

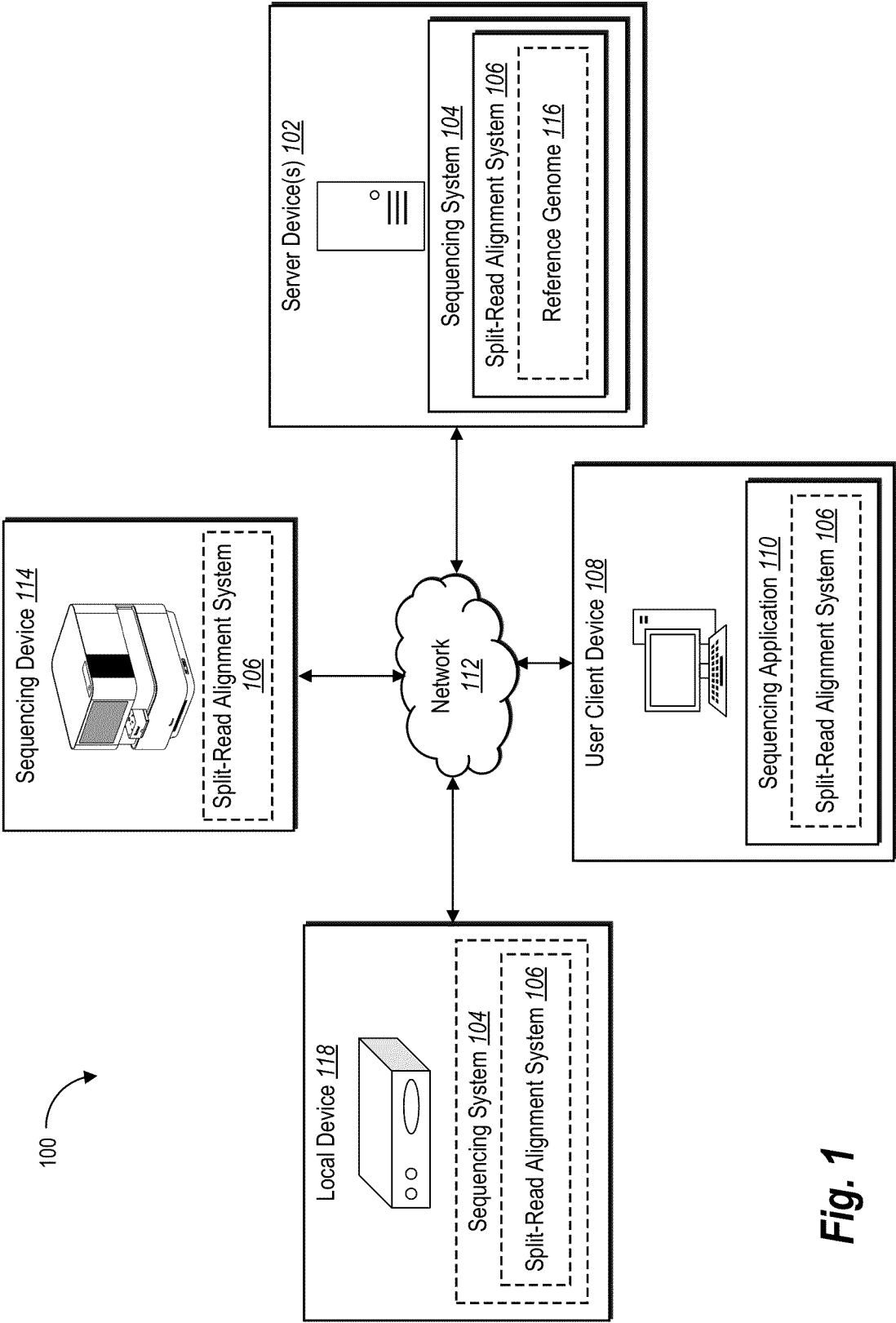
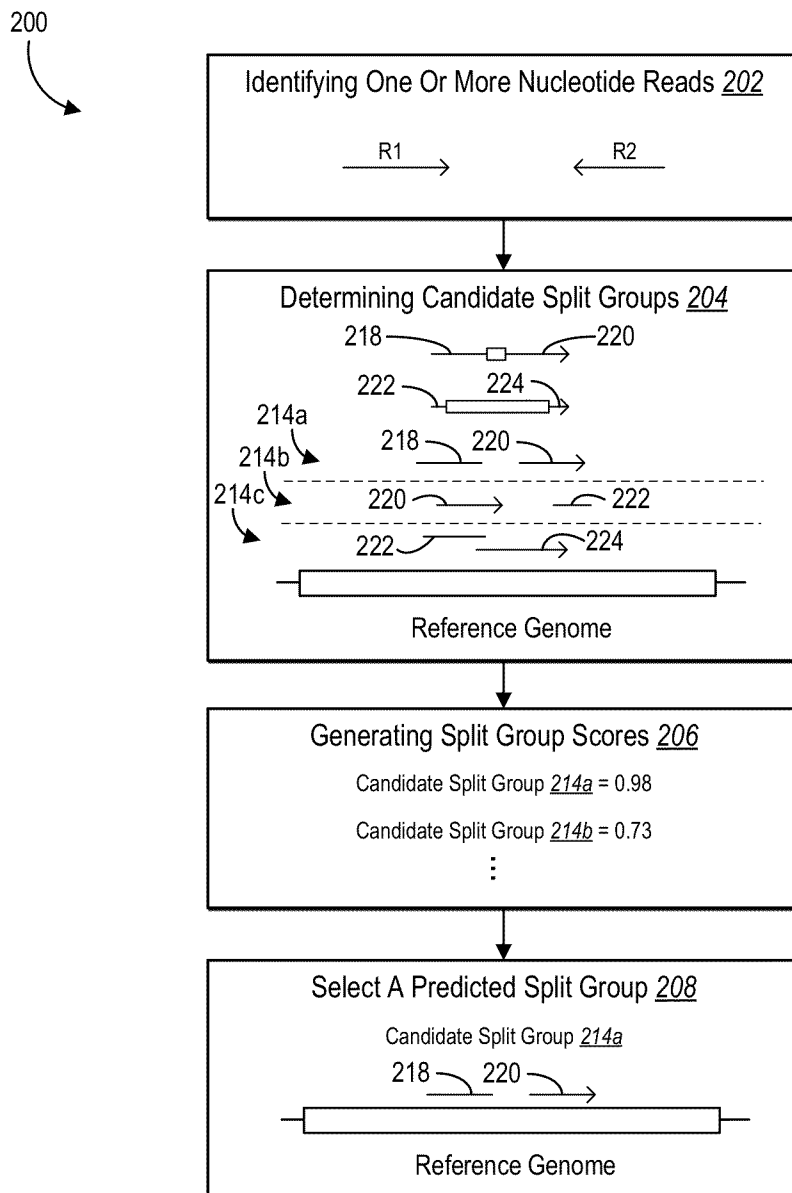


Fig. 1

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**Fig. 2**

Single-End Nucleotide Reads

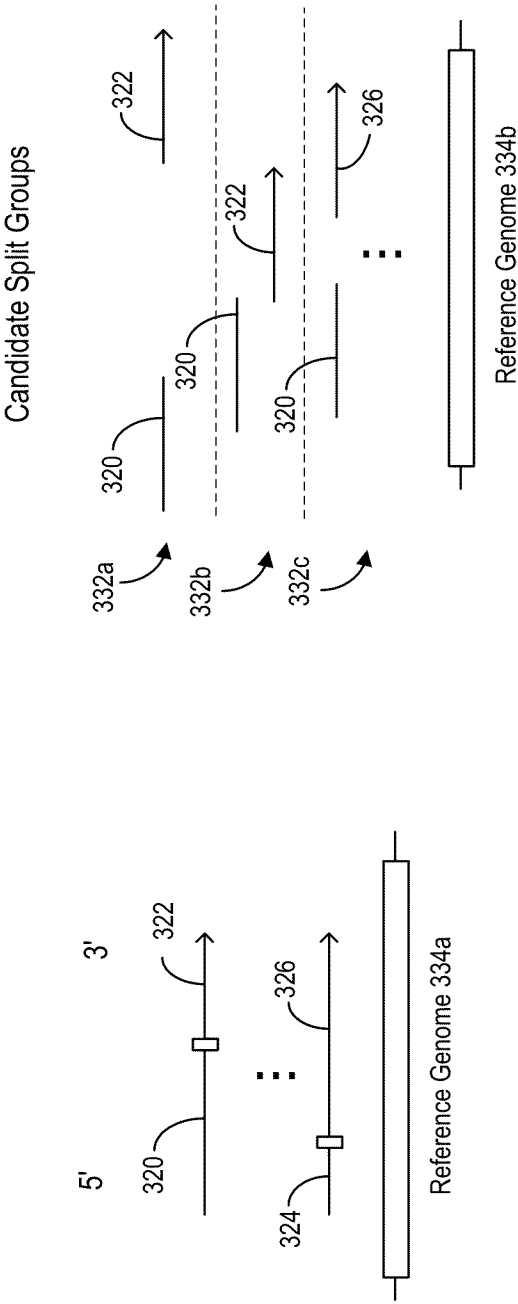


Fig. 3A

Paired-End Nucleotide Reads

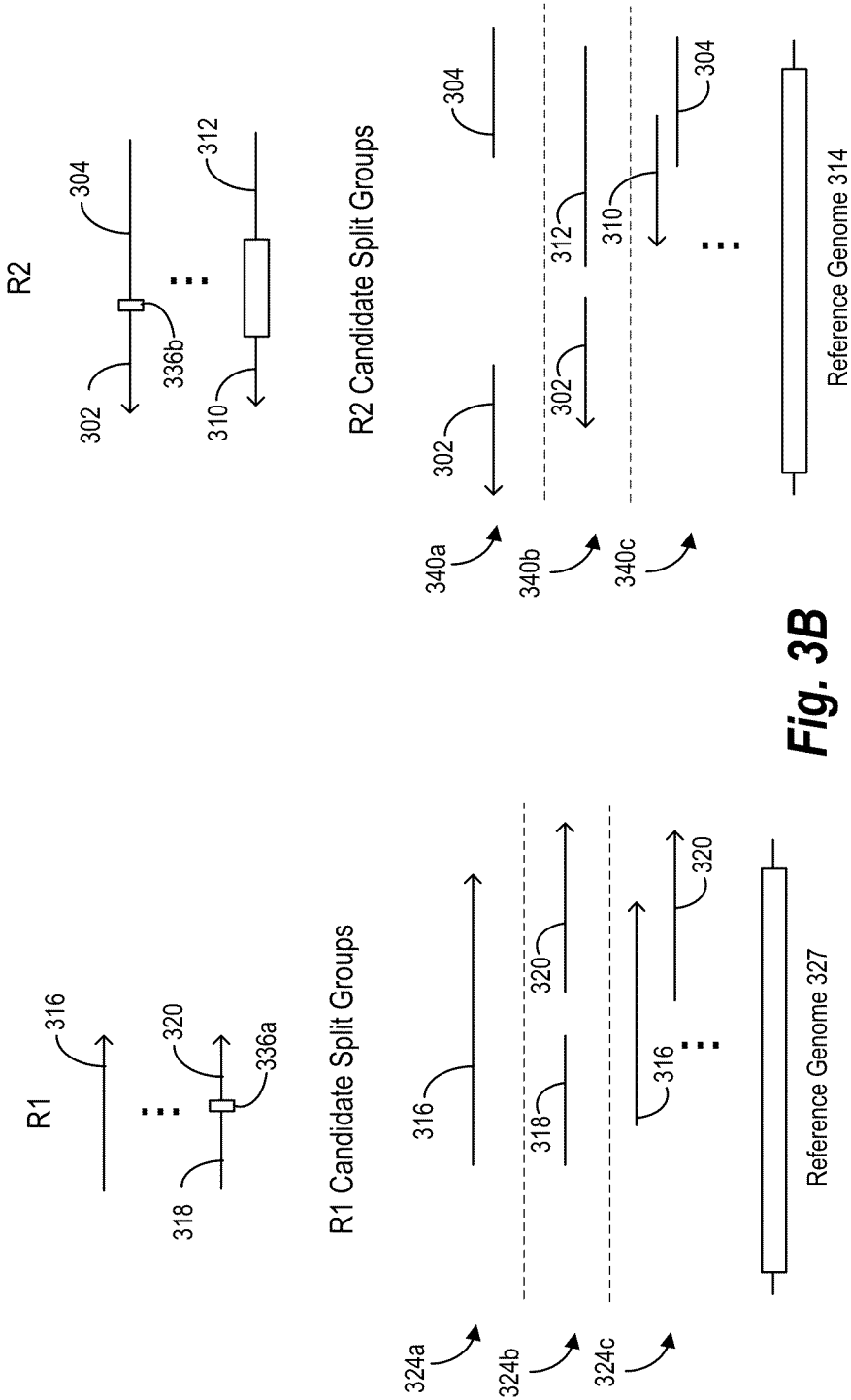


Fig. 3B

