

2013 Scientific Advisory Committee Meeting
Courtyard Marriott Hotel, Richland, WA
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2013 Radiochemistry Progress Report



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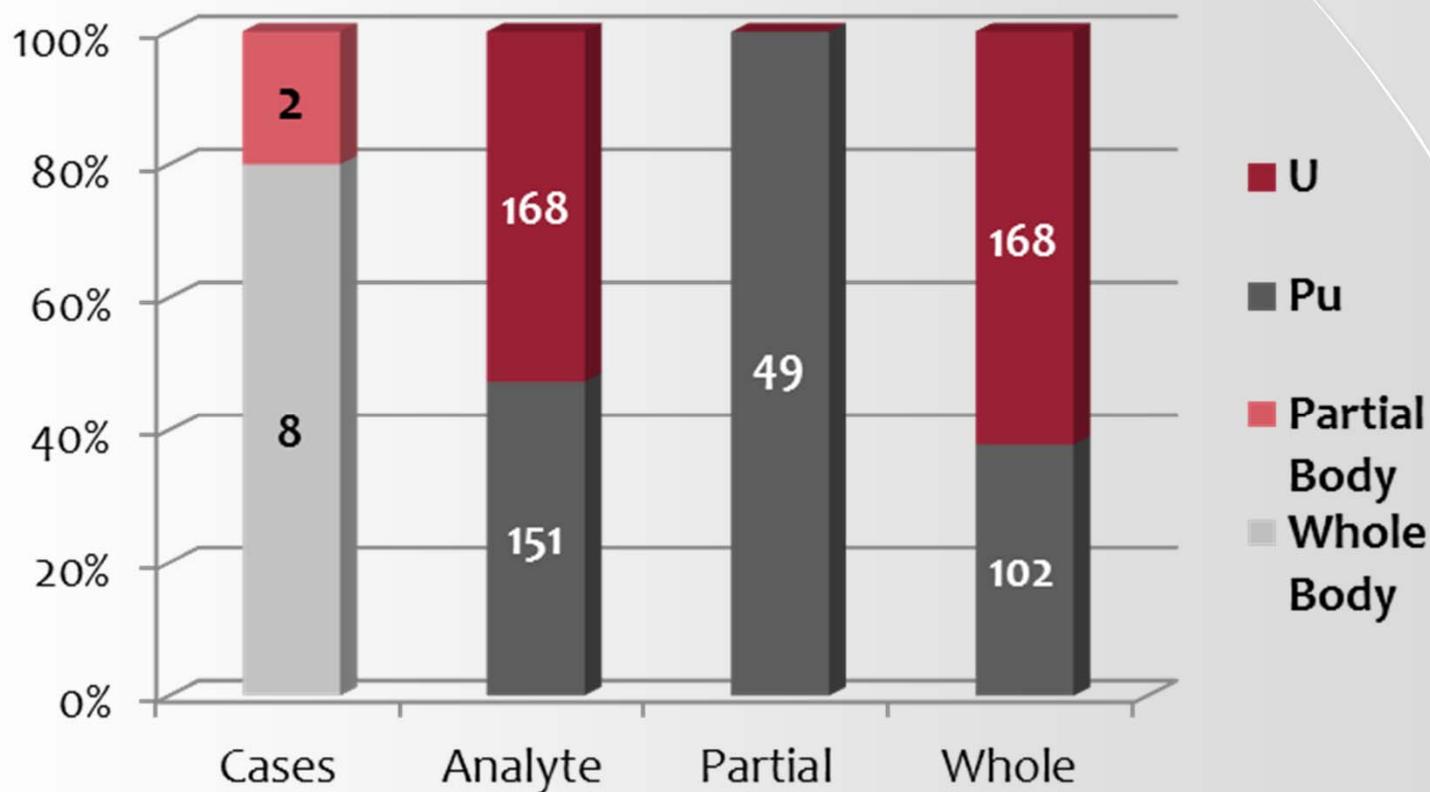
***“Learning from Plutonium and
Uranium Workers”***

