

## CERTIFICATE OF ANALYSIS

PRODUCT NAME: (+)-Sparteine, 98.0%

ITEM NUMBER: S121165  
BRAND: Aladdin  
CAS NUMBER: 492-08-0  
MDL NUMBER: MFCD00869353  
FORMULA: C<sub>15</sub>H<sub>26</sub>N<sub>2</sub>  
MOLECULAR WEIGHT: 234.39

| TEST                                              | SPECIFICATION                             |       | TARGET<br>VALUE |
|---------------------------------------------------|-------------------------------------------|-------|-----------------|
|                                                   | MIN.                                      | MAX.  |                 |
| Appearance                                        | Colorless to light yellow or brown Liquid |       |                 |
| Proton NMR spectrum                               | Conforms to Structure                     |       |                 |
| Purity(GC)                                        | 98 %                                      | 100 % | 100 %           |
| Refractive index n <sub>20</sub> /D               | 1.526                                     | 1.53  | 1.53            |
| Specific rotation [α] <sub>20</sub> /D(C=1, EtOH) | ++16 °                                    | +19 ° | ++19 °          |