

FIG. 1

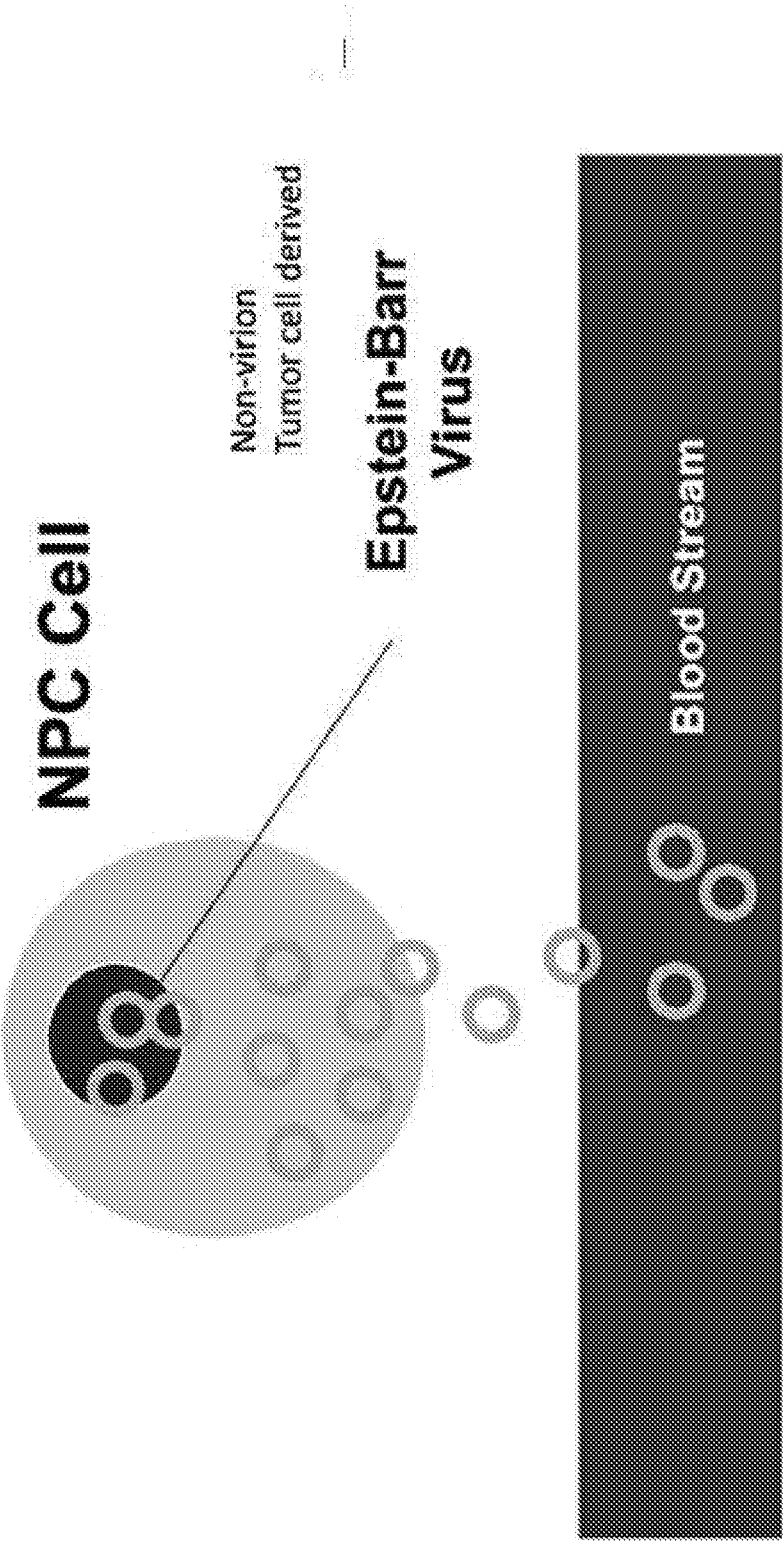
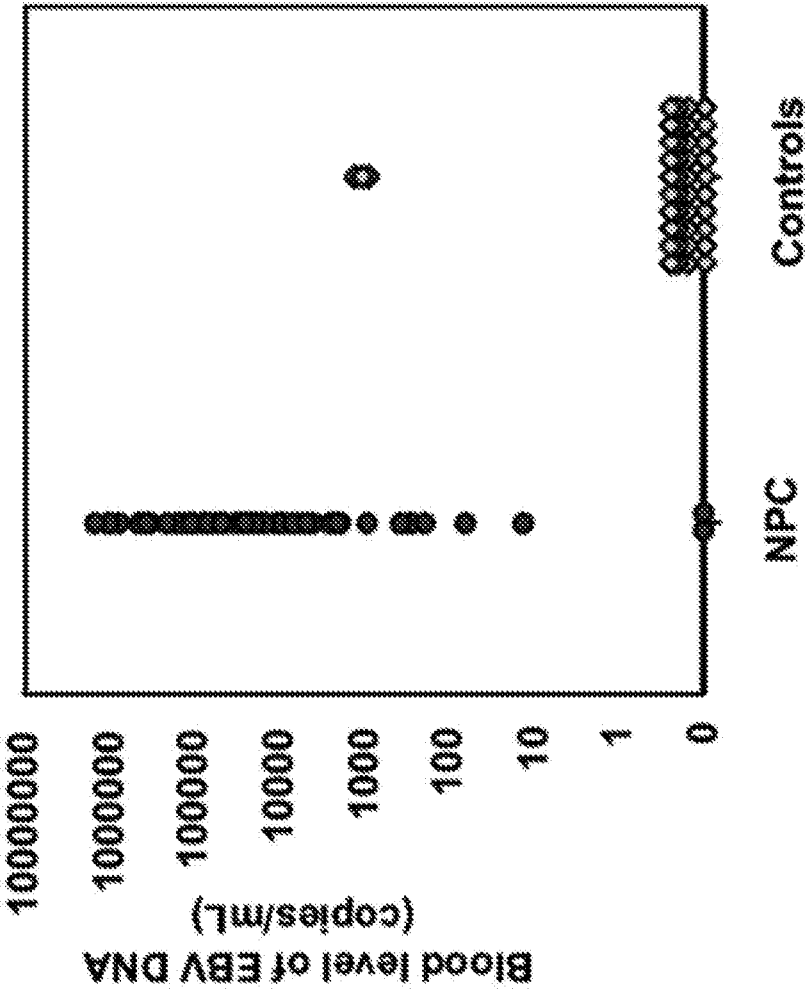
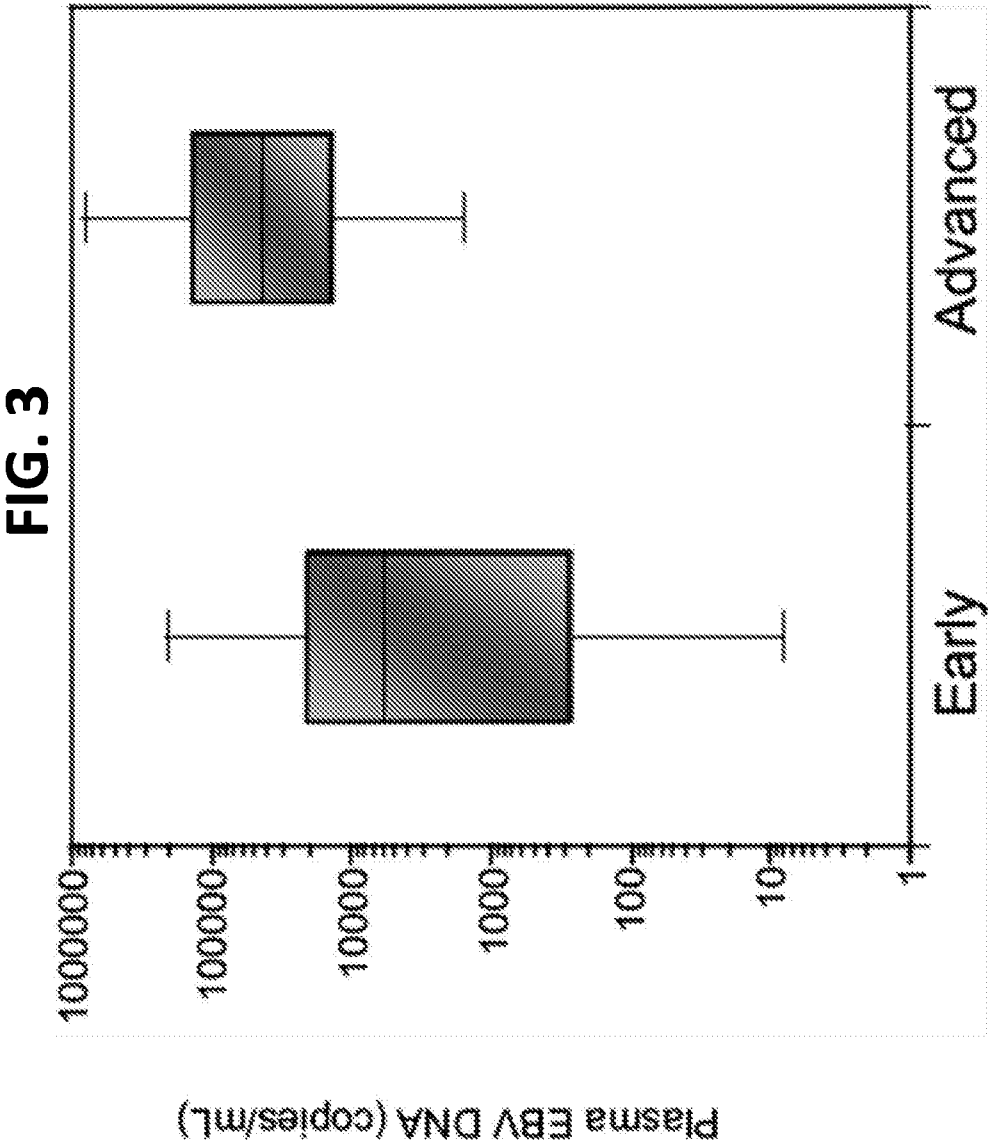


FIG. 2

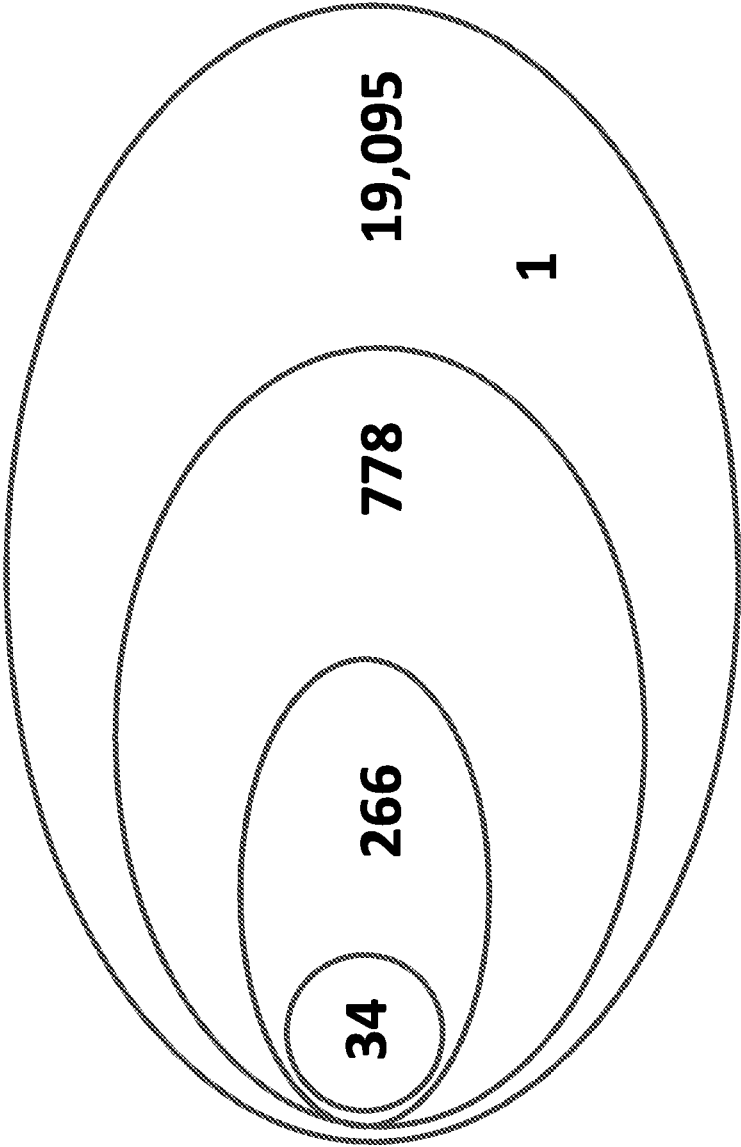


Lo, Y. M. Dennis, et al. "Quantitative Analysis of Cell-free Epstein-Barr Virus DNA in Plasma of Patients with Nasopharyngeal Carcinoma." *Cancer Research*, March 1999.



Lo, Y. M. Dennis, et al. "Quantitative Analysis of Cell-free Epstein-Barr Virus DNA in Plasma of Patients with Nasopharyngeal Carcinoma." *Cancer Research*, March 1999.

FIG. 4



Groups	N
Total number of subjects tested	20,174
EBV positive in First assay	1,078
EBV positive in Second assay	300
Confirmed NPC by endoscopy	34
Confirmed NPC case missed in First Assay	1

FIG. 5

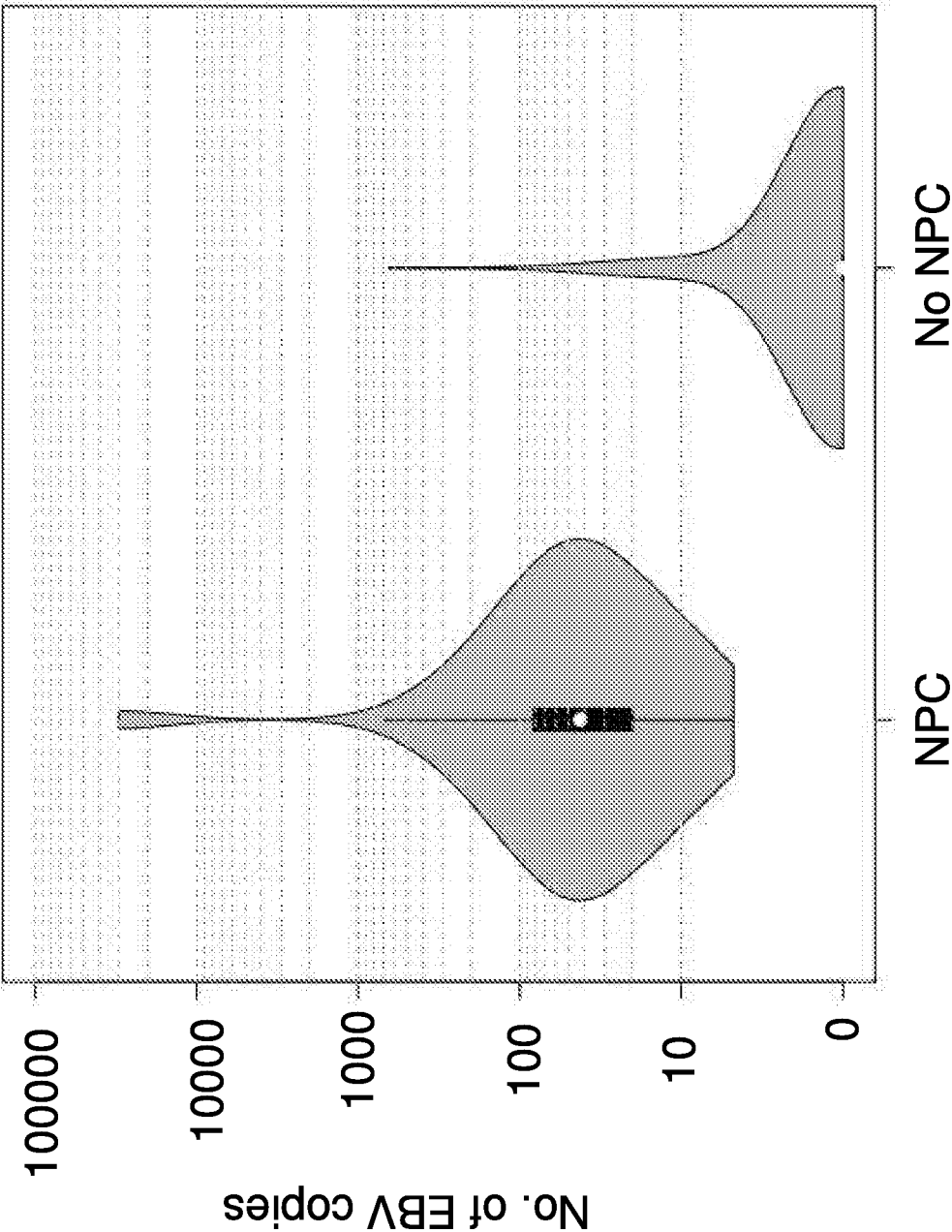


FIG. 6A

Cutoff of EBV copies	Sensitivity (%)	Specificity (%)
No cut off	97.1	94.5
10	85.7	96.1
20	74.3	98.5
30	65.7	99.3
40	54.3	99.6
50	40.0	99.7
60	31.4	99.8
70	25.7	99.8
80	25.7	99.8
90	25.7	99.9
100	22.9	99.9

FIG. 6B

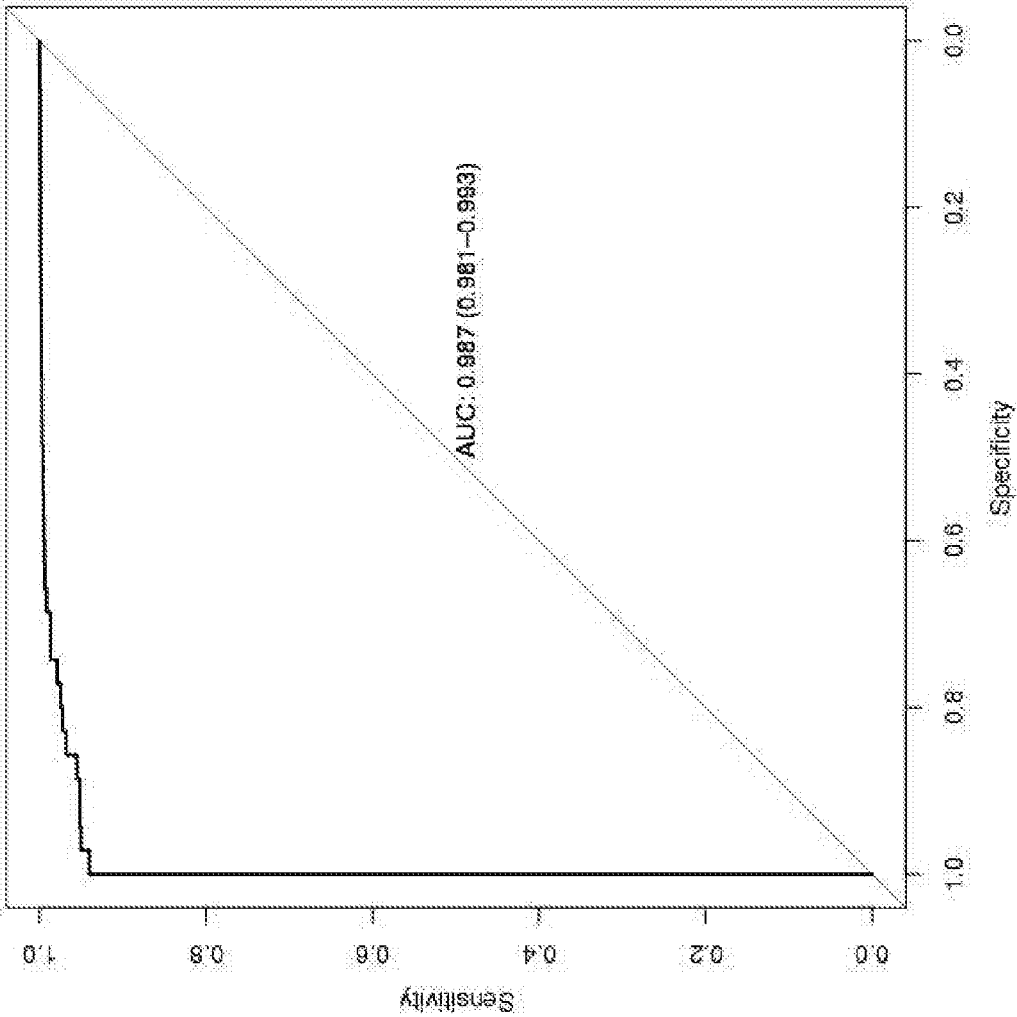


FIG. 7

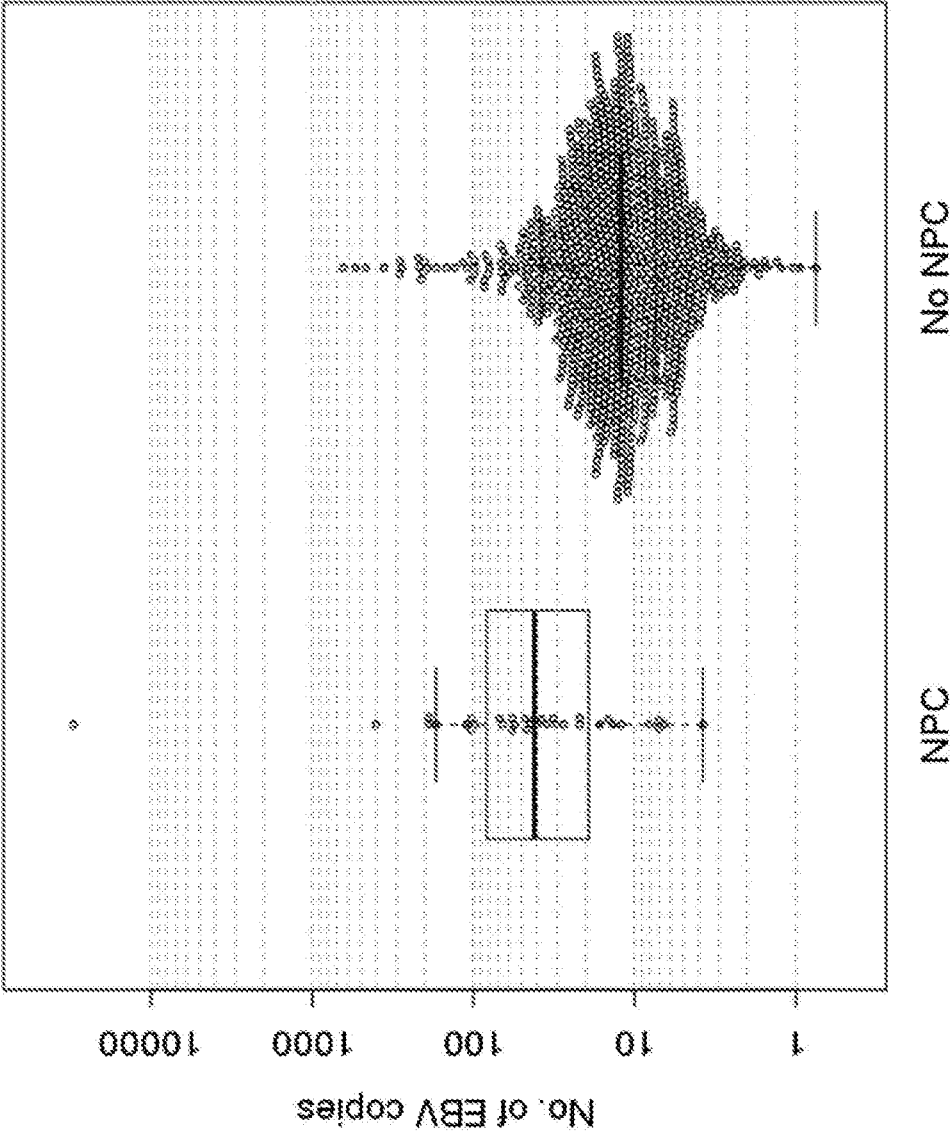


FIG. 8A

Cutoff of EBV copies	Sensitivity (%)	Specificity (%)
No cut off	97.1	12
10	85.7	38.4
20	74.3	75.7
30	65.7	89.5
40	54.3	93.5
50	40.0	95.7
60	31.4	96.5
70	25.7	97.3
80	25.7	97.4
90	25.7	97.9
100	22.9	98.1

FIG. 8B

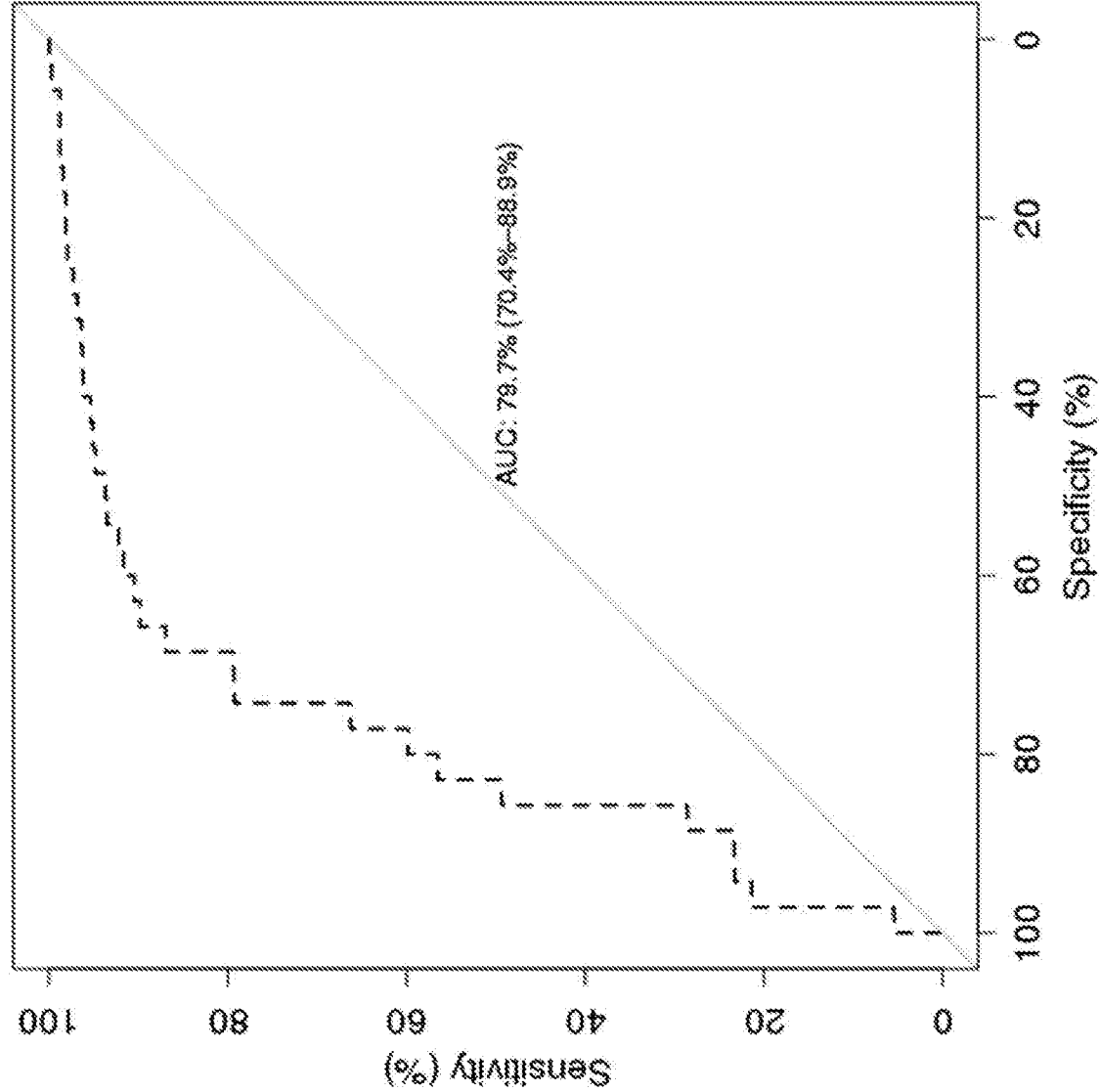
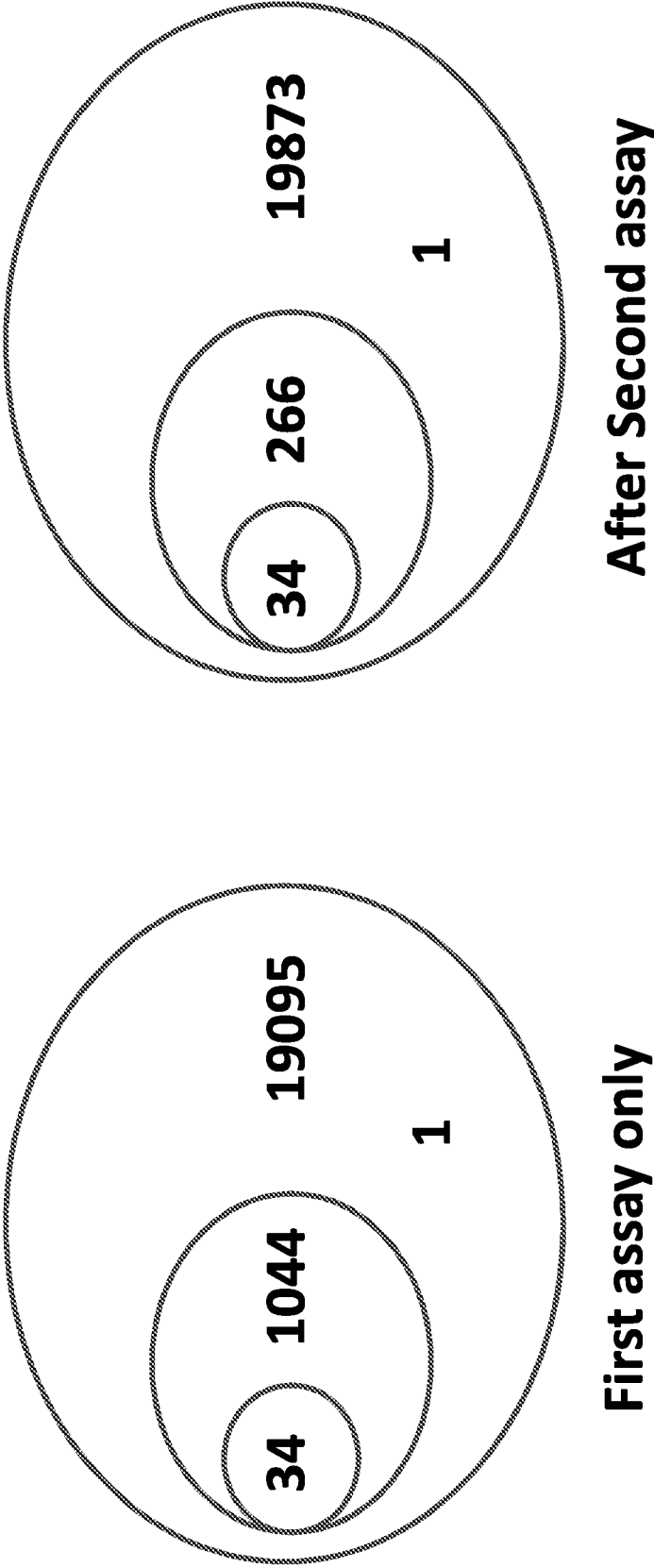


FIG. 9



	Sensitivity (%)	Specificity (%)	PPV (%)
First assay only	97.1	94.8	3.2
After Second assay	97.1	98.7	11.3

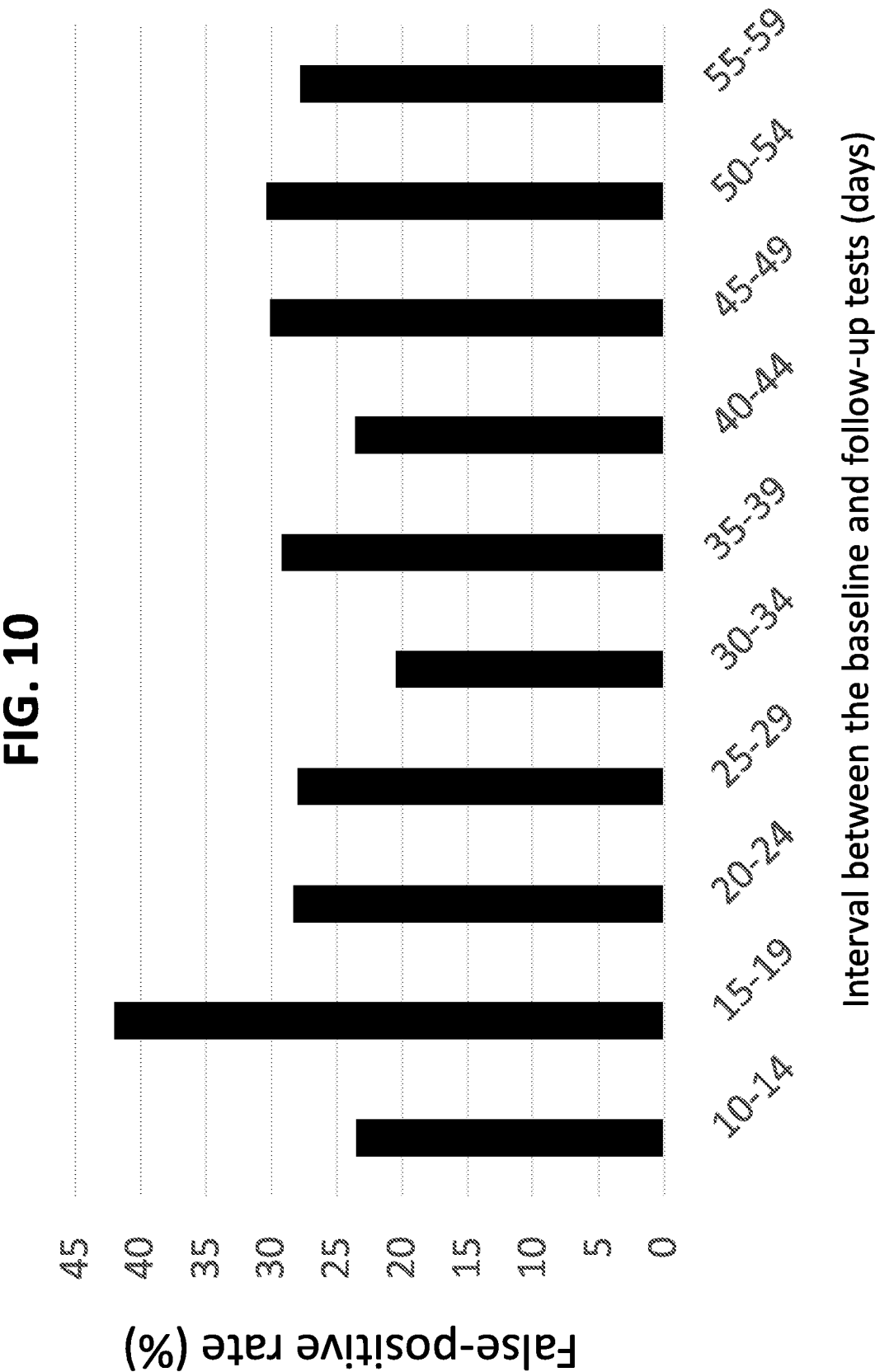


FIG. 11

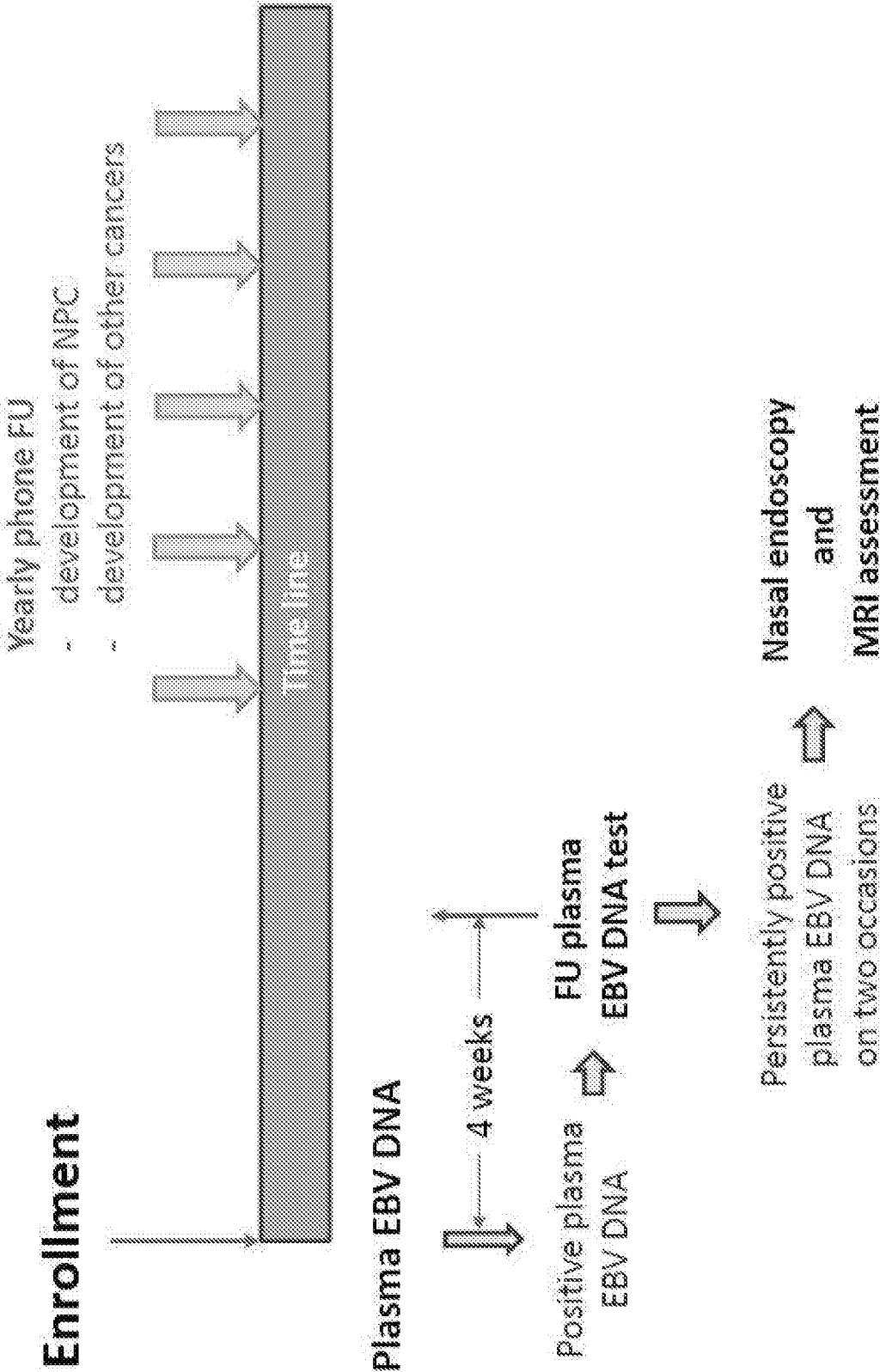
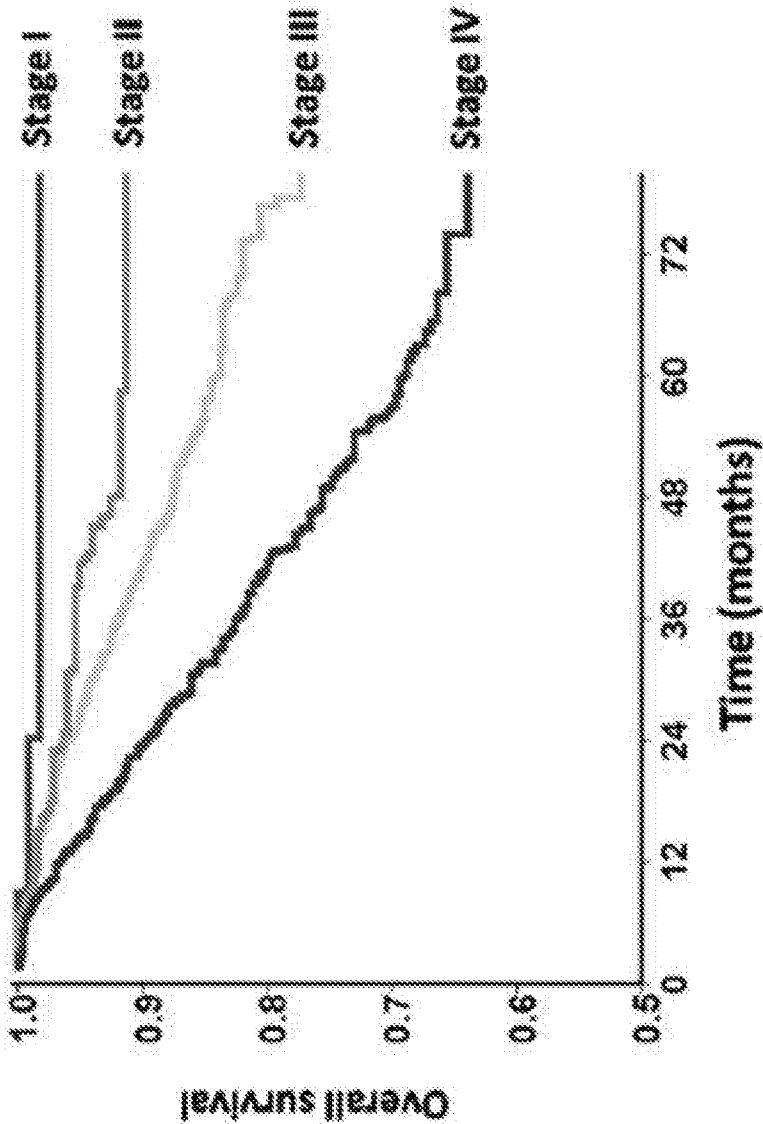


