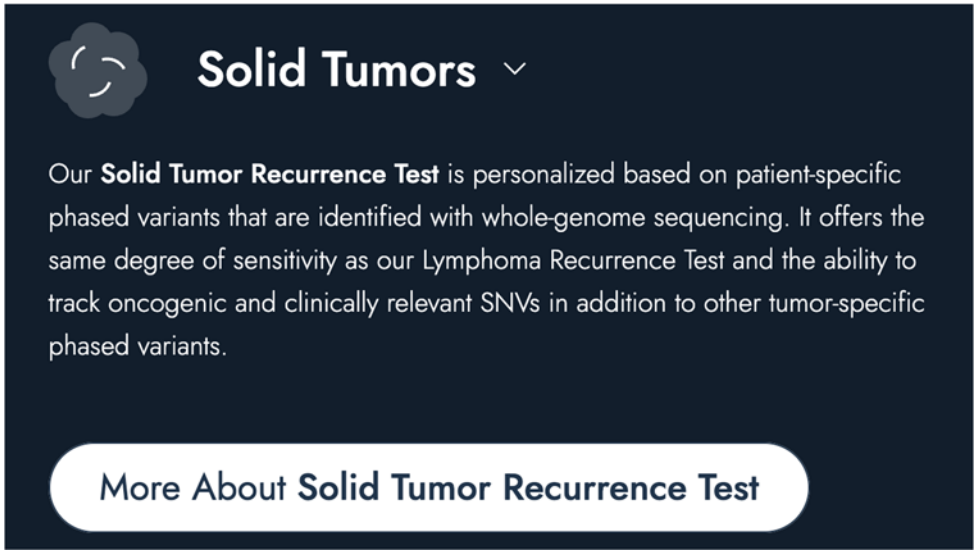
EXHIBIT O

Infringement Of U.S. Patent No. 11,408,033 Patent By Foresight's Solid Tumor Recurrence Test

'033 Patent Claim Language	Infringement Support
1. A method for analyzing a nucleic acid sample obtained from an individual, comprising:	The Foresight Diagnostics Solid Tumor Recurrence Test performs a method for analyzing a nucleic acid sample obtained from an individual.  Source: https://foresight-dx.com/partnership
(a) producing, with the aid of a computer processor, a plurality of capture probes, wherein said plurality of capture probes hybridize to a plurality of polymorphisms, wherein said plurality of polymorphisms are in sequences encoding genes with known biomedically interpretable	The Foresight Diagnostics Solid Tumor Recurrence test utilizes computer processors to produce capture probes hybridized to polymorphisms. The test sequences both tumor and germline DNA (to provide a reference) in order to identify phased variants that are present in the tumor sample. The polymorphisms are in sequences encoding genes with known biomedically interpretable variants, and are extracted from a database of polymorphisms obtained from the patient, and are observed in a population of one sample previously taken from the patient.

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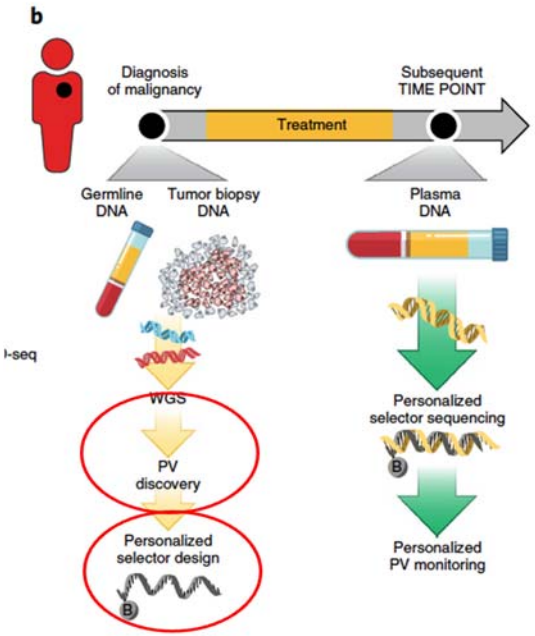
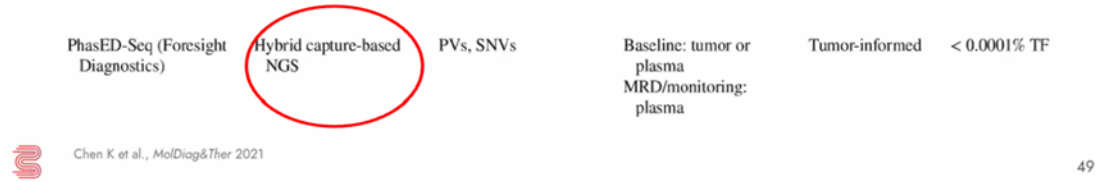
variants, and wherein said plurality of polymorphisms are based on or extracted from one or more databases of polymorphisms, and are observed in a population of one or more samples,	 Source: Kurtz, Fig. 7b  Source: BloodPac annual meeting slides (BloodPac slides, attached hereto as Exhibit L); Chen, et al., Commercial ctDNA Assays for Minimal Residual Disease Detection of Solid Tumors, MolDiag&Ther (2021) at Table 1 (hereinafter "Chen," attached hereto as Exhibit M). In addition, the Foresight Diagnostics Solid Tumor Recurrence test tracks clinically

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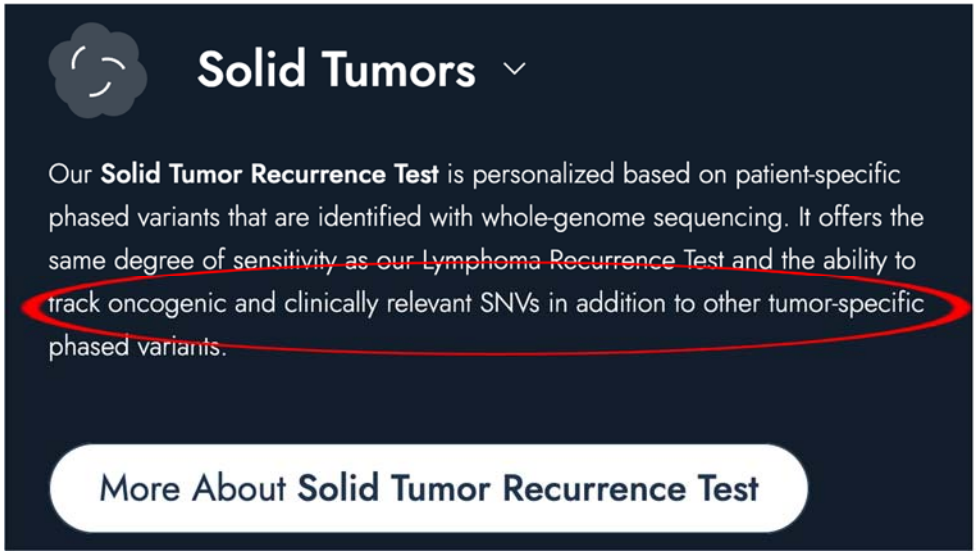
	relevant polymorphisms that are in genes with known biomedically interpretable variants, wherein said plurality of polymorphisms are based on or extracted from one or more databases of polymorphisms, and are observed in a population of one or more samples:  Source: https://foresight-dx.com/partnership
(b) contacting said nucleic acid sample with said plurality of capture probes produced in (a)	The method of conducting the Foresight Diagnostics Solid Tumor Recurrence test involves contacting nucleic acid samples with capture probes.

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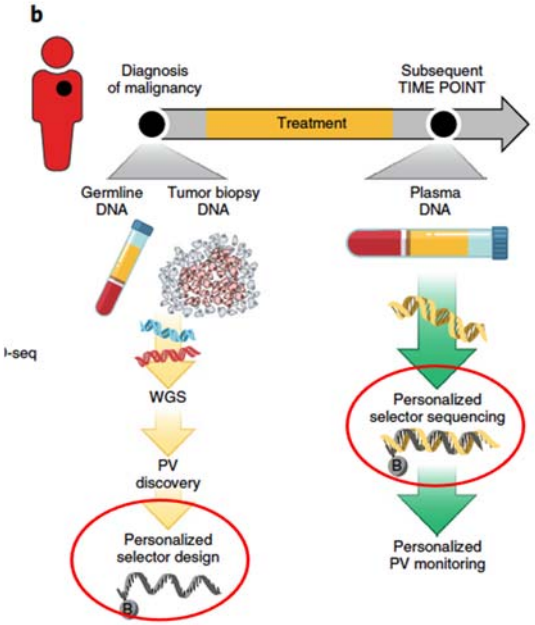
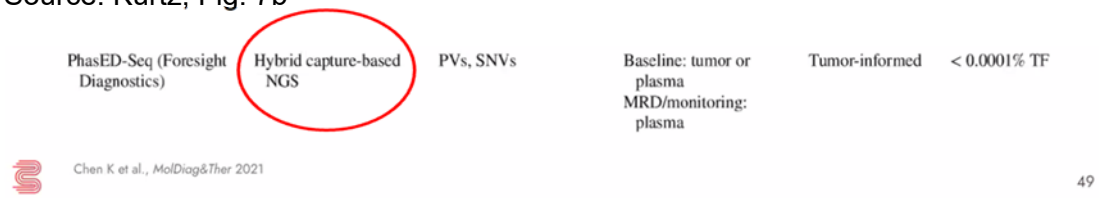
	 Source: Kurtz, Fig. 7b  BloodPac slides; Chen at Table 1
(c) conducting a sequencing assay on a subset of nucleic acid molecules generated from said nucleic acid sample in step (b) to yield a result comprising a nucleic acid sequence, thereby analyzing said nucleic acid sample; and	The Foresight Diagnostics Solid Tumor Recurrence test conducts a sequencing assay on a subset of nucleic acids generated from the plasma DNA sample.

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	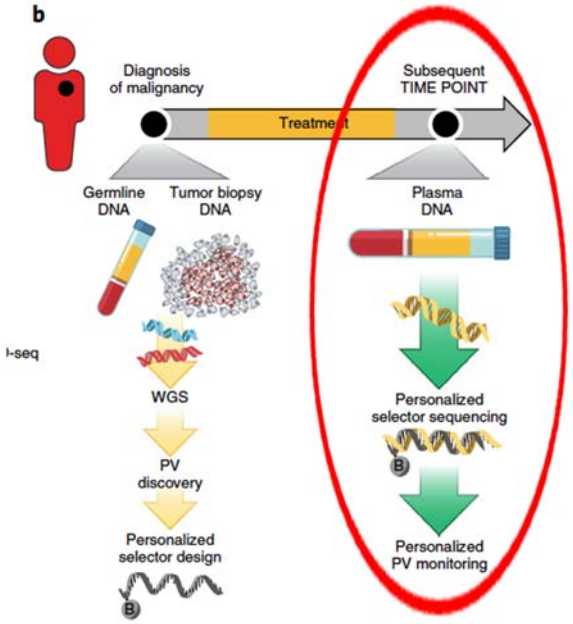 Source: Kurtz, Fig. 7b
(d) repeating steps (b)-(c) on a subsequently obtained biological sample from said individual.	The Foresight Diagnostics Solid Tumor Recurrence test repeats the sequencing assay performed multiple times over time. For example, Kurtz at Extended Fig. 10d shows the tracking and identification of the presence or absence of the PVs in subsequently obtained samples.

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	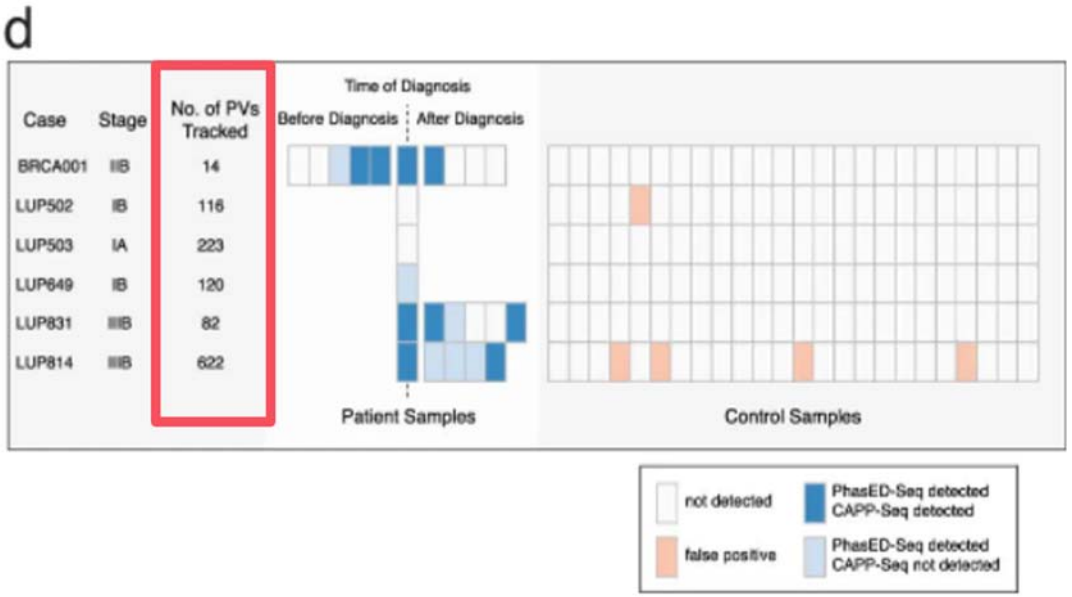 Source: Kurtz, Extended Fig. 10d. The results of the additional tracking and whether the PVs were observed or not in the subsequently obtained plasma sample may be reported in a biomedical report.

