Host-induced alteration of the neighbors of single platinum atom enables selective and stable hydrogenation of butadiene

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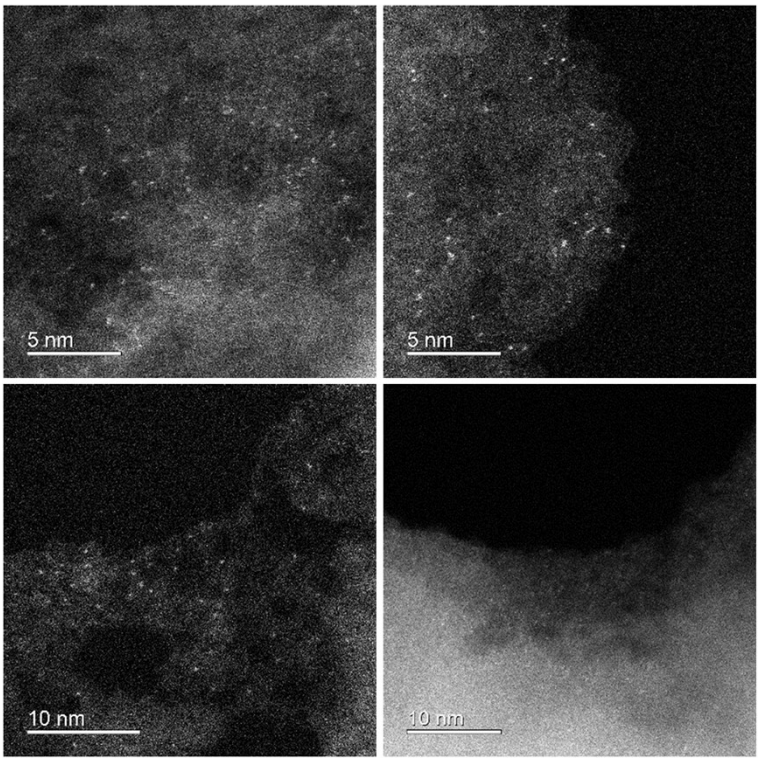

Figure S1. Additional HAADF-STEM images of the single-atom Pt/C_3N_4 catalyst.

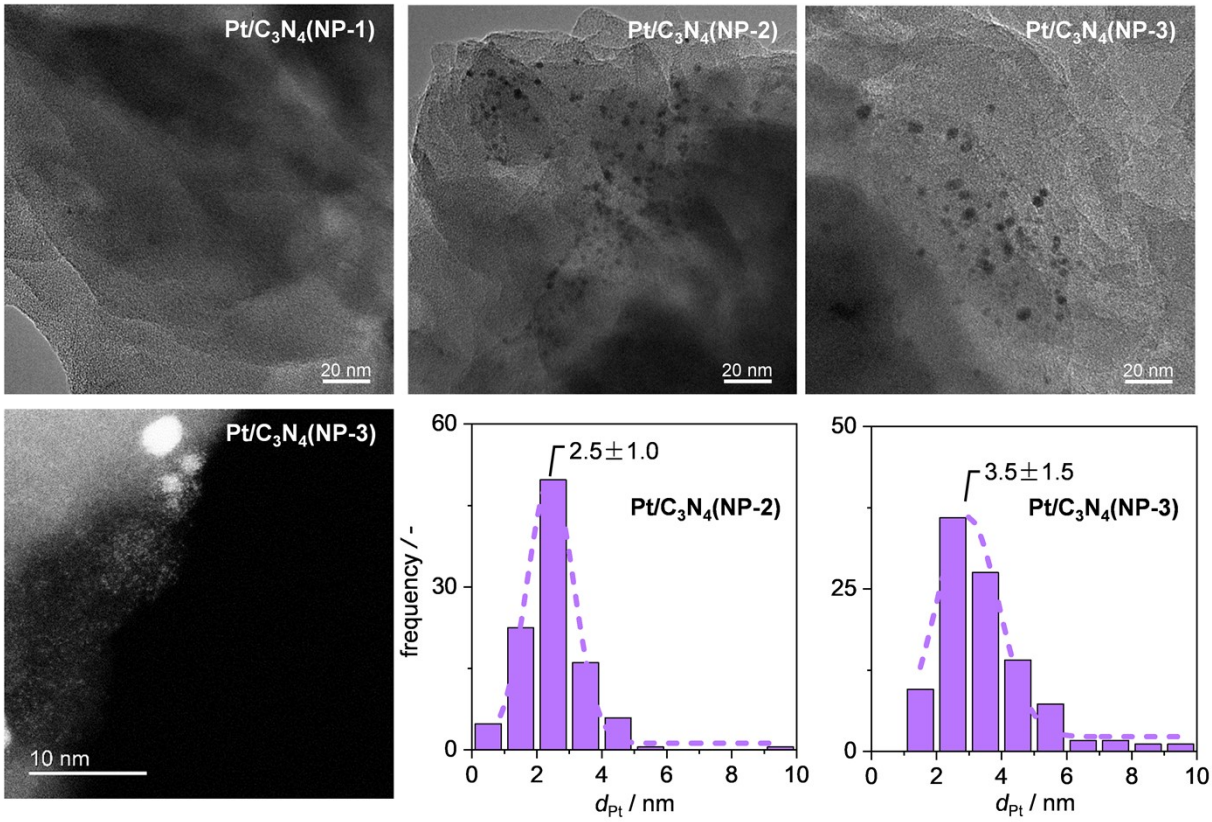

Figure S2. TEM and HAADF-STEM images of the Pt/C_3N_4 catalysts after reduced in H_2 for 1 h at different temperatures: 473 K, NP-1; 523 K, NP-2; 573 K, NP-3. Very few Pt particles can be observed for NP-1, while both single atoms and big nanoparticles were visualized by HAADF-STEM on NP-3. These observations suggested that single-atom Pt were largely aggregated but could still be existed even after reduction at 573 K.

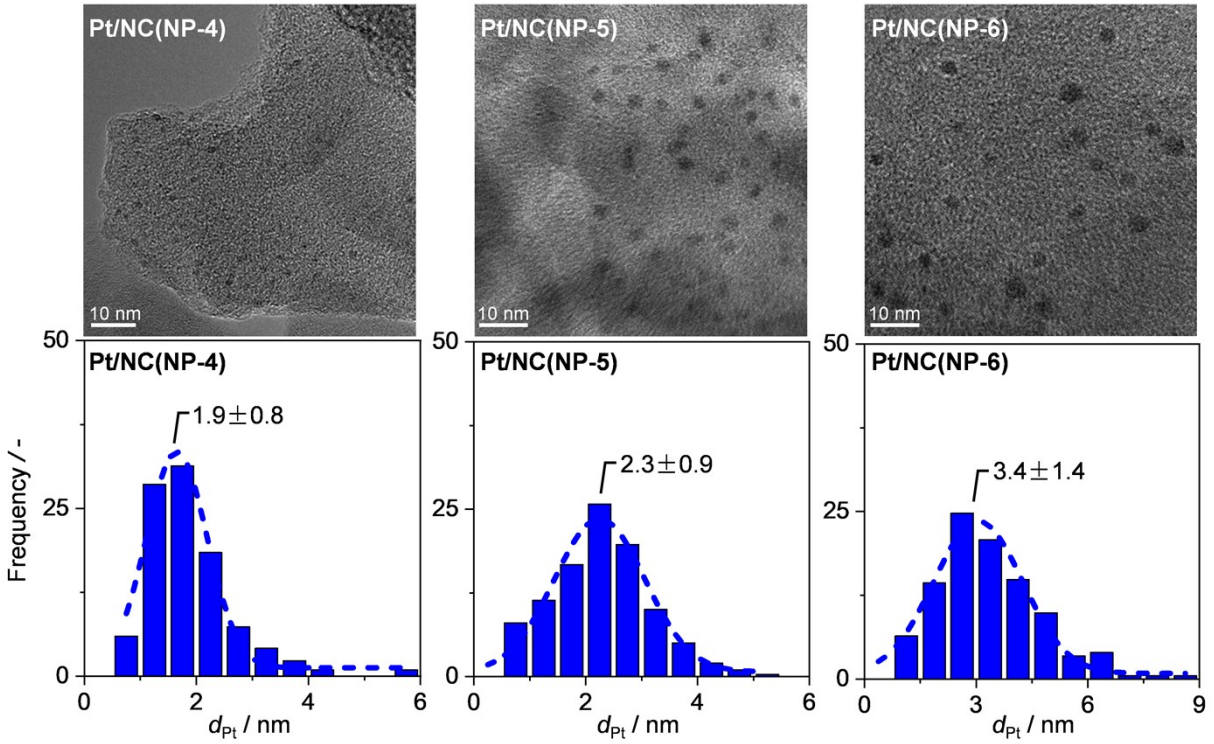

Figure S3. TEM images of the Pt/NC nanoparticle catalysts accompanied with the mean particle size distributions (>200 particles counted).