

Supporting Information

CuO Nanosheets Modified with Amine and Thiol Grafting for High Catalytic and Antibacterial Activities

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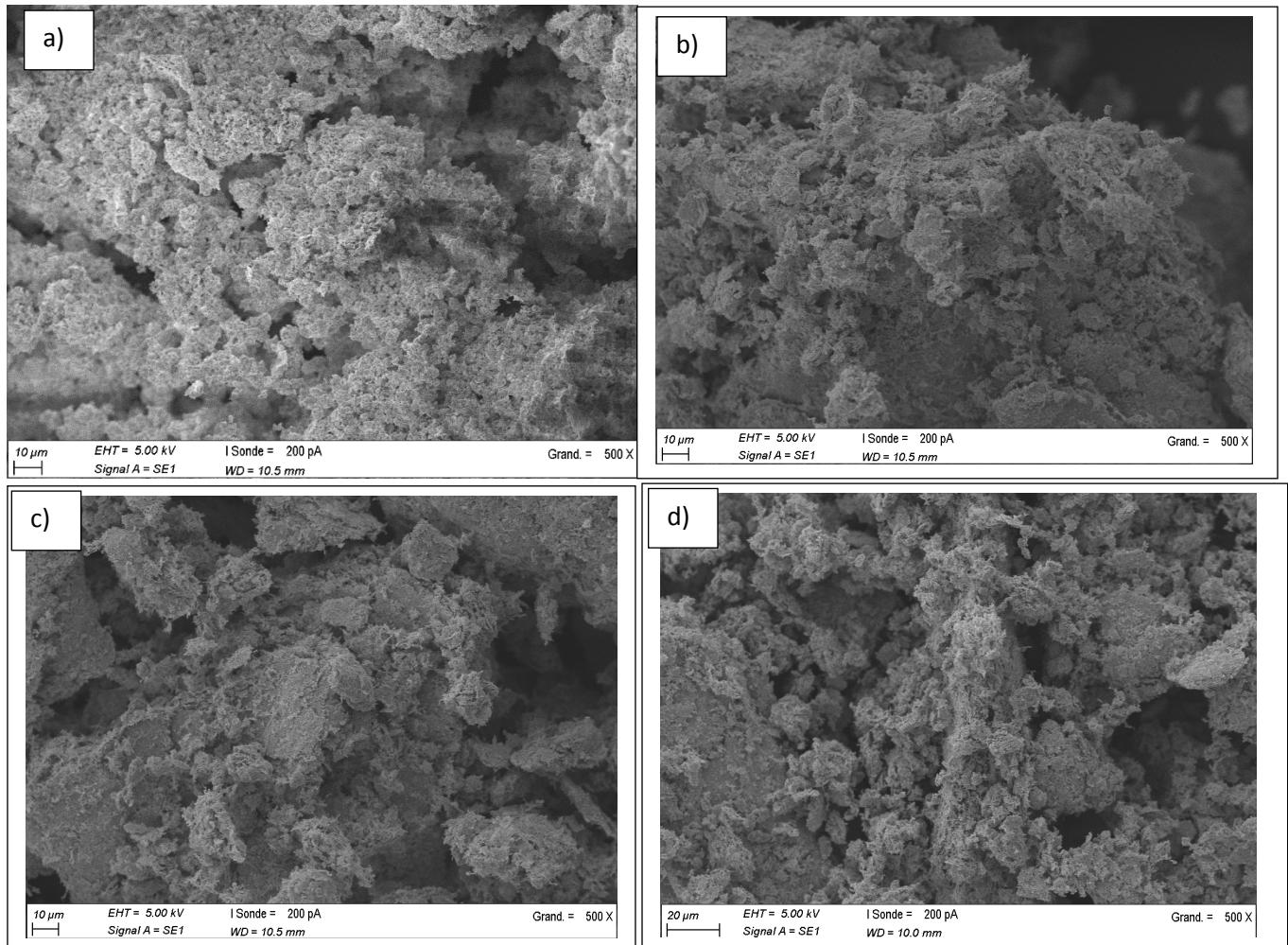


Figure S1: SEM images of CuO (a), CuOClPTES (b), CuO-Si-N(OH)₂ (c) and CuO-Si-S-NH₂ (d).

