

Highly Effective Pt-Co/ZSM-5 Catalysts with Low Pt Loading for Preferential CO Oxidation in H₂-Rich Mixture

Marina Shilina ^{1,*}, Irina Krotova ¹, Sergey Nikolaev ¹, Sergey Gurevich ², Denis Yavsin ², Olga Udalova ³ and Tatiana Rostovshchikova ¹

¹ Department of Chemistry, Lomonosov Moscow State University, 119991 Moscow, Russia

² Ioffe Physico-Technical Institute, RAS, 194021 St. Petersburg, Russia

³ Semenov Federal Research Center for Chemical Physics, RAS, 119991 Moscow, Russia

* Correspondence: mish@kinet.chem.msu.ru

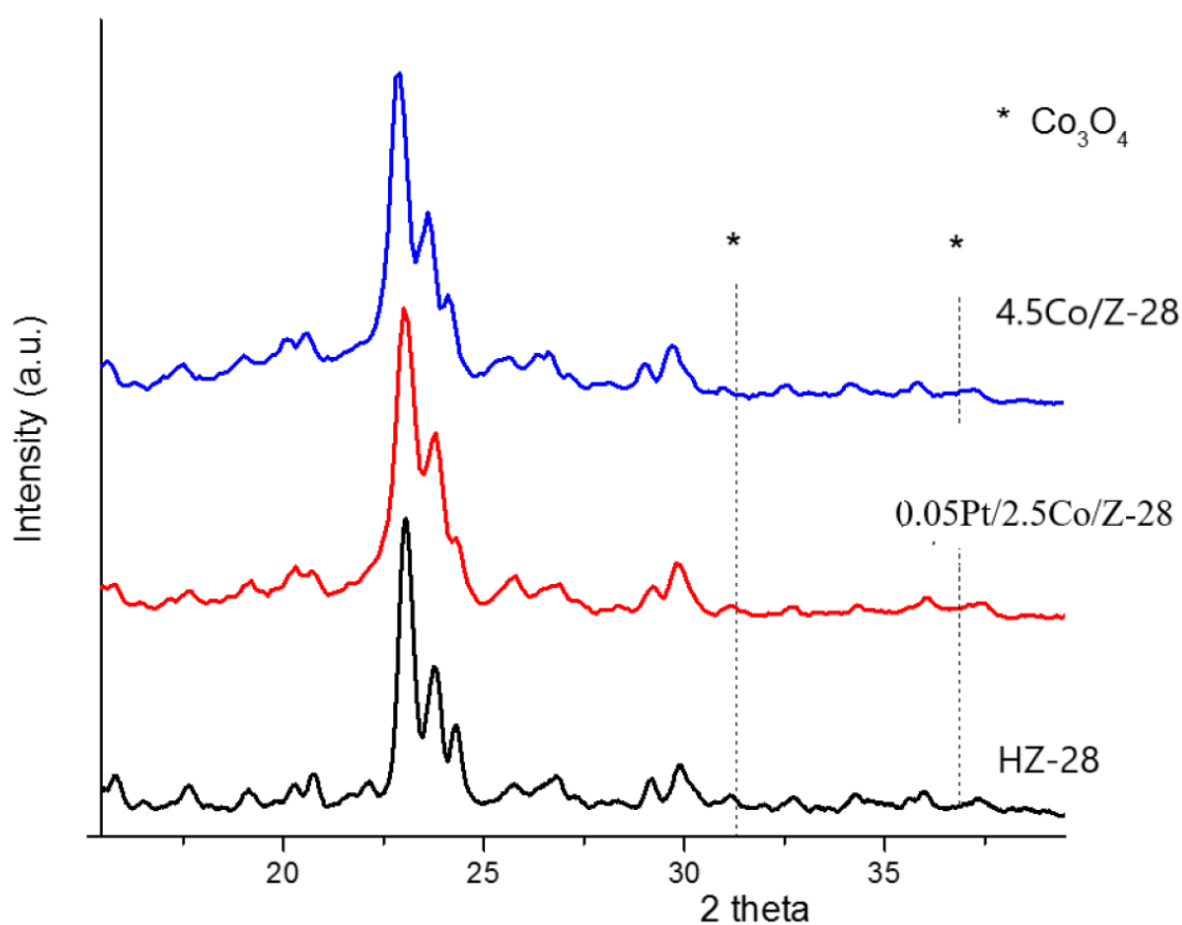


Figure S1. XRD patterns of the parent HZSM-5 and 0.05Pt/2.5Co/Z-28 and 4.5Co/Z-28 catalysts. The asterisks indicate the possible appearance of Co₃O₄ signals (JPCDS: 76-1802).

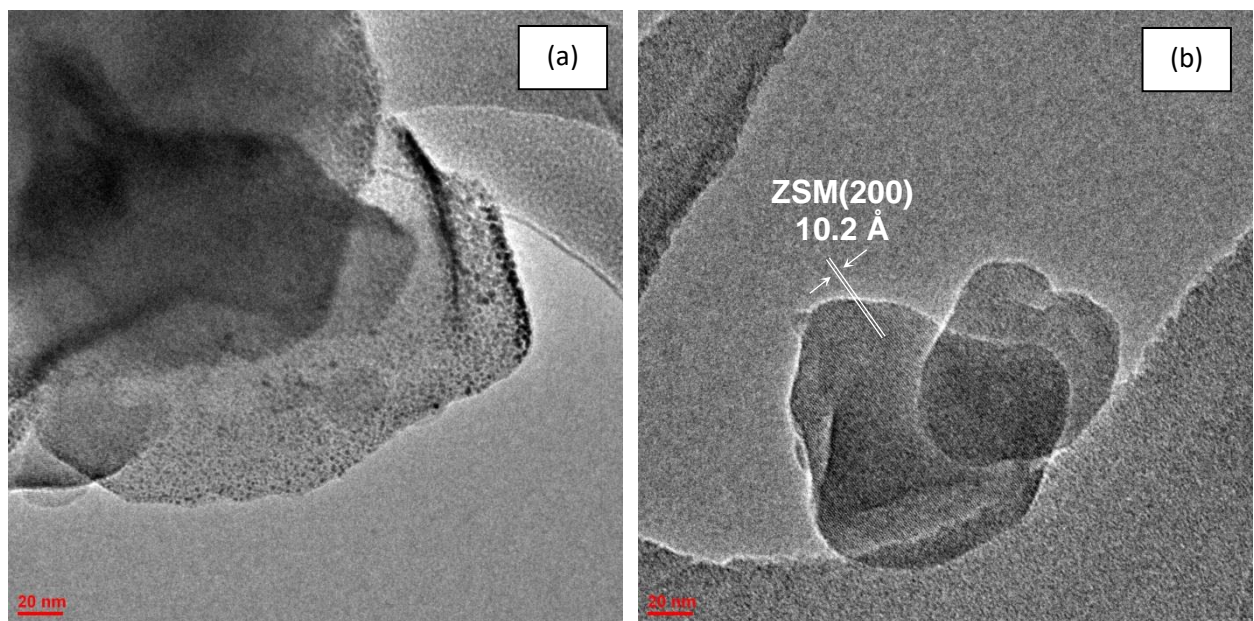
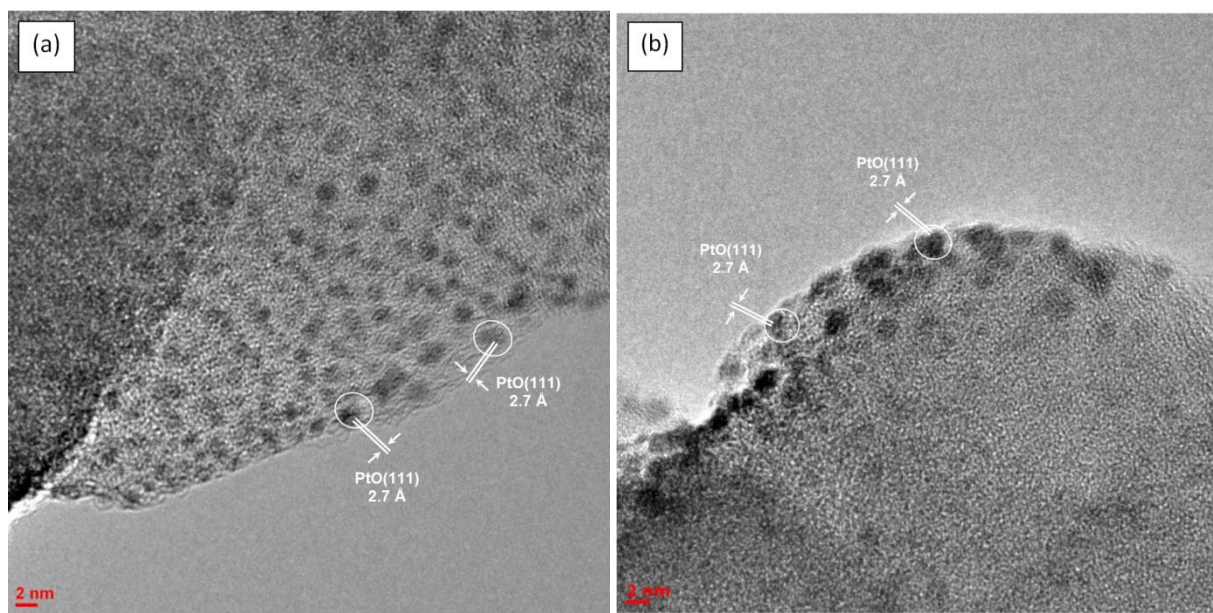


Figure S2. TEM images of (a) 0.01Pt and (b) Z-15.



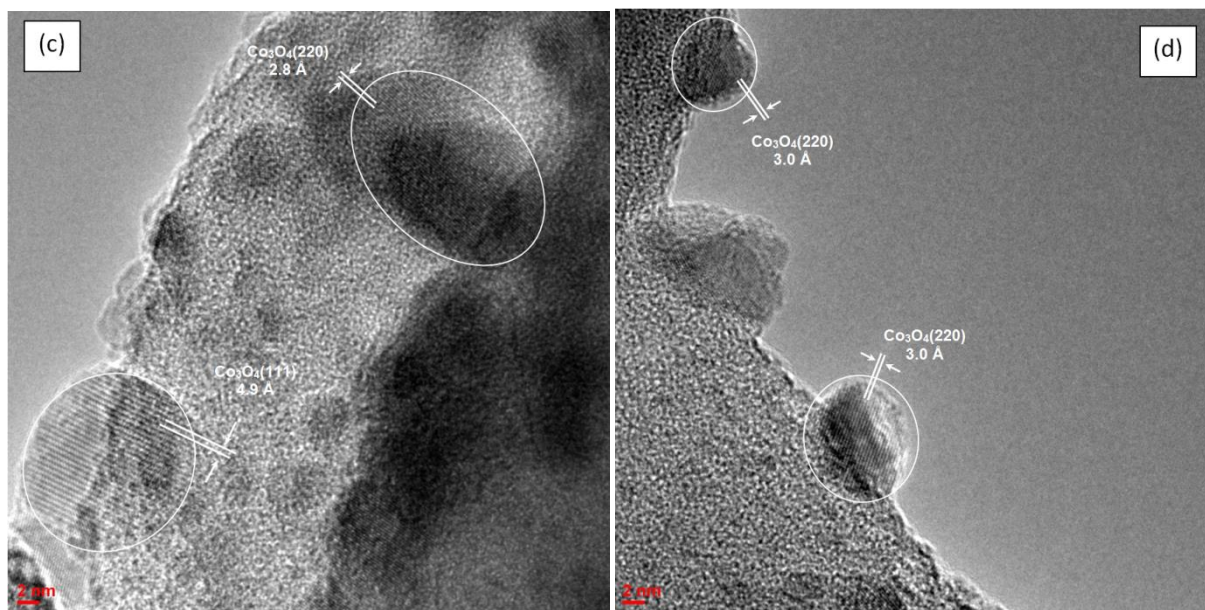


Figure S3. TEM images of (a) 0.05Pt (b) Z-28 and images of (c) 4.5Co (d) Z-28.

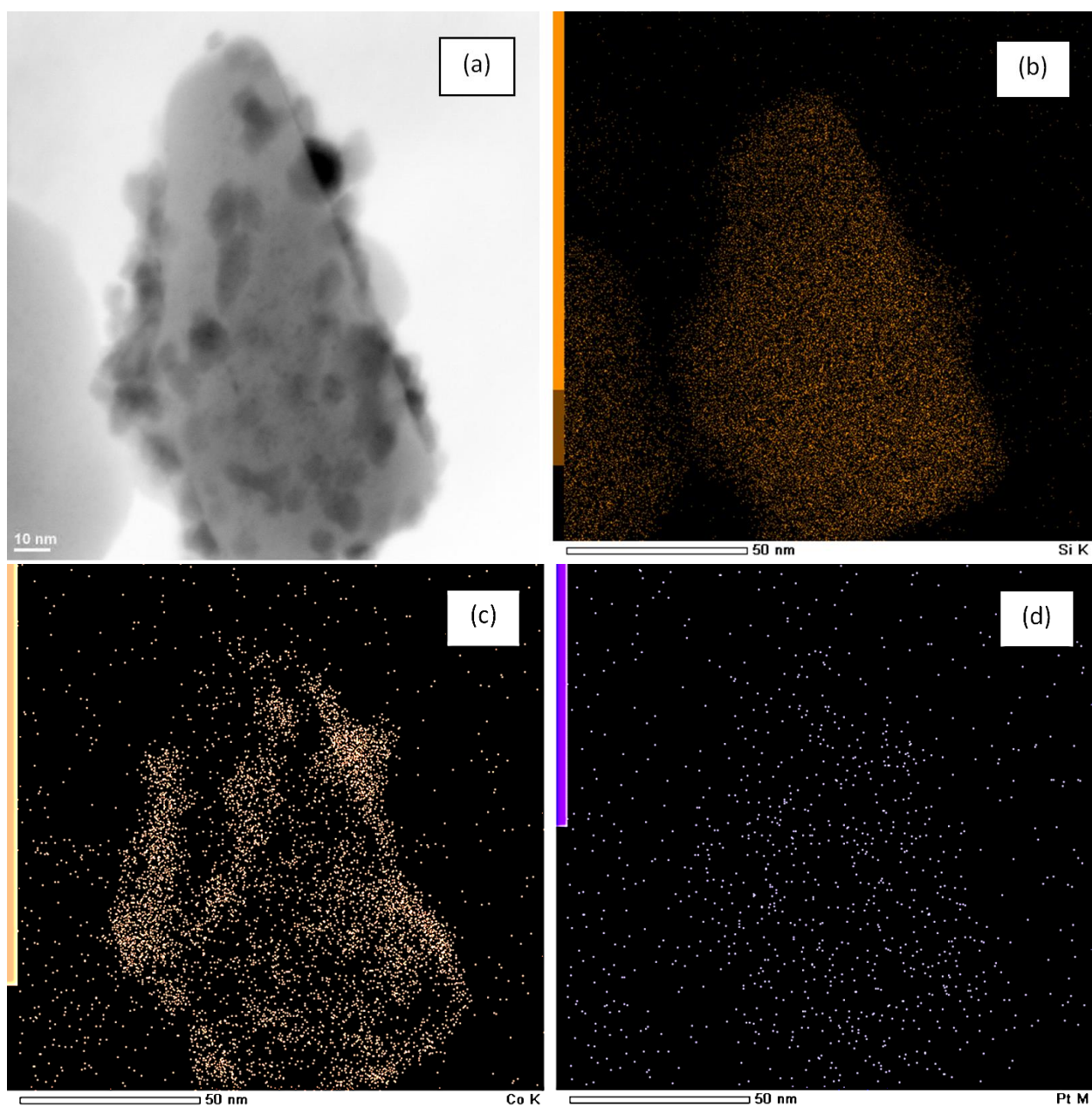


Figure S4. (a) TEM image and EDX element distribution maps of (b) Si, (c) Co and (d) Pt of 0.01Pt/4.5Co/Z-15.

