

Supporting Information

Green synthesis of PdO/Pd anchored on hierarchical ZnO microflowers with synthetic effect for efficient catalytic reduction of 4-nitrophenol

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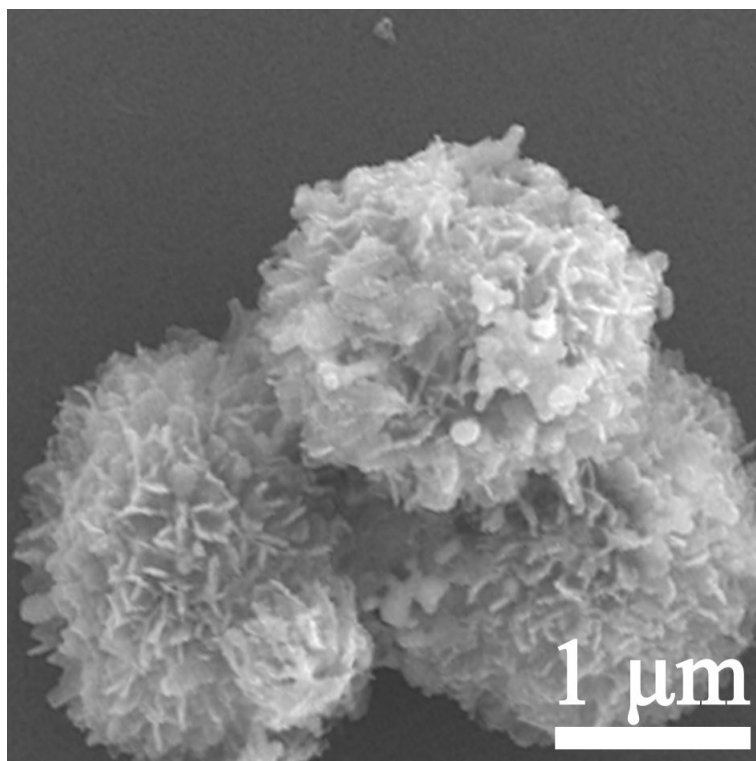


Fig. S1 SEM image of Zn(MAA)₂ nanoflowers.

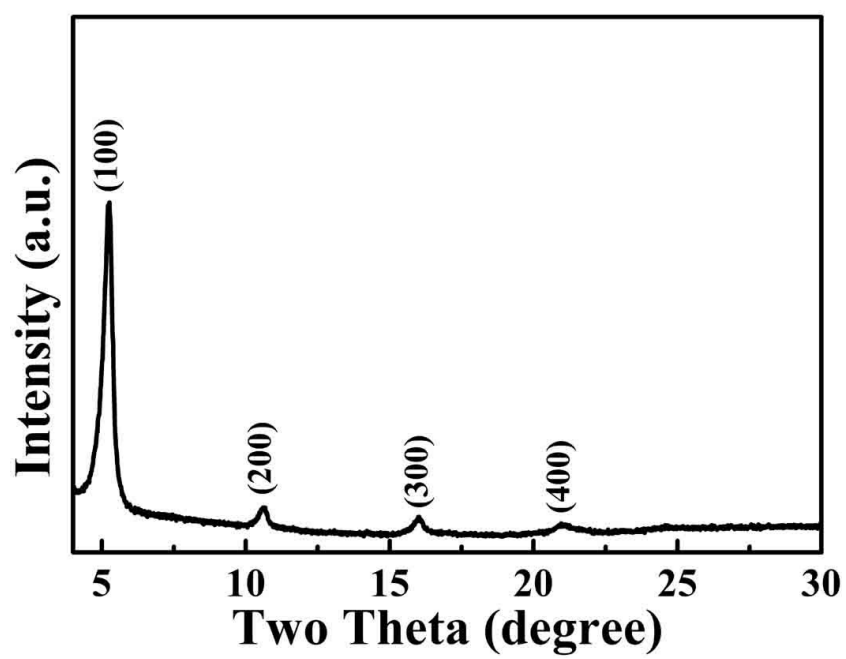


Fig. S2 XRD pattern of Zn(MAA)₂ MFs.

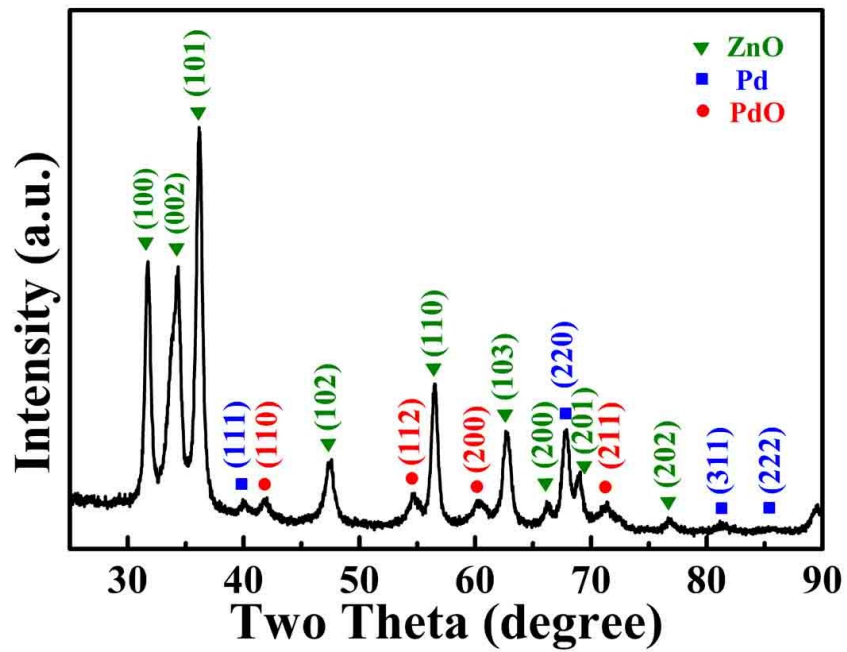


Fig. S3 XRD pattern of ZnO/PdO/Pd MFs obtained by calcinating the ZnO/Pd(II) MFs in the air at 340 °C for 40 min (heating rate: 1 °C min⁻¹)

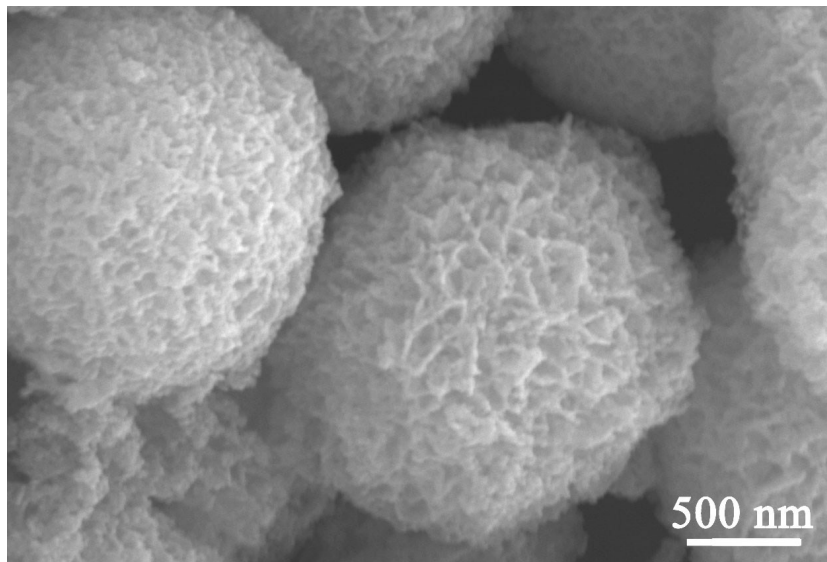


Fig. S4 SEM image of ZnO/PdO/Pd nanoflowers.

Table S1 catalytic performance of various catalysts reported for the reduction of 4-NP k is the rate constant calculated by the relationship between $\ln C/C_0$ and the reaction time. k_a is calculated by using the equation $k_a=k/a$, where a is the mass of active substance in catalytic process.

Entry	Catalyst	k (min ⁻¹)	k_a (s ⁻¹ g ⁻¹)	Ref.
1	Pd/CS-4	0.40	6.6	S1
2	Natrolite zeolite/palladium	4.02	44.8	S2
3	Pd/ZnO@Zn	0.28	77	S3
4	Pt/Fe ₂ O ₃	0.24	98	S4
5	PtO ₂ /ZnO-30	0.52	117	S5
6	Pd/carbon nanotube	0.63	125	S6
7	Ni@Pd/KCC-1	1.224	510	S7
8	Pd/N-doped carbon	0.366	542	S8
9	PdNPs/Cit-GO	0.20	656.7	S9
10	cellulose nanocrystals/Pd	0.34	1339	S10
11	Pd/Fe ₃ O ₄ -Ag	1.98	1736	S11
12	ZnO/PdO/Pd	0.55	2065	This work

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