Electronic Supplementary Material (ESI) for New Journal of Chemistry.

AIE+ESIPT based red fluorescent aggregates for visualization of latent fingerprints

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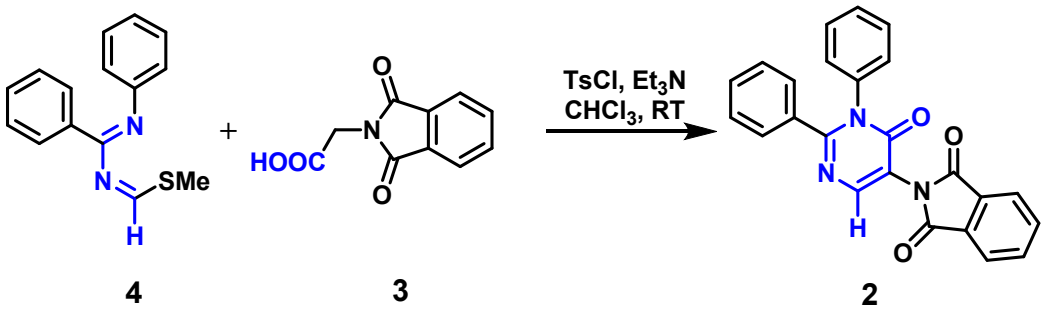
1. EXPERIMENTAL SECTION



Scheme S1: Synthetic route to **2**.

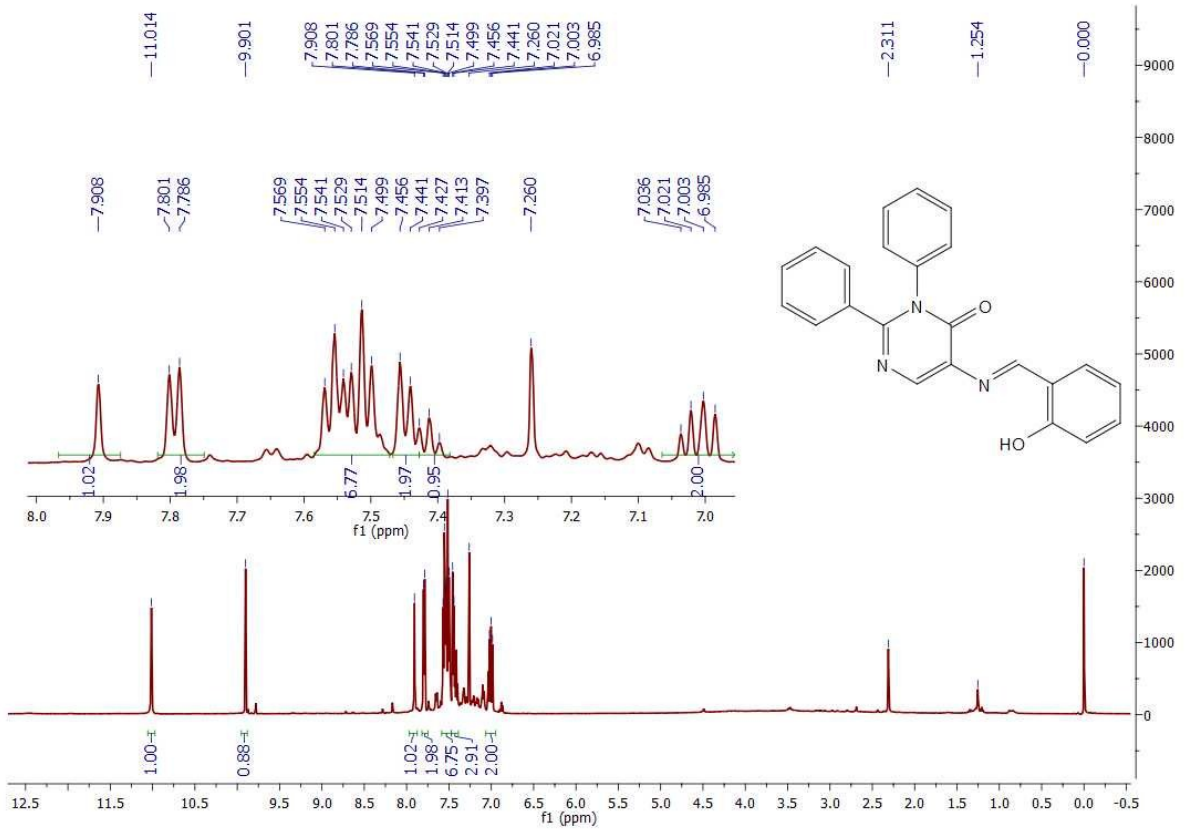


Fig. S1. [1]H NMR spectrum of **DPSA**.

