

# Exploring Pt-Pd Alloy Nanoparticle Cluster Formation through Conventional Sizing Techniques and Single-Particle Inductively Coupled Plasma—Sector Field Mass Spectrometry

Omar Martinez-Mora <sup>1,2</sup>, Kristof Tirez <sup>1</sup>, Filip Beutels <sup>1</sup>, Wilfried Brusten <sup>1</sup>, Luis F. Leon-Fernandez <sup>1</sup>, Jan Fransaer <sup>2</sup>, Xochitl Dominguez-Benetton <sup>1</sup> and Milica Velimirovic <sup>1,\*</sup>

## SUPPLEMENTARY INFORMATION

Pt<sub>75</sub>-Pd<sub>25</sub>

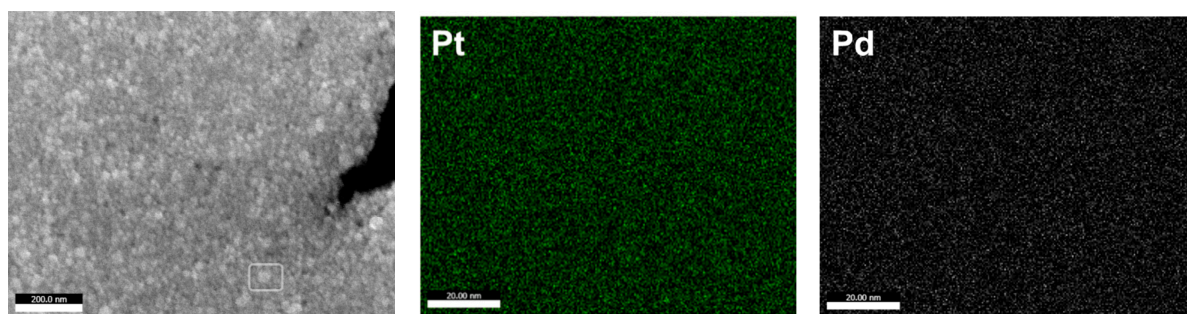


Figure S1. SEM-EDS mapping of Pt<sub>75</sub>-Pd<sub>25</sub>

Sum Spectrum

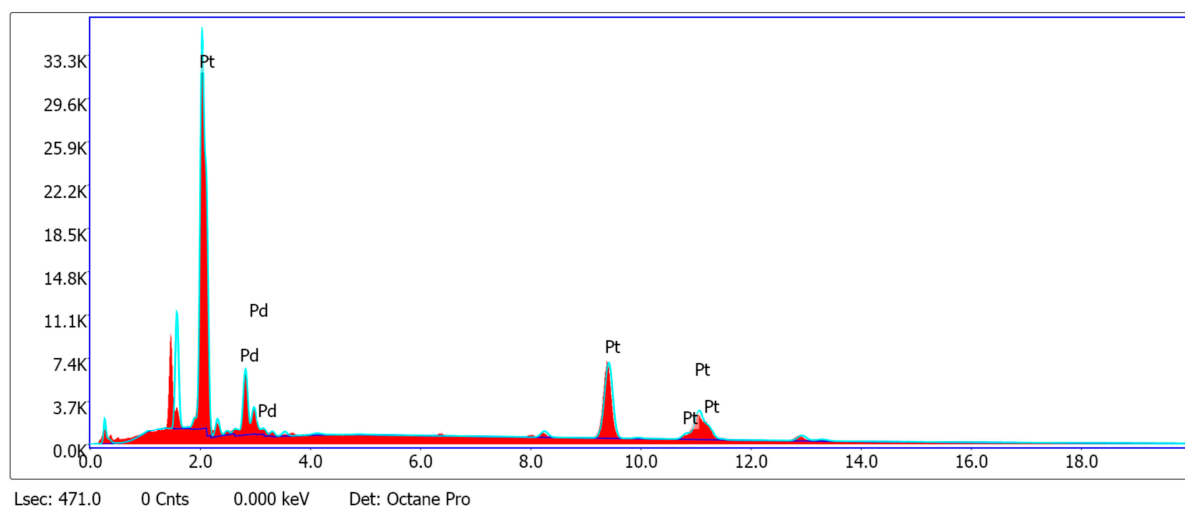


Figure S2. EDS spectrum of Pt<sub>75</sub>-Pd<sub>25</sub>

Pt<sub>50</sub>-Pd<sub>50</sub>

