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(54) **Title:** SEQUENCING TEMPLATES COMPRISING MULTIPLE INSERTS AND COMPOSITIONS AND METHODS FOR IMPROVING SEQUENCING THROUGHPUT

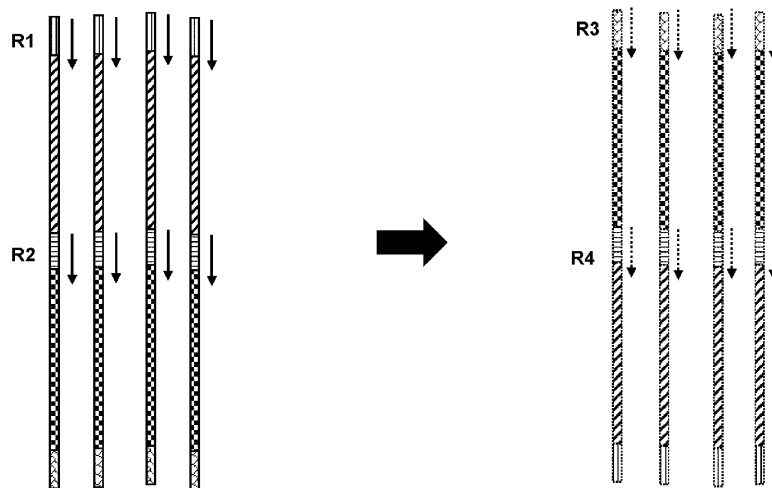


Fig. 1

(57) **Abstract:** Described herein is a polynucleotide for use as a sequencing template comprising multiple inserts. Also described herein are method of generating and using these polynucleotides and methods of use of such templates, including analysis of contiguity information. Further, sequencing templates comprising an insert sequence and a copy of the insert sequence can be used to correct for random errors generated during sequencing or amplification or to identify nucleobase damage or other mutation that leads to non-canonical base pairing in a double-stranded nucleic acid. Methods of performing methylation analysis are also described herein.

[Continued on next page]

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