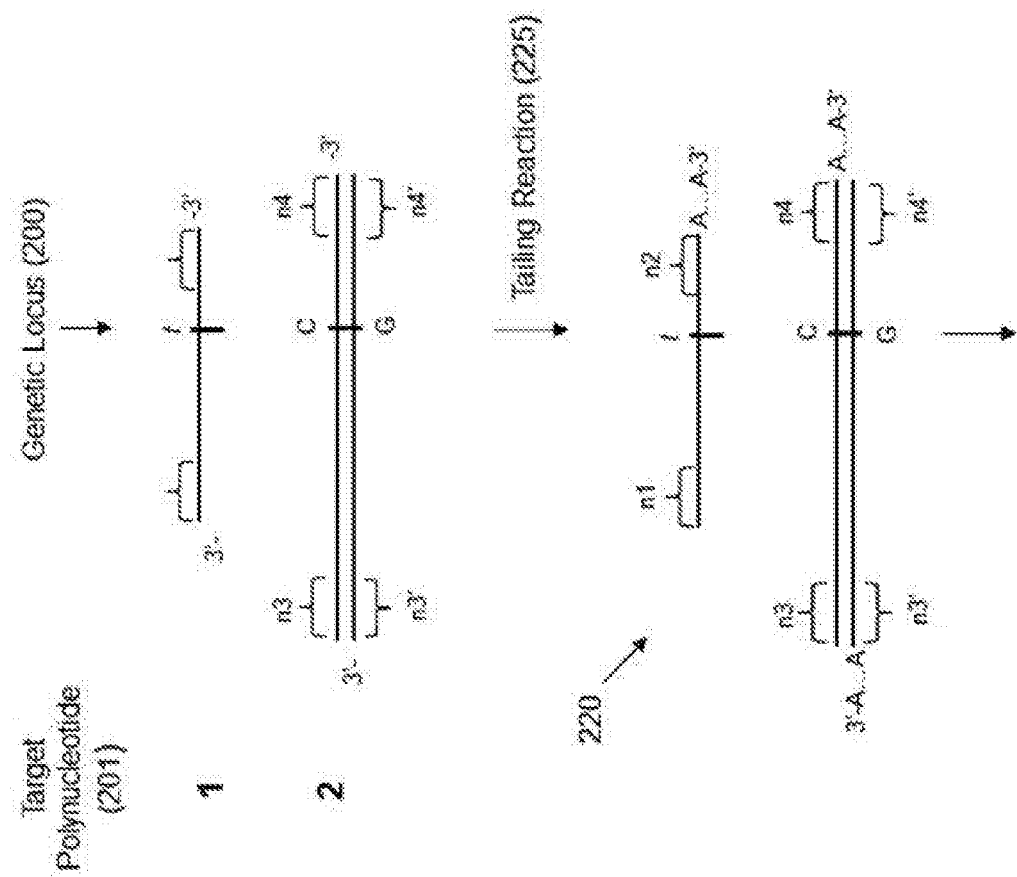


FIG. 37A