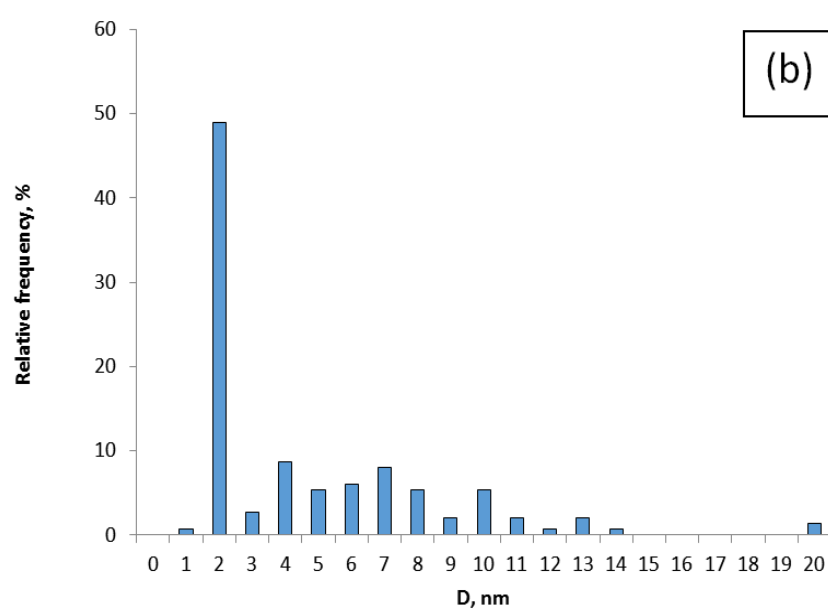
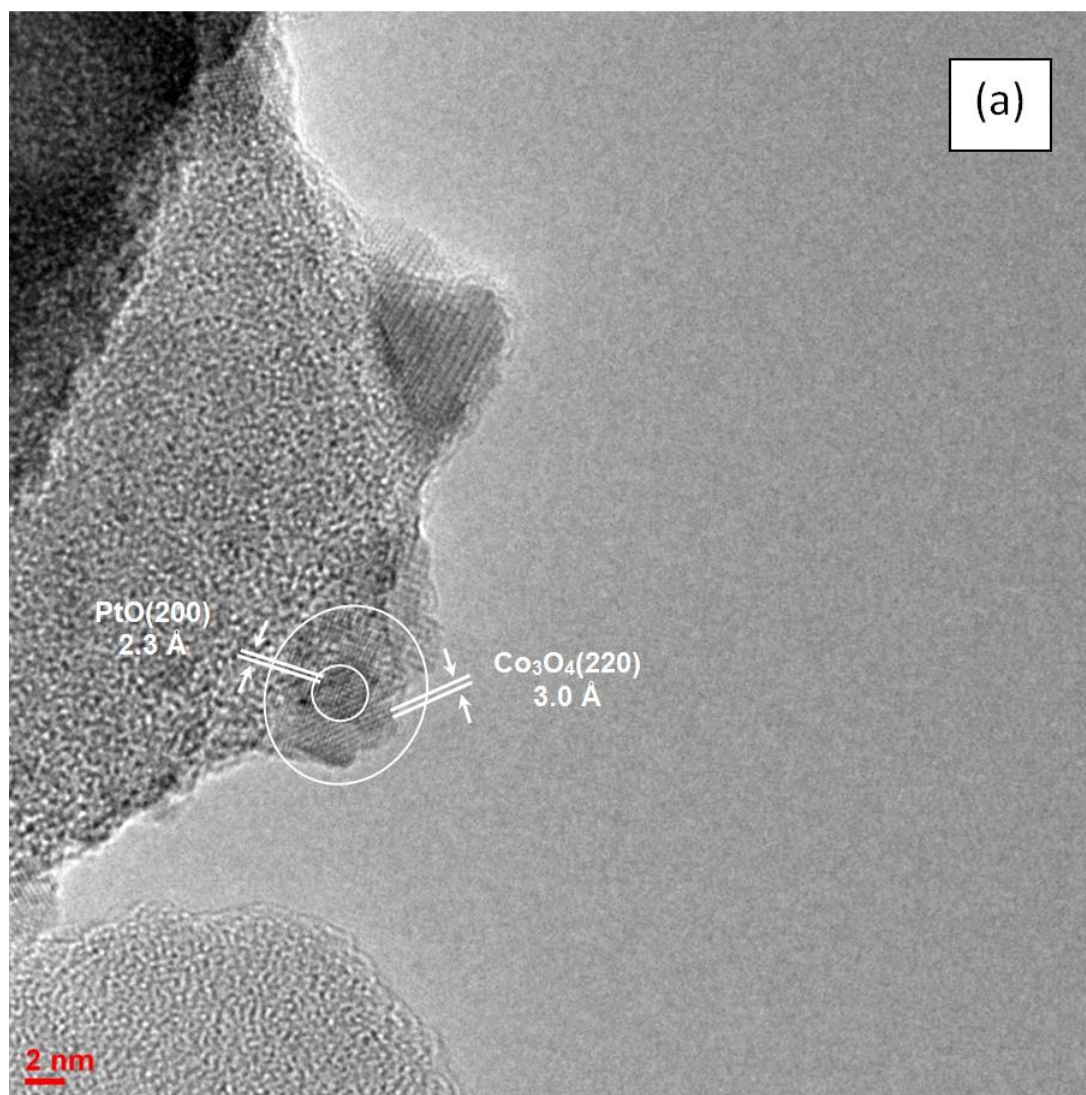