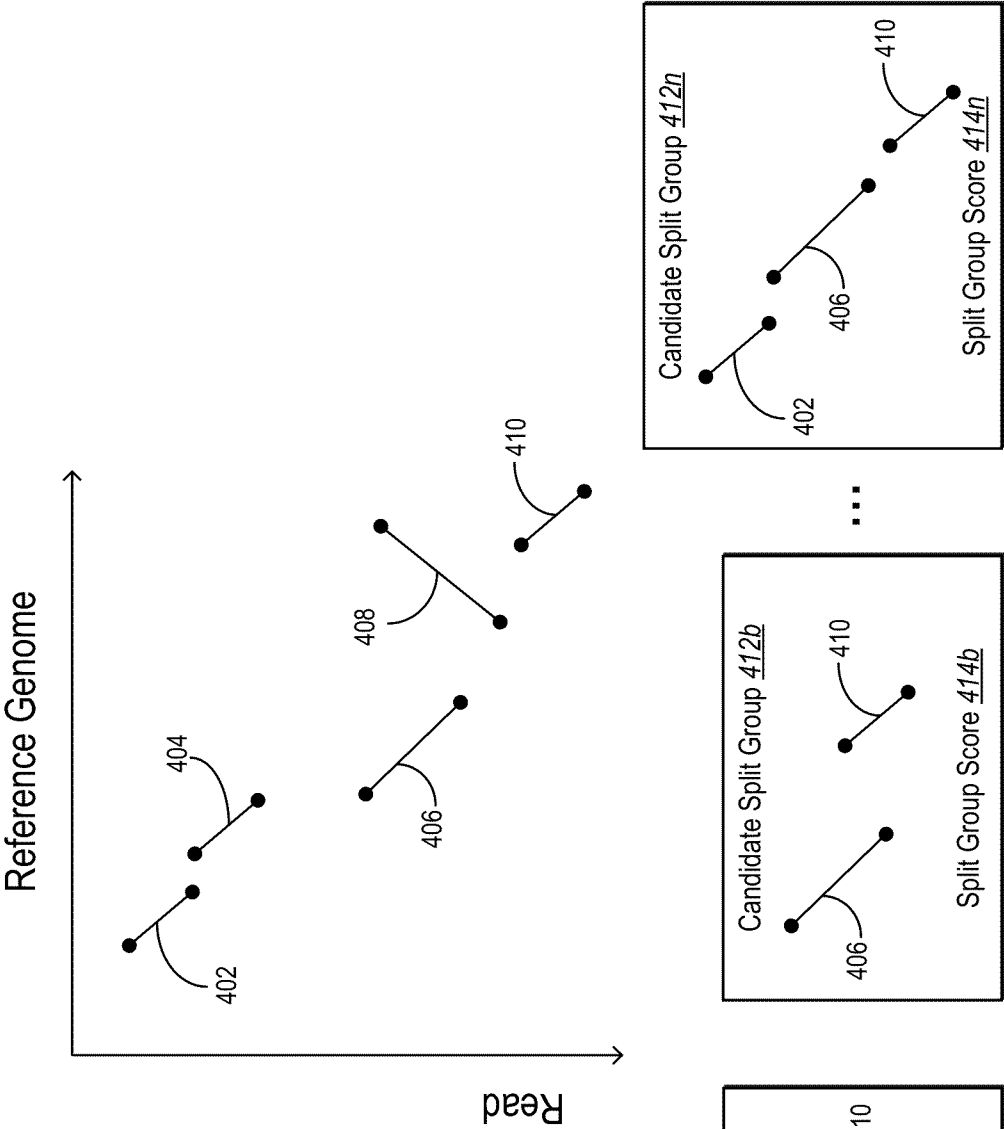


Fig. 4

Split Group Score



Fig. 5

Pair Score

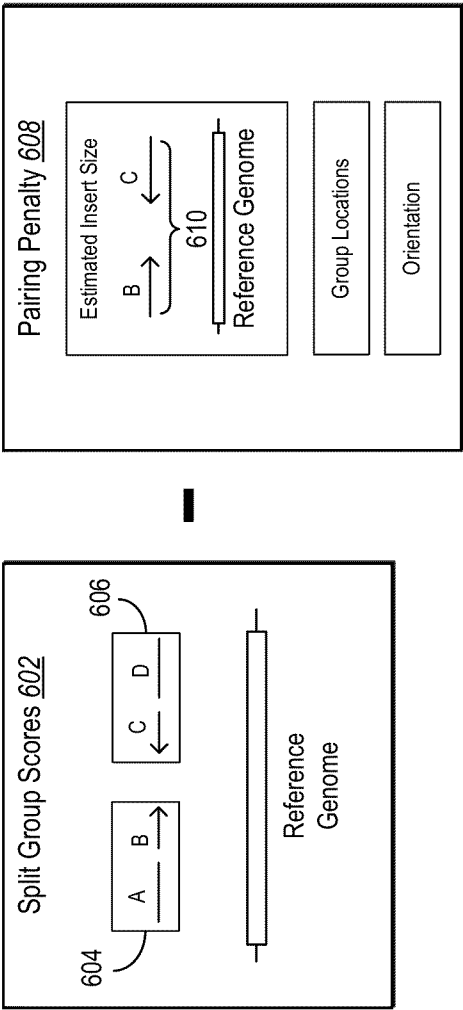


Fig. 6A

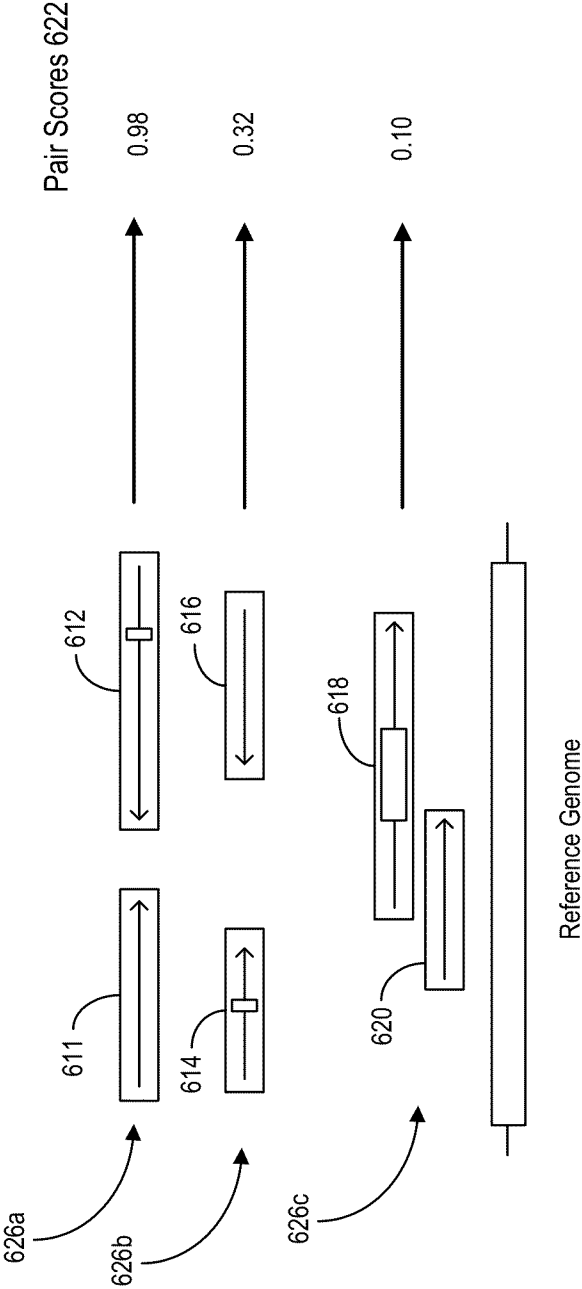
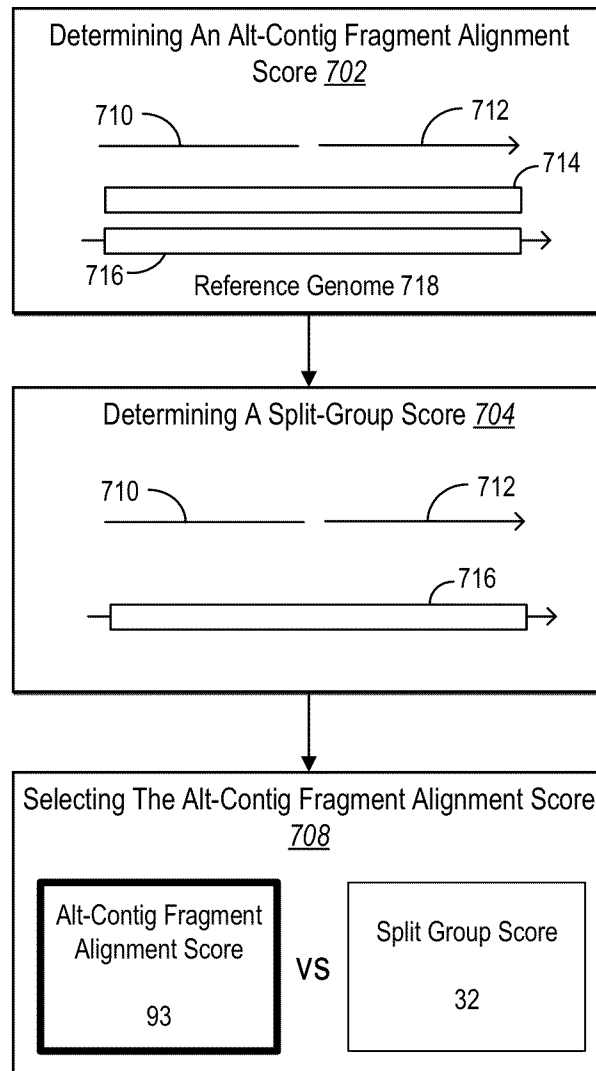
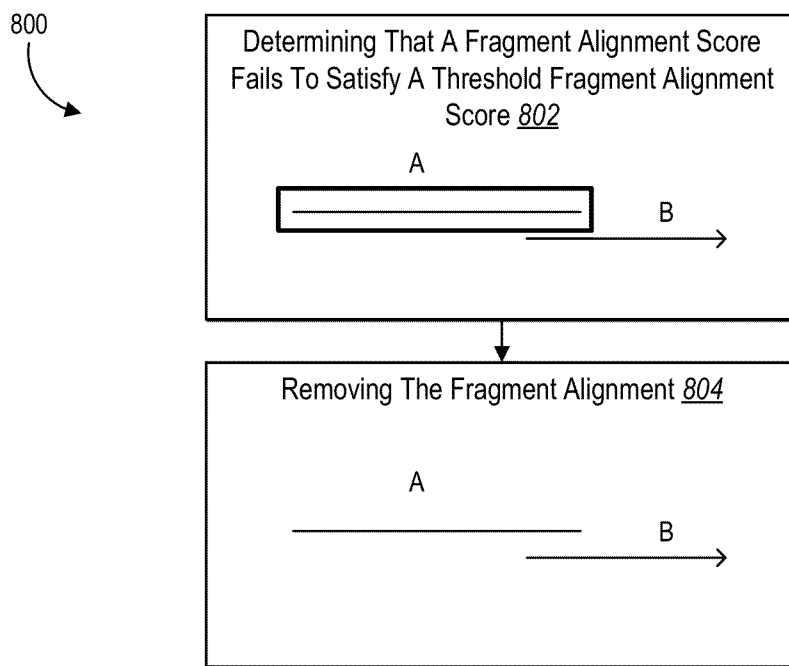


