Supplementary Material

**Facile synthesis of Pt-Ag octahedral and tetrahedral nanocrystals with enhanced activity and durability toward methanol oxidation**

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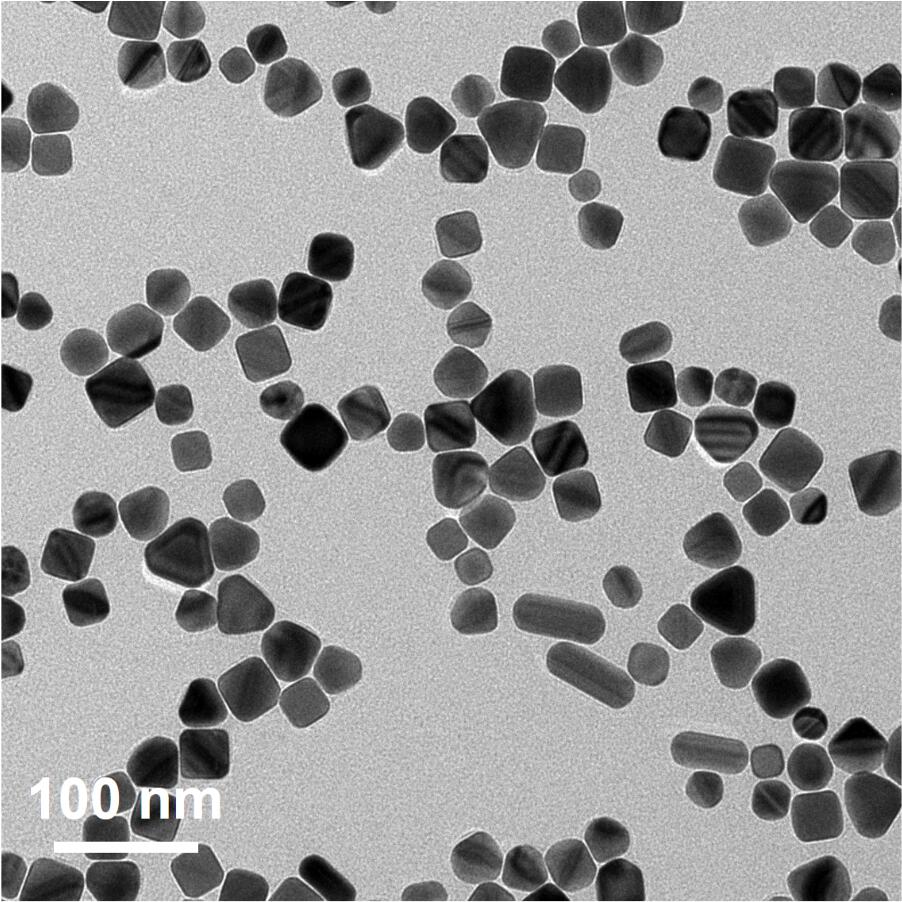
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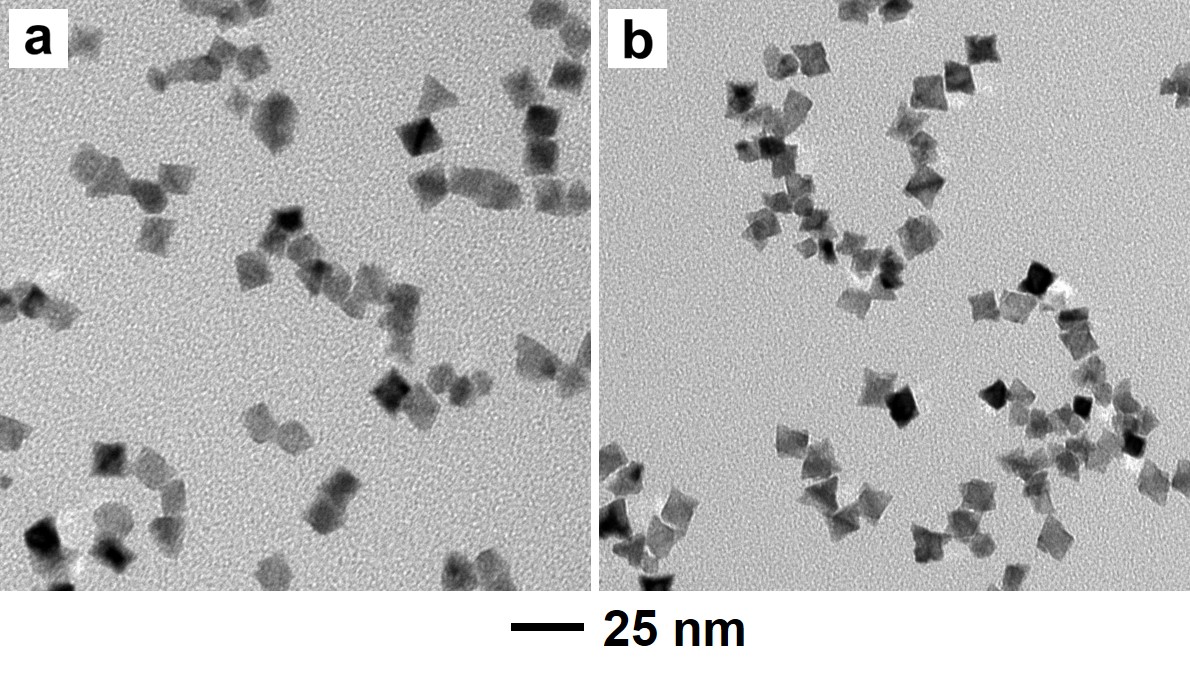
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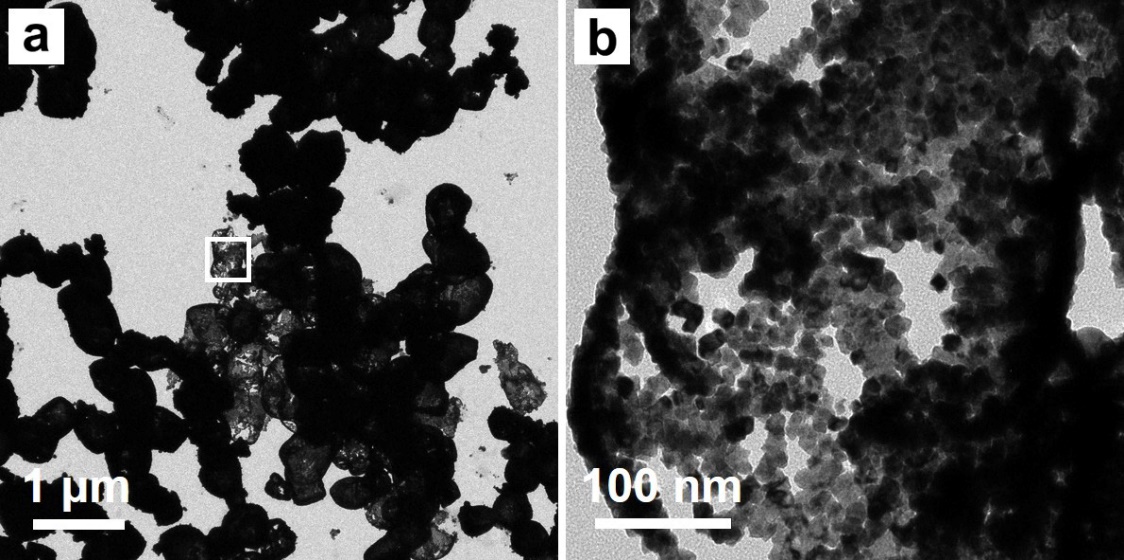
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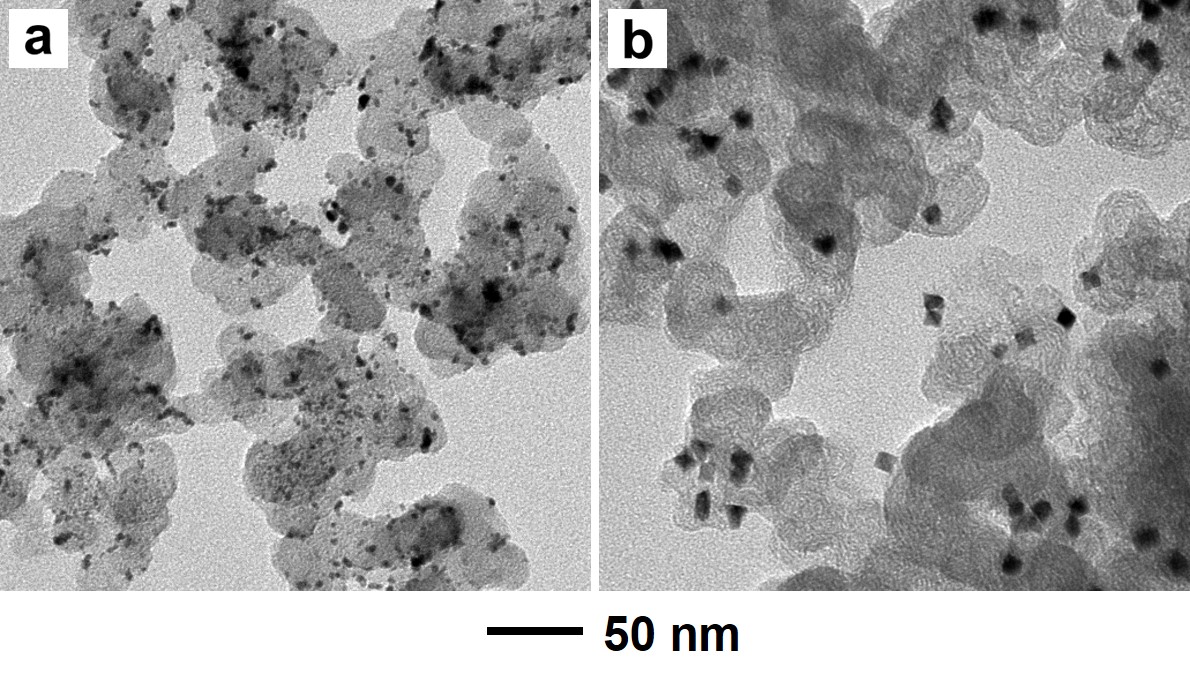
**FIG. S1.** TEM image of the Ag nanocrystals prepared using the standard protocol except for the absence of the Pt(IV) precursor.



**FIG. S2.** TEM images of the Pt-Ag nanocrystals prepared using the standard protocol except for the use of different reaction temperatures: (a) 150 °C and (b) 170 °C, respectively.



**FIG. S3.** (a) TEM image of the nanoparticles obtained using the standard protocol except for the absence of PVP. (b) TEM image at a high magnification taken from the region marked by a box in panel a.



**FIG. S4.** TEM images of carbon-supported catalysts: (a) the commercial Pt/C and (b) the Pt-Ag alloy nanocrystals.

**Table SI.** The elemental composition of Pt-Ag alloy nanocrystals prepared using the standard protocol.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Percentage of Pt (wt.%) | Percentage of Ag (wt.%) | Pt : Ag (mol/mol) |
| Pt-Ag nanocrystals | 72.2 | 27.8 | 3:2 |