Electronic Supplementary Material (ESI) for Faraday Discussions.

Supporting information

Enhanced hot electron generation by inverse metal–oxide interfaces on catalytic nanodiode

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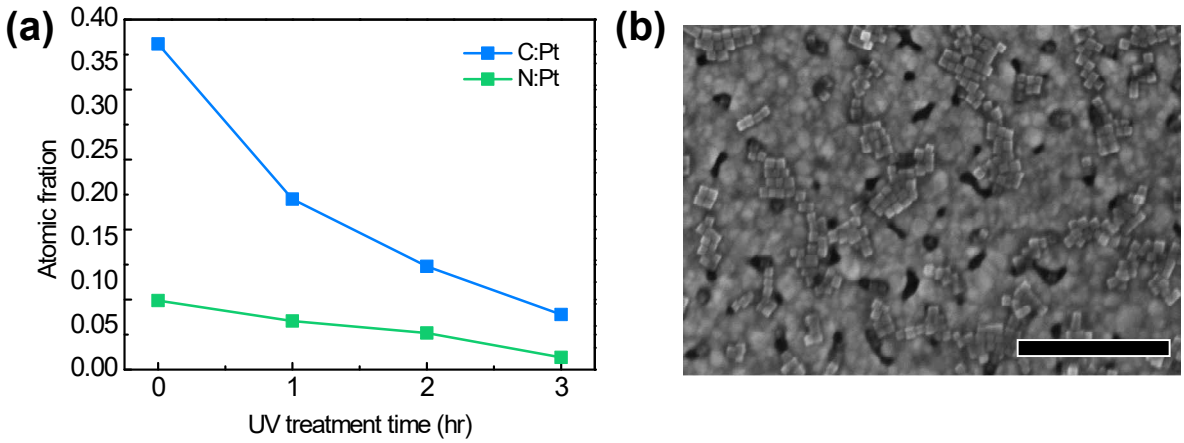

Fig. S1 (a) XPS results showing the relative fraction of C:Pt and N:Pt for the Co_3O_4 NPs/Pt/TiO_2 nanodiodes. Organic surfactants on the surface of catalysts are removed gradually by UV photodecomposition as a function of UV treatment time. (b) SEM image of the Co_3O_4 NCs/Pt/TiO_2 surface after UV-ozone treatment for 3 h.

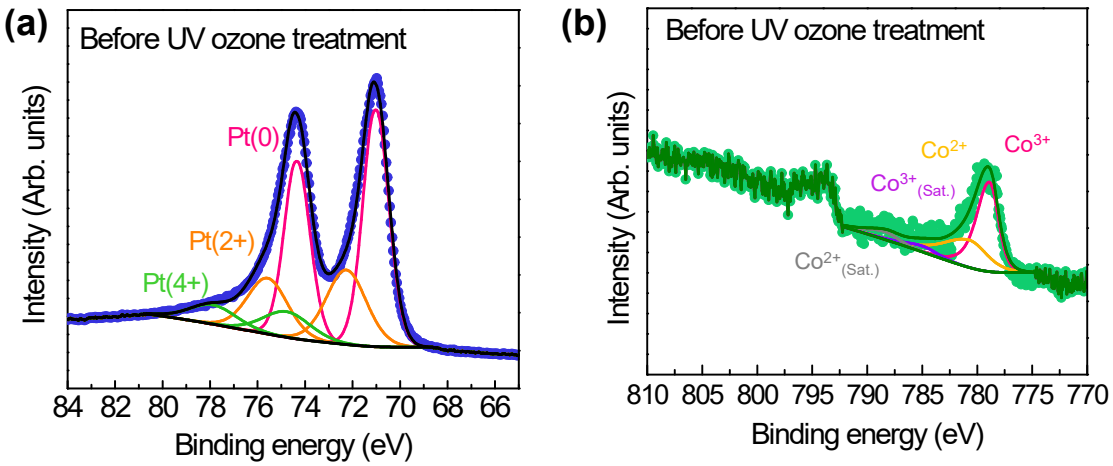

Fig. S2 XPS of (a) Pt 4f and (b) Co2p of the Co_3O_4 NCs/Pt/TiO_2 nanodiodes before UV-ozone treatment.

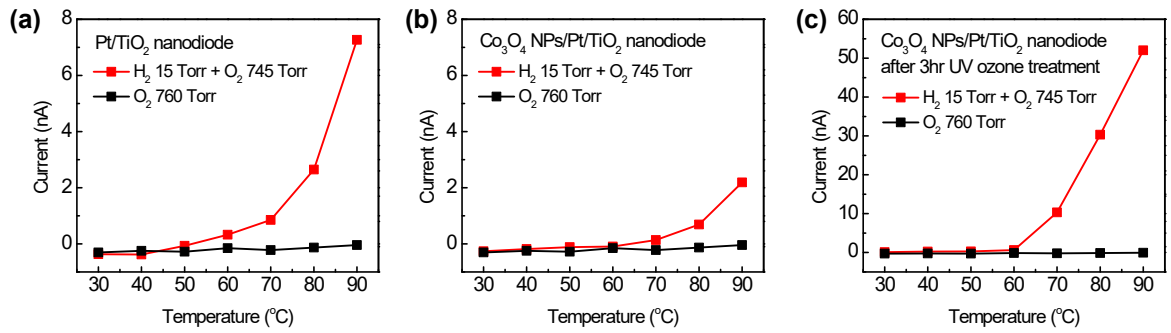

Fig. S3 Temperature dependence of the current from (a) the Pt/TiO_2, (b) Co_3O_4 NCs/Pt/TiO_2, and (c) UV-treated Co_3O_4 NCs/Pt/TiO_2 nanodiodes in a gas mixture of $H_2 + O_2$ and in pure O_2.