Supporting Information for **B604910A**

A new series of fluorescent 5-methoxy-2-pyridylthiazoles with a pH-sensitive dual-emission

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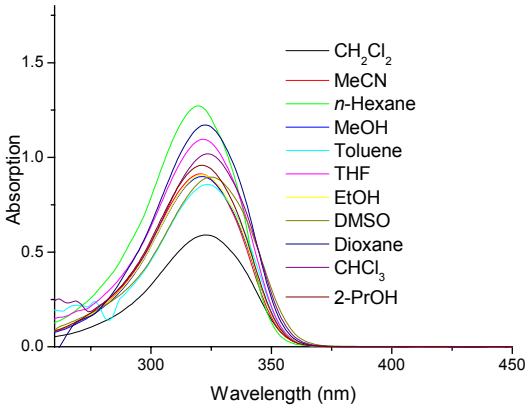


Fig. S1 Absorption of 2-MPT in different solvents

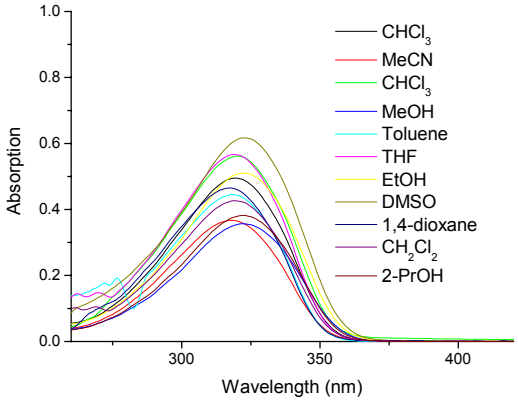


Fig. S2 Absorption of 4-MPT in different solvents

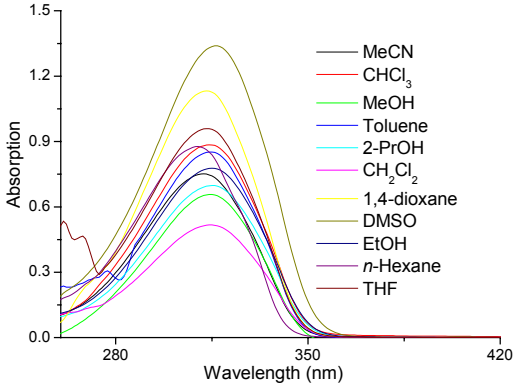


Fig. S3 Absorption of 3-MPT in different solvents

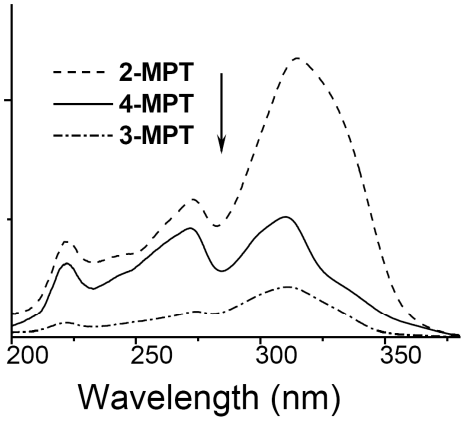


Fig. S4 Excitation spectra of MPTs in MeCN

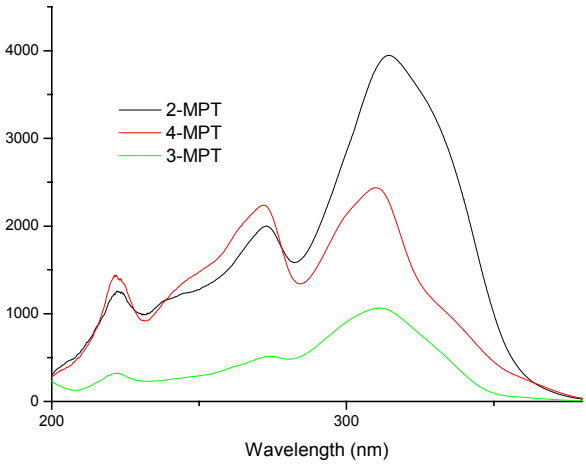


Fig. S5 Excitation spectra of MPTs in water.

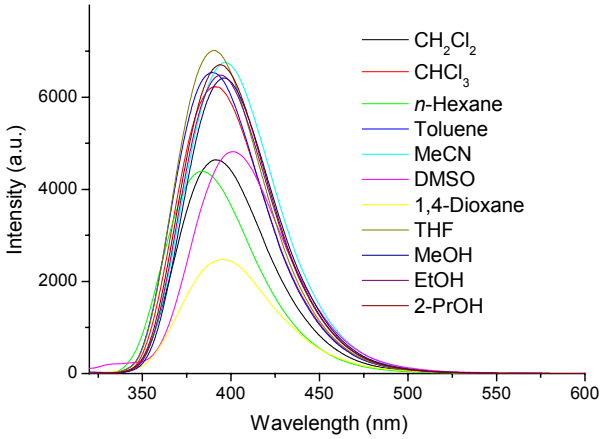


Fig. S6 Fluorescence emissions of 2-MPT in different solvents

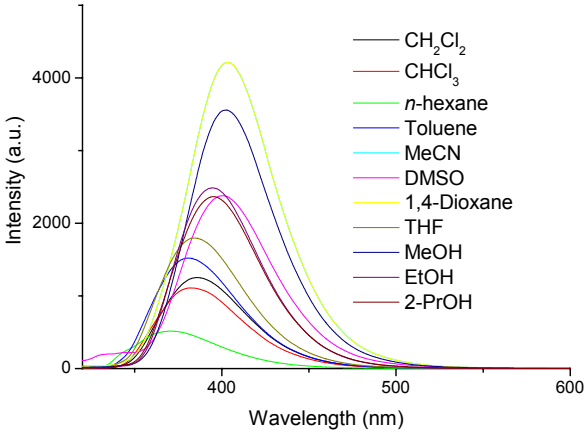


Fig. S7 Fluorescence emissions of 4-MPT in different solvents.

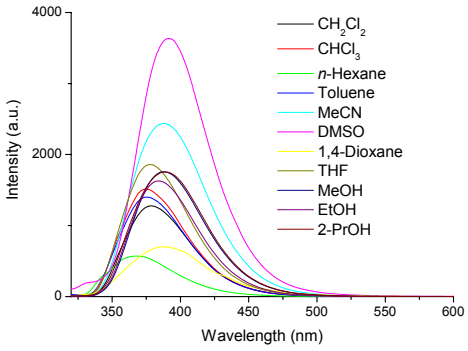


Fig. S8 Fluorescence emissions of 3-MPT in different solvents

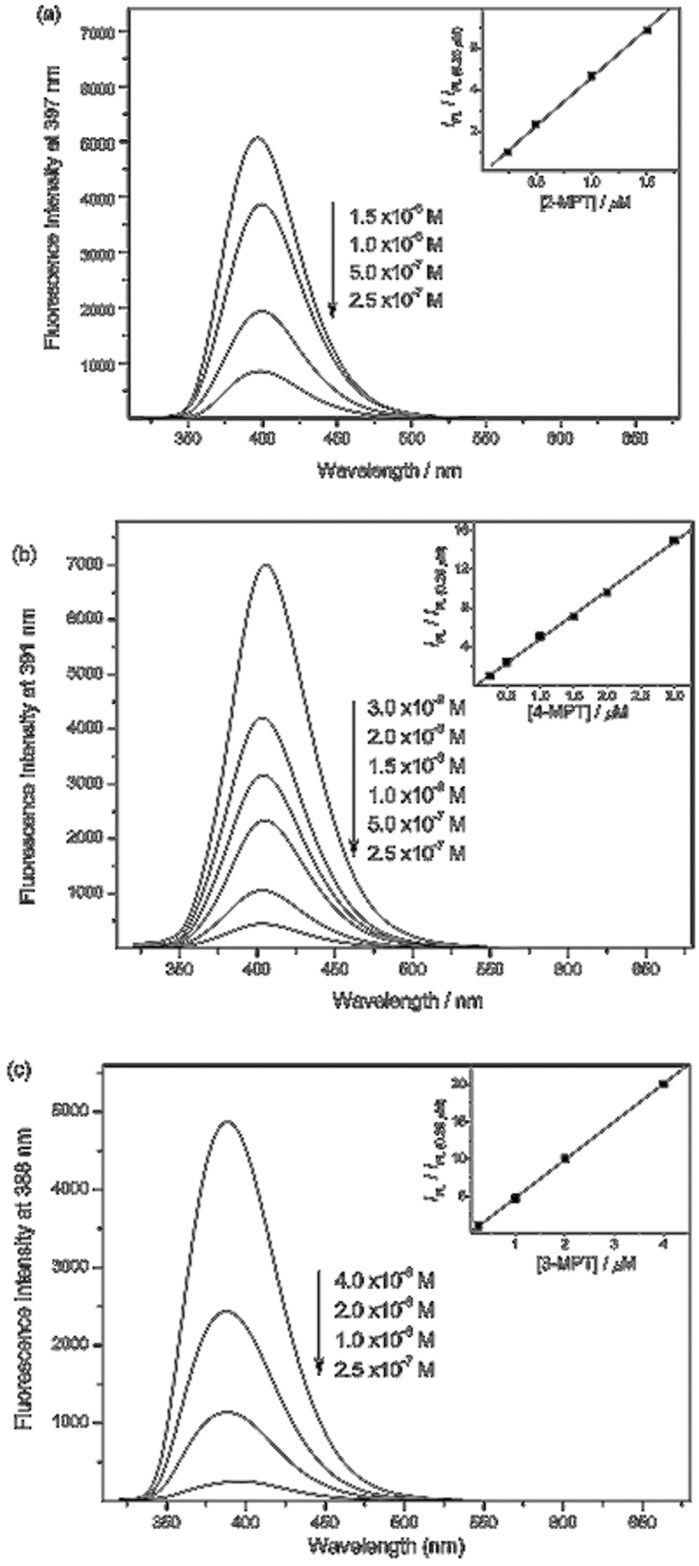


Fig. S9 Fluorescence emissions of MPTs at different concentrations in acetonitrile: (a) 2-MPT; (b) 4-MPT; (c) 3-MPT.

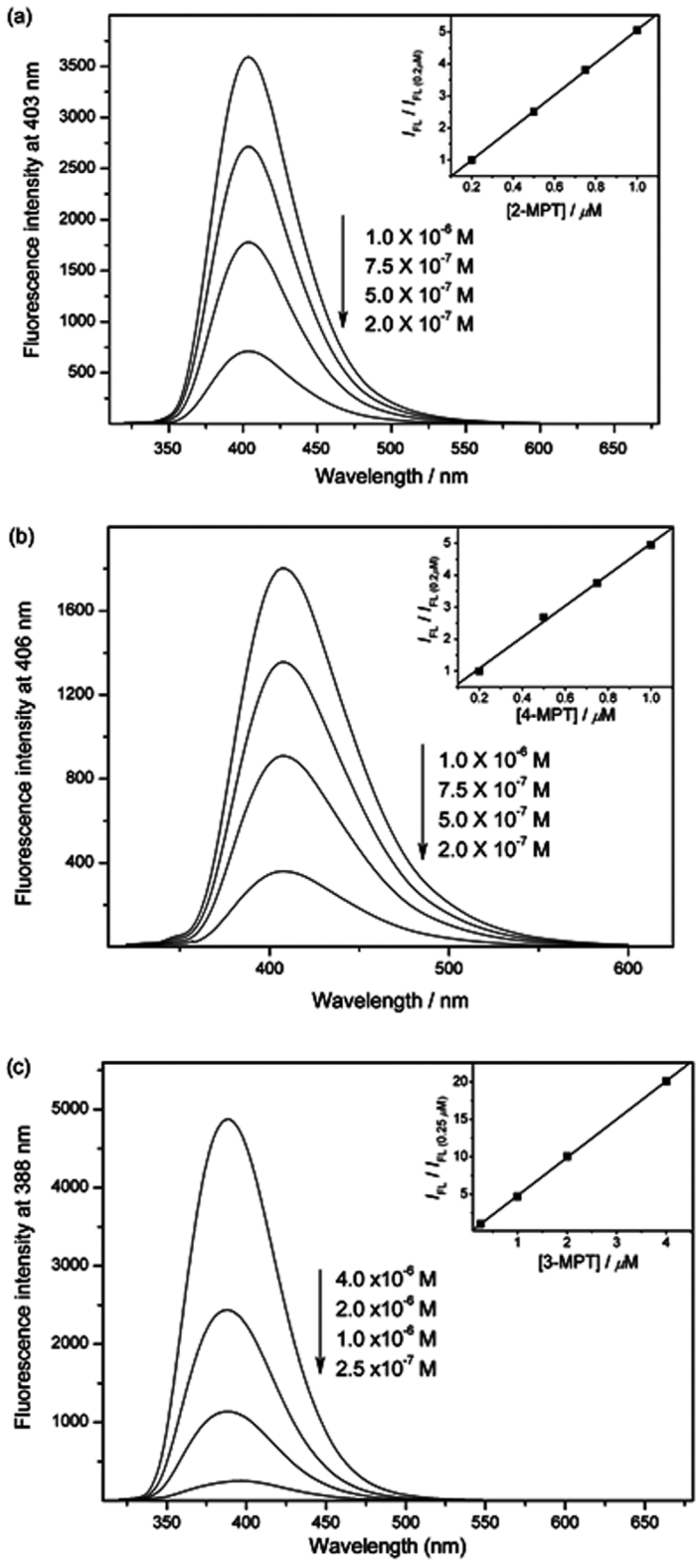
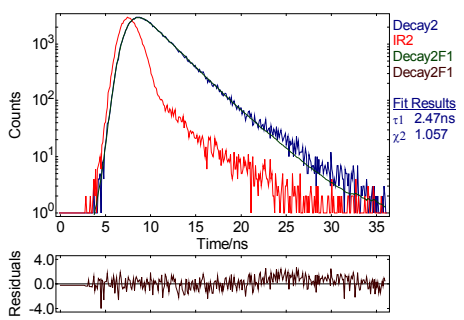


Fig. S10 Fluorescence emissions of MPTs at different concentrations in aqueous system: (a) 2-MPT; (b) 4-MPT; (c) 3-MPT.



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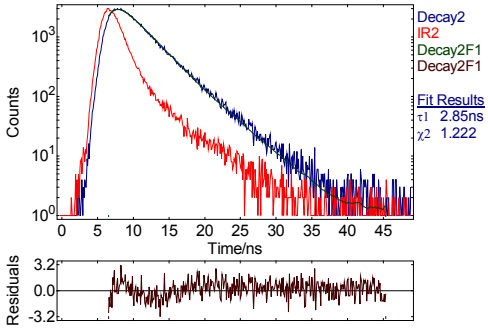

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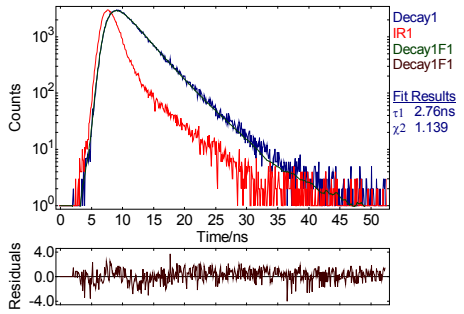

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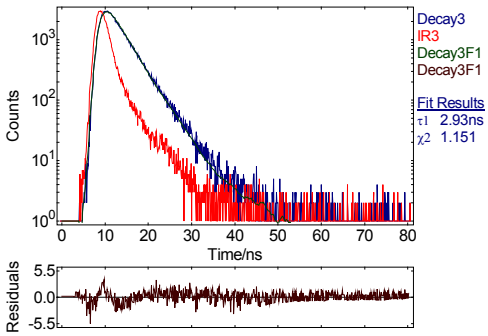