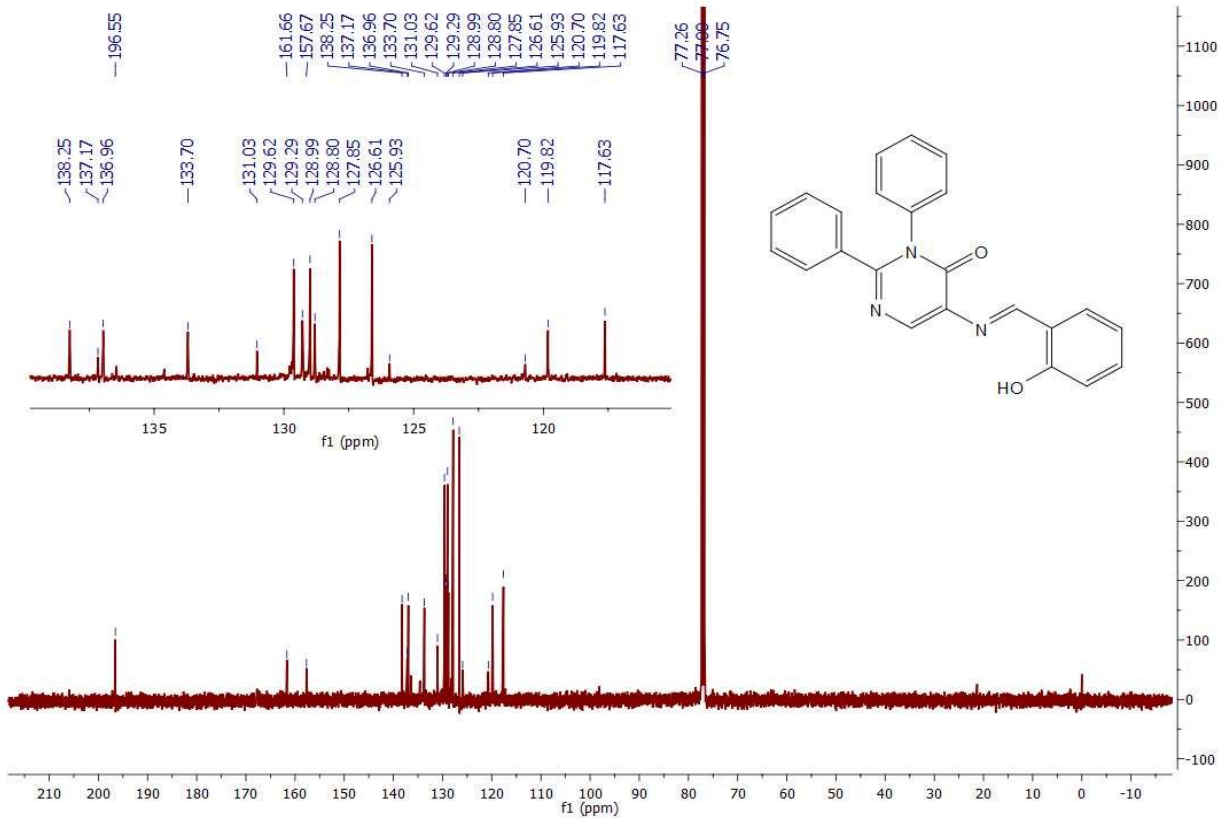


Fig. S2. [13]C NMR spectrum of **DPSA**.

