

Supplementary File

Fluorescence spotting of latent sweat fingerprints with zinc oxide carbon dots embedded in a silica gel nanopowder: A green approach

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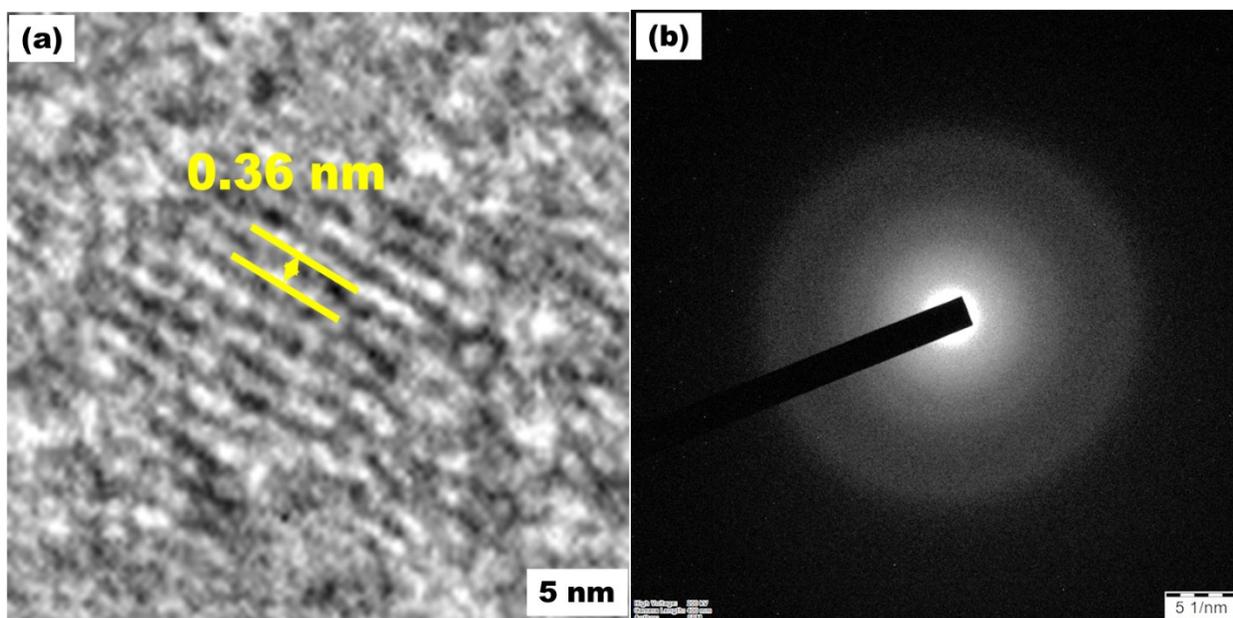


Figure S1 (a) HR-TEM image of C_{ZnO} -dots/Si including the fringe width (b) SAED pattern of C_{ZnO} -dots/Si

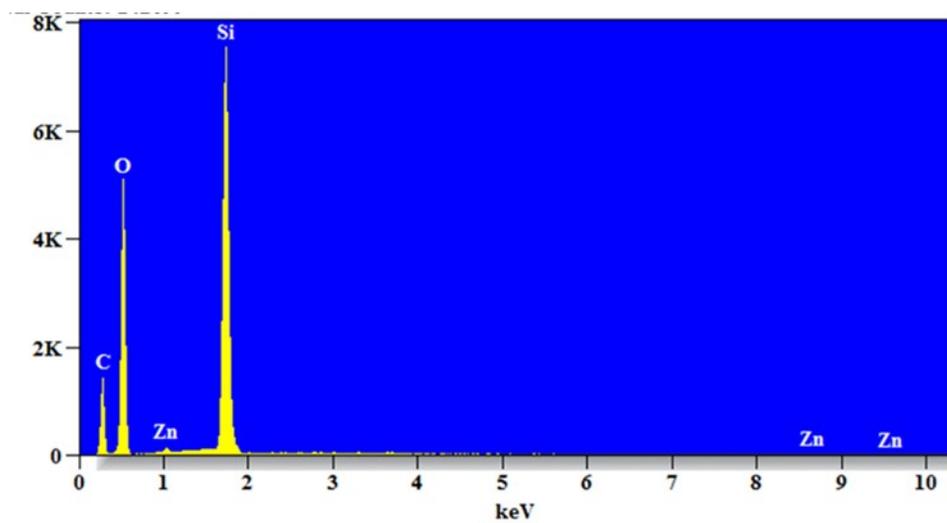


Figure S2 EDAX spectrum of C_{ZnO} -dots/Si



Figure S3 LFs images of C_{ZnO} -dots and C_{ZnO} -dots/Si nano powder on the aluminum foil substrate under the normal and UV light irradiation (365 nm)