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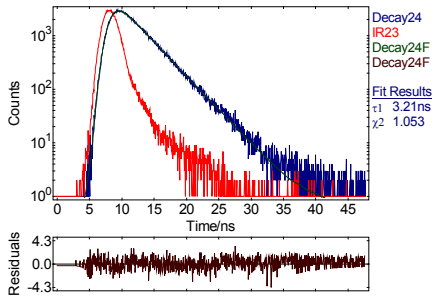

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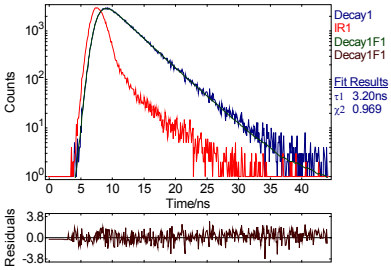

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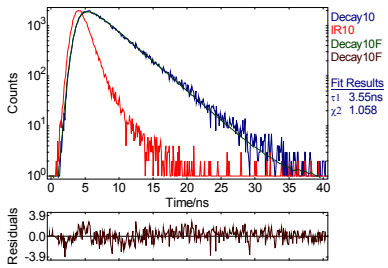
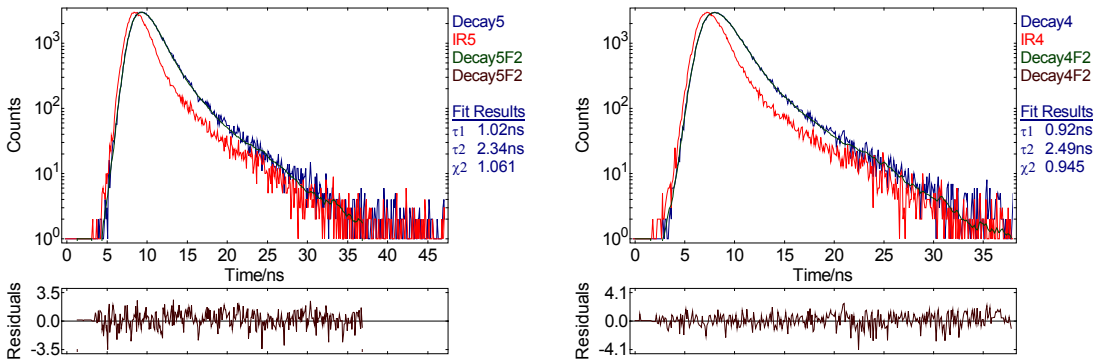


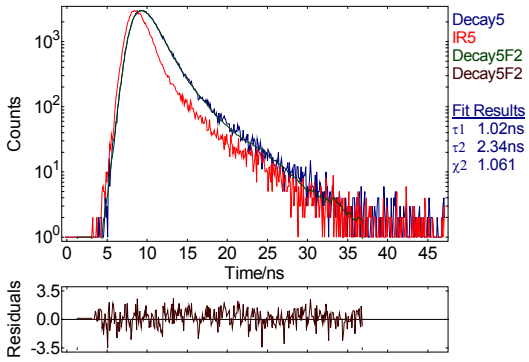
g

Fig. S11 Fluorescence decay curves of 2-MPT in (a) in n-hexane; (b) in chloroform; (c) tetrahydrofuran; (d) dichloromethane; (e) acetonitrile; (f) methanol; (g) water at 298 K.



a

b



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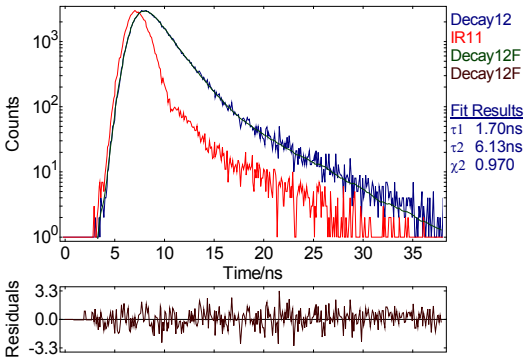

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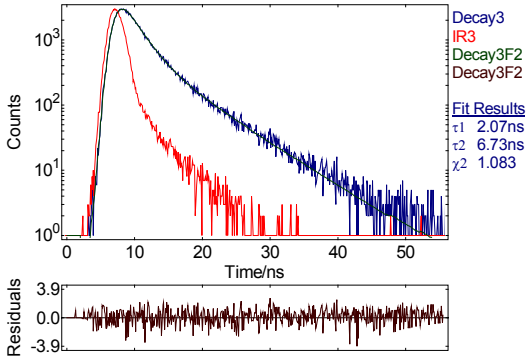

