Electronic Supplementary Material (ESI) for Nanoscale
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Supporting Information

Tunable Fluorescence in Chromophore-Functionalized Nanodiamonds Induced by Energy Transfer

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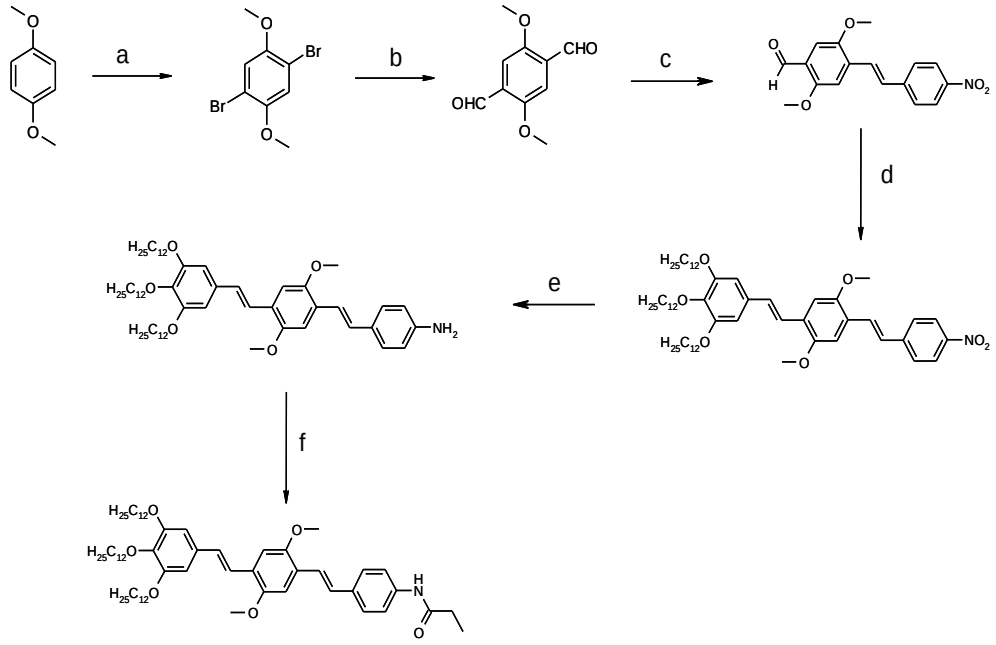

a) Br_2 , AcOH 70^{0}C, 5 hrs. b) DMF, n-BuLi. c) Nitro Phosphonate, ButOK, THF. d) Gallic Phosphonate, ButOK, THF. e) $SnCl_2$ / HCl. f) Propionic Acid, DCM, DCC, DMAP 12 hrs

Fig. S1 Scheme for synthesis of **OPV amine** and **OPV-B**.

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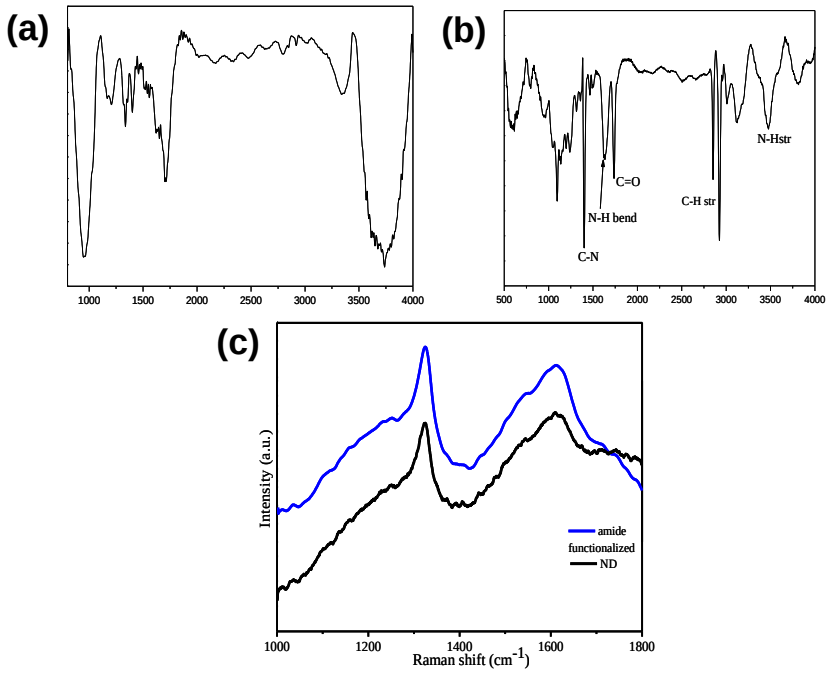

Fig. S2 (a), (b) IR spectra of **OPV-amine** and **OPV-B**, respectively. c) Raman spectra of **ND-acid** and **ND-OPV**.

