Electronic Supporting Information

A fluorescent molecular rotor for the *in situ* imaging of latent fingerprints

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Figure S1. Normalized (a) absorbance and (b) emission spectra for LFP-1 in various solvents

Figure S2. Changes in fluorescence signals and emission maxima in different fractions of heptane-THF mixtures (a), and heptane-corn oil mixtures.





Figure S4. Photographs of fingerprints deposited on glass slides developed with aqueous **LFP-1** at different concentrations.



Figure S3. Cytotoxicity of LFP-1 tested in HeLa cells

Figure S5. Spectroscopic analysis and latent fingerprint visualization of compound 2. Absorbance (a) and emission (b) spectra of compound 2 (25μ M); (c) emission spectra of 2 in heptane/corn oil mixture; (d) digital picture of the latent fingerprint on a glass slide developed by spraying compound 2 under UV light (365 nm) illumination.



Figure S6. Digital photograph and fluorescence-scanned image of the latent fingerprint on ceramic surface developed by LFP-1. The fingerprint on a ceramic dish was transferred to forensic fingerprint lifting tape and scanned by using a fluorescence scanner.



Digital picture (RGB image) Fluo

Fluorescence scan (Green filter)

Characterization Data

¹H NMR of LFP-1



¹³C NMR of LFP-1



¹⁹F NMR of LFP-1

