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(54) Title: GENOMIC LIBRARY PREPARATION AND TARGETED EPIGENETIC ASSAYS USING CAS-GRNA RIBONUCLEOPROTEINS

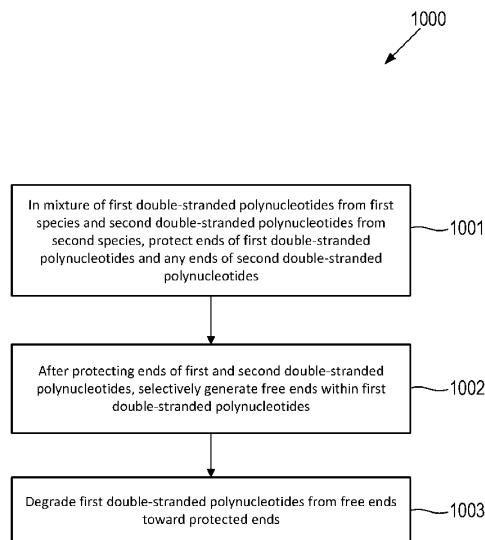


FIG. 1K

(57) Abstract: Genomic library preparation using Cas-gRNA RNPs, and targeted epigenetic assays, are provided herein. Some compositions include, from a first species, substantially only single-stranded polynucleotides; from a second species, substantially only double-stranded polynucleotides; and amplification primers ligated to ends of the second double-stranded polynucleotides and substantially not ligated to any ends of the first double-stranded polynucleotides. Some compositions include first and second molecules of a target polynucleotide having a sequence, the first molecule having a first end at a first subsequence, the second molecule having a first end at a second subsequence, wherein the first subsequence only partially overlaps with the second subsequence. Some examples provide a composition that includes a target polynucleotide and a first fusion protein including a Cas-gRNA RNP coupled to a transposase having an amplification adapter coupled thereto. The Cas-gRNA RNP may be hybridized to a subsequence in the target polynucleotide.

[Continued on next page]

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