Outline

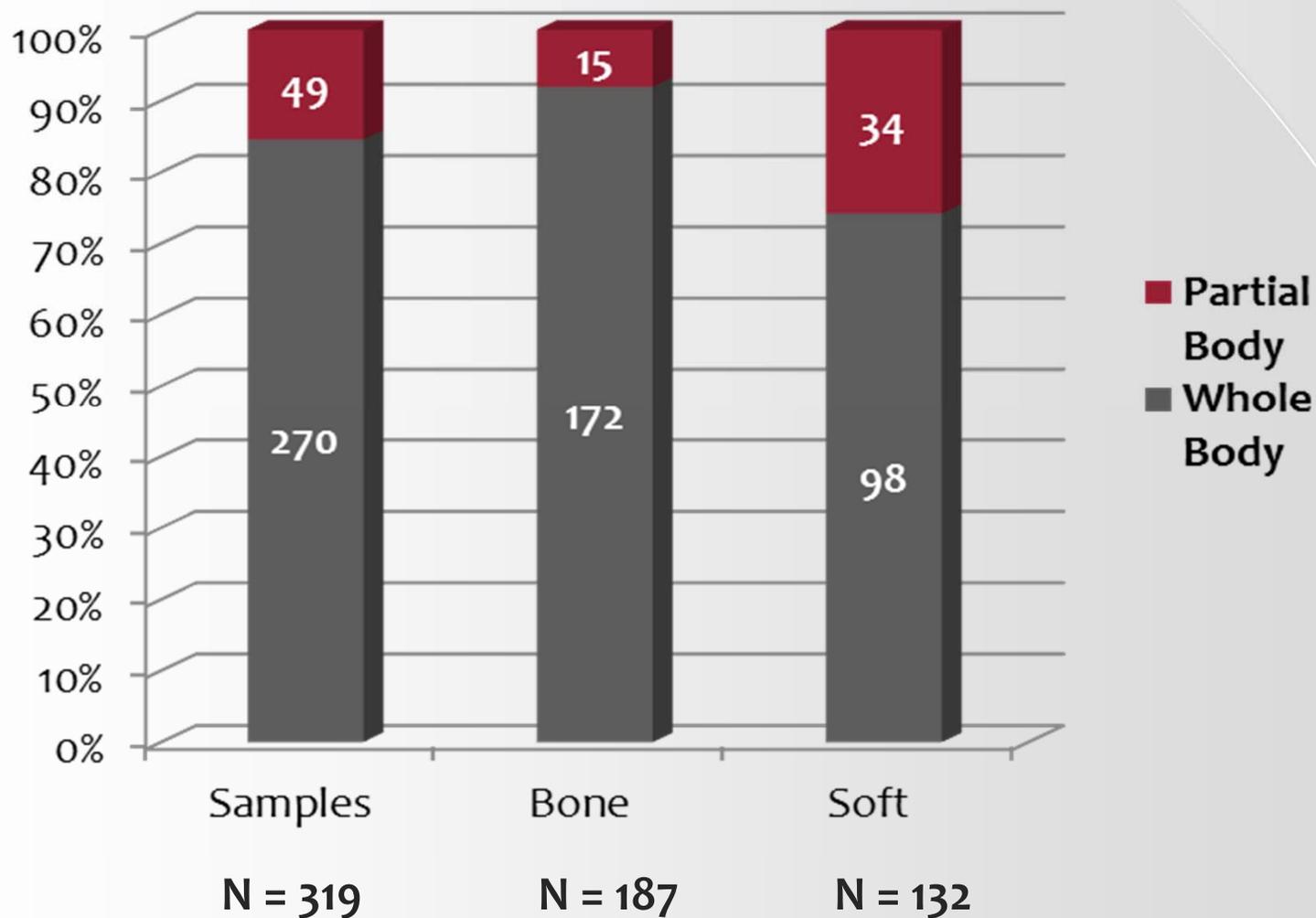
- **Tissue Analysis Progress**
- **Method Development**
- **New Equipment**
- **Facility Maintenance**



Tissue Analyses

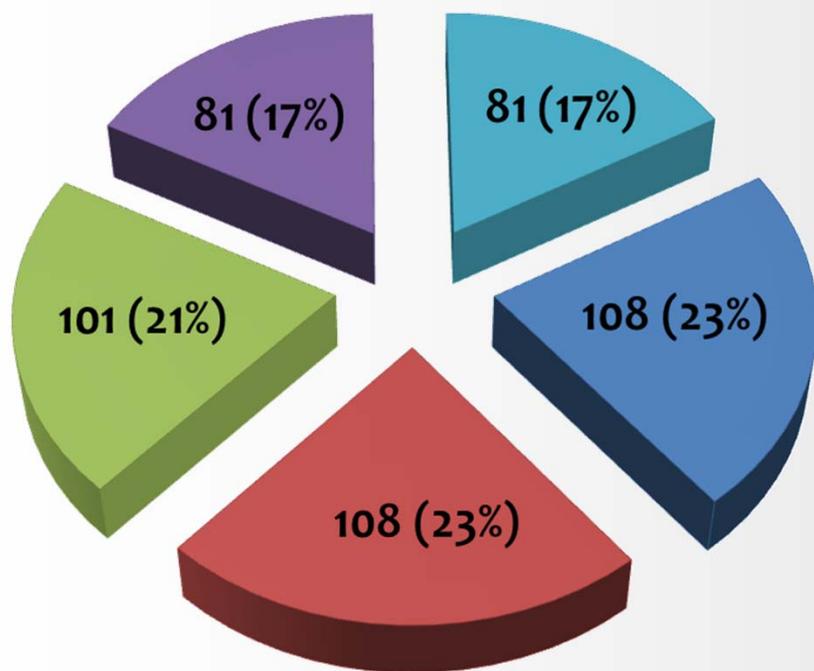


Samples by Tissue Type

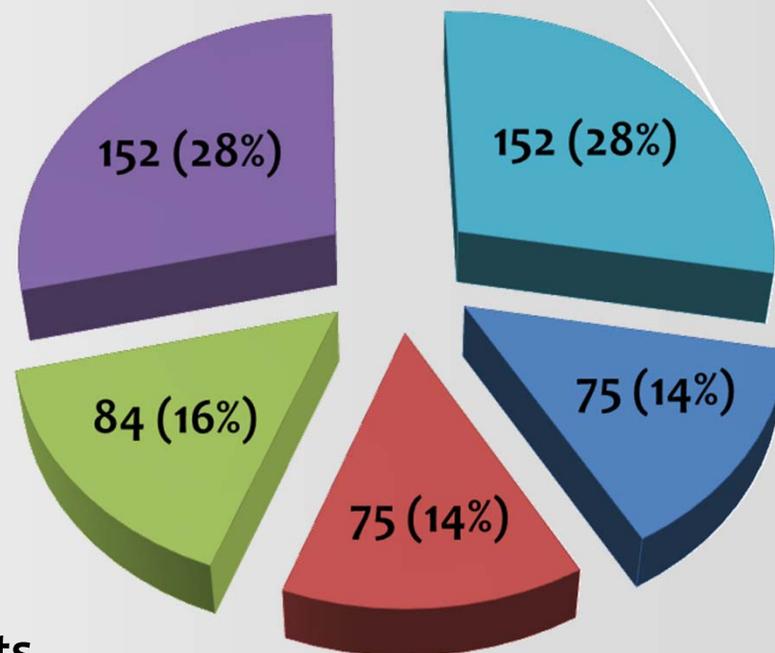


Sample Preparation Progress

Soft Tissue



Bone

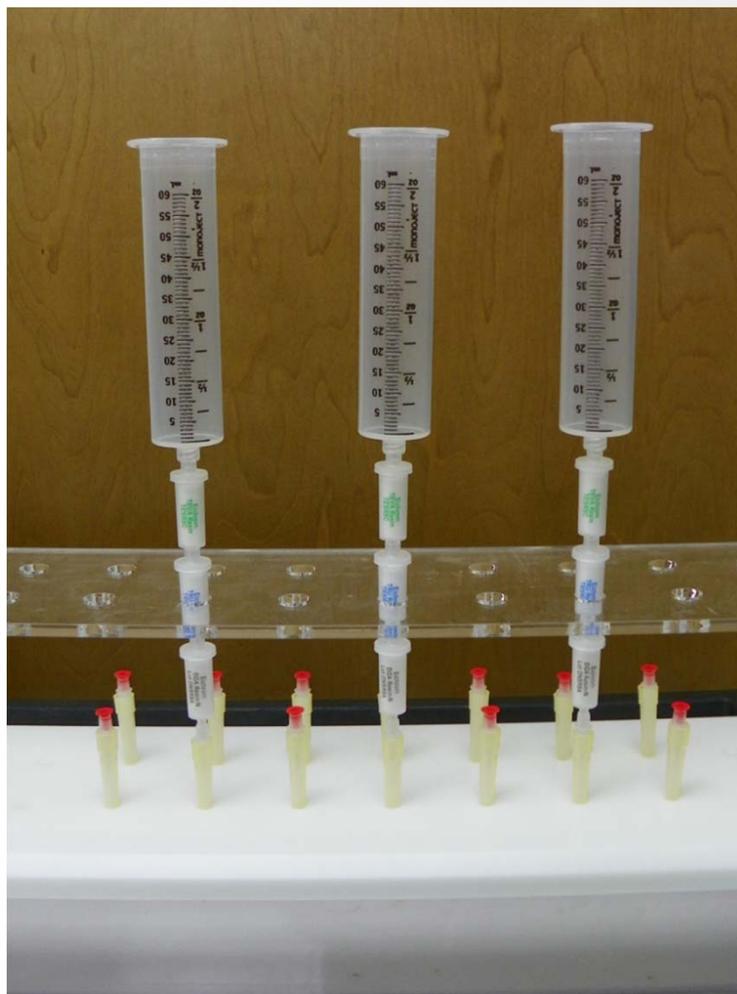


N ≠ Sum of Parts

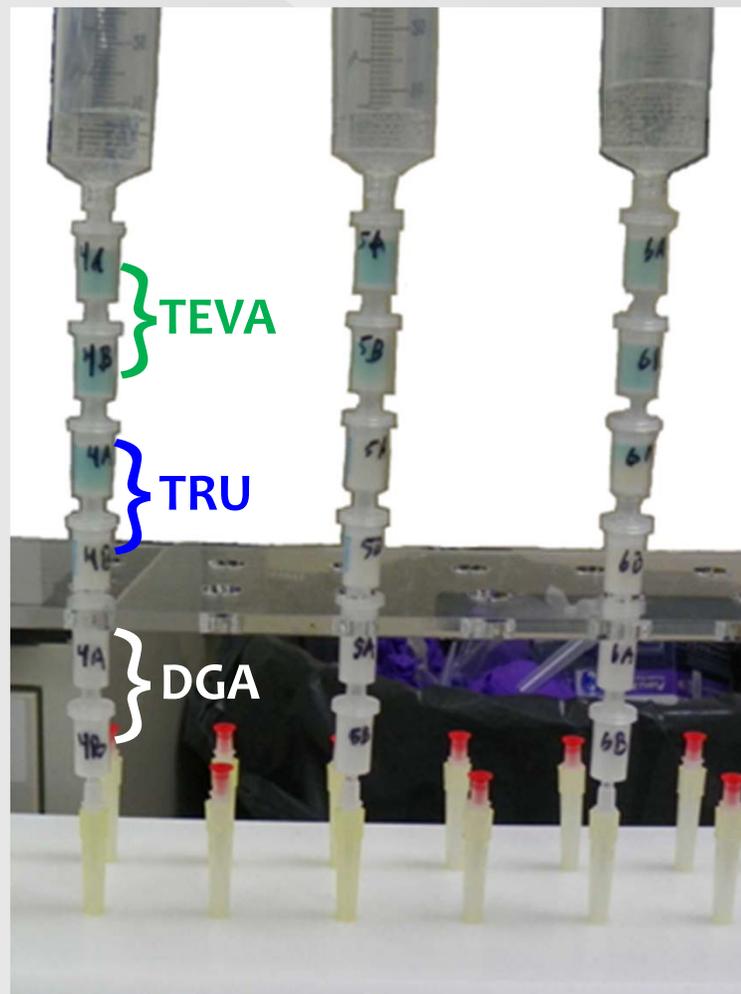
■ Analyzed ■ Ashed ■ Dissolved ■ Dried ■ Separated



