

## Certificate of Analysis

Date of Testing: 2023-02-10 09:46:14  
Date of Next Testing: 2027-02-09 09:46:14  
Product Name: **N $\alpha$ -p-Tosyl-L-arginine methyl ester hydrochloride**  
CAS Number: 1784-03-8  
Specifications & Purity: 98%  
Lot #: B2303563  
SKU #: **T105948**  
**Analysis: 148130**  
Storage Temperature: Store at -20°C

Parameter	Limit Values	Result
Purity(HPLC)	98-100 (%)	99.58200 %
Specific Rotation [a] <sub>D</sub> 20/D(c=4 in H <sub>2</sub> O)	-15--13 (°)	-13.23 °
Carbon by Elemental Analysis	43.3-45.5 (%)	44.51 %
Nitrogen by Elemental Analysis	14.4-15.3 (%)	14.94 %
Melting point	146-150 (°C)	149.86000 °C
Proton NMR spectrum	Conforms to Structure	Conforms to Structure
Appearance (T105948)	white powder or crystals	White Powder or Crystals



John Su  
QA & QC Manager