

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-10-24 14:31:19

Date of Next Testing: 2025-10-13 14:31:19

Product Name: **(R)-DM-BINAP**

CAS Number: 137219-86-4

Specifications & Purity: $\geq 98\%$

Lot #: L2129400

SKU #: **R115620**

Version: **0**

Analysis #: **283076**

Storage Temperature: Room temperature, Argon charged

Parameter	Limit Values	Result
Specific Rotation $[\alpha]_{20/D}(c=1 \text{ CHCL}_3)$	164-174 ($^{\circ}$)	166.30000 $^{\circ}$
Melting point	187-191 ($^{\circ}\text{C}$)	188.30000 $^{\circ}\text{C}$
Purity(NMR)	98-100 (%)	98.03000 %
Appearance (R115620)	white to beige powder or crystals	white to beige powder or crystals
Infrared spectrum	Conforms to Structure	Conforms to Structure
Proton NMR spectrum	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager