

Electronic Supplementary Information

Bromine anion-induced synthesis of copper nanoplates and their recyclable catalytic activity towards 4-nitrophenol reduction

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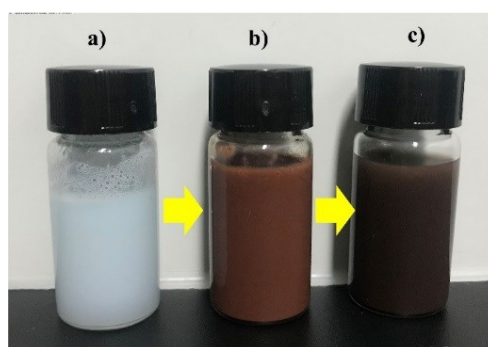


Figure. 1S Photographs of (a) the prepared blue emulsion before reaction. (b) The product after reaction. (c) The product after washing

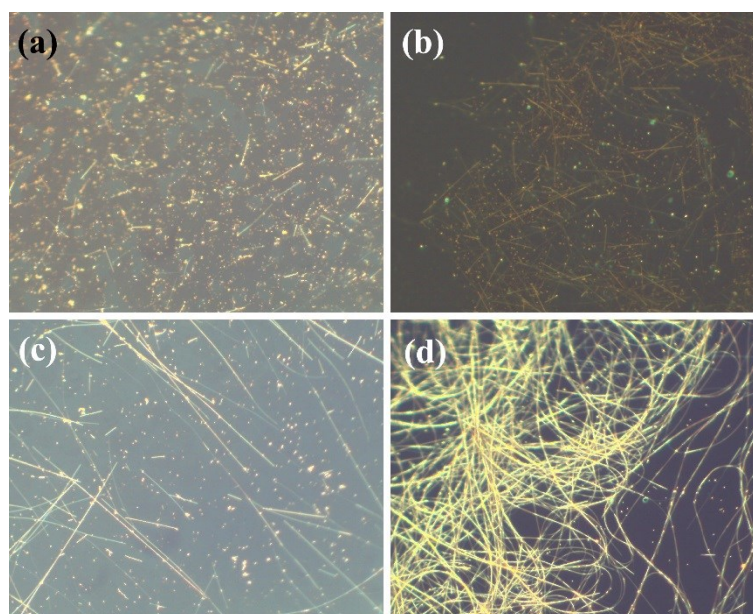


Figure. 2S (a) The product obtained by replacing sodium bromide with copper nitrate and sodium chloride in a molar ratio of 1:1 under other conditions unchanged. (b) The product obtained by replacing copper bromide with copper chloride under other conditions unchanged. (c) The product obtained by replacing sodium bromide with copper nitrate and sodium chloride in a molar ratio of 1:5 under other conditions unchanged. (d) The product obtained by increasing the amount of octadecylamine twice under the conditions of Fig. 2S(c).

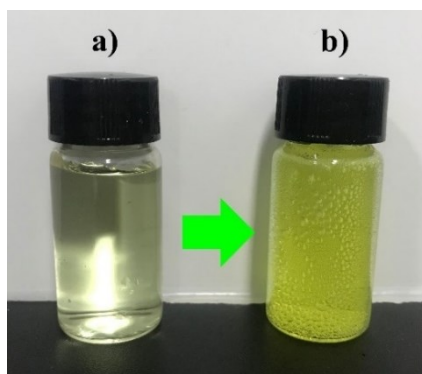


Figure. 3S Photographs of the pure 4-nitrophenol solution (a) before and (b) after addition of NaBH₄.

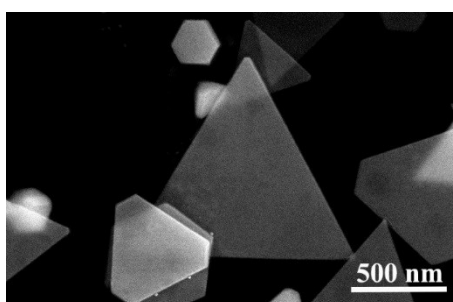


Figure. 4S SEM image of the copper nanoplates collected after five catalytic reaction cycles.

Table. 1S

Comparison of rate constants and activity factor of different catalysts for the reduction of 4-nitrophenol.

sample	Quality/mg	Rate constant (k)/s ⁻¹	Activity factor (K)/s ⁻¹ mg ⁻¹	Reference
Cu nanoplates	0.052	0.0071	0.1365	This work
Cu nanoplates	0.07	0.0095	0.1357	4
Cu porous microspheres	0.06	0.0043	0.0716	25
Cu cubes	0.096	0.0101	0.1052	26
Ag nanoplates/SNTs-4	0.270	0.0384	0.1422	27
Au/grapheme hydrogel	0.024	0.0031	0.1292	28
Pd/SPB-PS	0.038	0.0044	0.1158	29

References

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