Electronic Supplementary Material (ESI) for CrystEngComm.

Supporting Information

Size-Controlled Synthesis of Pd Nanosheets for Tunable Plasmonic Properties

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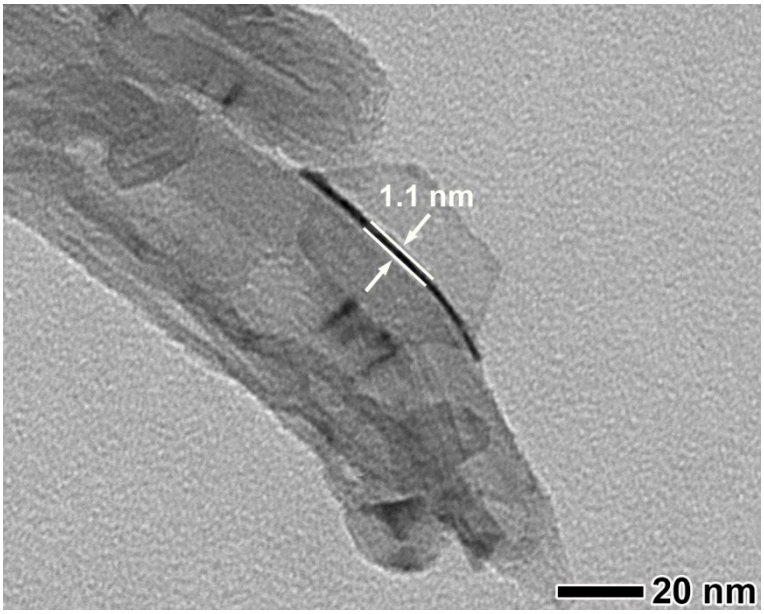

Figure S1. TEM image of a single Pd nanosheet that attached vertically on a carbon nanotube.

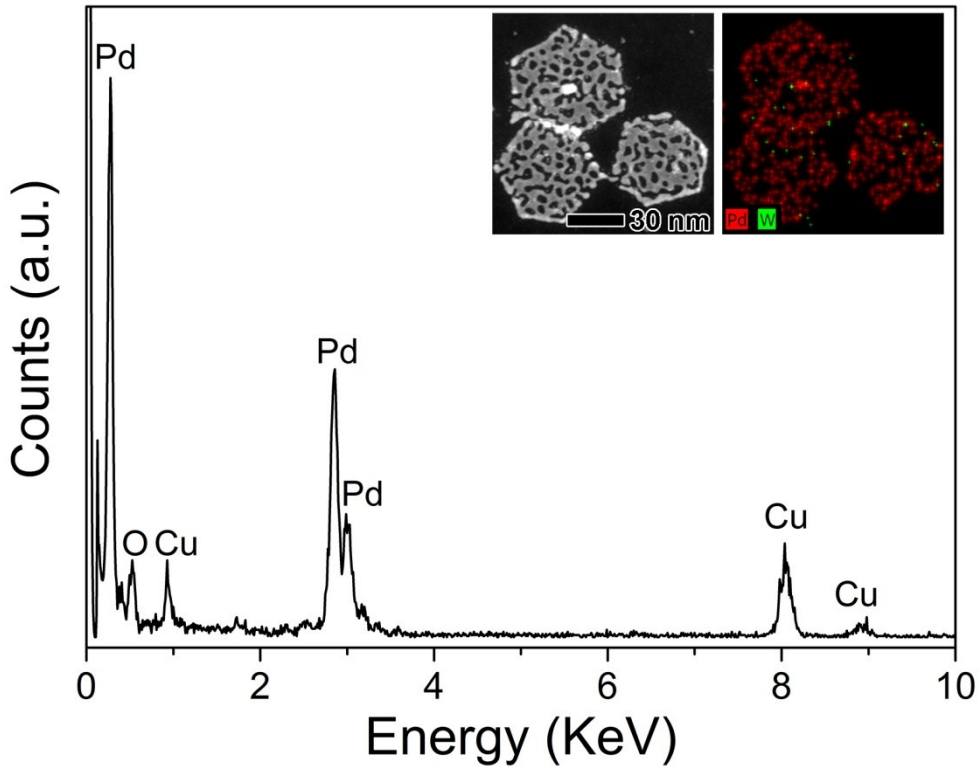

Figure S2. EDX spectrum of Pd nanosheets with average edge length of *ca.* 35.8 nm that obtained using the standard procedure. The inset is the EDX mapping of single Pd nanosheet.

