

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-09-07 15:47:01  
 Date of Next Testing: 2027-09-06 15:47:01  
 Product Name: **4-Pyrazoleboronic acid pinacol ester**  
 CAS Number: 269410-08-4  
 Specifications & Purity:  $\geq 98\%$   
 Lot #: K1920208  
 SKU #: **P123983**  
 Version: **0**  
 Analysis #: **272986**  
 Storage Temperature: Room temperature

| Parameter                      | Limit Values                               | Result                                     |
|--------------------------------|--------------------------------------------|--------------------------------------------|
| Purity(GC)                     | 98-100 (%)                                 | 98.28800 %                                 |
| Nitrogen by Elemental Analysis | 14-14.9 (%)                                | 14.30000 %                                 |
| Melting point                  | 145-149 (°C)                               | 146.31000 °C                               |
| Carbon by Elemental Analysis   | 54.1-57.7 (%)                              | 55.54000 %                                 |
| Appearance (P123983)           | white to beige to brown powder or crystals | white to beige to brown 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