Supporting Information

$^1$H and $^{13}$C NMR spectra of 1b and 2b; Two-photon fluorescence spectra
Figure 1. $^1$H NMR spectrum of compound 1b (DMSO-d$_6$) (full spectrum).
Figure 2. $^1$H NMR spectrum of compound 1b (DMSO-$d_6$) (aromatic region).
Figure 3. $^{13}$C NMR spectrum of compound 1b (DMSO-d$_6$) (full spectrum).
Figure 4. $^{13}$C NMR spectrum of compound 1b (DMSO-d$_6$) (aromatic region).
Figure 5. $^1$H NMR spectrum of compound 2b (CD$_2$Cl$_2$) (full spectrum).
Figure 6. $^1$H NMR spectrum of compound 2b (CD$_2$Cl$_2$) (aromatic region).
Figure 7. $^{13}$C NMR spectrum of compound 2b (CD$_2$Cl$_2$) (full spectrum).
Figure 8. $^{13}$C NMR spectrum of compound 2b (CD$_2$Cl$_2$) (aromatic region).
Two-photon induced fluorescence spectra have been measured in a back-scattering geometry, different from the one employed in the TPA cross section measurements. The laser beam and the TPA induced fluorescence were focused and collected by the same microscope objective (x10/NA=0.25). The fluorescence light was separated from the exciting laser beam by a 50% beam splitter and then sent to a fiber coupled with a monochromator and a PMT tube. Short pass filters were used in front of the fiber to suppress the scattered laser light. The TPA fluorescence experiments were performed for compounds 1a, 2a, 2b on solutions approximately 1x10^{-4} M, while for compound 1b, the fluorescence signal was too weak to be detected. In the following the linear absorption spectrum (full line) and the linear (bold line) and two photon induced fluorescence (dashed line) are presented.
The shift between the linear and two photon induced fluorescence maxima is attributed to a reabsorption effect caused by the higher concentration employed in the two photon measurement with respect to the linear one.