Fig. 6B

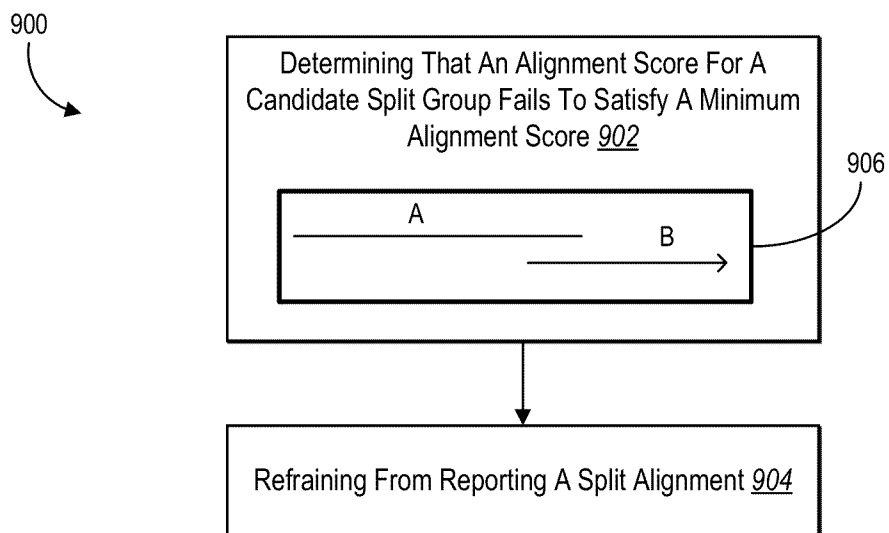
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**Fig. 7**