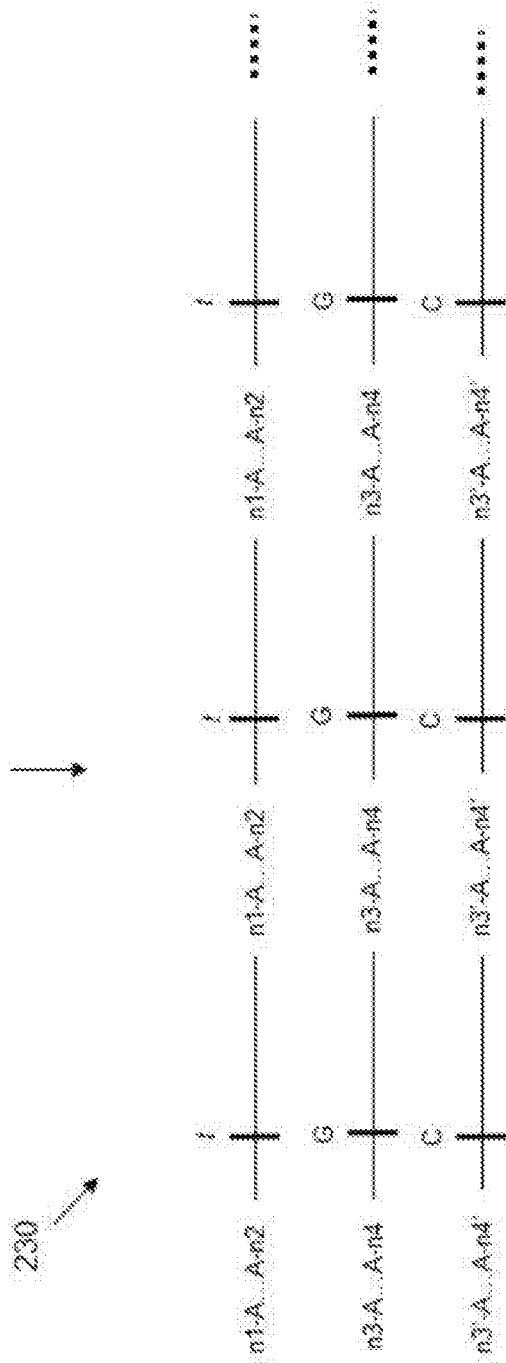


FIG. 37B

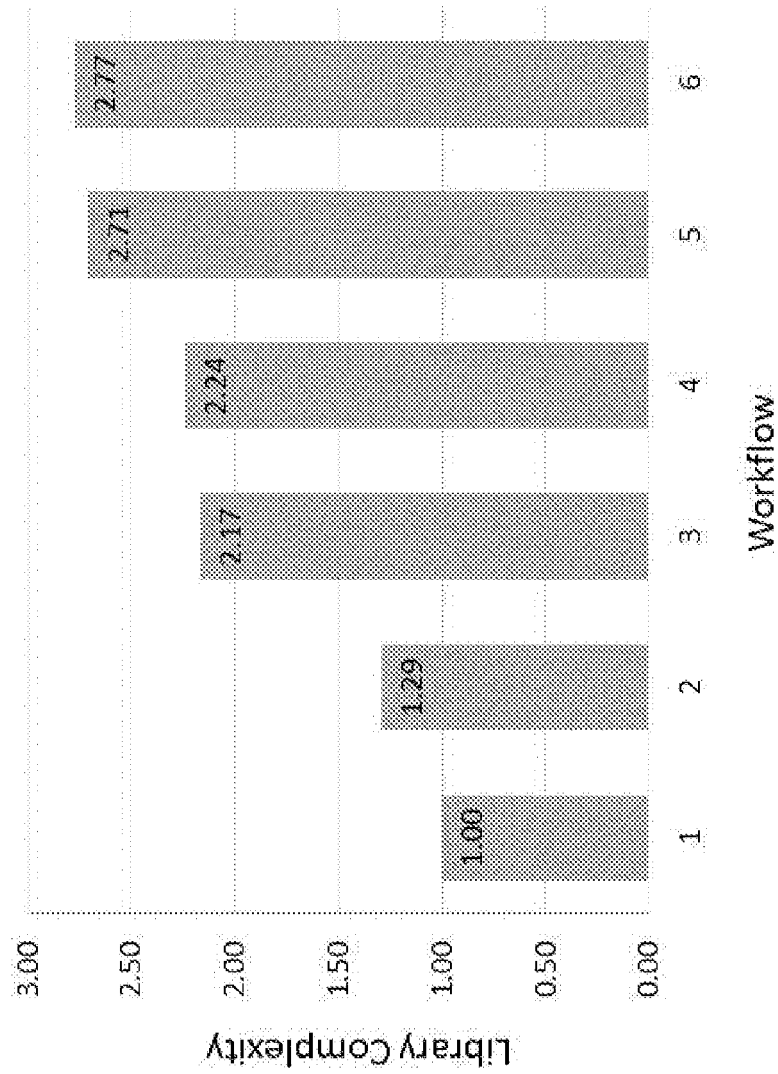


FIG. 38

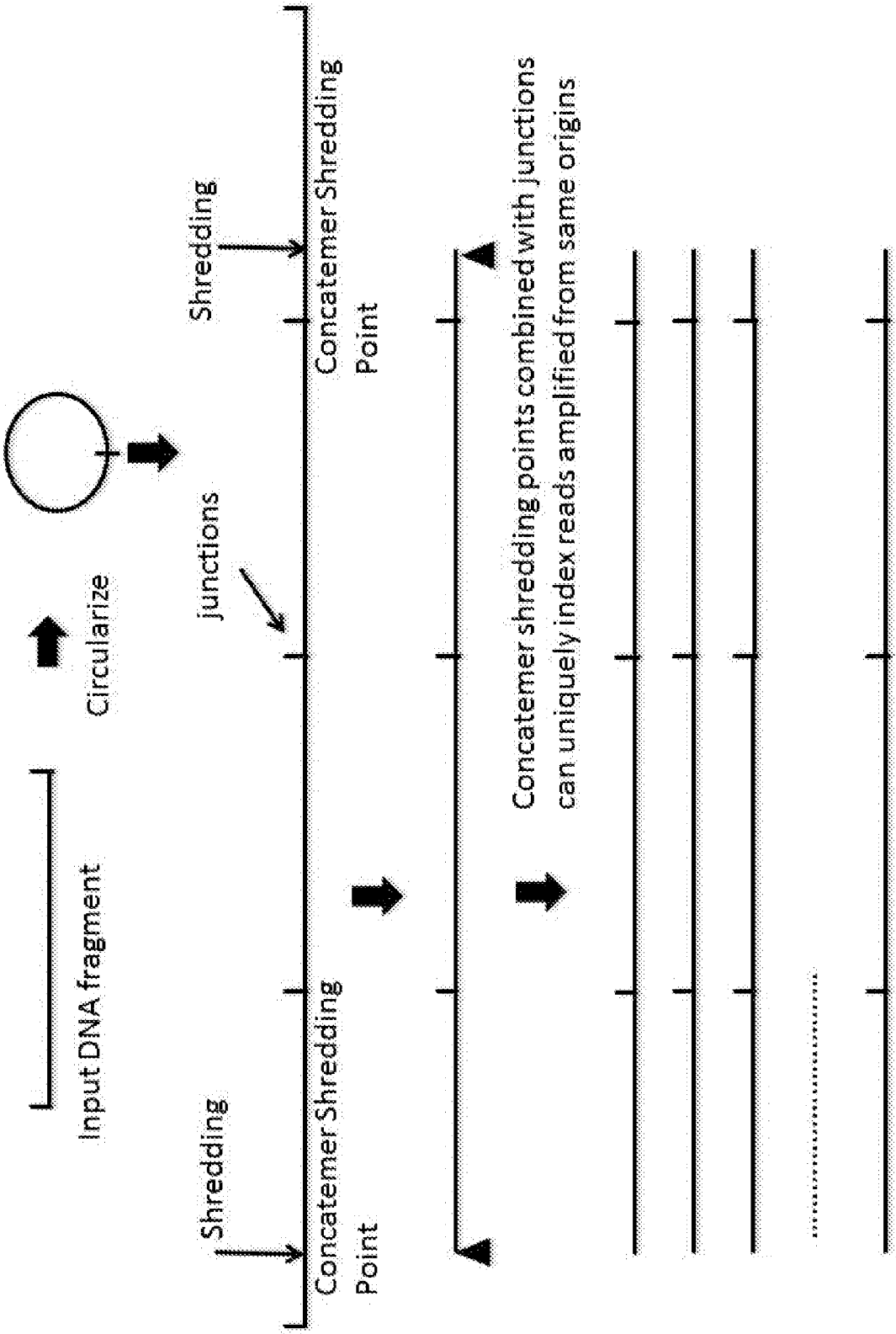


FIG. 39

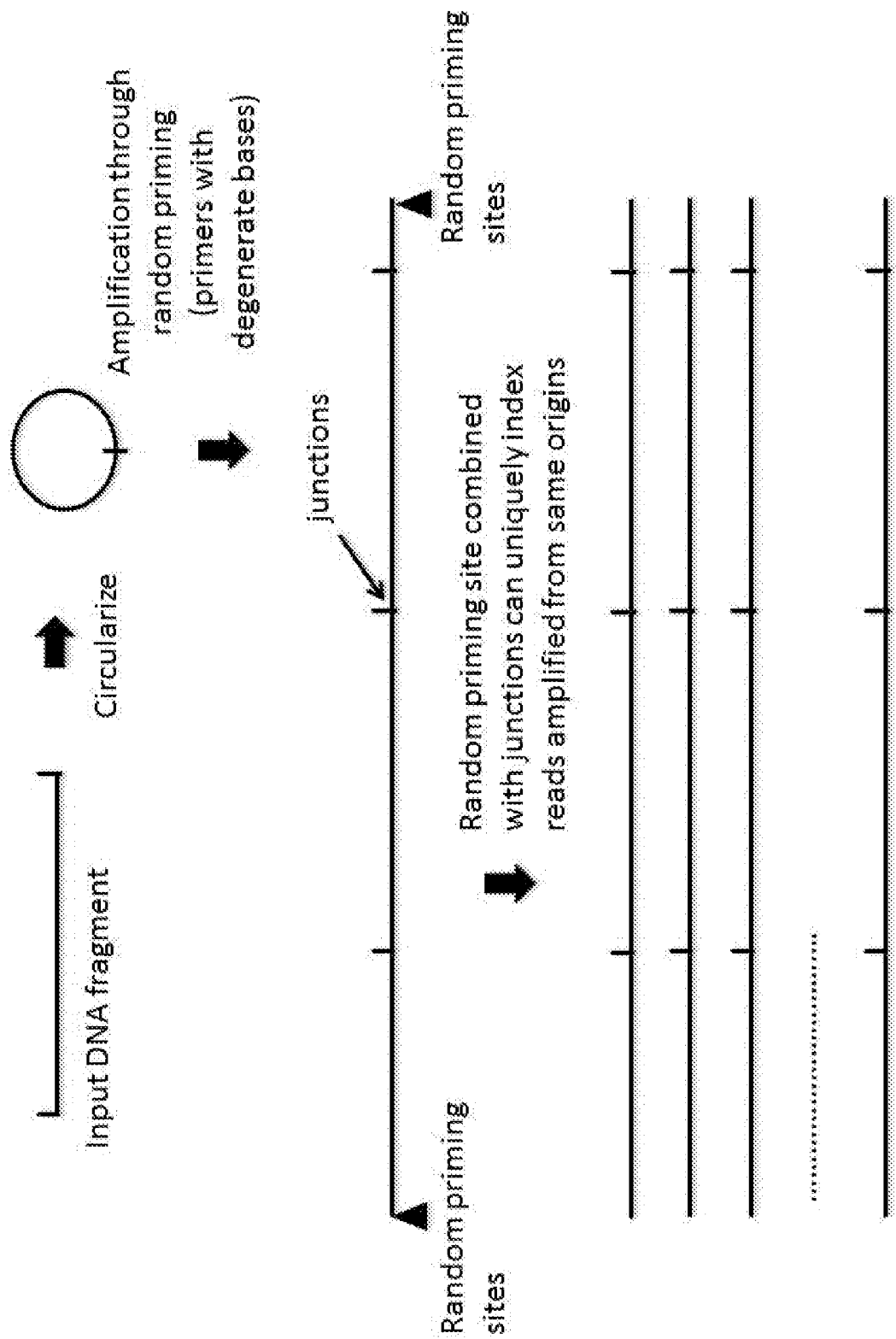


FIG. 40

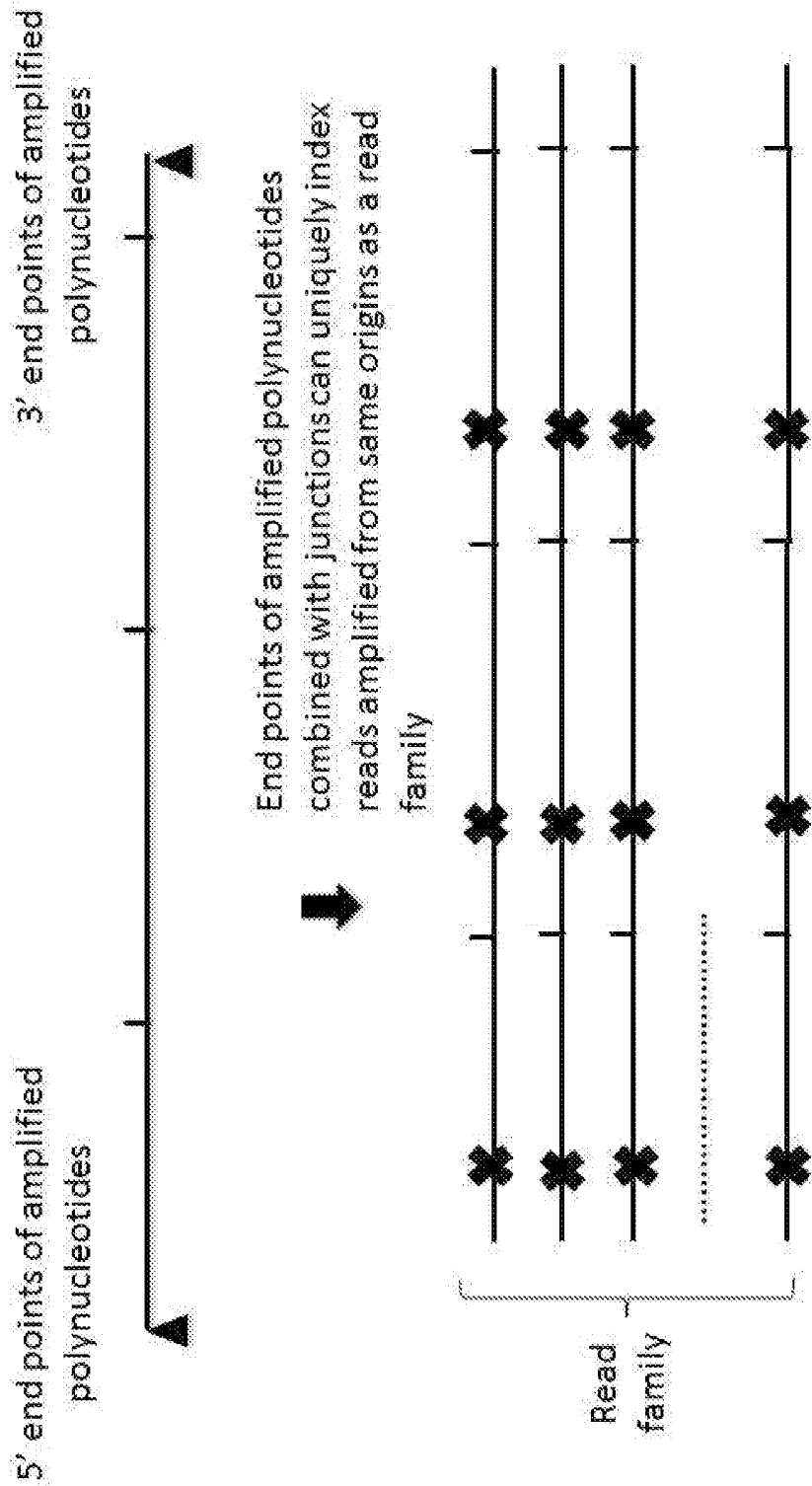


FIG. 41A

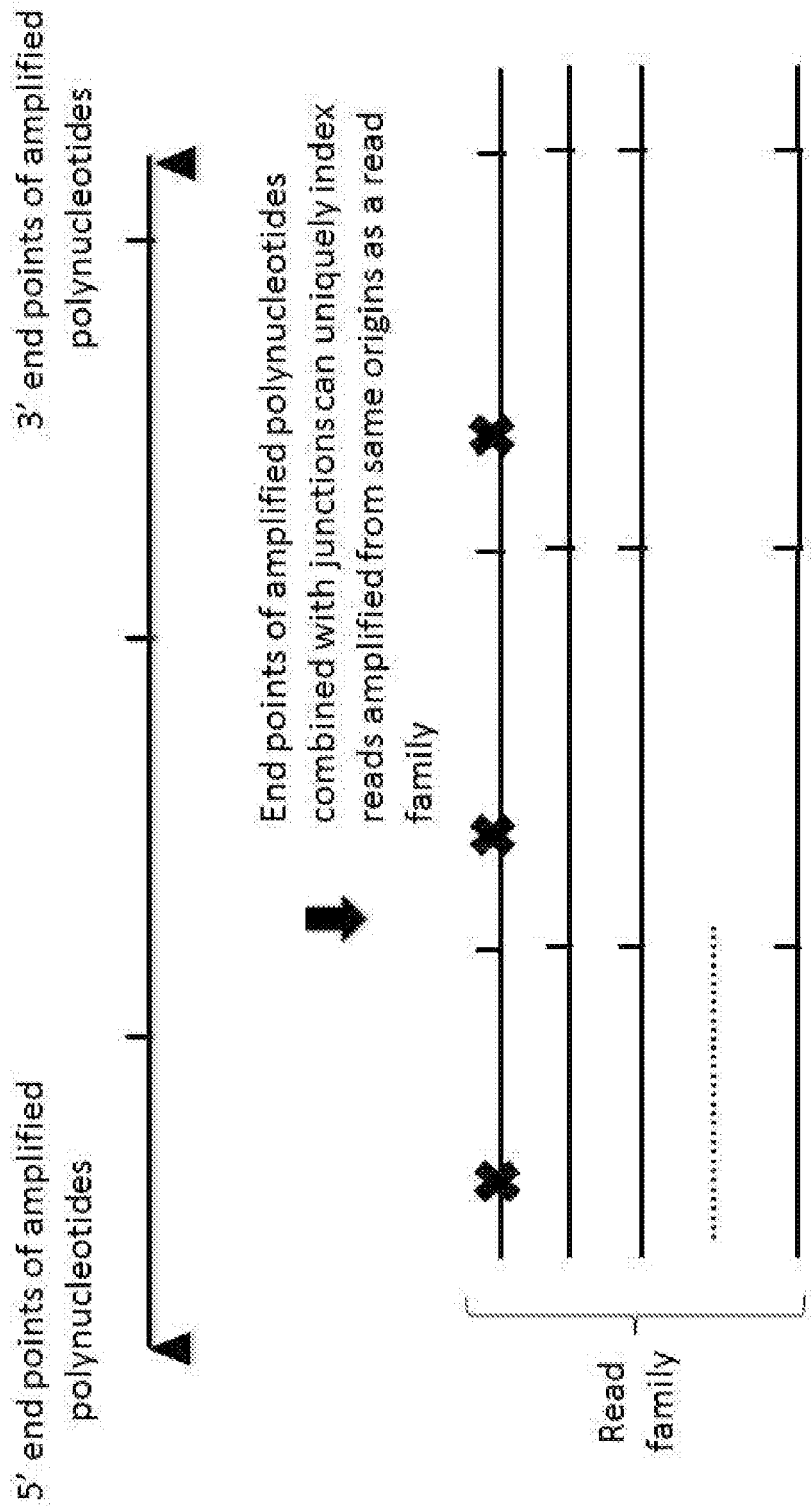


