Supplementary Material

for

Immobilization of $Ir(OH)_3$ Nanoparticles in Mesospaces of Al-SiO_2 Nanoparticles Assembly to Enhance Stability for Photocatalytic Water Oxidation

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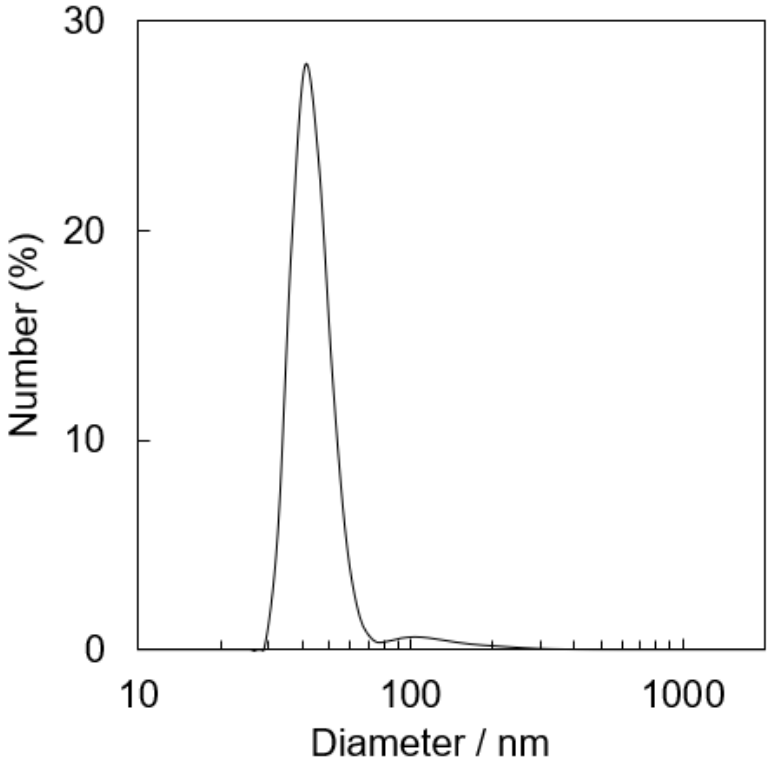

Figure S1. Size distribution of $Ir(OH)_3$ nanoparticles dispersed in water obtained by dynamic light scattering (DLS).

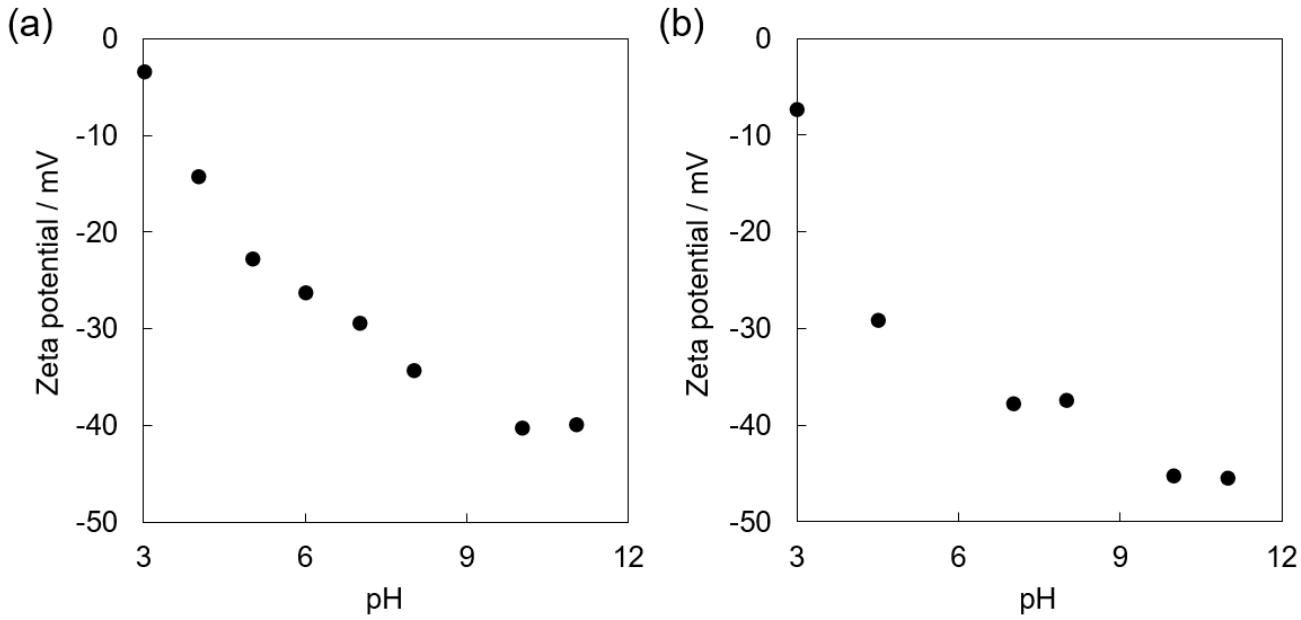

Figure S2. Zeta potential versus pH of (**a**) silica (20 nm in diameter) and (**b**) iridium hydroxide ($Ir(OH)_3$) nanoparticles.

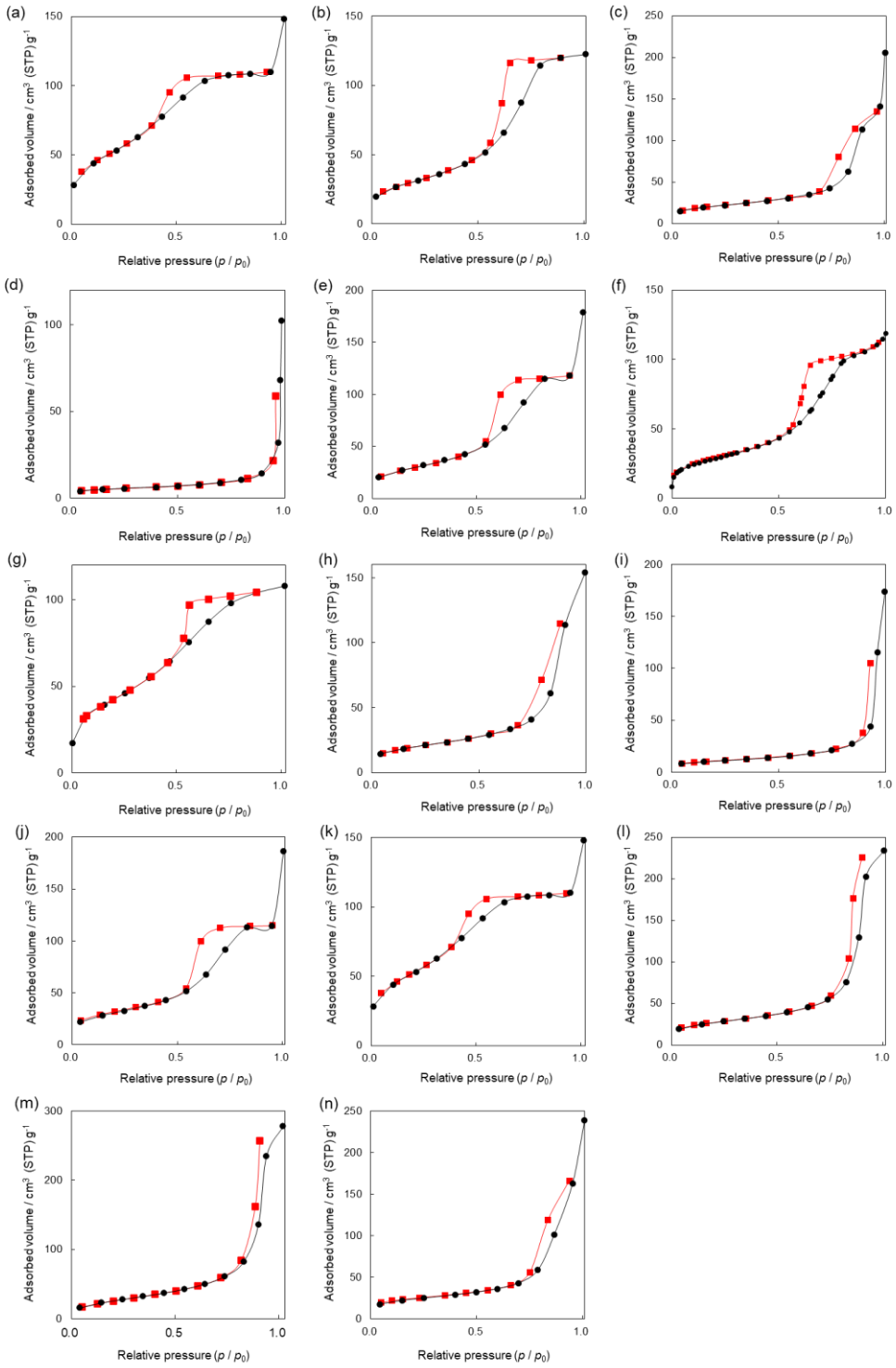

Figure S3. Nitrogen adsorption (black)–desorption (red) isotherms of (**a**) SiO_2NPA(10), (**b**) SiO_2NPA(20), (**c**) SiO_2NPA(50), (**d**) SiO_2NPA(100), (**e**) $Ir(OH)_3$/SiO_2NPA(20)-CA, (**f**) $Ir(OH)_3$/SiO_2NPA(20)-EA, (**g**) $Ir(OH)_3$/SiO_2NPA(10)-CA, (**h**) $Ir(OH)_3$/SiO_2NPA(50)-CA, (**i**) $Ir(OH)_3$/SiO_2NPA(100)-CA, (**j**) $Ir(OH)_3$/Al-SiO_2NPA(20)-CA ([Al] = 1 wt%), (**k**) $Ir(OH)_3$/Al-SiO_2NPA(20)-CA ([Al] = 5 wt%), (**l**) $Ir(OH)_3$/Al-SiO_2NPA(20)-CA ([Al] = 10 wt%), (**m**) Al_2O_3NPA(20)-CA, and (**n**) $Ir(OH)_3$/Al_2O_3NPA(20)-CA.