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**Fig. 8**

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**Fig. 9**

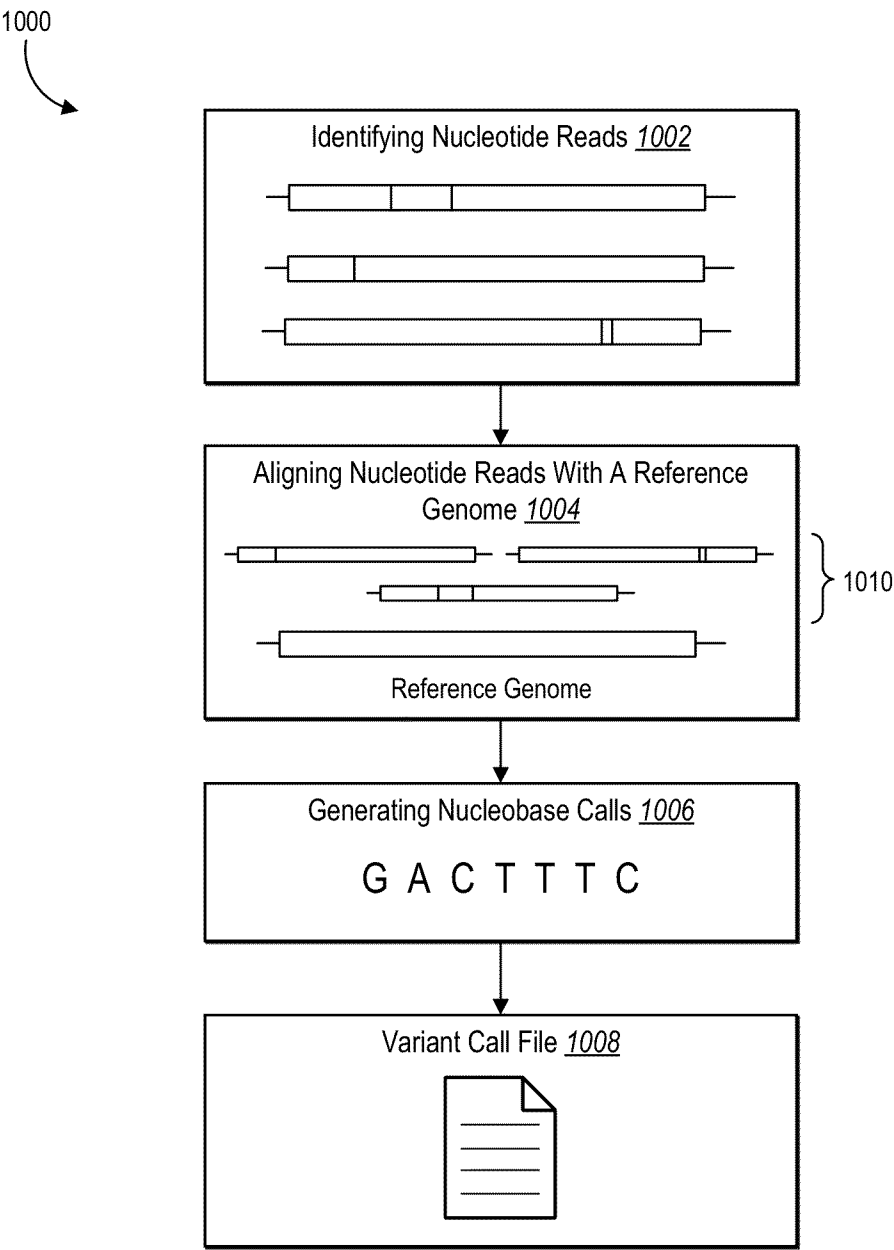


Fig. 10

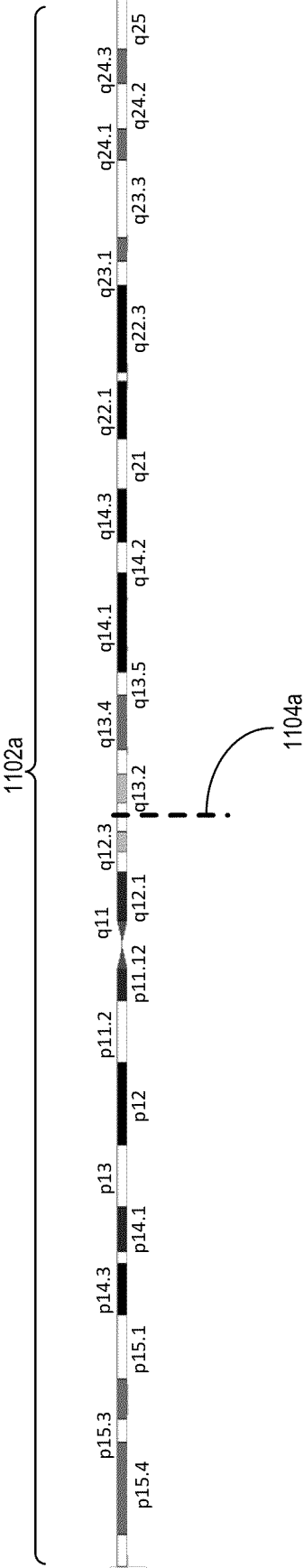


Fig. 11A

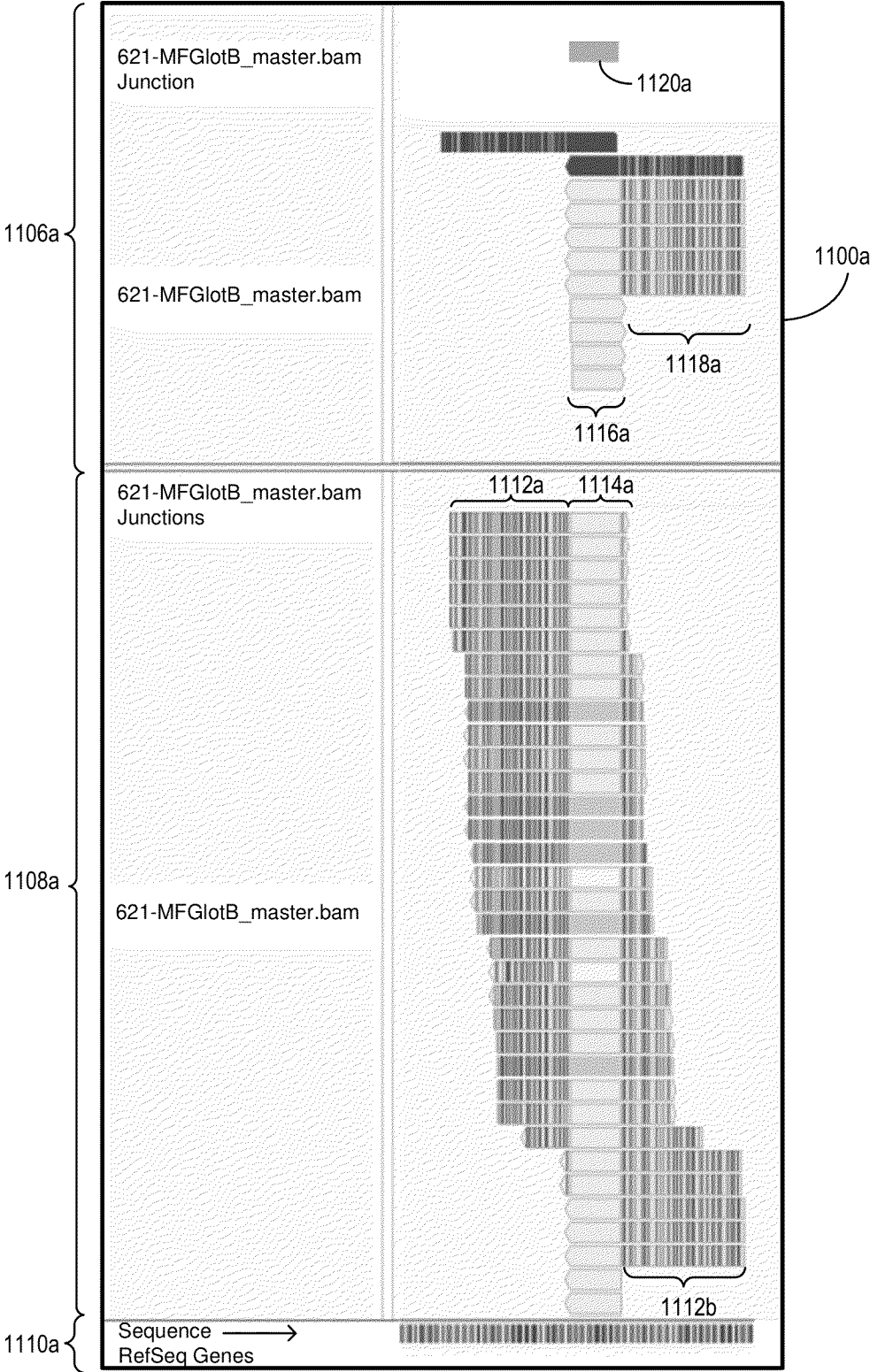


Fig. 11B

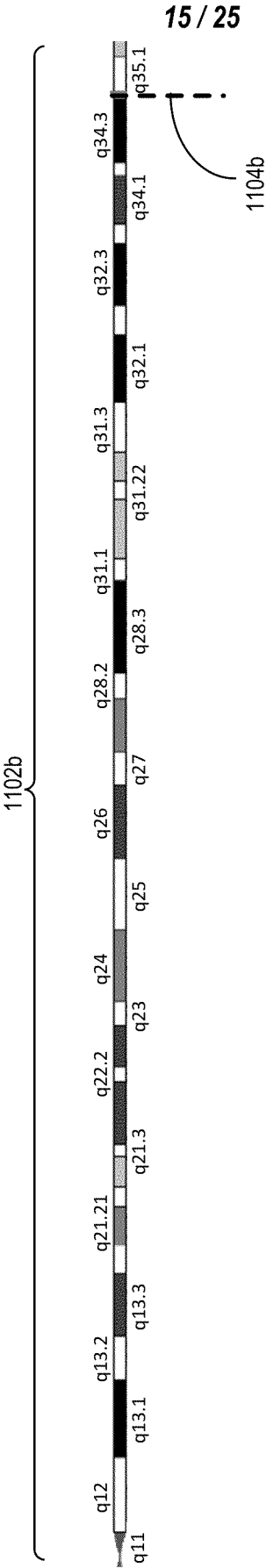


Fig. 11C

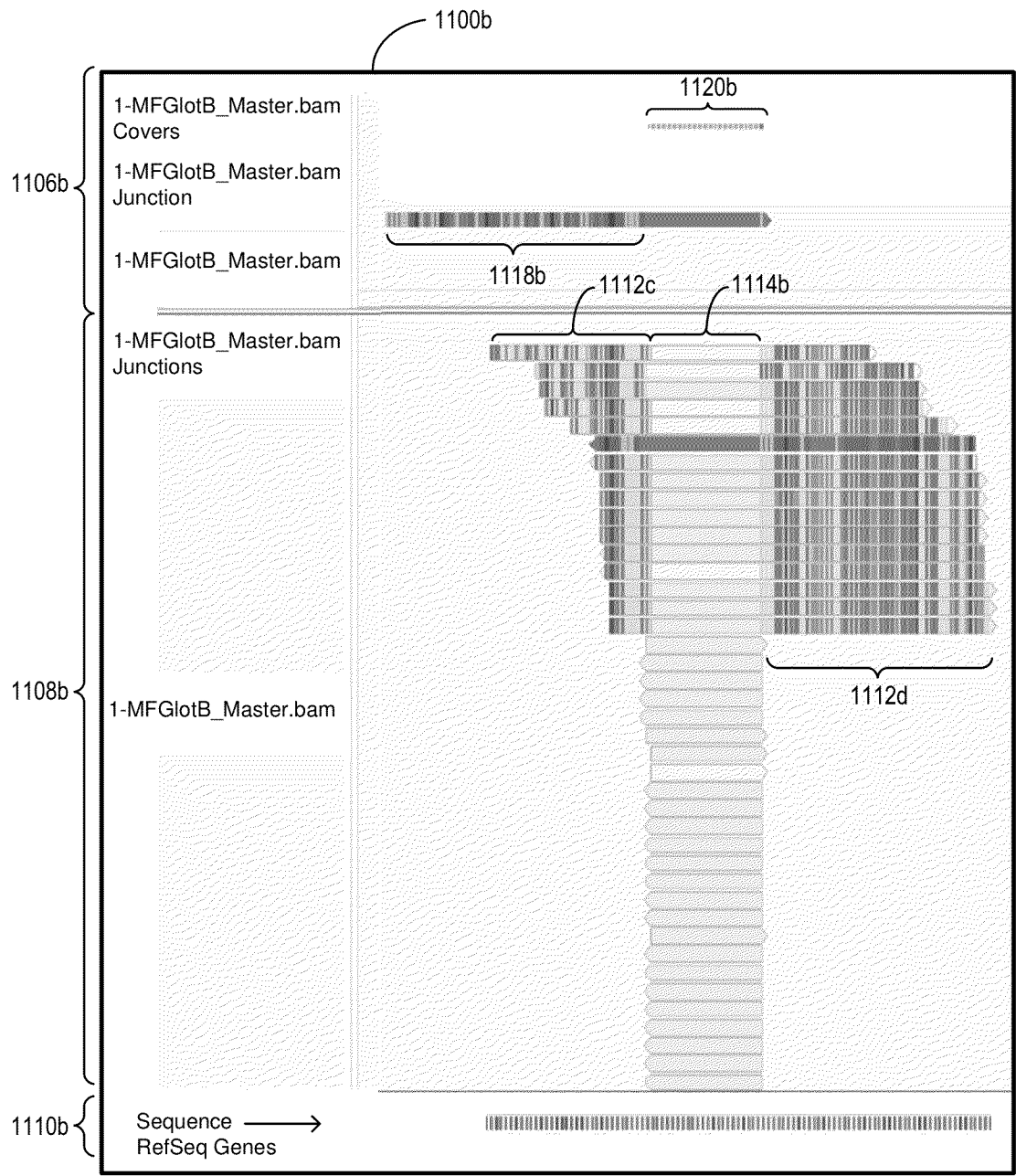


Fig. 11D

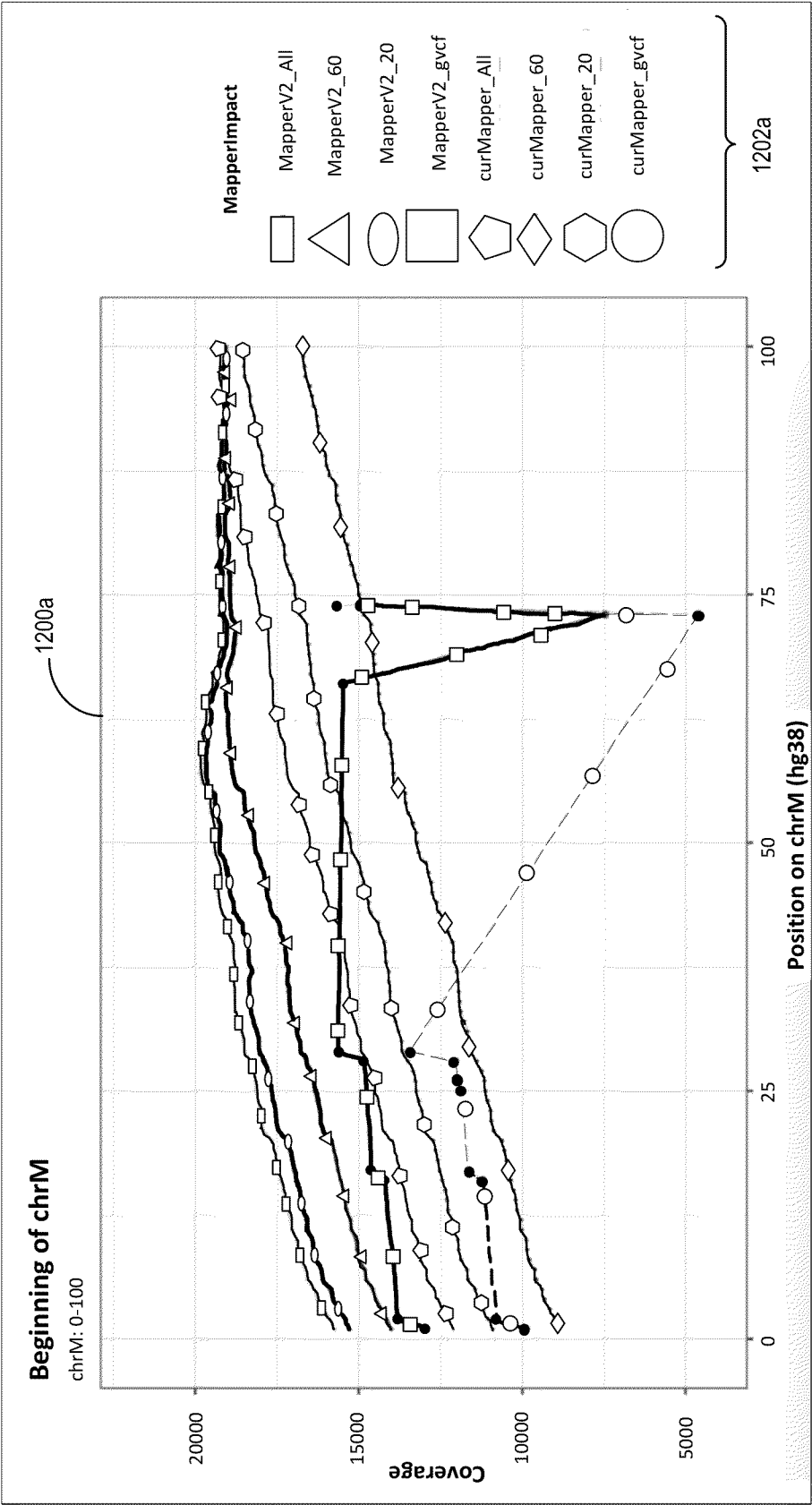


Fig. 12A

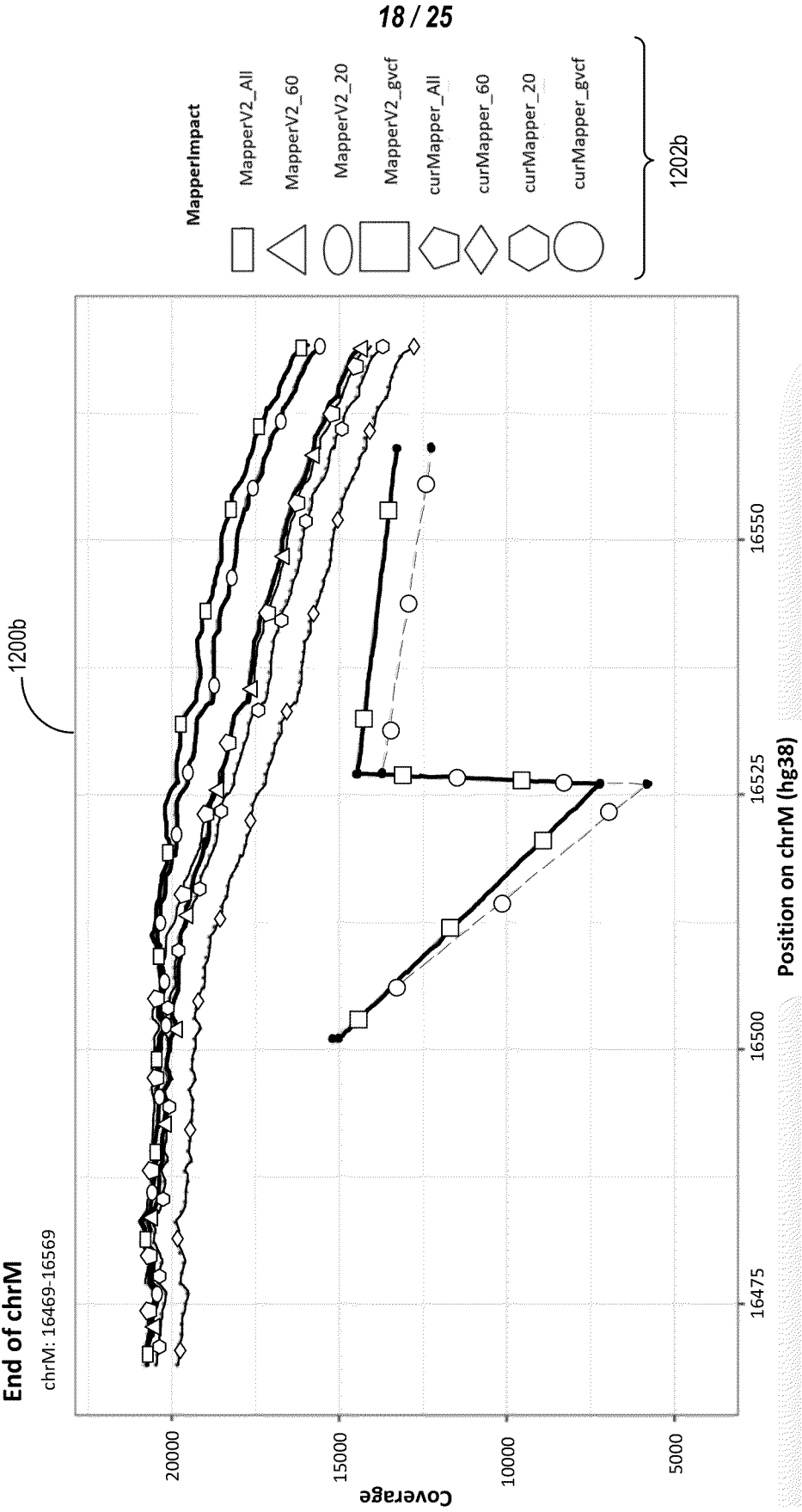


Fig. 12B

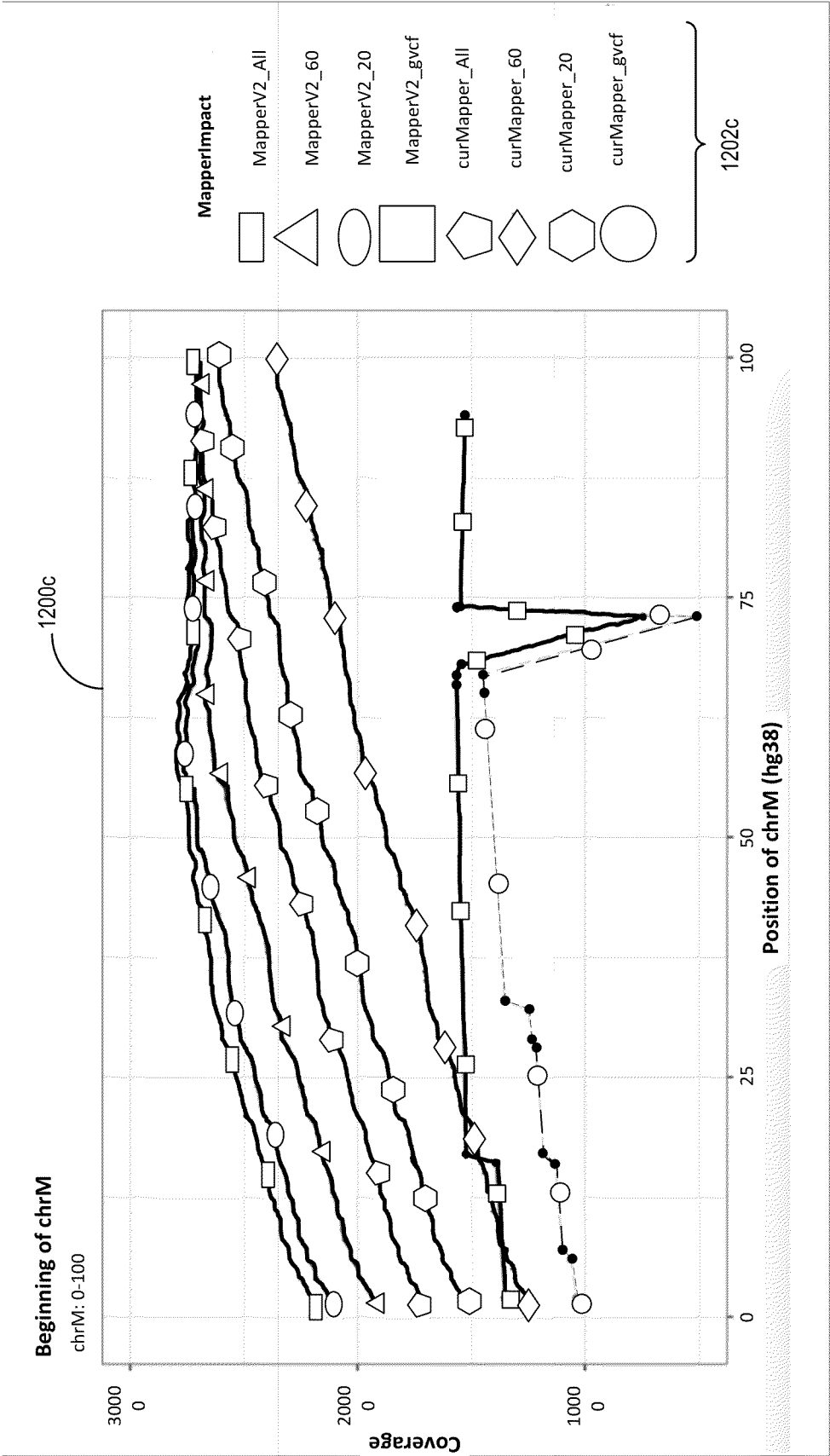


Fig. 12C

