## **Supporting Information**

## Synthesis of size-controlled PtPdIr nanoparticles by solution plasma sputtering and their catalytic properties

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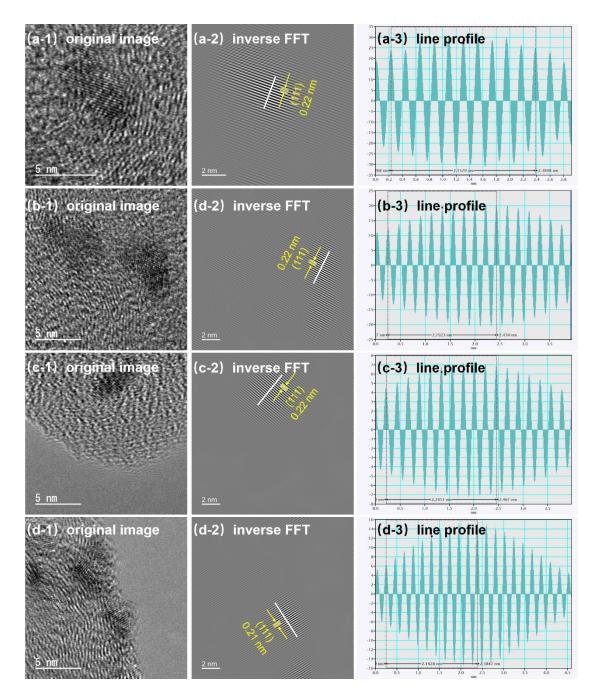
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**Fig. S1.** Original TEM images of (a-1) particle-a (64:36:0), (b-1) particle-b (82:14:4), (c-1) particle-c (79:14:7) and (d-1) particle-d (79:14:7); (a-2)-(d-2) inverse Fourier Transform (FFT) masking the ring pattern of carbon on FFT, and (a-3)-(d-3) the measurement results of the lattice distance.

Sample	2θ (°)	FWHM (°)	Grain size (nm)
20 wt% Pt/C	39.70	1.166	7.24
particle-a (64:36:0)	39.83	0.234	36.2
particle-b (82:14:4)	39.83	0.406	20.8
particle-c (79:14:7)	39.91	0.257	32.9
particle-d (79:14:7)	39.80	0.212	39.9

**Table S1.** Diffraction angles, half-maximum full width, and grain sizes obtained from 111

FWHM: Full width at half of the peak at  $2\theta$ .

reflections in Fig. 2.

	Particle-a	Particle-b	Particle-c	Particle-d
	(64:36:0)	(82:14:4)	(79:14:7)	(79:14:7)
MA(Pt+Pd+Ir)	133.41	110.61	164.44	116.46
(mA/mg)				

 Table S2. Mass activity of Particles-a to -d based on Pt+Pd+Ir weight.

MA(Pt+Pd+Ir): Mass activity of Pt+Pd+Ir.