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	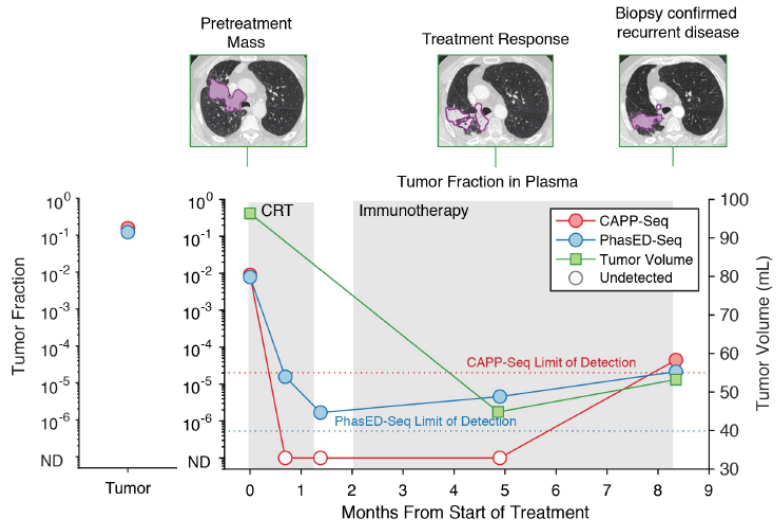 Source: ASCO Meeting 2021: Abstract #8518: Leveraging phased variants for personalized minimal residual disease detection in localized non-small cell lung cancer, David M. Kurtz, et al. (hereinafter "Kurtz Poster," attached hereto as Exhibit K). Additionally, the Foresight website indicates the use of time-based reporting and monitoring:

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	 Source: https://foresight-dx.com/technology
2. The method of claim 1, further comprising, subsequent to (c), generating a biomedical report that includes biomedical information of said individual, which biomedical information is indicative of said result.	The Foresight Diagnostics Solid Tumor Recurrence test generates a biomedical report that includes biomedical information, including whether the polymorphisms identified in the prior sequencing of the plasma samples is or is not present. For example, Kurtz shows in Extended Fig. 10d whether the tracked polymorphisms were detected or not detected in the subsequently analyzed plasma samples from additional time points.

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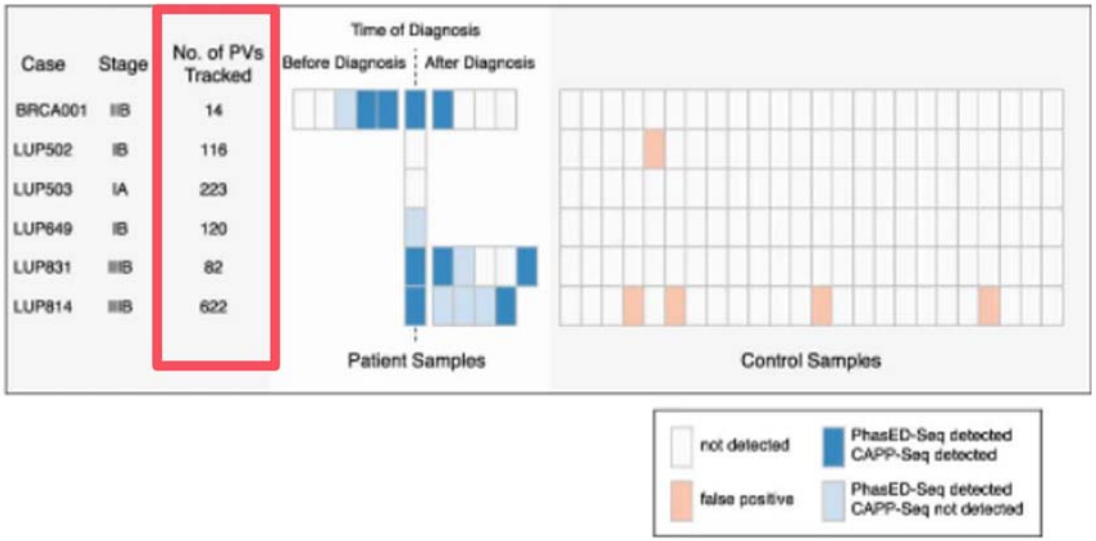
	d  Source: Kurtz, Extended Fig. 10d.
3. The method of claim 2, wherein said biomedical information of said individual is predictive, prognostic, or diagnostic of one or more biomedical features selected from the group consisting of disease state, efficacy of a drug therapy, prediction of optimal drug dosage, recommendation of one or more therapies, and recommendation of a course of treatment of a disease.	The Foresight Diagnostics Solid Tumor Recurrence tests utilizes cfDNA obtained from plasma DNA obtained from individuals and reports out the presence or absence of cancer (disease state) as well as a recommendation on therapy.

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	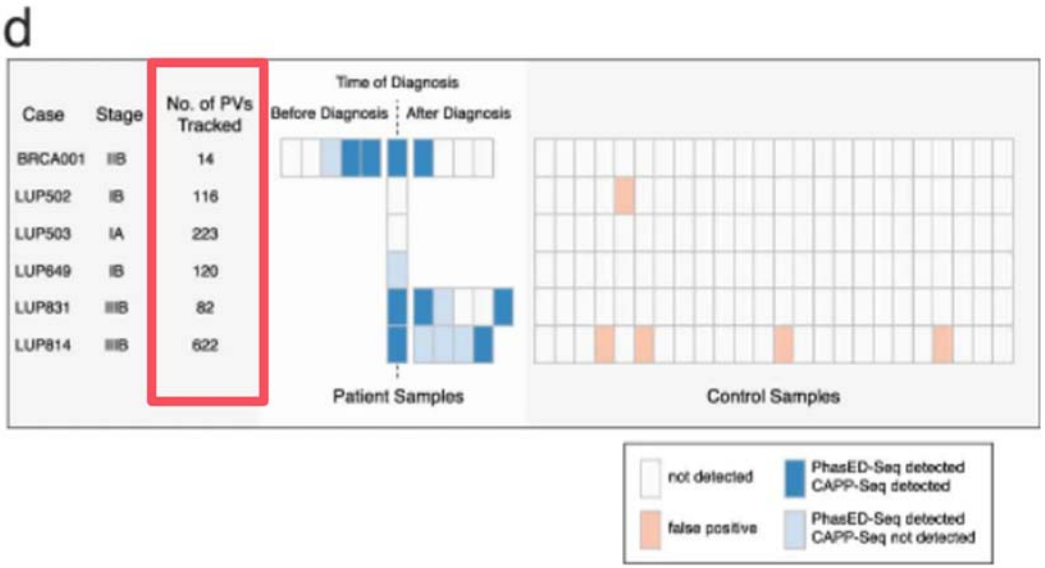 Source: Kurtz, Extended Fig. 10d. The results of the additional tracking and whether the PVs were observed or not in the subsequently obtained plasma sample may be reported in a biomedical report.

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	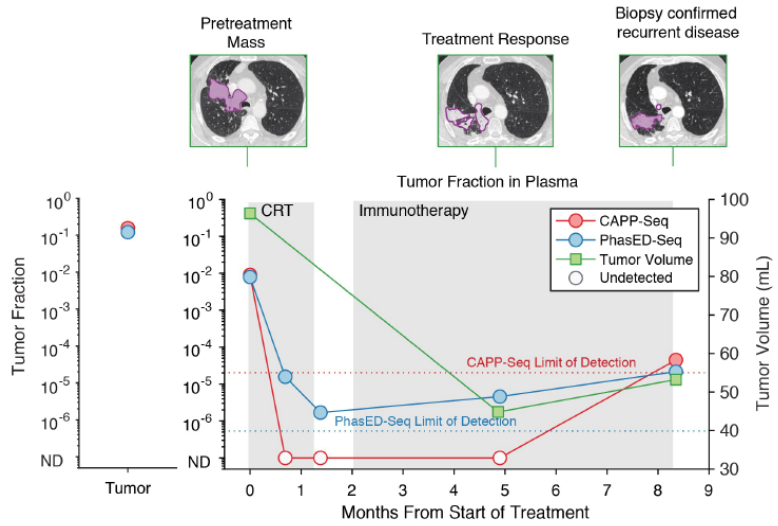 Source: Kurtz Poster. 

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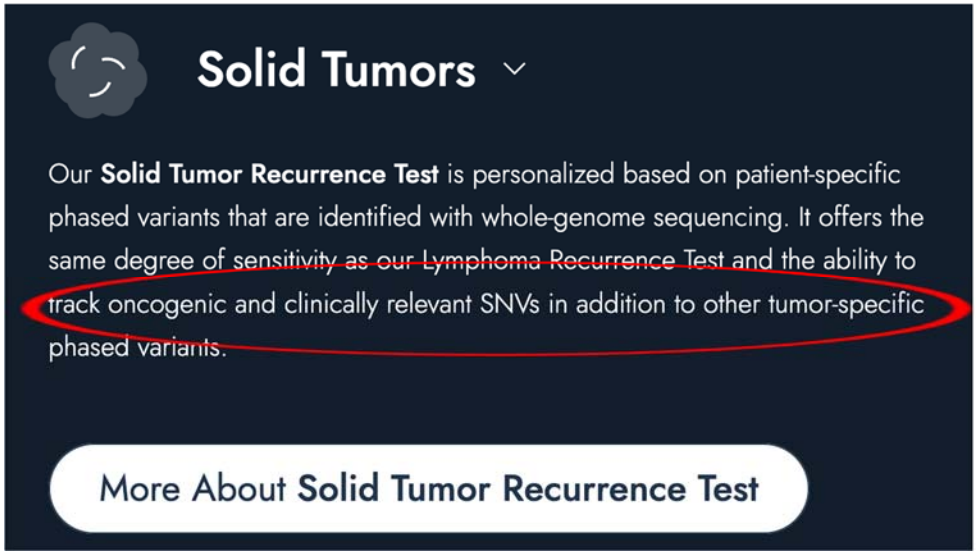
	Source: https://foresight-dx.com/technology
4. The method of claim 1, wherein said plurality of polymorphisms comprise one or more insertions, deletions, structural variant junctions, variable length tandem repeats, single nucleotide mutations, or a combination thereof.	The Foresight Diagnostics Solid Tumor Recurrence test tracks single nucleotide mutations.  Source: https://foresight-dx.com/partnership
5. The method of claim 1, wherein said sequences encoding genes with known biomedically interpretable variants comprise a plurality of sequences encoding genes associated with cancer.	The Foresight Diagnostics Solid Tumor Recurrence test tracks single nucleotide mutations that are in genes with known biomedically interpretable variants, specifically, oncogenic and clinically relevant SNVs.

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	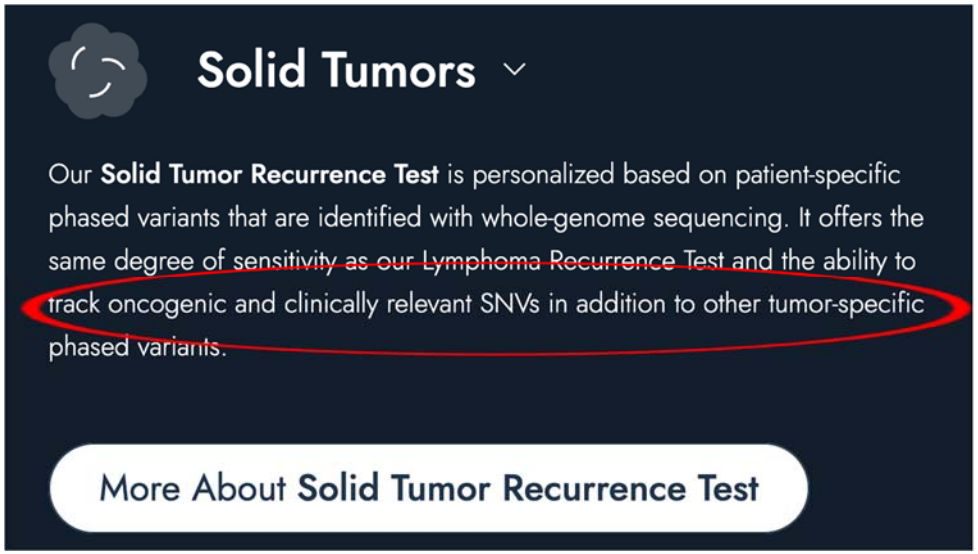 Source: https://foresight-dx.com/partnership
6. The method of claim 1, further comprising identifying the presence or absence of said plurality of polymorphisms in said nucleic acid sample.	The Foresight Diagnostics Solid Tumor Recurrence test issues a report regarding the identification the presence or absence of the detected PVs in the second nucleic acid sample obtained from plasma. For example, Kurtz at Extended Fig. 10d shows the tracking and identification of the presence or absence of the PVs in subsequently obtained samples.

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	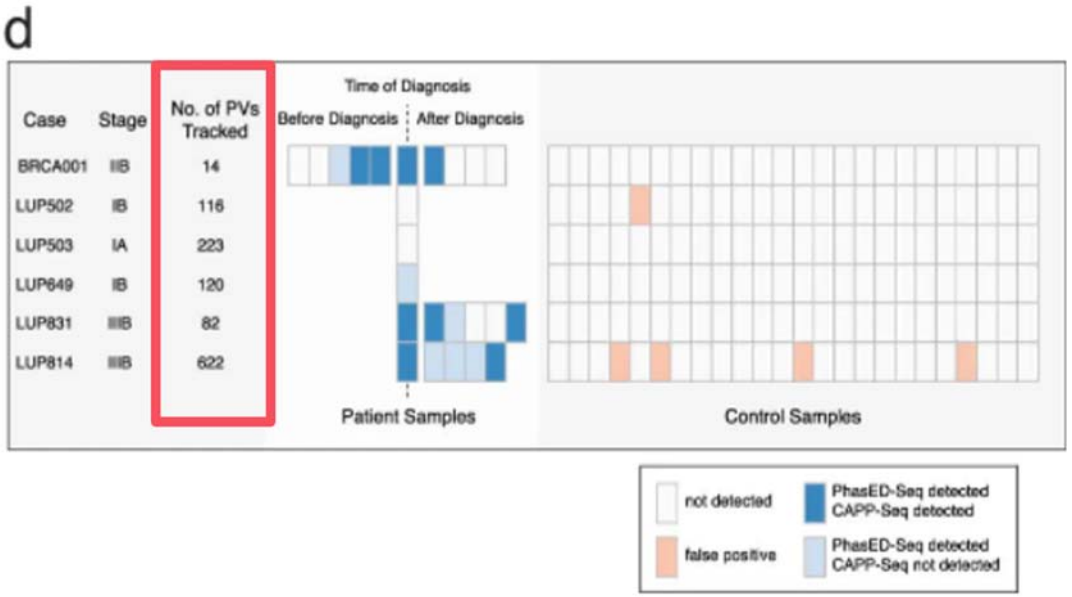 Source: Kurtz, Extended Fig. 10d.
7. The method of claim 2, wherein said identifying comprises observing an allele frequency of said plurality of polymorphisms.	The Foresight Diagnostics Solid Tumor Recurrence test calculates the variant allele fraction (VAF) for the observed phased variants detected in the sample. For example, the Supplementary Methods section of Kurtz describes the procedure for the “Identification of phased variants and allelic quantitation.” Kurtz states “[t]o calculate the VAF of each PV, we calculated a numerator representing the number of DNA molecules containing a PV of interest over a denominator representing the total number of DNA molecules that covered the genomic region of interest. That is, the numerator is simply the total number of deduplicated read pairs that contain a given PV while the denominator is the number of read-pairs that span the genomic locus of a given PV.” Source: Kurtz, Supplementary Methods at 8.
9. The method of claim 1, wherein said	The plurality of capture probes are conjugated to beads:

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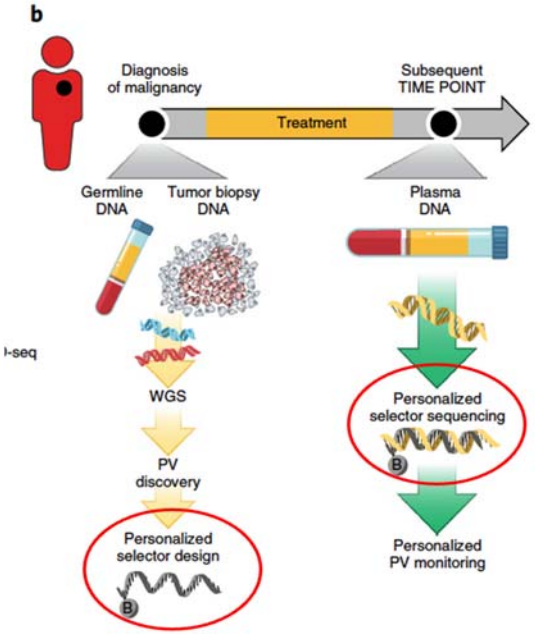
plurality of capture probes are conjugated to beads.	 Source: Kurtz, Fig. 7b
11. The method of claim 1, wherein said nucleic acid sample obtained from said individual is from a body fluid, cell, skin, tissue, organ, or combination thereof.	The Foresight Diagnostics Solid Tumor Recurrence tests utilizes samples isolated from an individual's germline DNA, tumor biopsy DNA, and plasma DNA.

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	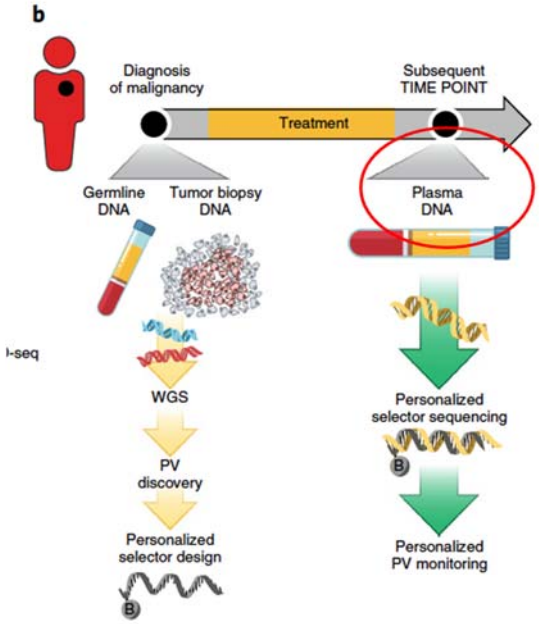 Source: Kurtz, Fig. 7b
12. The method of claim 11, wherein said body fluid is blood plasma.	The Foresight Diagnostics Solid Tumor Recurrence tests utilizes samples isolated from an individual’s germline DNA, tumor biopsy DNA, and plasma DNA.

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	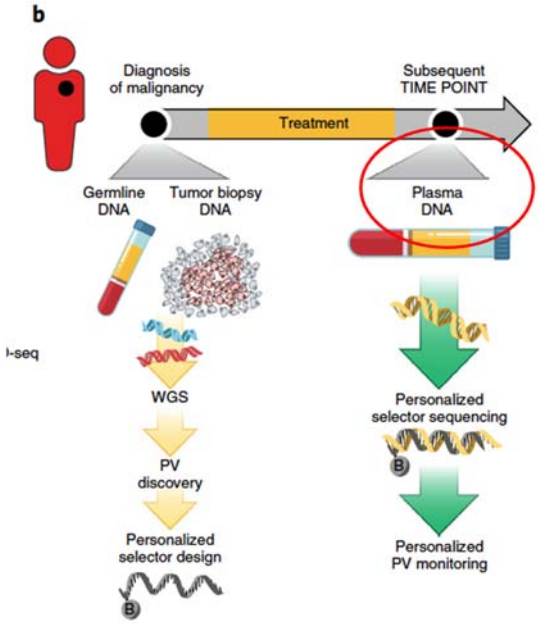 Source: Kurtz, Fig. 7b
13. The method of claim 12, wherein said plasma sample is obtained from said individual at a first time point, and further comprising, subsequent to (c), using said capture probes to generate an additional subset of nucleic acid molecules from an additional nucleic acid sample isolated from an additional plasma sample obtained from said individual at an additional time point different from said first time point.	The Foresight Diagnostics Solid Tumor Recurrence test repeats the sequencing assay performed multiple times over time. For example, Kurtz at Extended Fig. 10d shows the tracking and identification of the presence or absence of the PVs in subsequently obtained samples.

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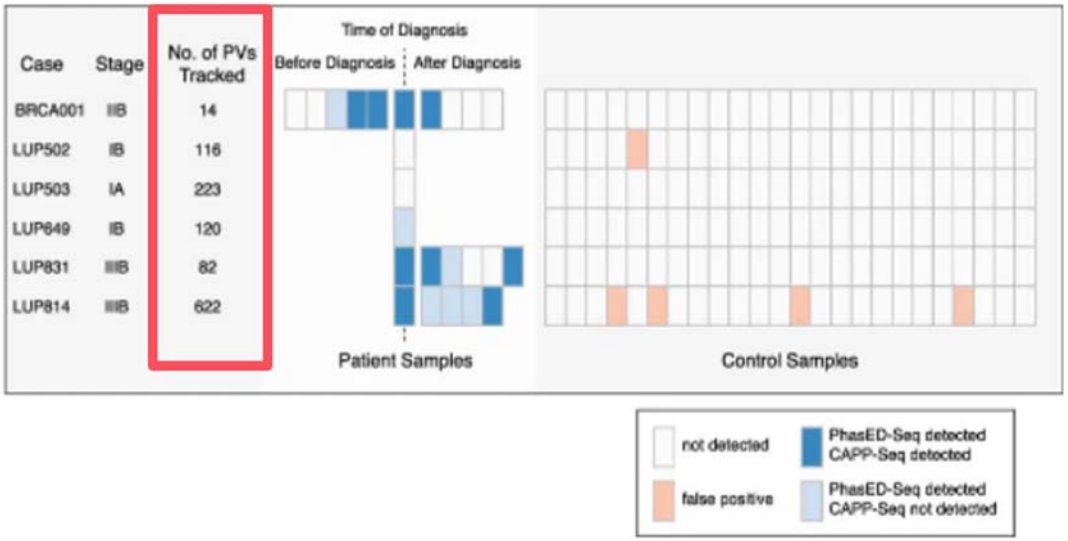
	d  Source: Kurtz, Extended Fig. 10d. The results of the additional tracking and whether the PVs were observed or not in the subsequently obtained plasma sample may be reported in a biomedical report.

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	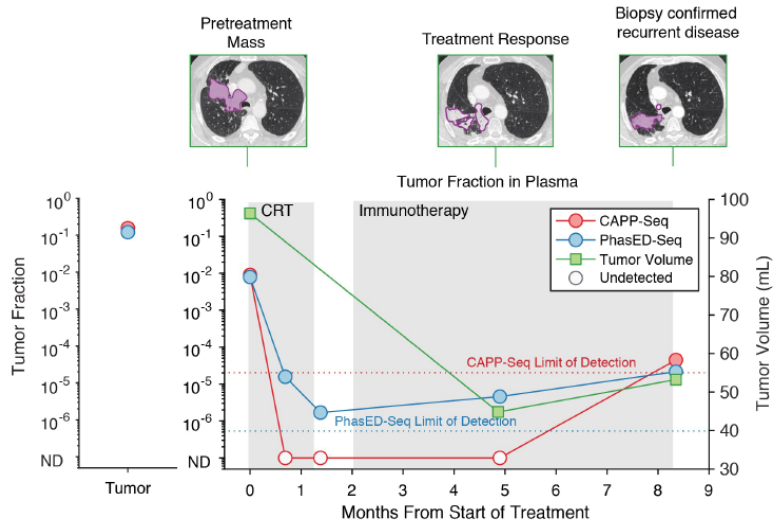 Source: ASCO Meeting 2021: Abstract #8518: Leveraging phased variants for personalized minimal residual disease detection in localized non-small cell lung cancer, David M. Kurtz, et al. (hereinafter "Kurtz Poster," attached hereto as Exhibit K). Additionally, the Foresight website indicates the use of time-based reporting and monitoring:

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	 Source: https://foresight-dx.com/technology
14. The method of claim 13, wherein said first time point and said additional time point are at least 1 week apart, or more.	The Foresight Diagnostic Solid Tumor Recurrence test applies the plasma testing at multiple time points that are at least one week apart or more. For example, the Kurtz Poster shows detection of ctDNA in plasma by PhasED-Seq at multiple timepoints up to 9 months after the start of treatment.

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	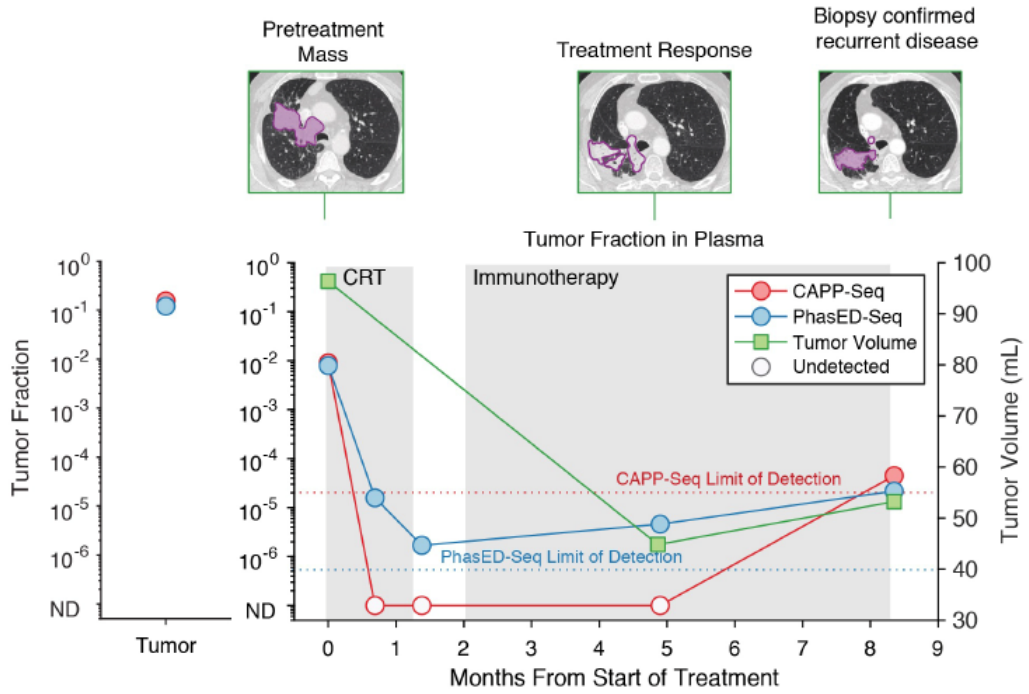 Source: Kurtz Poster
15. The method of claim 13, wherein said first time point and said additional time point are at least 1 month apart, or more.	The Foresight Diagnostic Solid Tumor Recurrence test applies the plasma testing at multiple time points that are at least one month apart or more. For example, the Kurtz Poster shows detection of ctDNA in plasma by PhasED-Seq at multiple time points up to 9 months after the start of treatment.

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	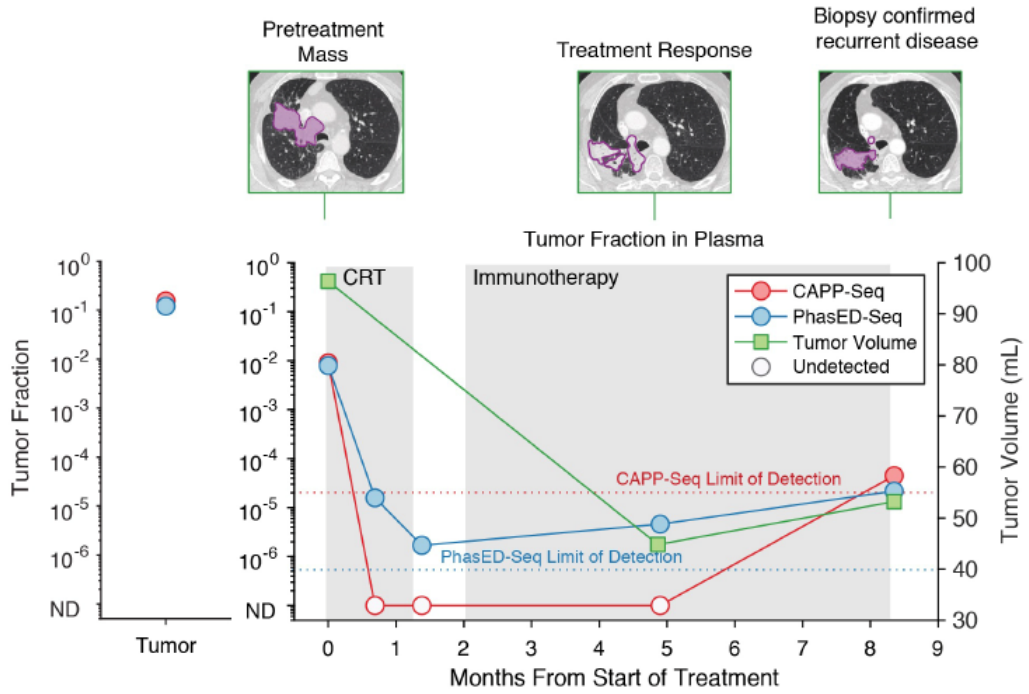 Source: Kurtz Poster.
16. The method of claim 13, wherein said additional time point is later than said first time point.	The Foresight Diagnostics Solid Tumor Recurrence test conducts a second sequencing assay on the second subset of nucleic acids generated from the plasma DNA sample obtained at subsequent times.

