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(54) Title: COMPOSITIONS AND METHODS FOR SEQUENCING USING POLYMER BRIDGES

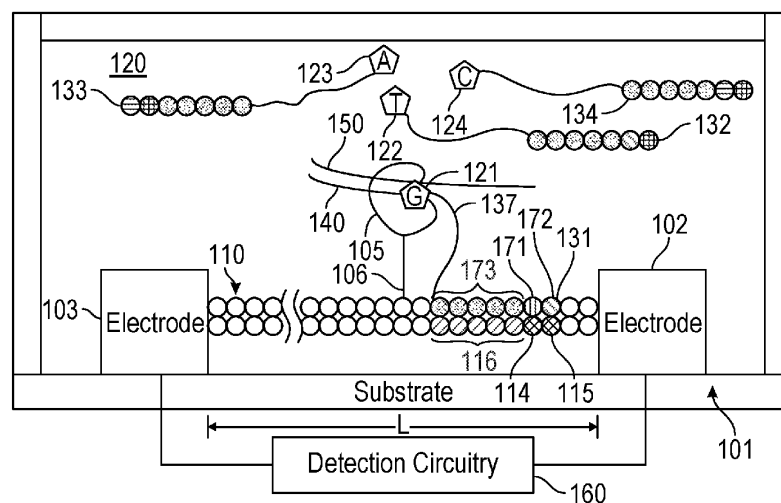


FIG. 1B

(57) Abstract: Provided herein are compositions and methods for electronically sequencing polynucleotides using partially double-stranded polymer bridges. The bridges may span the space between first and second electrodes. A plurality of nucleotides may be coupled to corresponding labels. A polymerase may add nucleotides to a first polynucleotide using at least a sequence of a second polynucleotide. The labels corresponding to those nucleotides respectively may hybridize to a portion of the bridge that is not double-stranded. Detection circuitry may detect a sequence in which the polymerase adds the nucleotides to the first polynucleotide using at least changes in an electrical signal through the bridge, the changes being responsive to the respective hybridizations between the non-double stranded portion of the bridge and the labels corresponding to those nucleotides.

[Continued on next page]

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