CERTIFICATE of ANALYSIS

Lipid PL40

tetra(undecan-3-yl) 8,8',8'',8'''-((((piperazine-1,4-diylbis(propane-3,1-diyl))bis(azanediyl))bis(oxo-l5-phosphanetriyl))tetrakis(oxy))tetraoctanoate

*Item No. 46017 * Batch No. 0822542*

Purity Specification: ≥95%

Molecular formula: C86H170O14N4P2

CAS number: 3119903-62-4 **Formula weight:** 1546.27 **Expiration date:** 24AUG2030

Overview

Tests	Results
HPLC	Purity: 96.8 %
Mass Spec	[M+2H]2+: 773.5 M+H: 1545.8
NMR	Conforms

Reviewed and approved by: Libby Perry

Libby Perry

WARNING
THIS PRODUCT IS FOR RESEARCH USE - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE. IT IS THE RESPONSIBILITY OF THE PURCHASER TO DETERMINE SUITABILITY FOR OTHER APPLICATIONS.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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