

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2024-07-02 15:45:47

Date of Next Testing: 2026-06-22 15:45:47

Product Name: **(S)-(-)-BINAP**

CAS Number: 76189-56-5

Specifications & Purity: $\geq 98\%$

Lot #: F2427134

SKU #: **B109538**

Version: **0**

Analysis #: **355763**

Storage Temperature: Room temperature, Argon charged

Parameter	Limit Values	Result
Melting point	238-243 (°C)	241.88000 °C
Specific Rotation [α] ₂₀ /D(c=0.3 in Toluene)	-245--220 (°)	-241.12600 °
Purity(HPLC)	98-100 (%)	98.11000 %
Optical purity(HPLC)(ee)	99-100 (%)	99.00000 %
Appearance (B109538)	White to Off-White Powder or Crystals	White to Off-White Powder or Crystals
Proton NMR spectrum	Conforms to Structure	Conforms to Structure
Infrared spectrum	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager