Supplementary Material

Reagents for labeling with pH-independent fluorescein-based tags

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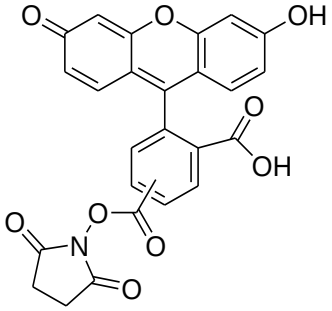
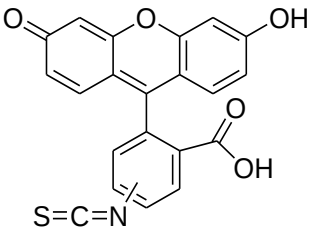
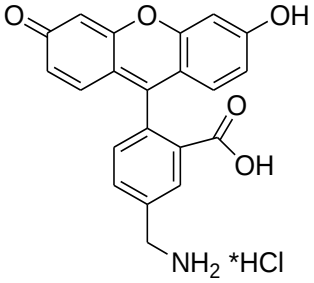
Table of Contents



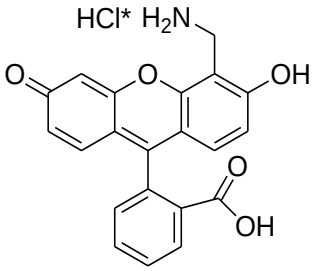
NHS-Fluorescein



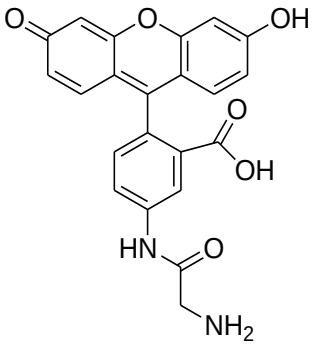
FITC
5/6-Fluorescein isothiocyanate



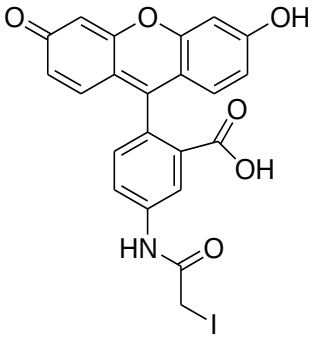
5-(aminomethyl)fluorescein, hydrochloride



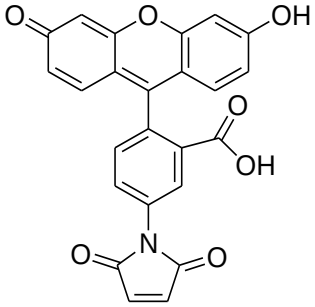
4'-(aminomethyl)fluorescein, hydrochloride



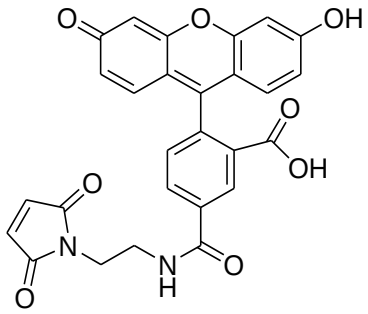
5-(aminoacetamido)fluorescein
(fluoresceinyl glycine amide)



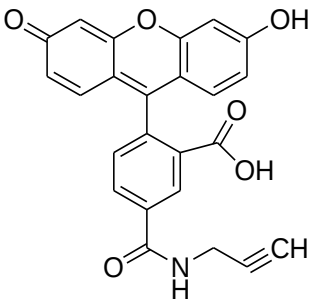
5-iodoacetamidofluorescein



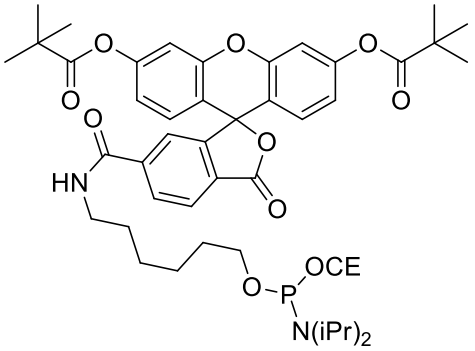
Fluorescein-5-Maleimide



Fluorescein maleimide
Vector Laboratories, Inc.



5-FAM Alkyne
5-carboxyfluorescein, propargylamide



6-fluorescein amidite (6-FAM)

Scheme S1. Chemical structures of compounds applied for introducing fluorescein moieties into organic molecules.

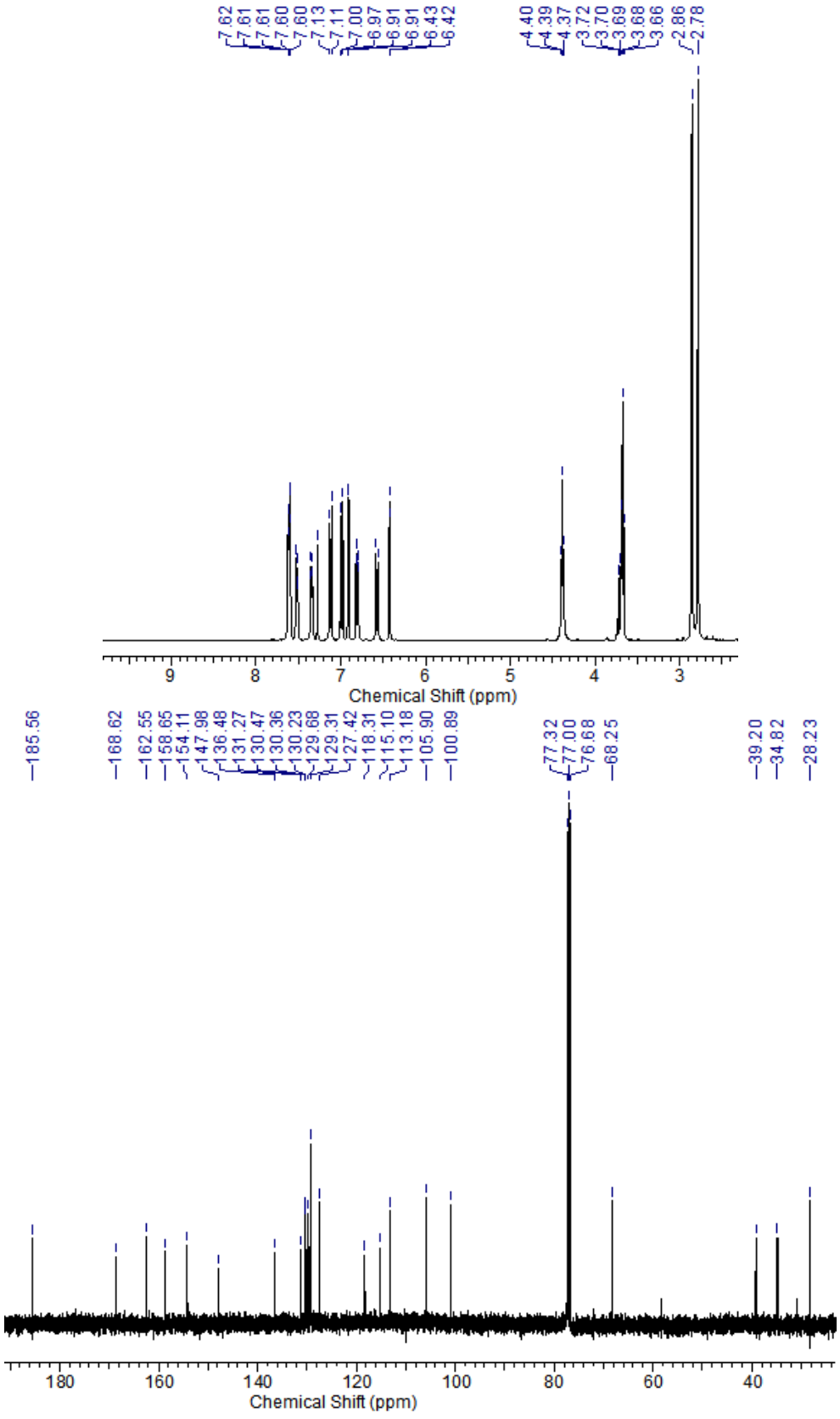


Figure S10. ^{1}H and ^{13}C NMR spectra of **2** in $CDCl_3$.

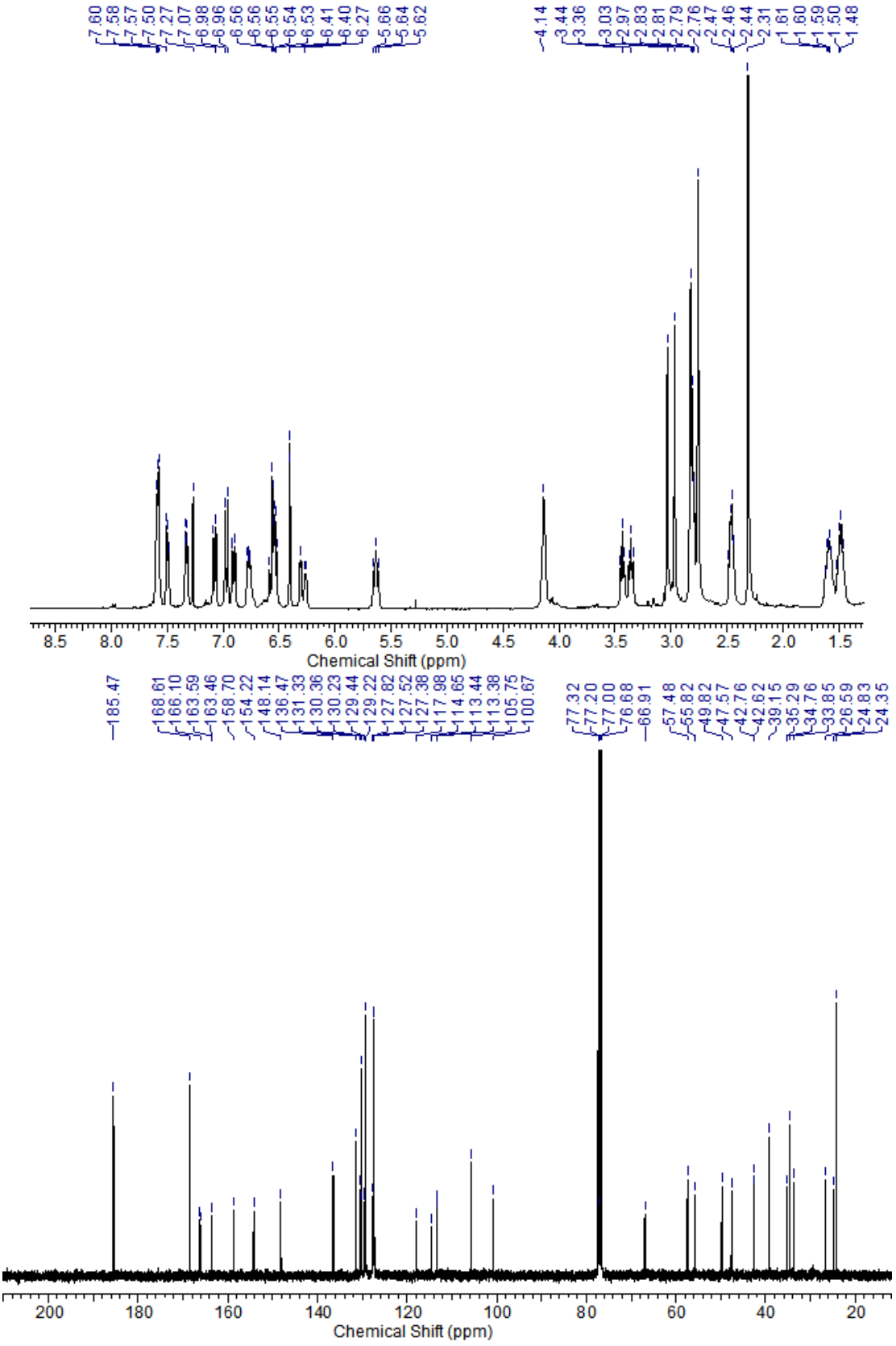


Figure S11. ^{1}H and ^{13}C NMR spectra of **4** in $CDCl_3$.

