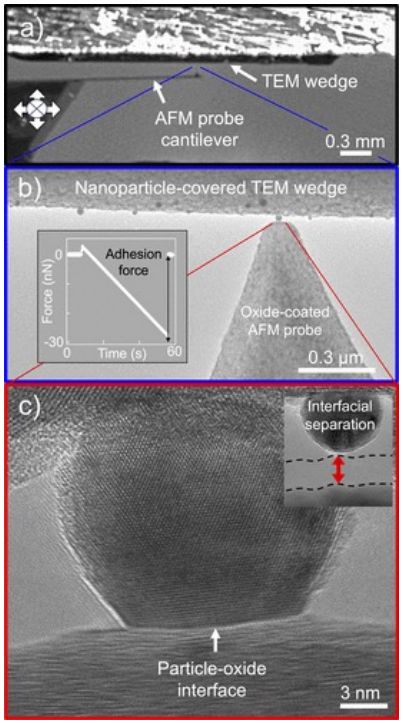
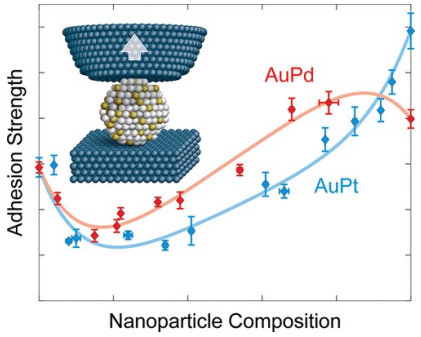
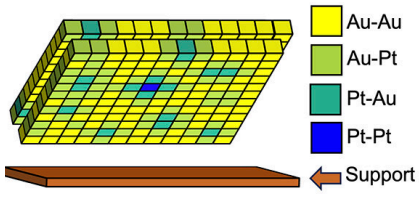
In-Situ Measurement of Adhesion for Multimetallic Nanoparticles







Scientific Achievement

Discovery of a new method to measure nanoparticle adhesion to multimetallic particles, a critical parameter for nanoparticle applications.

Significance and Impact

This work demonstrates that multimetallic nanoparticles have non-trivial relationships between adhesion and composition and provides an extensible experimental approach for further investigations.

Research Details

- In-Situ Transmission Electron Microscopy (TEM) adhesion experiments were performed on several different metal nanoparticle-oxide interfaces.
- A simple model was suggested for non-monotonic adhesion trends for multimetallic particles.

Baker, A.; Vishnubhotla, S. B.; Karpe, S.; Yang, Y.; Veser, G.; Jacobs, T. D. In Situ Measurement of Adhesion for Multimetallic Nanoparticles. Nano Letters 2025, 25 (17), 6903–6909.

This work was performed, in part, at The Center for Integrated Nanotechnologies.

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