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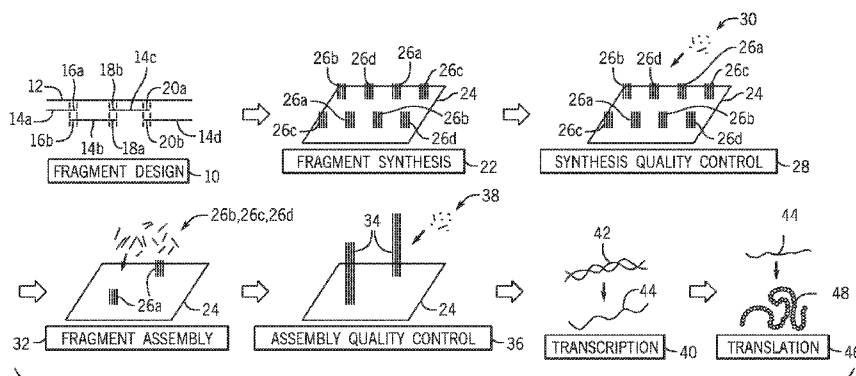


FIG. 1

(57) Abstract: A method for synthesizing a nucleic acid includes synthesizing one or more nucleic acid fragments on a substrate. The synthesized one or more nucleic acid fragments may be amplified on the substrate. The method also includes sequencing the synthesized or amplified one or more nucleic acid fragments on the substrate. The sequencing may provide feedback to designs of the one or more nucleic acid fragments. The method further includes harvesting the synthesized or amplified one or more nucleic acid fragments based on sequencing. The synthesized or amplified one or more nucleic acid fragments may be assembled to generate a target nucleic acid.