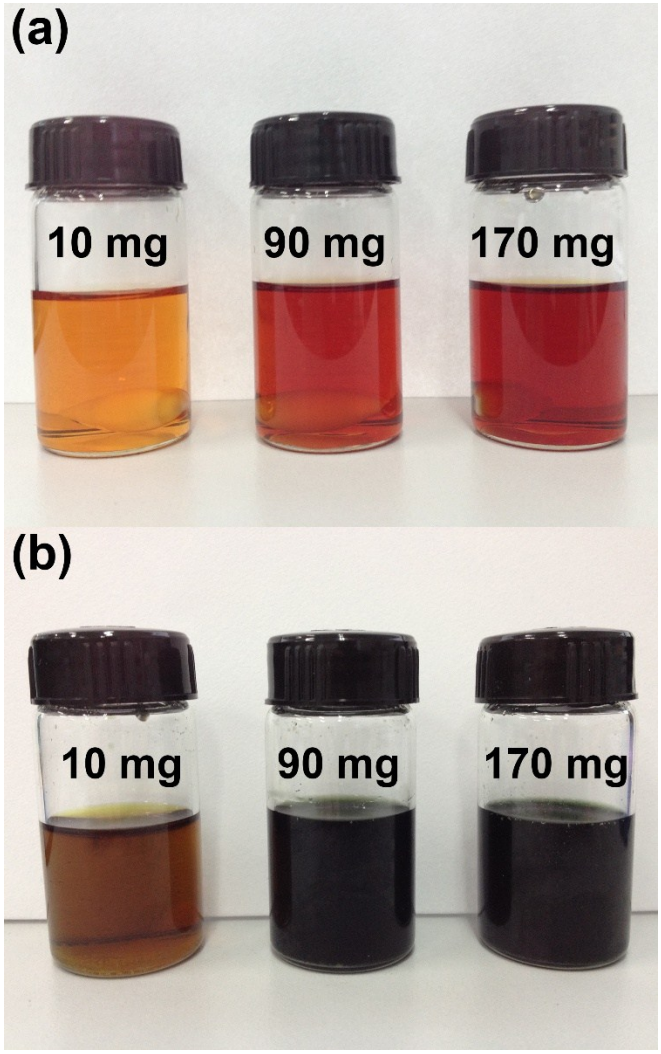

Figure S3. Photographs of the reaction solution with different amounts of CA fed in the synthesis: (a) before reaction and (b) heated at 80 ^{o}C for 50 s.

