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(54) Title: METHOD AND KIT FOR REGENERATING REUSABLE INITIATORS FOR NUCLEIC ACID SYNTHESIS

(57) Abstract: A method for nucleic acid synthesis and regeneration of a reusable synthesis initiator includes incorporating a linking nucleotide to an immobilized initiator using a polymerase, synthesizing a nucleic acid right after the linking nucleotide using the polymerase, subjecting a substrate base of the linking nucleotide in the nucleic acid to base-excision by a DNA glycosylase to generate an abasic site, subjecting the abasic site to cleavage by an endonuclease to release the nucleic acid from the initiator, and converting the 3' terminus of the initiator back to its original form by a 3' phosphatase activity-possessing enzyme. A kit based on the aforesaid method and a method for regenerating a reusable initiator are also disclosed.

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