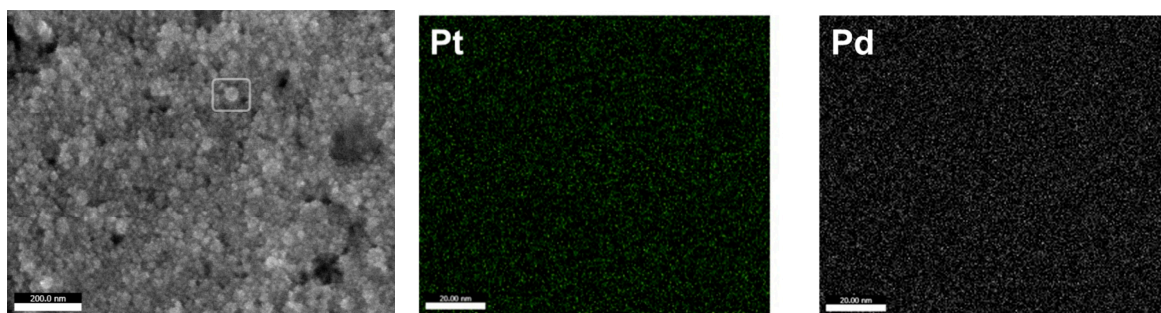


Figure S3. SEM-EDS mapping of Pt<sub>50</sub>-Pd<sub>50</sub>

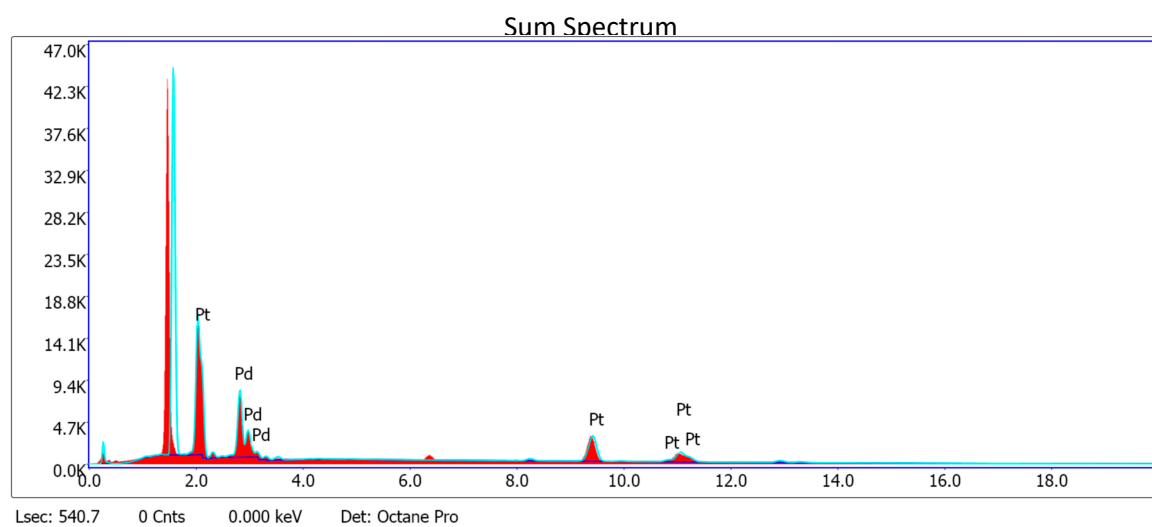


Figure S4. EDS spectrum of Pt<sub>50</sub>-Pd<sub>50</sub>

Pt<sub>25</sub>-Pd<sub>75</sub>

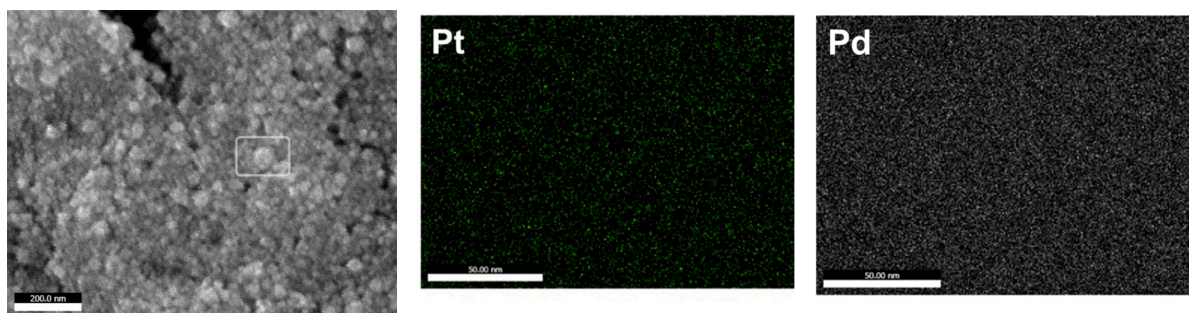


Figure S5. SEM-EDS mapping of Pt<sub>25</sub>-Pd<sub>75</sub>

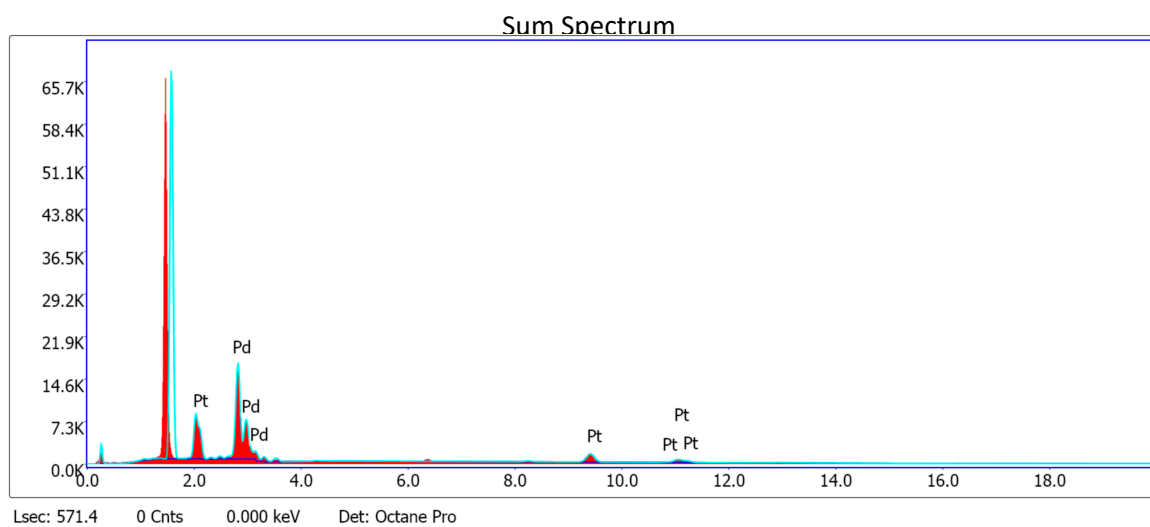


Figure S6. EDS spectrum of Pt<sub>25</sub>-Pd<sub>75</sub>

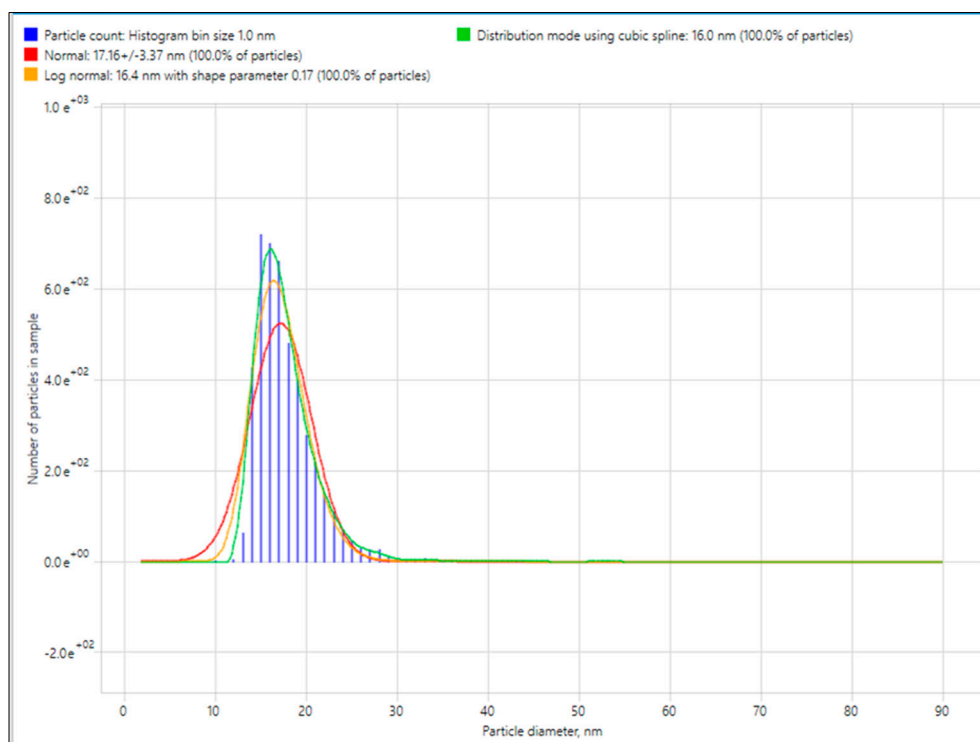


Figure S7. Particle size distribution of Pt (Pt100) NCs using different fitting models as obtained using spICP-SFMS.

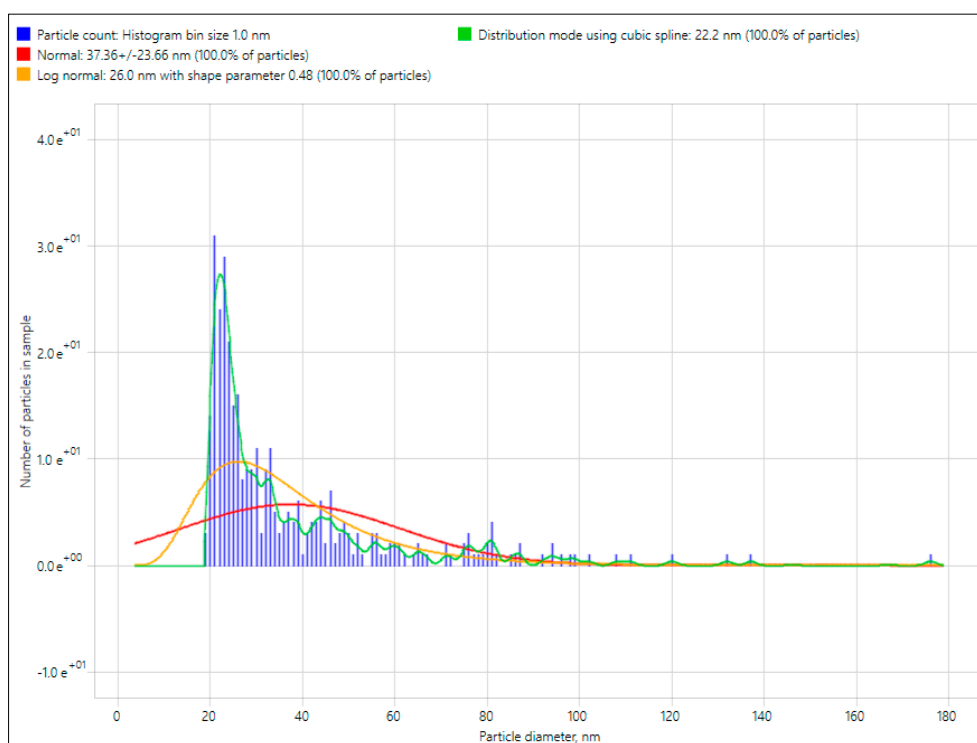


Figure S8. Particle size distribution of Pd (Pd100) NCs using different fitting models as obtained using spICP-SFMS.

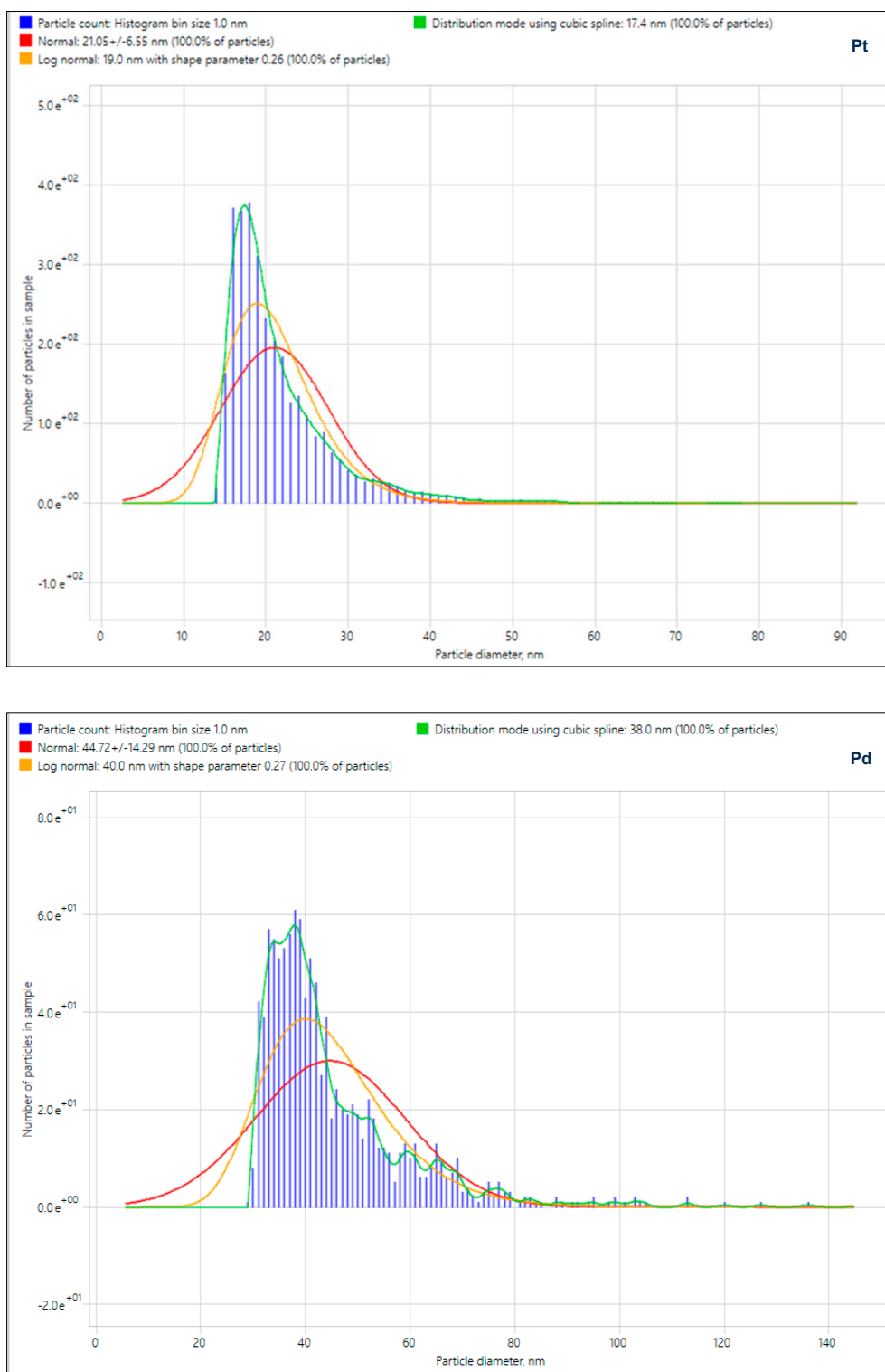


Figure S9. Particle size distribution of Pt and Pd using different fitting models as obtained using spICP-SFMS to calculate particle size distribution of Pt<sub>75</sub>-Pd<sub>25</sub> alloy NCs.

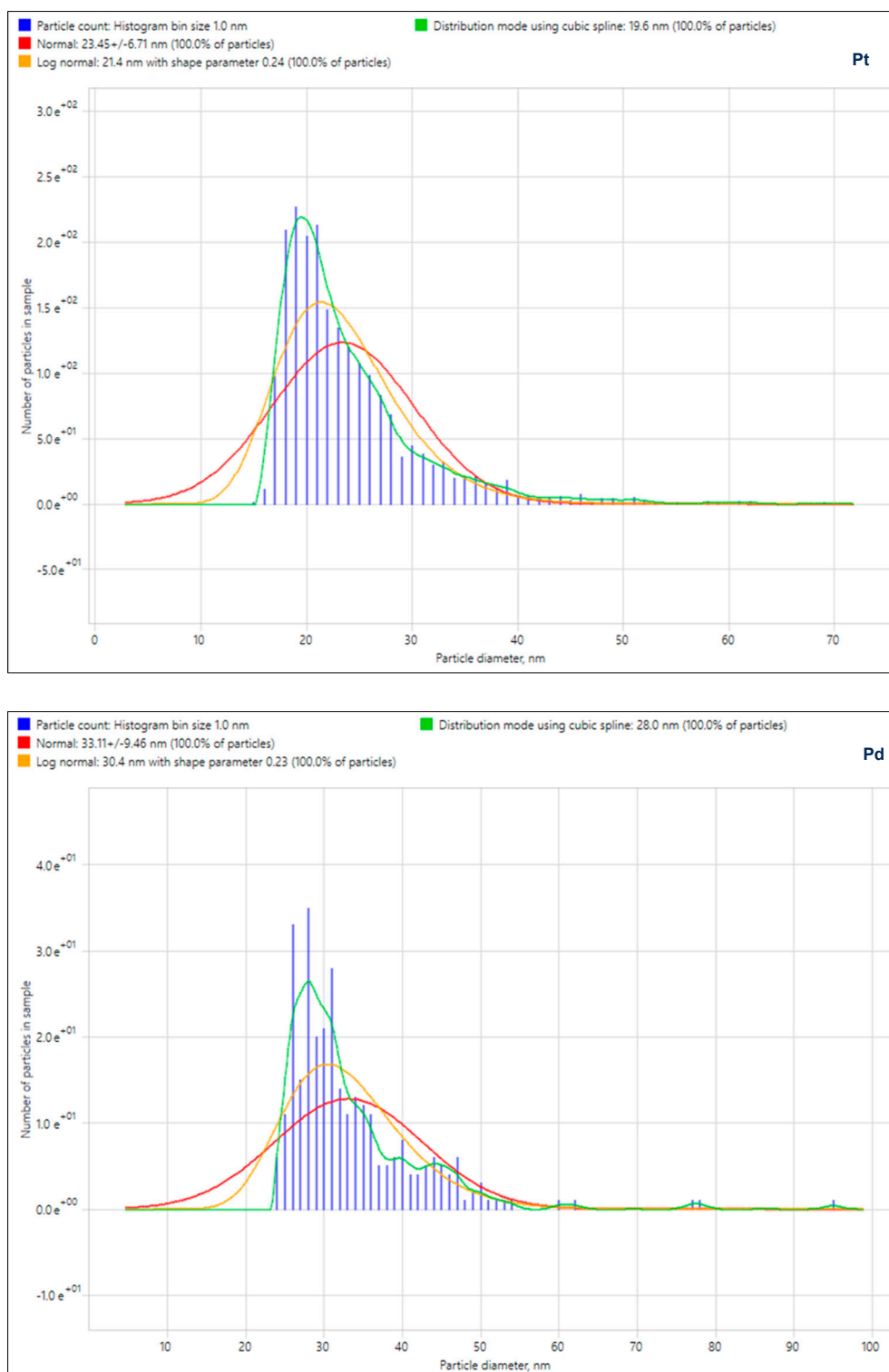


Figure S10. Particle size distribution of Pt and Pd using different fitting models as obtained using spICP-SFMS to calculate particle size distribution of Pt<sub>50</sub>-Pd<sub>50</sub> alloy NCs.

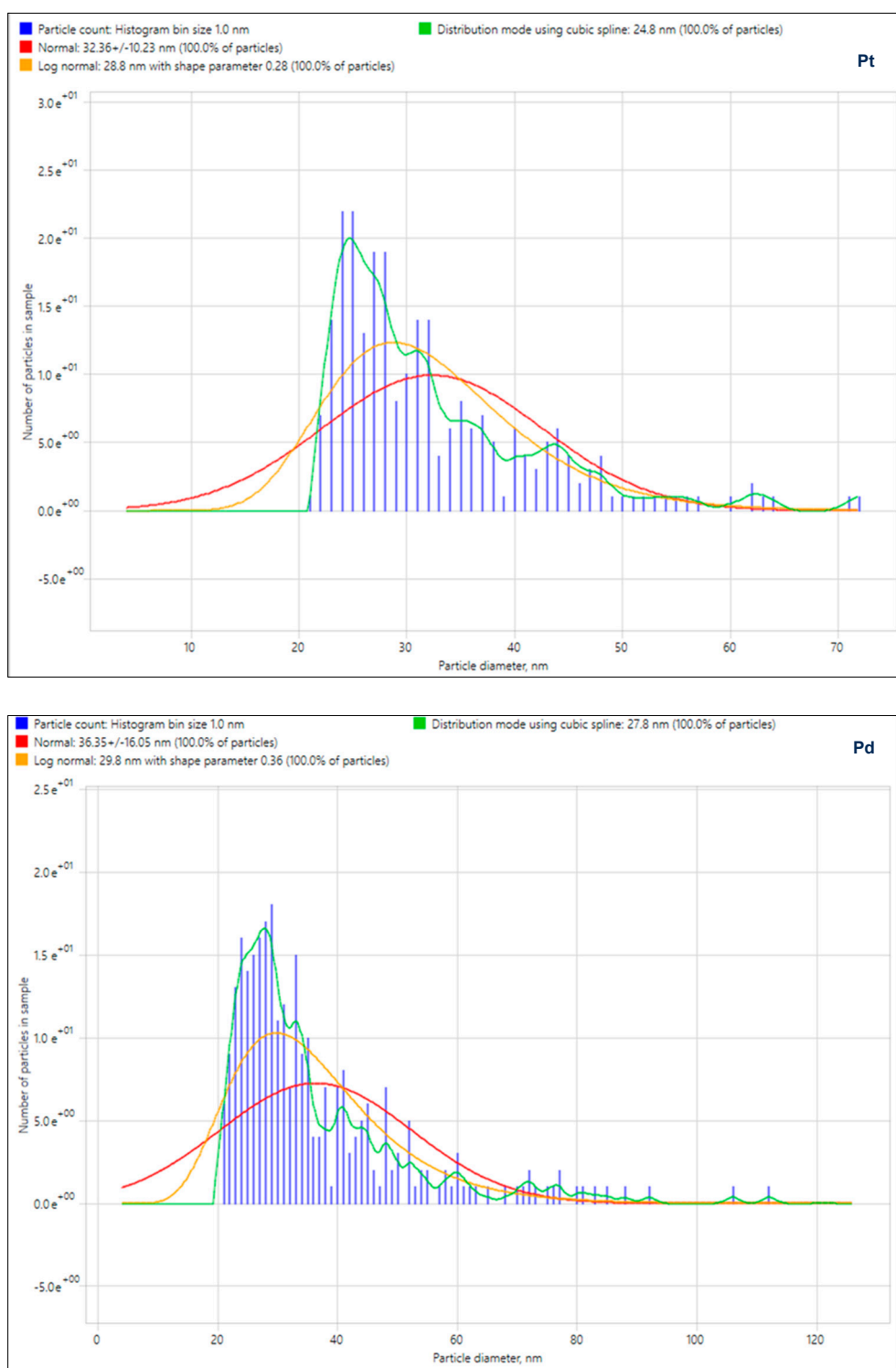


Figure S11. Particle size distribution of Pt and Pd using different fitting models as obtained using spICP-SFMS to calculate particle size distribution of Pt<sub>75</sub>-Pd<sub>25</sub> alloy NCs.