Actinide Separation Method Development



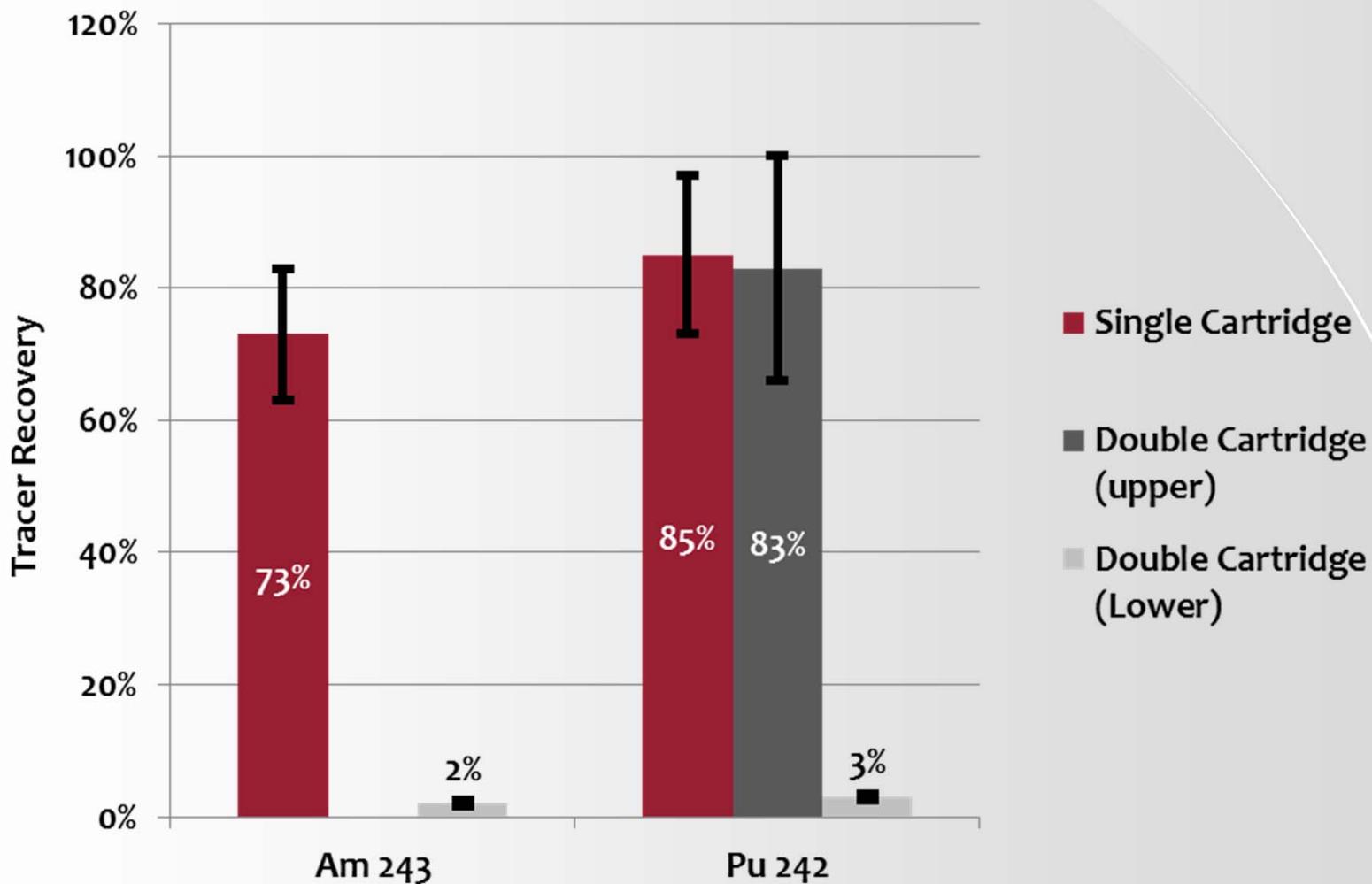
Pu/U/Am: 2-mL TEVA-TDU-DGA



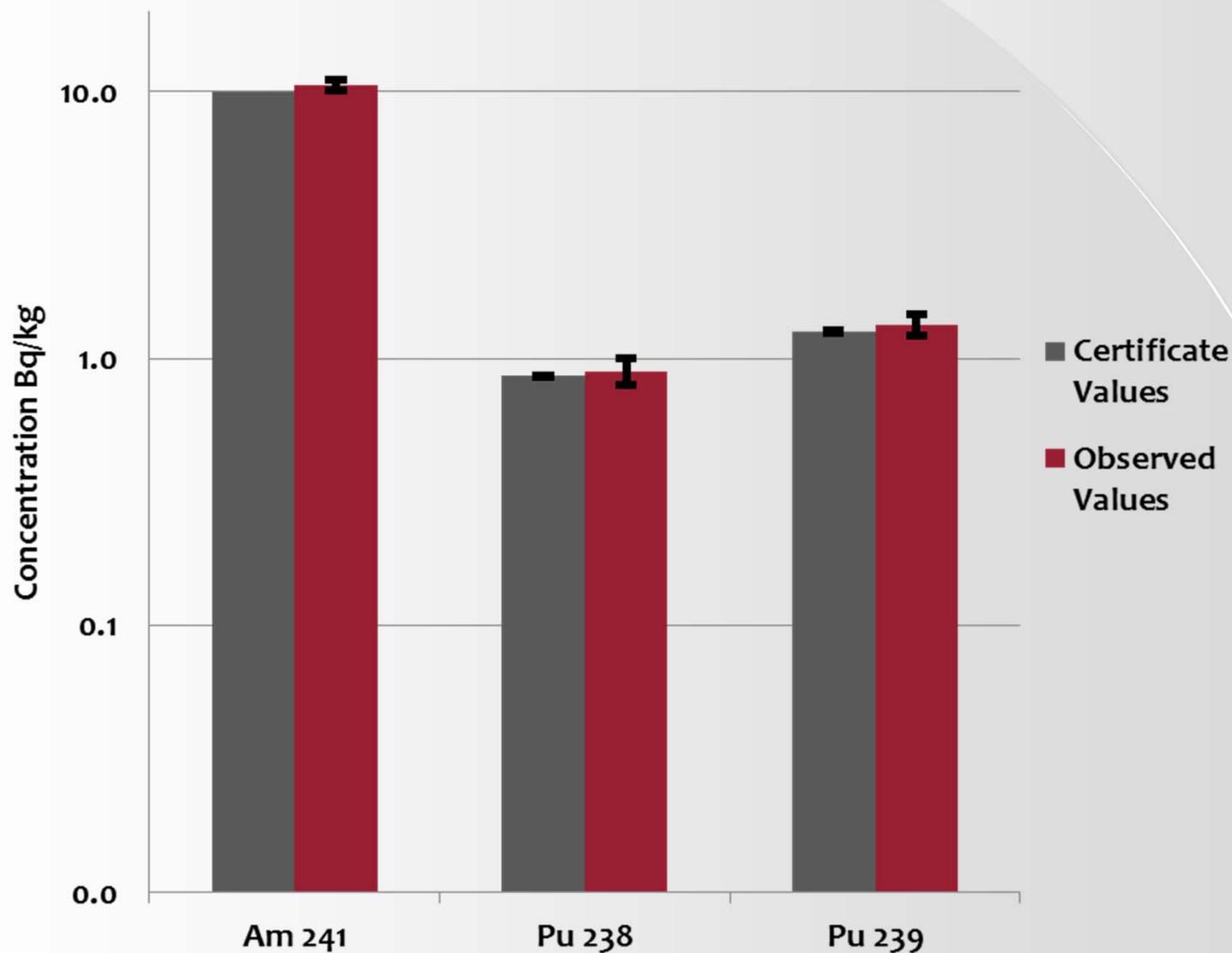
Pu/U/Am: 1-mL TEVA-TDU-DGA



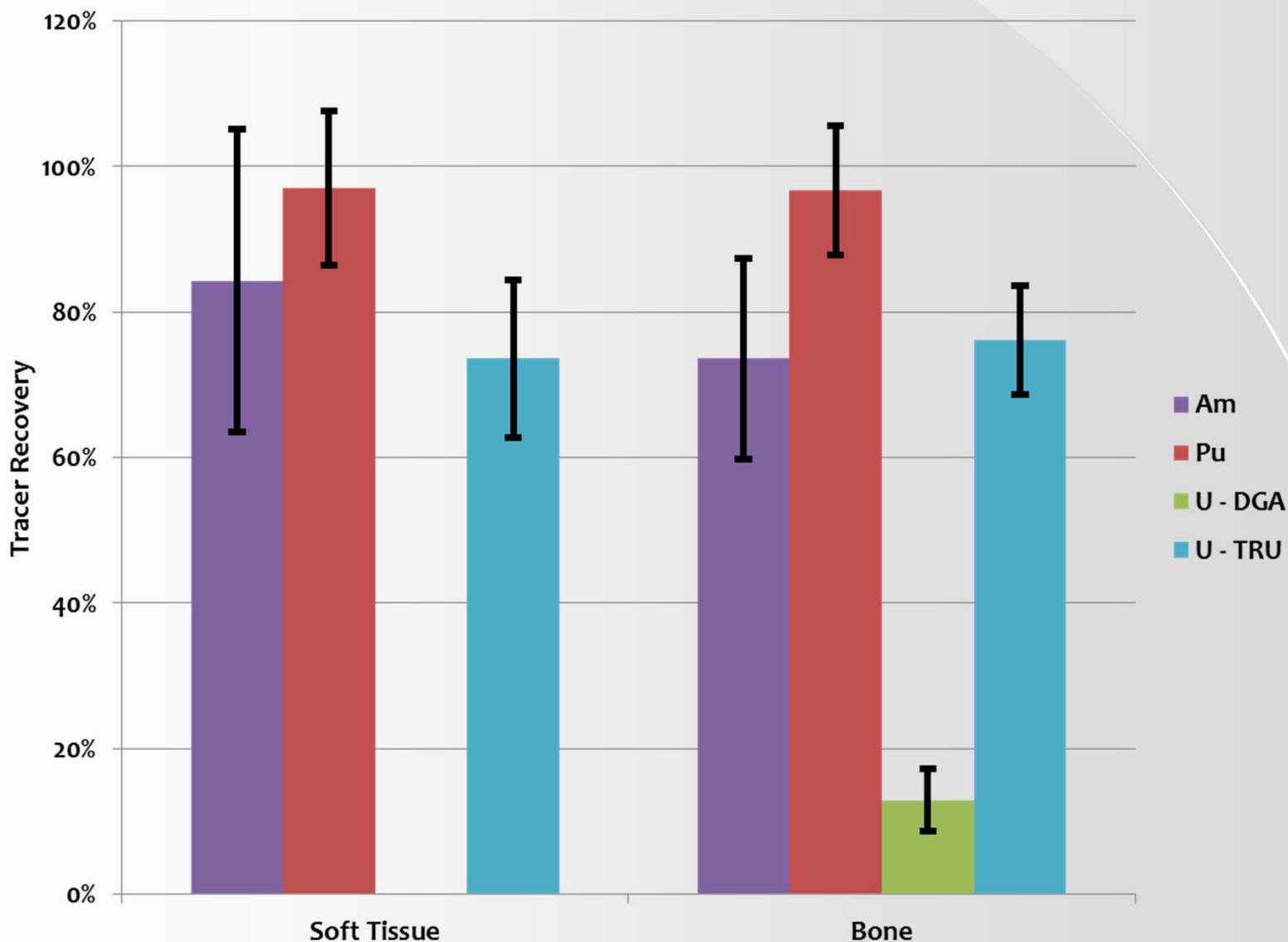
1-mL Cartridge: Recovery Study