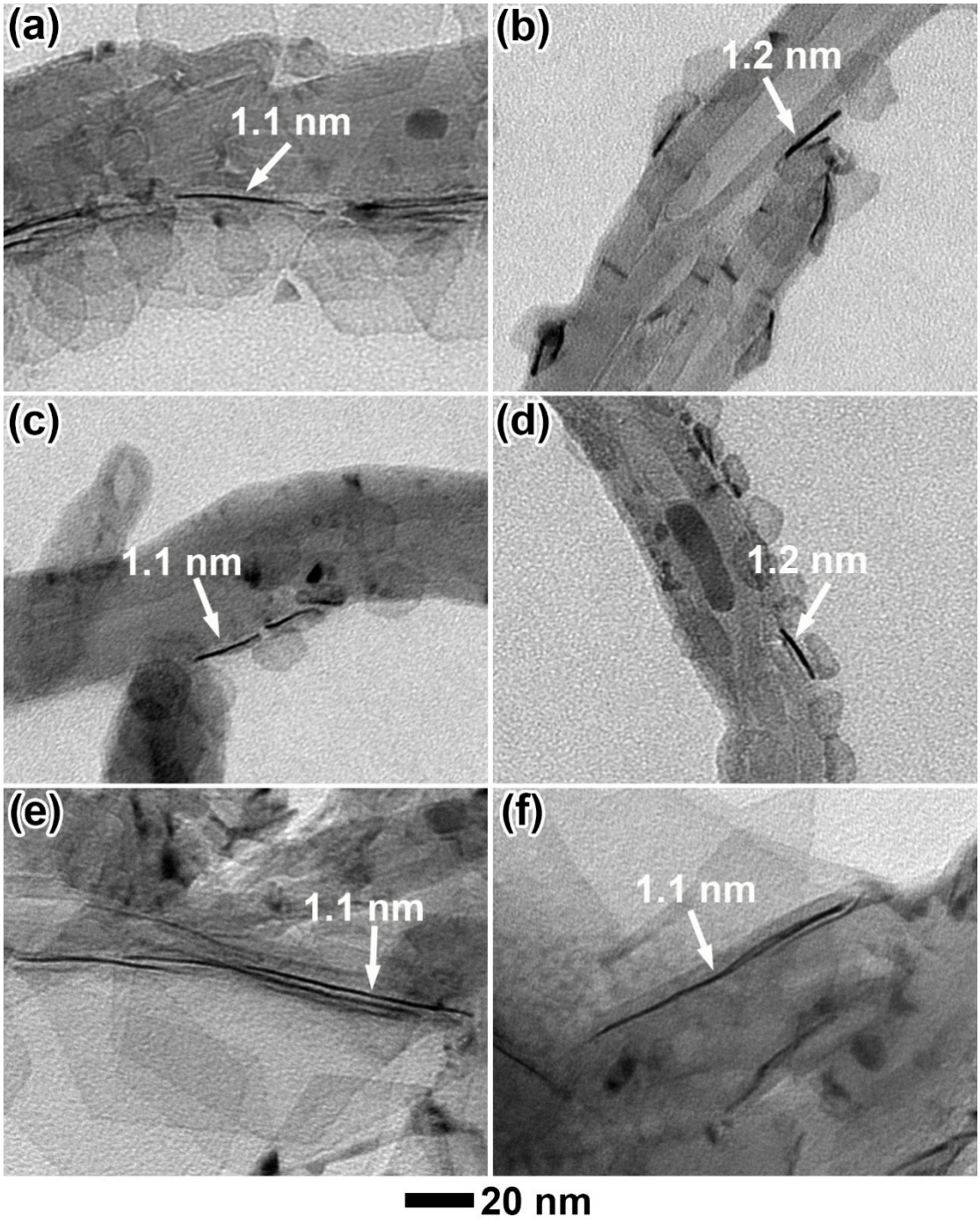

Figure S4. TEM images of Pd nanosheets with different average edge lengths that attached vertically on the carbon nanotubes: (a) 24.5, (b) 15.7, (c) 9.2, (d) 6.4, (e) 46.9, and (f) 59.2 nm.

