

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2024-05-08 13:17:20  
Date of Next Testing: 2027-05-08 13:17:20  
Product Name: **(R)-(+)-1,1'-Binaphthyl-2,2'-diamine**  
CAS Number: 18741-85-0  
Specifications & Purity:  $\geq 99\%$   
Lot #: D2428401  
SKU #: **R138409**  
Analysis: **335672**

| Parameter  | Limit Values                                    | Result  |
|--|---|---|
| Purity(HPLC)   | 98-100 (%)                                      | 98.00000 %                                      |
| Specific Rotation $[\alpha]_{20}^D(c=1$ in Pyridine) | 154-158 (°)                                     | 154.20 °  |
| Melting point  | 240-244 (°C)                                    | 243.98000 °C                                    |
| Appearance (R138409)                                 | white to off-white to pink to yellow-red powder | white to off-white to pink to yellow-red powder |
| Proton NMR spectrum                                  | Conforms to Structure                           | Conforms to Structure                           |



John Su  
QA & QC Manager