1-mL Cartridge: SRM 4356 Results



1-mL Cartridge: Case Analyses



Plutonium Electrodeposition Issue



0.1M HCl – 0.01M HF – 0.1M NH₄I



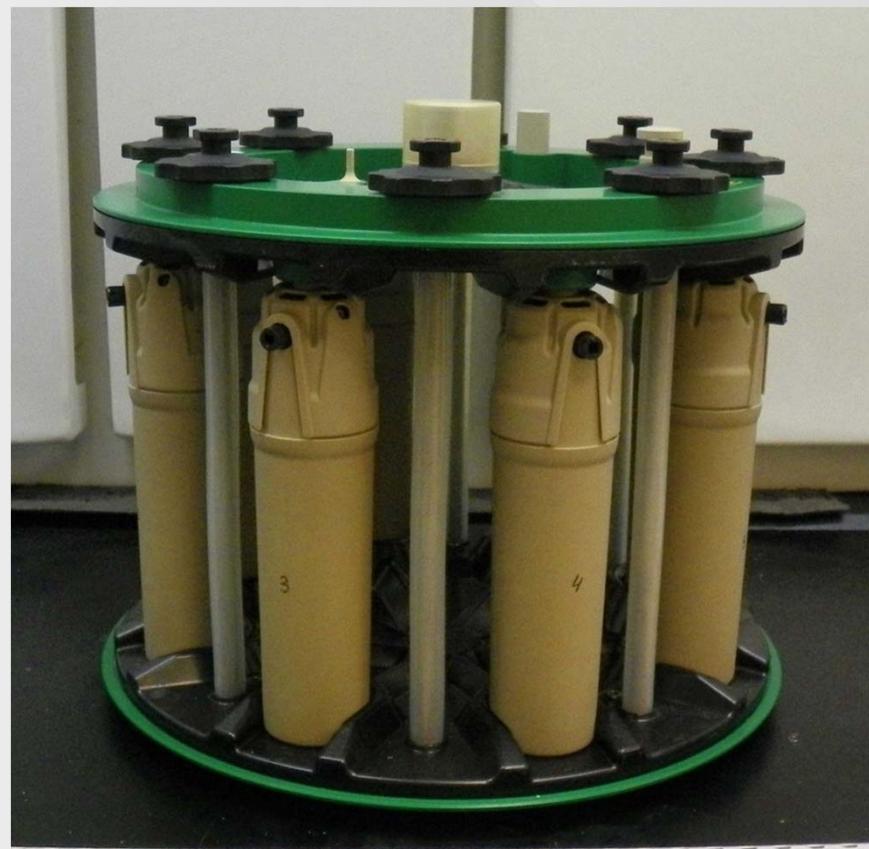
0.1M HCl – 0.05M HF – 0.04M rongalite



Anton Paar MW 3000 System