FIG. 12



Li, Jing, et al. "A Comparison between the Sixth and Seventh Editions of the UICC/AJCC Staging System for Nasopharyngeal Carcinoma in a Chinese Cohort." *PLoS One*, December 2014

FIG. 13

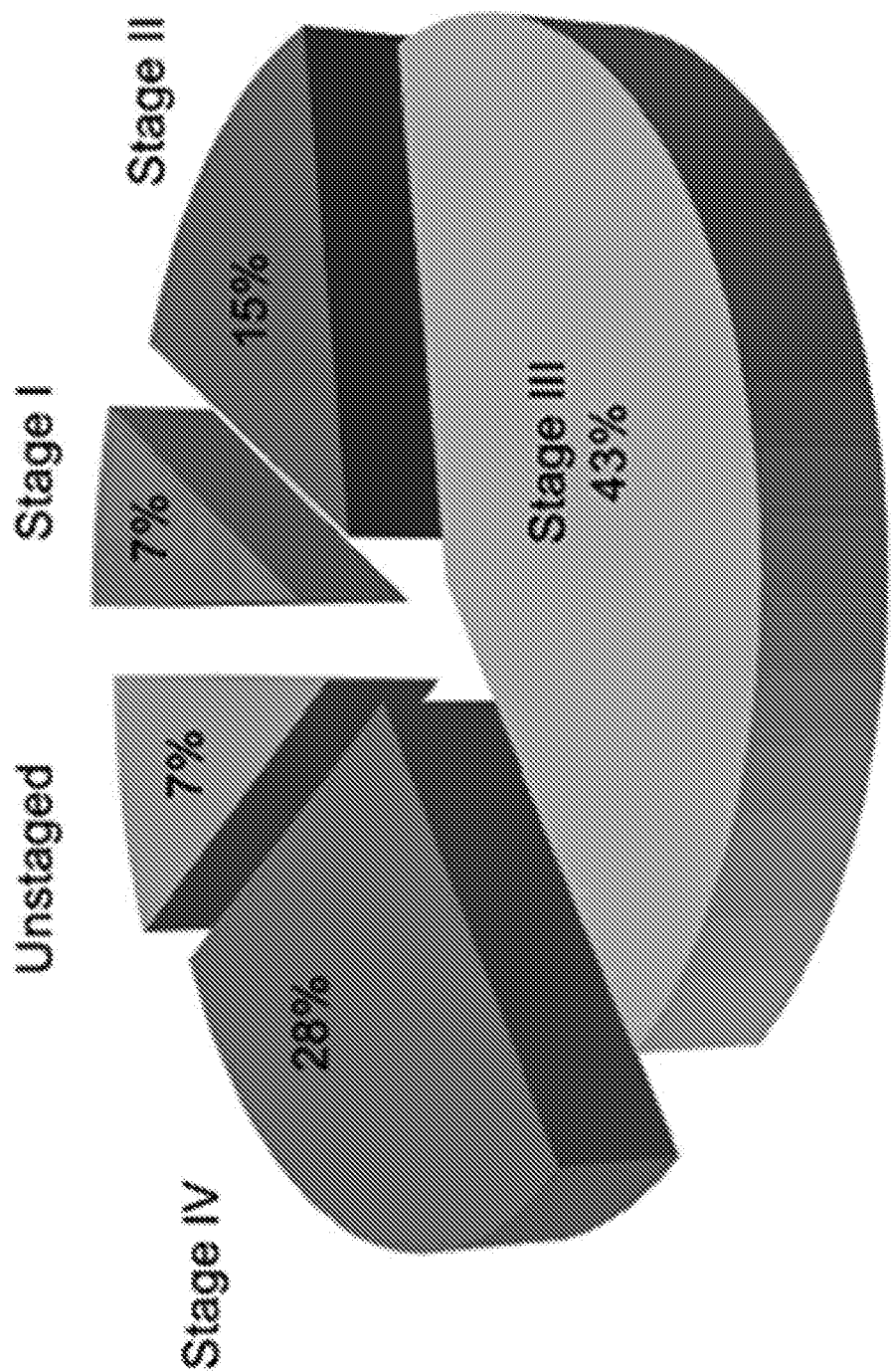


FIG. 14

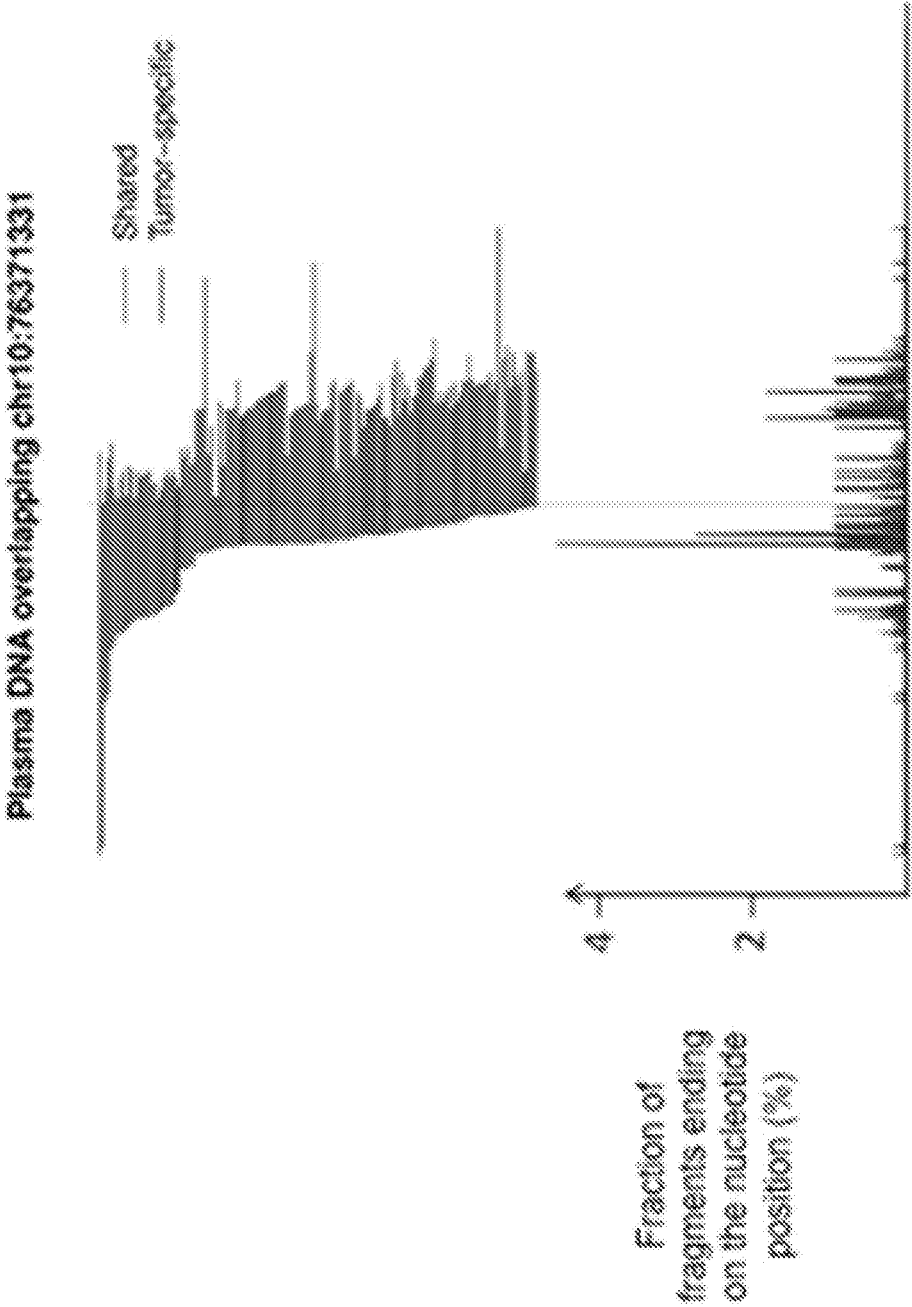


FIG. 15

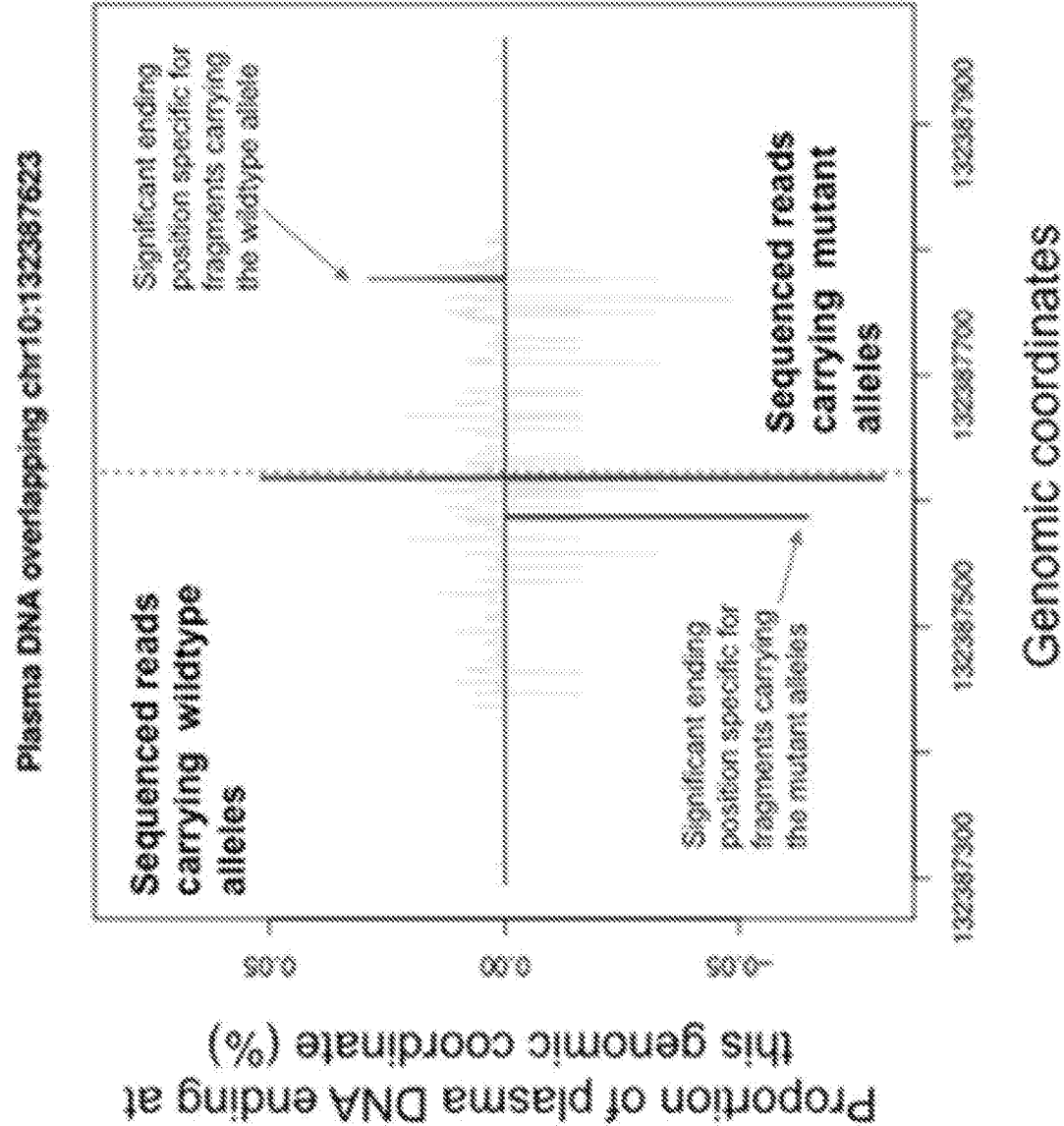


FIG. 16

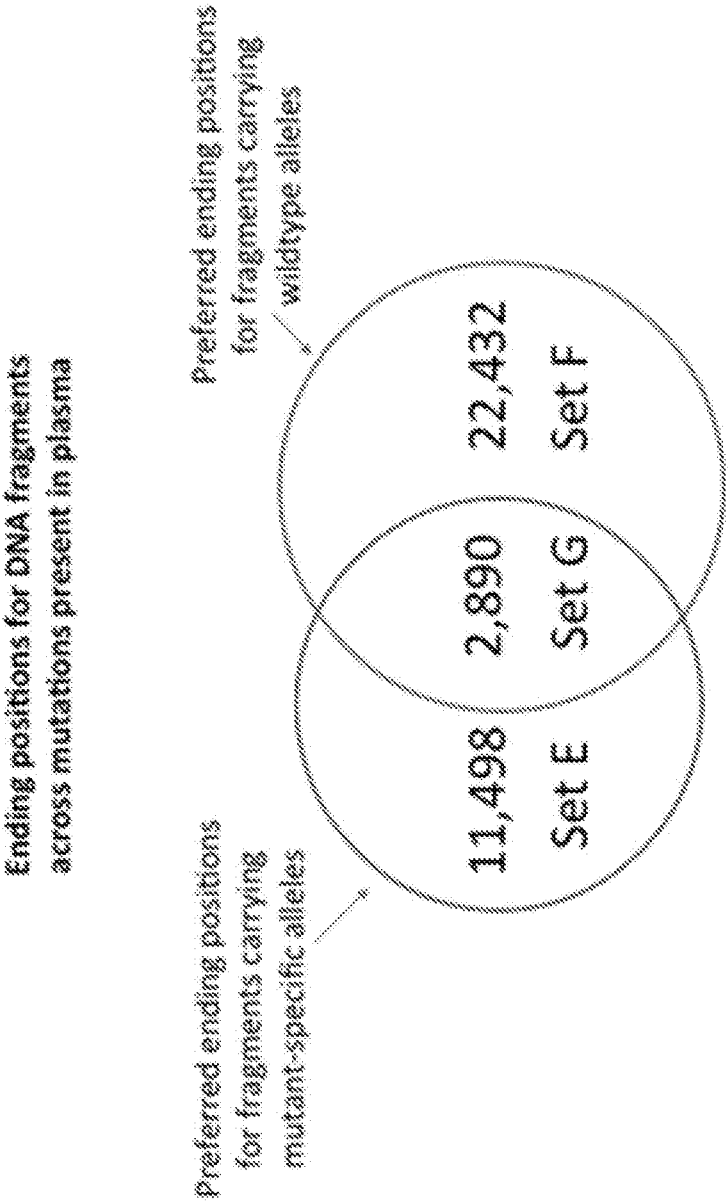


FIG. 17

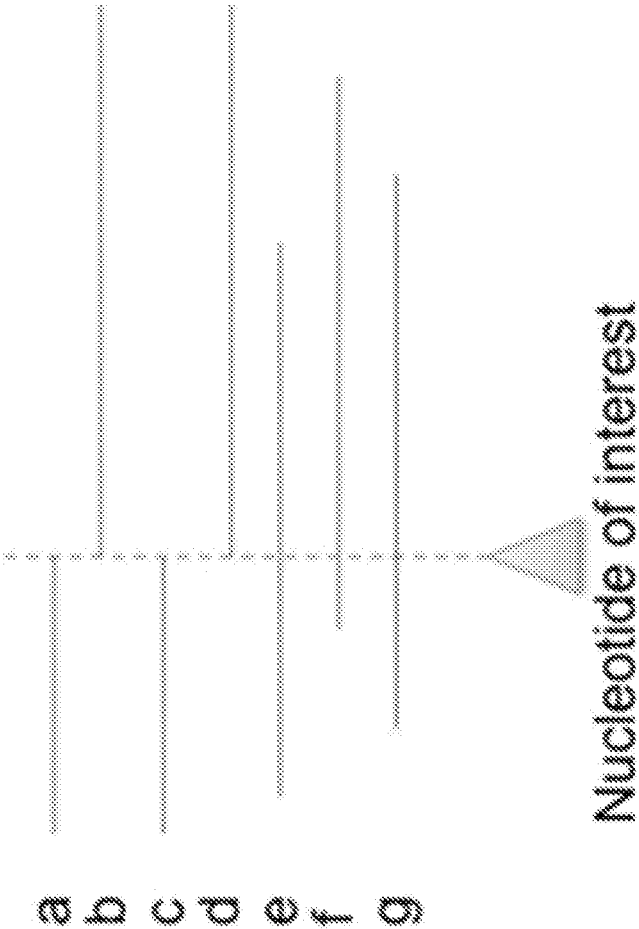


FIG. 18

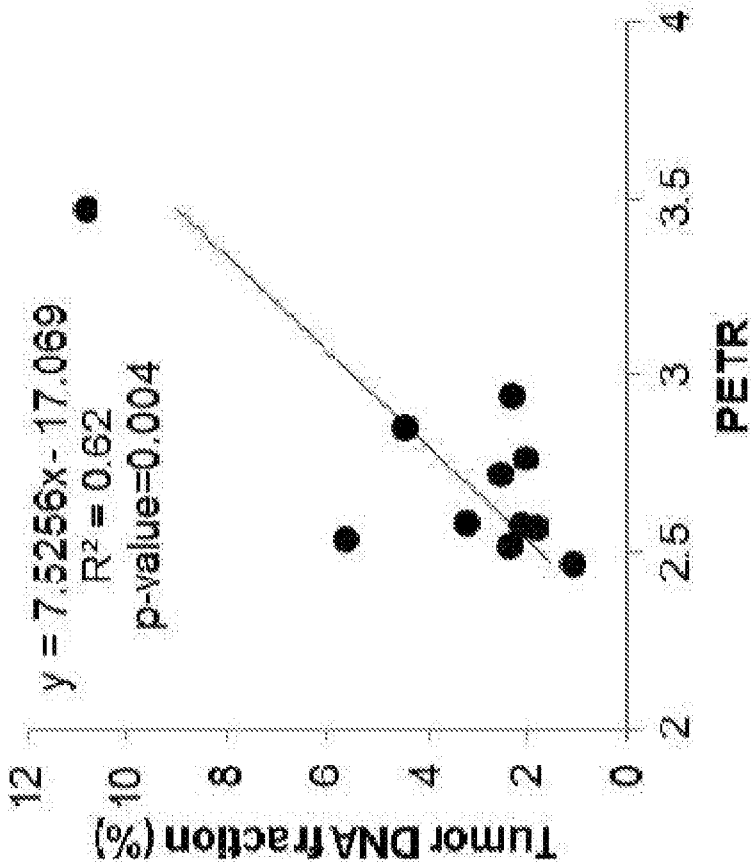


FIG. 19

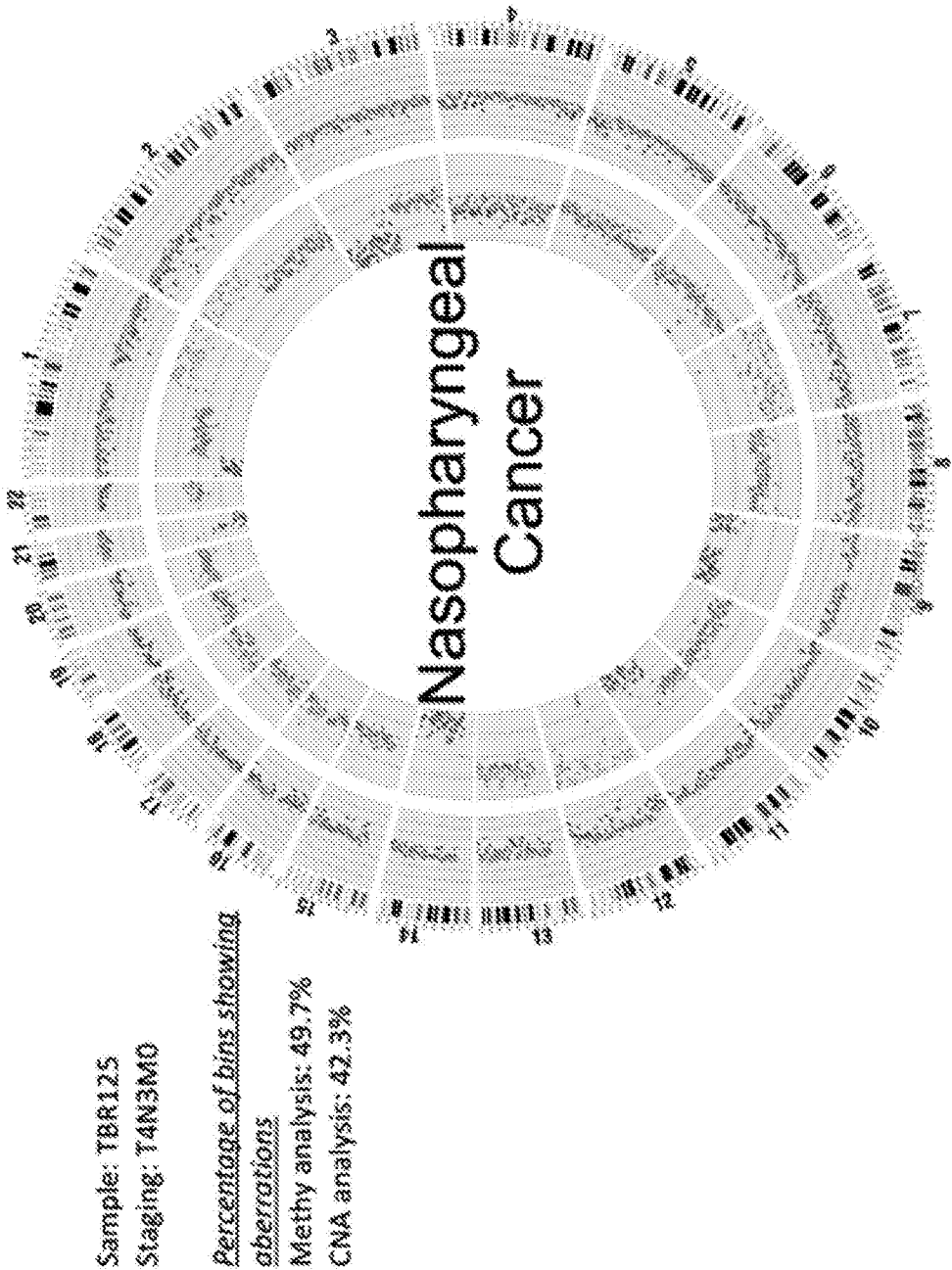


FIG. 20

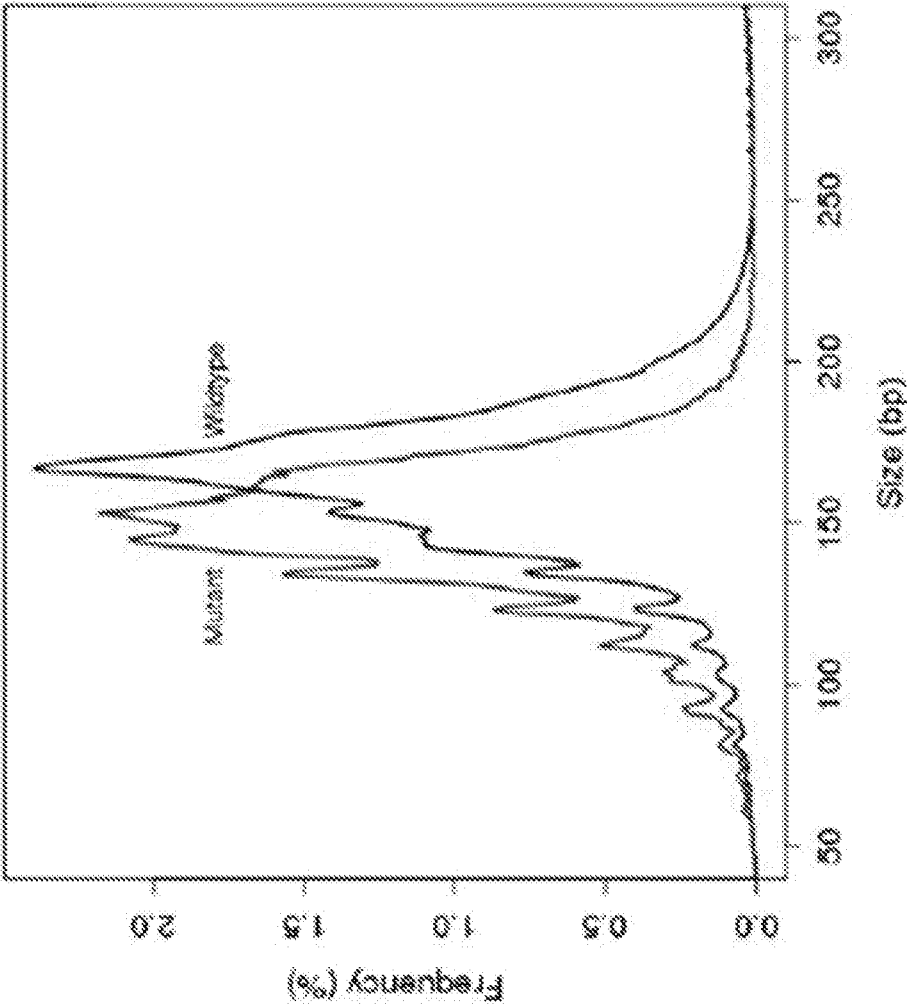
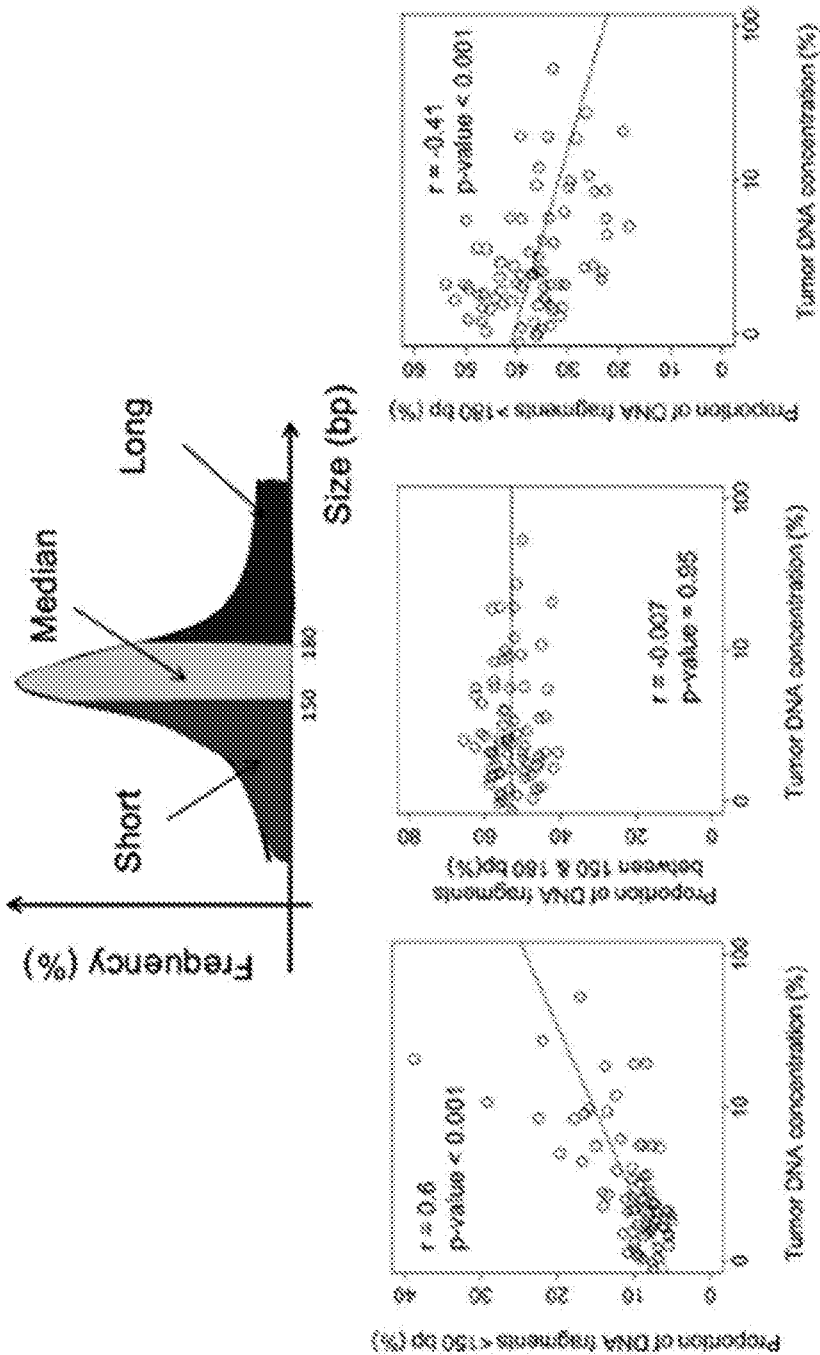
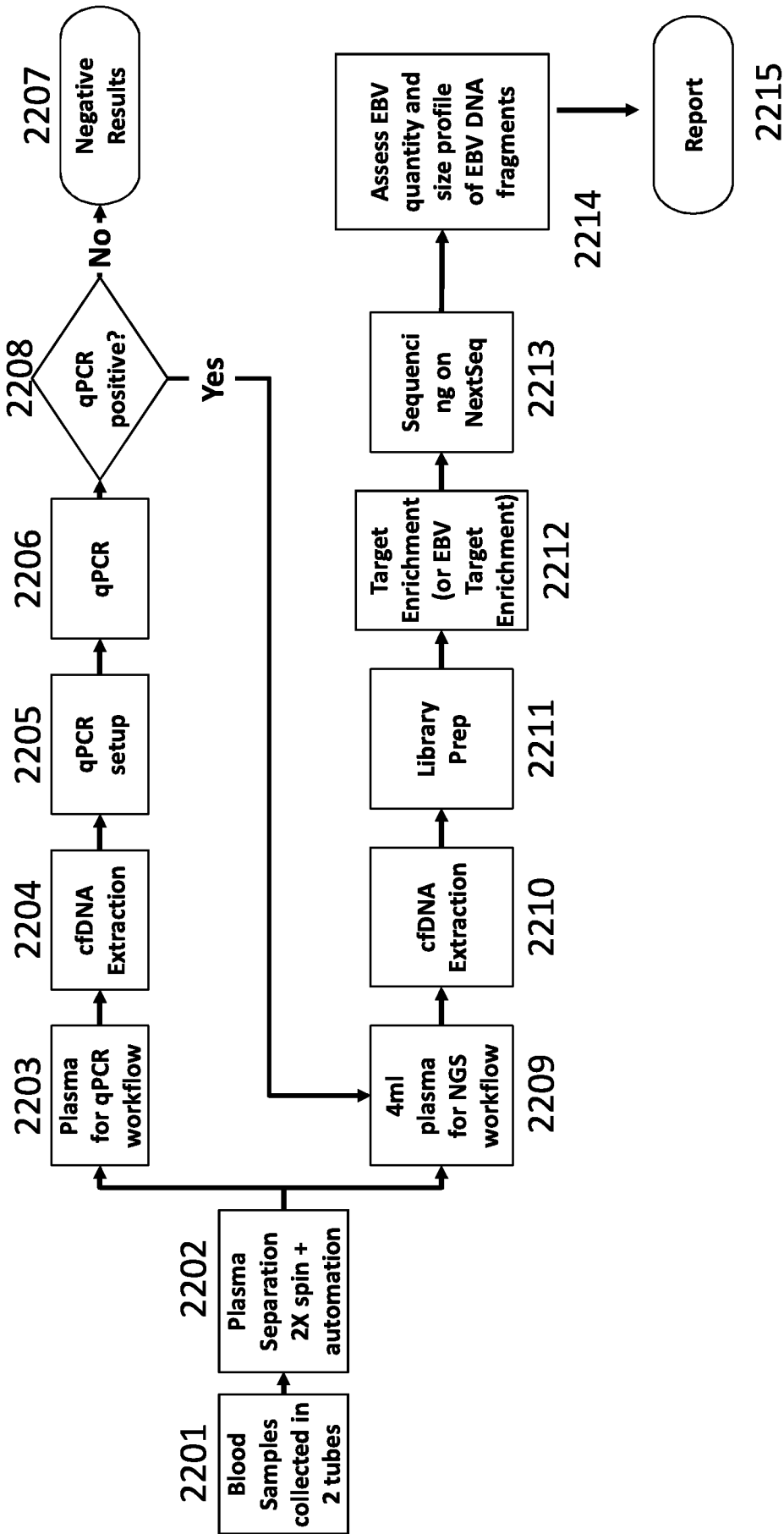


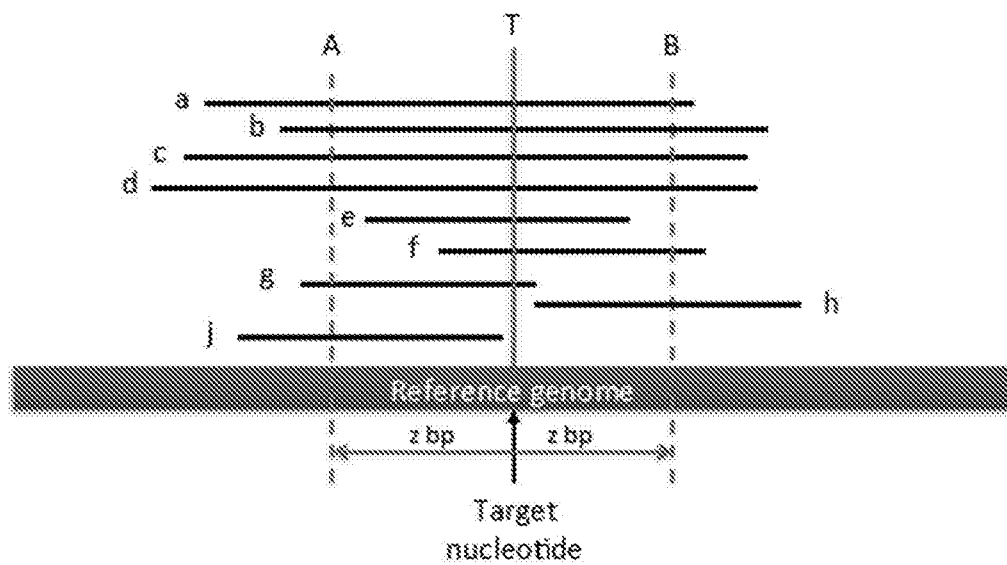
FIG. 21



Jiang, Peiyong, et al. "Lengthening and shortening of plasma DNA in hepatocellular carcinoma patients." *PNAS*, March 2015

FIG. 22





Fragments covering z nt upstream
to z nt downstream of the target nucleotide : a, b, c and d

Fragments covering the target nucleotide: a, b, c, d, e, f and g

$$P_i = \frac{4}{7}$$

FIG. 23

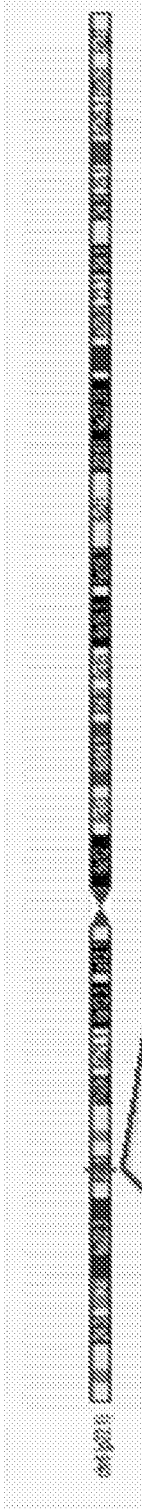


FIG. 24A

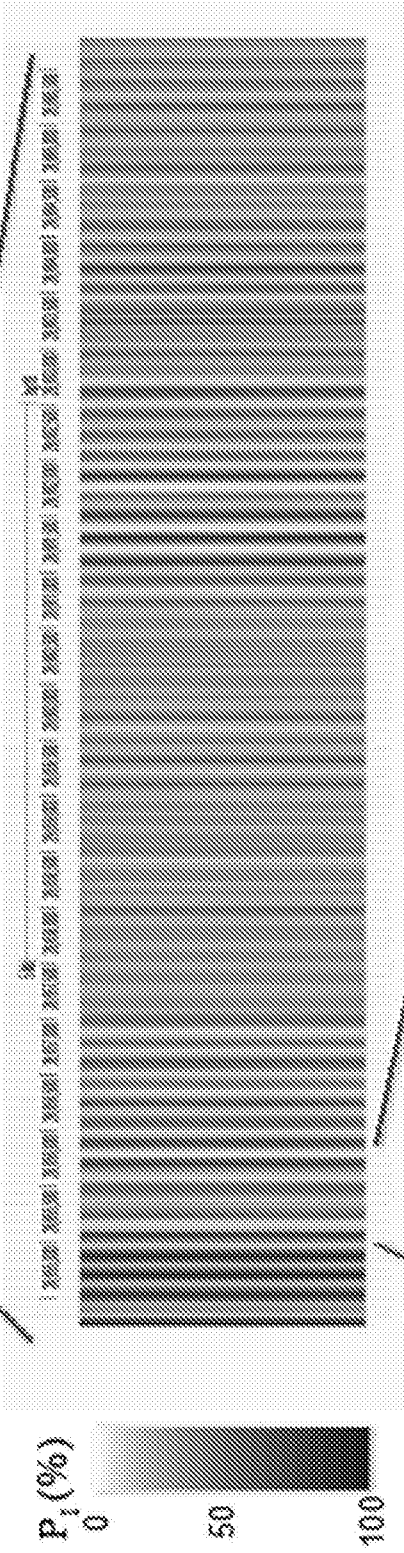
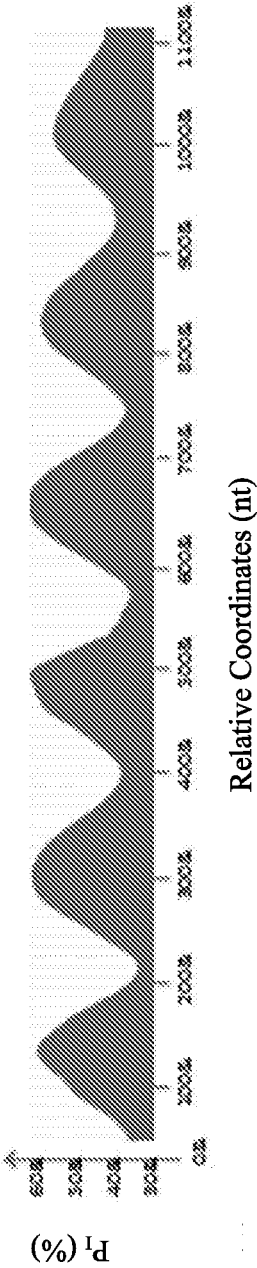


FIG. 24B



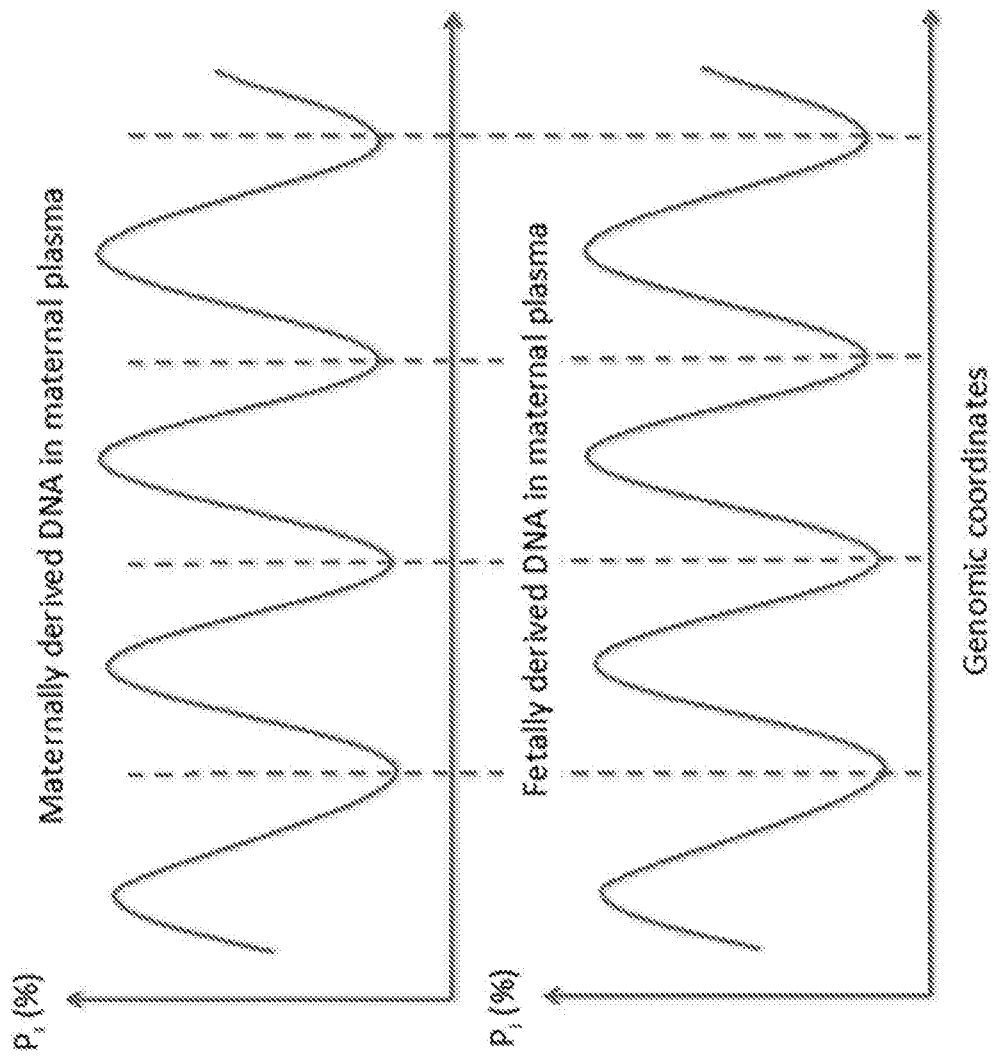


FIG. 25

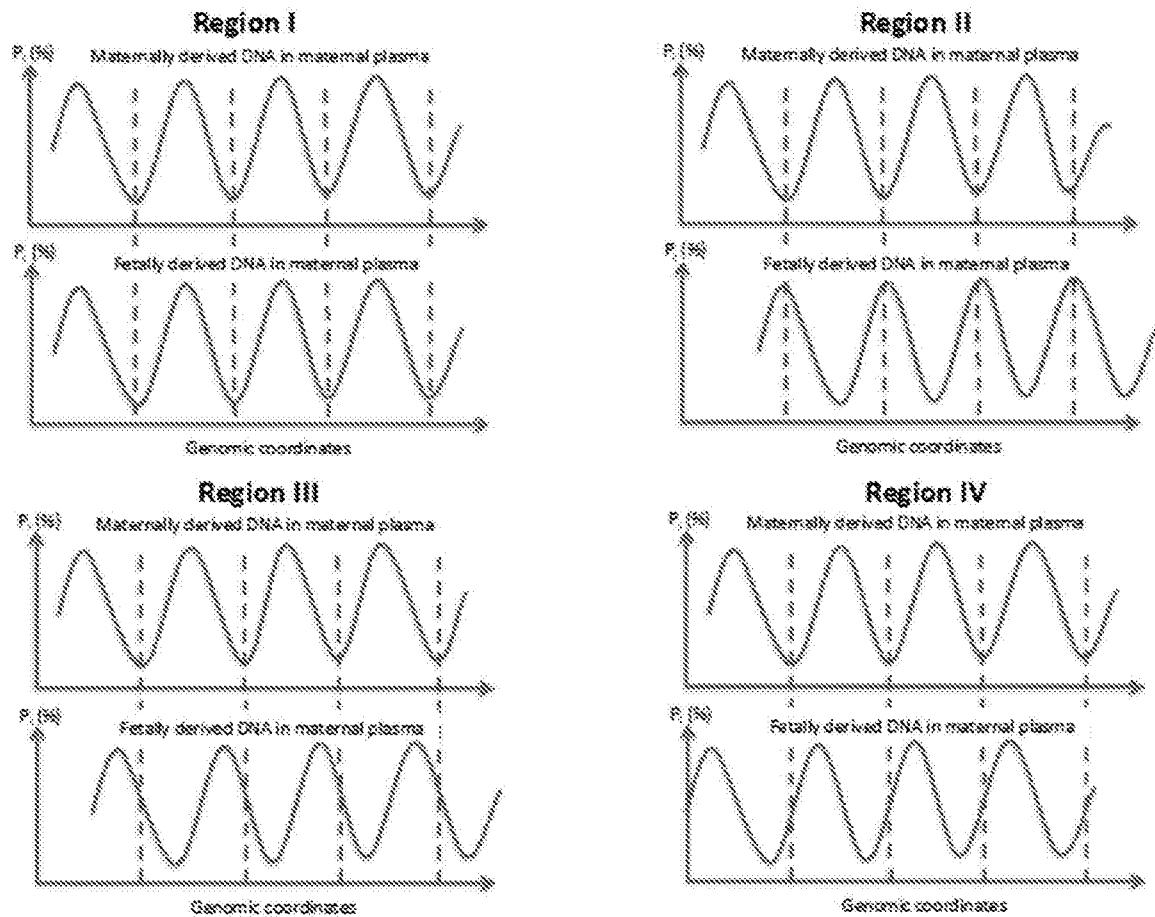


FIG. 26

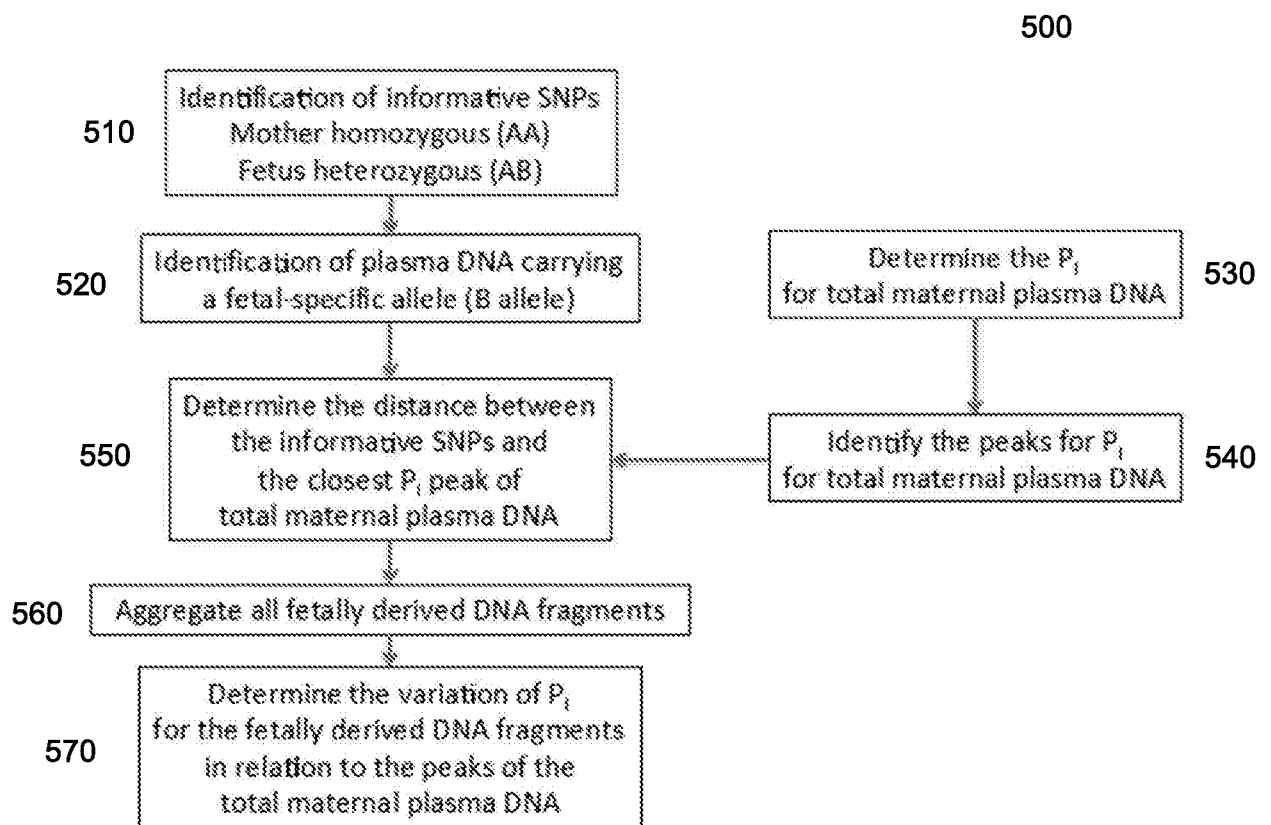


FIG. 27

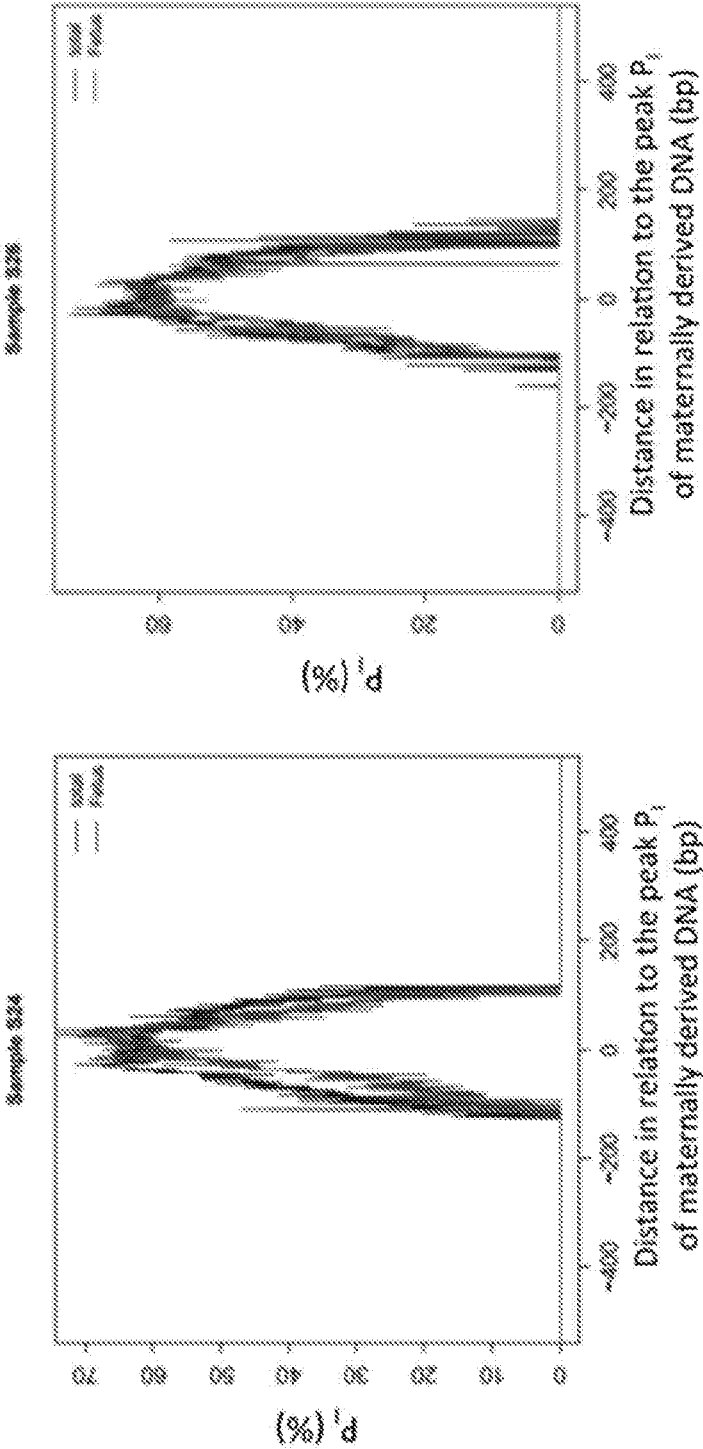


FIG. 28

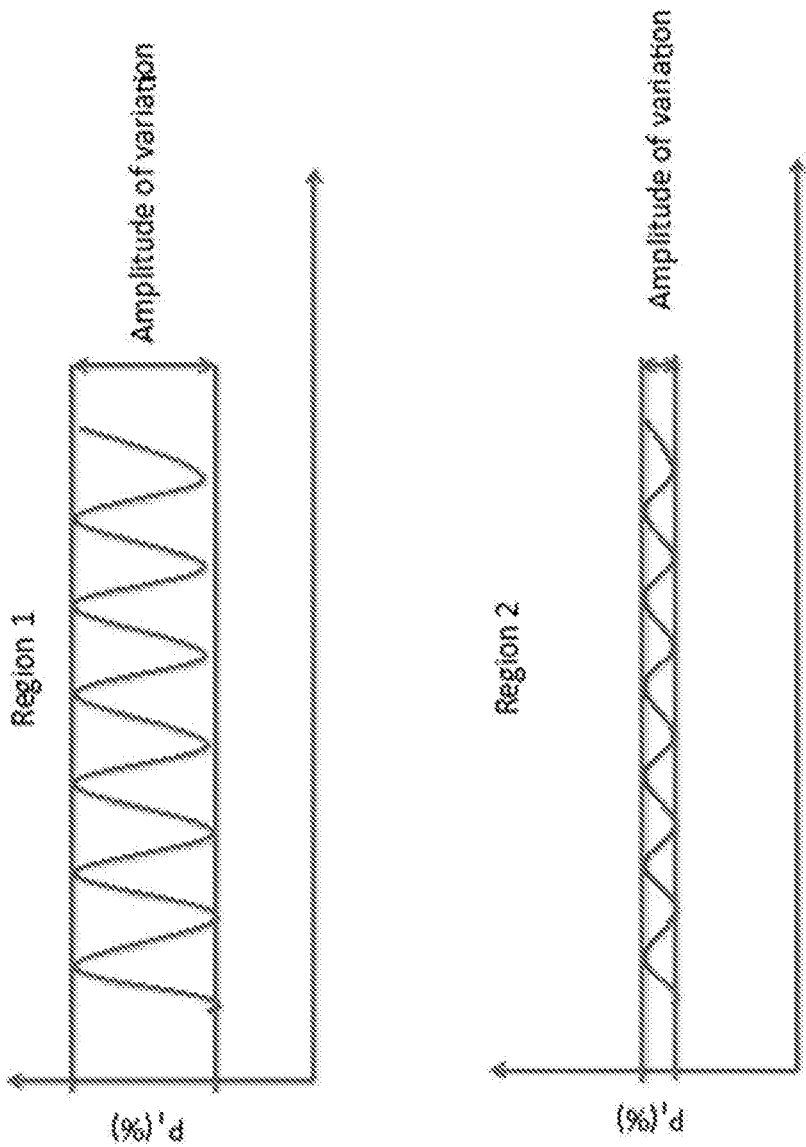


FIG. 29

Fig. 30B

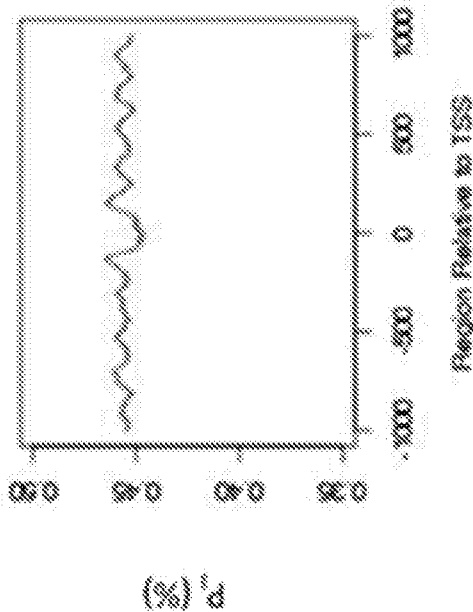
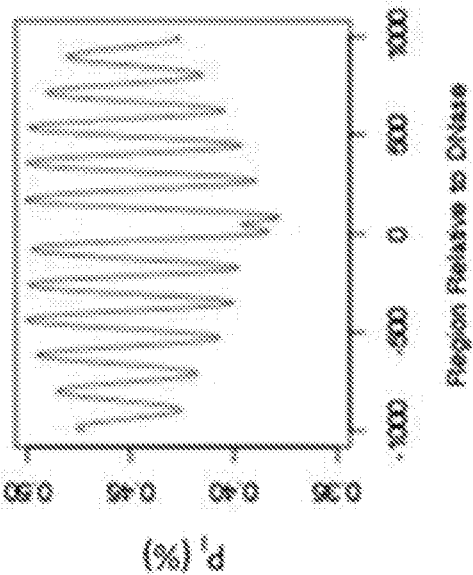


Fig. 30A



A region that is a DNase hypersensitivity
site for tissue A but not tissue B

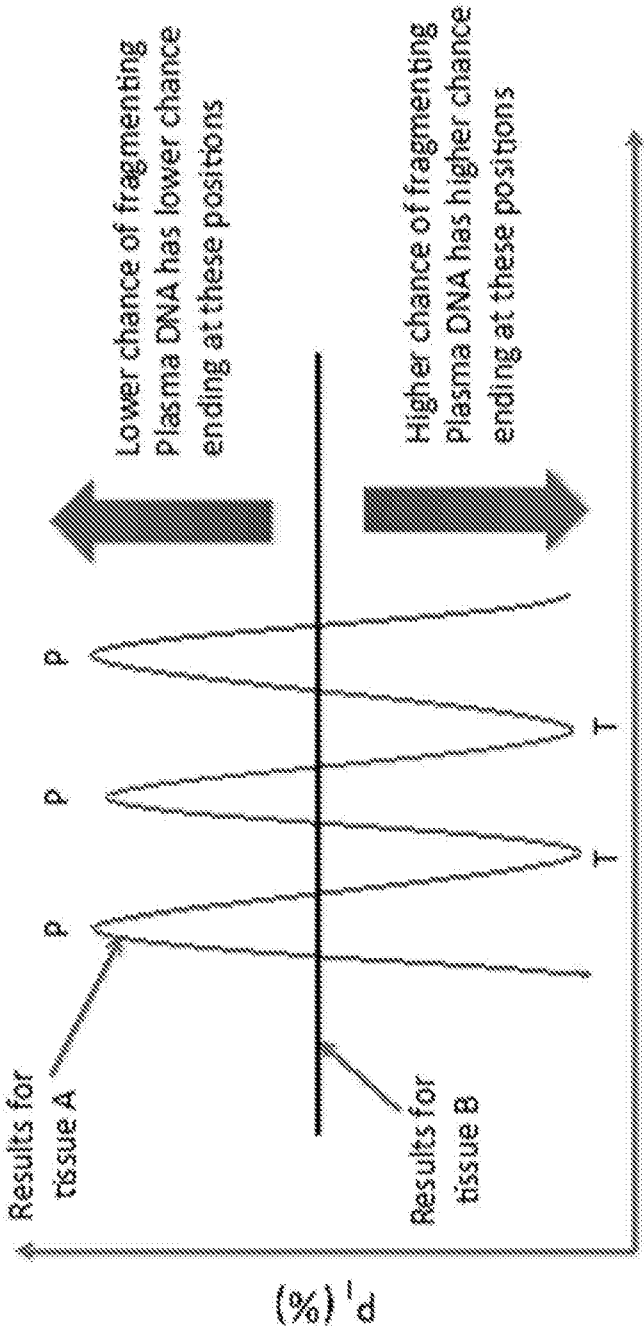
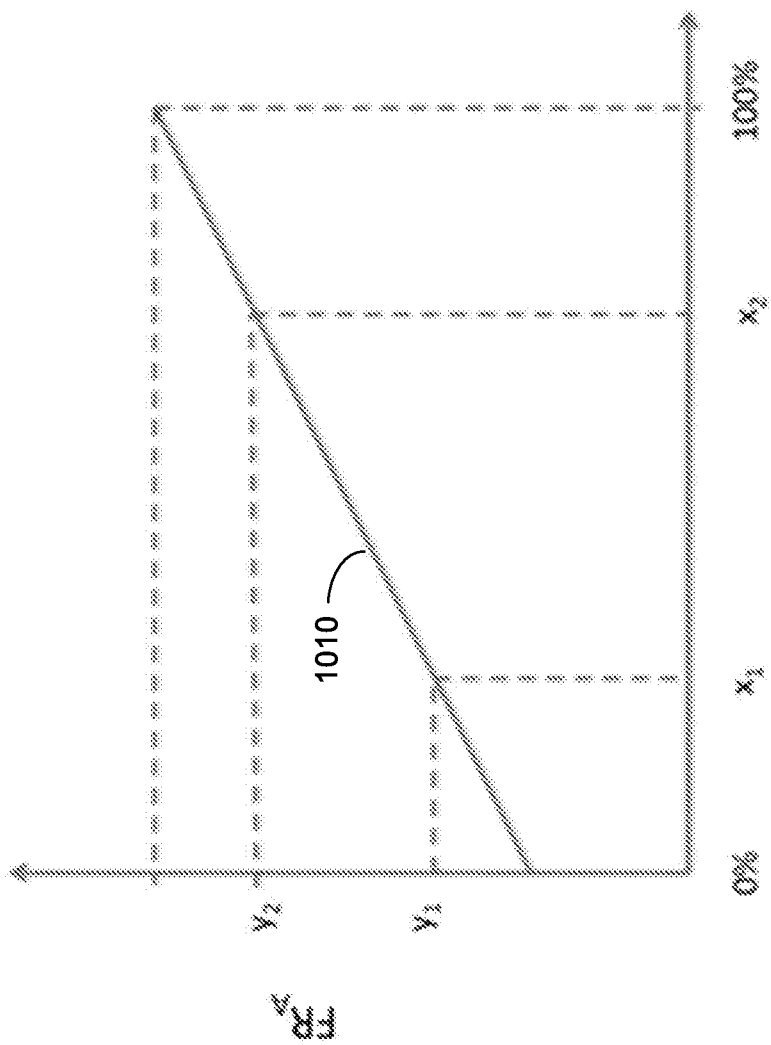
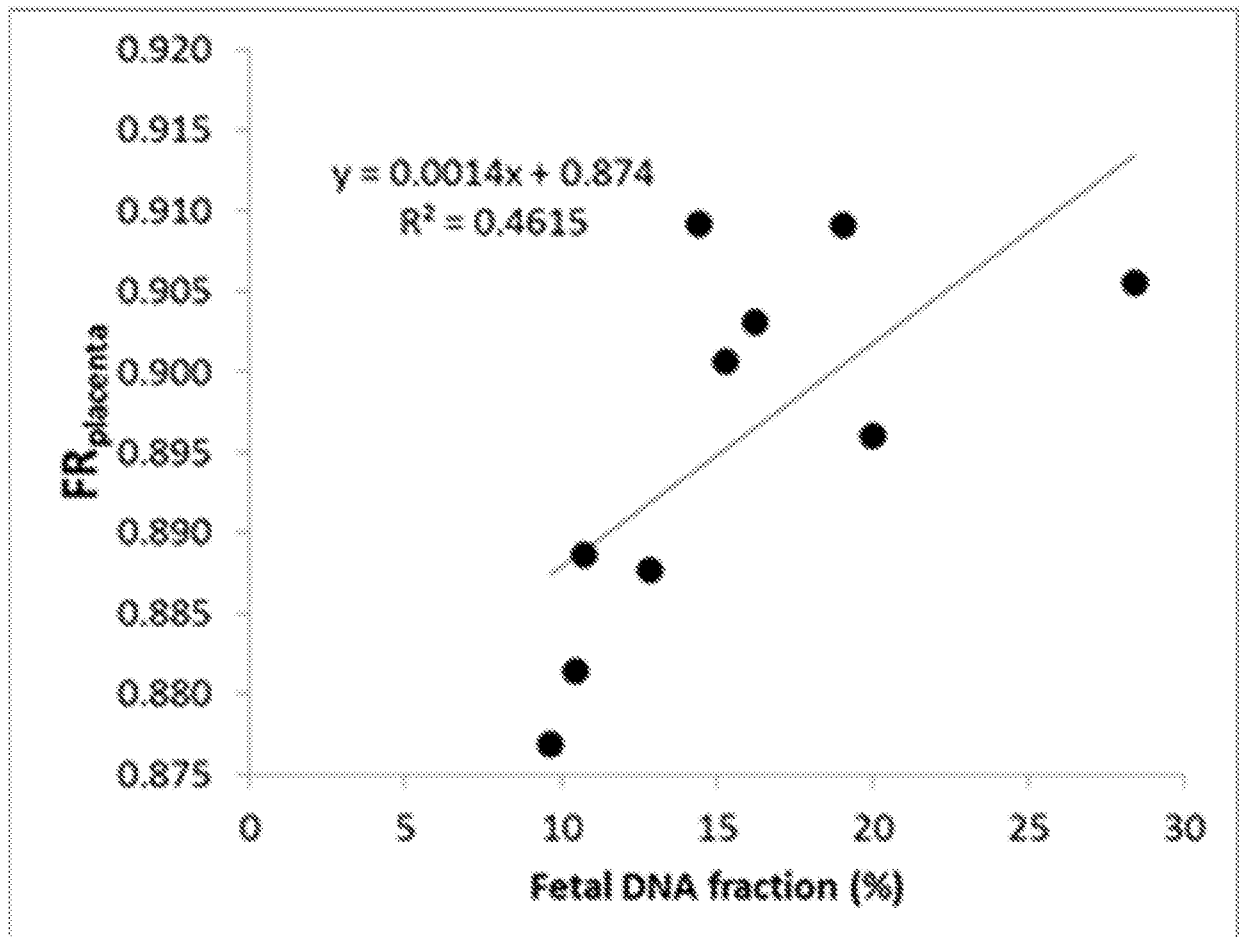


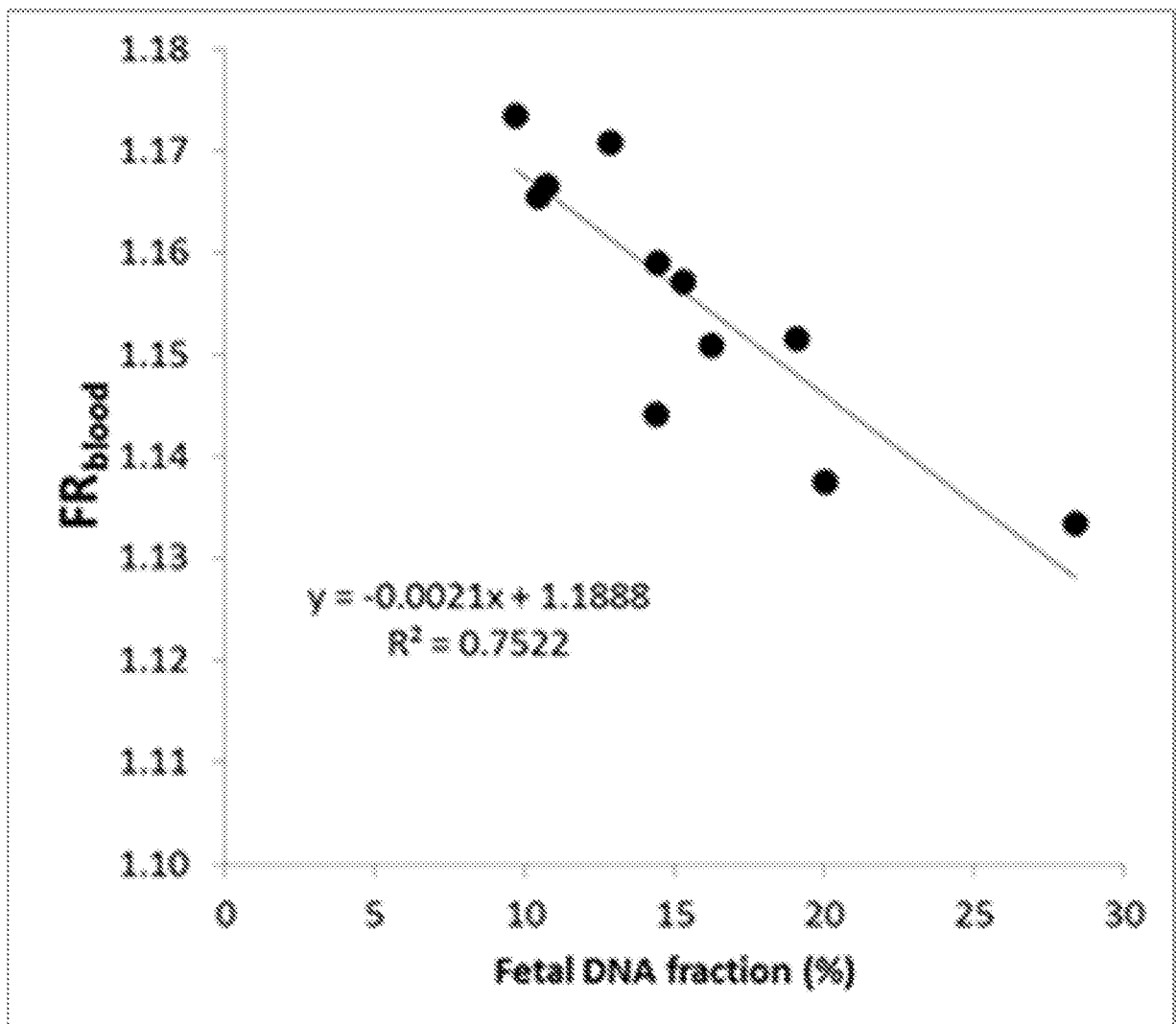
FIG. 31



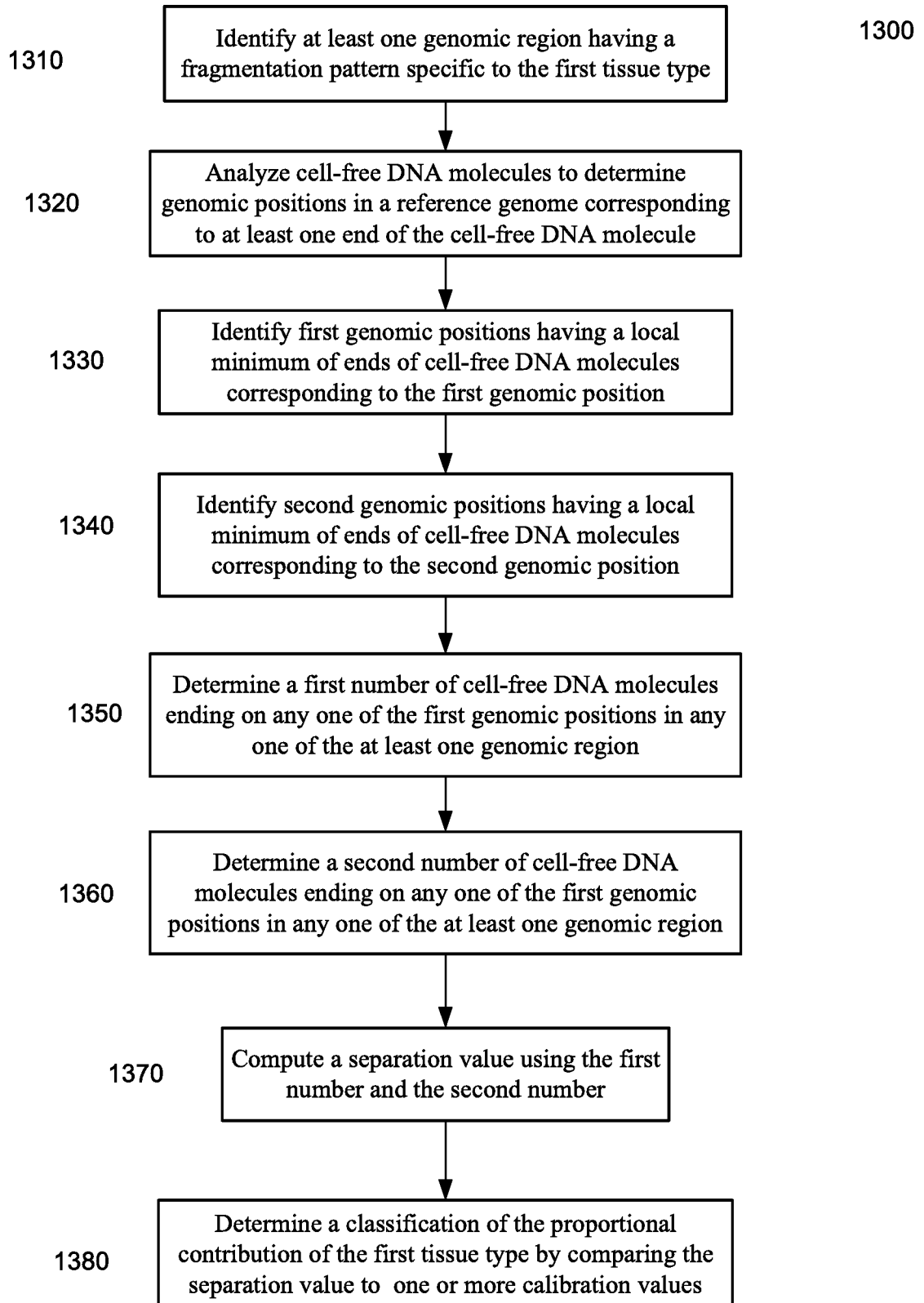
Proportional contribution of tissue A in a mixture of plasma DNA derived from tissues A and B

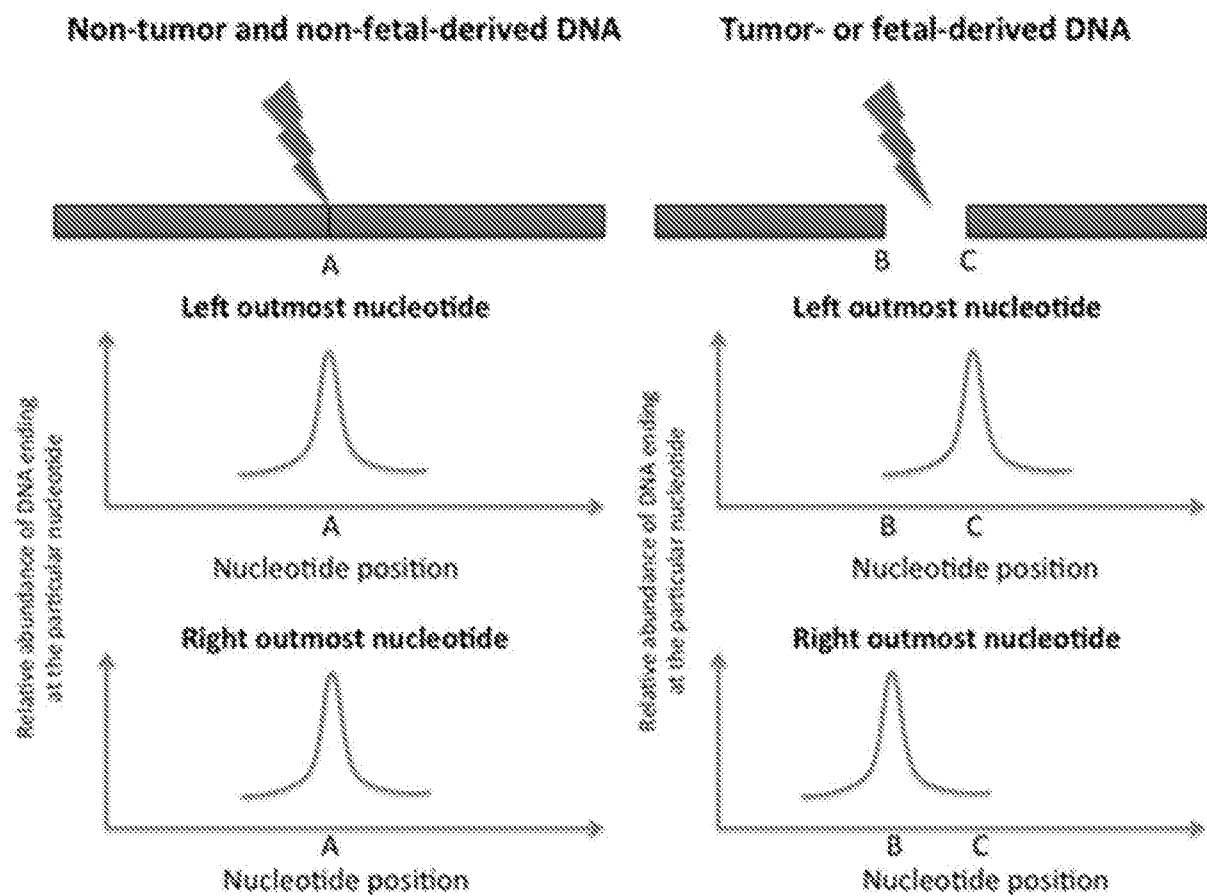
FIG. 32

**FIG. 33**

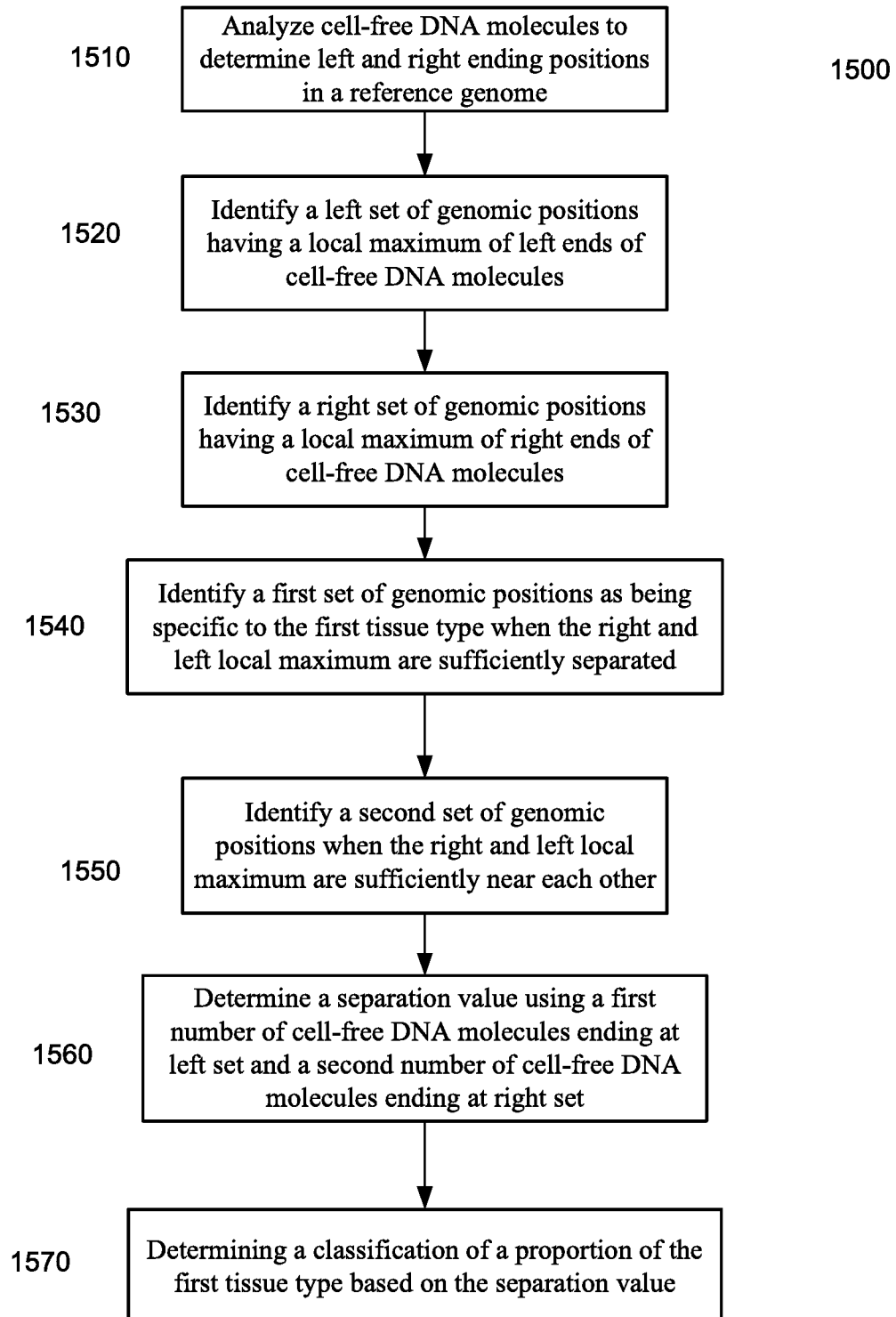
**FIG. 34**

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**FIG. 35**

**FIG. 36**

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**FIG. 37**

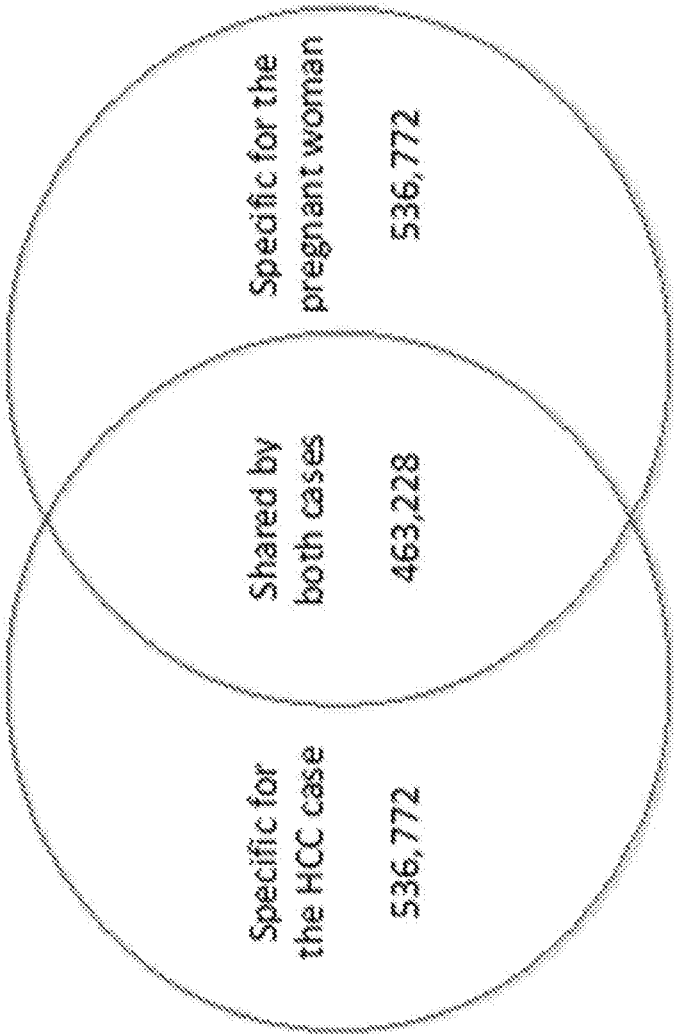


FIG. 38

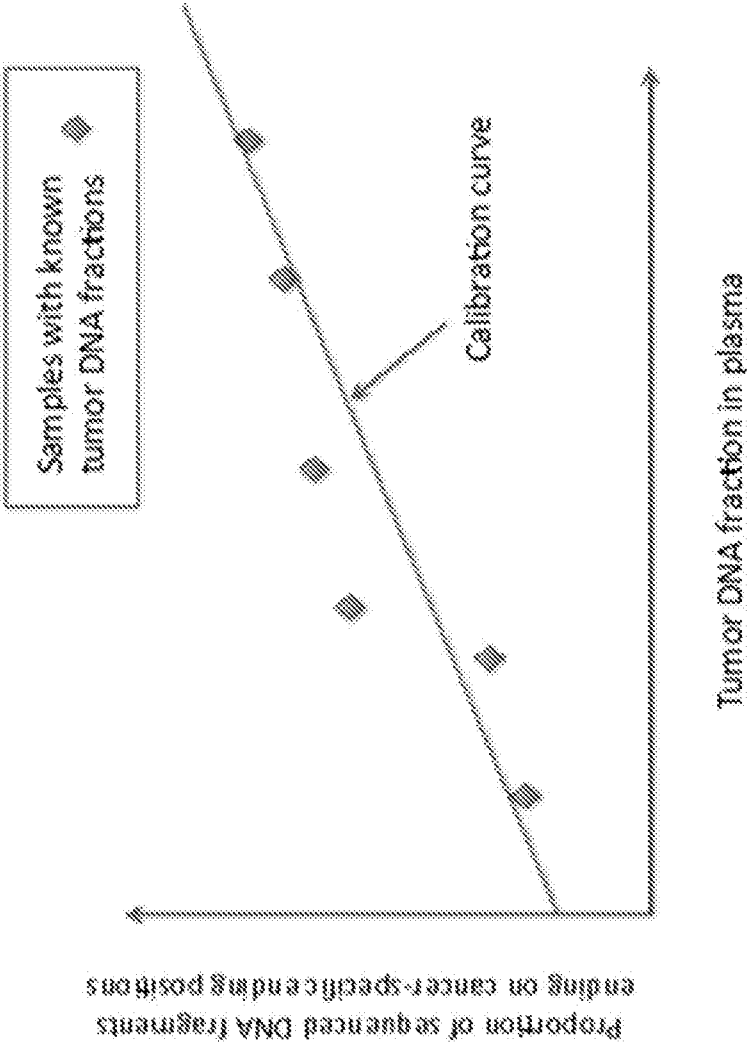


FIG. 39

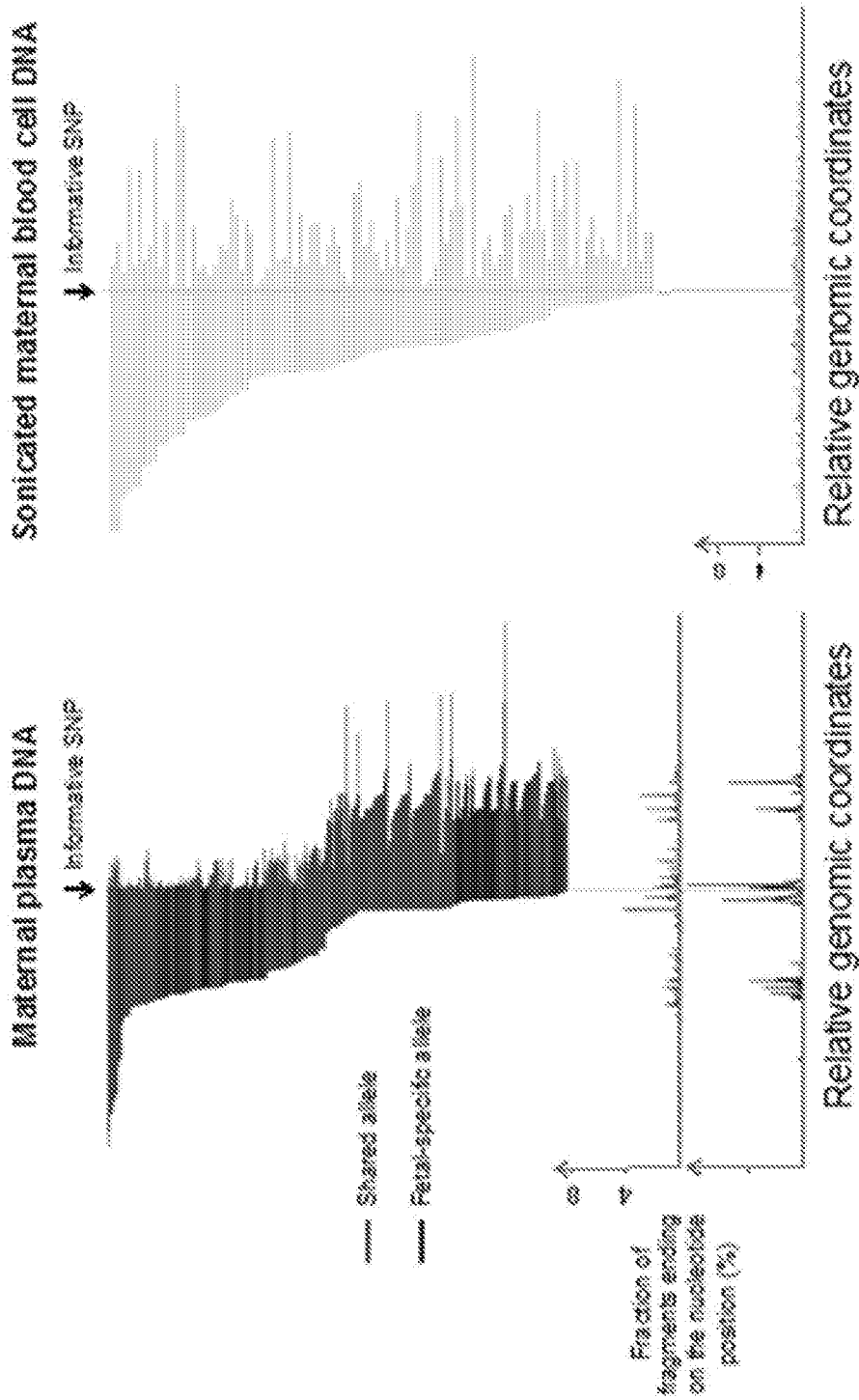


FIG. 40

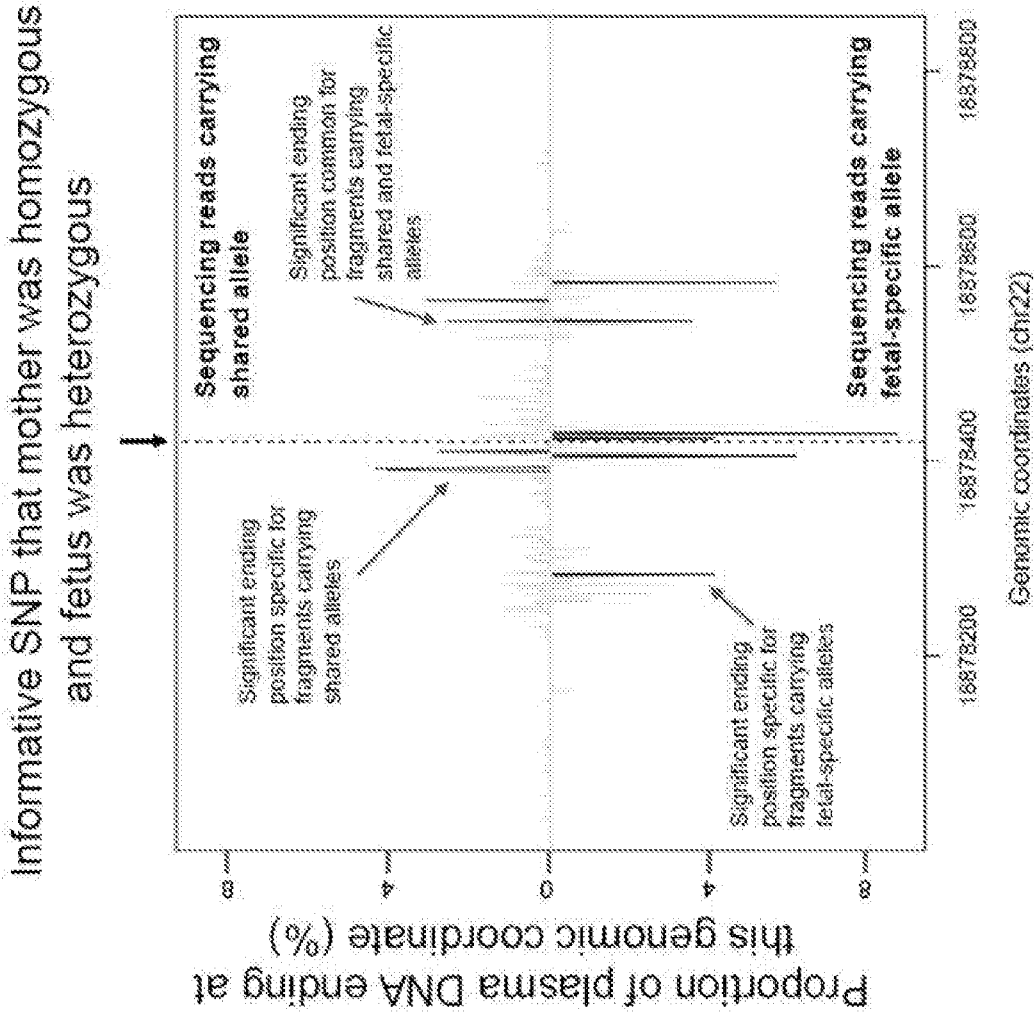


FIG. 41

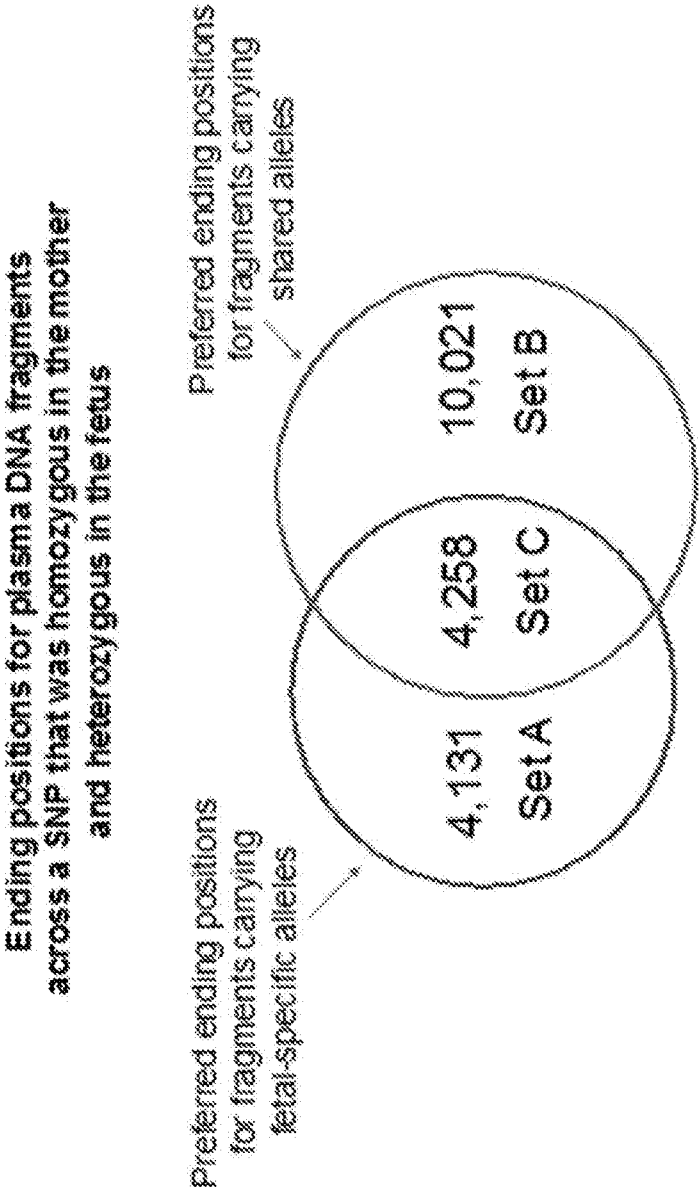


FIG. 42

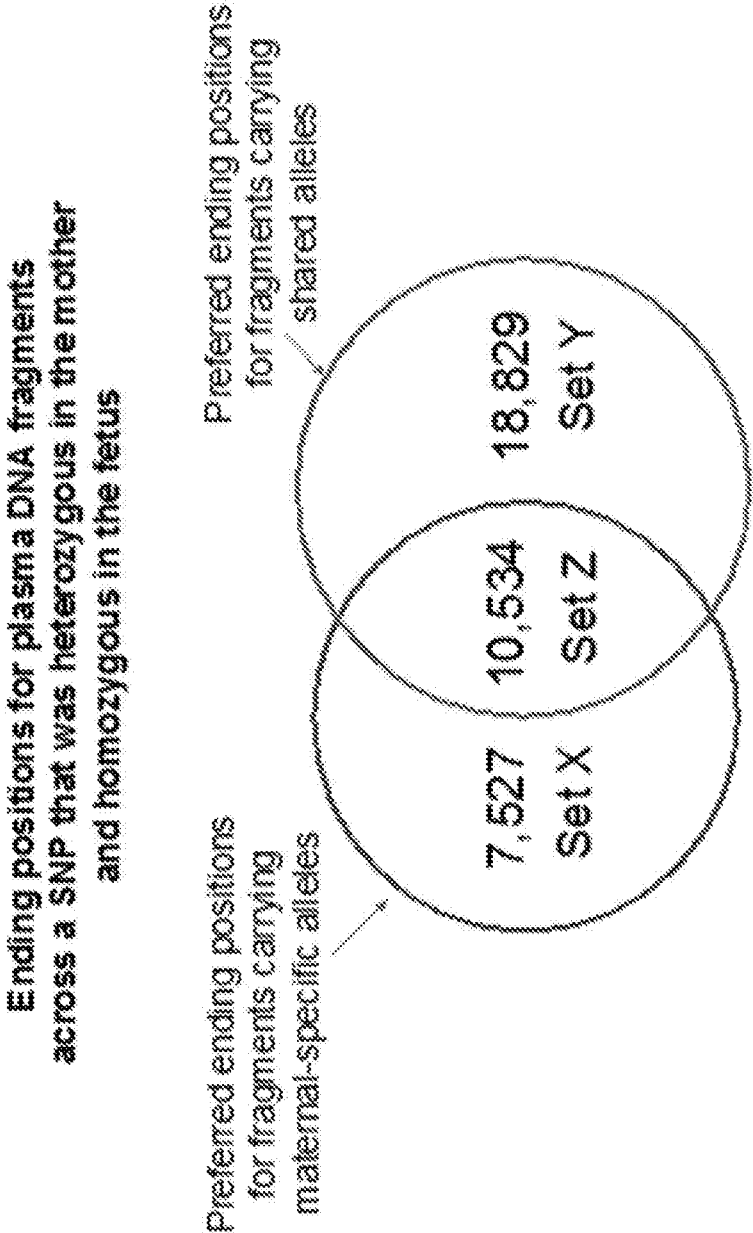


FIG. 43

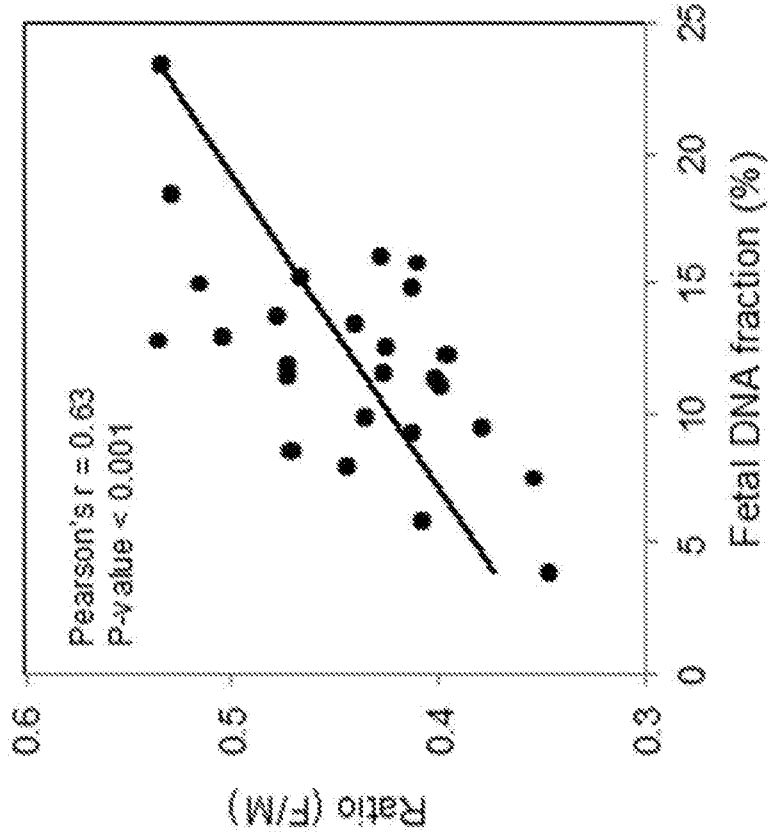


FIG. 44

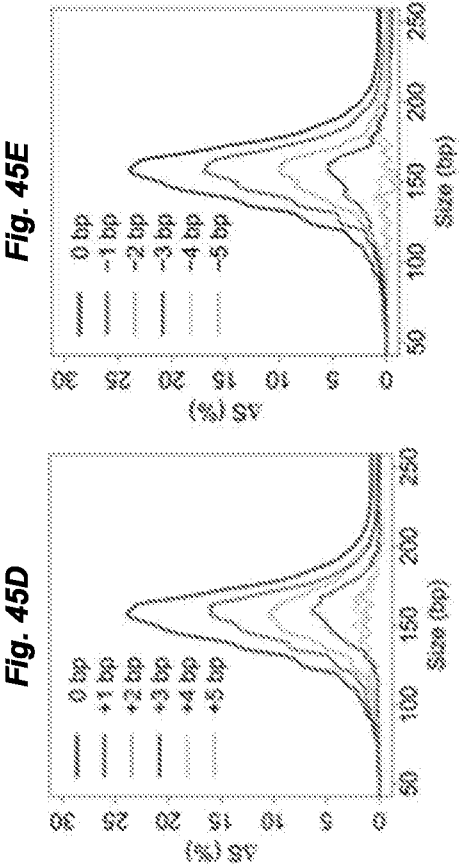
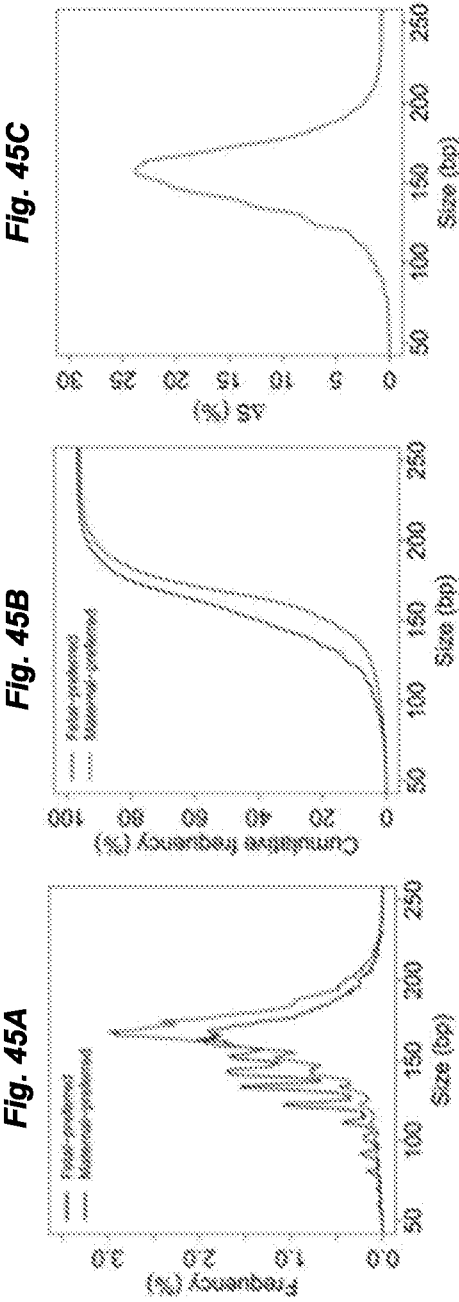


Fig. 46C

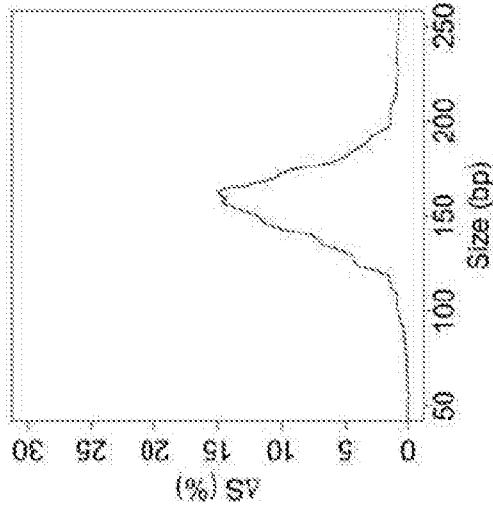


Fig. 46B

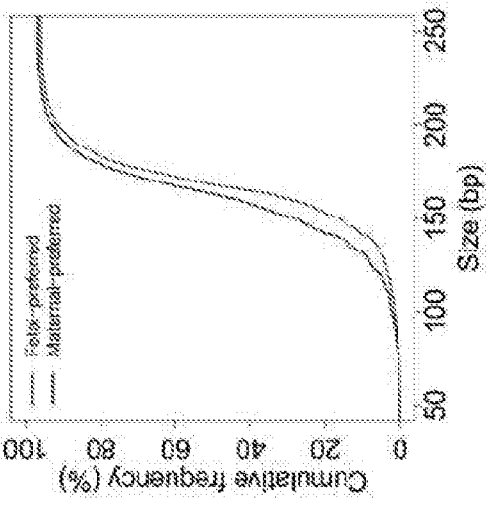


Fig. 46A

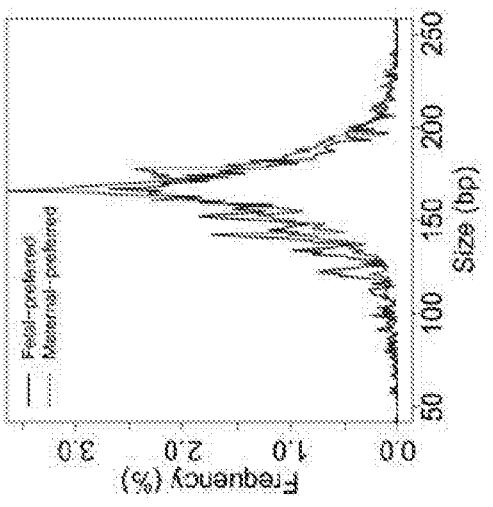


Fig. 46E

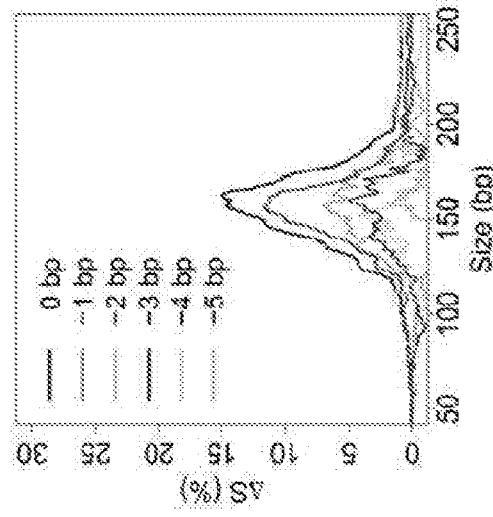
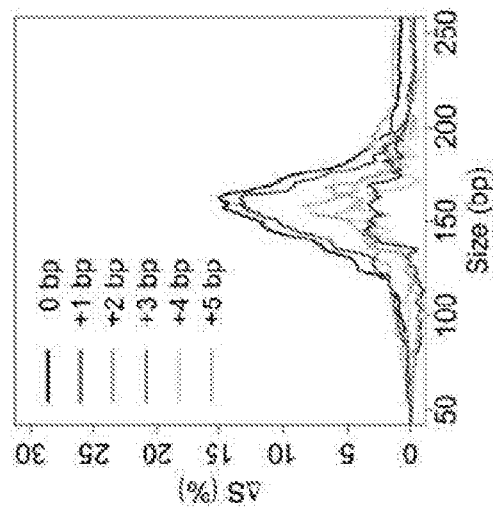


Fig. 46D



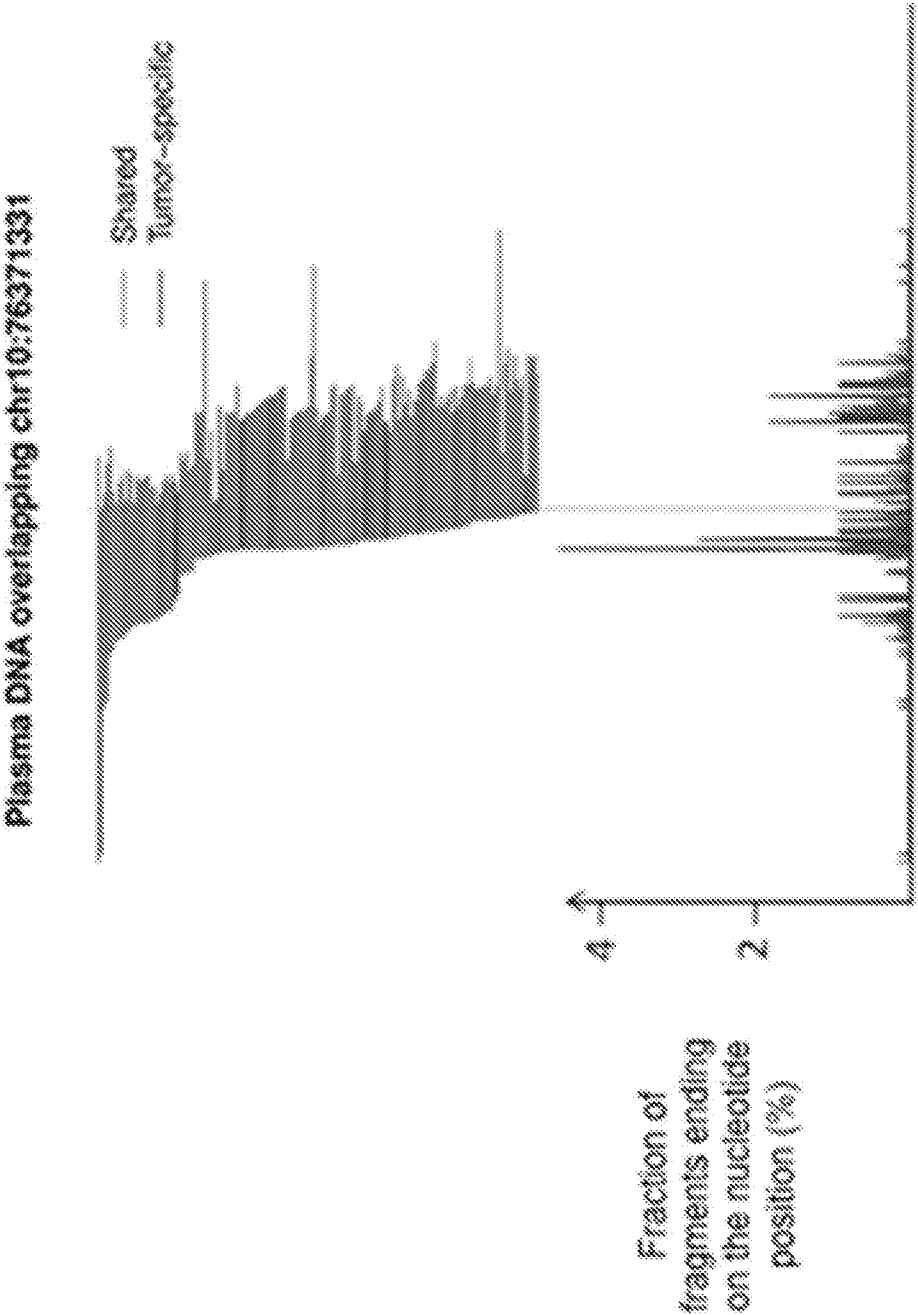


FIG. 47

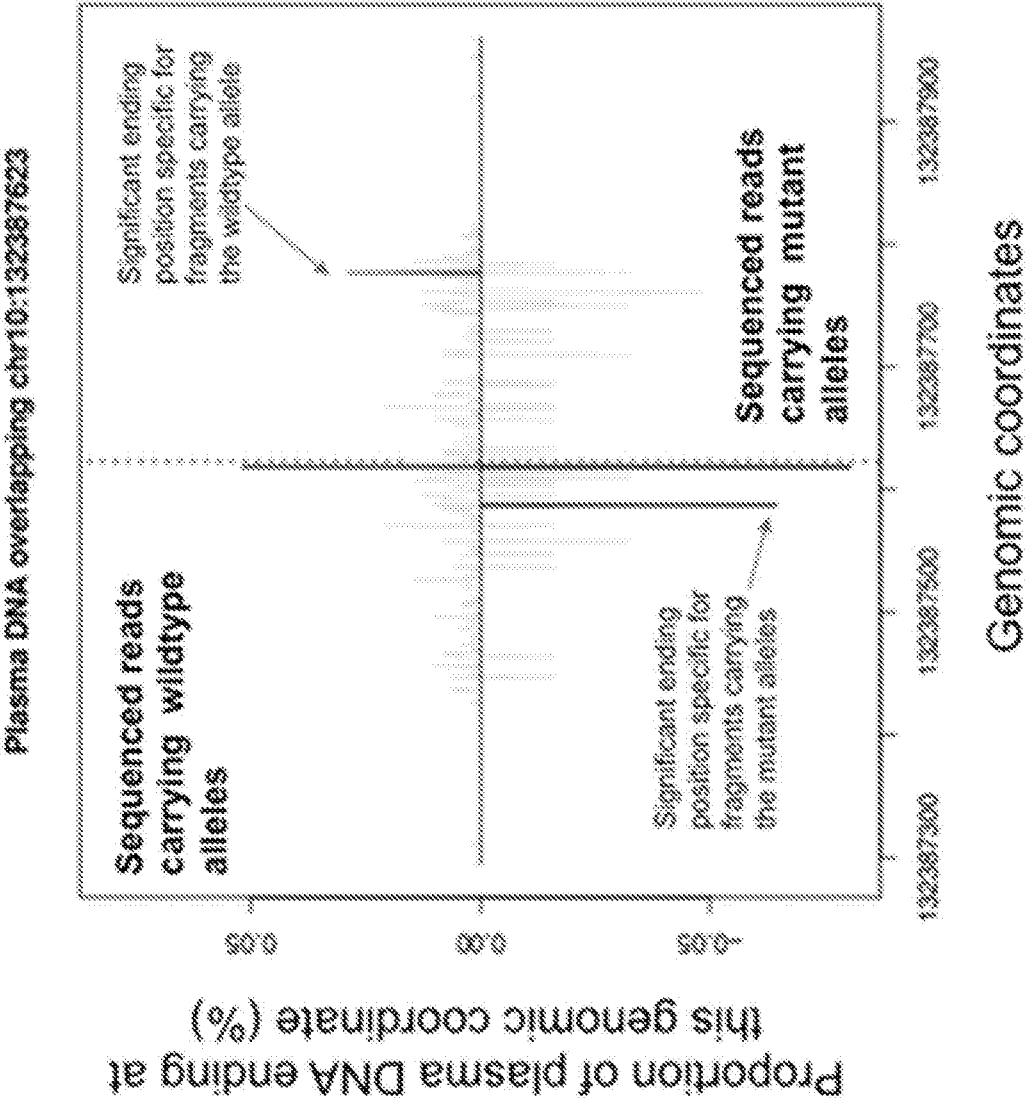


FIG. 48

Ending positions for DNA fragments
across mutations present in plasma

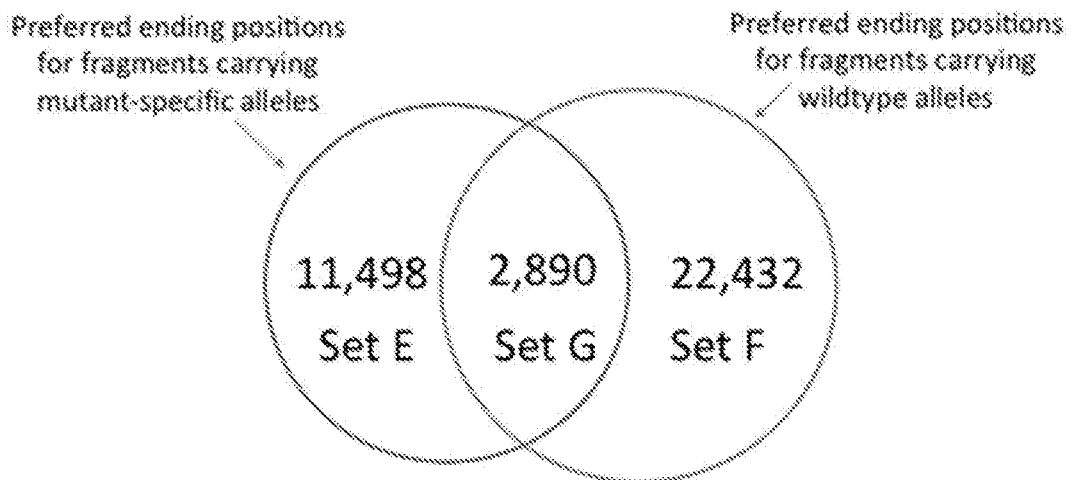


FIG. 49A

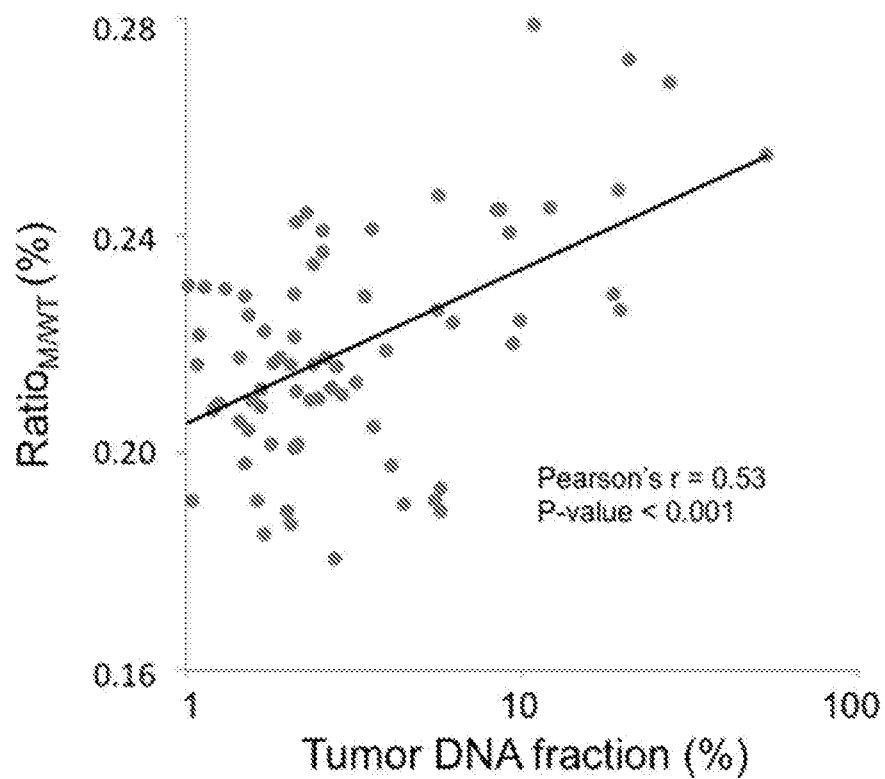


FIG. 49B

Preferred ending sites
for plasma DNA fragments

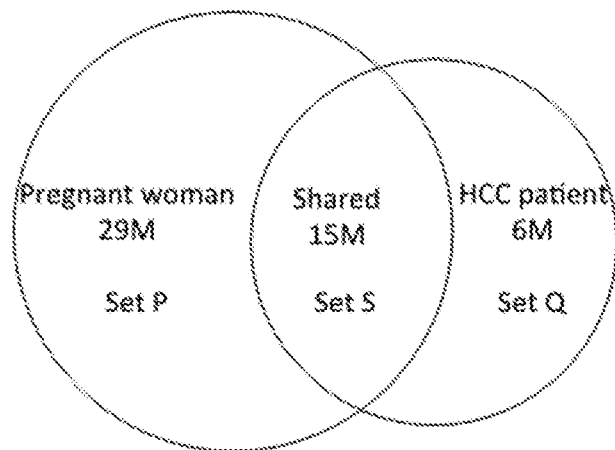


FIG. 50A

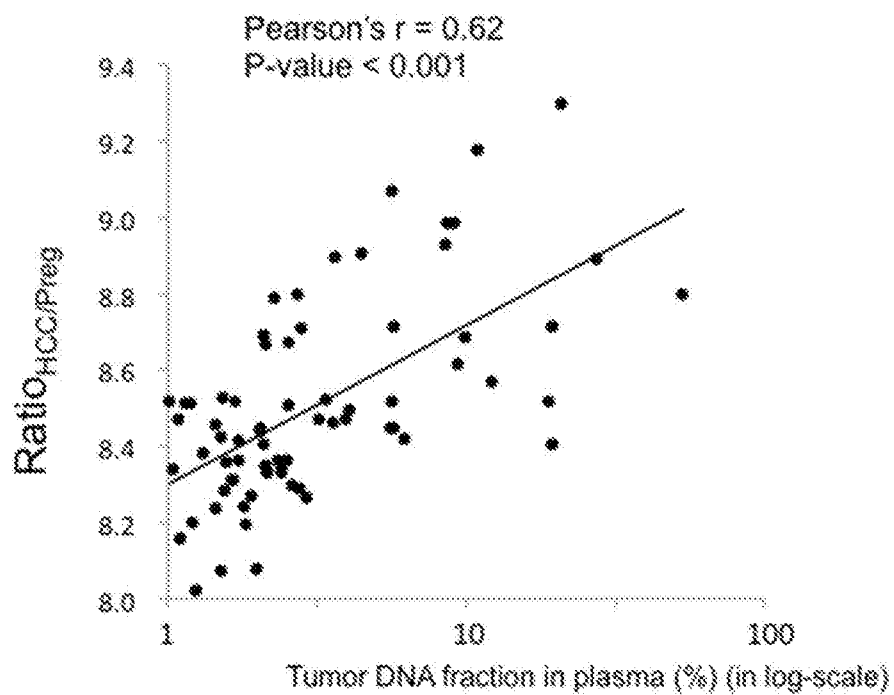
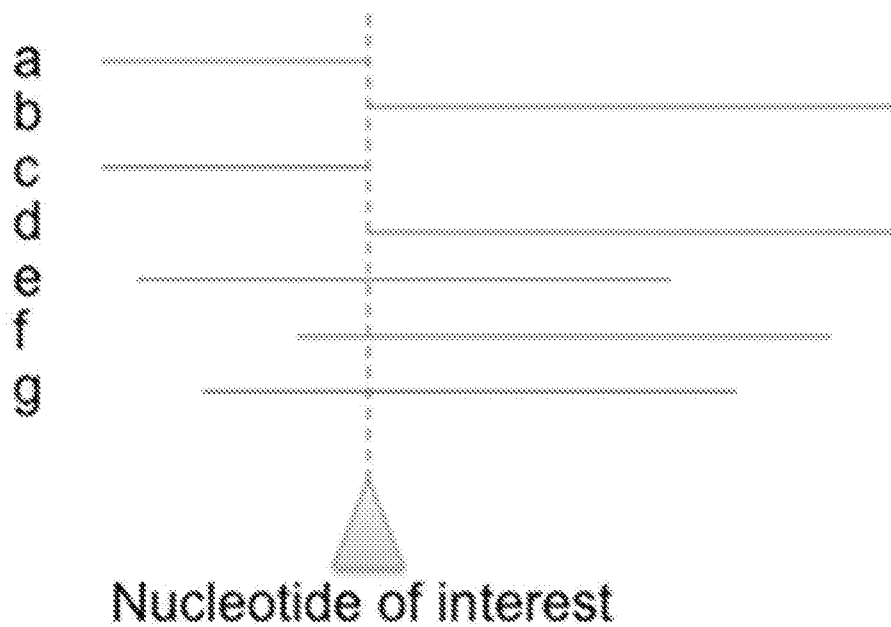
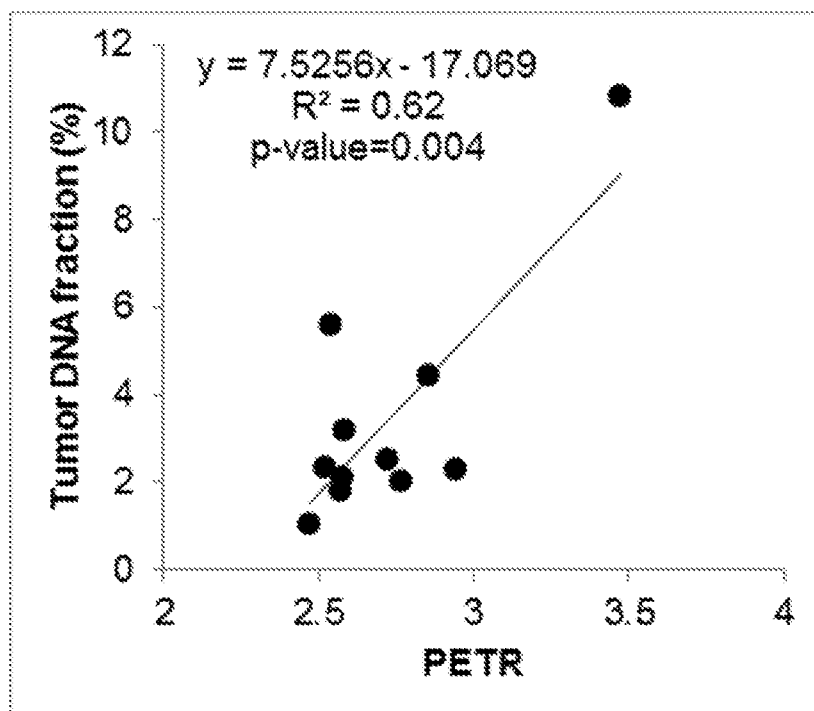


FIG. 50B

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**FIG. 51A****FIG. 51B**

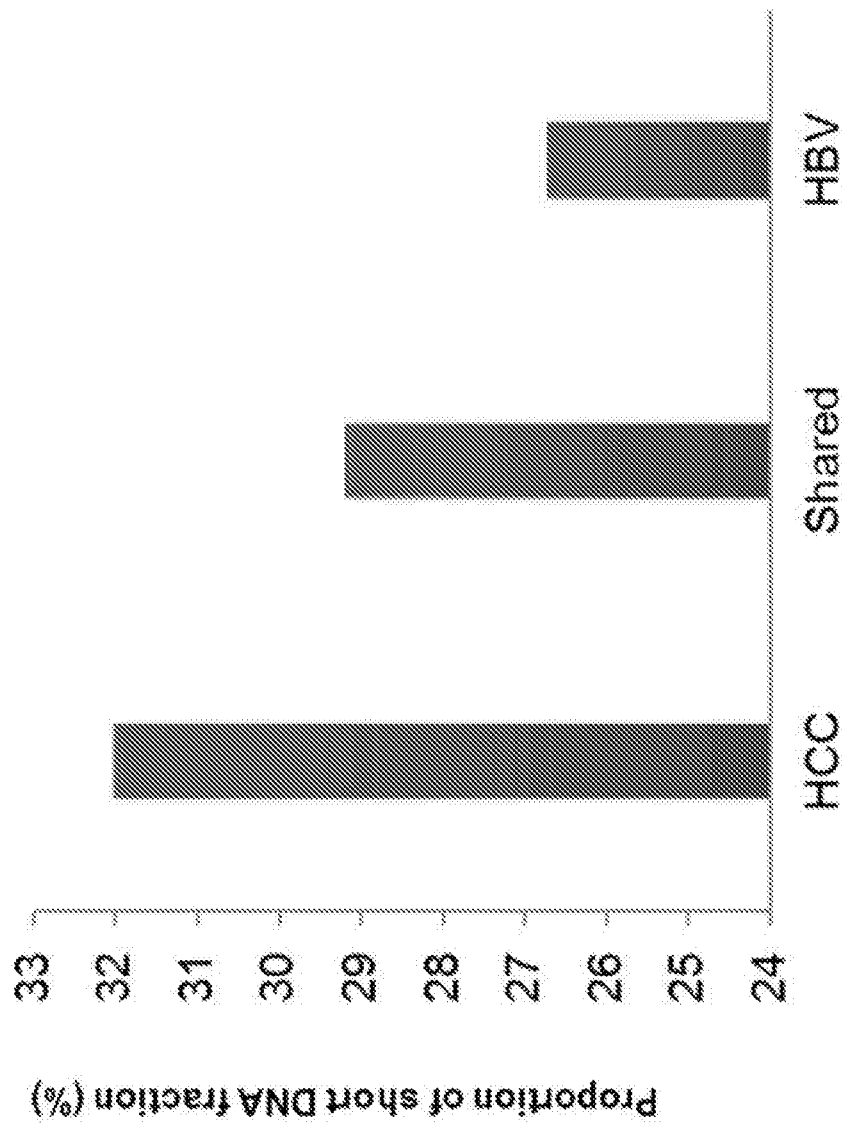
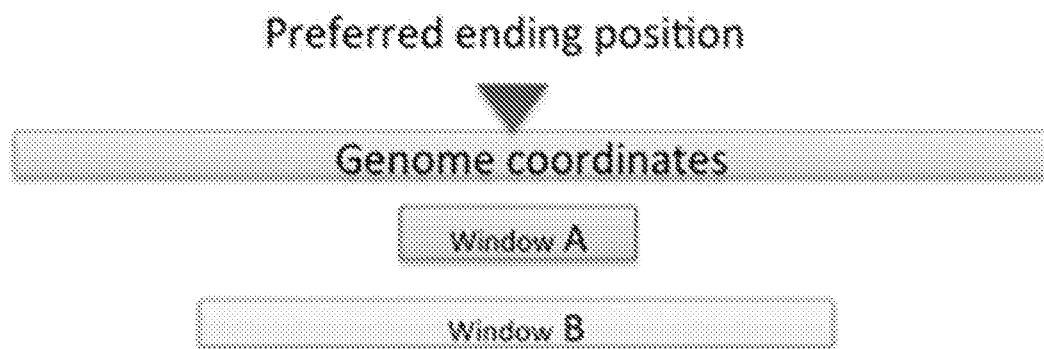
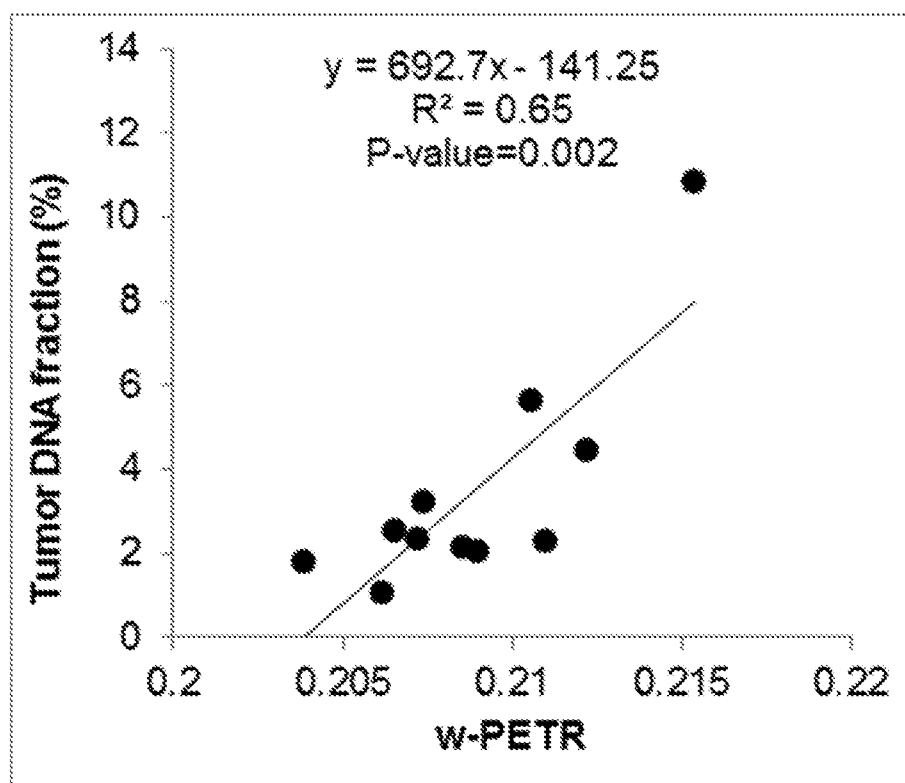


FIG. 52

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**FIG. 53A****FIG. 53B**

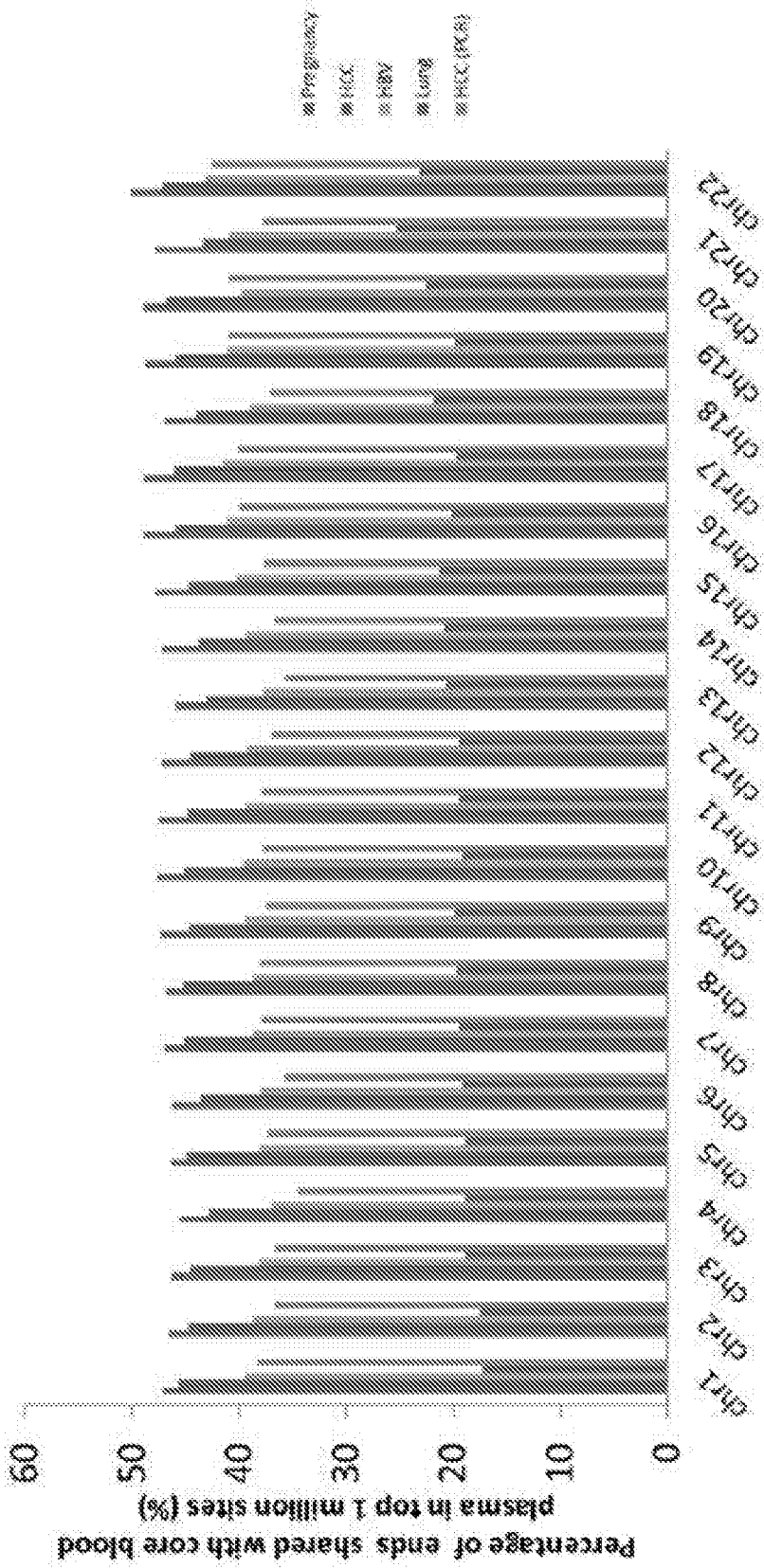


FIG. 54

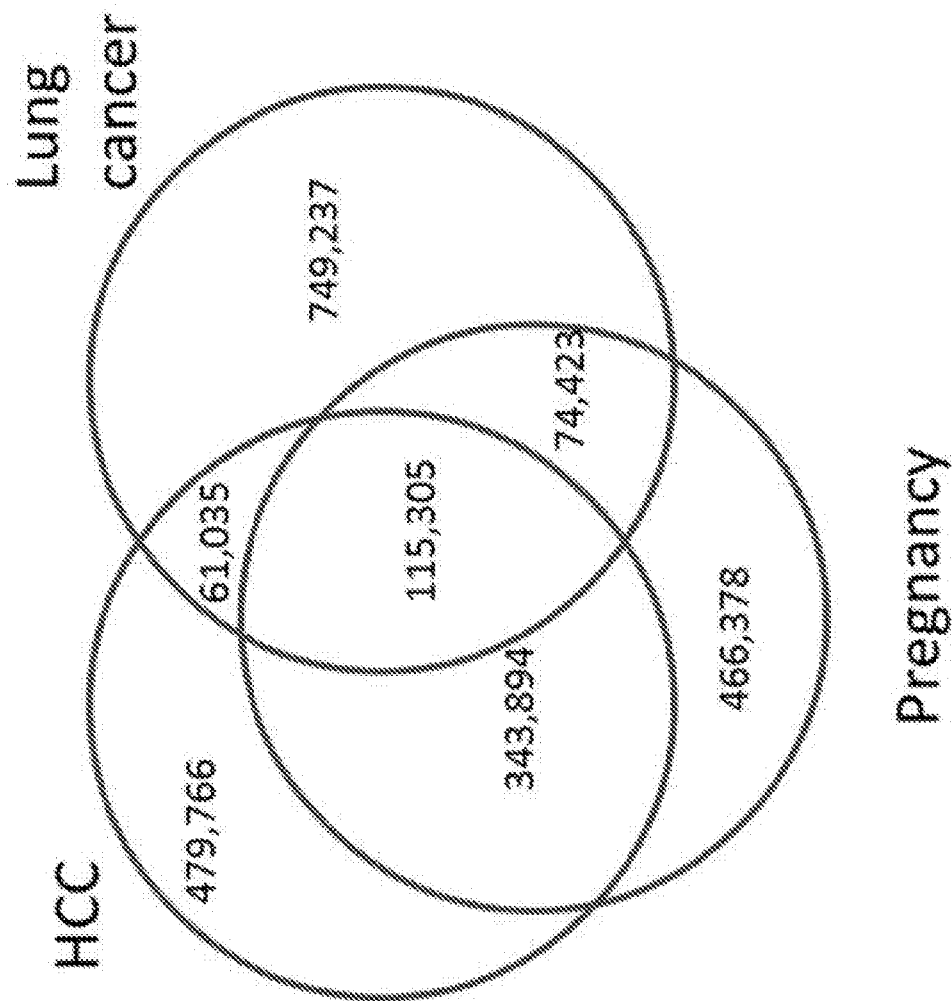
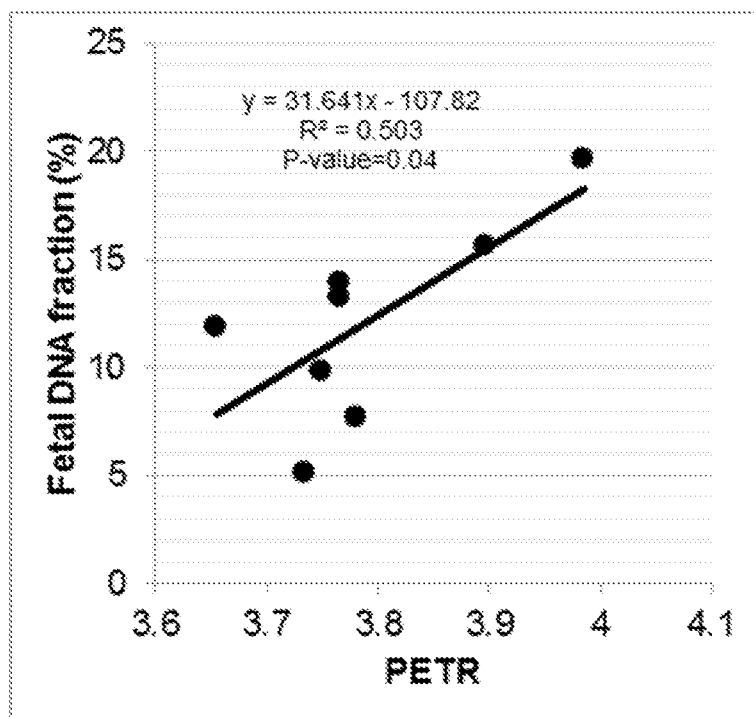
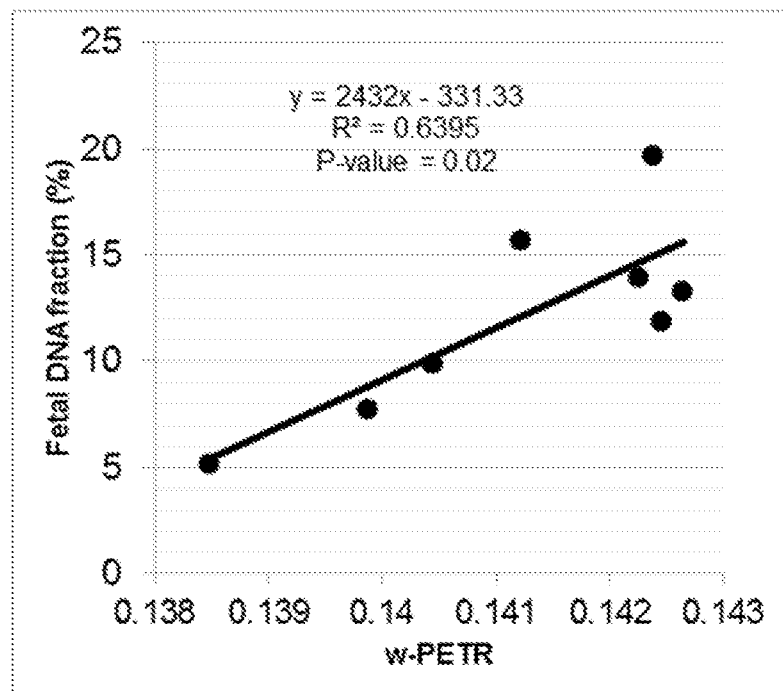
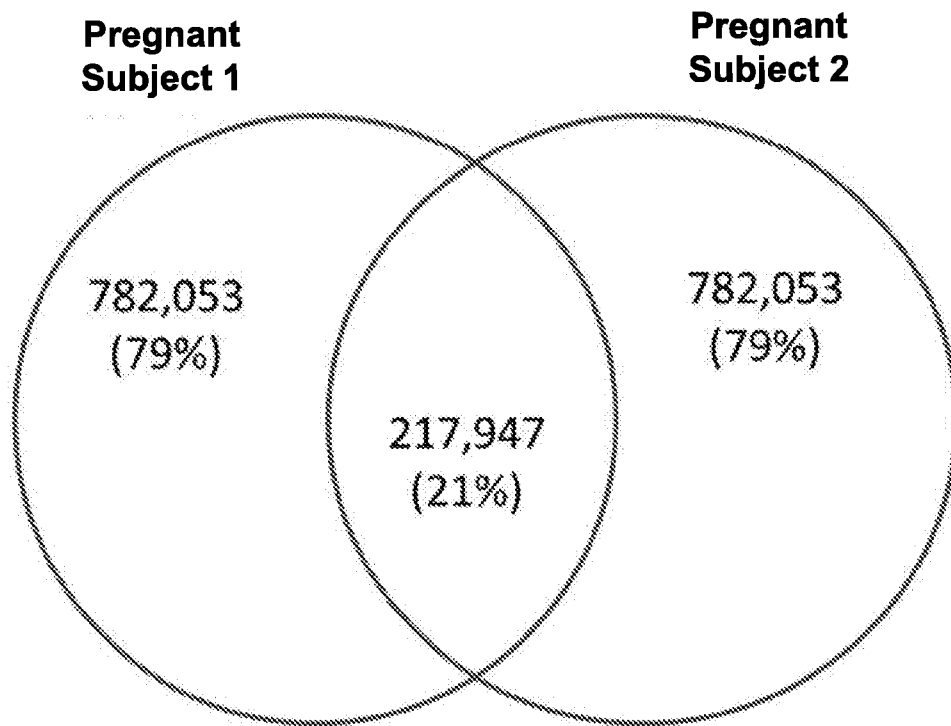
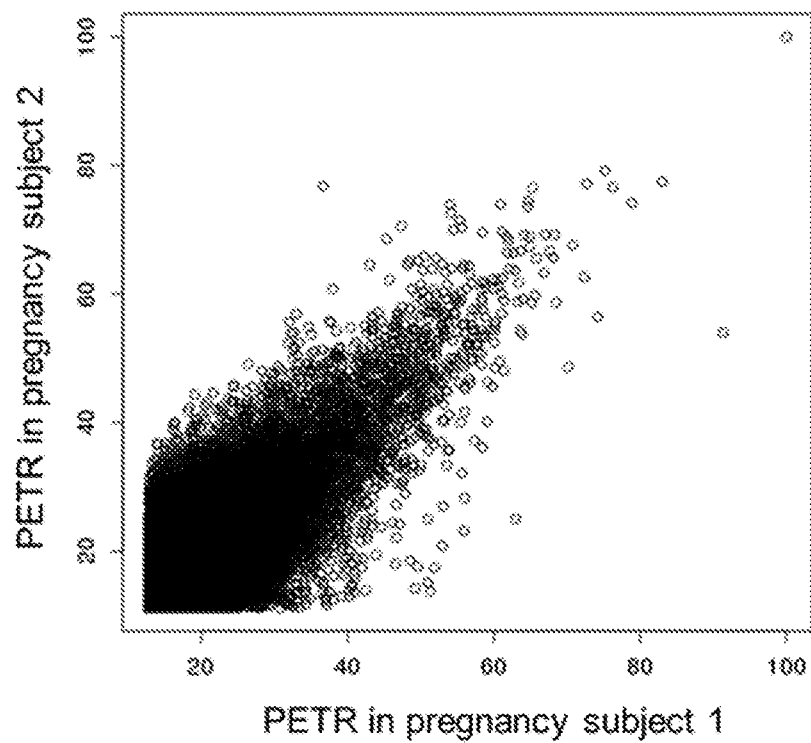


FIG. 55

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**FIG. 56A****FIG. 56B**

**FIG. 57A****FIG. 57B**

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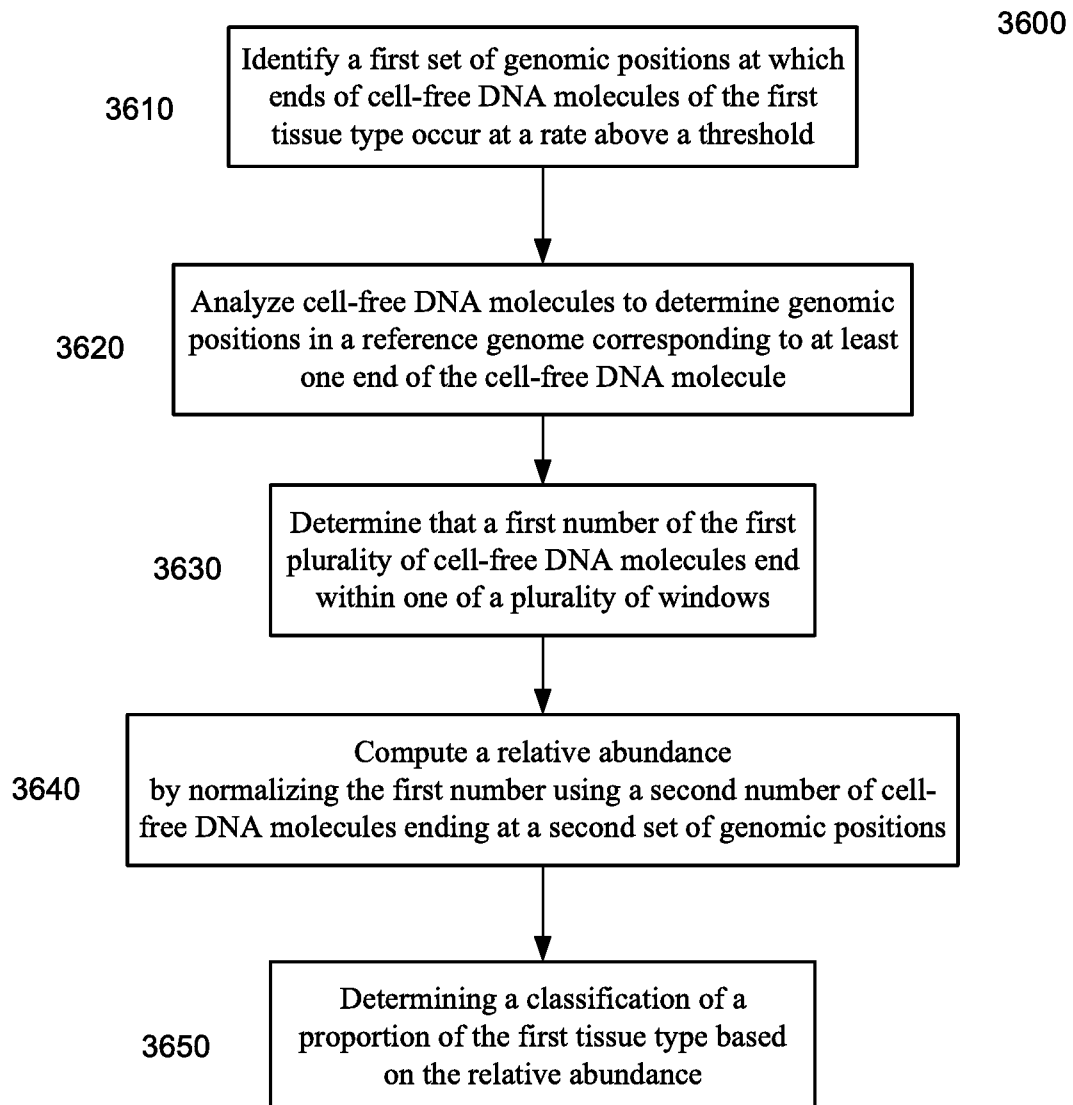
**FIG. 58**

Fig. 59A

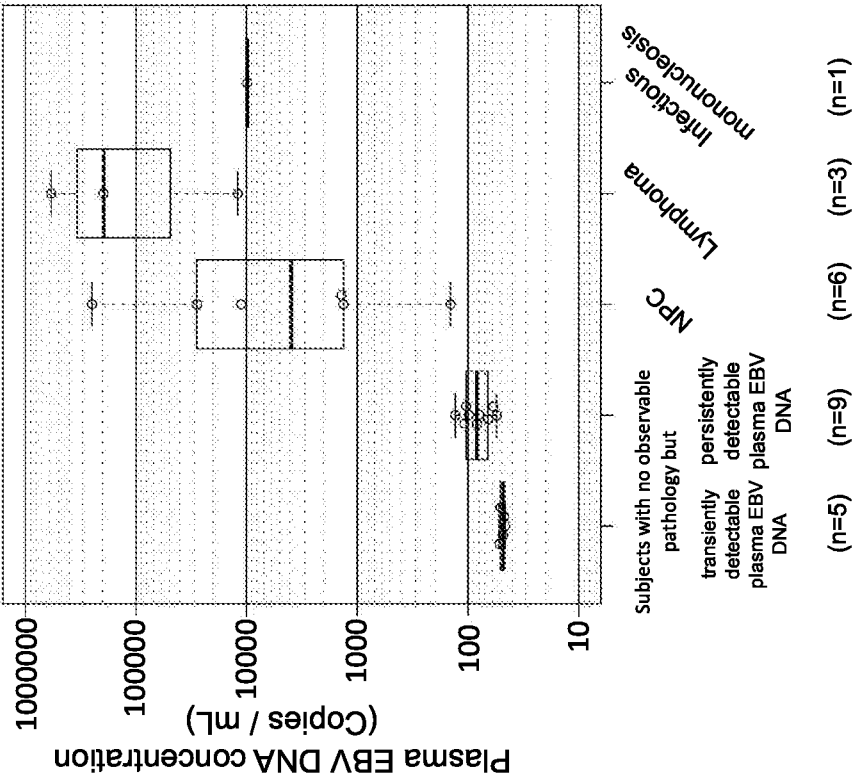


Fig. 59B

Subjects with no observable pathology

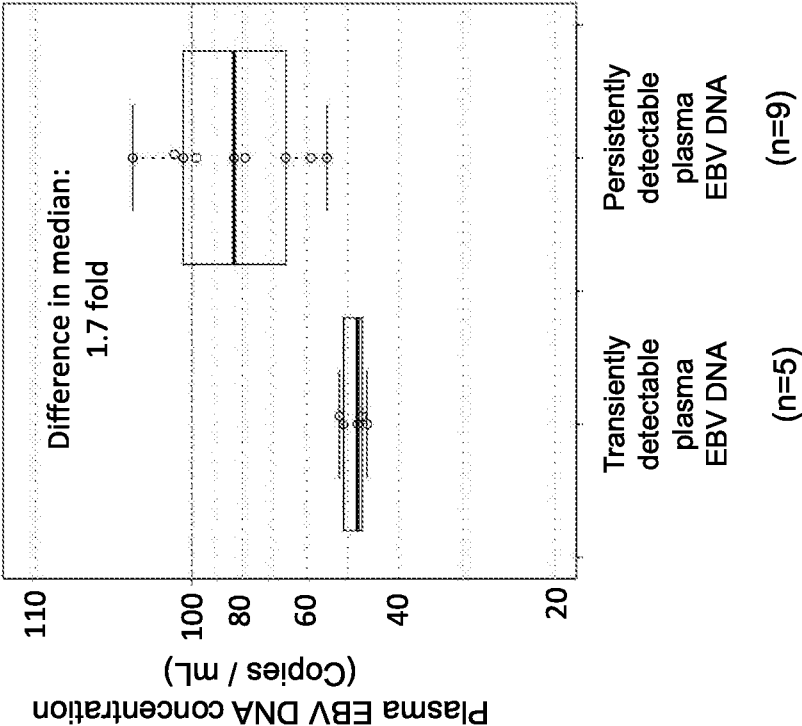


Fig. 60B

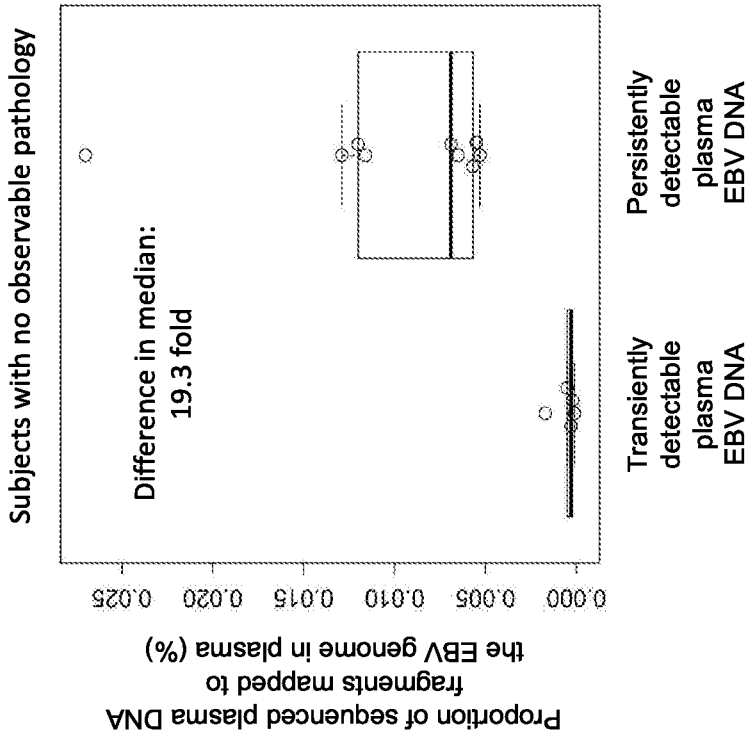
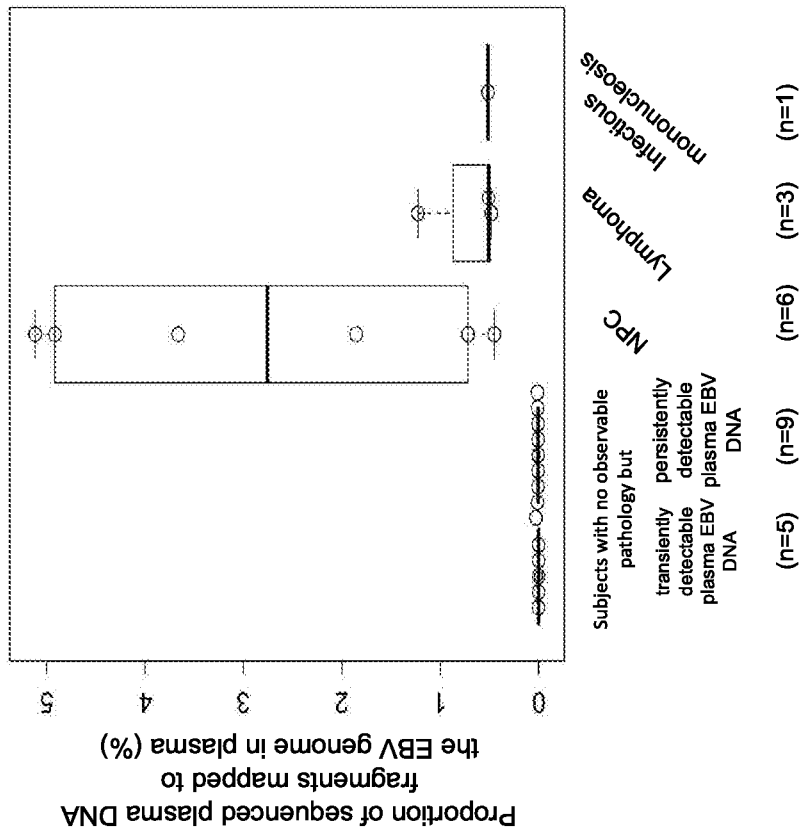


Fig. 60A



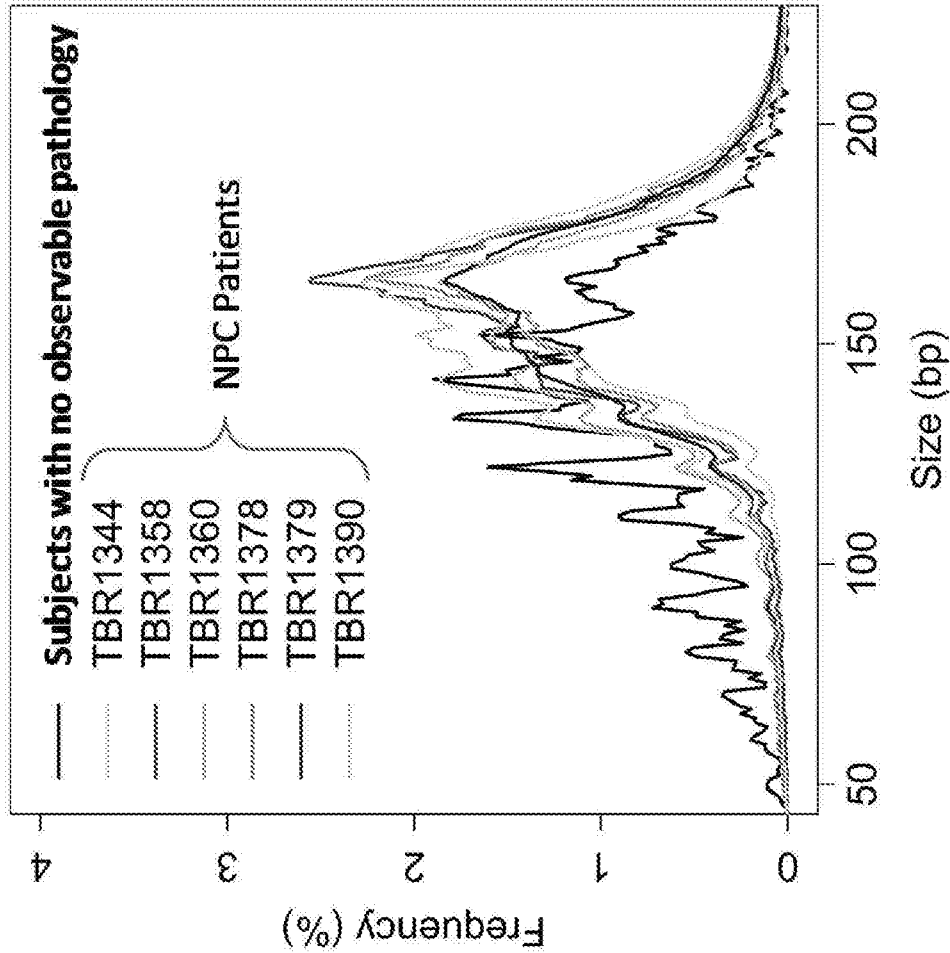


FIG. 61

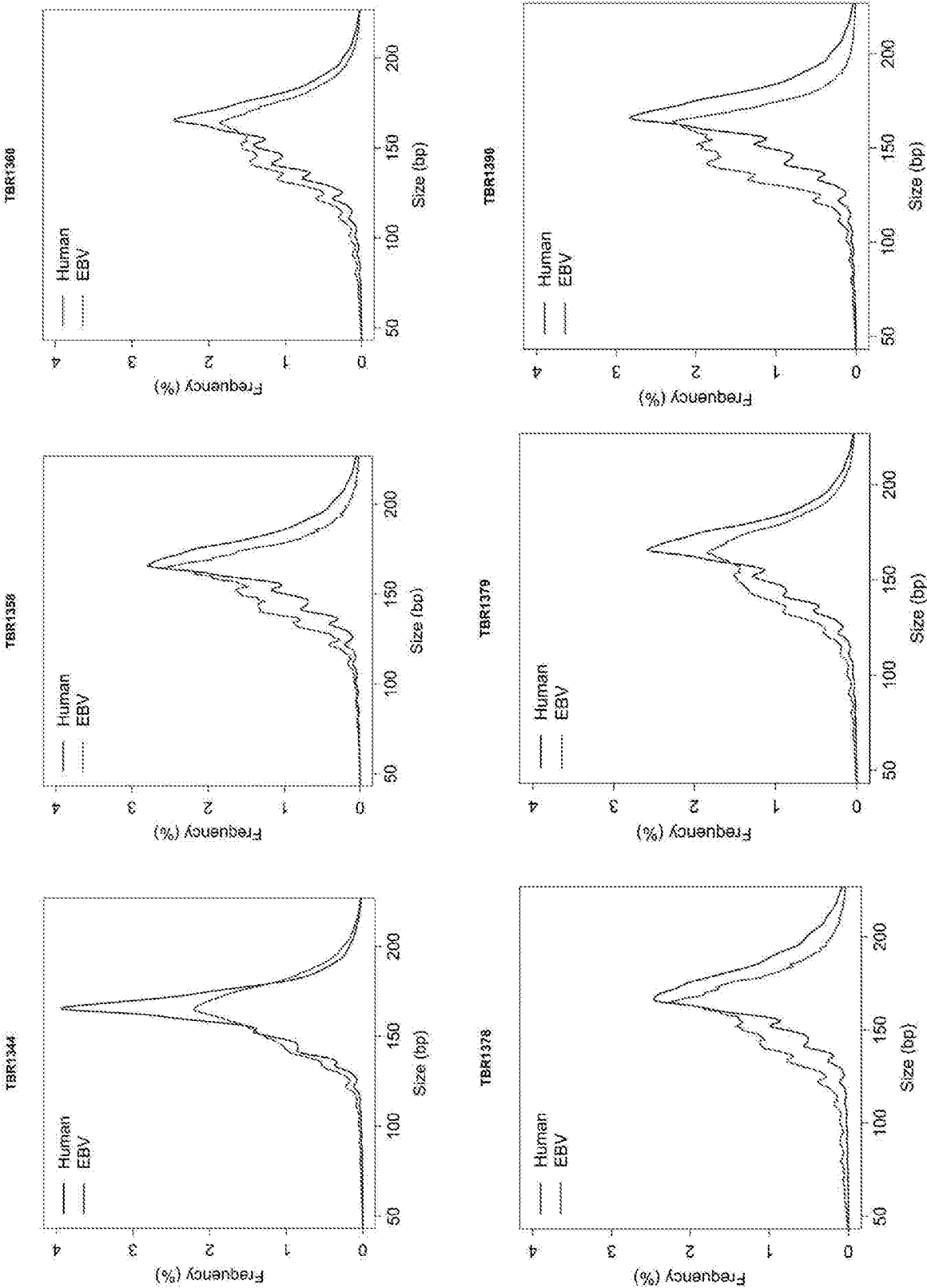


FIG. 62

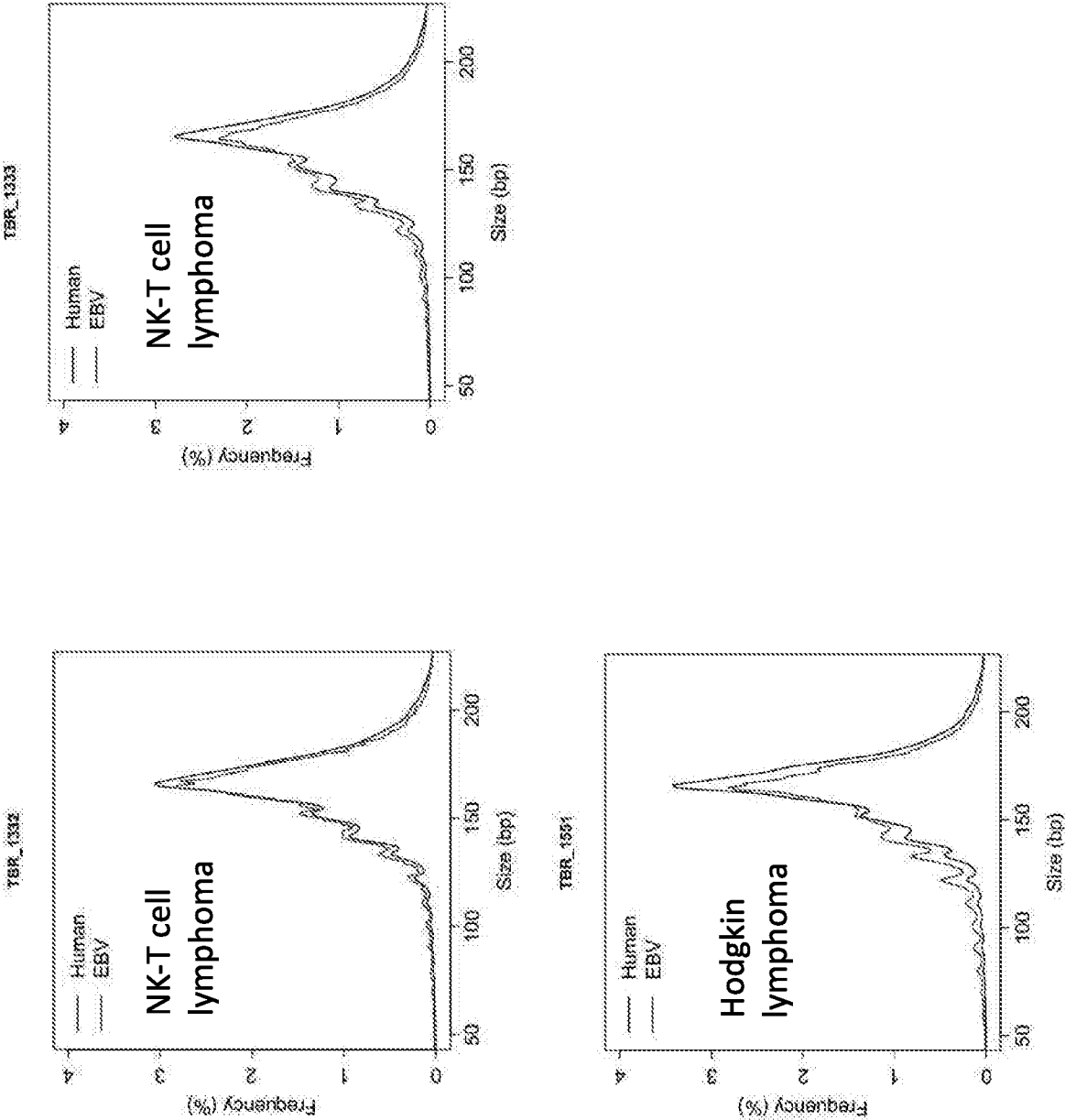


FIG. 63

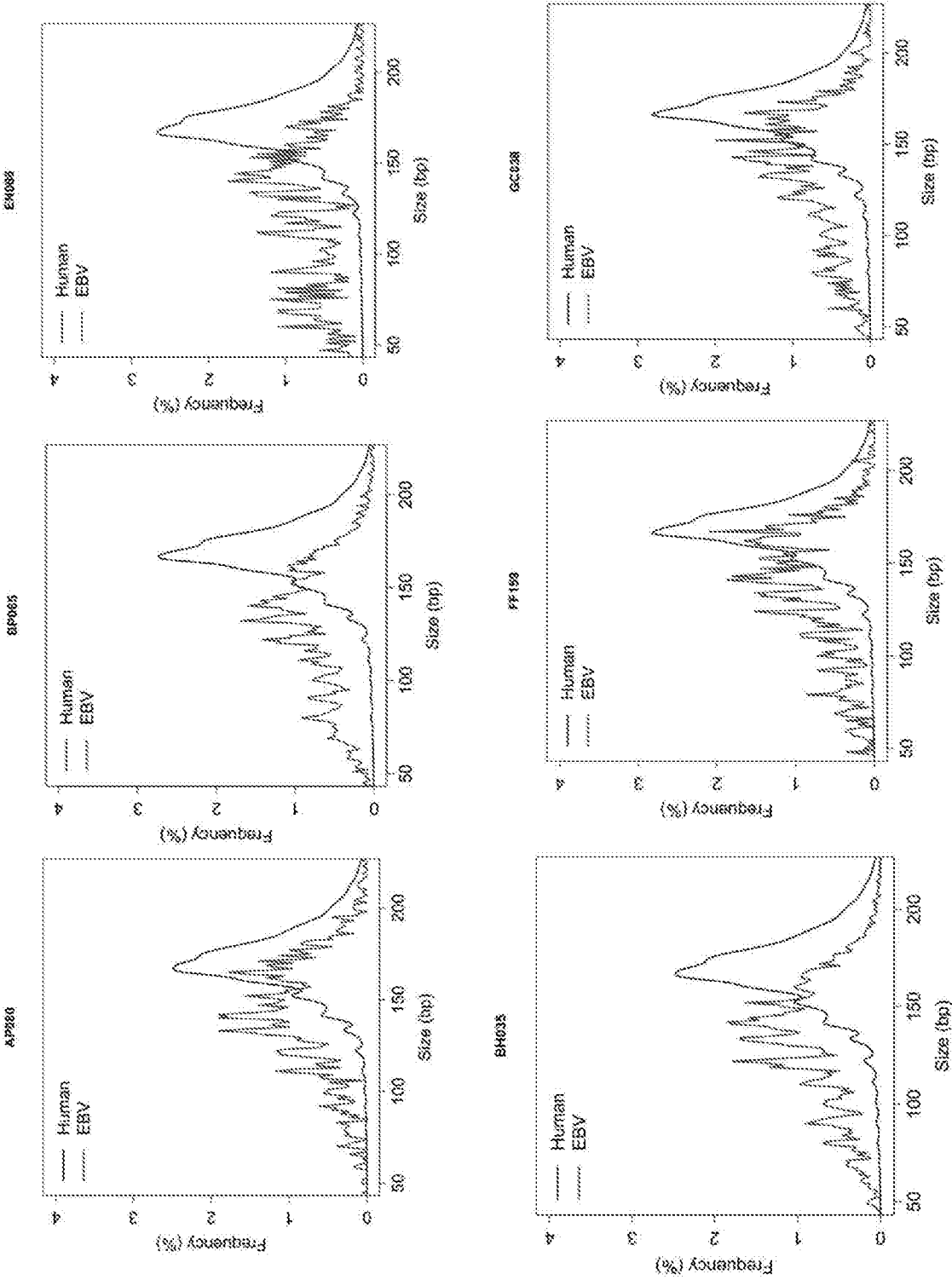


FIG. 64

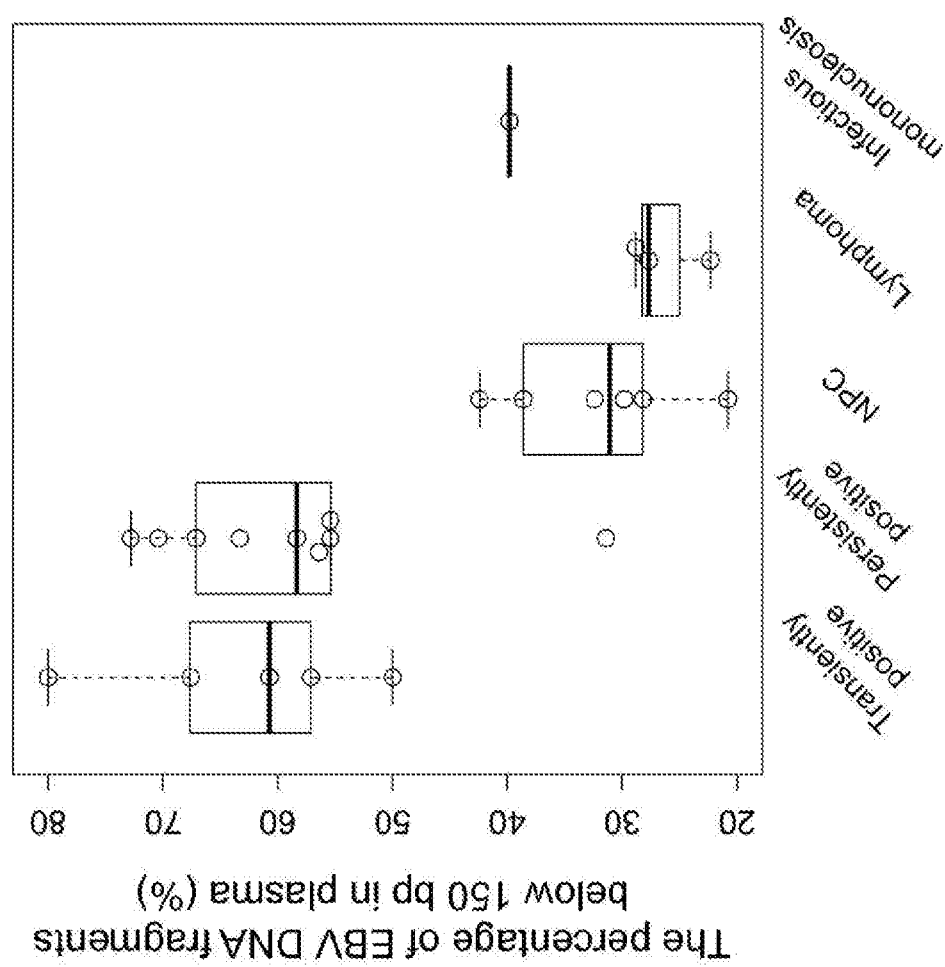


FIG. 65

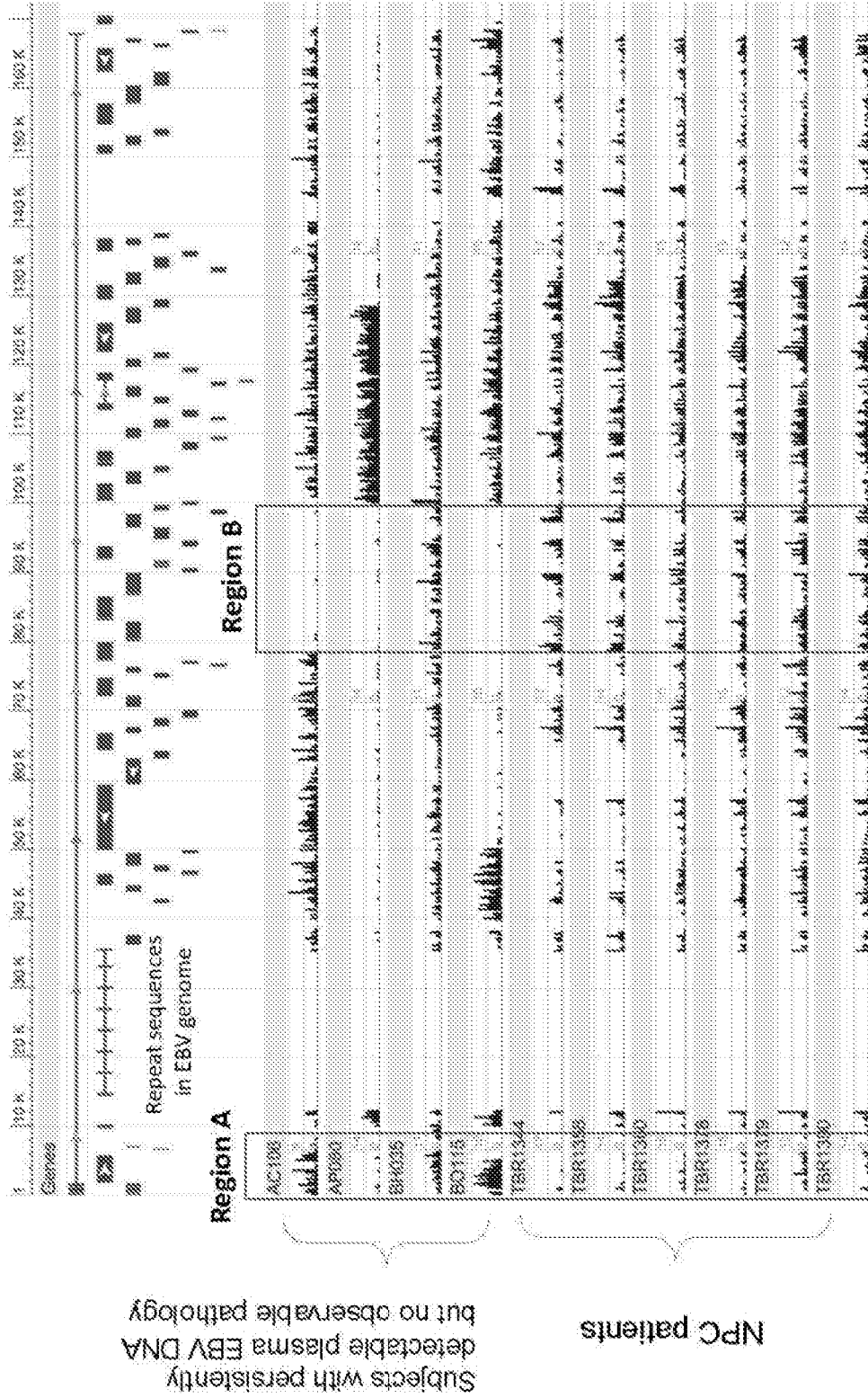


FIG. 66

400 most common ending positions
for plasma EBV DNA

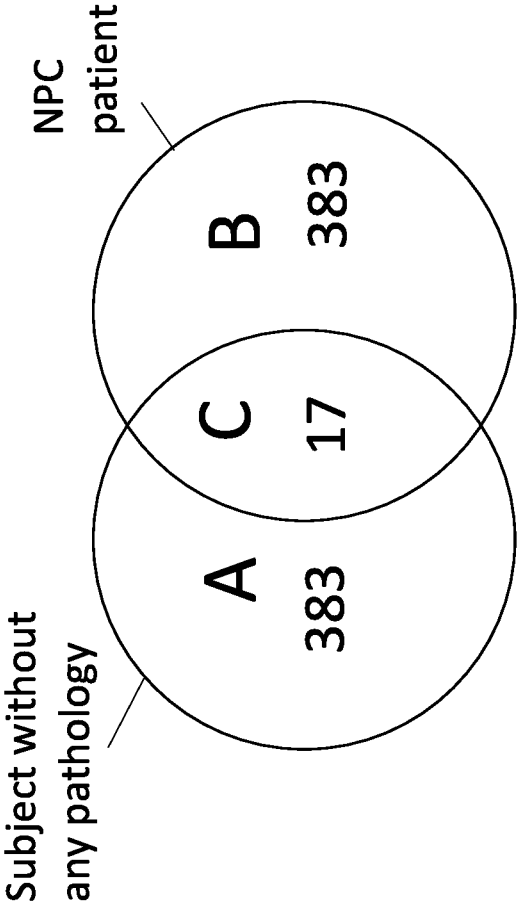


FIG. 67

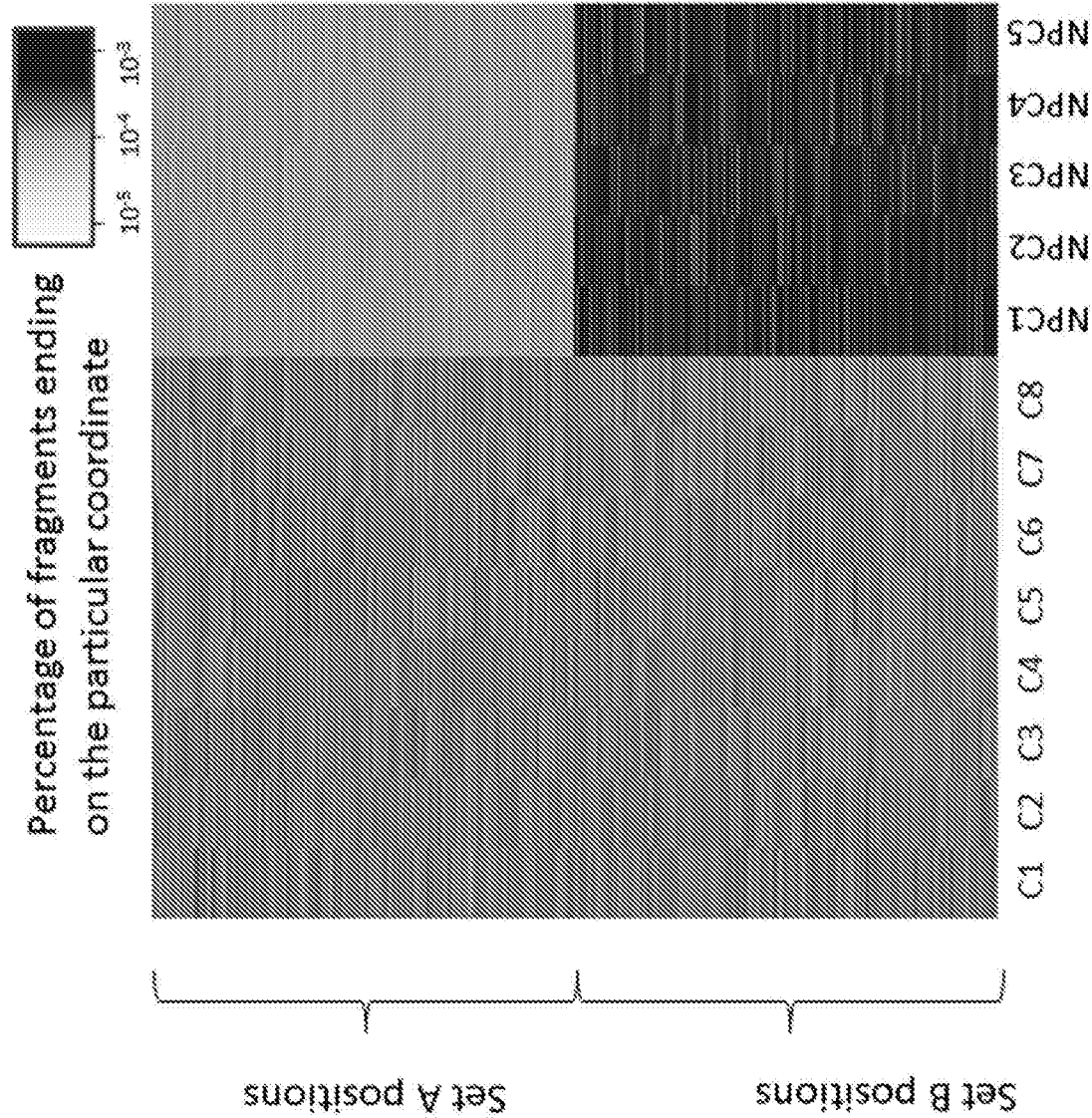


FIG. 68

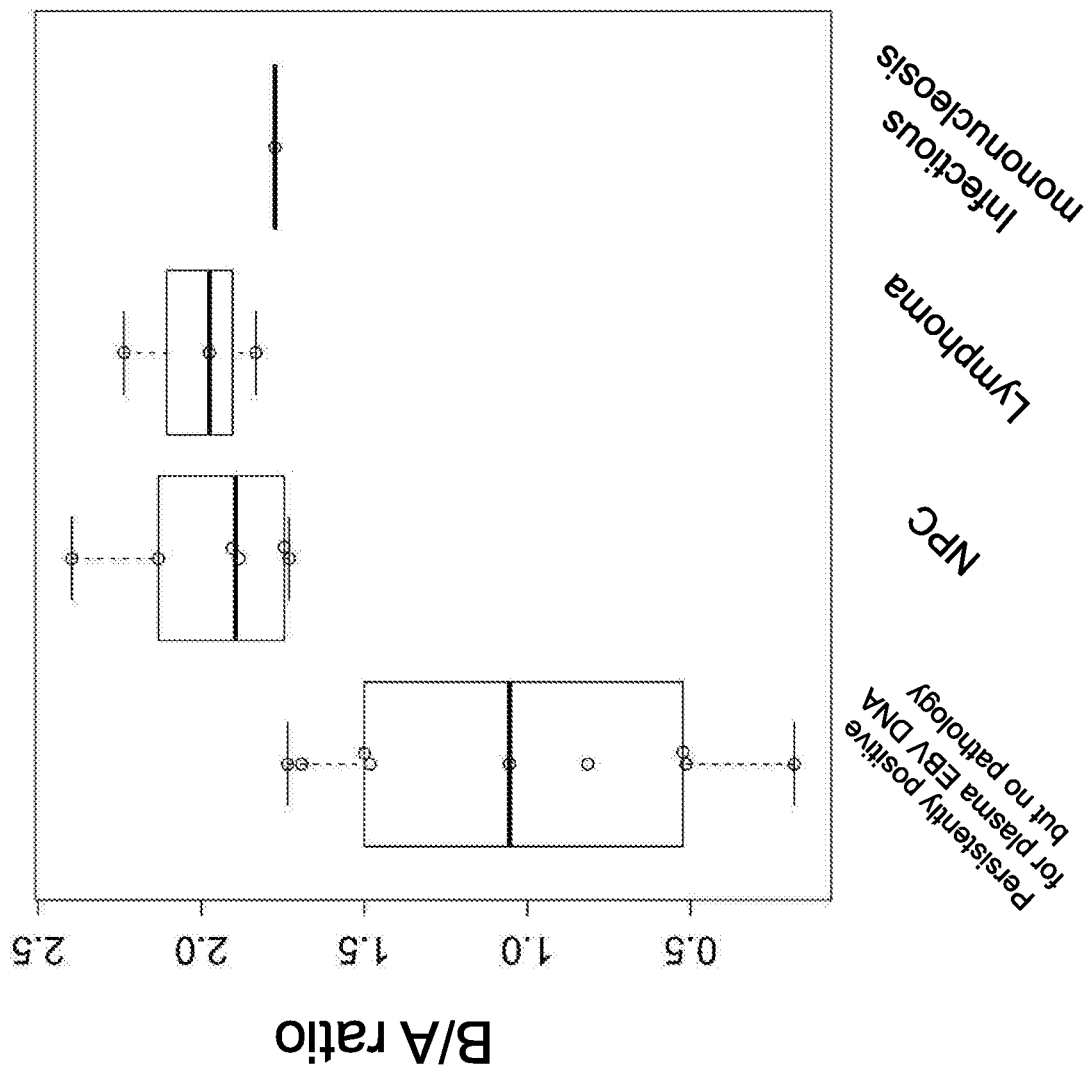


FIG. 69

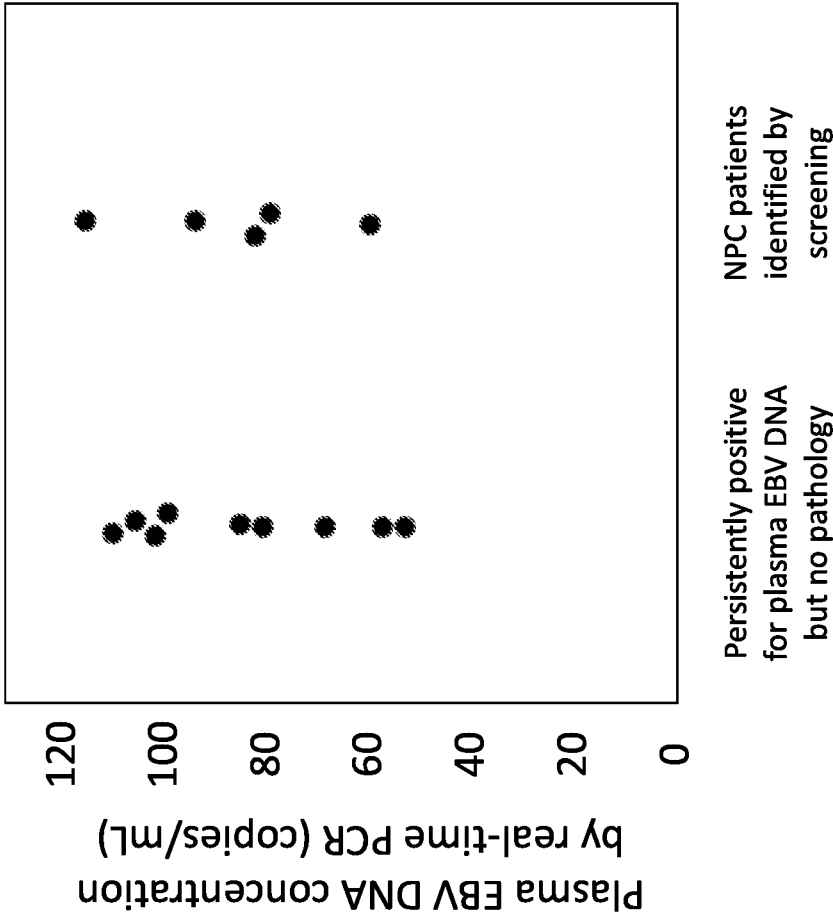


FIG. 70

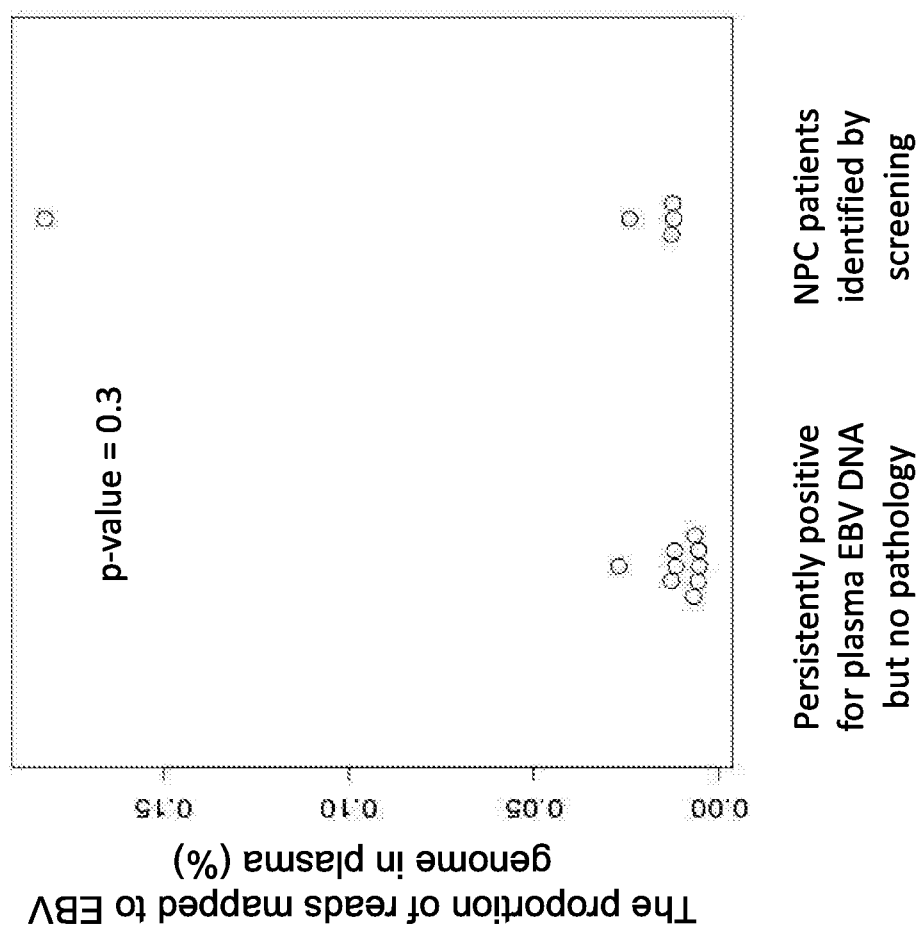


FIG. 71

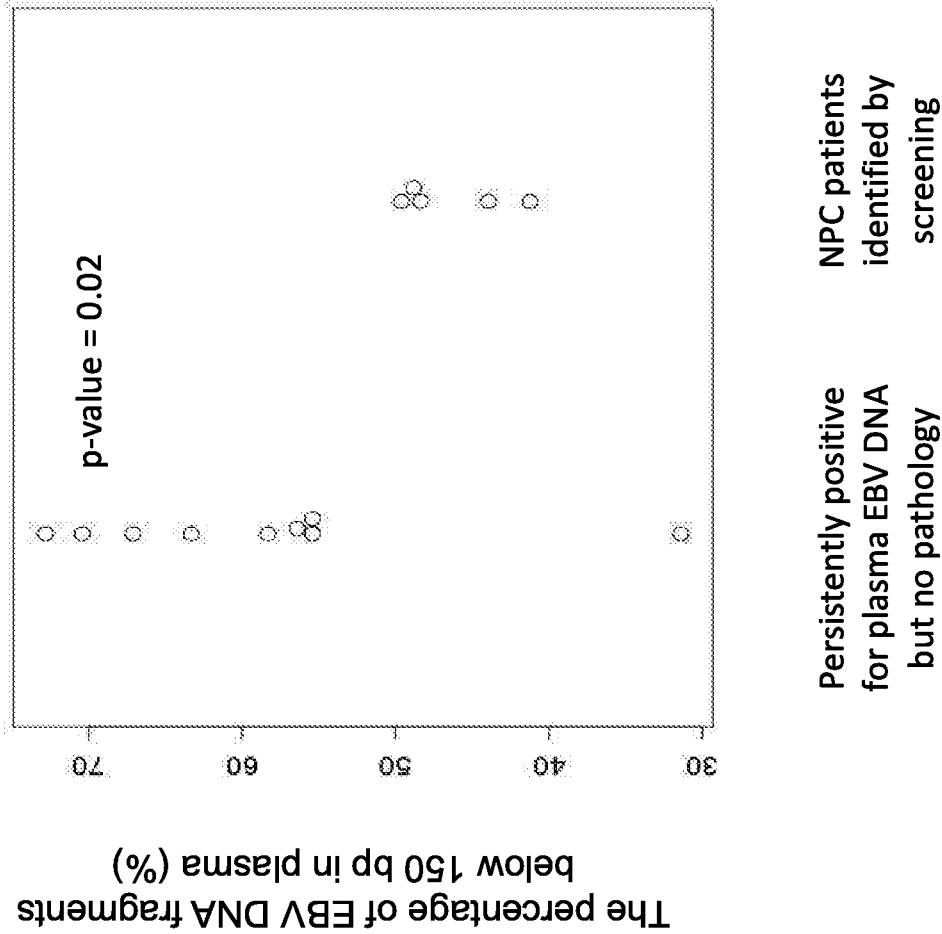


FIG. 72

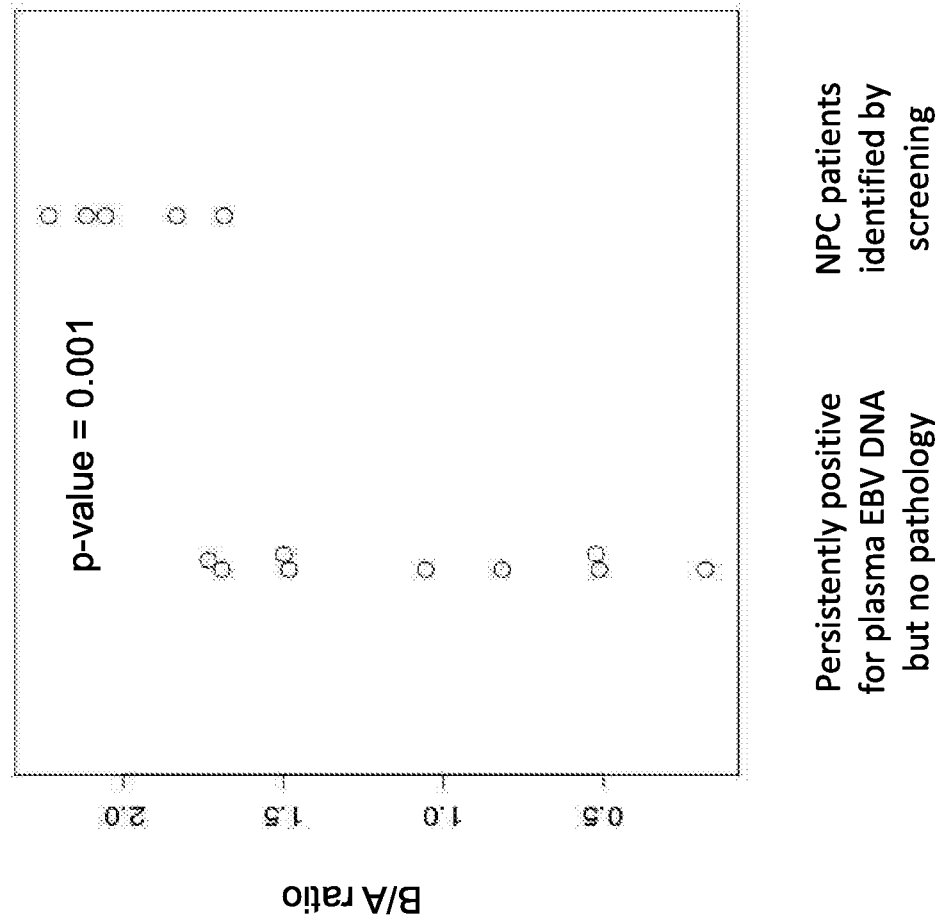
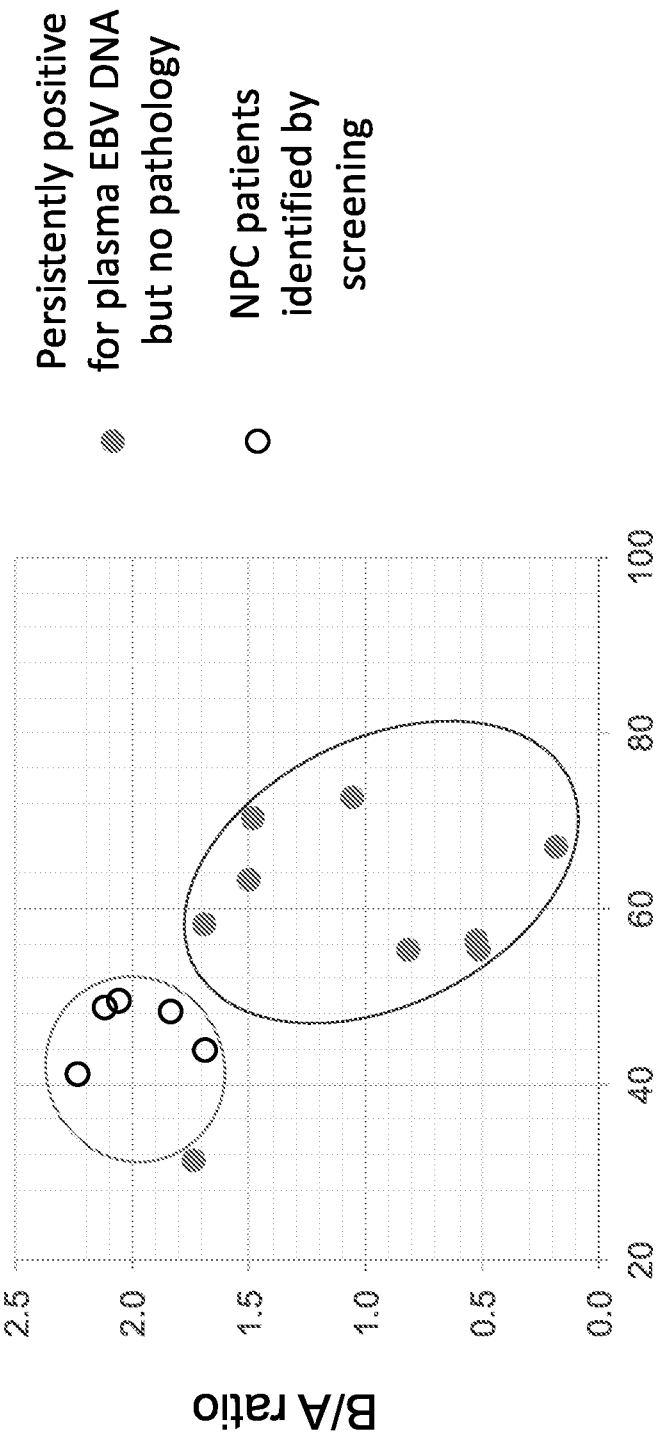


FIG. 73



The percentage of EBV DNA fragments below 150 bp in plasma (%)