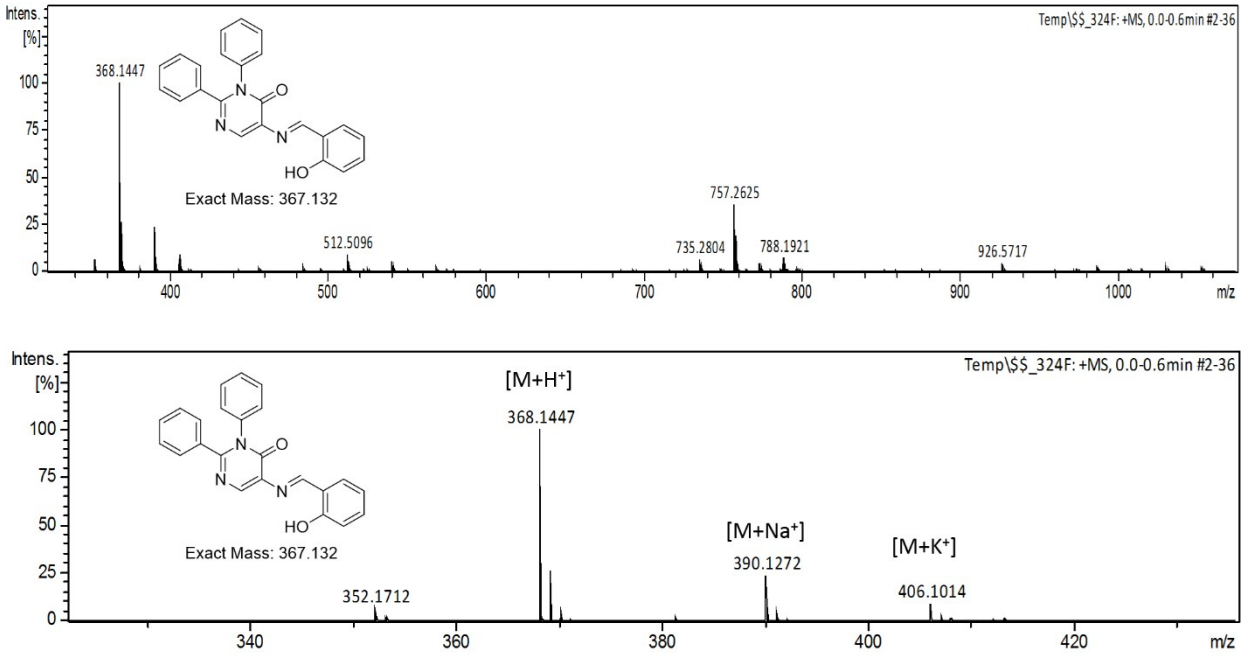


Fig. S3. Mass spectrum of **DPSA**.

THEORETICAL STUDIES:

