

## Certificate of Analysis

**Product Name:** Tris(5-amino-1,10-phenanthroline) ruthenium (II) hexafluorophosphate

**Product Number:**

**Lot Number:** 45-006/10

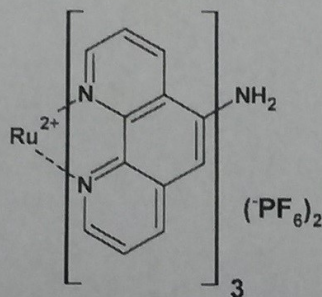
**Chemical Name:** Tris(5-amino-1,10-phenanthroline) ruthenium (II) hexafluorophosphate

**CAS Number:** N/A

**Chemical Formula:**  $C_{36}H_{27}F_{12}N_9P_2Ru$

**Molecular Weight:** 976.66

**Structure:**



**Appearance:** Reddish orange powder

**Purity ( $^1H$  NMR):** > 95%

**Solubility:** Acetone, acetonitrile

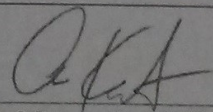
**$^1H$  NMR (acetone- $d_6$ ):** Consistent with literature

**$^{31}P$  NMR (acetone- $d_6$ ):** Consistent with structure

**ESI-MS:**  $[M-2PF_6]^{2+}$  343.57, consistent with literature

**Storage:** Ambient temperature, protect from light and moisture

**Certified by:**

  
\_\_\_\_\_  
**Chief Operating Officer**

**Date:**

9/7/12