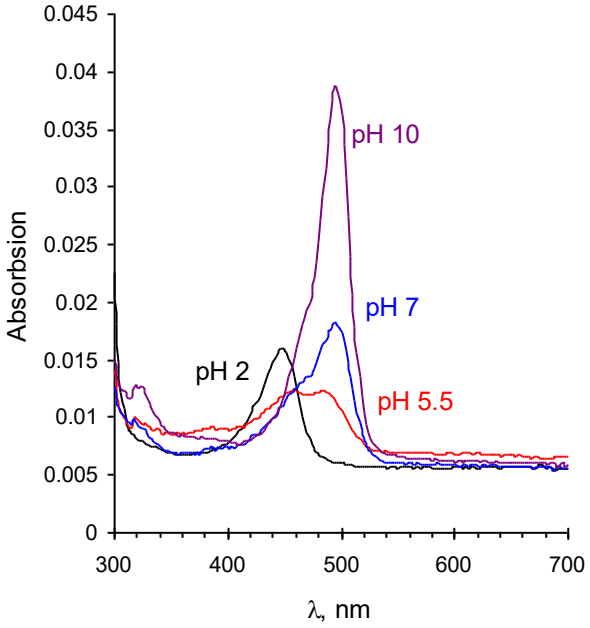


Figure S1. Absorption spectra of Olig-Flu in different buffer solutions. Concentration 1 mg/mL.

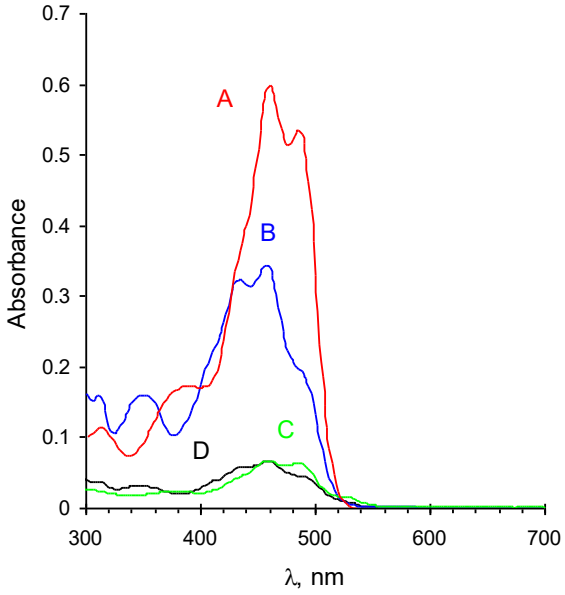


Figure S2. Absorption spectra of **2** (A, B) and **4** (C, D) solutions in water (pH 7) – A, C, and in 1,4-dioxane – B, D. Concentration 5 μM.

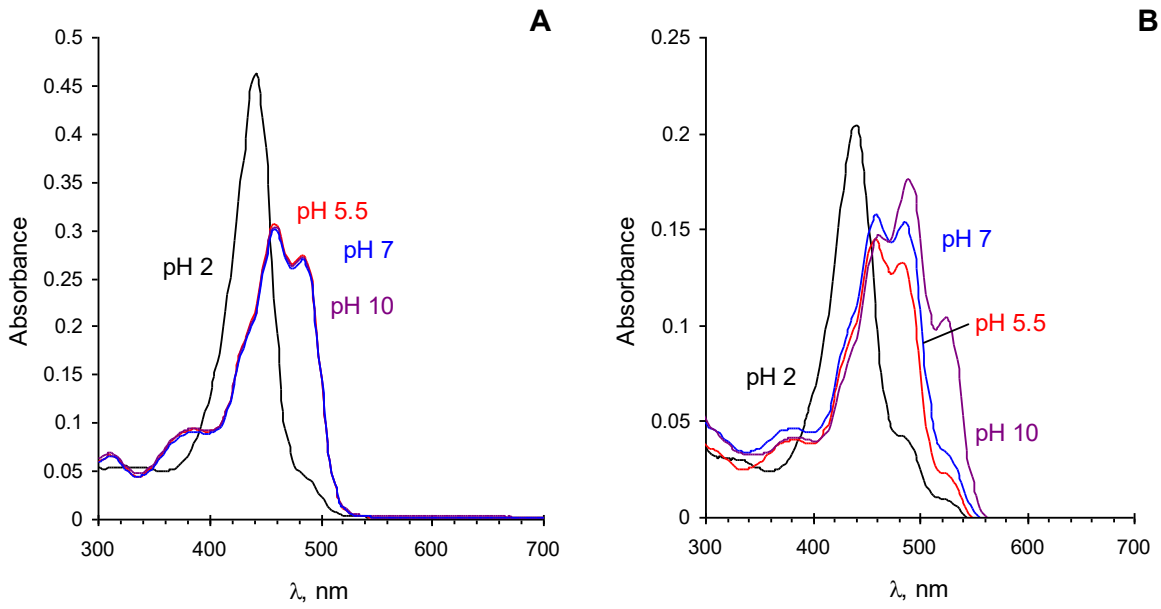


Figure S3. Absorption spectra of **2** (A) and **4** (B) in different buffer solutions. Concentration 2.5 µM for A and 10 µM for B.

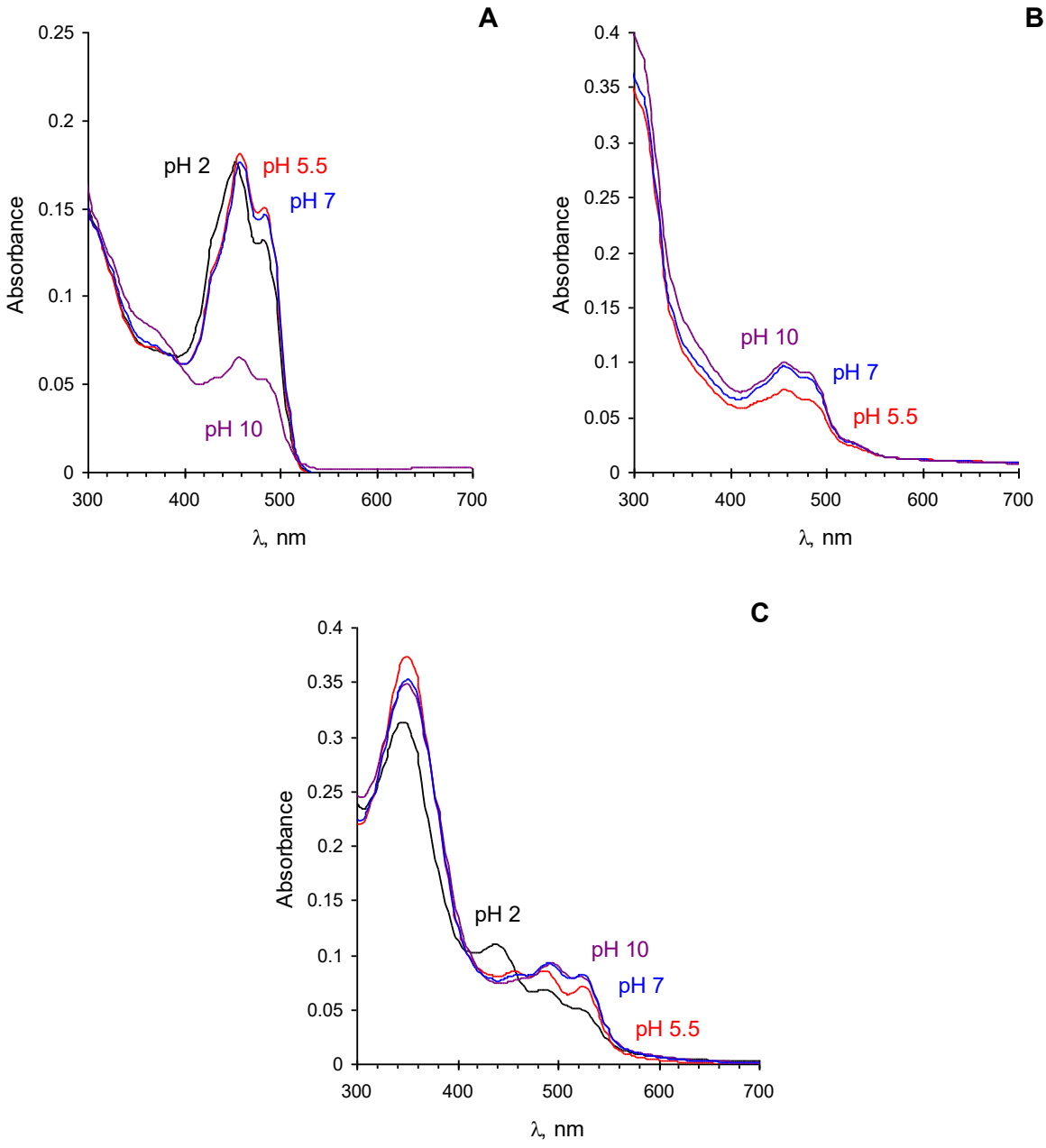


Figure S4. Absorption spectra of ZS-424 (A), ZS-493 (B), ZS-495 (C) in different buffer solutions. Concentrations 0.47 mg/mL for A, 0.36 mg/mL for B and 1 mg/mL for C.