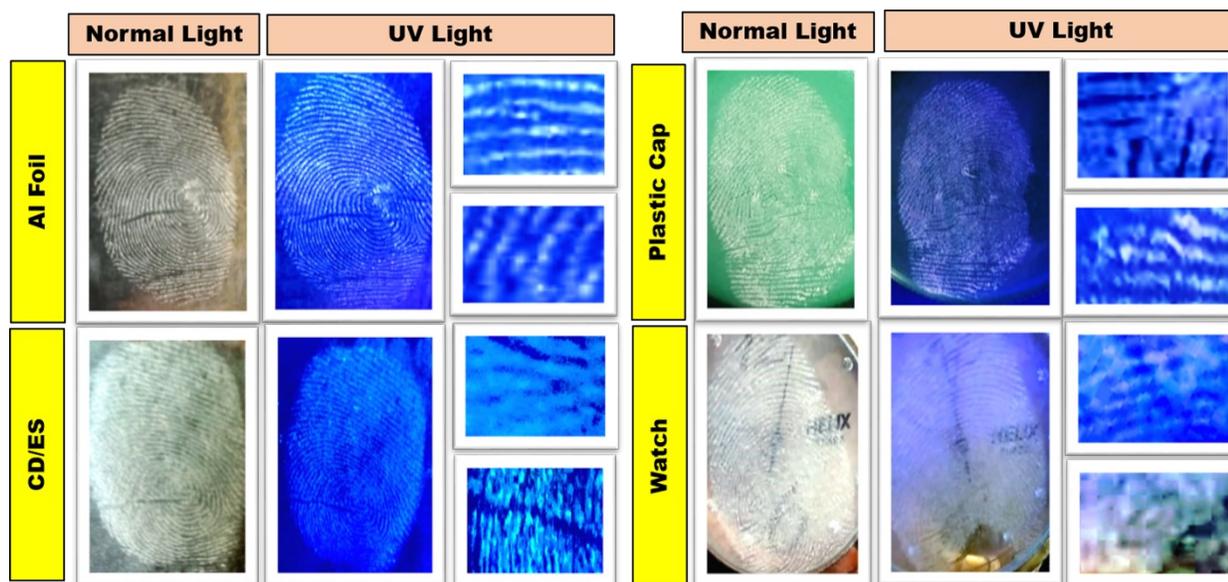


Figure S4 LFs images of fluorescent C_{ZnO} -dots/Si powder on the different smooth substrates surface under the normal and UV light irradiation at 365 nm (captured by a mobile camera). The magnified images corresponding to each substrate showed their level 2 features.

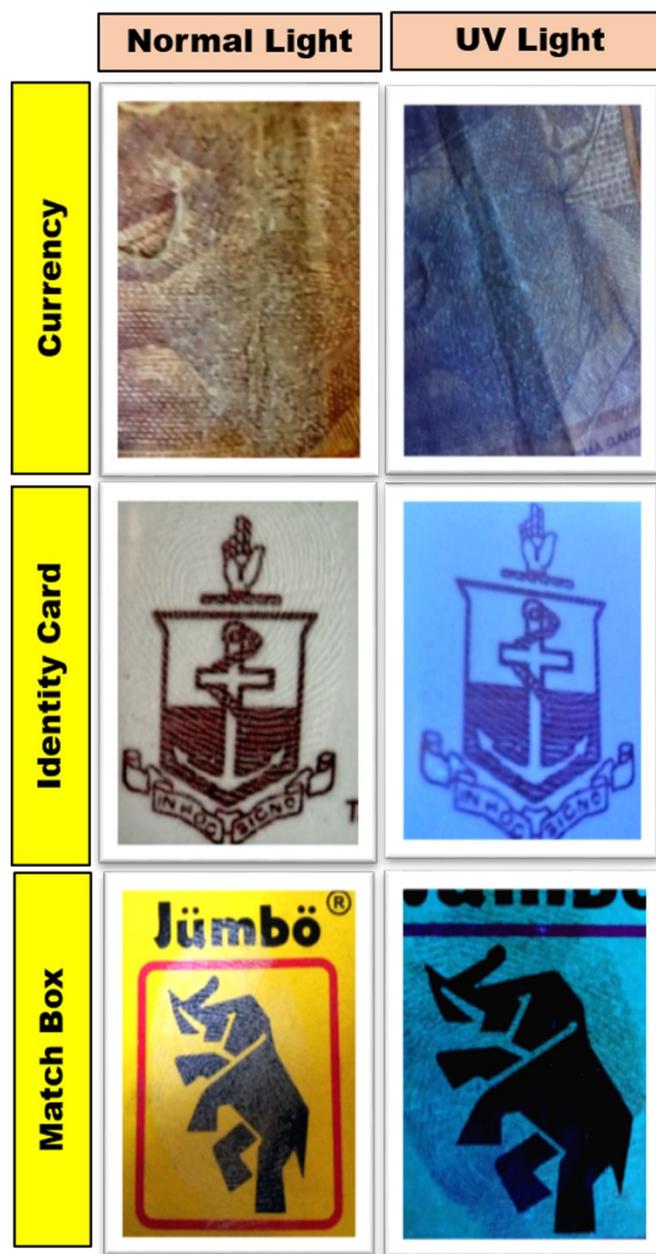


Figure S5 C_{ZnO} -dots/Si developed fingerprints on currency, Identity card and match box

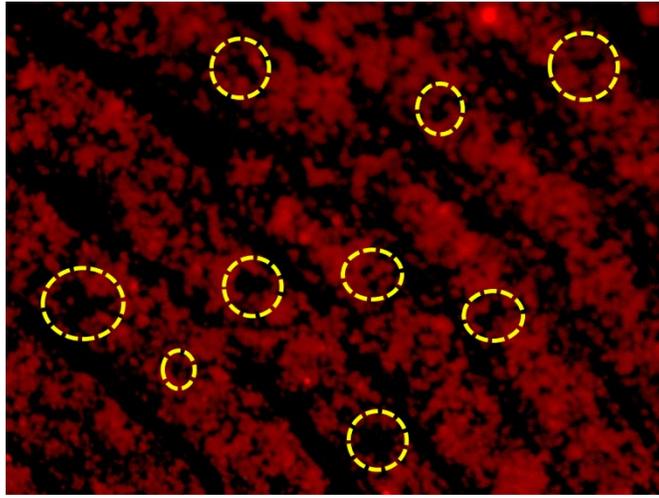


Figure S6 C_{ZnO} -dots/Si developed LFs using fluorescence microscope. Yellow circles indicate the sweat pores

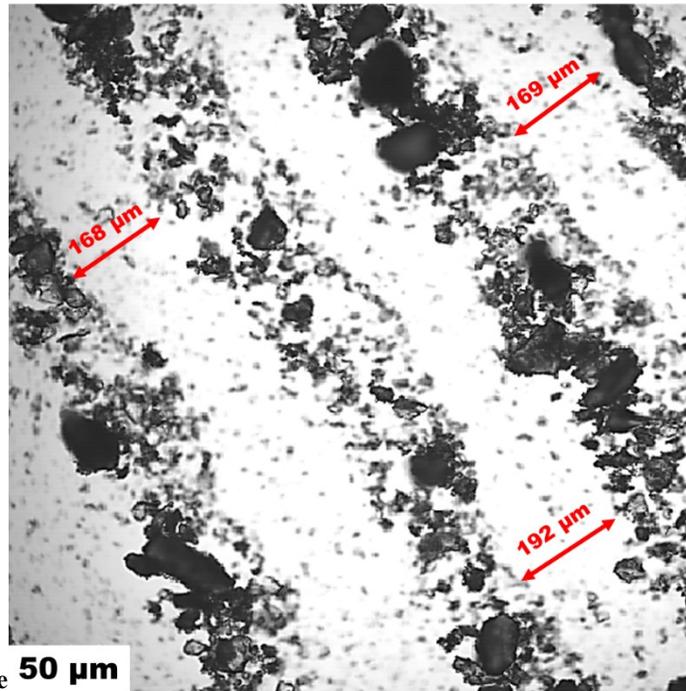


Figure 50 μm tion ridges

Table S1. Comparison of other Carbon-based materials for LFs identification

Sl.no	Material	Precursor	Method	Nature	Ref
1	C-dots/Silica matrix	citric acid monohydrate and ethanolamine	pyrolysis	powder	¹
2	C-dots/starch powder	malic acid and ammonium oxalate	pyrolysis	powder	²
3	Nitrogen- and sulphur-doped C-dots (N,S C-dots)	L-glutathione and citric acid	microwave	powder	³
4	N-doped C-dots	polyvinylpyrrolidone	hydrothermal	powder	⁴
5	red-emissive C-dots	p-phenylenediamine and phosphoric acid	hydrothermal	liquid	⁵
6	Orange-emissive C-dots (oC-dots)	rhodamine B	hydrothermal	liquid	⁶
7	Carbogenicallly coated silica nanoparticles (C-SiO ₂)	dimethyloctadecyl [3-(trimethoxysilyl)propyl]ammonium	pyrolysis	powder	⁷
8	C_{ZnO}-dots/Si	Gum ghatti, Zinc acetate, Silica gel	microwave	powder	This work

Reference

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