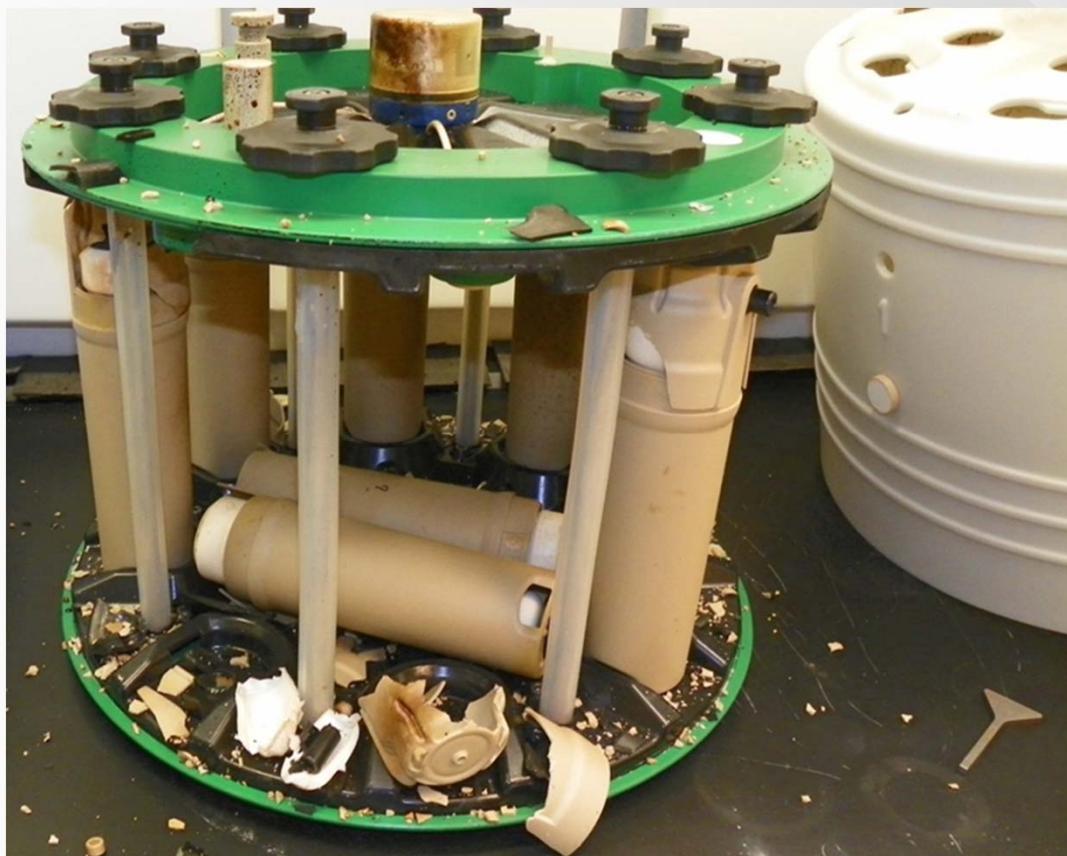
Multiwave 3000 Microwave



Rotor 8XF100



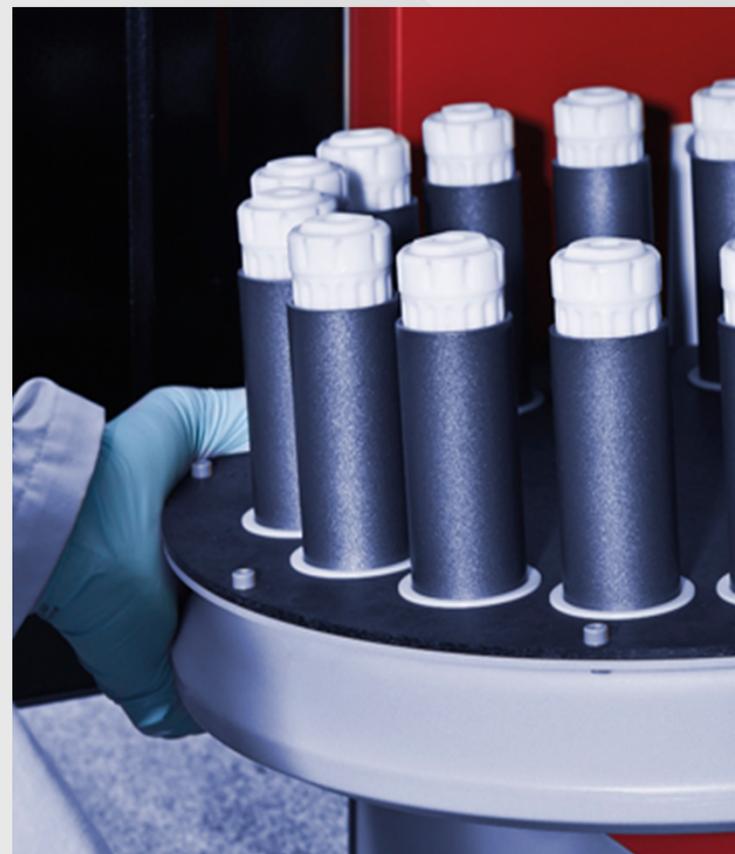
Catastrophic Event



Anton Paar Multiwave ECO System



Multiwave 3000 Microwave



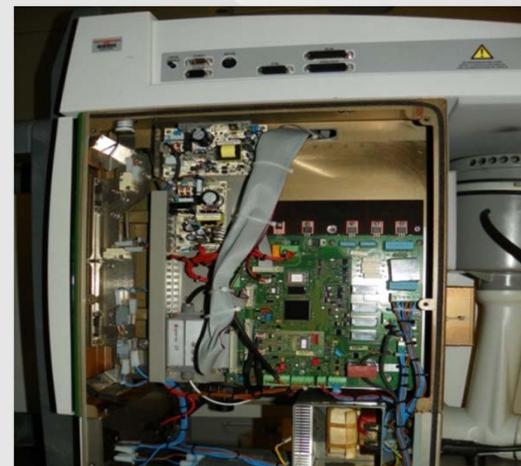
Rotor 16HVT50



MW3000 Recovery Attempts



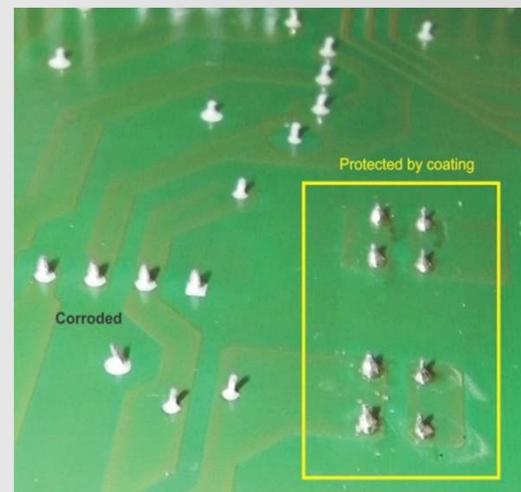
P/T Sensor



Electronics Suite



Exhaust Fan



Powerboard



CEM MARS-5 System



MARS-5 Microwave



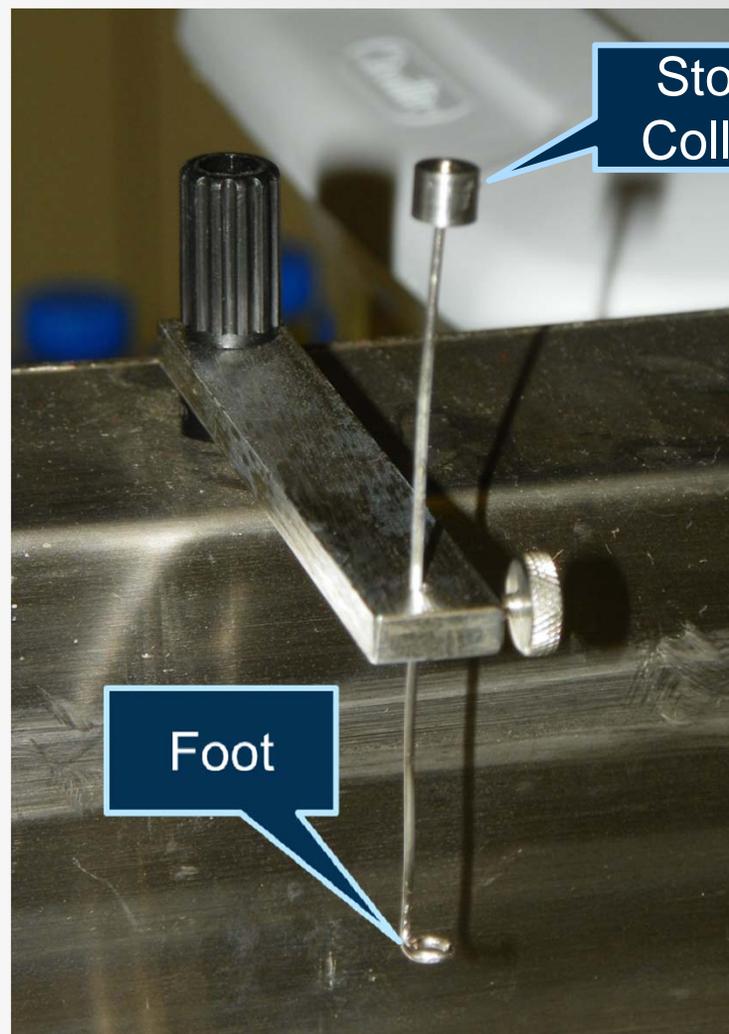
EasyPrep® Vessel



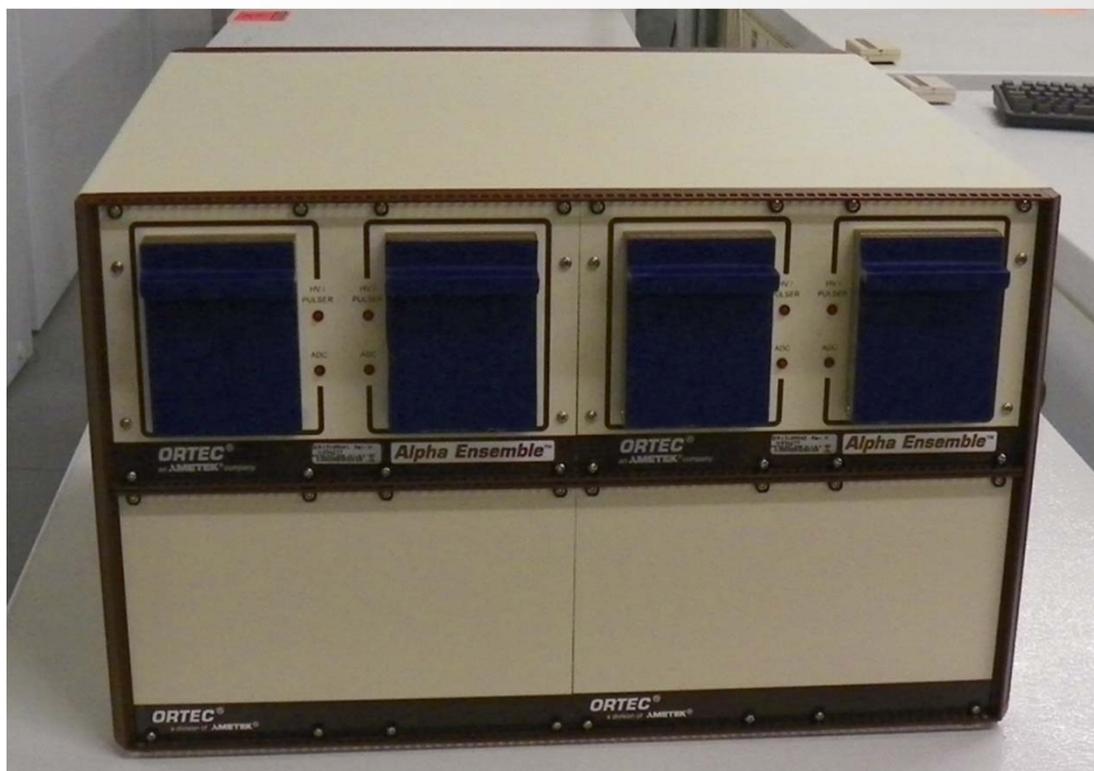
Electrodeposition Unit



Pt-Electrode Geometry



New Alpha Spectrometers



ORTEC Alpha Ensemble®



ORTEC Ensemble® &
Octet PC®



Facility: Drying Enclosure



Facility: Fume Hood Ductwork



Questions