FIG. 41B

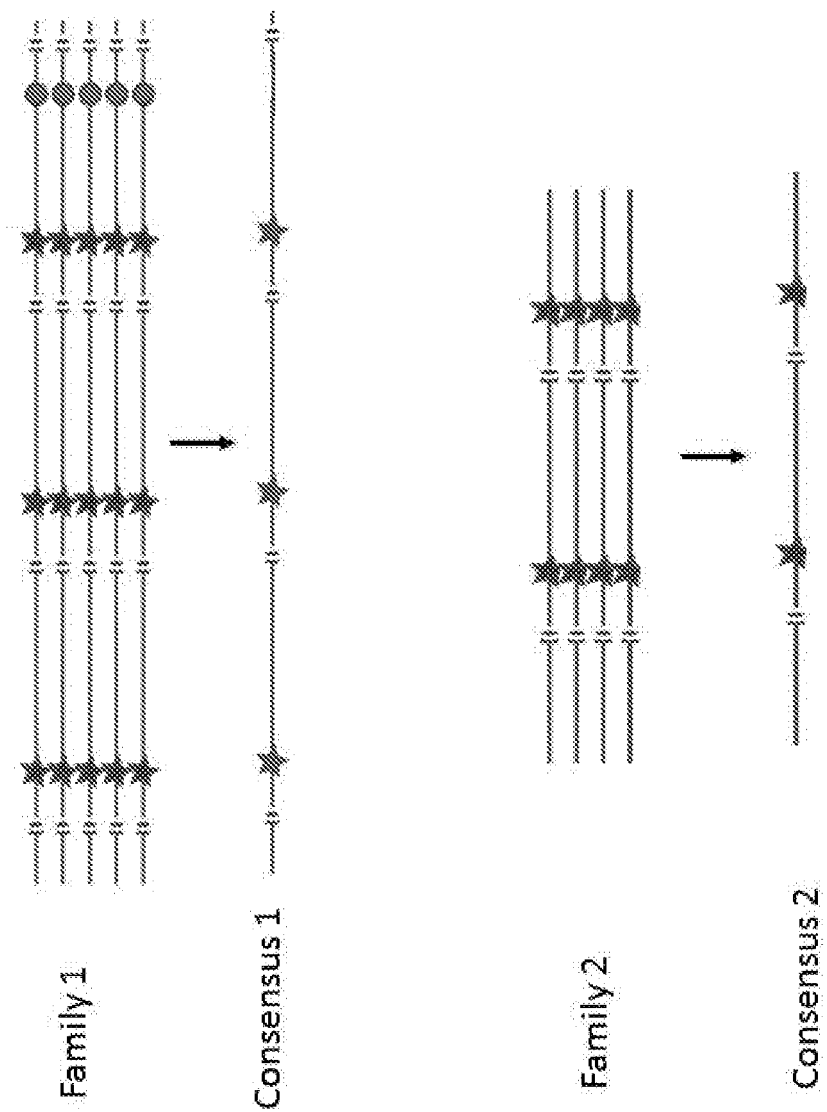


FIG. 41C