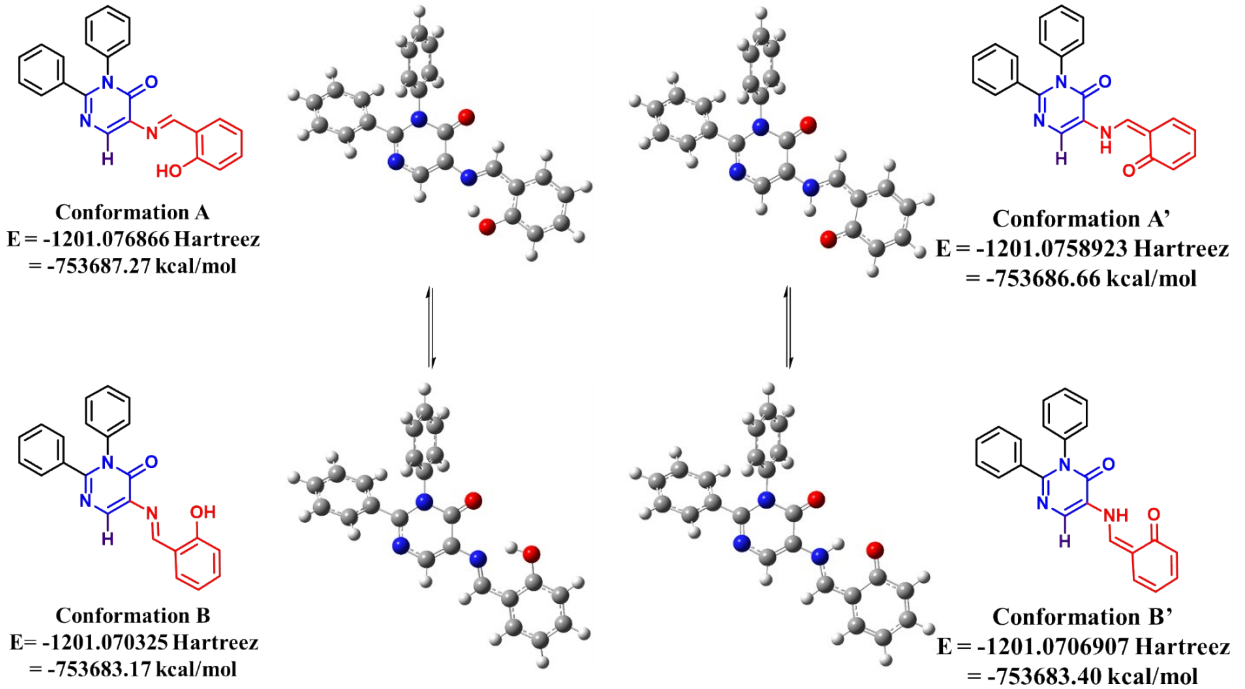


Fig. S4. Energy minimized structures of **DPSA** in Gaussian 09 software using DFT method at B3LYP 6-31G basis set.

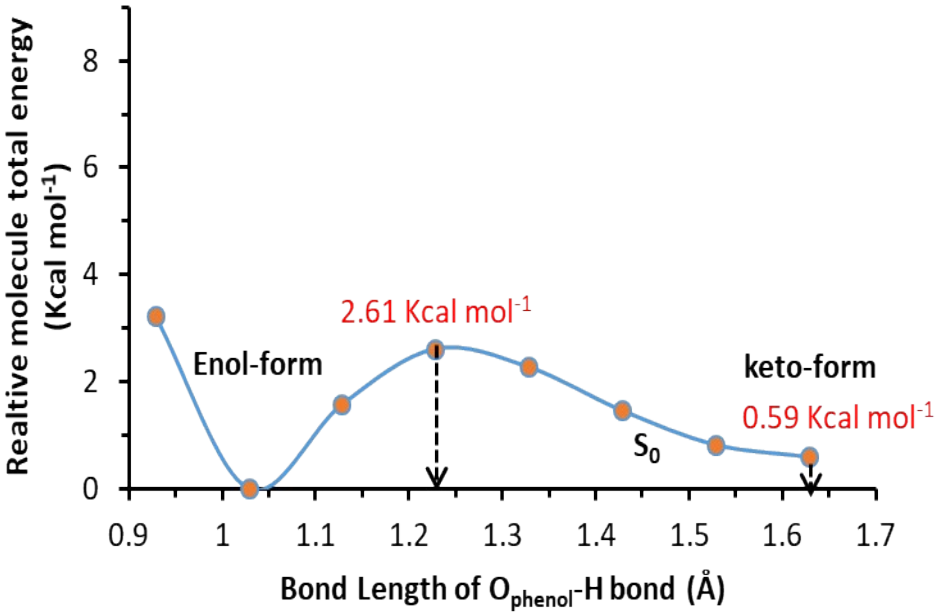


Fig. S5. Relative total energy of **DPSA** in S_0 state by varying bond length of O-H using TD-DFT calculations at B3LYP /6-31G level.

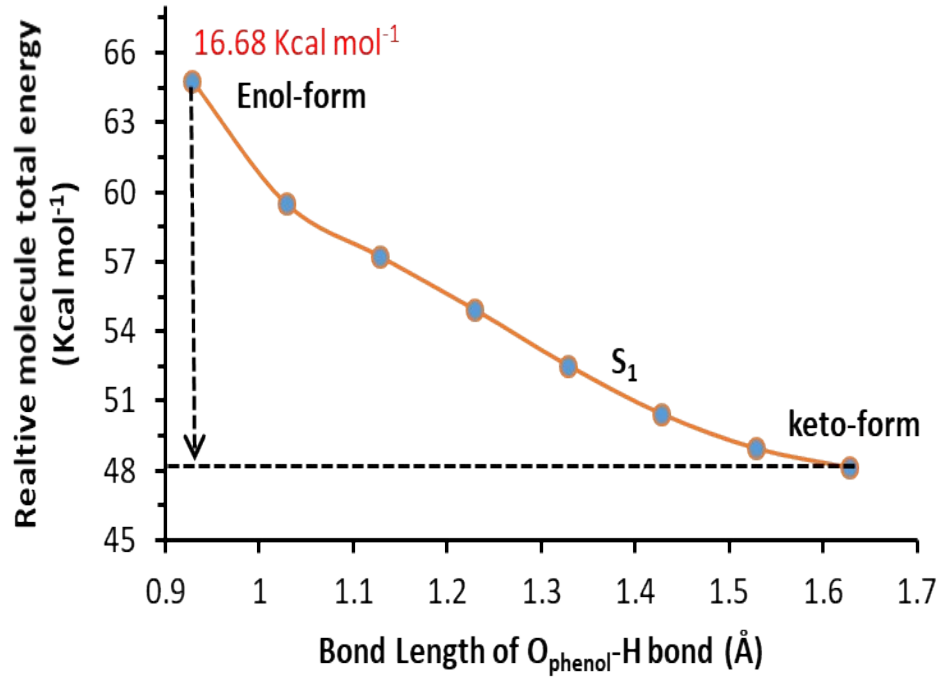


Fig. S6. Relative total energy of **DPSA** in S_1 state by varying bond length of O-H using TD-DFT calculations at B3LYP /6-31G level.