FIG. 74

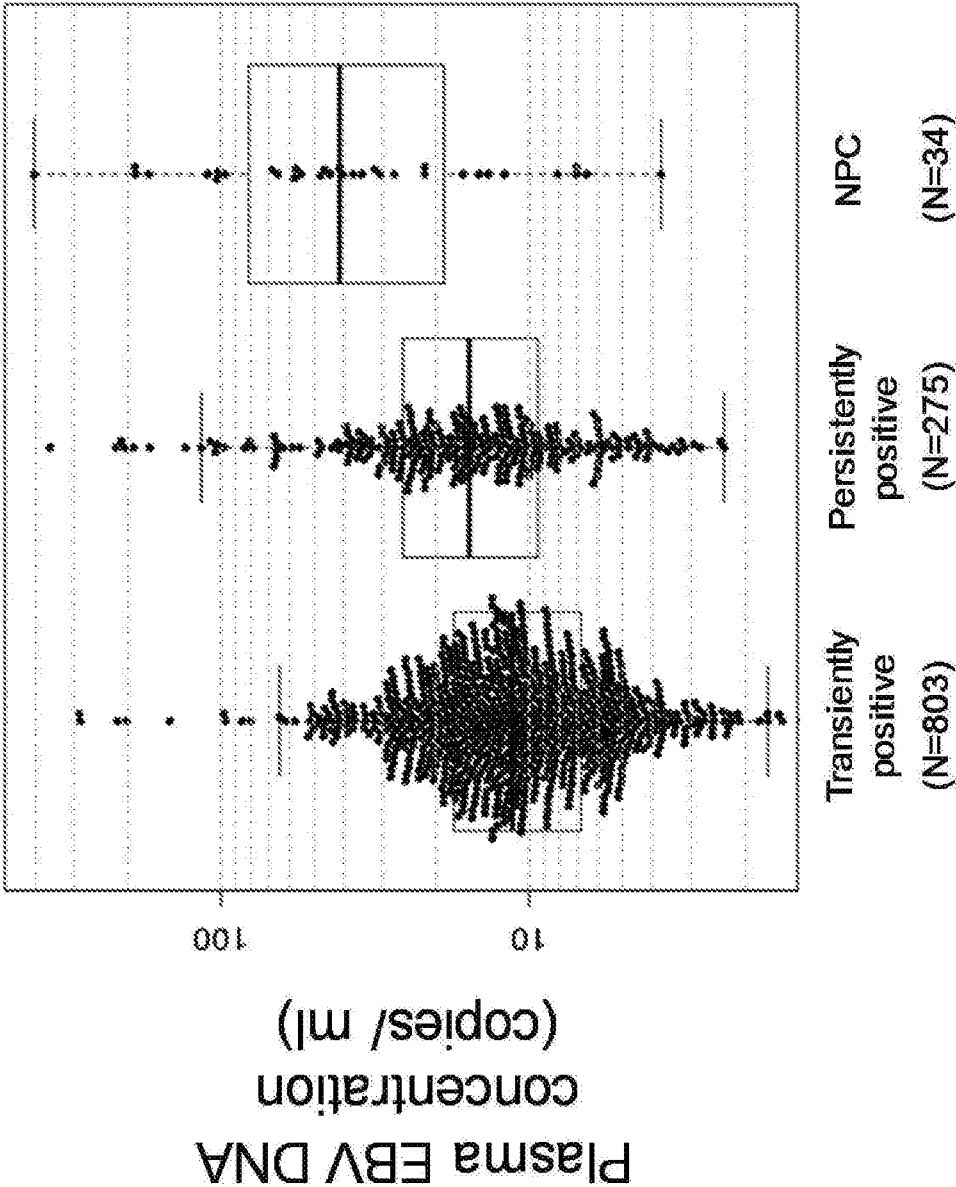


FIG. 75

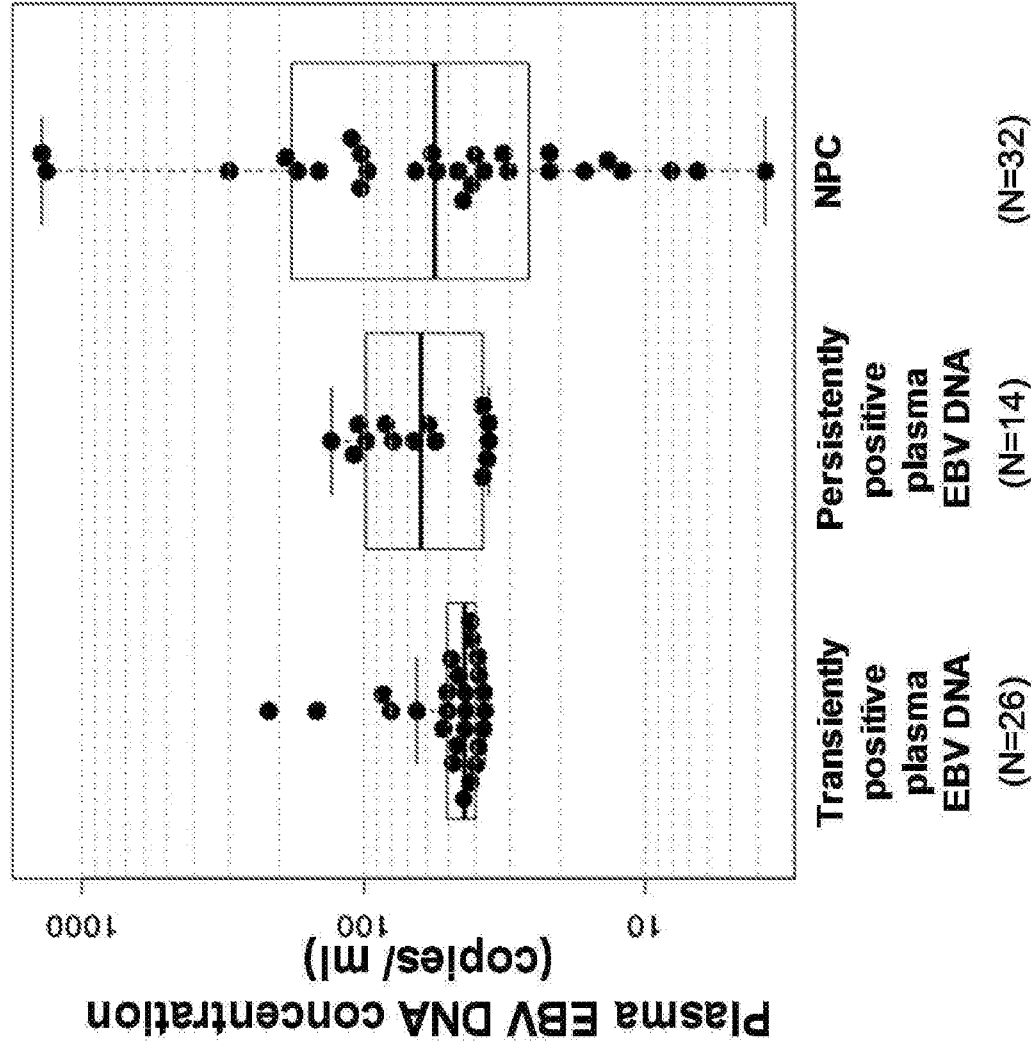


FIG. 76A

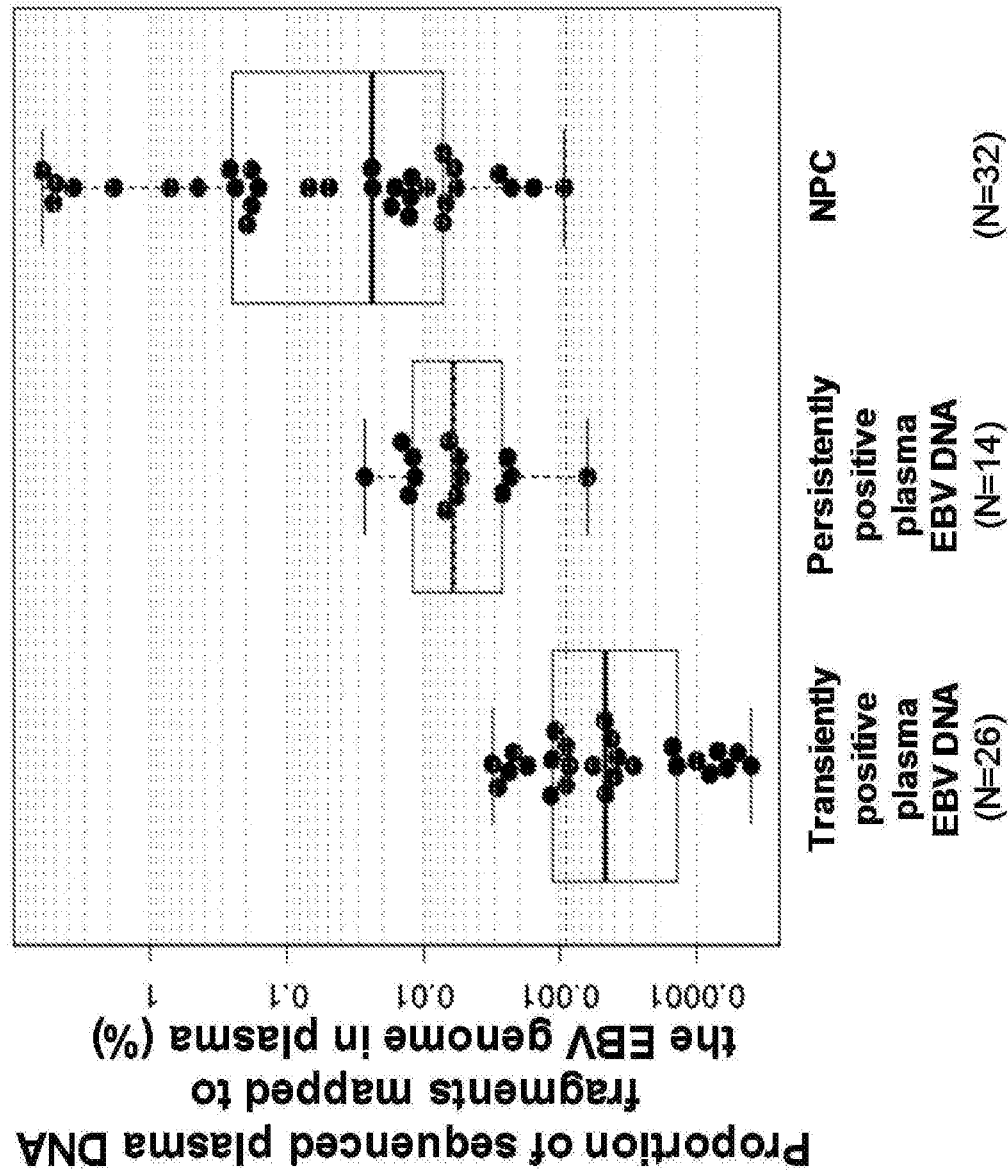
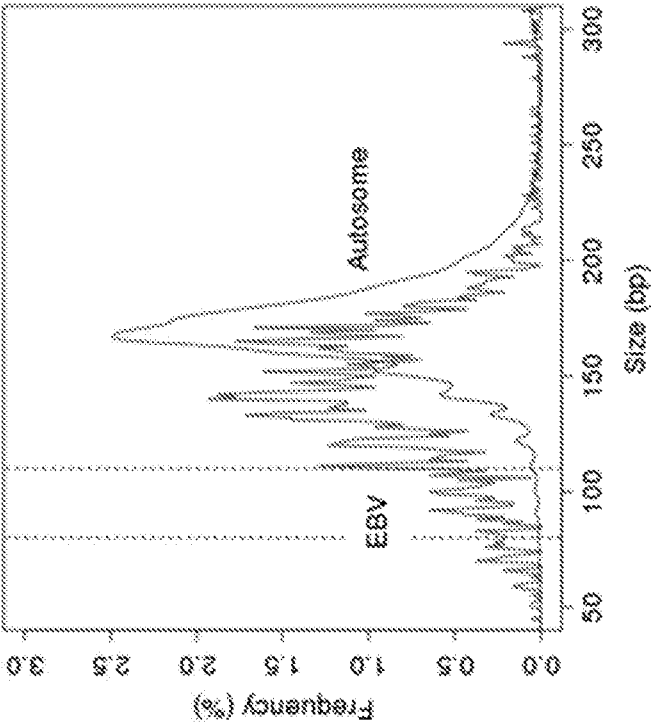


FIG. 76B

Persistently
positive plasma
EBV DNA



NPC

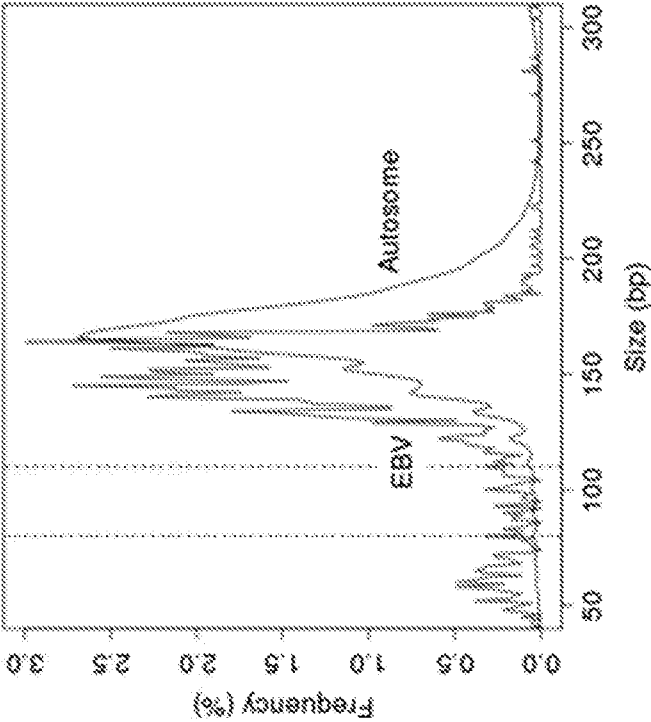


FIG. 77

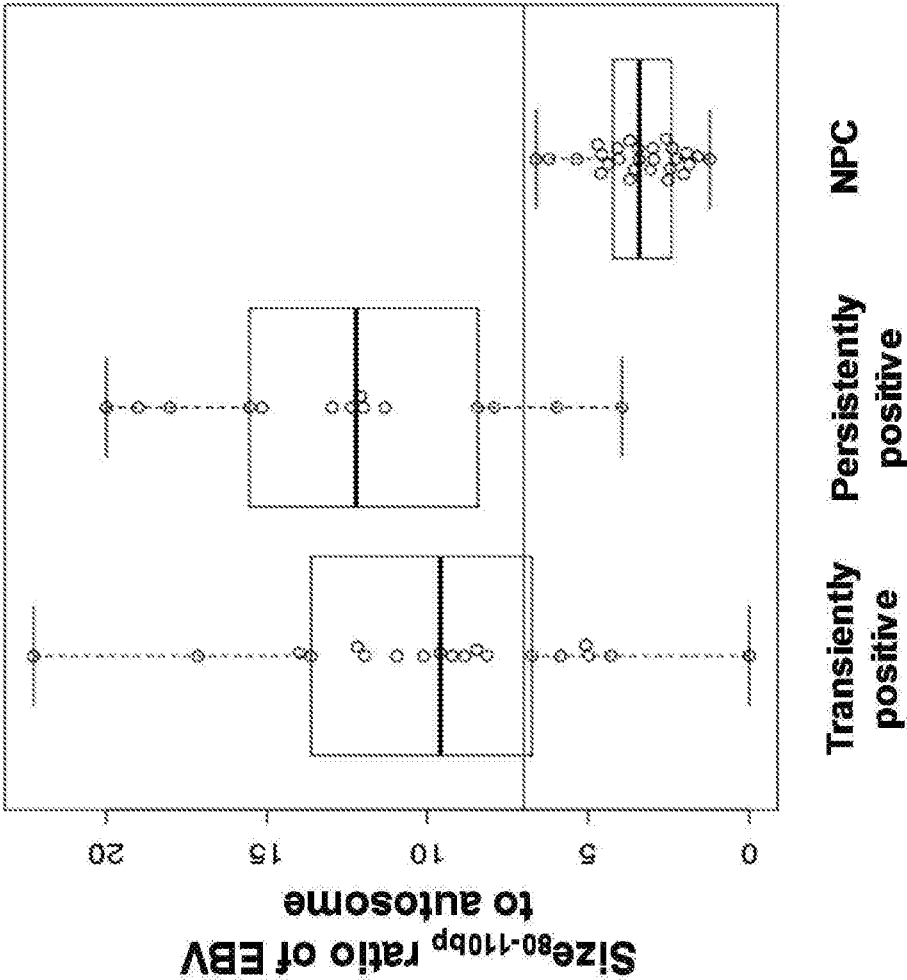


FIG. 78

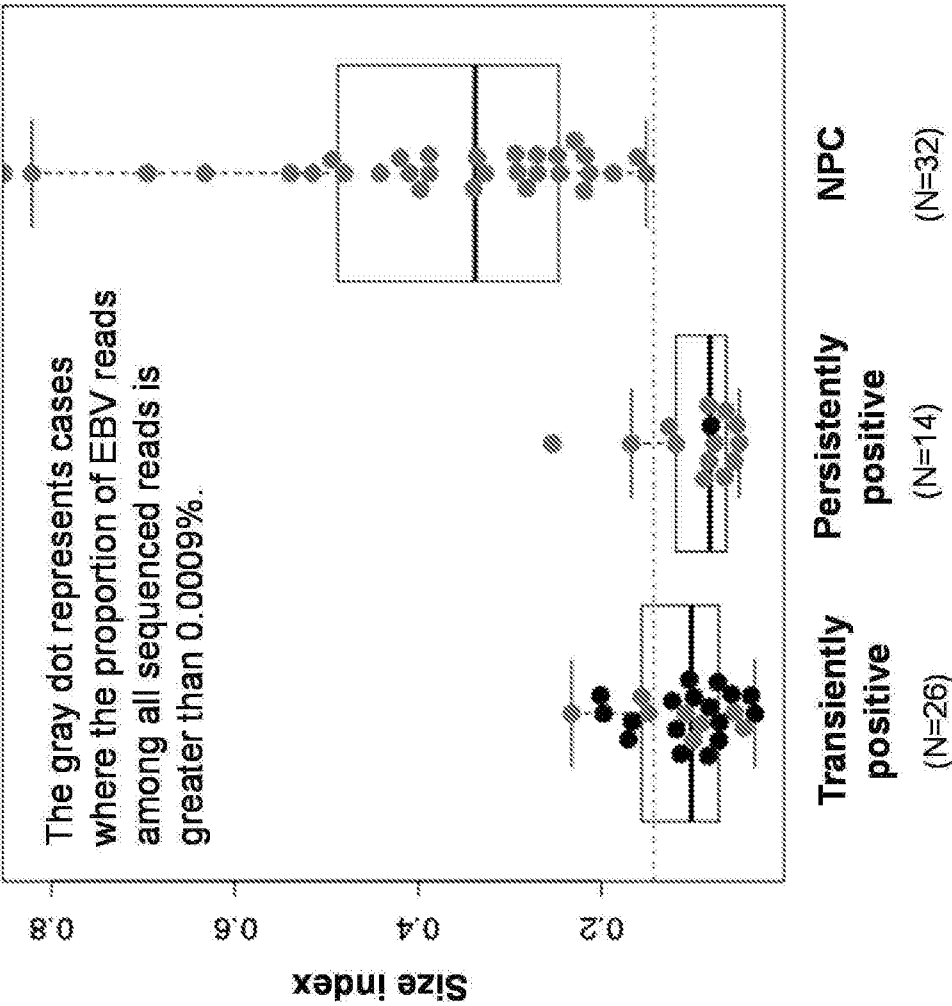


FIG. 79

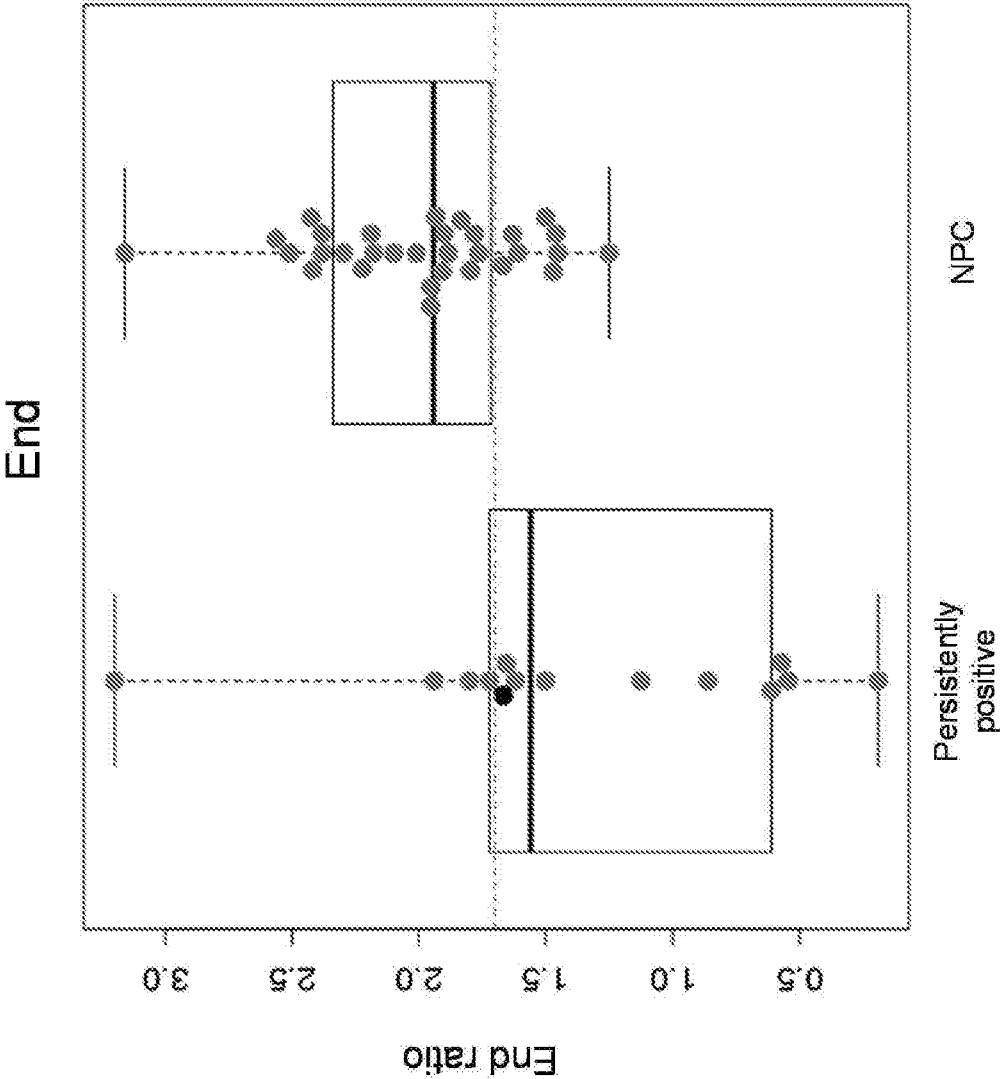


FIG. 80

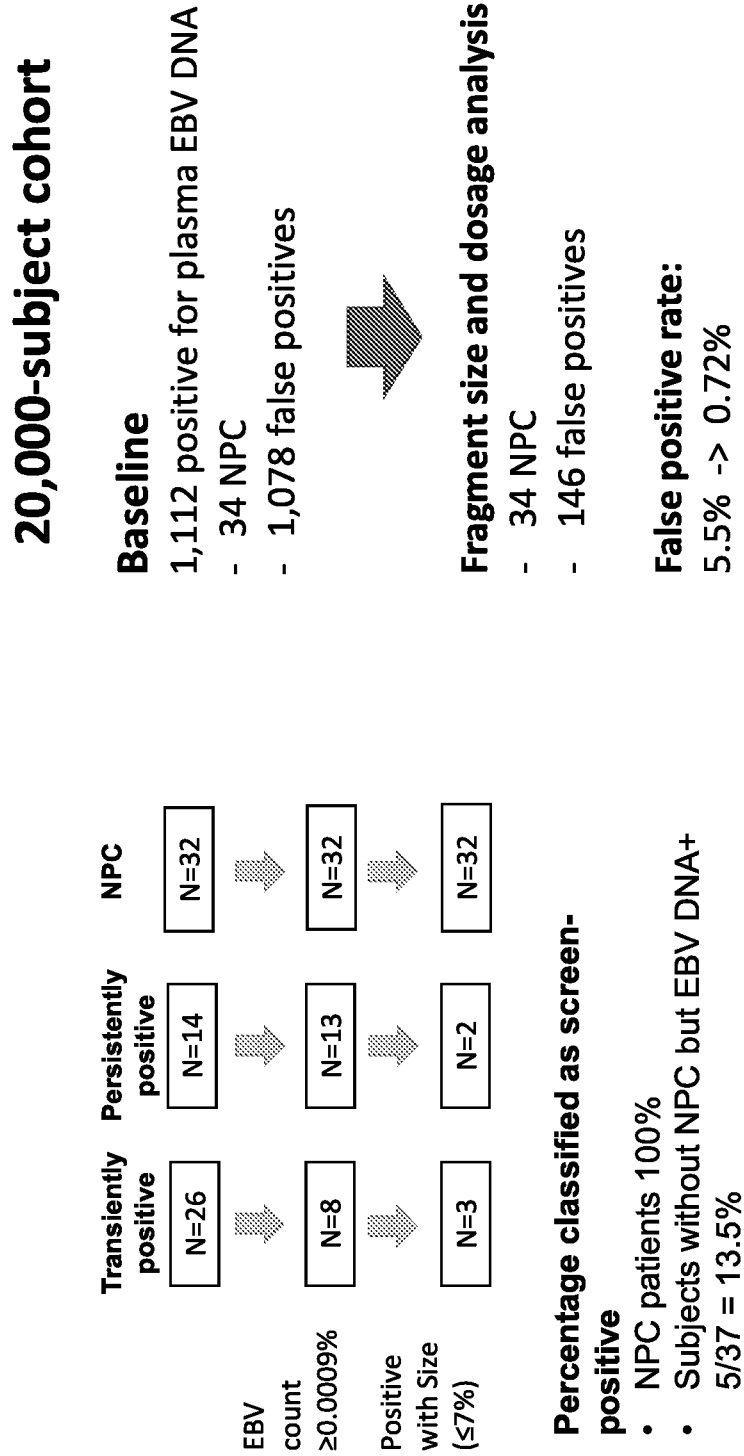


FIG. 81

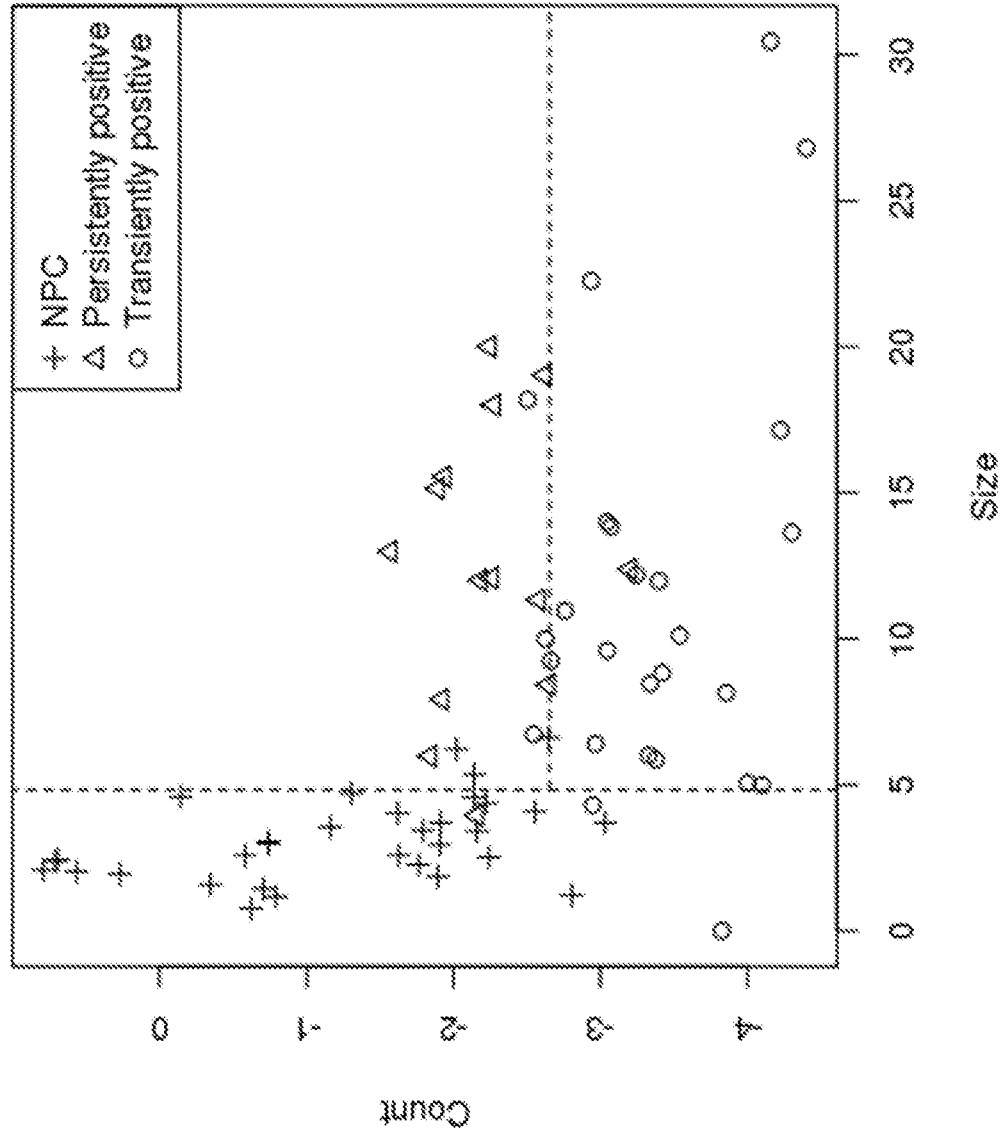


FIG. 82A

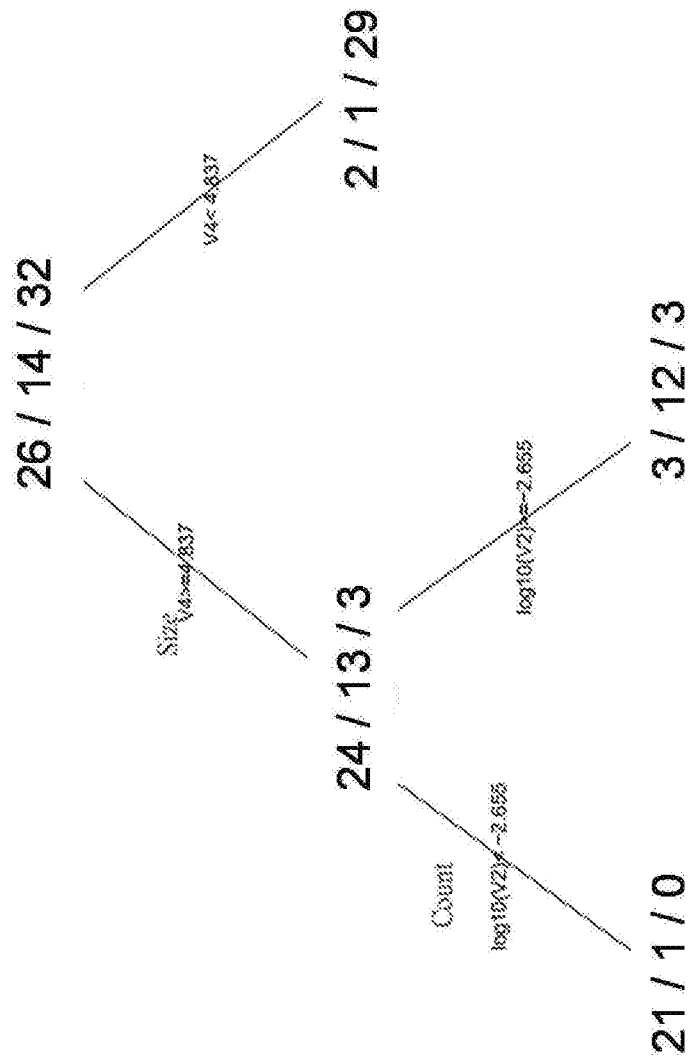


FIG. 82B

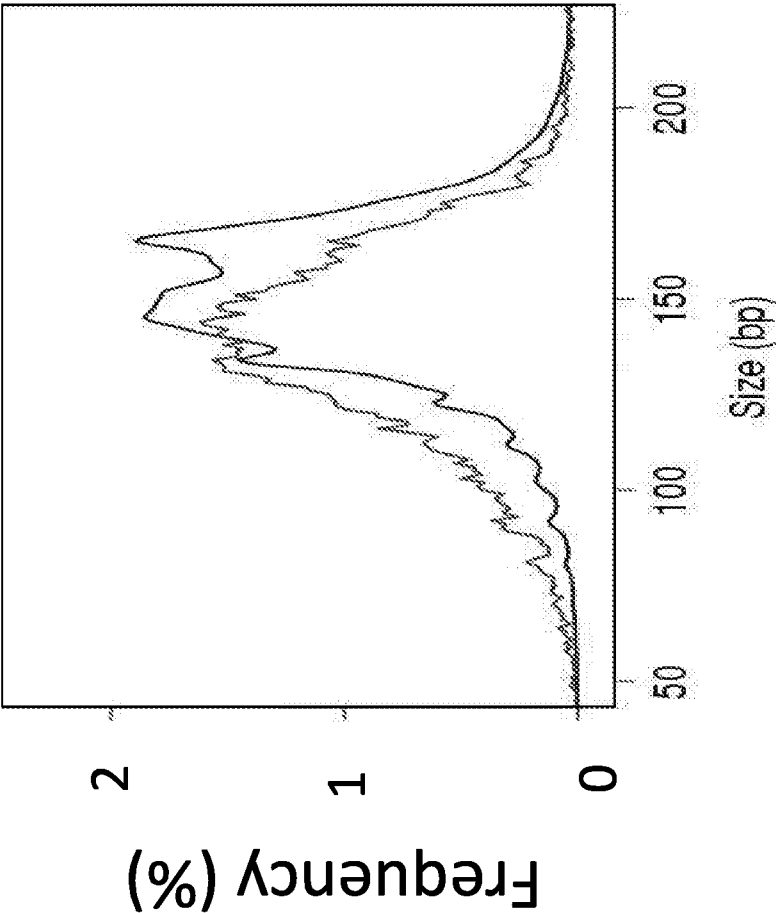
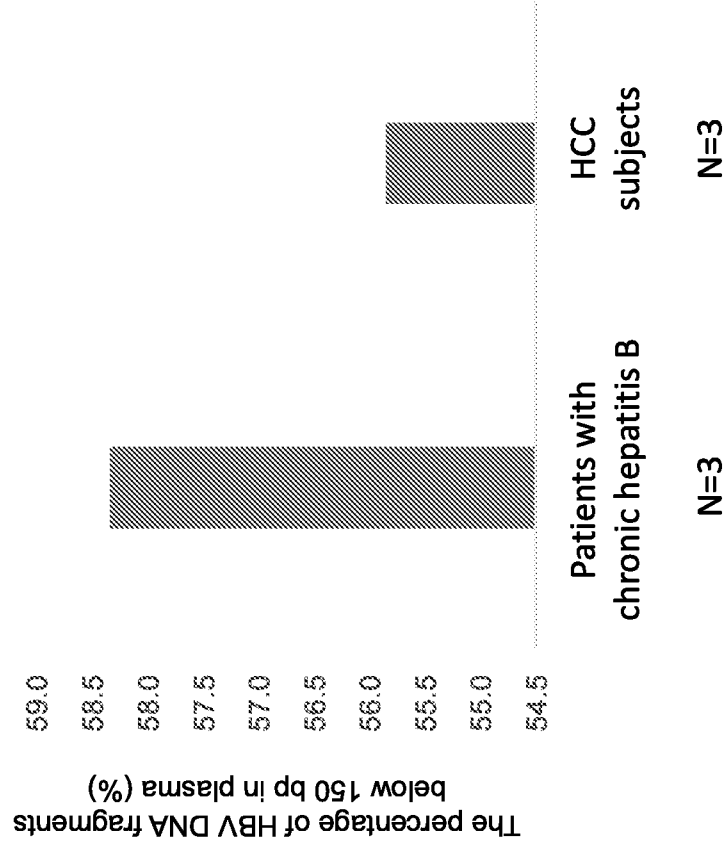
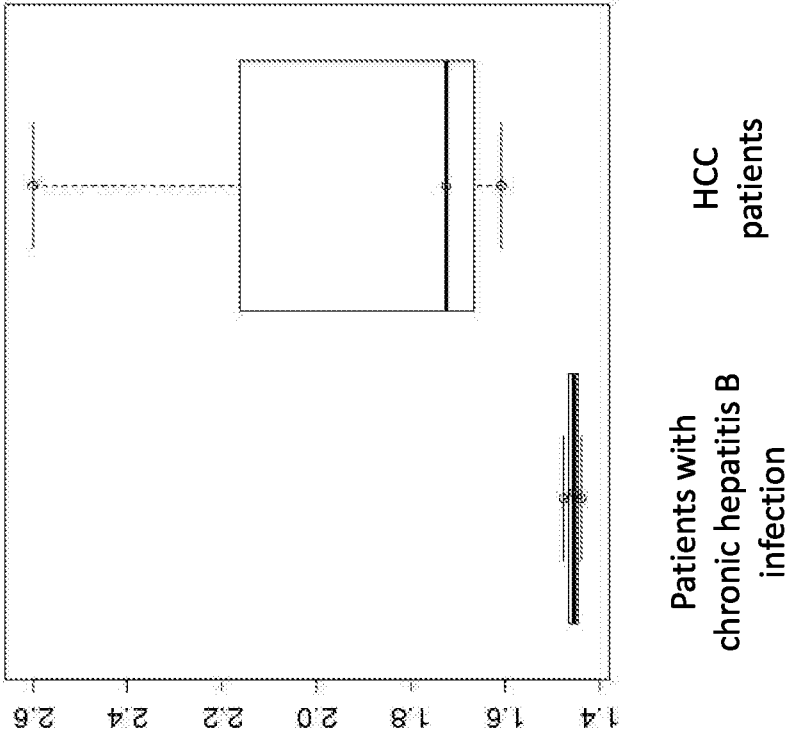


FIG. 83



The mean proportion of HBV DNA fragments below 150bp in plasma.