Figure S5. (a) TEM image and (b) particle size distribution of 0.01Pt/4.5Co/Z-15.

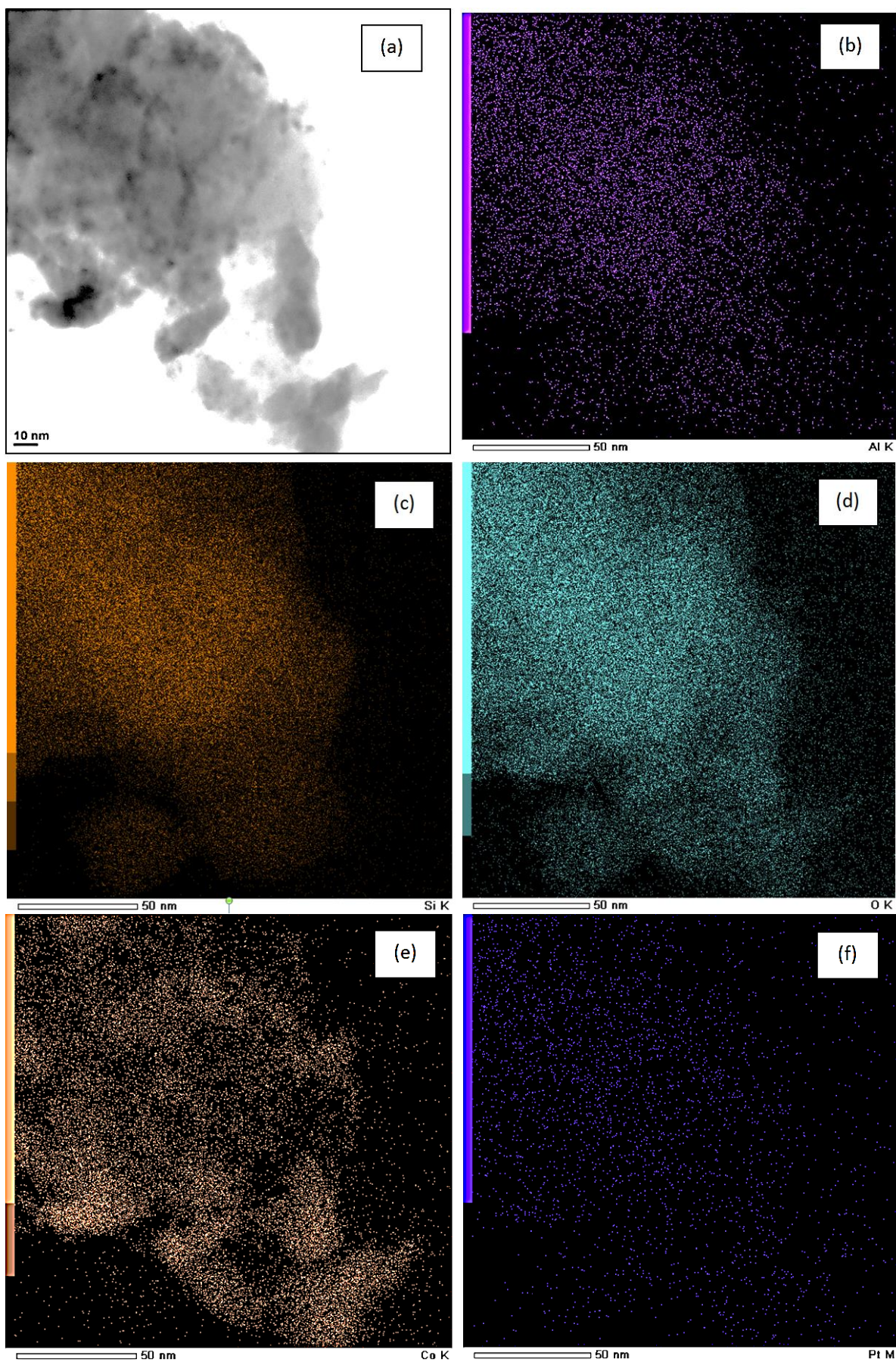


Figure S6. (a) TEM image and EDX element distribution maps of (b) Al, (c) Si, (d) O, (e) Co and (f) Pt of 4.5Co/0.01Pt/Z-28.