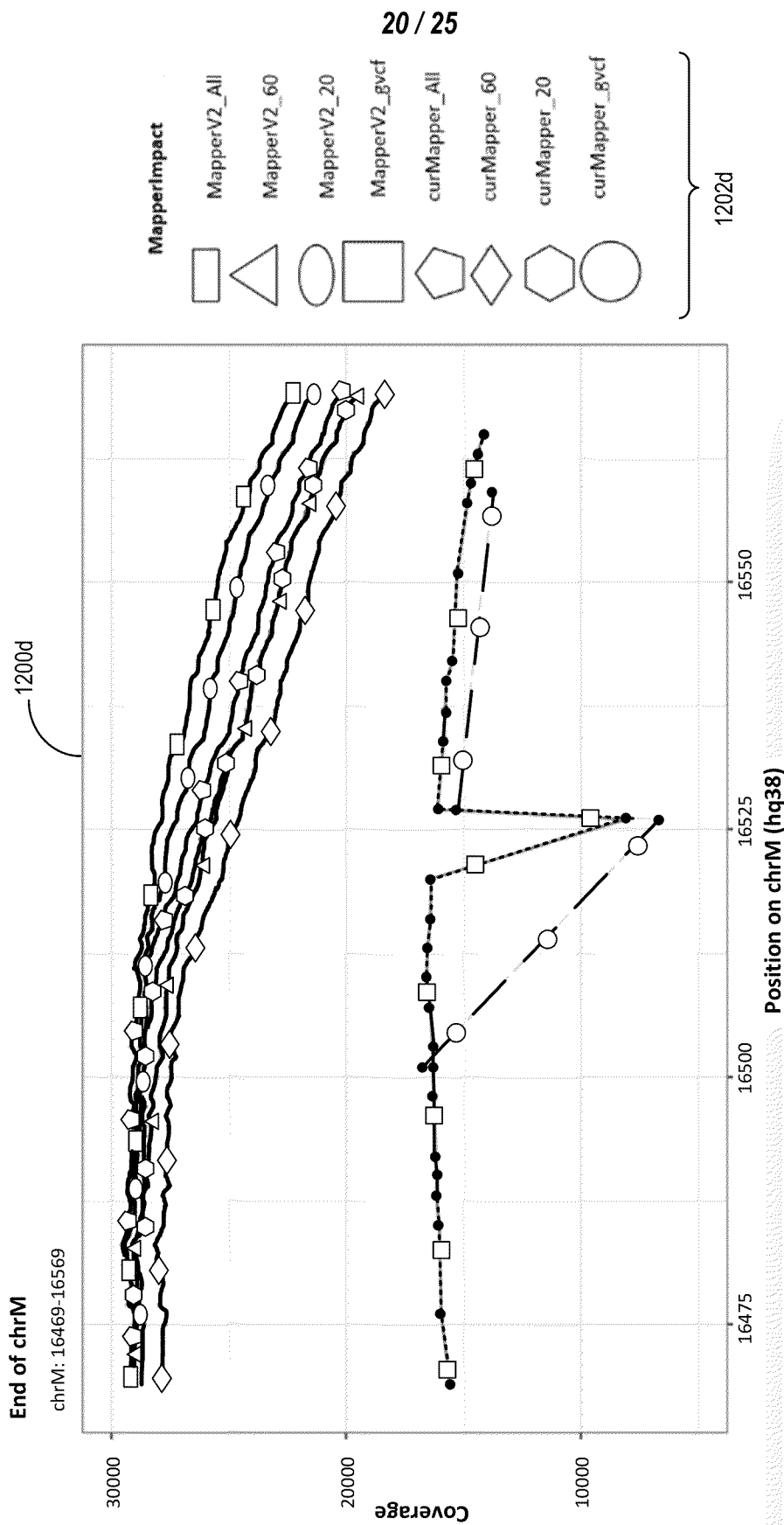


Fig. 12D

1300

Dataset_jama_REV7169	SNP FP+FN	INDEL FP+FN	Total		CGM_mapperV2	SNP FP+FN	INDEL FP+FN	Total	Diff
Fazzini-M1-Clontech	3	8	11		Fazzini-M1-Clontech	1	9	10	-1
Fazzini-M1-Herk	2	2	4		Fazzini-M1-Herk	1	2	3	-1
Fazzini-M1-NEB	8	10	18		Fazzini-M1-NEB	4	6	10	-8
Fazzini-M1-PCR-Clontech	10	12	22		Fazzini-M1-PCR-Clontech	7	10	17	-5
Fazzini-M1-PCR-Herk	1	2	3		Fazzini-M1-PCR-Herk	0	1	1	-2
Fazzini-M1-PCR-NEB	6	8	14		Fazzini-M1-PCR-NEB	9	8	17	3
Fazzini-M2-Clontech	2	6	8		Fazzini-M2-Clontech	2	3	5	-3
Fazzini-M2-Herk	2	3	5		Fazzini-M2-Herk	2	2	4	-1
Fazzini-M2-NEB	10	8	18		Fazzini-M2-NEB	8	7	15	-3
Fazzini-M2-PCR-Clontech	16	12	28		Fazzini-M2-PCR-Clontech	13	11	24	-4
Fazzini-M2-PCR-Herk	4	1	5		Fazzini-M2-PCR-Herk	3	0	3	-2
Fazzini-M2-PCR-NEB	10	9	19		Fazzini-M2-PCR-NEB	10	9	19	0
Fazzini-M3-Clontech	3	7	10		Fazzini-M3-Clontech	2	5	7	-3
Fazzini-M3-Herk	2	1	3		Fazzini-M3-Herk	3	0	3	0
Fazzini-M3-NEB	6	10	16		Fazzini-M3-NEB	6	8	14	-2
Fazzini-M3-PCR-Clontech	16	8	24		Fazzini-M3-PCR-Clontech	16	7	23	-1
Fazzini-M3-PCR-Herk	9	1	10		Fazzini-M3-PCR-Herk	8	1	9	-1
Fazzini-M3-PCR-NEB	6	5	11		Fazzini-M3-PCR-NEB	10	7	17	6