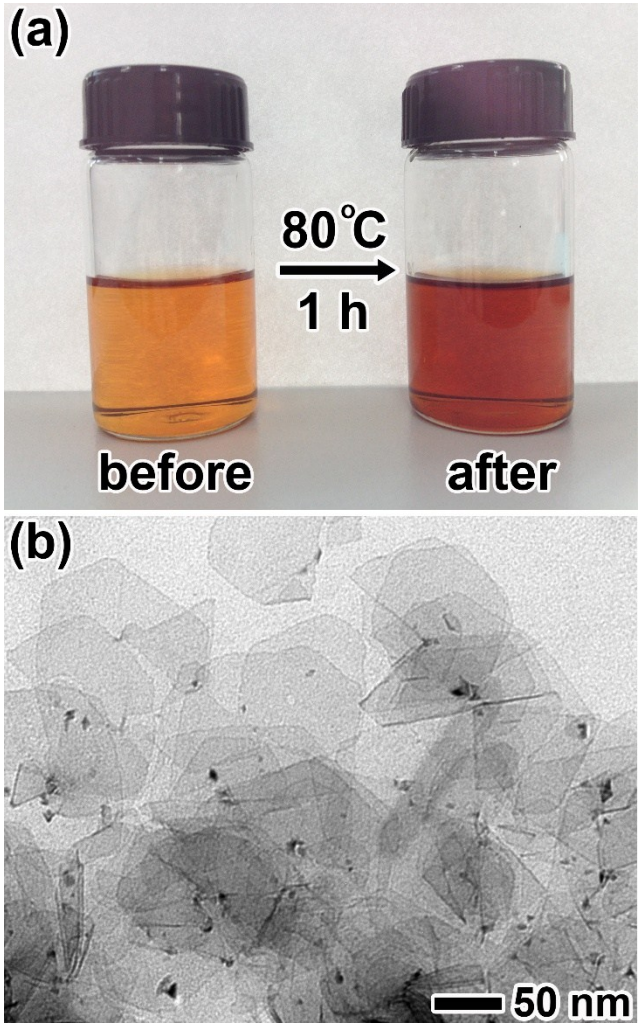

Figure S5. (a) Digital photograph of reaction solution that kept at 80 °C for 1 h in the absence of $W(CO)_6$. (b) TEM images of Pd nanosheets that prepared using the standard procedure, except for replacing $W(CO)_6$ with $Cr(CO)_6$.

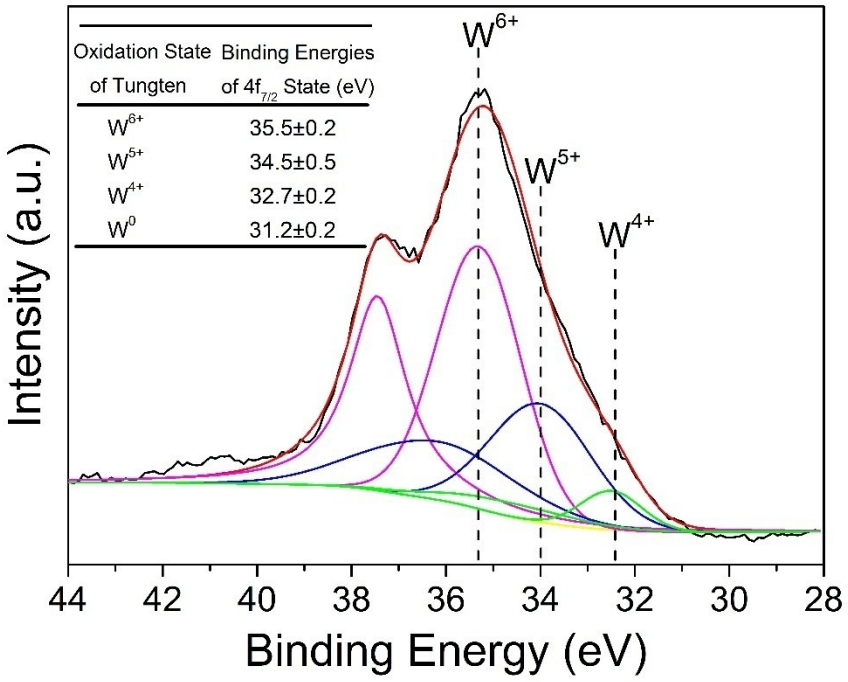

Figure S6. XPS spectrum of the reaction residue in the standard procedure.