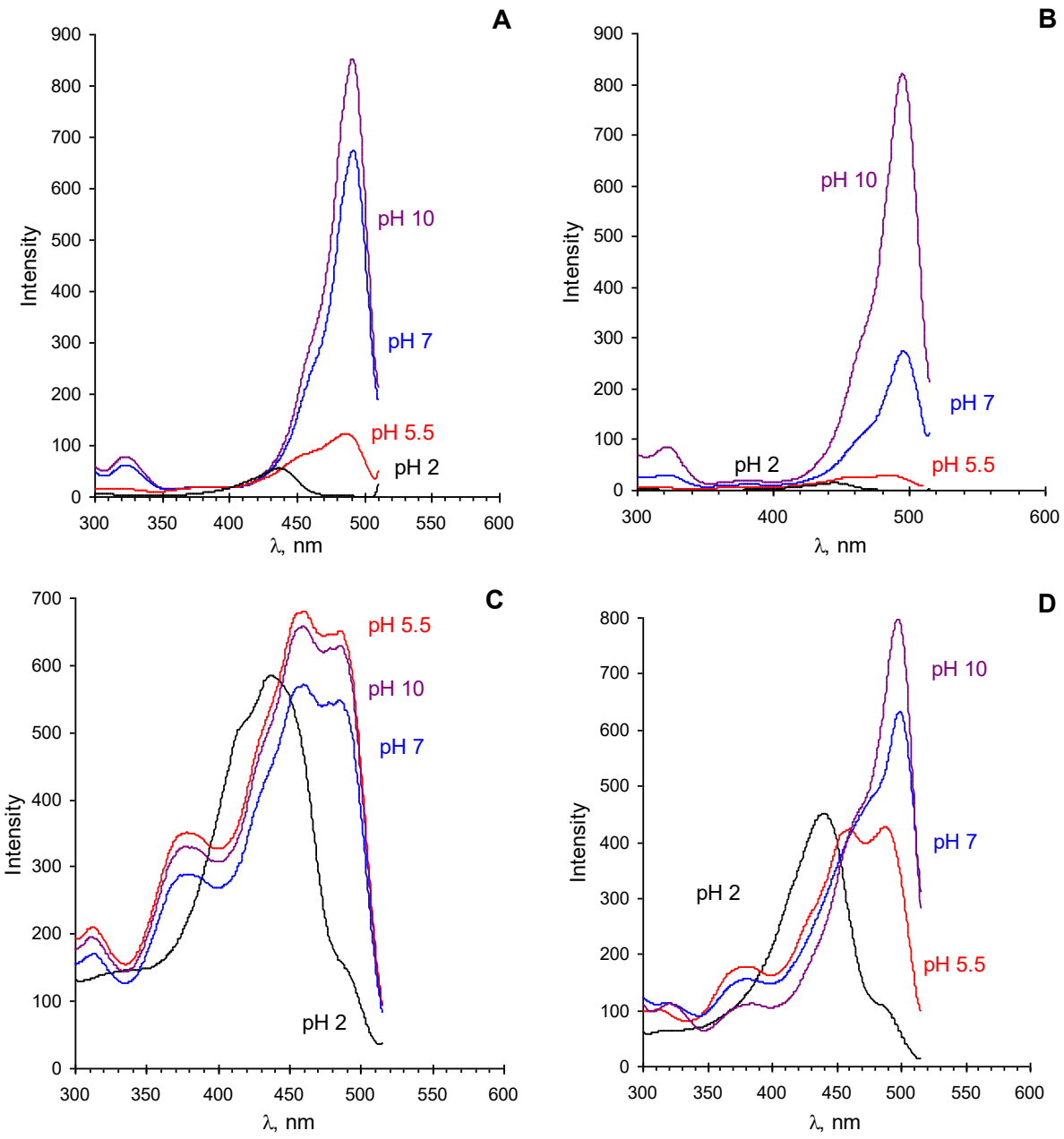


Figure S5. Excitation spectra of fluorescein (A), Olig-Flu (B), **2** (C) and **4** (D) in different buffer solutions at emissions 523 nm . Concentrations 0.5 µM for A and B, 2.5 µM for C, 5 µM for D.

