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(54) Title: SYSTEM AND METHOD FOR TARGET DETECTION WITH APPLICATIONS IN CHARACTERIZING FOOD QUALITY AND IMPROVING FOOD SAFETY

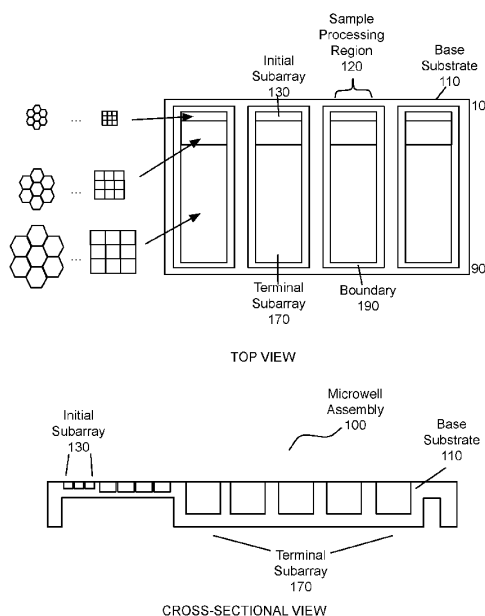


FIGURE 1A

(57) Abstract: A system, method, and platform for target detection, the system including: a base substrate; a set of sample processing regions defined at a broad surface of the substrate, wherein each of the set of sample processing regions includes: a set of microwell subarrays arranged in a gradient between an upstream end and a downstream end of each respective sample processing region, and a boundary separating each respective sample processing region from adjacent sample processing regions; and a cover substrate configured to mate with the base substrate in a coupled mode, the cover substrate comprising a network of venting channels aligned with the set of sample processing regions upon mating the base substrate with the cover substrate in the coupled mode, the network of venting channels providing gas exchange between the base substrate and an environment surrounding the microwell assembly. The invention(s) can be used for MPN assays.

[Continued on next page]

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