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(54) Title: CONTROLLED POLYNUCLEOTIDE TRANSLOCATION IN NANOPORE SEQUENCING

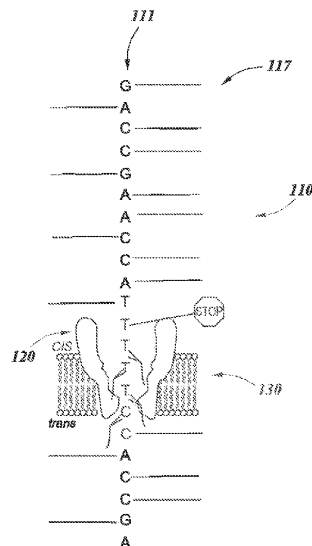


FIG. 1

(57) Abstract: Provided herein are methods for modification-based controlled polynucleotide translocation in nanopores for sequencing, modified nucleotides, and kits and systems for performing the disclosed methods. In some embodiments, modifications can be used to control polynucleotide translocation by modifying nucleotides on a strand of polynucleotide to carry a modification, where the modifications can arrest or slow translocation when encountering the nanopore. In some embodiments, application of a voltage can move one nucleotide and its attached modification through the nanopore at a time.

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