Supporting Information

Tunable Fluorescence in Chromophore-Functionalized Nanodiamonds Induced by Energy Transfer

Urmimala Maitra, a Ankit Jain, a Subi J. George* a and C. N. R. Rao* a,b

a New Chemistry Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR, Jakkur P.O., Bangalore 560064, India Fax: (+91)-80-2208-2760; E-mail: cnrrao@jncasr.ac.in, george@jncasr.ac.in

b International Centre for Materials Science (ICMS), CSIR Centre of Excellence in Chemistry, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR)

Fig. S1 Scheme for synthesis of OPV amine and OPV-B.
Fig. S2 (a), (b) IR spectra of OPV-amine and OPV-B, respectively. c) Raman spectra of ND-acid and ND-OPV.
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.
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)