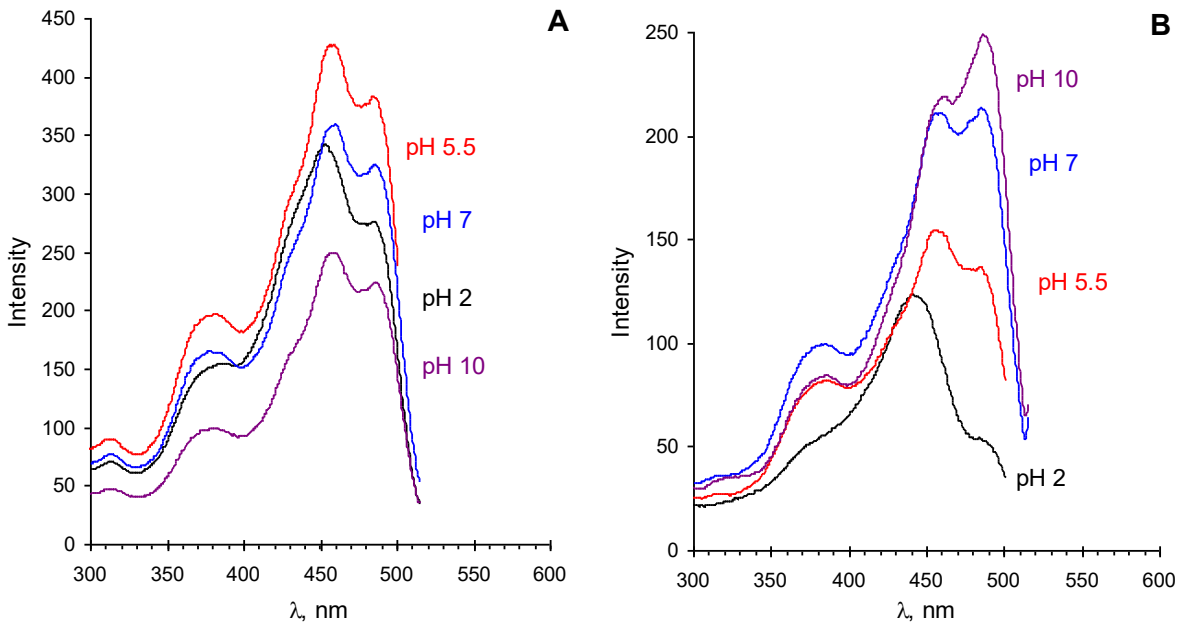


Figure S6. Excitation spectra of ZS-424 (A) and ZS-493 (B) in different buffer solutions at emissions 523 nm. Concentrations 0.47 mg/mL for A and 0.36 mg/mL for B.

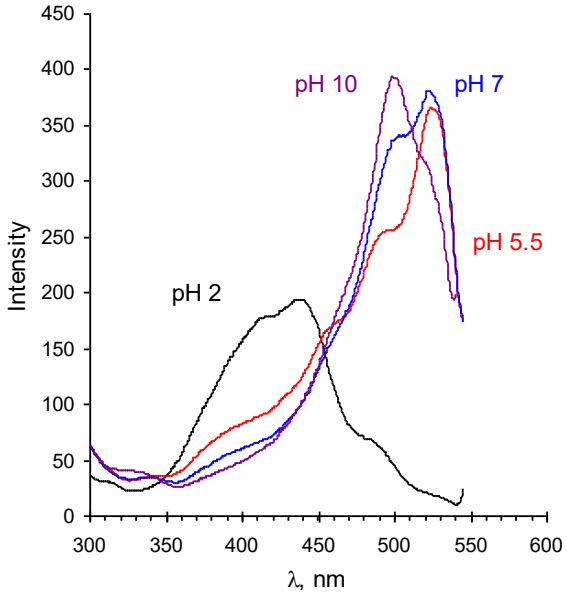


Figure S7. Excitation spectra of ZS-495 in different buffer solutions at emission 545 nm. Concentrations 1 mg/mL.

