

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2025-03-11 14:05:37  
 Date of Next Testing: 2028-03-10 14:05:37  
 Product Name: (R)-(+)-1,1'-Binaphthyl-2,2'-diamine  
 CAS Number: 18741-85-0  
 Specifications & Purity: ≥99%  
 Lot #: H1927027  
 SKU #: R138409  
 Version: 0  
 Analysis #: 478701  
 Storage Temperature: Room temperature

| Parameter                                               | Limit Values                                    | Result                                          |
|---------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Purity(HPLC)                                            | 98-100 (%)                                      | 99.70000 %                                      |
| Specific Rotation [α] <sub>20</sub> /D(c=1 in Pyridine) | 154-158 (°)                                     | 157.90000 °                                     |
| Melting point                                           | 240-244 (°C)                                    | 241.00000 °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