

[Electronic Supplementary Information]

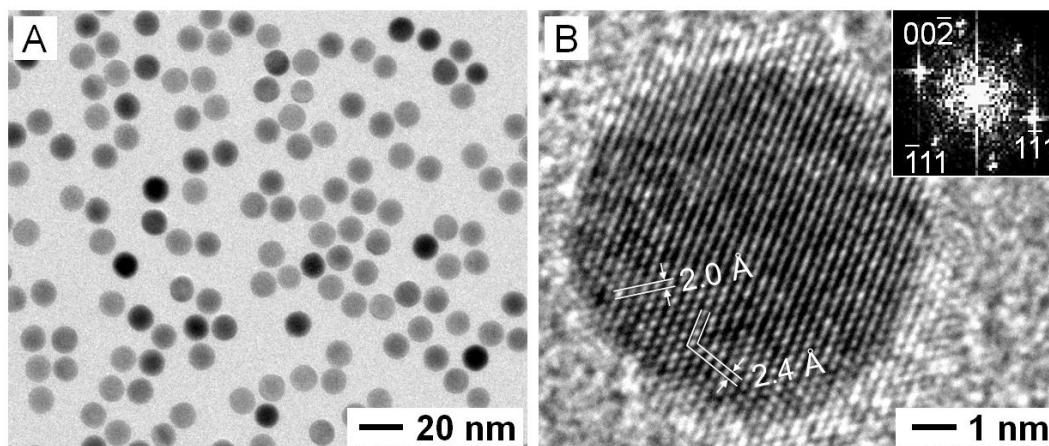
**Au@Pd nanostructures with tunable morphologies and sizes and  
their enhanced electrocatalytic activity**

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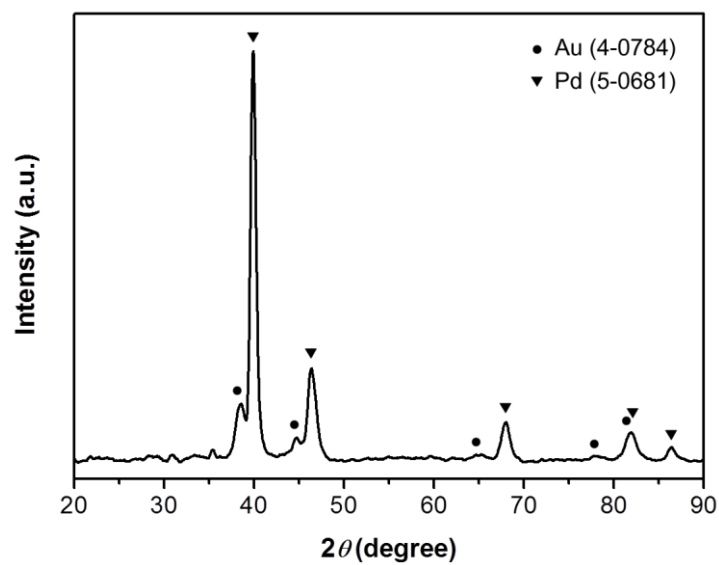
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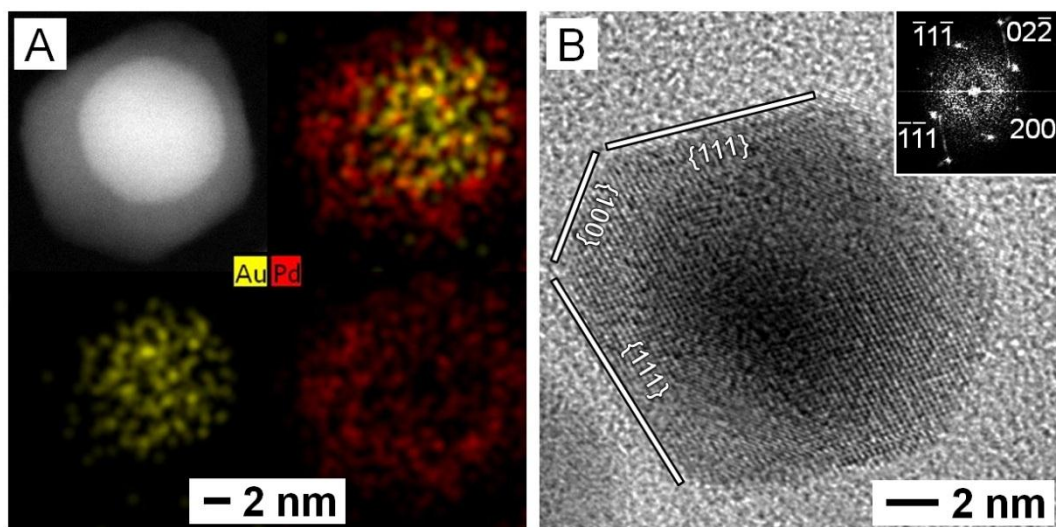
**Fig. S1** (A) TEM image of single-crystal Au seeds with a diameter of  $10.0 \pm 0.3$  nm. (B) HRTEM image taken from an individual Au seed and the corresponding FFT pattern (inset).



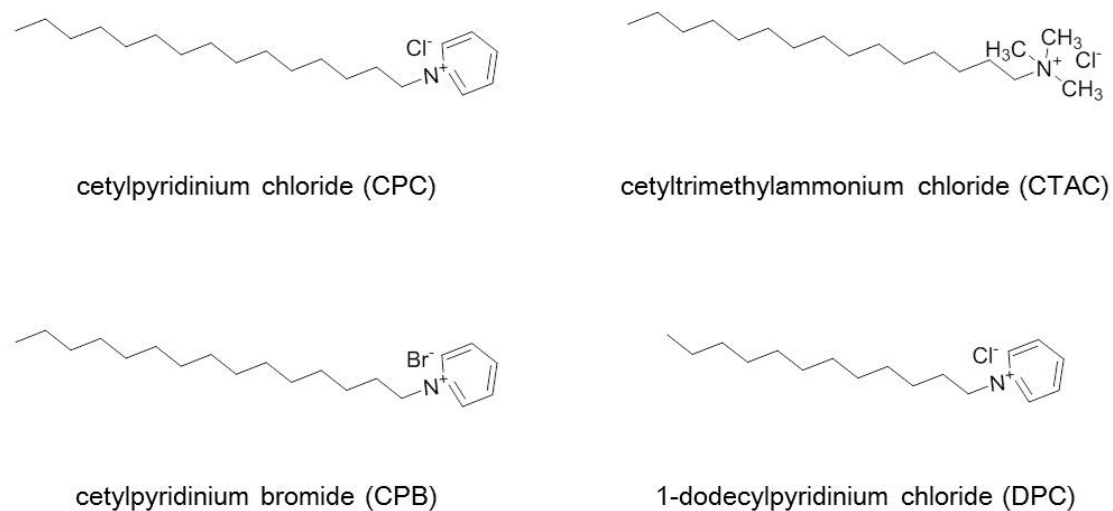
**Fig. S2** XRD pattern recorded from the flower-like Au@Pd nanostructures, shown in Fig. 1, on a glass substrate.

**Table S1** Volume and concentration (in parenthesis) of  $\text{Na}_2\text{PdCl}_4$  and CPC used for obtaining the Au@Pd nanostructures shown in Fig. 2, and their average sizes (shaded) in diameter.

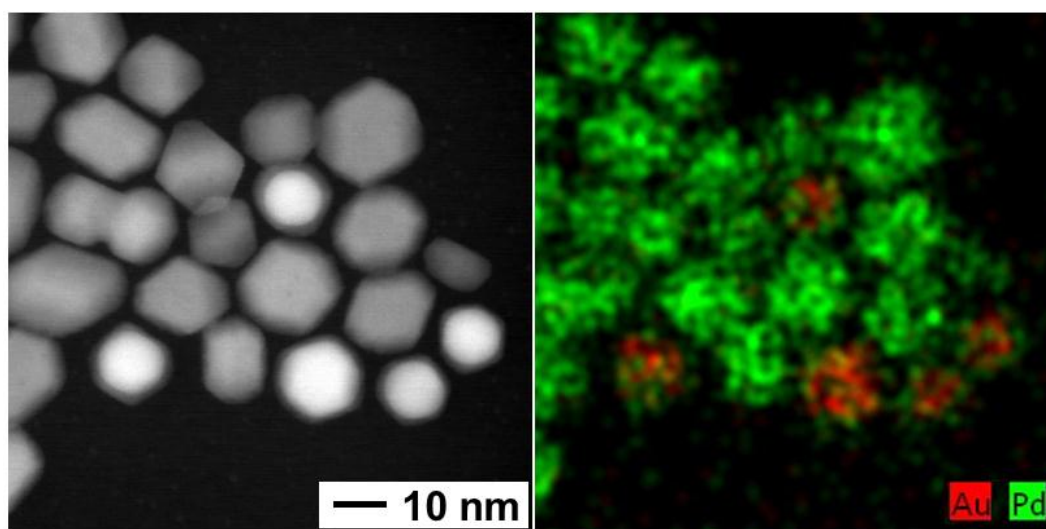
		CPC		
		1	2	3
$\text{Na}_2\text{PdCl}_4$	A 0.5 mL (417 $\mu\text{M}$ )	1 mL (16.7 mM)	2 mL (33.3 mM)	4 mL (66.6 mM)
		26.4 $\pm$ 1.4 nm	-	22.5 $\pm$ 1.1 nm
	B 0.1 mL (83.3 $\mu\text{M}$ )	0.2 mL (3.33 mM)	1 mL (16.7 mM)	3 mL (50 mM)
		21.1 $\pm$ 1.0 nm	-	17.7 $\pm$ 0.9 nm
	C 0.05 mL (41.7 $\mu\text{M}$ )	0.1 mL (1.67 mM)	1 mL (16.7 mM)	2 mL (33.3 mM)
		20.4 $\pm$ 1.2 nm	-	12.6 $\pm$ 0.6 nm



**Fig. S3** (A) HAADF-STEM image and elemental maps of Au (yellow) and Pd (red), and (B) HRTEM image and the corresponding FFT pattern (inset), recorded from an individual Au@Pd nanostructure obtained using the standard procedure except for increased volume (4 mL) of CPC solution as sample A3 in Fig. 2.



**Fig. S4** Structural formulas of the four different surfactants used in this study.



**Fig. S5** HAADF-STEM image and elemental maps of Au (red) and Pd (green) recorded for the sample in Fig. 3B, prepared using the standard procedure except for the use of DPC instead of CPC.