

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
31 July 2025 (31.07.2025)



(10) International Publication Number
WO 2025/160090 A1

(51) International Patent Classification:
C07H 19/073 (2006.01) C12N 15/113 (2010.01)

SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:
PCT/US2025/012464

Published:
— with international search report (Art. 21(3))

(22) International Filing Date:
21 January 2025 (21.01.2025)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/623,750 22 January 2024 (22.01.2024) US

(71) Applicant: **WAVE LIFE SCIENCES LTD.** [SG/SG]; 7
Straits View #12-00, Marina One East Tower, Singapore
018936 (SG).

(72) Inventors; and

(71) Applicants (for US only): **YU, Hui** [US/US]; c/o WAVE
LIFE SCIENCES LTD., 733 Concord Avenue, Cambridge,
Massachusetts 02138 (US). **LU, Genliang** [US/US]; c/
o WAVE LIFE SCIENCES LTD., 733 Concord Avenue,
Cambridge, Massachusetts 02138 (US). **KANDASAMY,
Pachamuthu** [US/US]; c/o WAVE LIFE SCIENCES LTD.,
733 Concord Avenue, Cambridge, Massachusetts 02138
(US).

(74) Agent: **LI, Xiaodong** et al.; CHOATE, HALL & STE-
WART LLP, Two International Place, Boston, Massachu-
setts 02110 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG,
KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY,
MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA,
NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,
RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UY, UZ, VC, VN,
WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, CV,
GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,
SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ,
RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,
LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,

(54) Title: TECHNOL. OGIES USEFUL FOR OLIGONUCLEOTIDE PREPARATION

(57) Abstract: Among other things, the present disclosure provides technologies for preparation of oligonucleotides and intermediates thereof, e.g., nucleosides, phosphoramidites, etc. In some embodiments, such oligonucleotides and intermediates comprise N3U base modification.

WO 2025/160090 A1