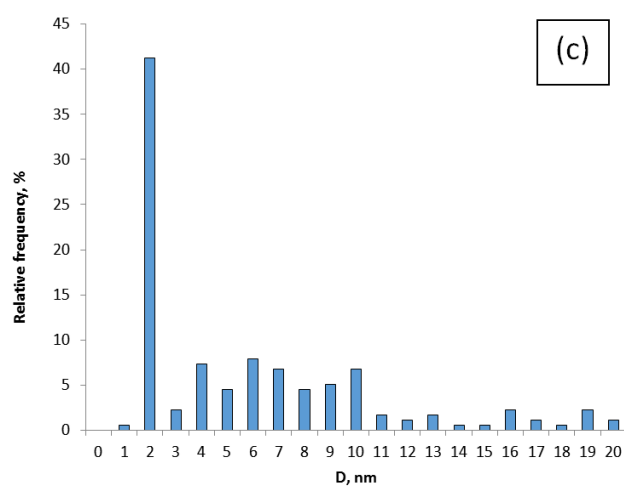
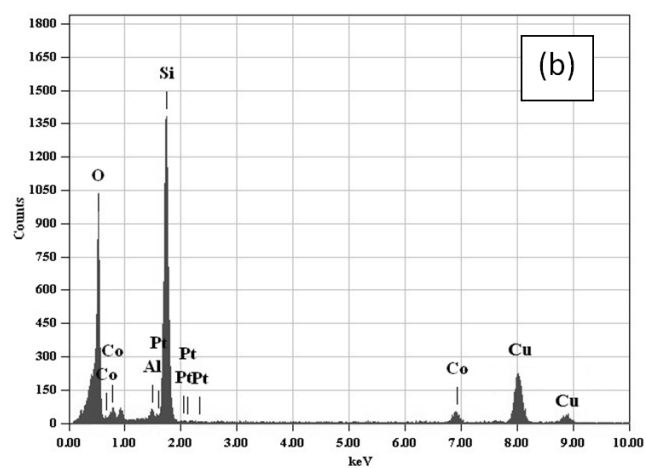
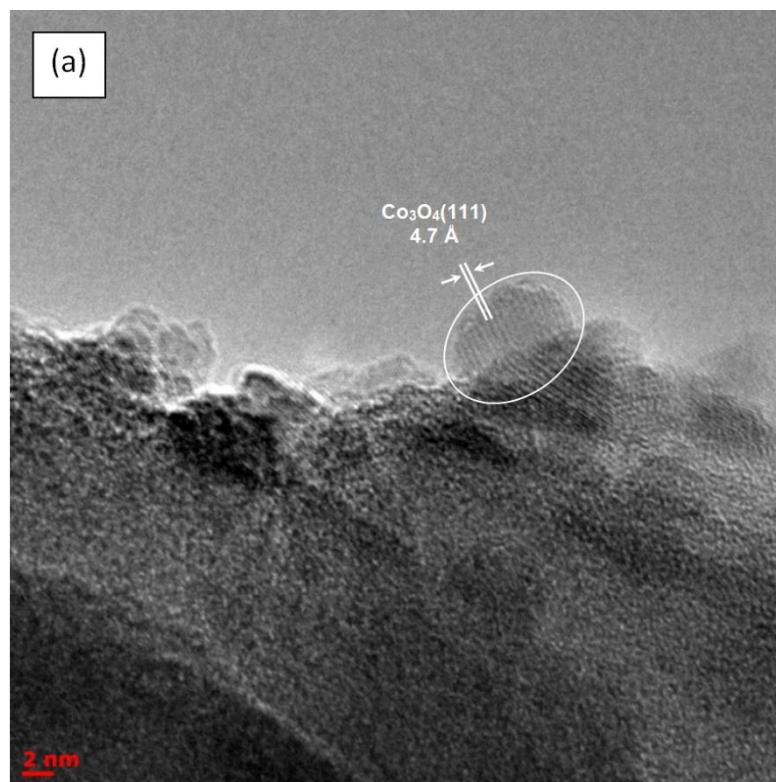
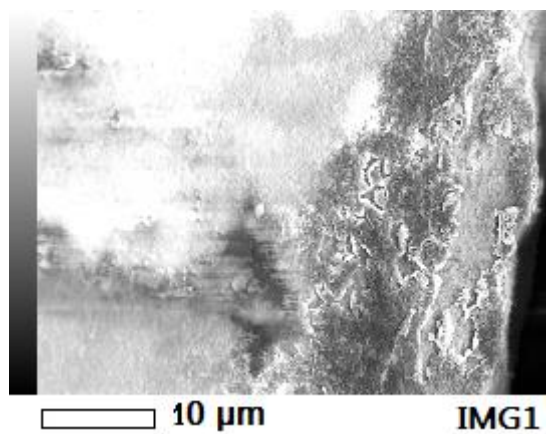
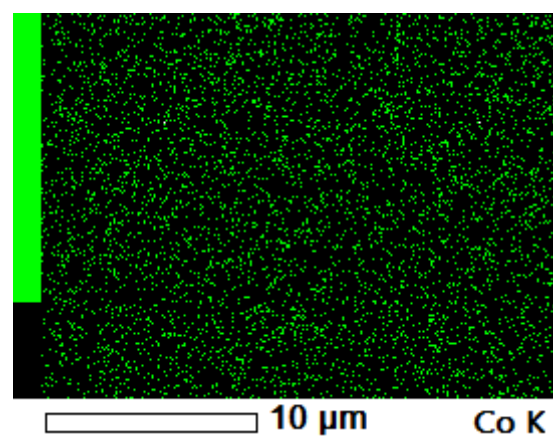


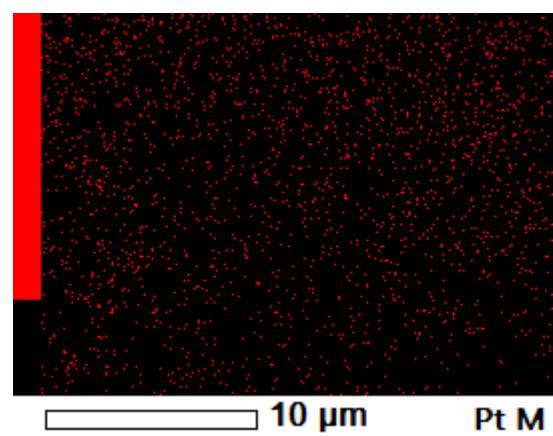
Figure S7. (a) TEM image, (b) EDX spectrum, and (c) particle size distribution of 4.5Co/0.01Pt/Z-28.



(a)



(b)



(c)

Figure S8. SEM image (a) and EDX element distribution maps of (b) Co and (c) Pt of 0.05Pt/2.5Co/Z-28.