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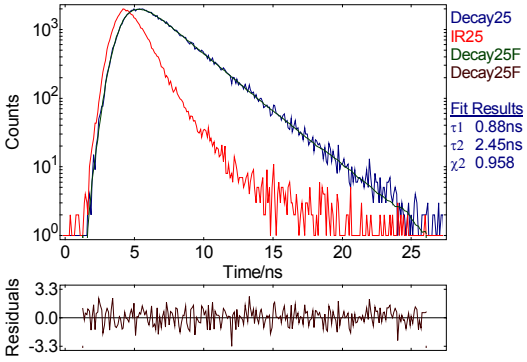
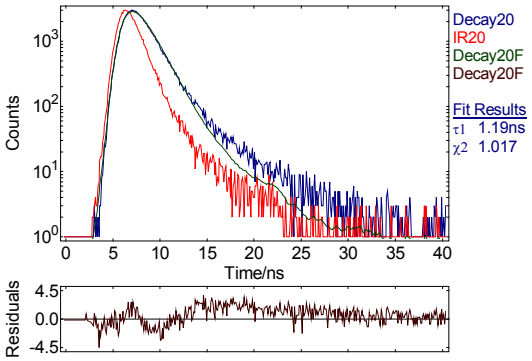
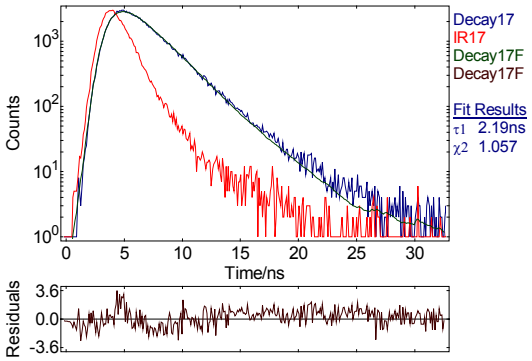


f

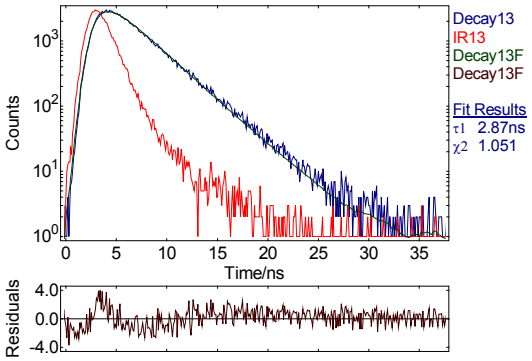
Fig. S12 Fluorescence decay curves of 4-MPT in (a) in chloroform; (b) tetrahydrofuran; (c) dichloromethane; (d) acetonitrile; (e) methanol; (f) water at 298 K.



