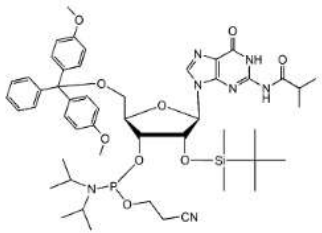


CERTIFICATE OF ANALYSIS

PRODUCT NAME:	iBu rG Phosphoramidite	STRUCTURE 
PRODUCT NUMBER:	27-1406-07	
LOT NUMBER:	ZE1872	
BULK NUMBER:	YF0019	
DESCRIPTION:	5'-O-Dimethoxytrityl-N ² -isobutyryl-2'-O-TBDMSi-guanosine-3'-O-(β-cyanoethyl-N,N-diisopropyl) phosphoramidite	
CHEMICAL FORMULA:	C ₅₀ H ₆₈ N ₇ O ₉ PSi	
MOLECULAR WEIGHT:	970.1 g/mol	
CAS NUMBER:	147201-04-5	
STORE:	-20°C	
SHIP:	Ambient	
MANUFACTURE DATE:	06/14/2023	
RETEST DATE:	12/15/2026	
EXPIRATION DATE:	06/13/2027	

ANALYSIS RESULTS

Property	Specification Limits	Observed Value
Appearance	White to pale yellow powder	Pass
Appearance	Color intensity must not exceed Pantone #P1-4U or #P4-2U	Pass
Solution Clarity	0.2M solution in acetonitrile is free from undissolved particulate	Pass
HPLC Purity	≥ 98.0%	99.4%
³¹ P NMR Purity	≥ 98.0%	100.0%
	Sum of non-primary peaks in 140-152 ppm range ≤ 0.5 mole%	0.0%
Water Content	≤ 0.3%	0.2%
Material Origin (TSE/BSE)	No known animal-derived materials were used in the manufacture of this product	Pass

Phosphoramidites are sensitive to environmental conditions when in powder or liquid form. Take precautions to avoid potential precipitation, degradation or hydrolysis that can affect performance or delivery of the phosphoramidite during synthesis. Control temperature, humidity, and exposure time to air for both the phosphoramidite and diluent.



Gina Kogutkiewicz
Sr. Manager, Business Systems & Quality Compliance

QC Release By:

QC Release Date: 6/7/2023

Revision 11