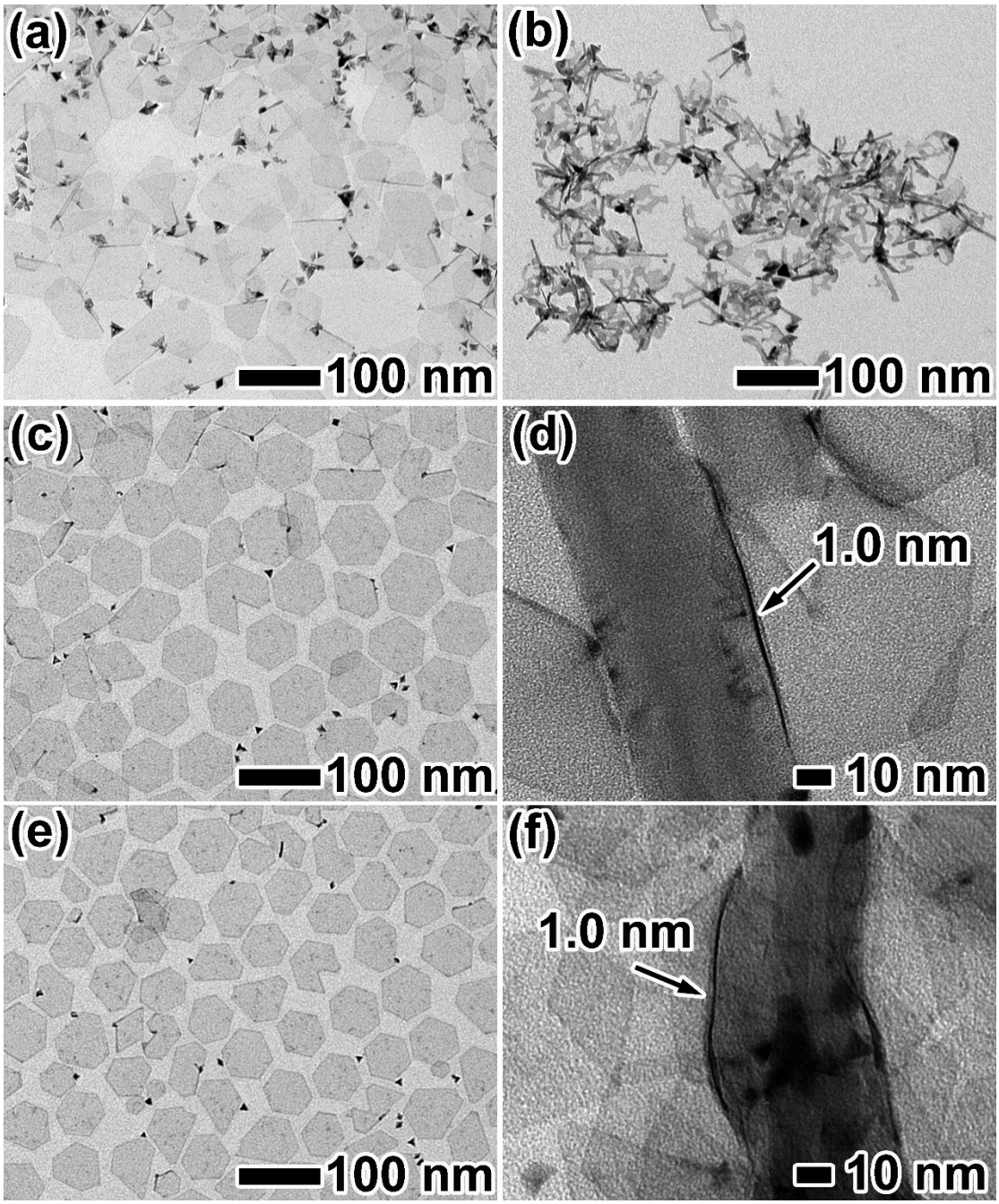

Figure S7. TEM images of Pd nanosheets prepared using the standard procedure except for the different amount of $W(CO)_6$: (a) 10 mg, (b) aged for 3-4 days, (c) 50 mg, (d) the corresponding thickness measurement, (e) 200 mg, and (f) the corresponding thickness measurement.