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	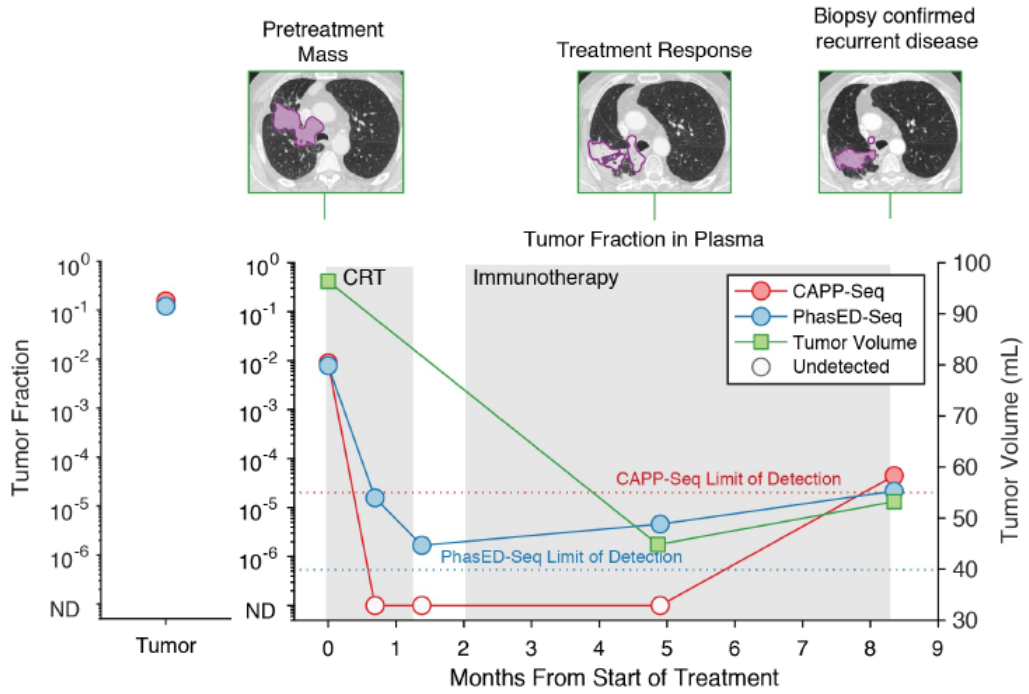 Source: Kurtz Poster.
19. The method of claim 1, wherein said subsequently obtained biological sample is a plasma sample.	The Foresight Diagnostics Solid Tumor Recurrence tests utilizes samples isolated from an individual's germline DNA, tumor biopsy DNA, and plasma DNA.

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	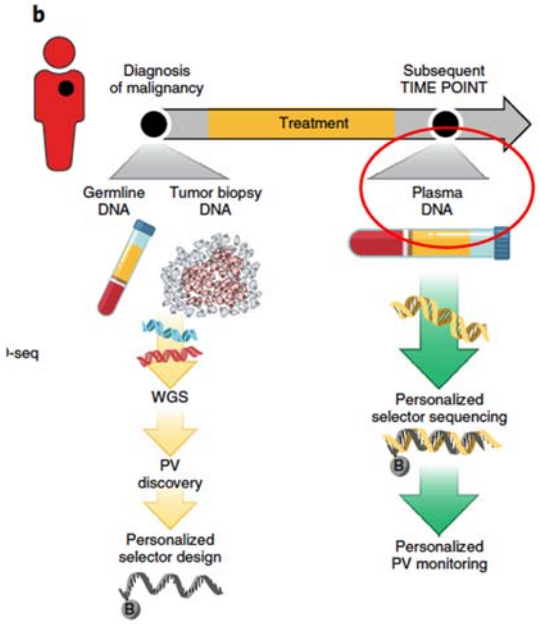 Source: Kurtz, Fig. 7b
21. The method of claim 1, wherein said one or more databases of polymorphisms comprises a biomedical database.	The database of polymorphisms used in the Foresight Diagnostics Solid Tumor Recurrence test is biomedical database:

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	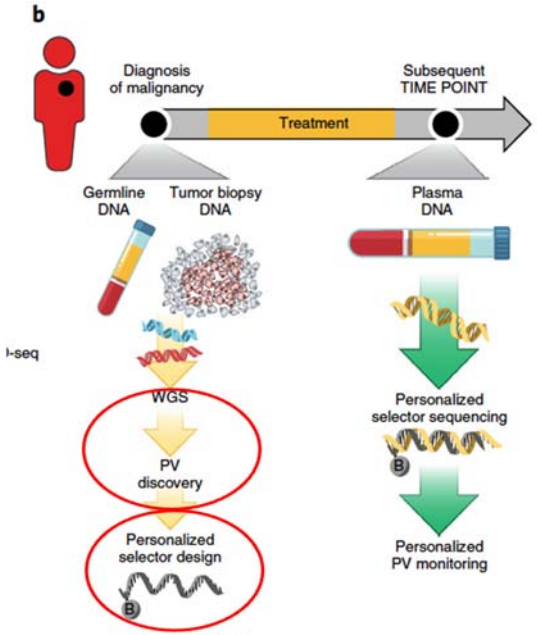 Source: Kurtz, Fig. 7b The Foresight Diagnostics Solid Tumor Recurrence test tracks SNVs from a biomedical database as well:

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	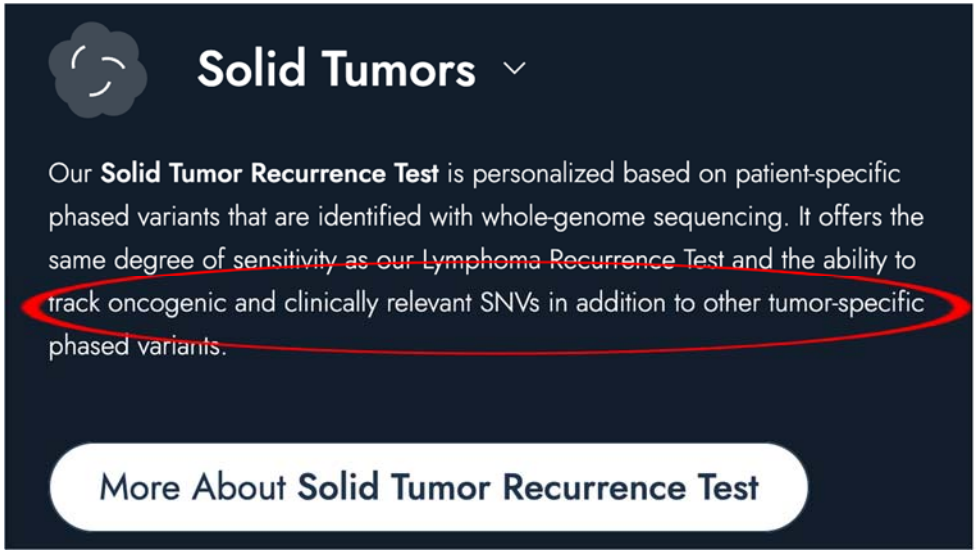 Source: https://foresight-dx.com/partnership
22. The method of claim 1, wherein said one or more polymorphisms are observed in a population of a single sample.	The polymorphisms in the Foresight Diagnostics Solid Tumor Recurrence test are observed in a population of a single sample:

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	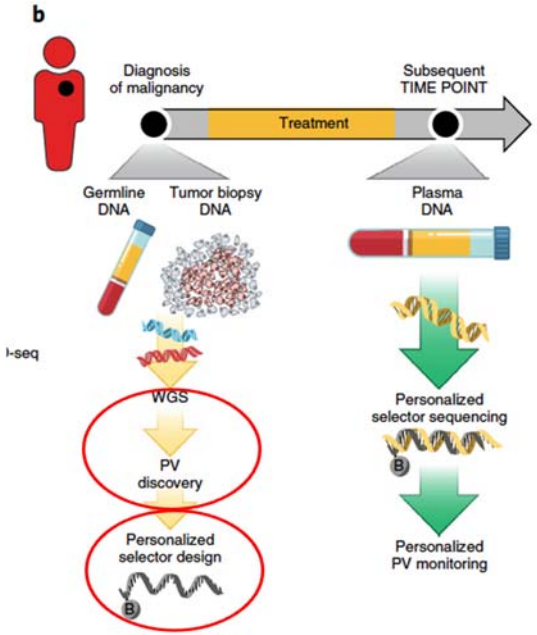 Source: Kurtz, Fig. 7b
23. The method of claim 1, wherein said plurality of polymorphisms are based on or extracted from said one or more databases of polymorphisms and observed in said population, wherein said population comprises a plurality of samples	The polymorphisms in the Foresight Diagnostics Solid Tumor Recurrence test are based on or extracted from databases of polymorphisms and observed in a population of a plurality of samples:

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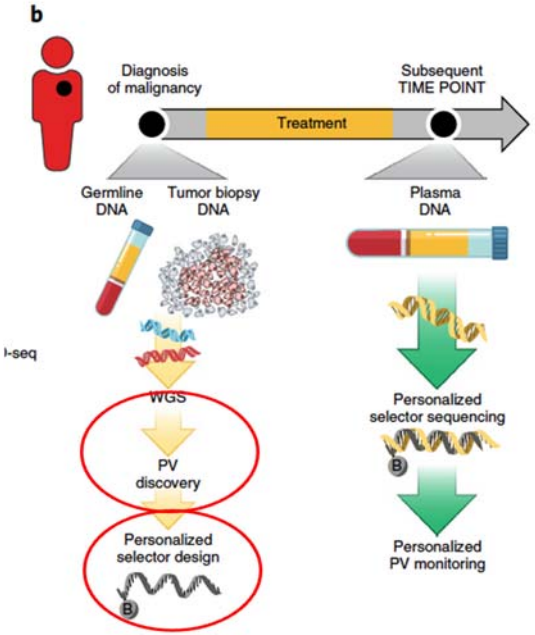
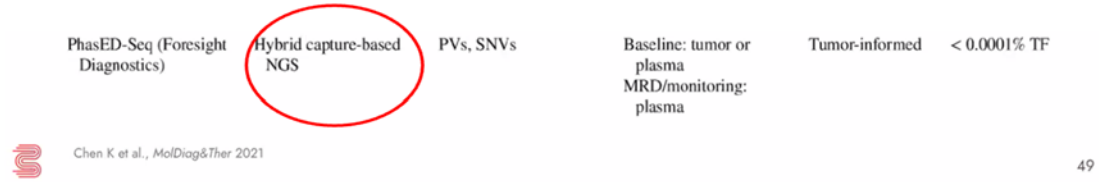
	 Source: Kurtz, Fig. 7b  Source: BloodPac annual meeting slides (BloodPac slides, attached hereto as Exhibit L); Chen, et al., Commercial ctDNA Assays for Minimal Residual Disease Detection of Solid Tumors, MolDiag&Ther (2021) at Table 1 (hereinafter "Chen," attached hereto as Exhibit M). In addition, the Foresight Diagnostics Solid Tumor Recurrence test tracks clinically relevant polymorphisms that are in genes with known biomedically interpretable

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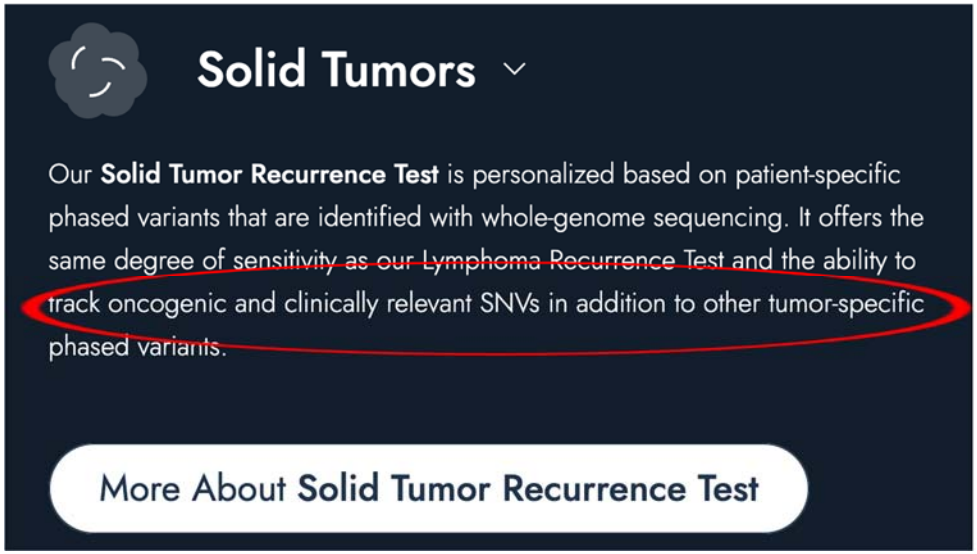
	variants, wherein said plurality of polymorphisms are based on or extracted from one or more databases of polymorphisms, and are observed in a population of one or more samples:  Source: https://foresight-dx.com/partnership