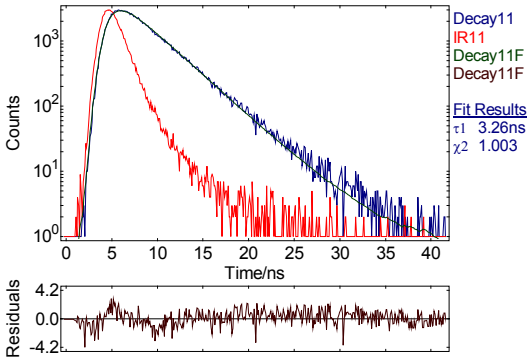
(a) pH=1.0



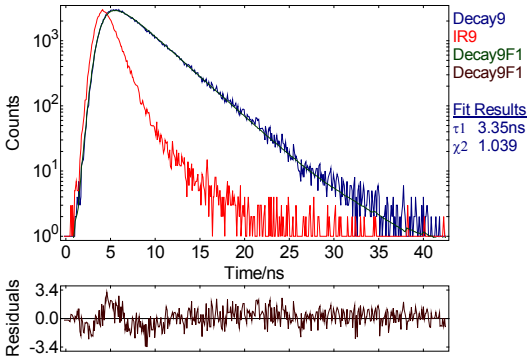
(b) pH=1.5



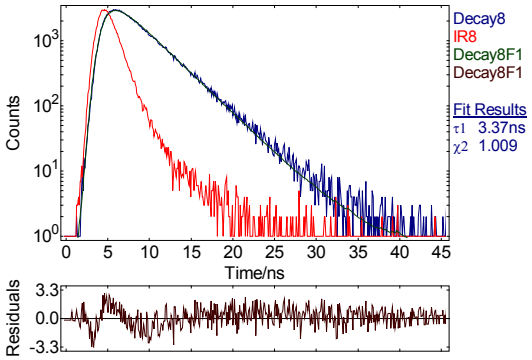
(c) pH=2.0



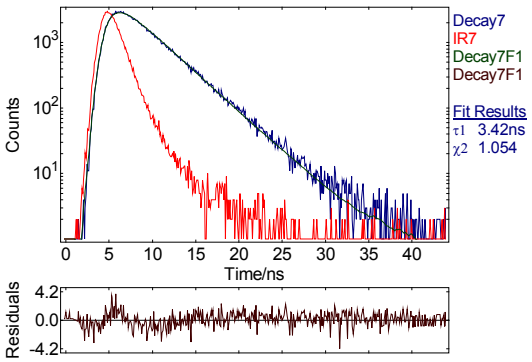
(d) pH=2.5



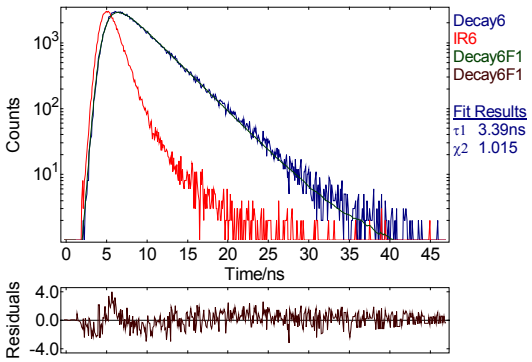
(e) pH=3.0



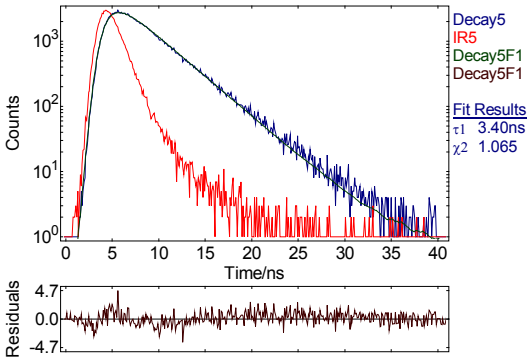
(f) pH=3.5



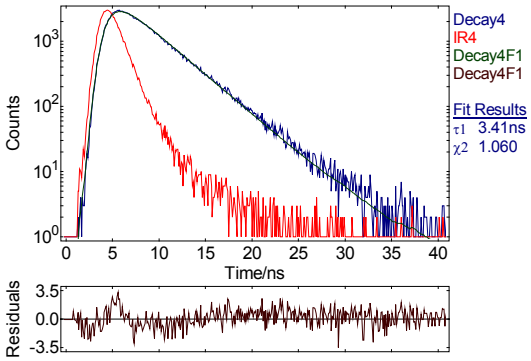
(g) pH=4.0



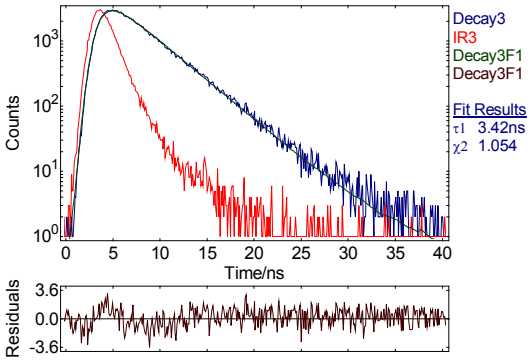
(h) pH=4.5



(i) pH=5.0

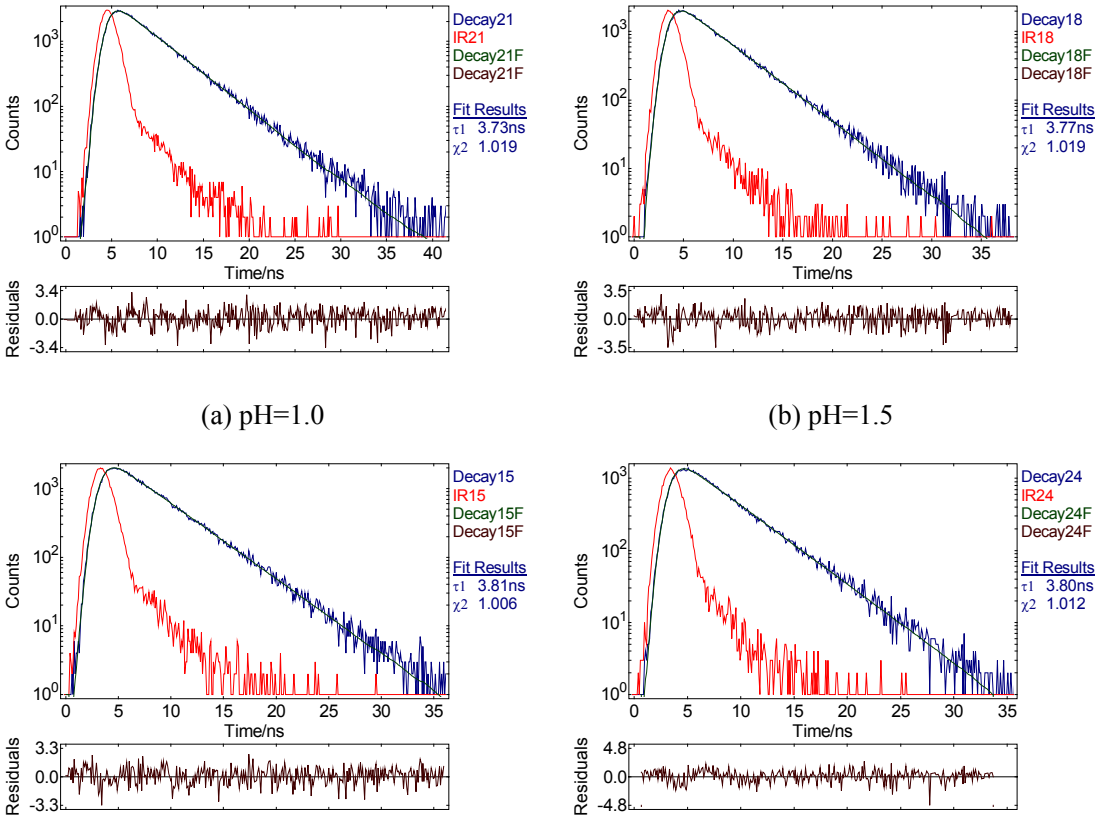


(j) pH=5.5



(k) pH=6.0

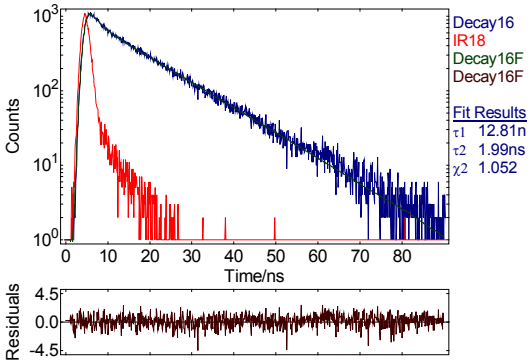
Fig. S13 Fluorescence decay curves of 2-MPT at pH (λ_{em} = 400 nm excited at 310 nm).



