

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-12-13 13:53:51  
Date of Next Testing: 2026-12-12 13:53:51  
Product Name: (S)-(-)-1,1'-Binaphthyl-2,2'-diamine  
CAS Number: 18531-95-8  
Specifications & Purity: ≥99%  
Lot #: L2206380  
SKU #: S138404  
Analysis: 145528

Parameter	Limit Values	Result
Purity(HPLC)	99-100 (%)	99.43800 %
Melting point	241-246 (°C)	244.06000 °C
Specific Rotation [α] <sub>20</sub> /D(c=1 in Pyridine)	-158--154 (°)	-157.68 °
Appearance (S138404)	White to Tan to Purple Powder, Crystals or Chunks	White to Tan to Purple Powder, Crystals or Chunks
Proton NMR spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager