Redispersible CuO nanoparticles: preparation and photocatalytic capacity for the degradation of methylene blue

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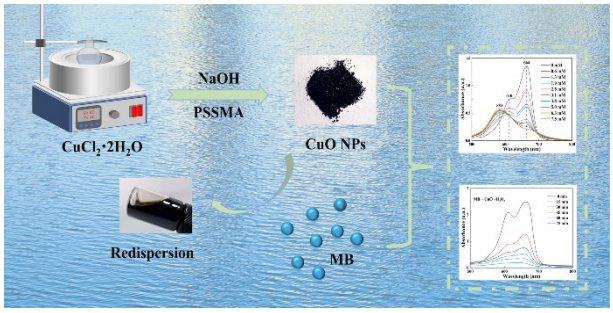
1. Table of Contents Entry



In this paper, redispersible nano-copper oxide was prepared. It forms a charge complex with methylene blue and is applied to investigating the photocatalytic degradation ability of methylene blue.

2. Supporting Figures

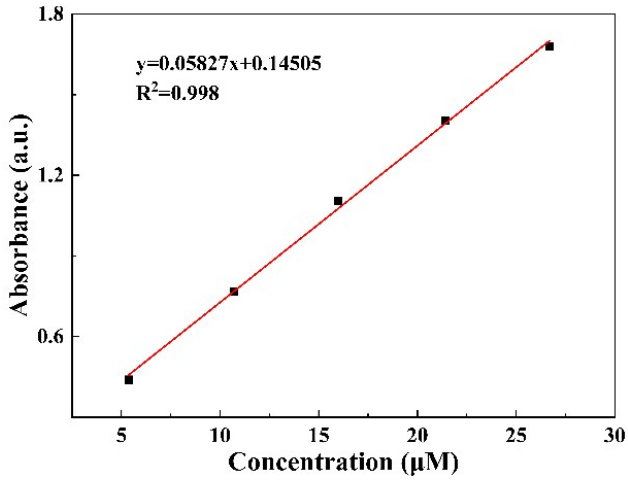


Figure S1. Methylene blue standard curve.

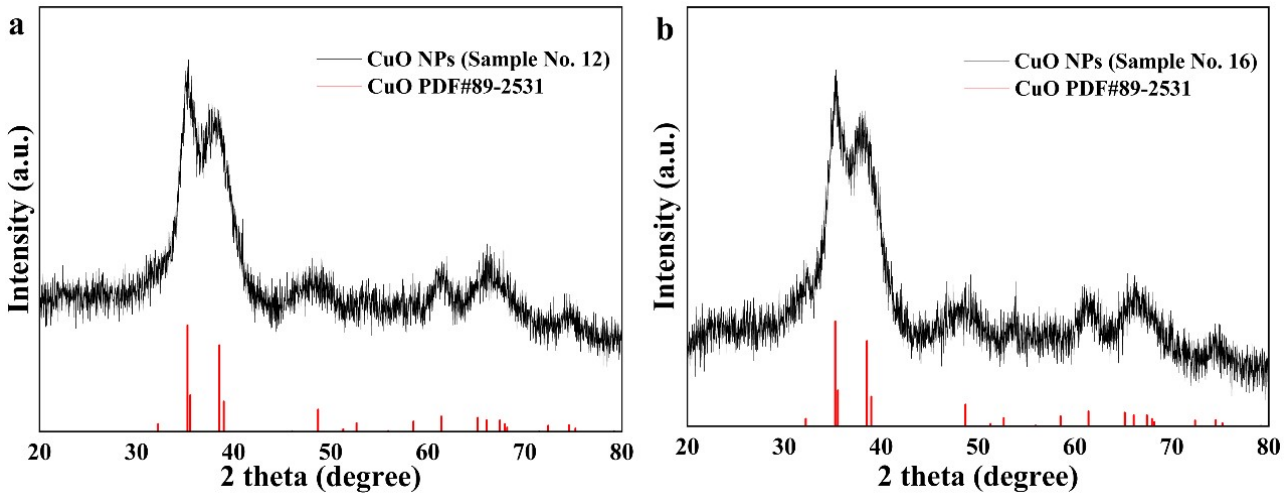


Figure S2. (a) XRD pattern of Sample No. 12; (b) XRD pattern of Sample No. 16.

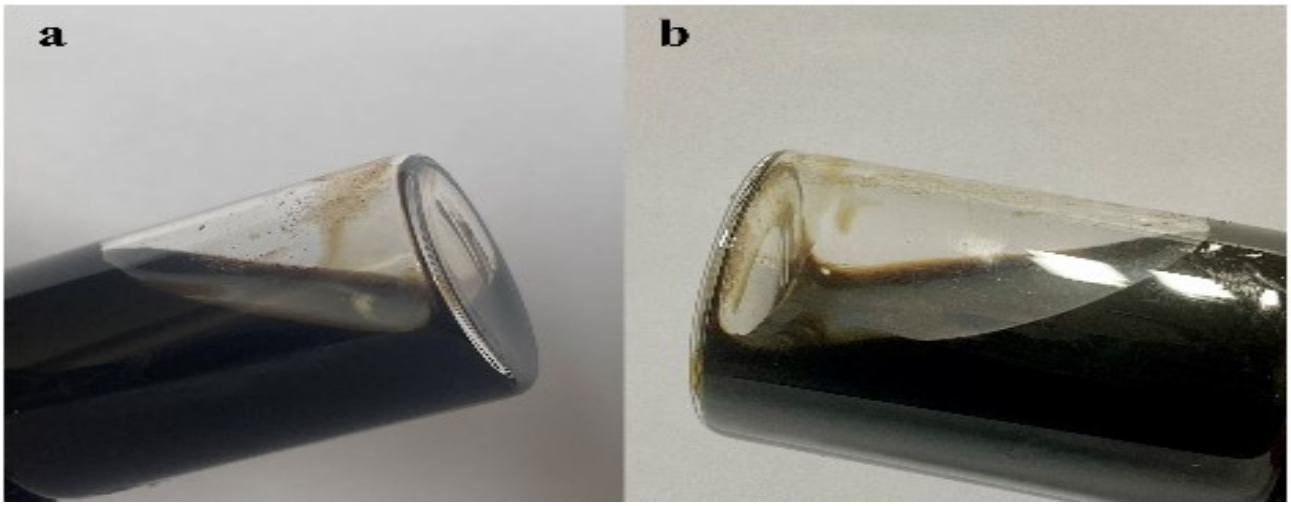


Figure S3. Optical photographs showing the sedimentation of nano-copper oxide within 30 days (a) Nano-copper oxide prepared using cetyltrimethylammonium bromide (CTAB)； (b) Nano-copper oxide prepared using polyvinylpyrrolidone (PVP).

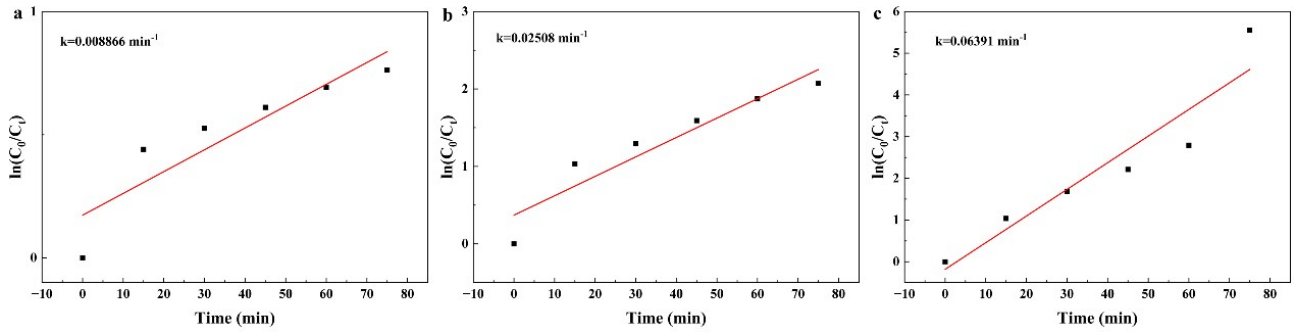


Figure S4. Pseudo-first-order kinetic diagrams (a) 0.5 mL H_2O_2; (b) 0.5 mL H_2O_2 and 0.6 mM of nano-copper oxide; (c) 1 mL H_2O_2 and 0.6 mM of nano-copper oxide.

3. Supporting Tables

Table S1. Preparation of products with different addition amounts of CTAB.

	Precursors		**Products**		
Sample No.	DI (mL)	EG (mL)	CTAB (g)	Average Size (nm)	PDI
11	20	10	0.15	164.72	0.413
12	20	10	0.30	145.02	0.304
13	20	10	0.45	148.28	0.339
14	20	10	0.60	186.75	0.228
15	20	10	0.75	207.95	0.308

Table S2. Preparation of products with different addition amounts of PVP.

	Precursors		**Products**		
Sample No.	DI (mL)	EG (mL)	PVP (g)	Average Size (nm)	PDI
16	20	10	0.15	137.76	0.261
17	20	10	0.30	163.58	0.26
18	20	10	0.45	188.31	0.306
19	20	10	0.60	335.57	0.447
20	20	10	0.75	382.77	0.443