US009410192B2

(12) **United States Patent**
Lee et al.

(10) **Patent No.: US 9,410,192 B2**
(45) **Date of Patent: Aug. 9, 2016**

(54) **CHEMICALLY-ENHANCED PRIMER COMPOSITIONS, METHODS AND KITS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/053,571**

(22) Filed: **Oct. 14, 2013**

(65) **Prior Publication Data**

US 2014/0099645 A1 Apr. 10, 2014

Related U.S. Application Data

(63) Continuation of application No. 13/284,839, filed on Oct. 28, 2011, now abandoned.

(60) Provisional application No. 61/408,553, filed on Oct. 29, 2010, provisional application No. 61/407,899, filed on Oct. 28, 2010.

(51) **Int. Cl.**

C12P 19/34	(2006.01)
C12Q 1/68	(2006.01)
C07H 21/00	(2006.01)

(52) **U.S. Cl.**

CPC ***C12Q 1/6853*** (2013.01); ***C12Q 1/6869*** (2013.01); ***C12Q 1/6874*** (2013.01)

(58) **Field of Classification Search**

CPC C12Q 1/6853; C12Q 1/6869
USPC 536/24.33; 435/6.1, 91.1, 4.1
See application file for complete search history.

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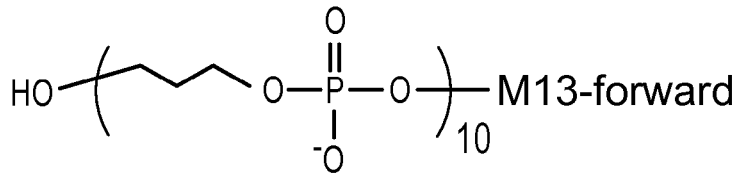
Primary Examiner — Jezia Riley

(57) **ABSTRACT**

A composition is provided comprising a negatively charged group, an oligonucleotide sequence and at least none or one nuclease-resistant linkage group to form a chemically-enhanced primer. The chemically-enhanced primer can be used for sequencing and fragment analysis. Methods for synthesizing the primer as well as a method of preparing DNA for sequencing and a method of sequencing DNA and kits containing the chemically-enhanced primer are also provided. The method of sequencing DNA can comprise contacting amplification reaction products with the composition under conditions in which excess amplification primer is degraded by the nuclease and the chemically-enhanced primer is essentially non-degraded.

4 Claims, 8 Drawing Sheets



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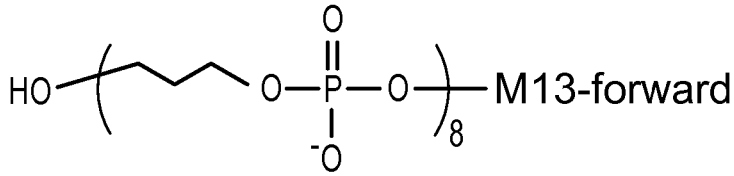

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