



Heru31

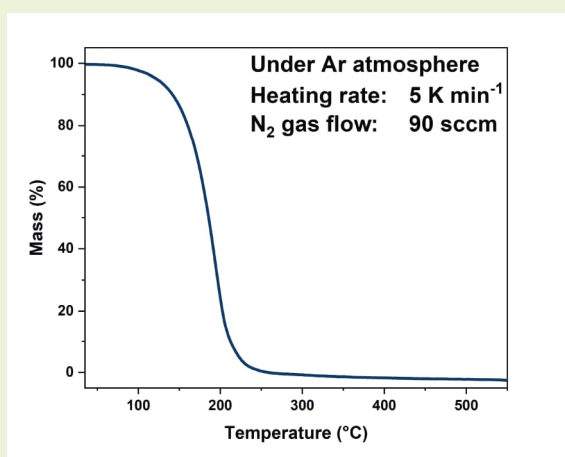
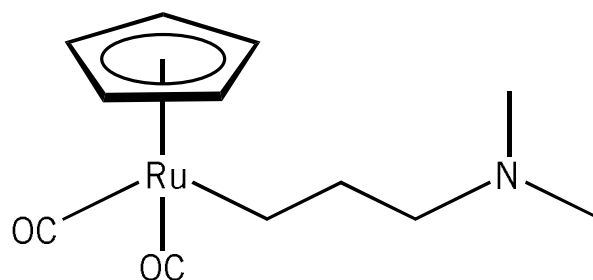
Ruthenium Precursor for ALD Processes

Novel Half-Sandwich Complex of Ruthenium

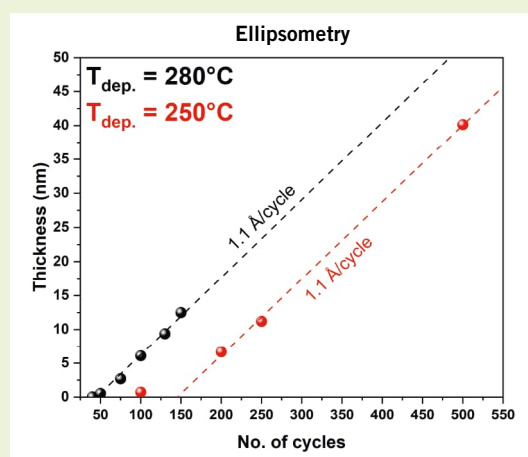
In a research collaboration with the Ruhr University Bochum (RUB), Heraeus Precious Metals has developed and patented Heru31, a new ruthenium precursor specially designed for atomic layer deposition (ALD) processes. The precursor has a low delay in nucleation at 280°C and enables fast and uniform layer formation. This allows you to achieve uniform film growth of high-purity Ru films.

Heru31 – Liquid Ruthenium Precursor

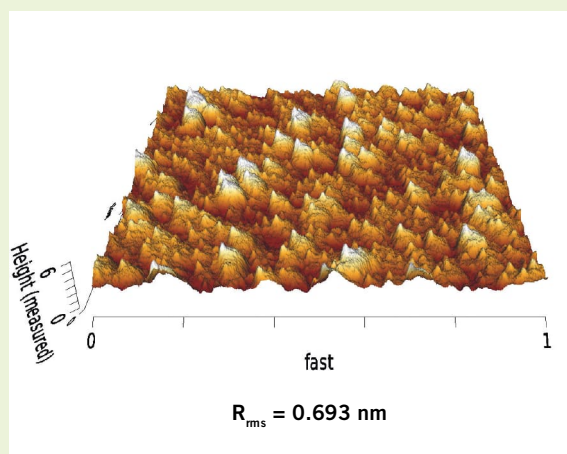
- › Dicarbonyl(cyclopentadienyl)3-dimethylaminopropyl)ruthenium
- › Pale yellow liquid at room temperature
- › Favorable volatility properties: clean vaporization at atmospheric pressure
- › Stable under inert gas, non-pyrophoric
- › Organometallic Ruthenium compound, Ru content ~1/3 (wt/wt)



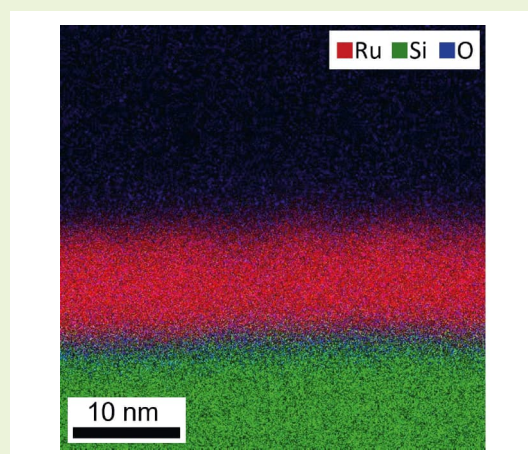
Favorable volatility properties: clean vaporization at atmospheric pressure



Low nucleation delay at 280°C



AFM: Smooth layer growth



EDX: High purity Ru with low resistivities