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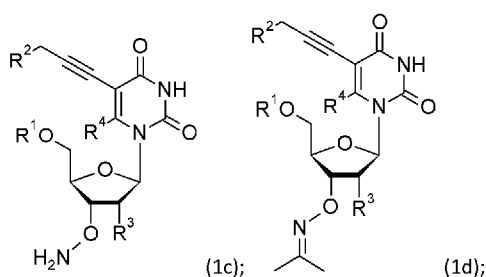
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(54) Title: C5-MODIFIED-3'-AMINOXY THYMIDINE DERIVATIVES AND THEIR USE IN DE NOVO NUCLEIC ACID SYNTHESIS



(57) Abstract: The present invention relates to a compound according to Formula (1c) or (1d): wherein, R¹, R², R³ and R⁴ are disclosed herein.



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER INV. C07H19/10 C07H21/00 C12Q1/68 C12P19/34 ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) C07H C12Q C12P		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, CHEM ABS Data, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2016/128731 A1 (NUCLERA NUCLEICS LTD [GB]) 18 August 2016 (2016-08-18) cited in the application abstract; figure 1 page 20; compound (III) pages 23-24; compounds E3, E11 page 1, lines 4-8 examples 4, 6	1-20
Y	WO 2019/097233 A1 (NUCLERA NUCLEICS LTD [GB]) 23 May 2019 (2019-05-23) abstract; claims 1, 2, 24-26; compound (VII) ----- -/--	1-20
☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 6 October 2021		Date of mailing of the international search report 15/10/2021
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Gohlke, Pascale

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB2021/050839

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.c of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of a sequence listing:
 - a. ☒ forming part of the international application as filed:
 - ☒ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13~~ter~~.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13~~ter~~.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13~~ter~~.1(b) and Administrative Instructions, Section 713).
2. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2021/050839

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 8 034 923 B1 (BENNER STEVEN ALBERT [US] ET AL) 11 October 2011 (2011-10-11) abstract; claims column 3, line 31 - column 4, line 23 columns 6-7; compounds 1(d), 1(e) column 5, lines 42-44 column 18; example 7 -----	1-20
Y	WO 2017/058953 A1 (UNIV COLUMBIA [US]; JU JINGYUE [US] ET AL.) 6 April 2017 (2017-04-06) page 461, paragraph [0983]-[0984] Page 482; Scheme 62 -----	1-20
Y	SEBASTIAN PALLUK ET AL: "De novo DNA synthesis using polymerase-nucleotide conjugates", NATURE BIOTECHNOLOGY, vol. 36, no. 7, 18 June 2018 (2018-06-18), pages 645-650, XP055529953, New York ISSN: 1087-0156, DOI: 10.1038/nbt.4173 abstract figure 1 -----	1-20
Y	DANIEL HUTTER ET AL: "Labeled Nucleoside Triphosphates with Reversibly Terminating Aminoalkoxyl Groups", NUCLEOSIDES, NUCLEOTIDES & NUCLEIC ACIDS, vol. 29, no. 11-12, 30 November 2010 (2010-11-30), pages 879-895, XP055010178, ISSN: 1525-7770, DOI: 10.1080/15257770.2010.536191 abstract page 882; figure 2; compounds 5a-5c page 884; compounds 19-22 -----	1-20

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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