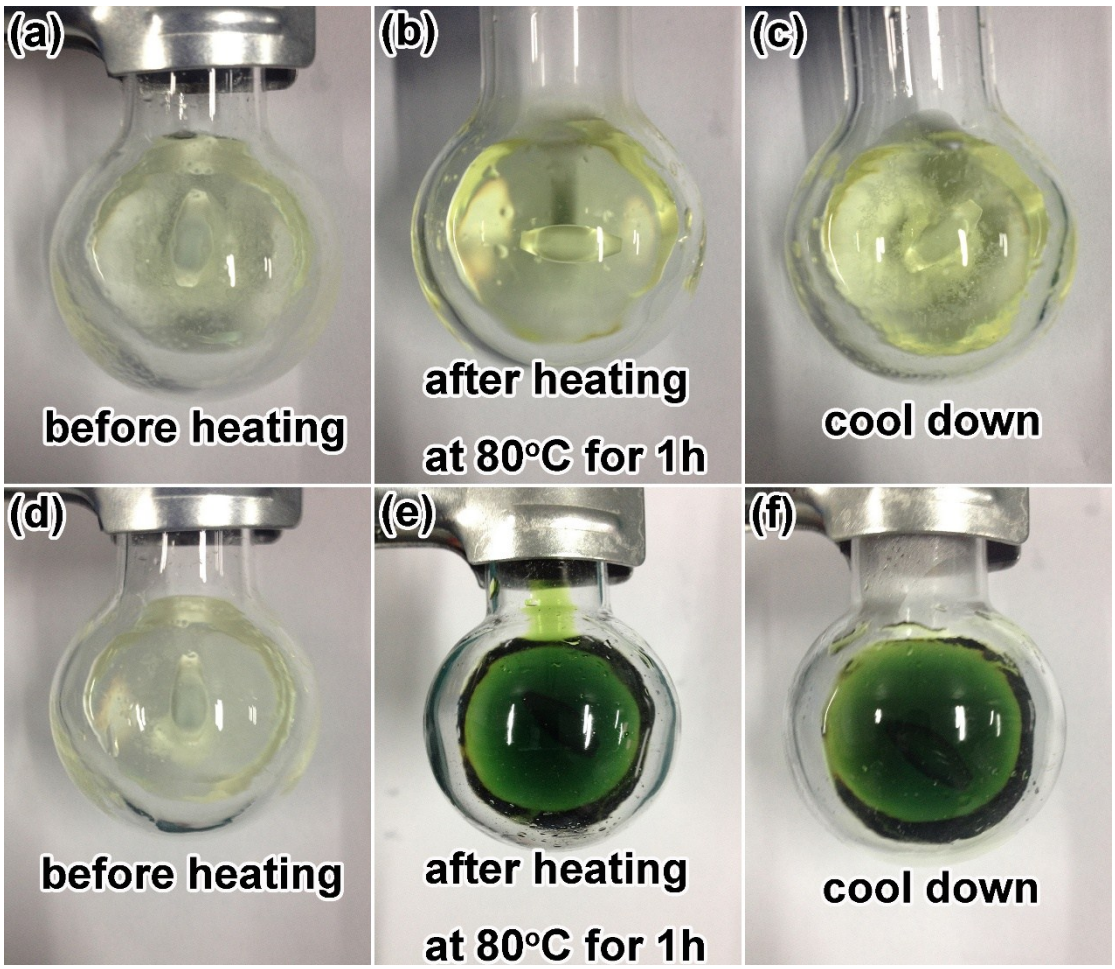

Figure S8. Controlled experiments to investigate the decomposition of $W(CO)_6$ under different conditions. (a-c) without CA and CTAB, (d-f) mixed with 10 mg of CA and 60 mg CTAB.

