

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-01-06 14:31:07  
 Date of Next Testing: 2027-01-05 14:31:07  
 Product Name: **(S)-3-Amino-1-Cbz-pyrrolidine Hydrochloride**  
 CAS Number: 550378-39-7  
 Specifications & Purity: ≥98%  
 Lot #: E1528050  
 SKU #: **C121655**  
 Version: **0**  
 Analysis #: **175437**  
 Storage Temperature: Room temperature

| Parameter                                                       | Limit Values                                  | Result                                        |
|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Specific Rotation [α] <sub>20</sub> /D(c=1 in H <sub>2</sub> O) | 13-16 (°)                                     | 13.86000°                                     |
| Purity(HPLC)                                                    | 98-100 (%)                                    | 98.59300 %                                    |
| Carbon by Elemental Analysis                                    | 54.7-56.8 (%)                                 | 56.48000 %                                    |
| Nitrogen by Elemental Analysis                                  | 10.2-11.4 (%)                                 | 10.87000 %                                    |
| Appearance (c121655)                                            | White to Off-White Solid, Powder, or Crystals | White to Off-White Solid, Powder, or Crystals |
| Proton NMR spectrum                                             | Conforms to Structure                         | Conforms to Structure                         |



John Su  
QA & QC Manager