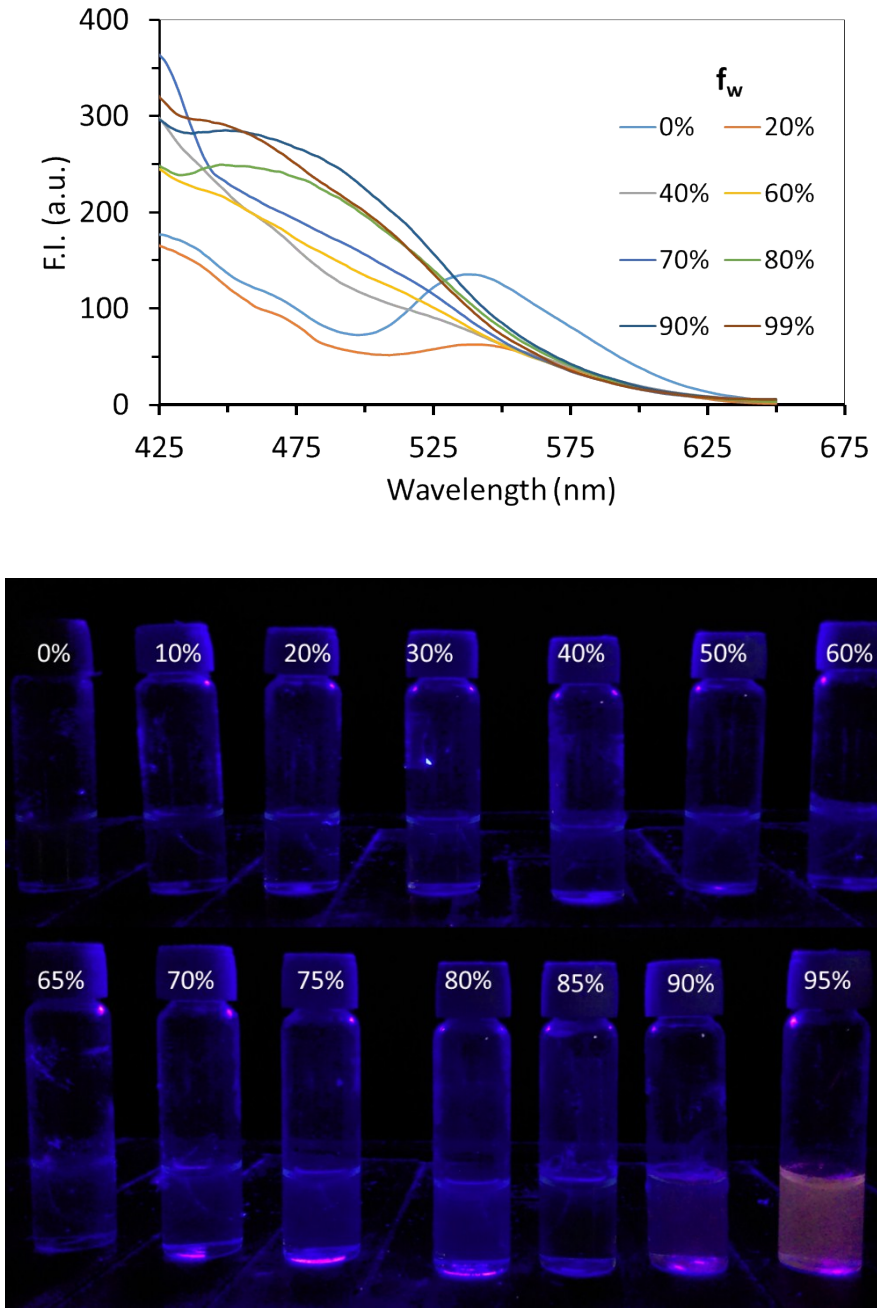


Fig. S7. (Top) Fluorescence spectrum of **DPSA** after incremental addition of 10 vol% of H_2O in CH_3CN at a concentration of 10 μM (λ_{ex} = 390 nm, slit width Ex/Em = 10/20 nm). (Bottom) Fluorescent images of **DPSA** (0.5 mM) on addition of 0-95% H_2O in CH_3CN under 365 nm UV light.

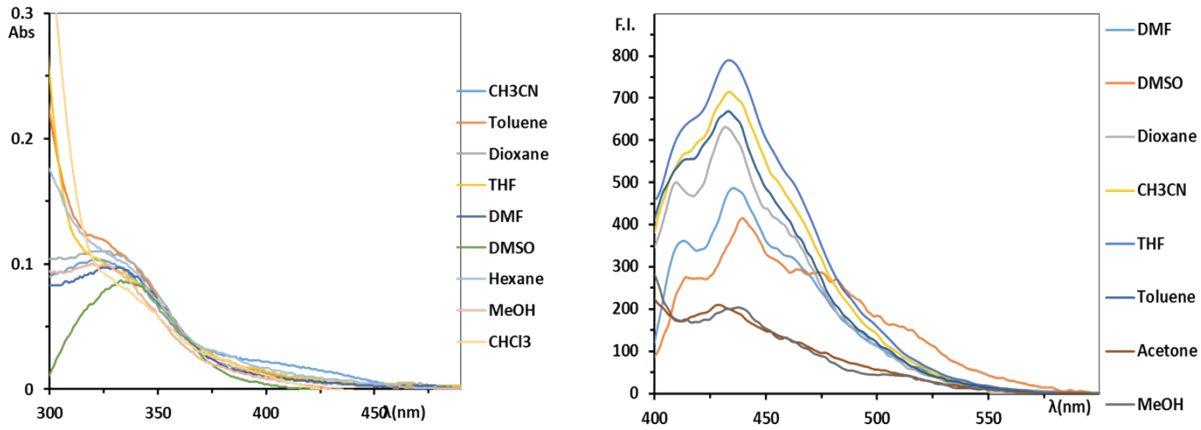


Fig. S8 (a) UV-Vis Spectra and (b) Fluorescence spectra of **DPSA** (1 x10^{-5} M) in different polarity solvents (λ_{ex} = 390 nm, slit width Ex/Em = 7/5 nm).