FIG. 84



Plasma HBV DNA
fragments ending at HCC
preferred ending positions
(normalized to fragments
ending at other positions)

FIG. 85

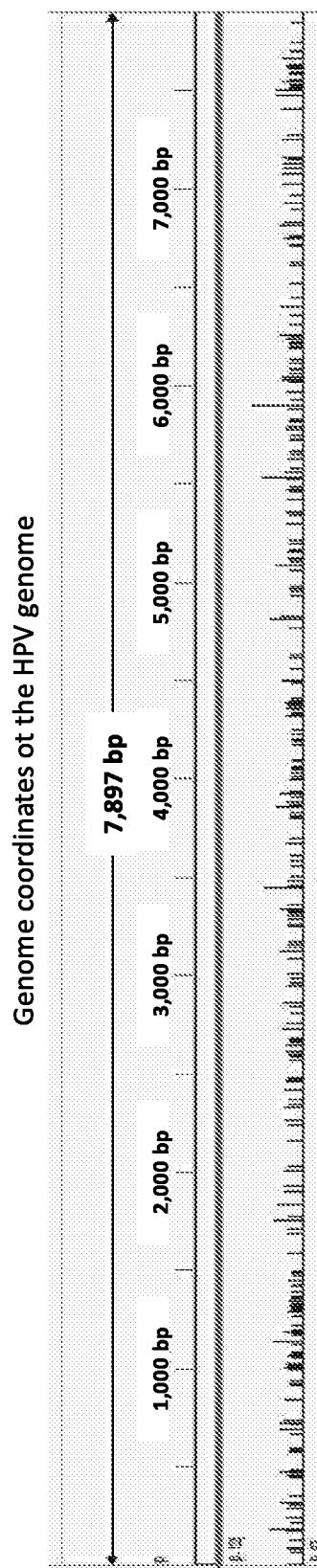


FIG. 86

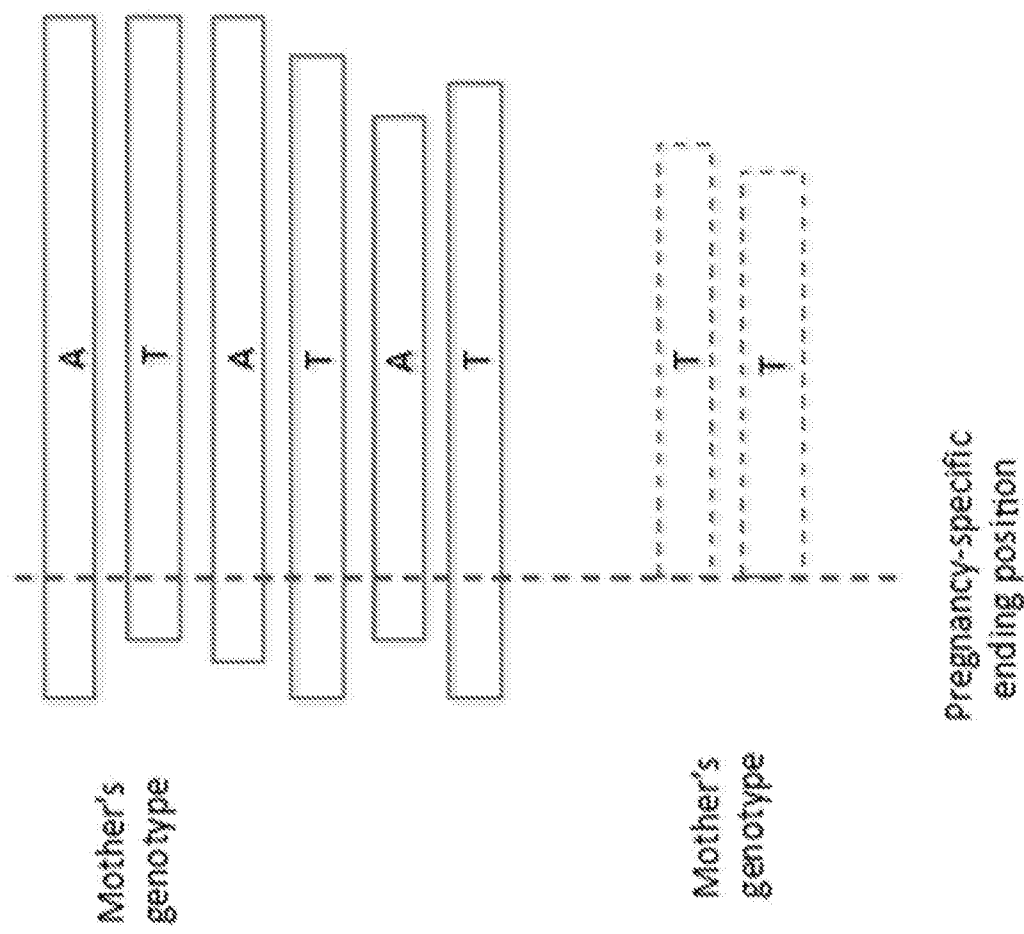
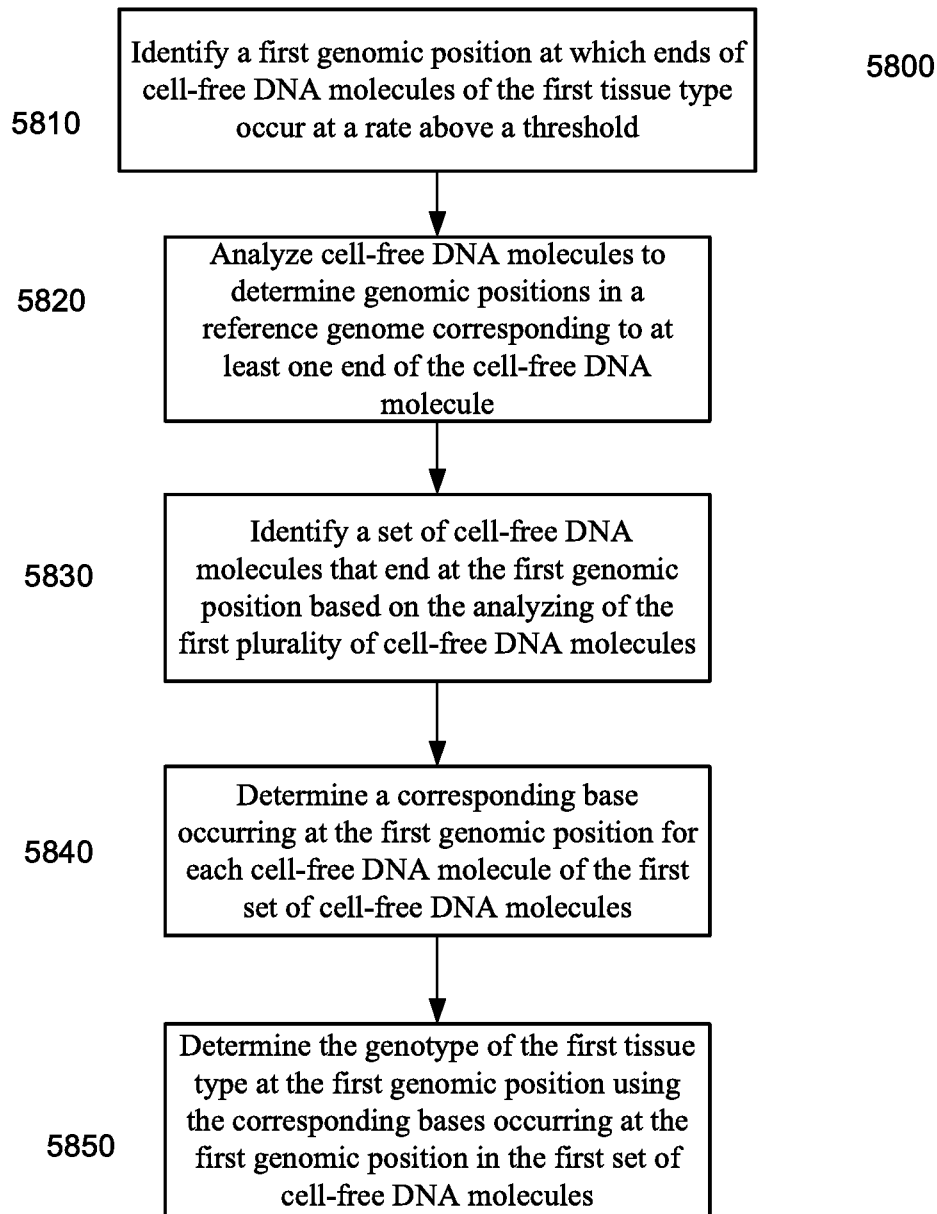


FIG. 87

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**FIG. 88**

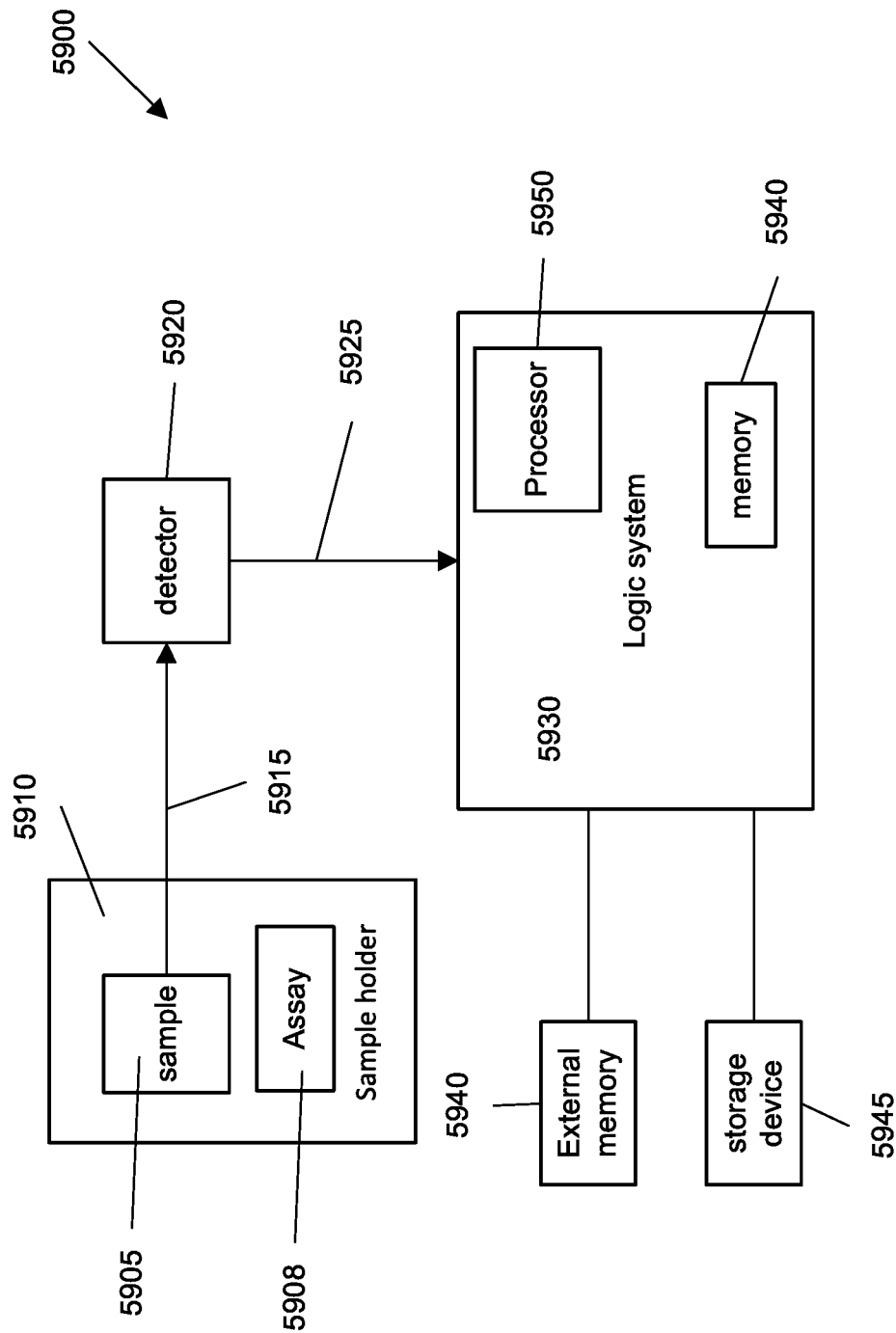


FIG. 89

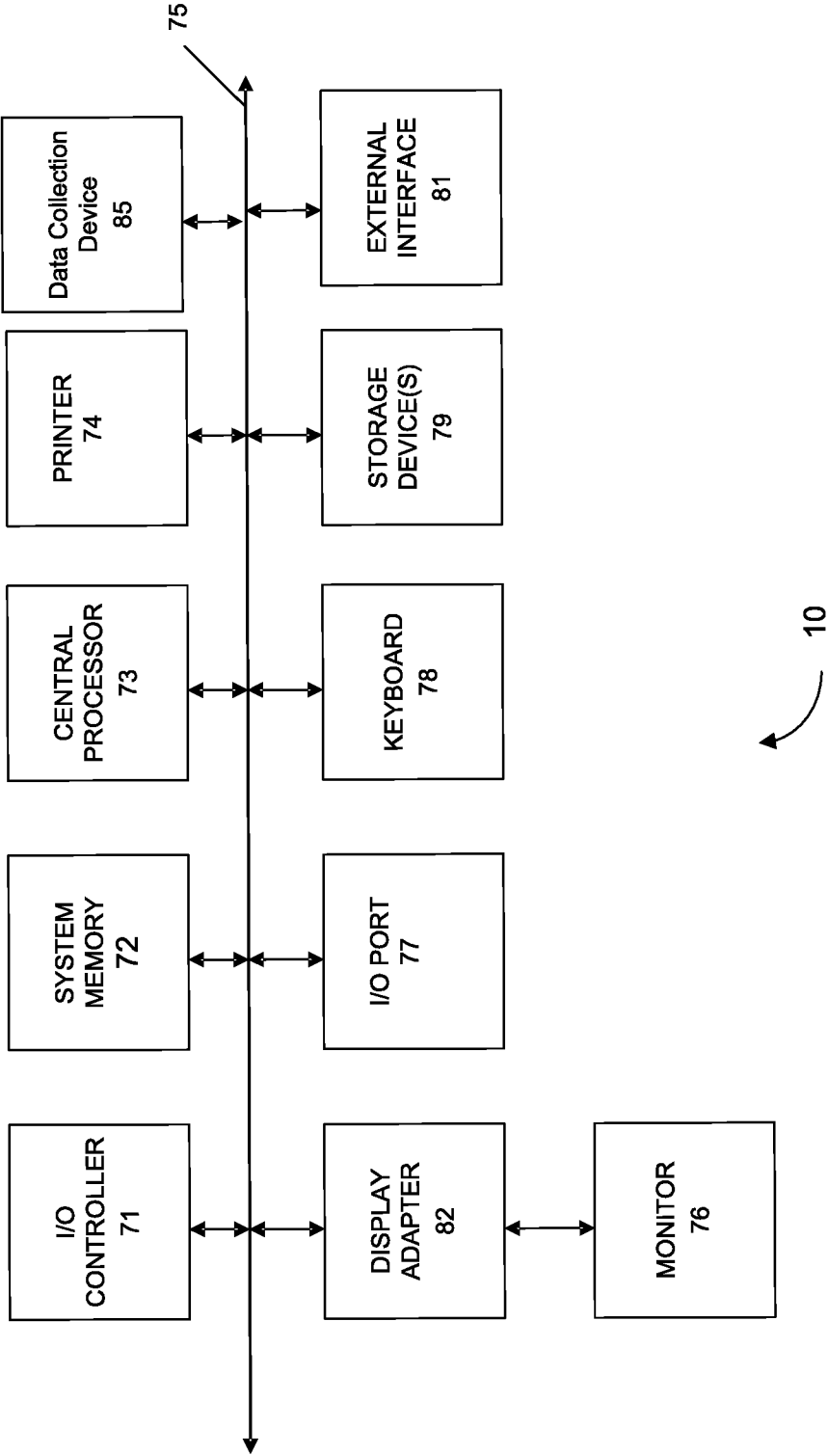


FIG. 90

FIG. 91A
Training set

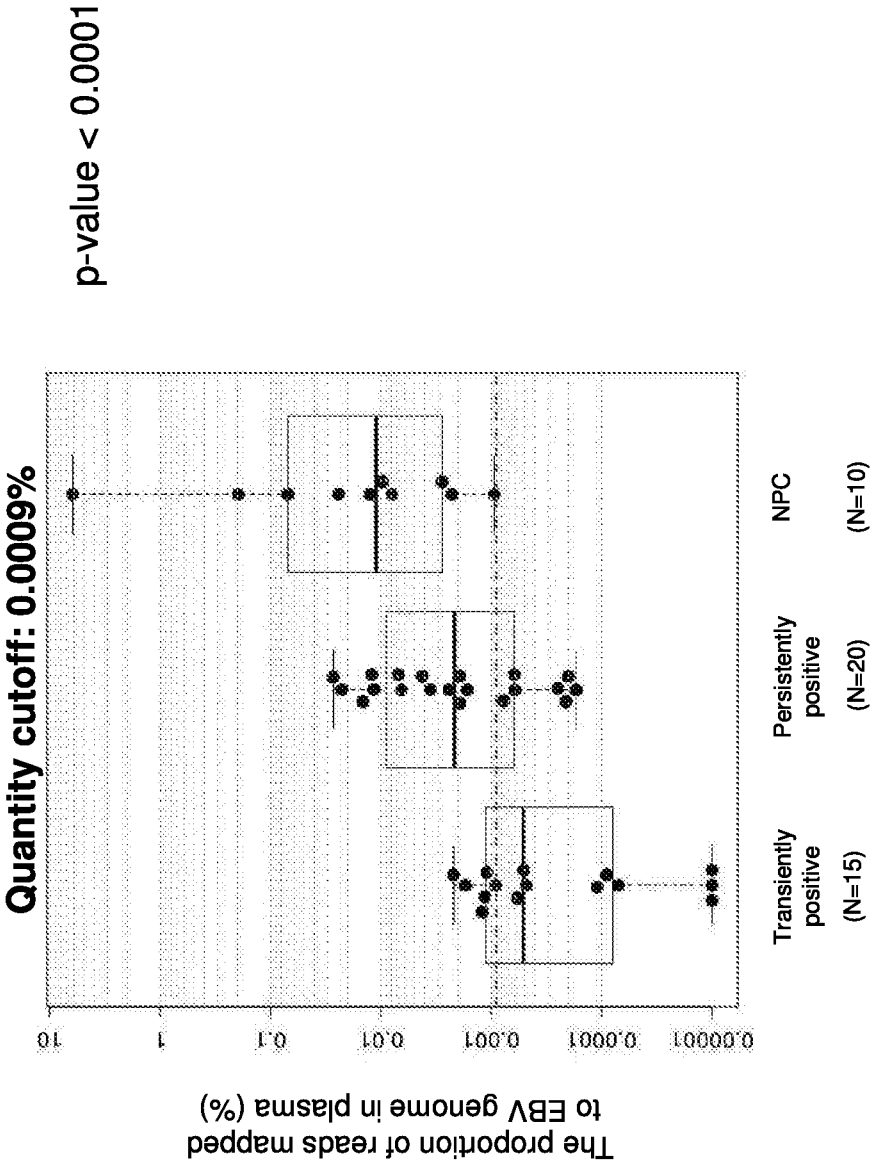


FIG. 91B
Training set

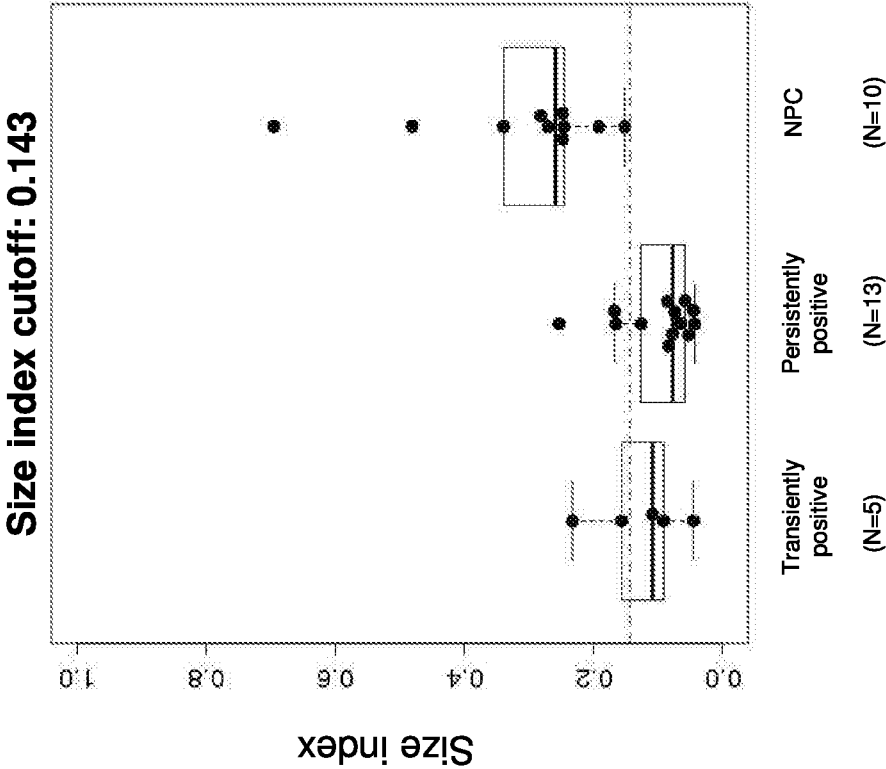


FIG. 92A
Validation set

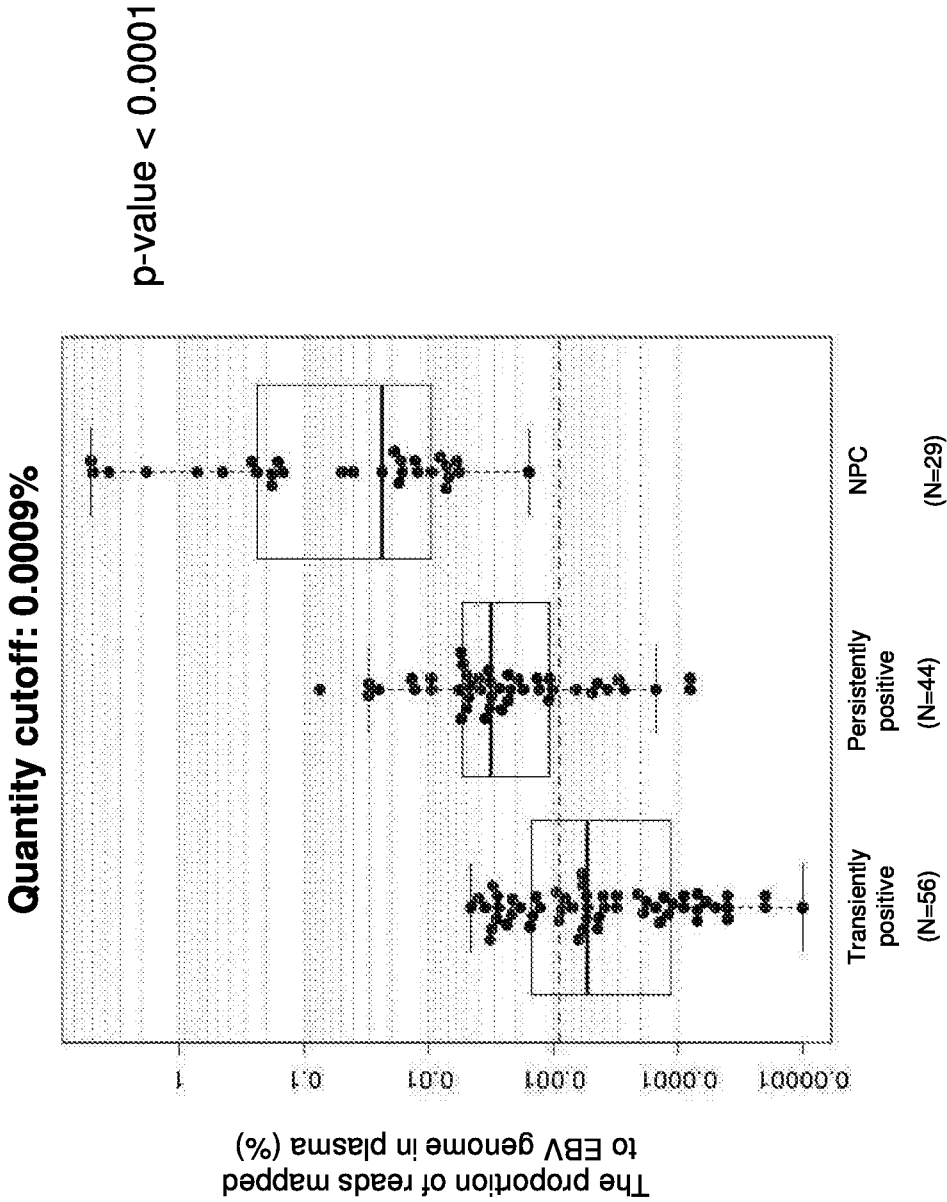
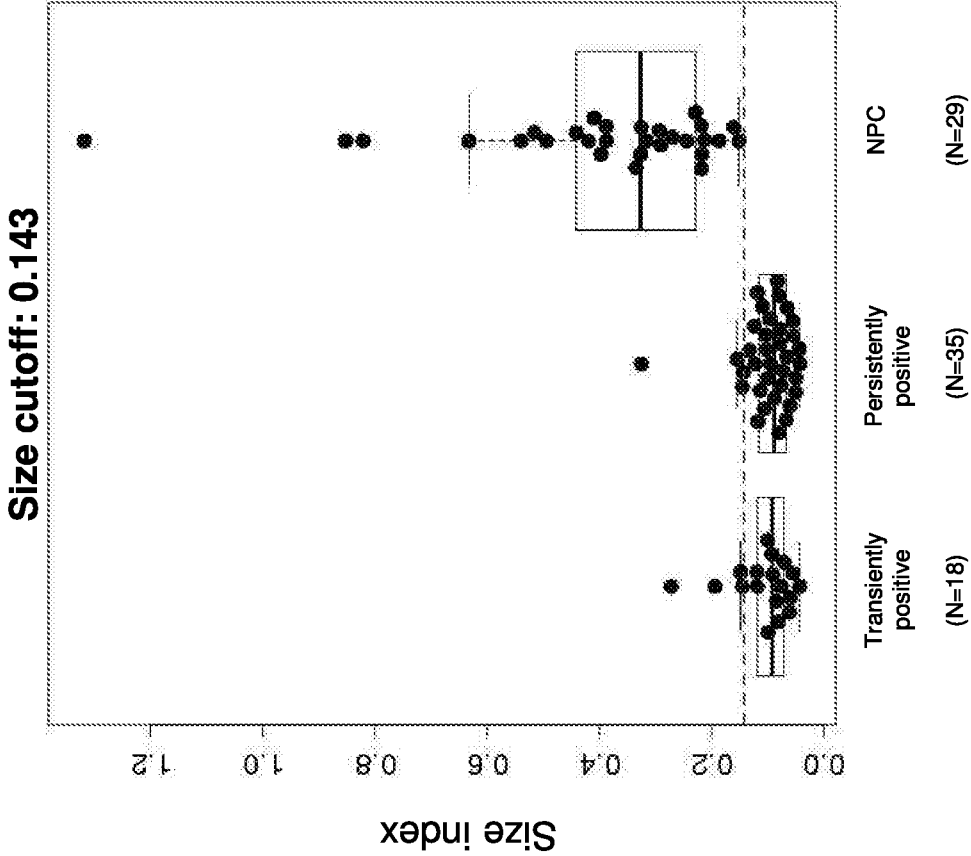


FIG. 92B
Validation set



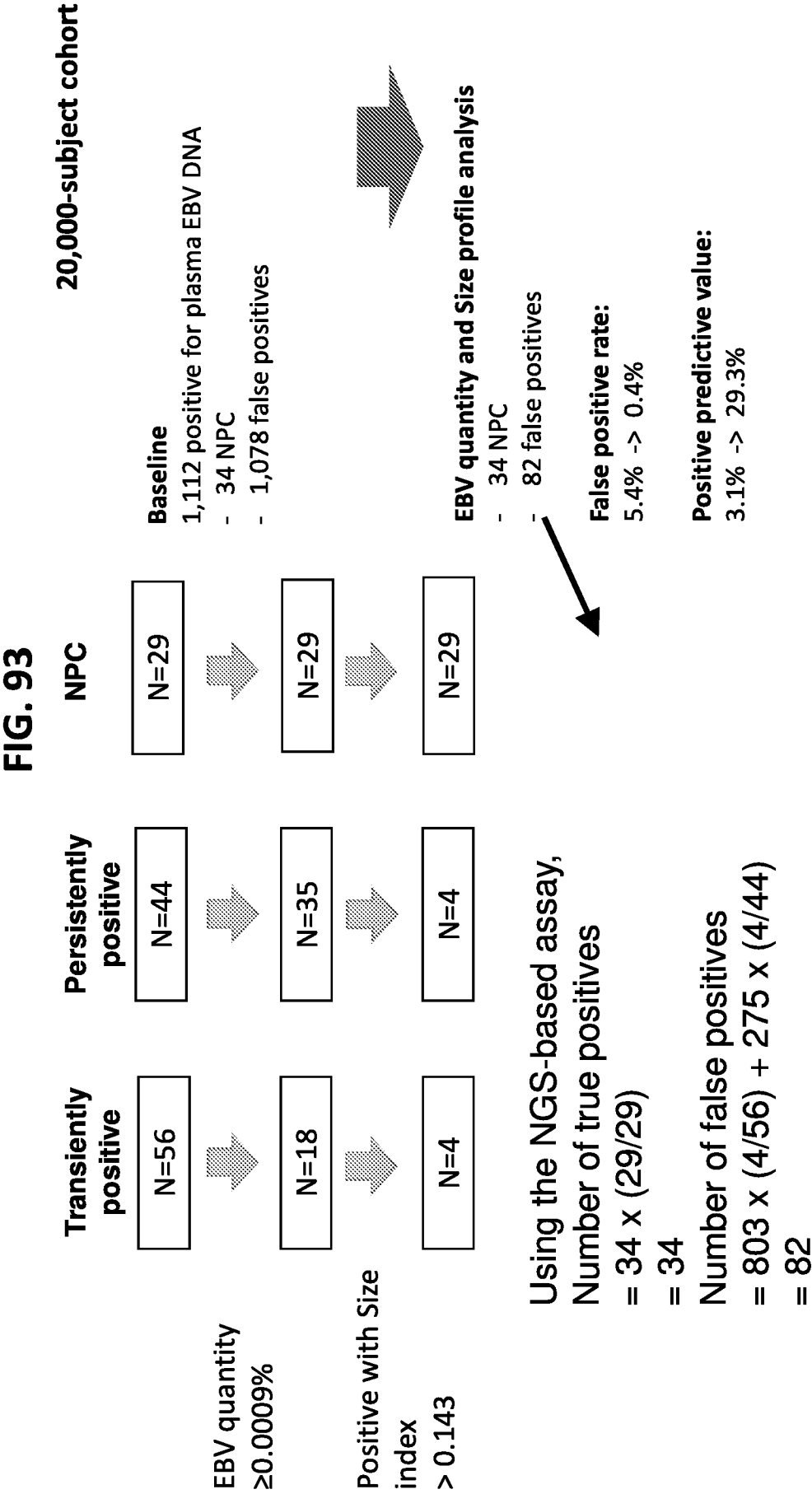


FIG. 94

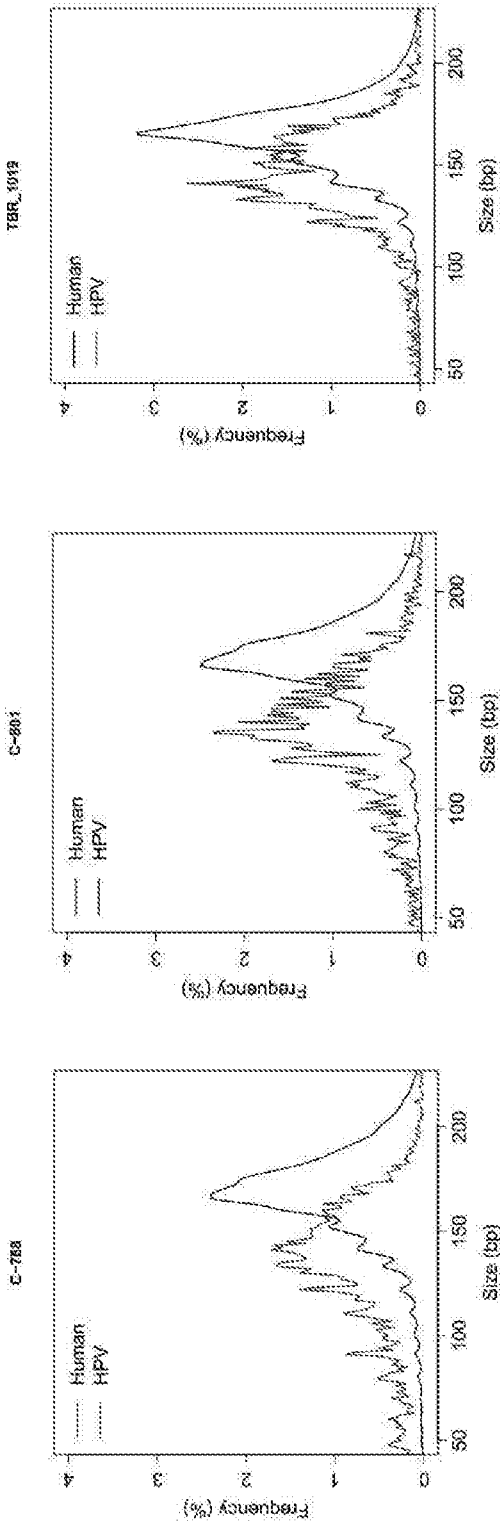


FIG. 95

