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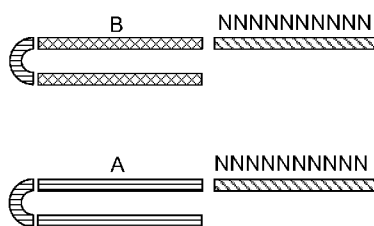
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(54) Title: NUCLEIC ACID ENCODING REACTIONS

Degenerate-tailed hairpin sequencing linkers



A- Sequencer specific tag1

B- Sequencer specific tag2

Rest. Site: Optional restriction site/specific enzyme cutting site
(dUTP, phosphothiorate possible)

NNNNNNNNNN- Degenerate primer region-10mer, 20mer, 3' end protected

FIG. 1A

(57) Abstract: Described herein are methods useful for incorporating one or more adaptors and/or nucleotide tag(s) and/or barcode nucleotide sequence(s) one, or typically more, target nucleotide sequences. In particular embodiments, nucleic acid fragments having adaptors, e.g., suitable for use in high-throughput DNA sequencing are generated. In other embodiments, information about a reaction mixture is encoded into a reaction product. Also described herein are methods and kits useful for amplifying one or more target nucleic acids in preparation for applications such as bidirectional nucleic acid sequencing. In particular embodiments, methods of the invention entail additionally carrying out bidirectional DNA sequencing. Also described herein are methods for encoding and detecting and/or quantifying alleles by primer extension.



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