Table S1: EDS analysis of CuO nanosheets indicating the elemental composition:

Elément	A	Net	Mass. [%]	Mass. norm. [%]	Atom. [%]	Comp.	Comp. [%]	Comp. norm. [%]
Carbon	6	0	0,00	0,00	0,00		0,00	0,00
Oxygen	8	12123	25,12	20,11	50,00		0,00	0,00
Palladium	46	0	0,00	0,00	0,00		0,00	0,00
Gold	79	34426	0,00	0,00	0,00		0,00	0,00
Copper	29	10405	99,75	79,89	50,00	CuO	124,87	100,00
			Total: 124,87	100,00	100,00		124,87	100,00

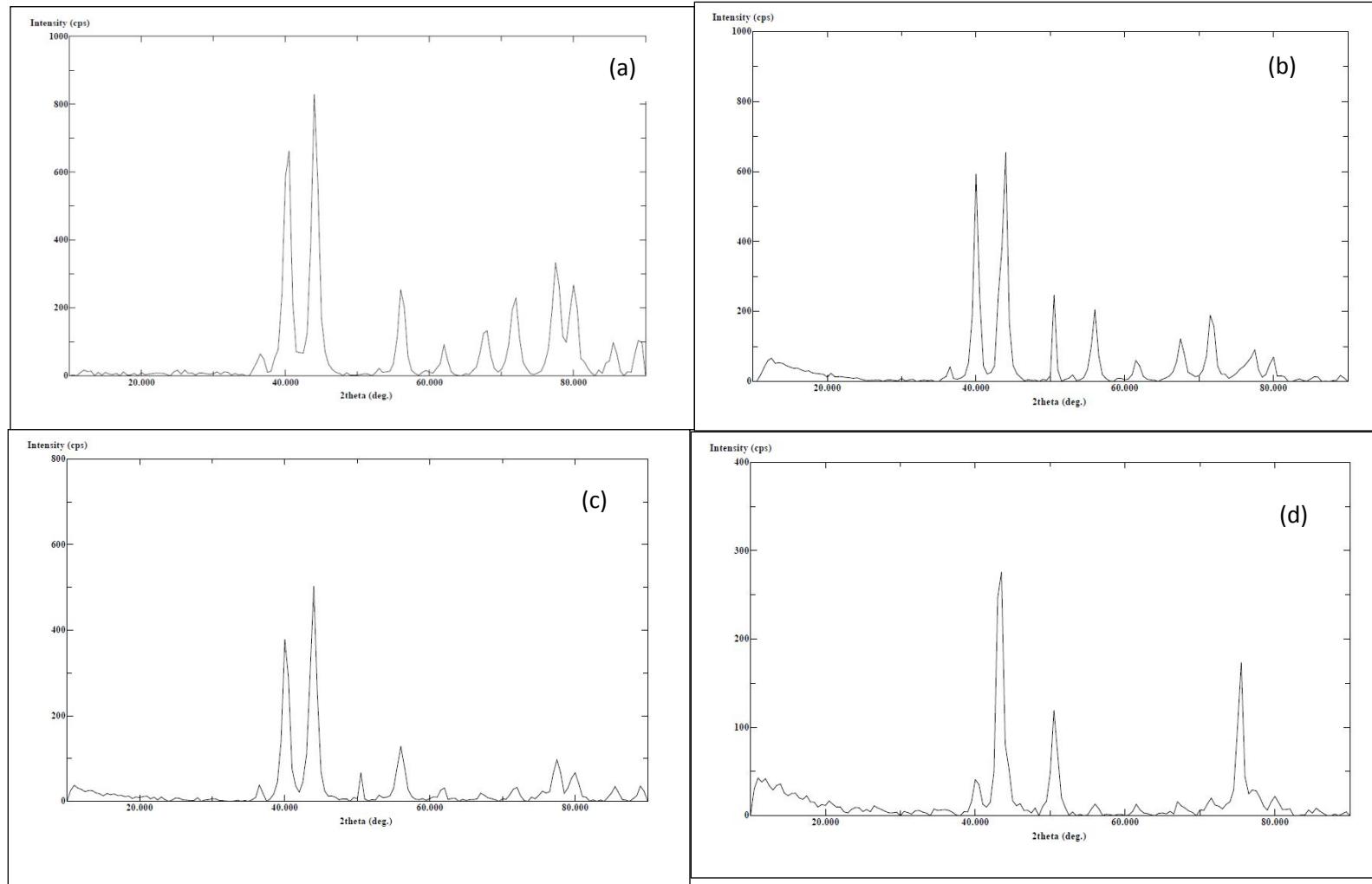


Fig.S2: X-ray diffraction of the CuO (a) and the modified CuO-CIPTES (b), CuO-Si-N(OH)₂ (c), CuO-Si-S-NH₂ (d) materials.

TGA

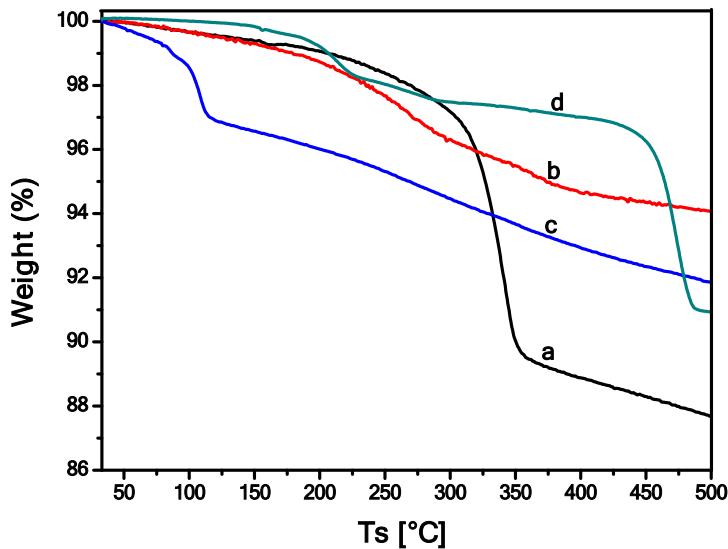


Fig. S3: TGA spectra of CuO (a), CuO-CIPTES (b), CuO-Si-N(OH)₂ (c) and CuO-Si-S-NH₂ (d).

Table S2: zeta potential analysis of different CuO samples:

	CuO	CuO-CIPTES	CuO-Si-N(OH) ₂	CuO-Si-S-NH ₂
Zeta potential (mV)	8 mV	14 mV	30 V	- 27 mV

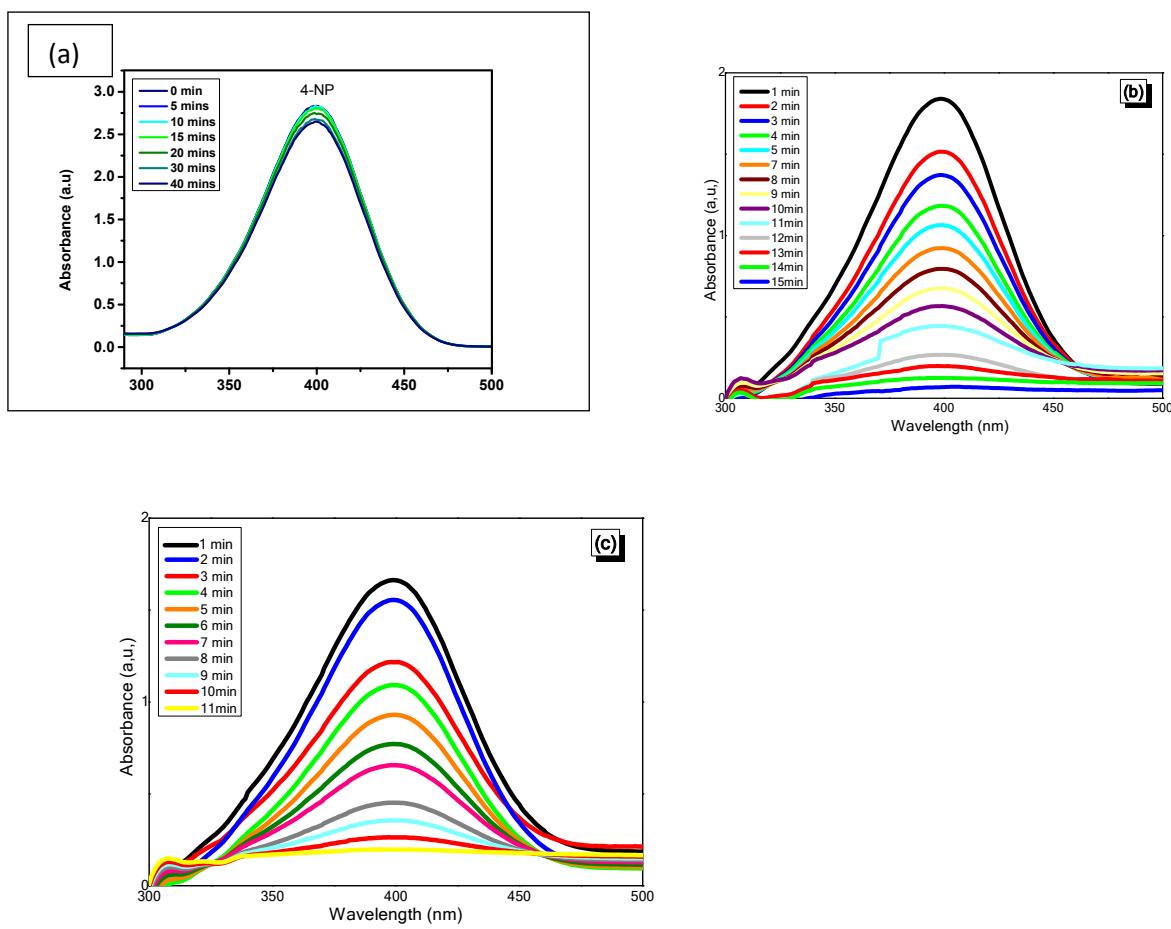


Figure S4: UV-Visible spectra of 4 nitrophenol reduction without catalyst (a) or catalyzed by CuO-CIPTES (b) and CuO-Si-S-NH₂ (c).

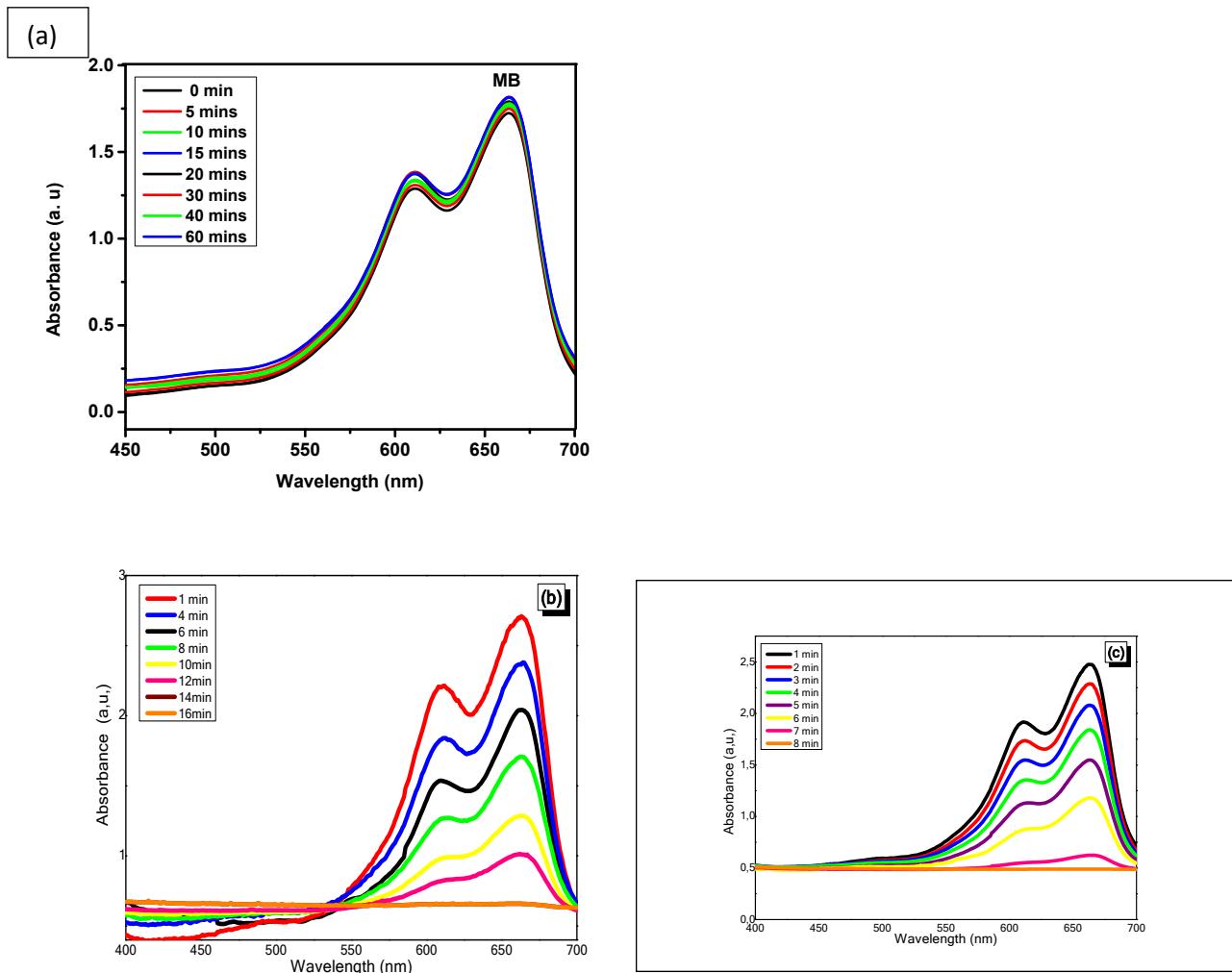


Figure S5: UV-Visible spectra of methylene blue reduction without catalyst (a) or catalyzed by CuO-ClPTES (b) and CuO-Si-S-NH₂ (c).