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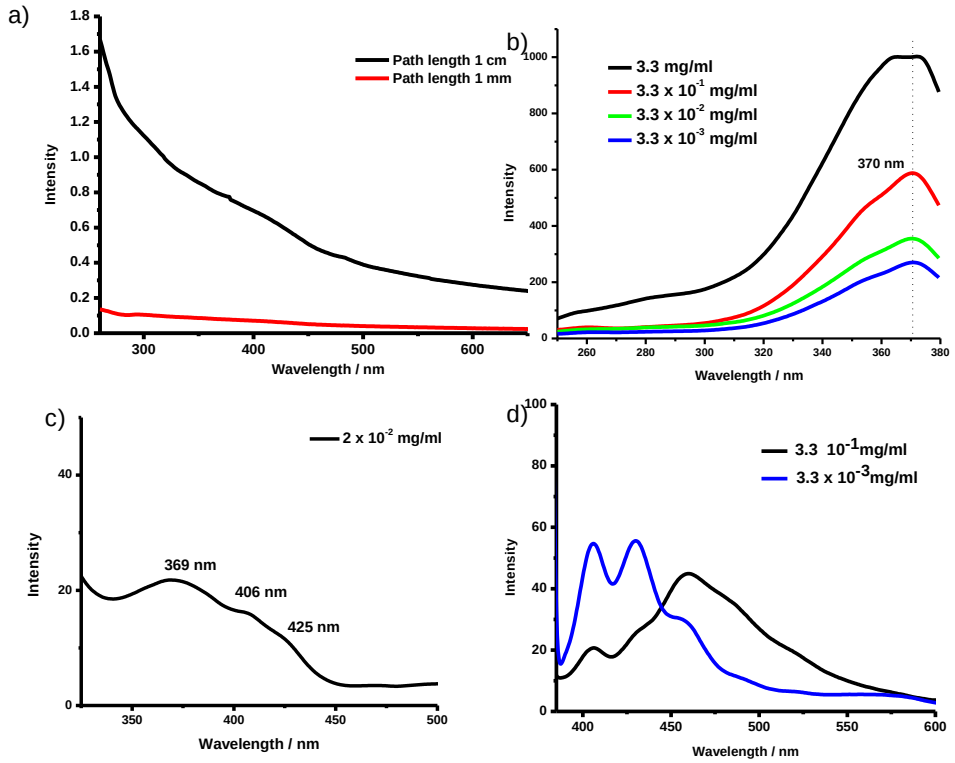

Fig. S3 a) Absorption spectra of **ND-OPV** (1mg/3 ml) in 1 mm and 1 cm cuvettes, b) Concentration dependent excitation spectra of **ND-OA** at 425 nm, 1mm cuvette c) Excitation spectra of **ND-OPV** at 570 nm, 1mm cuvette d) Emission spectra of **ND-OPV** at different concentration, excited at 360 nm, 1 mm cuvette (experiment done at identical slit widths so as to show that the quenching of ND emission is absolute).

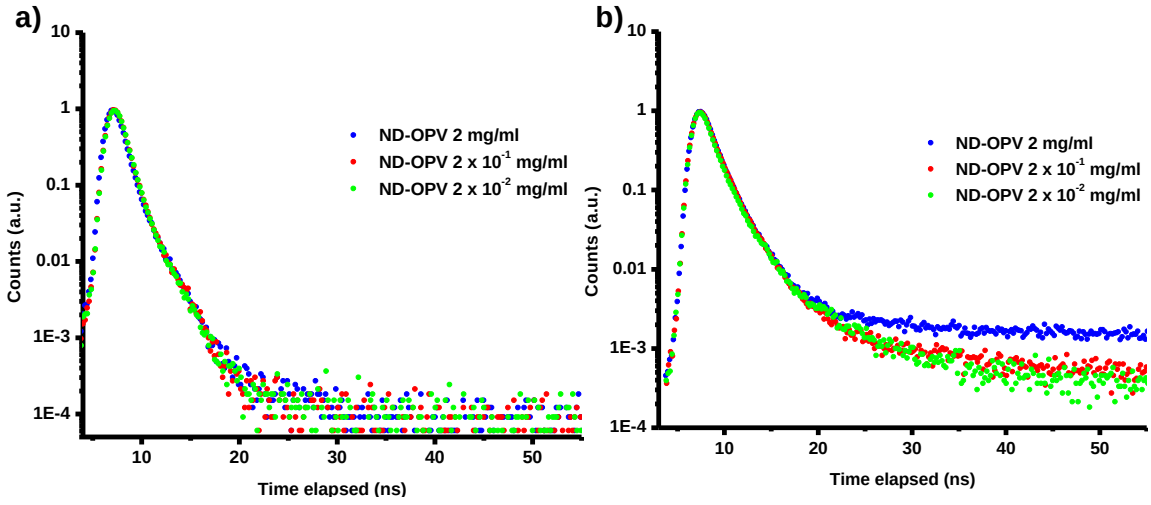

Fig. S4 Time resolved fluorescence decay profiles of **ND-OPV** conjugate in THF monitored (a) 410 nm and (b) 510 nm, excitation wavelength is 355 nm.

