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- (54) **Title: BASE MODIFICATION ANALYSIS USING ELECTRICAL SIGNALS**

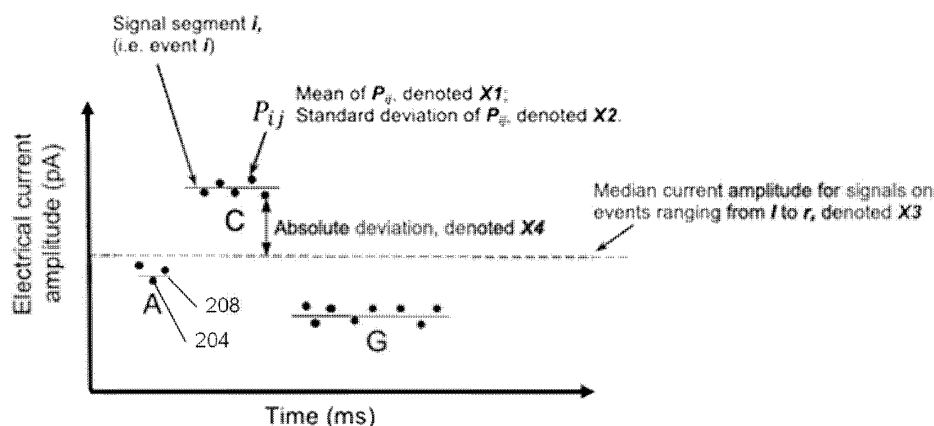


FIG. 2

- (57) **Abstract:** Systems and methods for determining base modifications using electrical signals and other data is described herein. Embodiments can make use of features derived from electrical signals related to sequencing, such as those acquired from using a nanopore (116), that are affected by the various base modifications, as well as an identity of nucleotides in a window around a target position whose methylation status is determined. Other features may include a vector of statistical values of a segment of the electrical signal corresponding to the nucleotide and a statistical value of the electrical signal in a window in a region of the nucleic acid molecule. The detected base modifications can be used for additional analysis of a biological sample.

[Continued on next page]



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