

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2022-02-21 16:12:12
 Date of Next Testing: 2024-02-11 16:12:12
 Product Name: (R)-(+)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthalene
 CAS Number: 76189-55-4
 Specifications & Purity: ≥98%
 Lot #: B2212268
 SKU #: B106732
 Version: 1
 Analysis #: 059494
 Storage Temperature: Room temperature, Argon charged

Parameter	Limit Values	Result
Melting point	240-243 (°C)	242.20000 °C
Optical purity(HPLC)(ee)	99-100 (%)	99.30000 %
Specific rotation [α] _{20/D} (C=0.3% , Toluene)	218 - 248 (°)	247.99000 °
Purity(HPLC)	98-100 (%)	98.01000 %
Appearance (B106732)	white to beige powder or crystals	white to beige powder or crystals
Phosphorus NMR Spectra	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager