Supporting Information

Size Dependence of Gold Clusters with Precise Numbers of Atom in Aerobic Oxidation of D-Glucose

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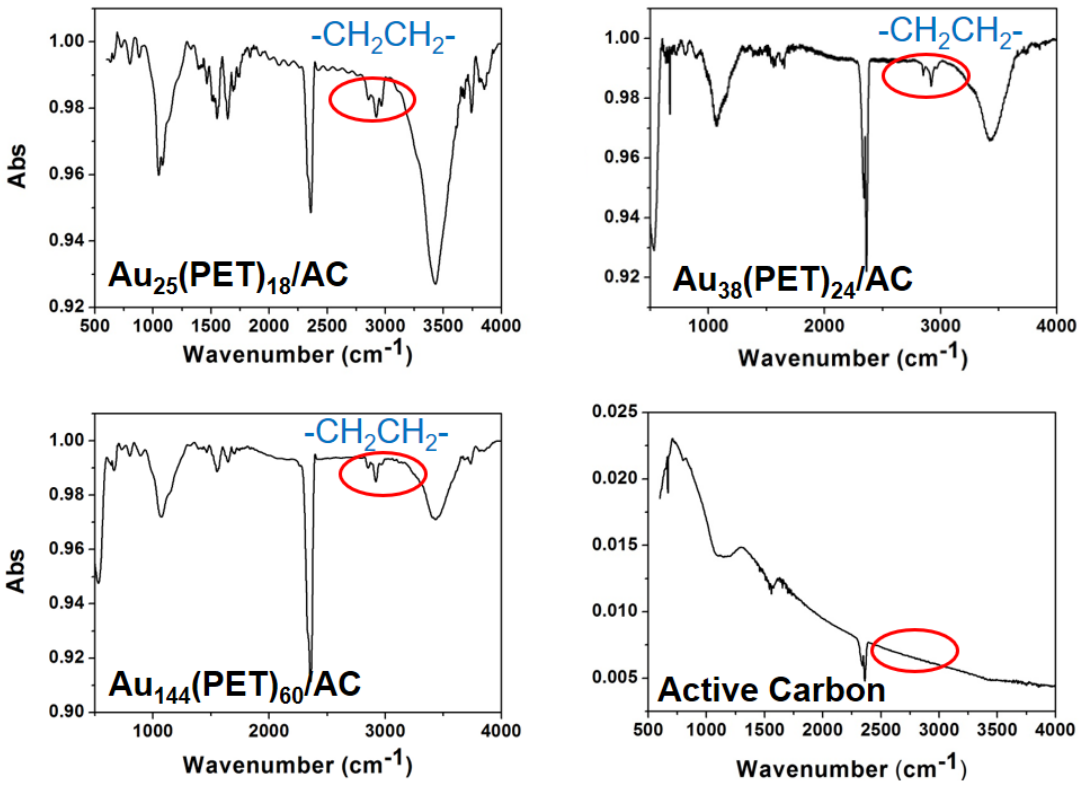

Figure S1. FT-IR analysis of $Au_{25}(PET)_{18}$/AC, $Au_{38}(PET)_{24}$/AC, $Au_{144}(PET)_{60}$/AC, and the free active carbon samples.

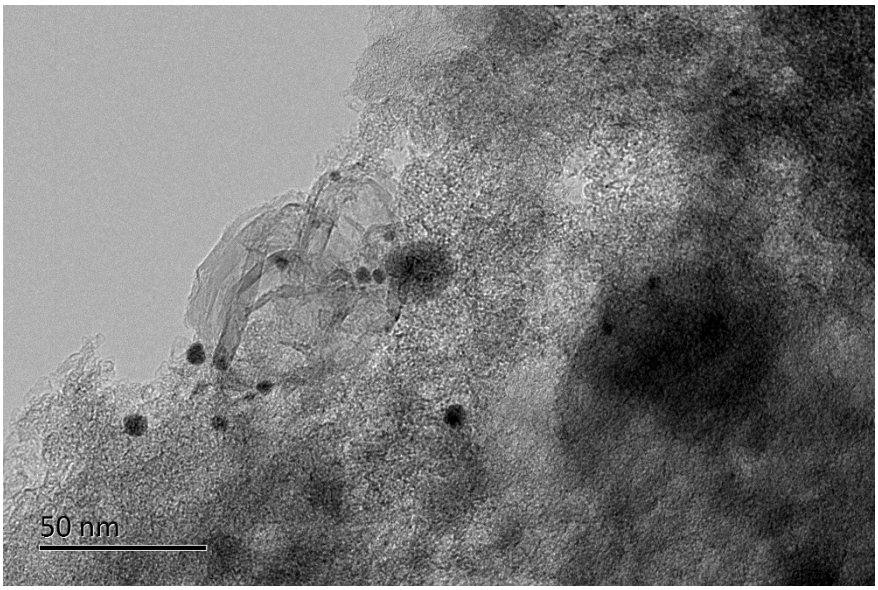

Figure S2. TEM analysis of the Au_{25}/AC-150 catalyst.

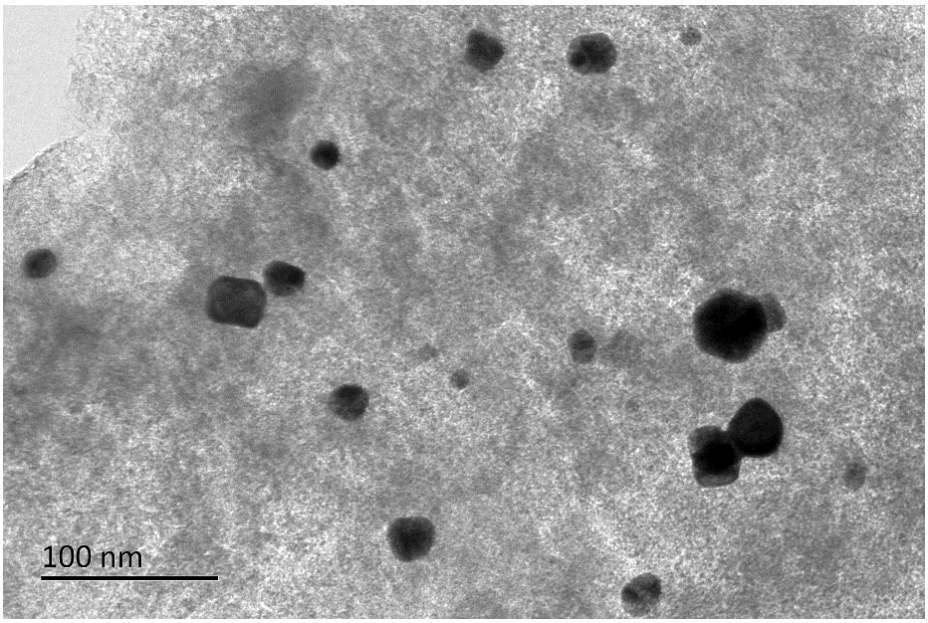

Figure S3. TEM analysis of the Au_{25}/AC-300.

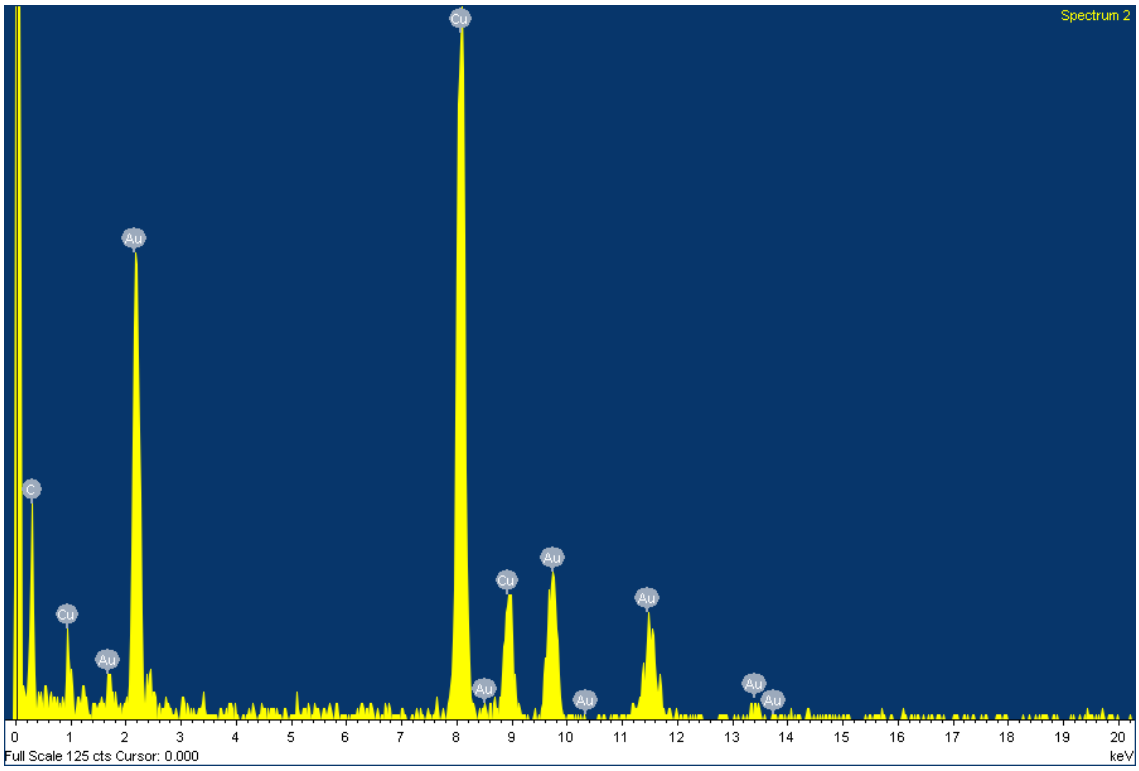

Figure S4. EDX analysis of the Au_{25}/AC-300. No sulfur elements are found in the analysis, implying that the thiolate ligands are all removed after 300 °C treatment in the presence of air.

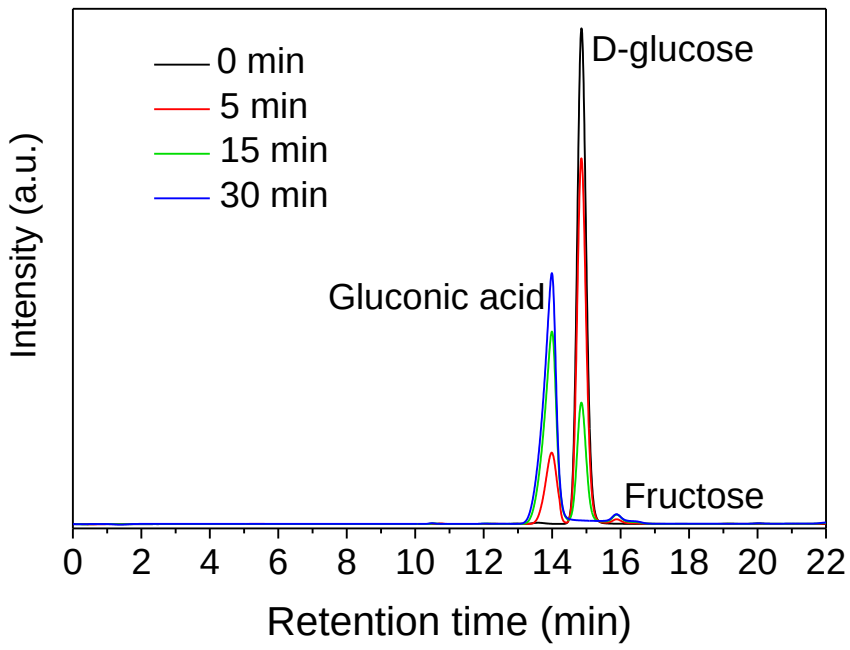

Figure S5. HPLC analysis of the reaction mixture at different reaction time in the D-glucose oxidation to gluconic acid. Test conditions: Shodex SH1011 column, 10 mM acetic acid as the mobile phase of 0.5 mL/min, and using the refractive index (RI) as the detector. The retention time for gluconic acid, D-glucose, and fructose is ca. 13.99, 14.86, and 15.88 min, respectively.

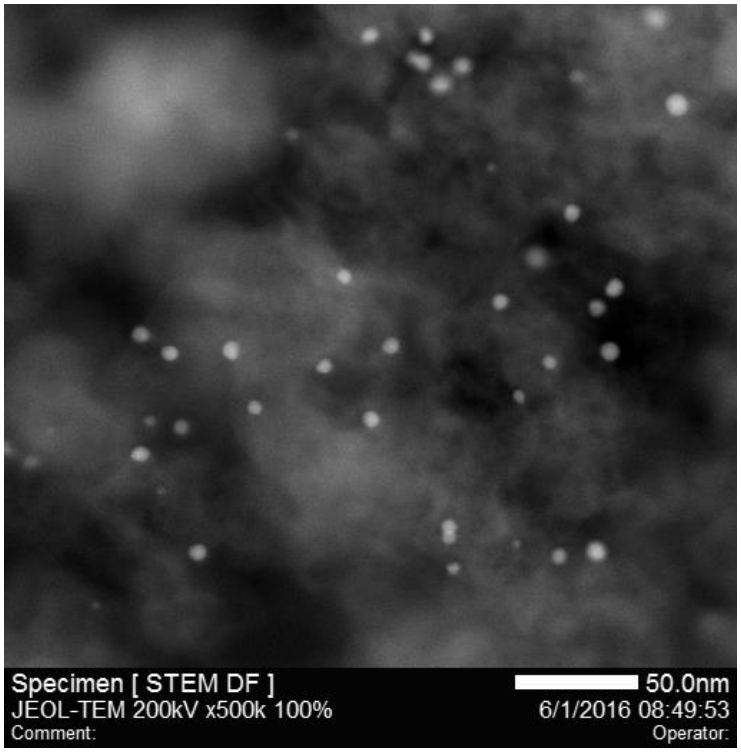

Figure S6. TEM image of Au/AC.