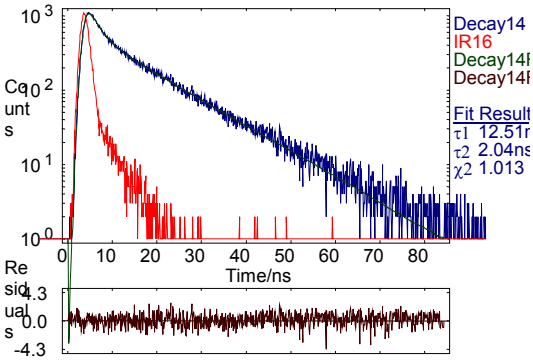
(a) pH=1.0 (b) pH=1.5

(c) pH=2.0 (d) pH=2.5

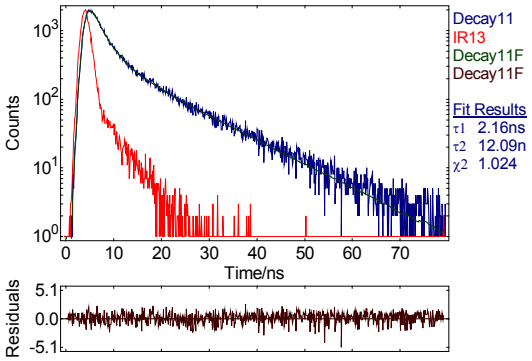
Fig. S14 Fluorescence decay curves of 2-MPT at pH 1.0-2.5 (λ_{em} = 455 nm excited at 365 nm).