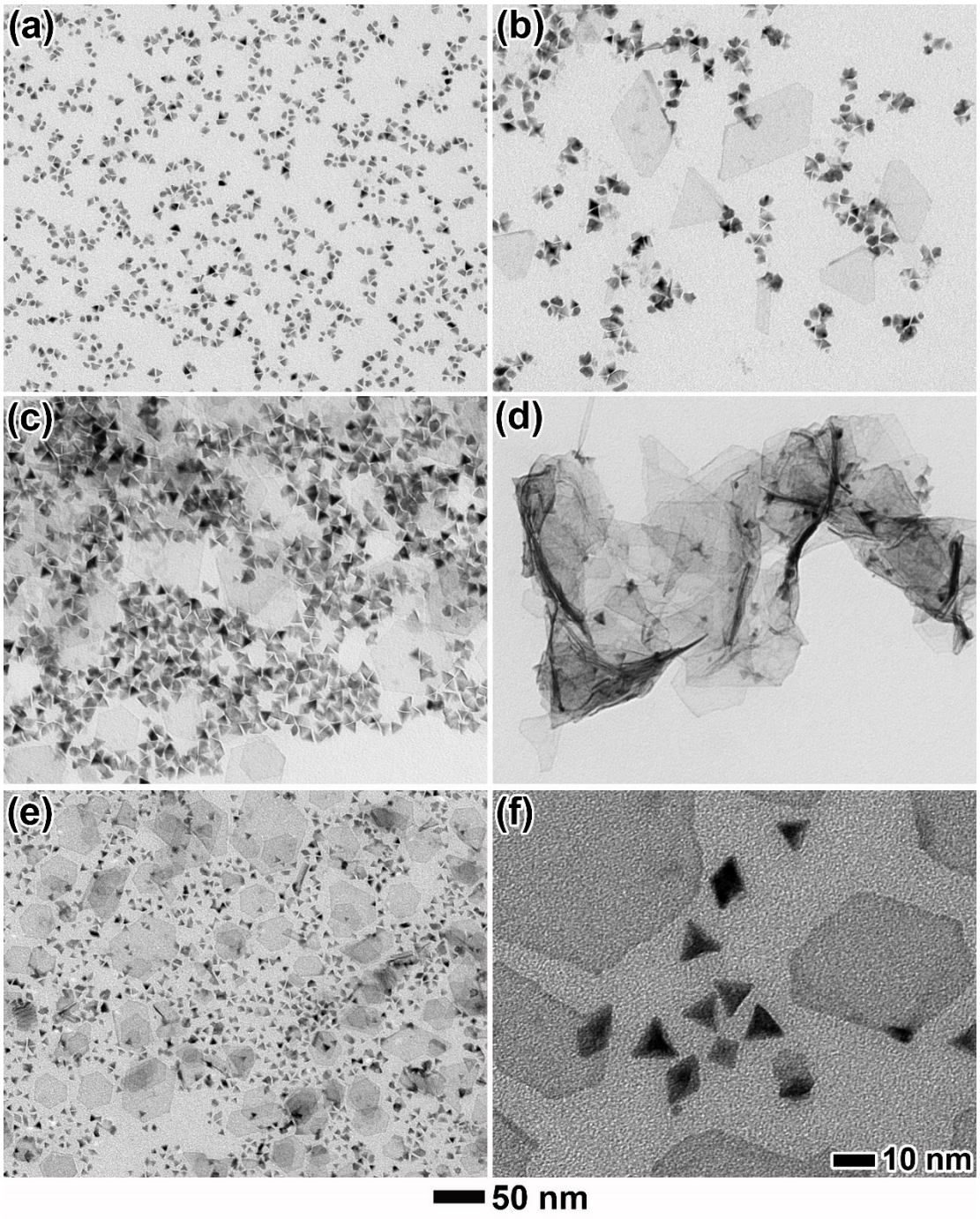

Figure S9. TEM images of Pd nanocrystals that prepared using the standard procedure, except for in the absence of (a) CTAB and CA, (b) CTAB, (c) CA, and (d) PVP. (e) TEM images of Pd nanocrystals that prepared using the standard procedure except for CTAB replaced by the same amount of CTAC. (f) TEM image of Pd tetrahedron co-existed in the reaction.