Supporting Information

for

Diaroyl(Methanato)Boron Difluoride as Medium-Sensitive Two-Photon Fluorescent Probes

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[Diagram]
b)

**Figure 1S.** a): Experimental set-up for measurement of two photon excitation spectra. CC$_1$ CC$_2$ corner cubes; BS: splitting cubes; LS: loud speaker; GBF: low-frequency generator; BE: beam expander; PD$_1$, PD$_2$ photodiodes; PM: analogic photomultiplier; PM$_2$: digital photomultiplier. b): Detail of the Michelson part with the addition of the He-Ne laser.
2.

**Figure 2S.** Autocorrelation signals collected on the four detectors for a 100µM solution of 4 in methylene chloride at 298 K. Excitation wavelength: 780 nm. Emission of fluorescence (PM1 and PM2), excitation profile (PD2), He-Ne interferences (PD1)(magnified 300x)
Figure 3S. Logarithmic plot of the dependence of relative two photon induced fluorescence ($F = \text{PM1 signal in arbitrary units}$) on mean excitation intensity ($<P> = \text{PD2 signal in arbitrary units}$) for a 100µm solution of 7 in methylene chloride at 298 K. Excitation wavelength: 774 nm. The fitted slope is equal to 1.99. The excitation pulse was less than 200 fs during the present series of experiments.