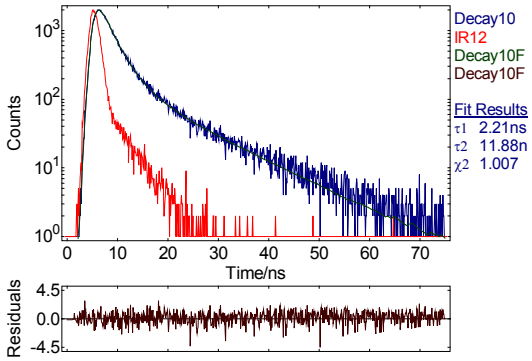
(a) pH=1.5



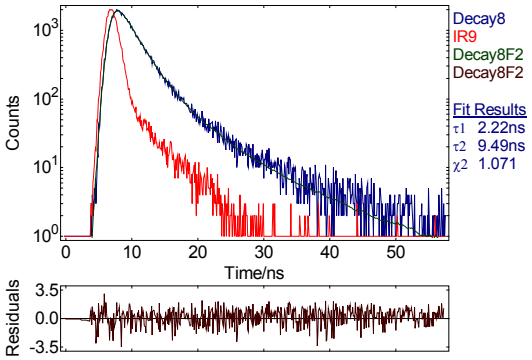
(b) pH=2.0



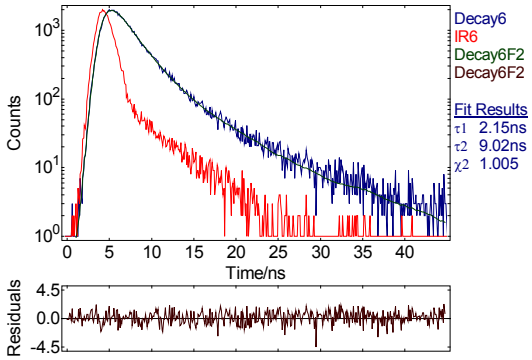
(c) pH=2.5



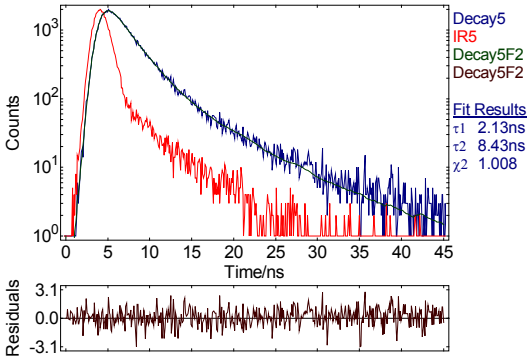
(d) pH=3.0



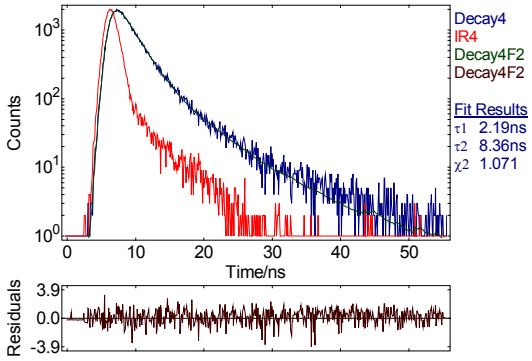
(e) pH=3.5



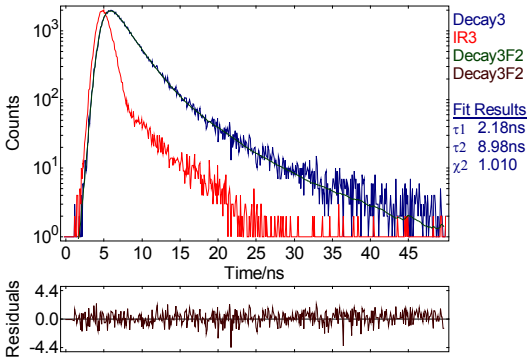
(f) pH=4.0



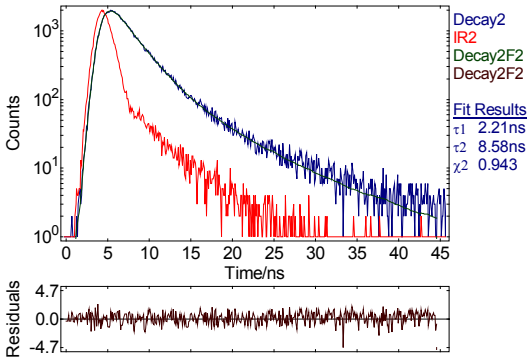
(g) pH=4.5



(h) pH=5.0

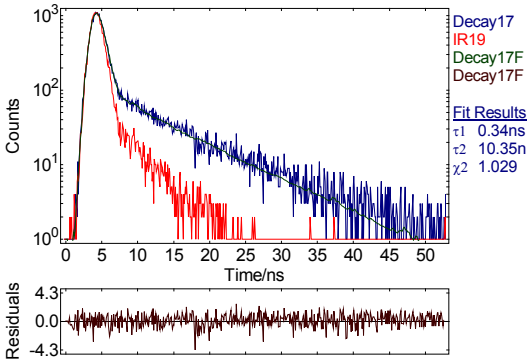


(i) pH=5.5

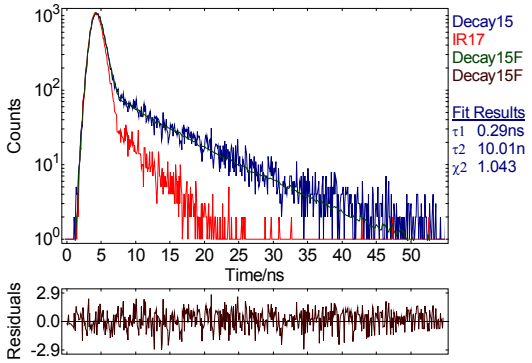


(j) pH=6.0

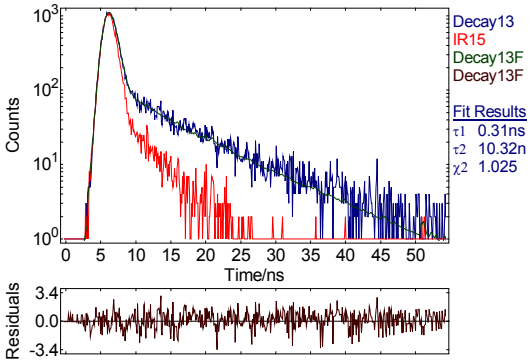
Fig. S15 Fluorescence decay curves of 4-MPT at pH 1.5-6.0 (λ_{em} = 400 nm excited at 320 nm).



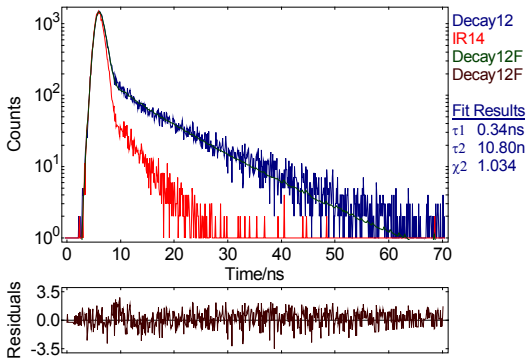
(a) pH=1.0



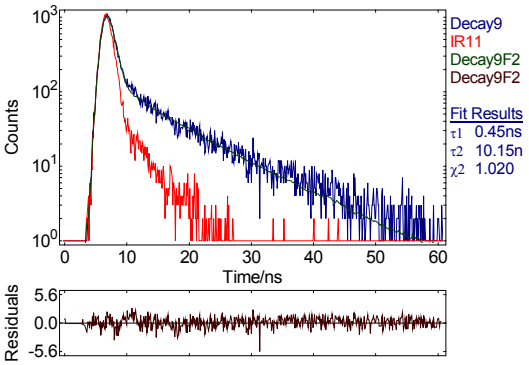
(b) pH=1.5



(c) pH=2.0



(d) pH=2.5



(e) pH=3.0

Fig. S16 Fluorescence decay curves of 4-MPT at pH 1.0-3.0 (λ_{em} = 445 nm excited at 365 nm).

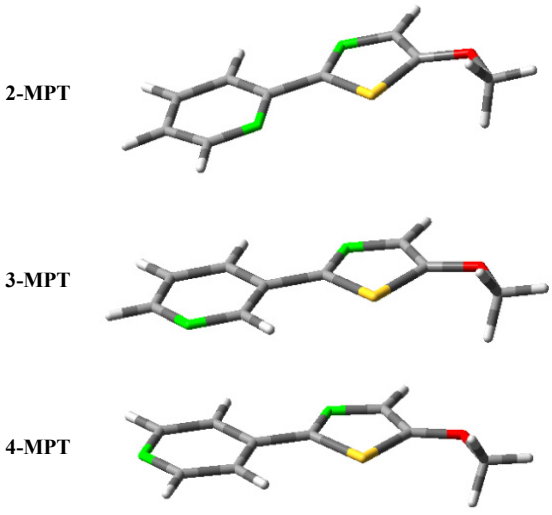


Fig. S17 Minimum energy conformation calculated with Gaussian03 by using density functional theory (DFT) at the B3LYP level.