

Room-temperature selective oxidation of 2-naphthol to BINOL by a Au/SrTiO₃-H₂O₂ thermocatalytic system

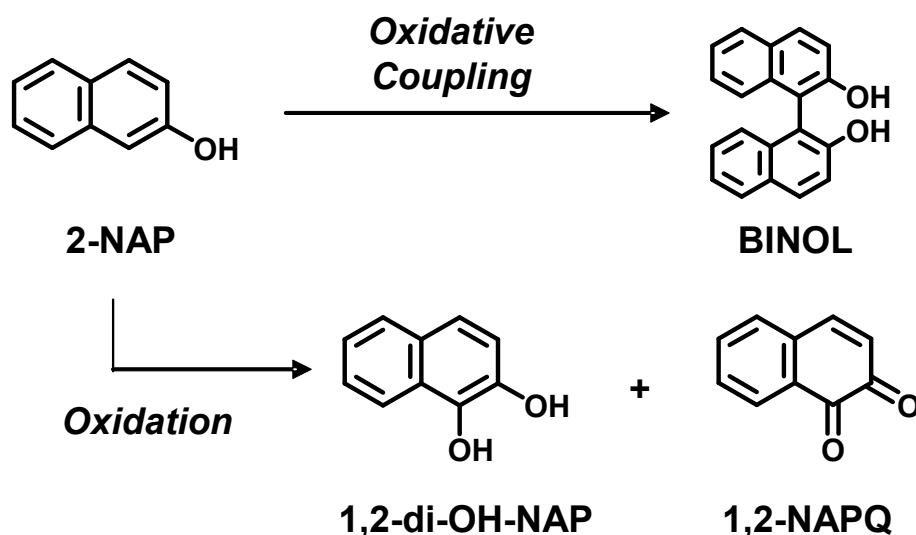
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Scheme S1. Oxidation of 2-naphthol (2-NAP).

Experimental details

Catalyst preparation and characterization

Au NPs with varying size were loaded on SrTiO₃ particles (Aldrich, mean particle size < 100 nm) by the heating temperature-varied deposition precipitation (TV-DP) method using HAuCl₄ as a starting material.^{28,29} Before use for preparation of Au/SrTiO₃, SrTiO₃ particles were calcined at 923 K for 4 h prior, which allows us to neglect the changes of SrTiO₃ with different heating temperature below 873 K. The pH

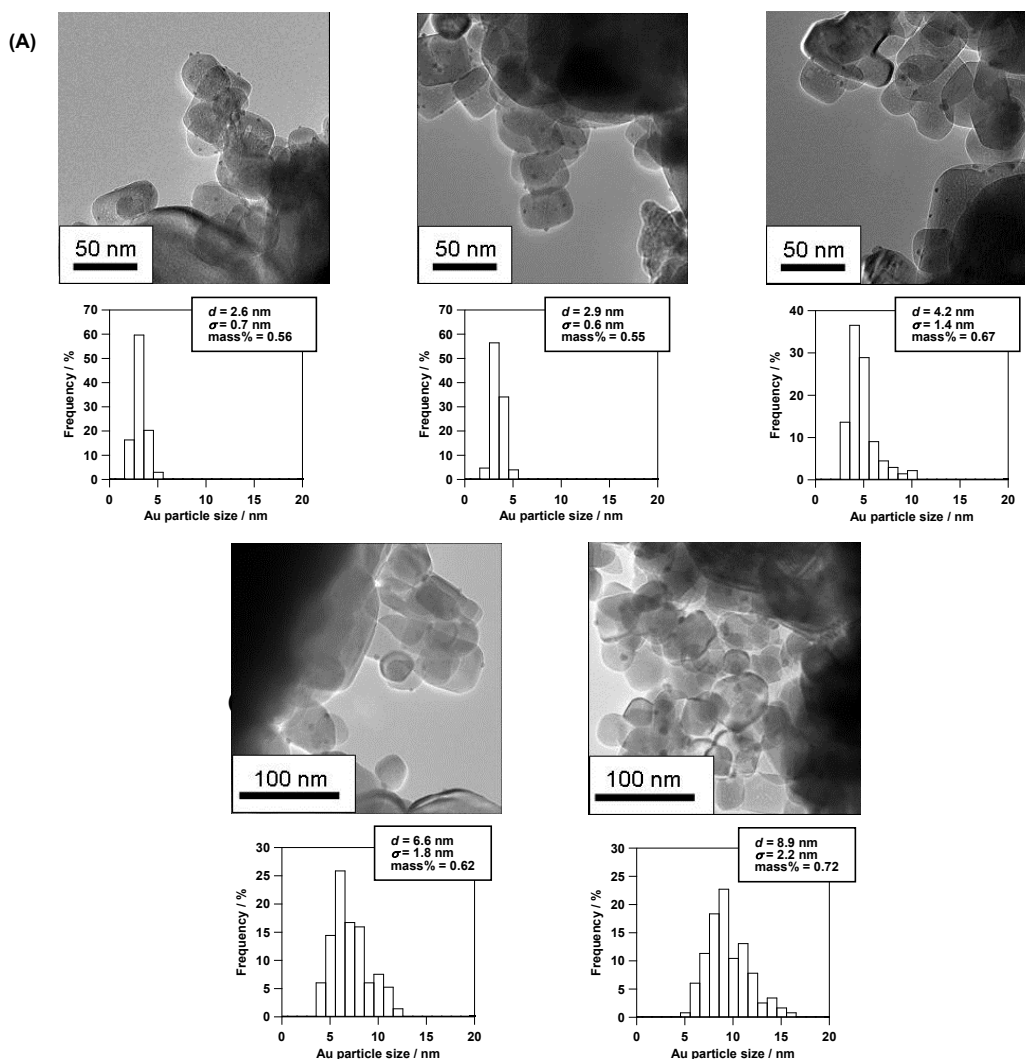


Fig. S1 TEM images and size distribution of Au/SrTiO₃: (A) $T_c = 673$ K, $t_c = 1$ h, (B) $T_c = 673$ K, $t_c = 4$ h, (C) $T_c = 773$ K, $t_c = 4$ h, (D) $T_c = 873$ K, $t_c = 4$ h, (E) $T_c = 873$ K, $t_c = 24$ h: T_c and t_c denote the heating temperature and time, respectively.

of aqueous HAuCl₄ solution (4.86 mM, 100 mL) was adjusted to 6 by the addition of 1 M NaOH aqueous solution. SrTiO₃ particles (10 g) were added to the solution, and the suspension was heated at 343 K for 1 h. After cooling to room temperature, the particles

