Supporting Information

**NIR fluorescent Probe for Detection of Viscosity and lysosome imaging in live cells**

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Fig. S1. $^1$H NMR spectrum of Lyo-BTC in CDCl$_3$
Fig. S2. $^{13}$C NMR spectrum of Lyo-BTC in CDCl$_3$
Fig. S3. IR spectrum of Lyo-BTC
Fig. S4. ESI-MS spectrum of Lyo-BTC
Fig. S5 UV-spectra of Lyso-BTC in DMSO/glycerol mixed solvents
Fig. S6 (A) Fluorescence spectra of Lyso-BTC at different pH conditions (10 μM, Ex = 505 nm). (B) Fluorescence intensity of Lyso-BTC at different pH at 685 nm (10 μM, Ex = 505 nm).
Fig. S7 Mulliken charge densities numbering on atoms of Lyso-BTC. The values of charges on N1, N2 and N3 are -0.543, -0.520 and -0.512 respectively.
Fig. S8 (A) Fluorescent spectra of Lyso-BTC in DMSO/glycerol mixtures with different viscosity. (B) Dependence between Log ($I_{max}$) and Log (viscosity).
Fig. S9 (a) Photostability of Lyso-BTC compare with Lyso-Tracker Green under continuous scanning at 488 nm. (b) Photostability of Lyso-BTC and Lyso-Tracker Green under continuous scanning at 488 nm, where $I_0$ is the initial fluorescence intensity and I is the fluorescence intensity of each sample at various time points.
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Figure S4. MS spectrum of Lyo-BTC
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