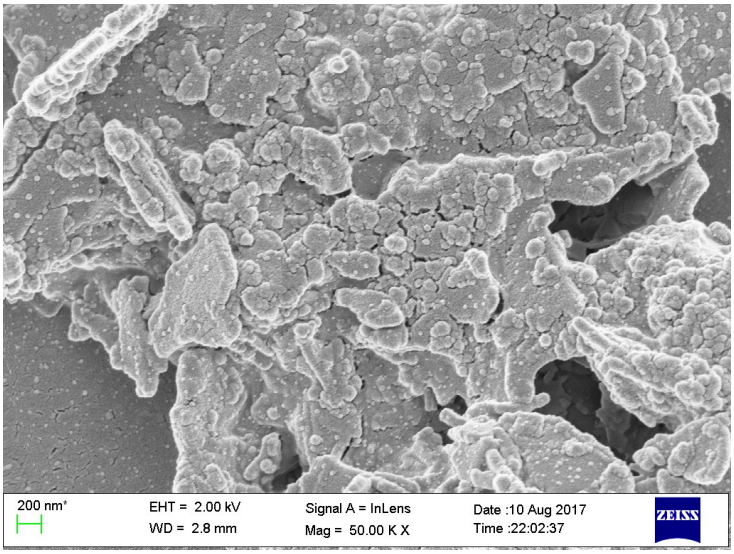


Fig. S9. SEM micrograph of **DPSA** (10^{-3} M) showing self-assembled spherical morphology in 70% H_2O:CH_3CN

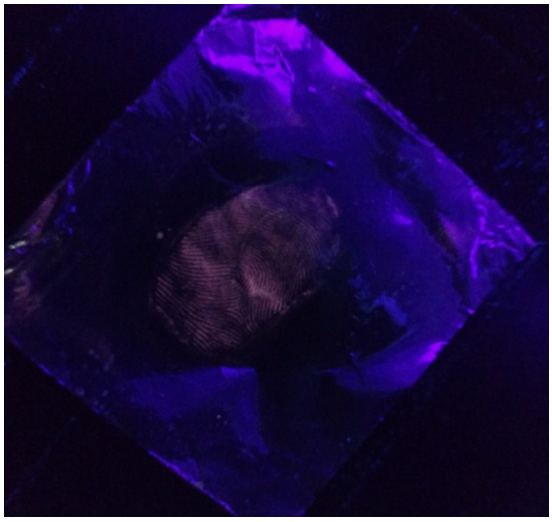


Fig. S10. LFP developed with **DPSA** (1 mM, 90% H_2O-CH_3CN) on aluminium surface.

Fig. S11. LFP developed with **DPSA** (1 mM, 90% H_2O-CH_3CN) on stainless steel surface.

Fig. S12. LFP developed with **DPSA** (1 mM, 90% H_2O-CH_3CN) on metal coin surface.

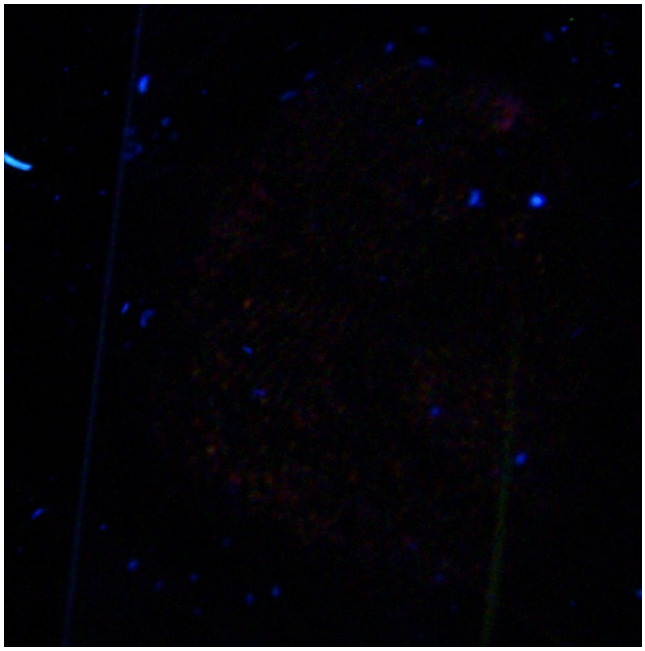


Fig. S13. LFP developed with **DPSA** (1 mM, 90% H_2O-CH_3CN) on glass.