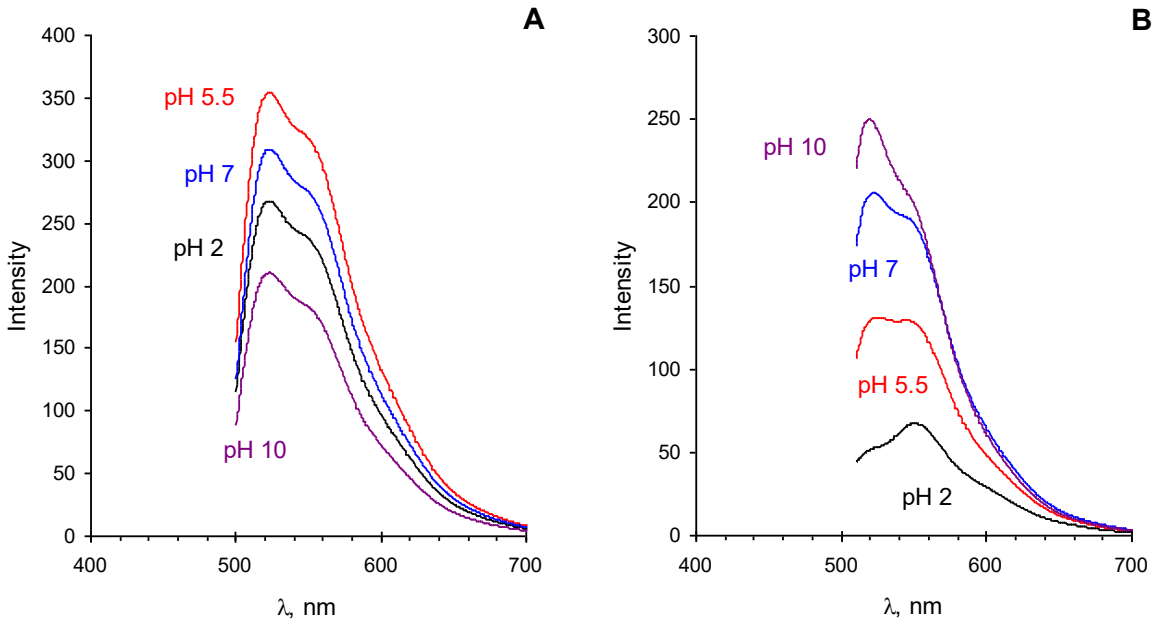


Figure S8. Emission spectra of ZS-424 (A) and ZS-493 (B) in different buffer solutions at excitation 490 nm. Concentrations 0.47 mg/mL for A and 0.36 mg/mL for B.

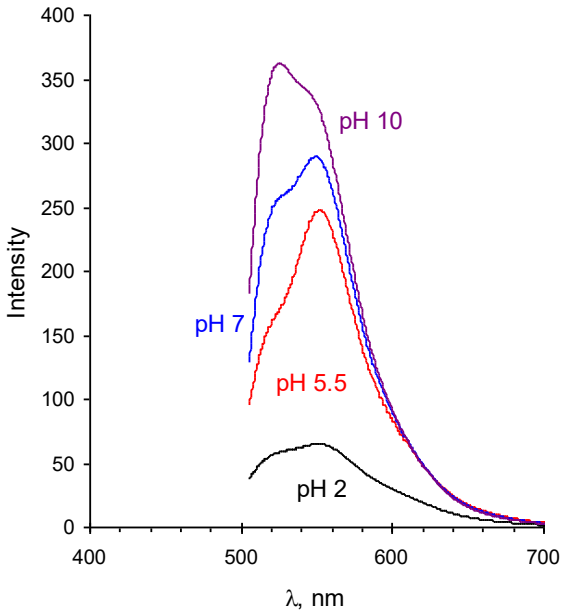


Figure S9. Emission spectra of ZS-495 in different buffer solutions at excitation 490 nm. Concentrations 1 mg/mL.