

Certificate of Analysis

Date of Testing: 2024-11-18 11:14:04

Date of Next Testing: 2026-11-18 11:14:04

Product Name: **RuCl(p-cymene)[(R,R)-Ts-DPEN]**

CAS Number: 192139-92-7

Specifications & Purity: $\geq 98\%$

Lot #: K2414357

SKU #: **R138419**

Version: **5**

Analysis #: **429510**

Storage Temperature: Store at 2-8°C, Argon charged

Parameter	Limit Values	Result
Purity(as N)	98-102 (%)	98.00 %
Specific rotation [α] _{25/D} (C=0.5mol/L CHCl ₃)	-178~-150 (°)	-156.60000 °
Carbon by Elemental Analysis	56.7-60.3 (%)	56.82 %
Proton NMR spectrum	Conforms to Structure	Conforms to Structure
Appearance (R138419)	yellow to Orange to Brown solid to powder to crystal	yellow to Orange to Brown solid to powder to crystal
ICP: Confirms Ruthenium Component	Confirmed	Confirmed



John Su
QA & QC Manager