Fig. 13

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FLT3-ITD

Sample	File name tumor	File name normal	Read Length	SV size	SV pos	Expected SV call?	Call Generation Model	new M/A + Call Generation Model
TCGA-AB-2812	FLT3_C317.TCGA-AB-2812-03B-01W-0728-08.6_gdc_realn.bam	FLT3_C317.TCGA-AB-2812-11B-01W-0728-08.6_gdc_realn.bam	76	51	chr13:28034119	Y	2915Y	Y
TCGA-AB-2844	FLT3_TCGA-AB-2844-03B-01W-0728-08-Tumor.bam	FLT3_TCGA-AB-2844-11B-01W-0729-08-Normal.bam	76	87	chr13:28034077	Y	Y	Y
TCGA-AB-2913	FLT3_C317.TCGA-AB-2913-03A-01W-0732-08.3_gdc_realn.bam	FLT3_C317.TCGA-AB-2913-11A-01W-0732-08.4_gdc_realn.bam	76	66	chr13:28034103	Y	N	Y
TCGA-AB-2915	FLT3_C317.TCGA-AB-2915-03A-01W-0745-08.17_gdc_realn.bam	FLT3_C317.TCGA-AB-2915-11A-01W-0745-08.8_gdc_realn.bam	76	51	chr13:28034123	Y	N	N
TCGA-AB-2931	FLT3_TCGA-AB-2931-03A-01W-0745-08-Tumor.bam	FLT3_TCGA-AB-2931-11A-01W-0745-08-Normal.bam	76	75	chr13:28034082	Y	Y	Y
TCGA-AB-2934	FLT3_C317.TCGA-AB-2934-03A-01W-0745-08.16_gdc_realn.bam	FLT3_C317.TCGA-AB-2934-11A-01W-0745-08.17_gdc_realn.bam	76	57	chr13:28034120	Y	N	Y
TCGA-AB-2825	FLT3_TCGA-AB-2825-03D-01W-0755-09-Tumor.bam	FLT3_TCGA-AB-2825-11D-01W-0755-09-Normal.bam	100	102	chr13:28034080	Y	Y	Y
TCGA-AB-2830	FLT3_C317.TCGA-AB-2830-03B-01W-0728-08.3_gdc_realn.bam	FLT3_C317.TCGA-AB-2830-11B-01W-0728-08.3_gdc_realn.bam	100	69	chr13:28034105	Y	Y	Y
TCGA-AB-2871	FLT3_TCGA-AB-2871-03A-01W-0732-08-Tumor.bam	FLT3_TCGA-AB-2871-11A-01W-0732-08-Normal.bam	76	63	chr13:28034125	N	N	N
TCGA-AB-2869	FLT3_C317.TCGA-AB-2869-03A-01W-0732-08.3_gdc_realn.bam	FLT3_C317.TCGA-AB-2869-11A-01W-0732-08.4_gdc_realn.bam	100	54	chr13:28034116	N	N	N

1400a

Fig. 14A

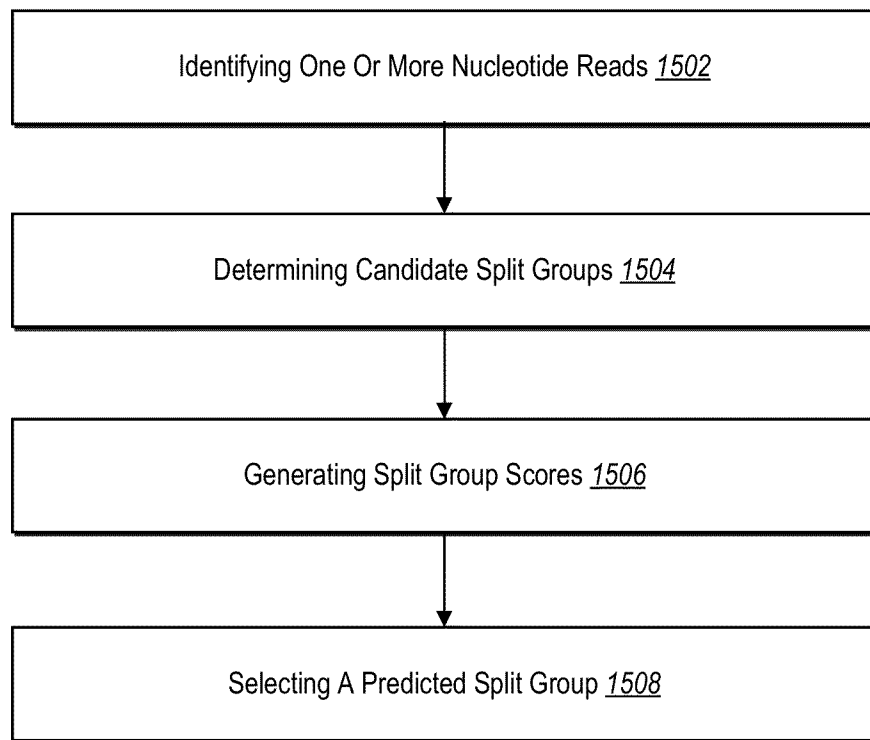
HCC1954

SV Type	Method	Recall	Precision	F-Score	QueryTP	QueryFP	QueryTotalCount	TruthTP	TruthFN	TruthTotalCount
Deletion	Call Generation Model	0.8431	0.1027	0.1831	42	367	409	43	8	51
	new M/A + Call Generation Model	0.8431	0.0974	0.1747	42	389	431	43	8	51
Duplication	Call Generation Model	0.8182	0.1525	0.2571	36	200	236	36	8	44
	new M/A + Call Generation Model	0.8409	0.1548	0.2615	37	202	239	37	7	44
IntraChromosomeBreakend	Call Generation Model	0.5000	0.0025	0.0050	1	398	399	1	1	2
	new M/A + Call Generation Model	0.5000	0.0026	0.0052	1	385	386	1	1	2
TranslocationBreakend	Call Generation Model	0.8929	0.1908	0.3145	75	318	393	75	9	84
	new M/A + Call Generation Model	0.8929	0.1958	0.3212	75	308	383	75	9	84

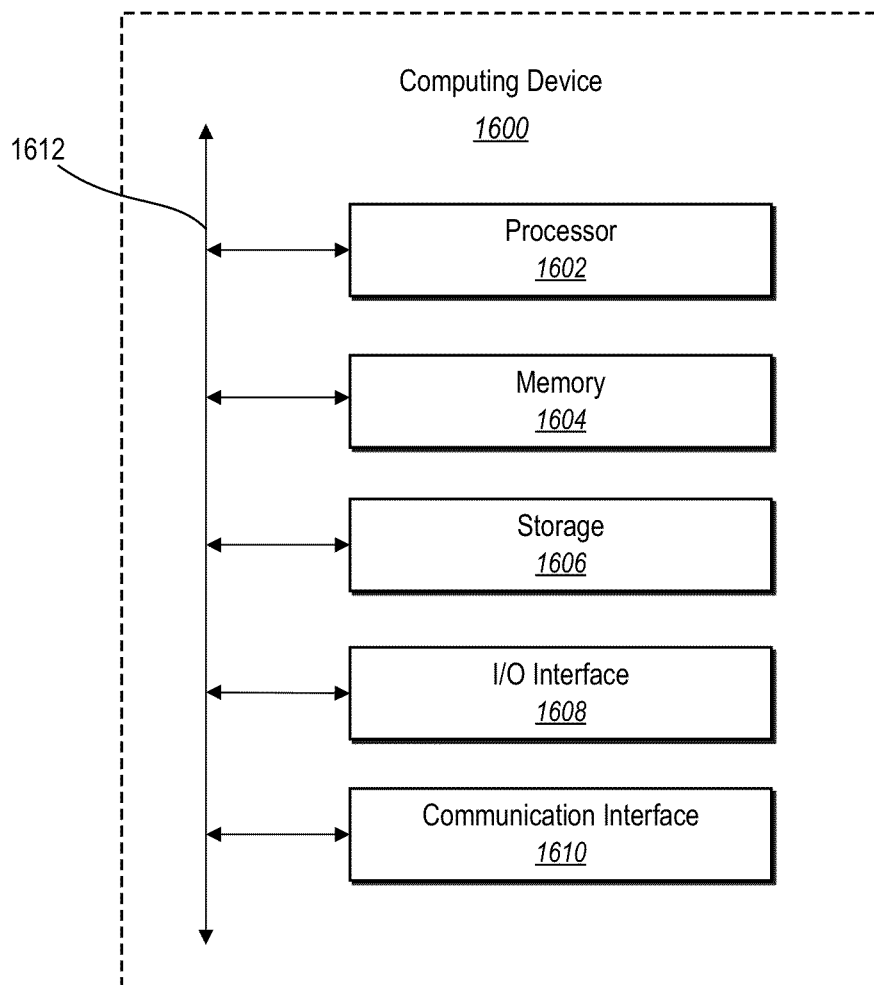
1400b

Fig. 14B

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**Fig. 15**

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**Fig. 16**