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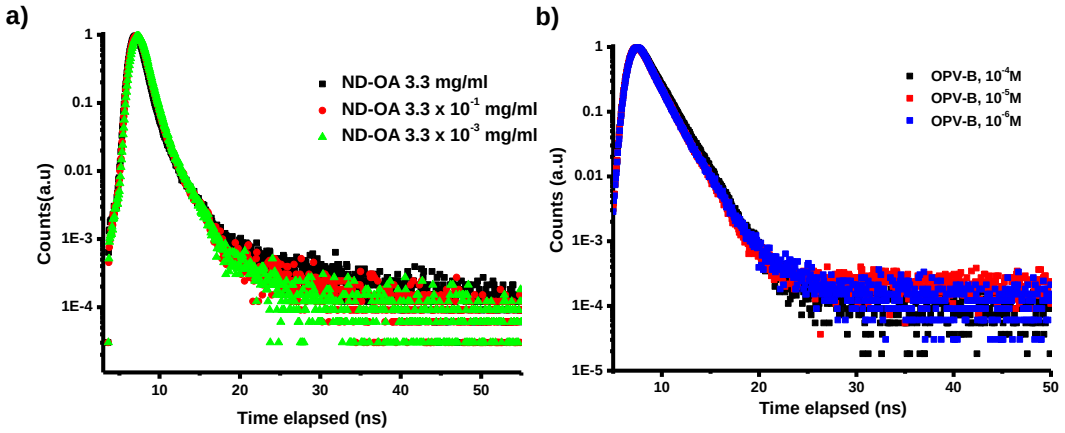

Fig. S5 a) Time resolved fluorescence decay profiles of a) **ND-OA** and b) **OPV-B** in THF monitored at 410 nm 510 nm, respectively, excitation wavelength is 355 nm.

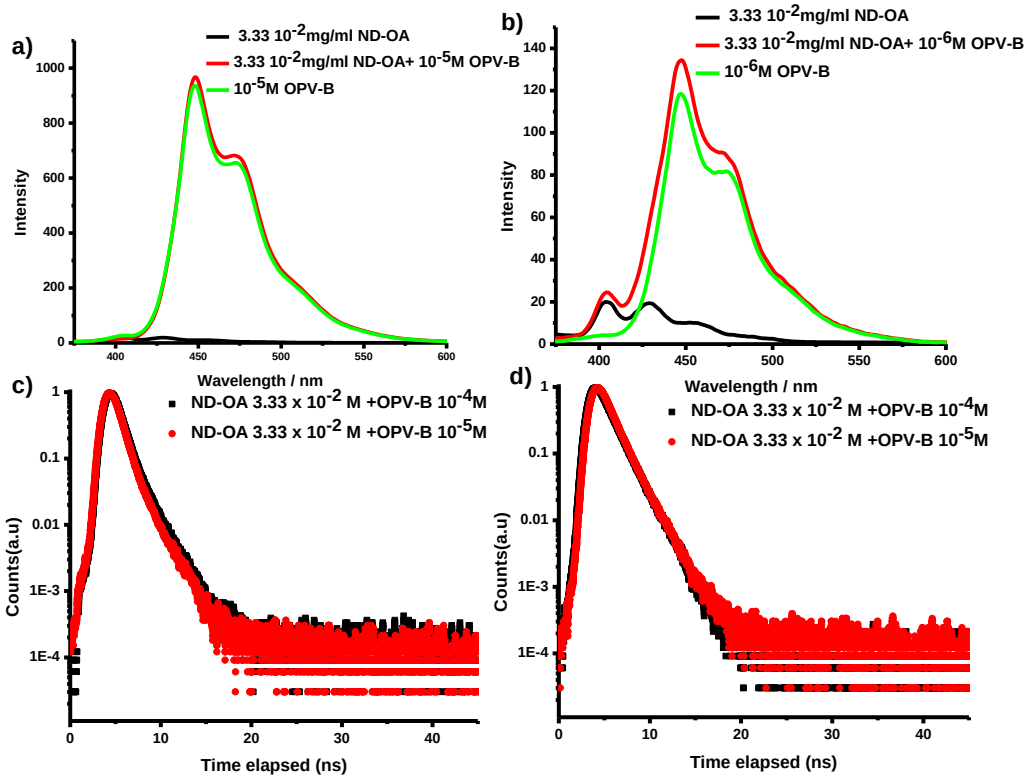

Fig. S6 a), b) Emission Spectra of mixtures of **ND-OA** and various equivalents of **OPV-B** in THF, excitation wavelength is 331 nm. c), d) Time resolved fluorescence decay profiles of mixtures **ND-OA** and **OPV-amide** in THF monitored at 410 nm 510 nm, respectively, excitation wavelength is 355 nm (Choice of concentrations of **OPV-B** and **ND-OA** is taking in consideration of maximum aggregation, interaction ranges, hence showing that there is no interaction even at these values)