Electronic Supplementary Information

New fluorescent bis dithienylethene (DTE)-based bipyridines as reverse interrupters: single *vs* double photochromism

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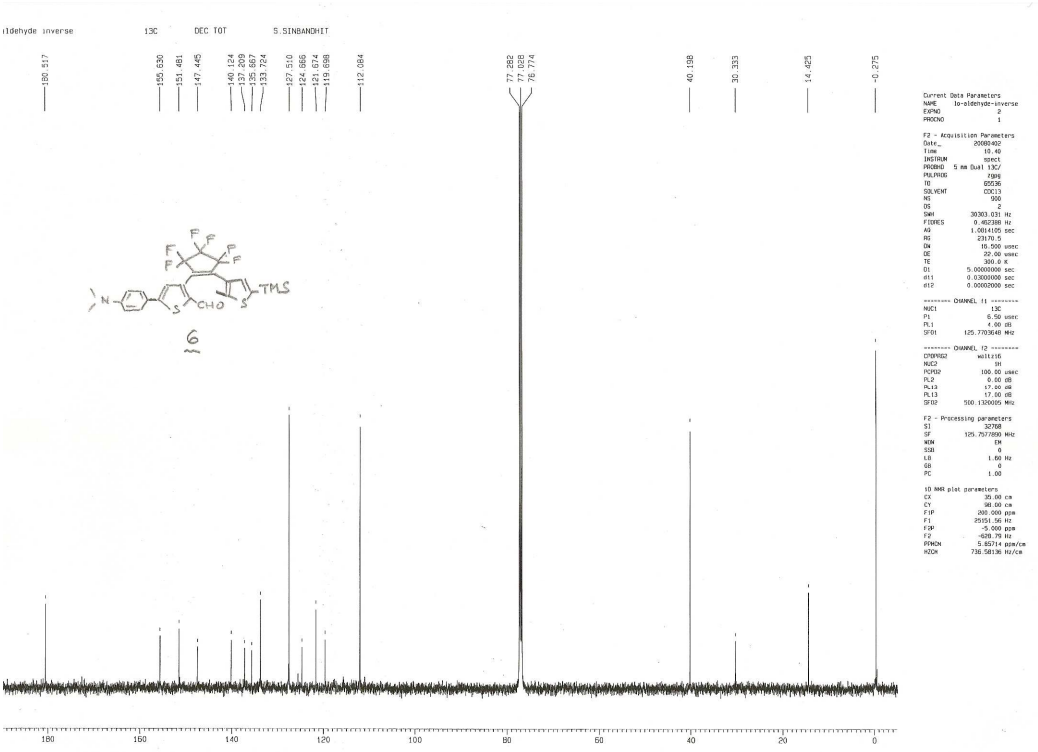

Figure S1. ^{13}C NMR of **6a** in $CDCl_3$

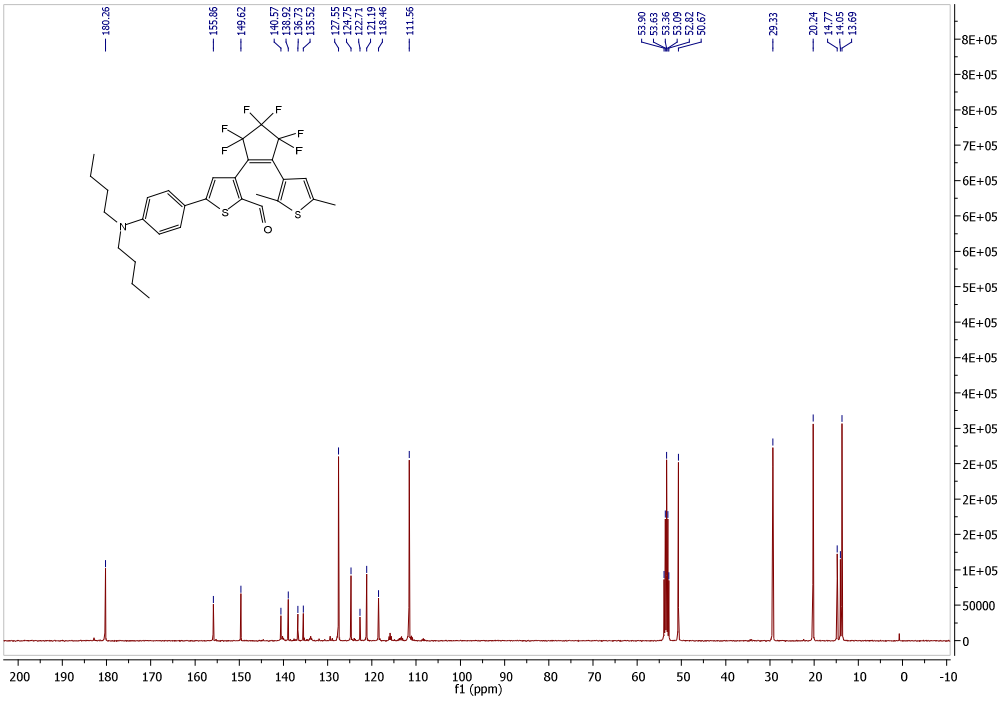

Figure S2. ^{13}C NMR of **6b** in CD_2Cl_2

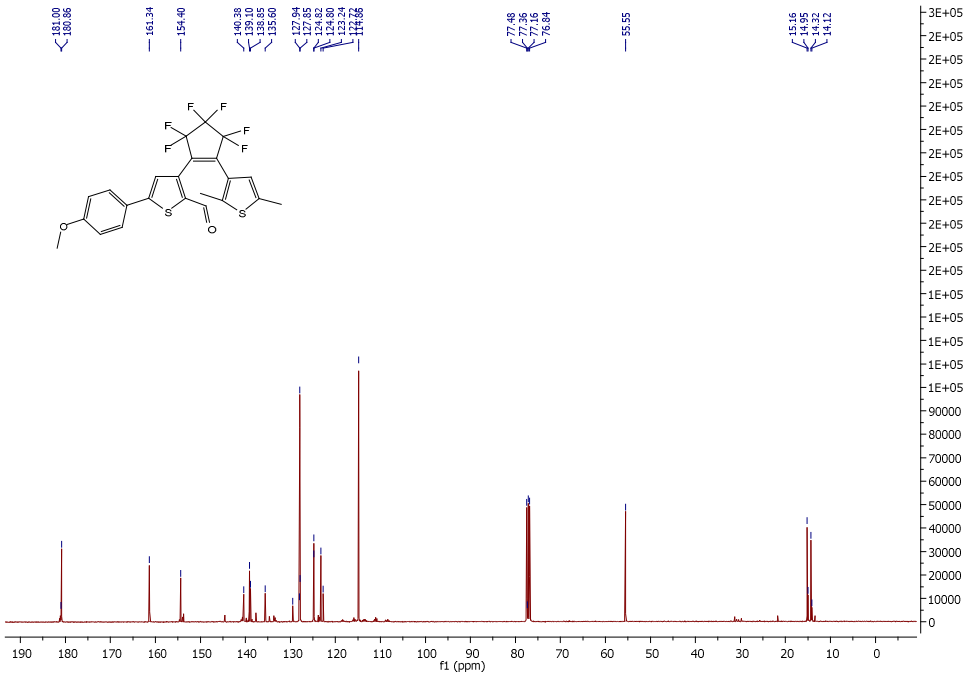

Figure S3. ^{13}C NMR of **6c** in $CDCl_3$

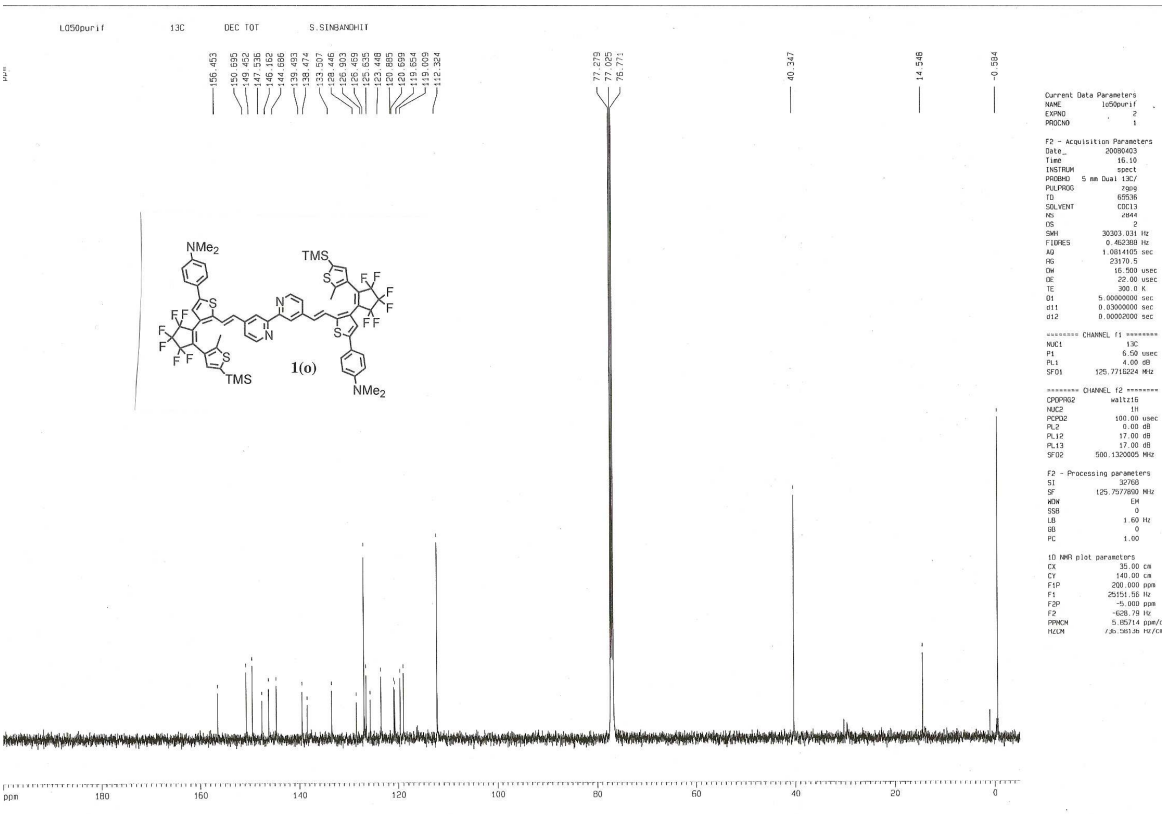

Figure S4. ^{13}C NMR of **L^{a}** in $CDCl_3$

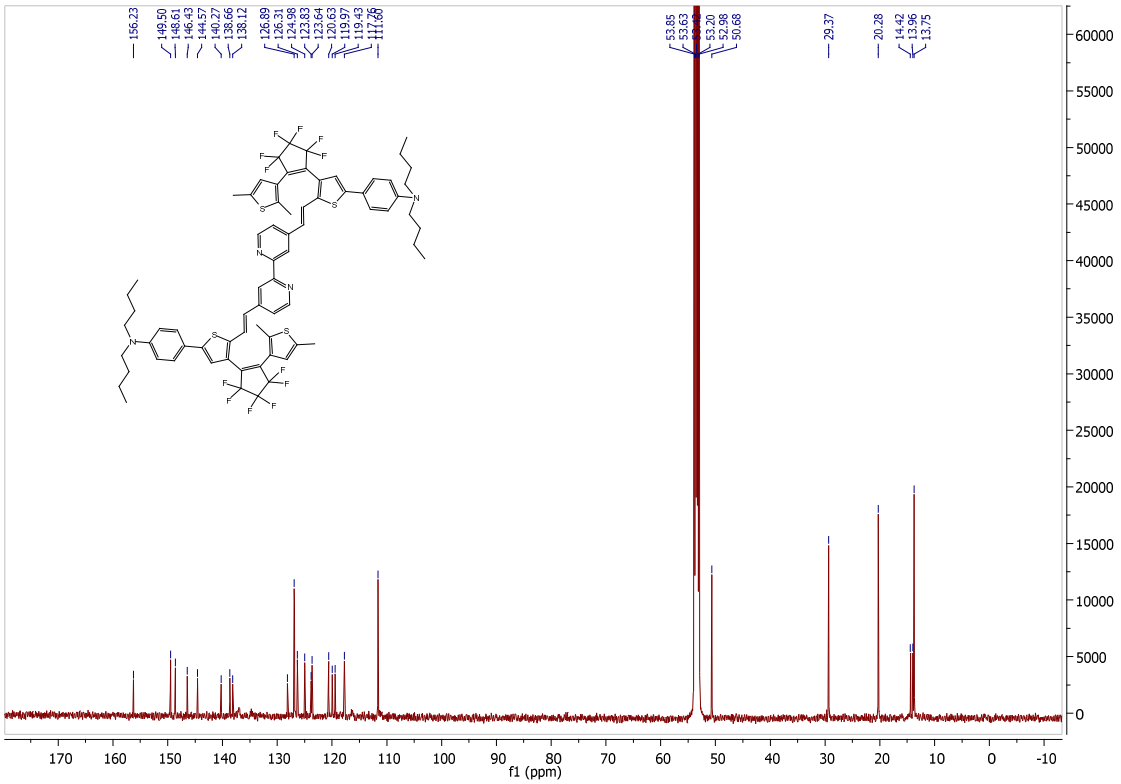

Figure S5. ^{13}C NMR of $\mathbf{L^b}$ in CD_2Cl_2

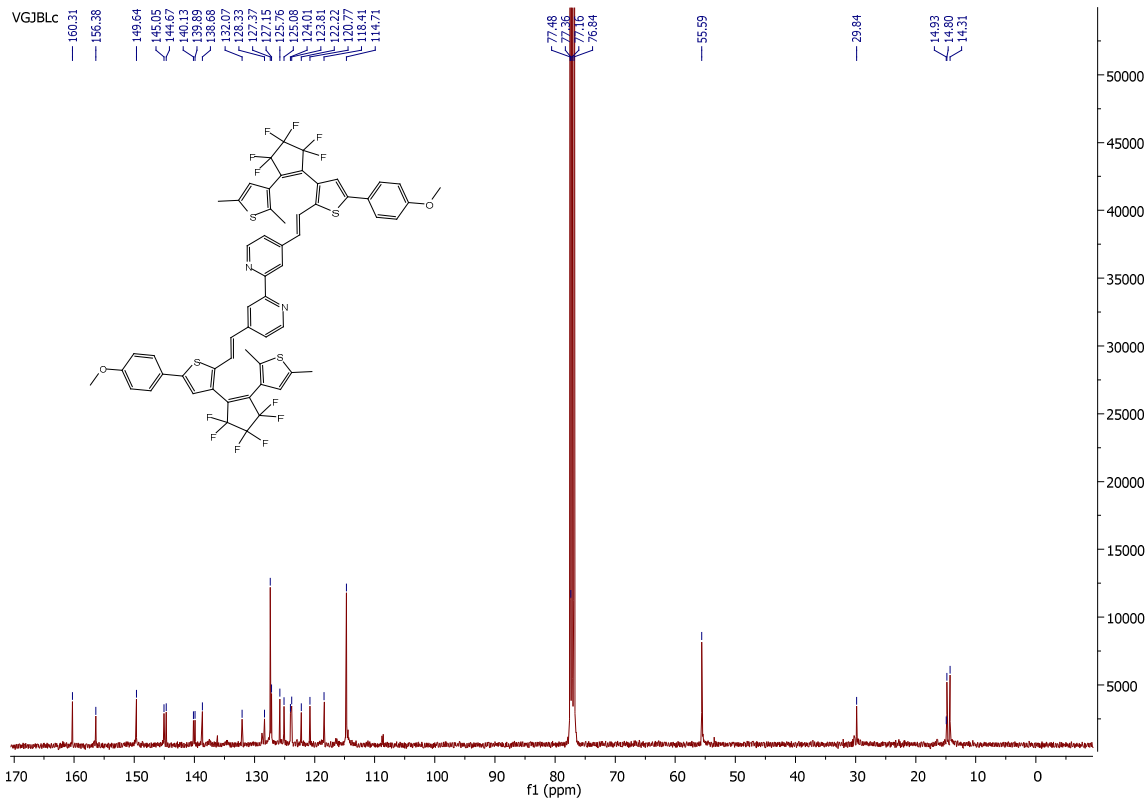

Figure S6. ^{13}C NMR of $\mathbf{L^c}$ in $CDCl_3$

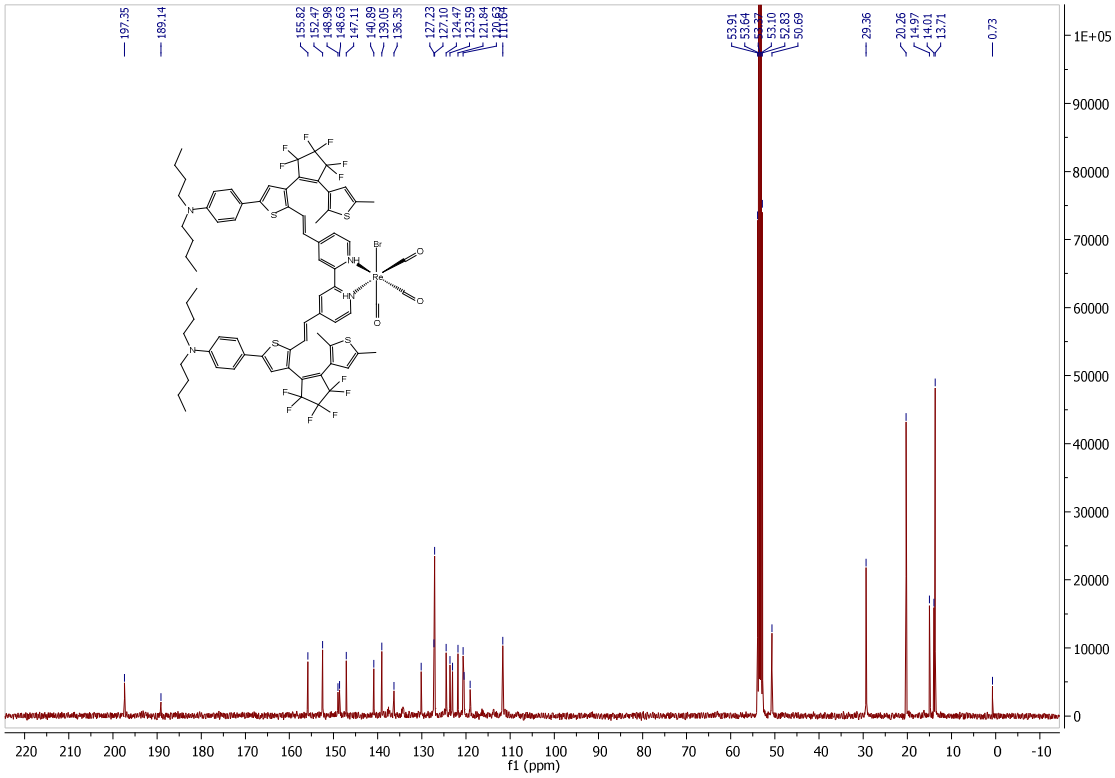

Figure S7. ^{13}C NMR of **ReL^{b}** in CD_2Cl_2

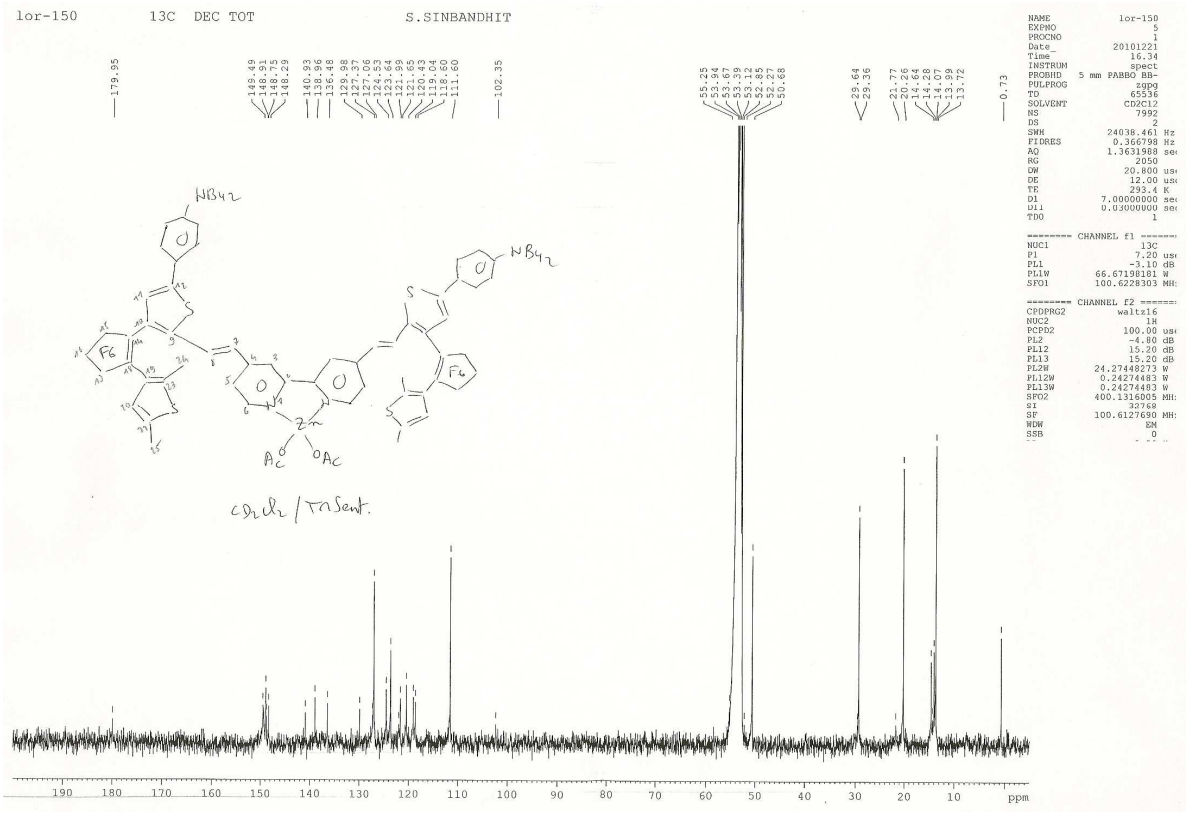

Figure S8. ^{13}C NMR of **ZnL^{b}** in CD_2Cl_2

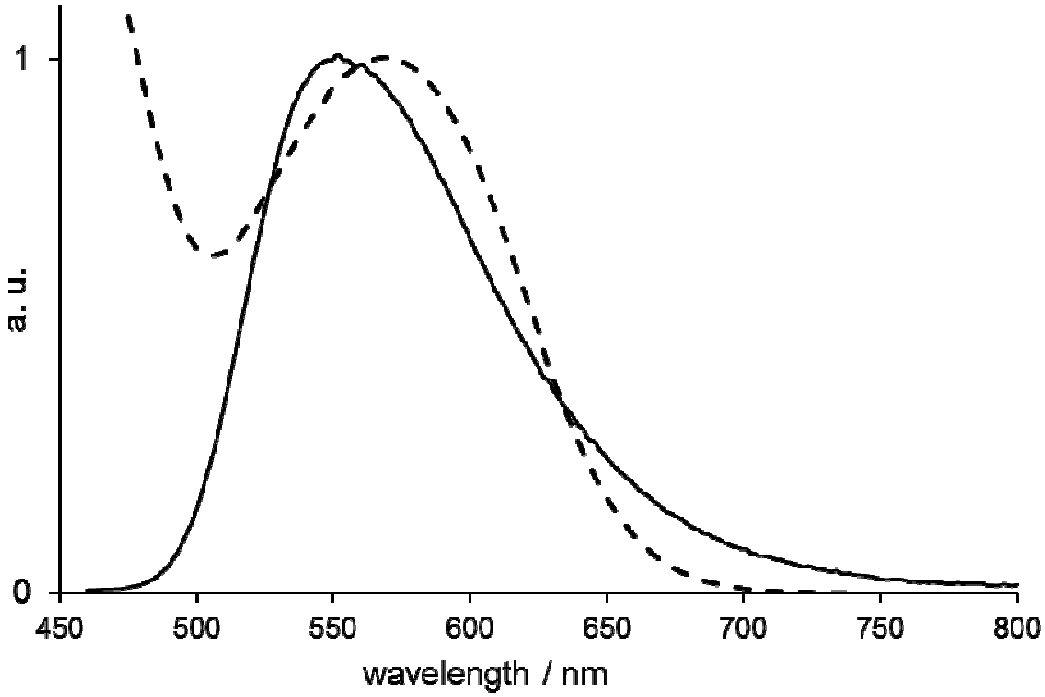

Figure S9. UV-vis absorption (PSS, dashed line) and emission (open form, solid line) spectra of **L^{b}** in cyclohexane at room temperature.

Additional equations[(a)] used in calculating the Förster critical radius R_0 and efficiency *E* of energy transfer:

$R_0^6 = 8.79 \times 10^{23} (\kappa^2 n^{-4} Q_D J(\lambda))$ [equation S1]

where Q_D is the quantum yield of the donor (here we have used the value of the open–open form), n is the refractive index (1.42 for cyclohexane), and κ^2 is factor that takes into account the orientational dependence of the dipoles of donor and acceptor. For simplicity, we have assumed a value for κ^2 of 2/3, as found for random averaging in intermolecular energy transfer.

$$E = \frac{R_0^6}{R_0^6 + r^6}$$ [equation S2]

(a) See, for example, chapter 13 of J. R. Lakowicz, *Principles of Fluorescence Spectroscopy*, 3rd edition, Springer, 2006.