Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Discrimination of proteins through interaction with pyrene-labelled polymer aggregates

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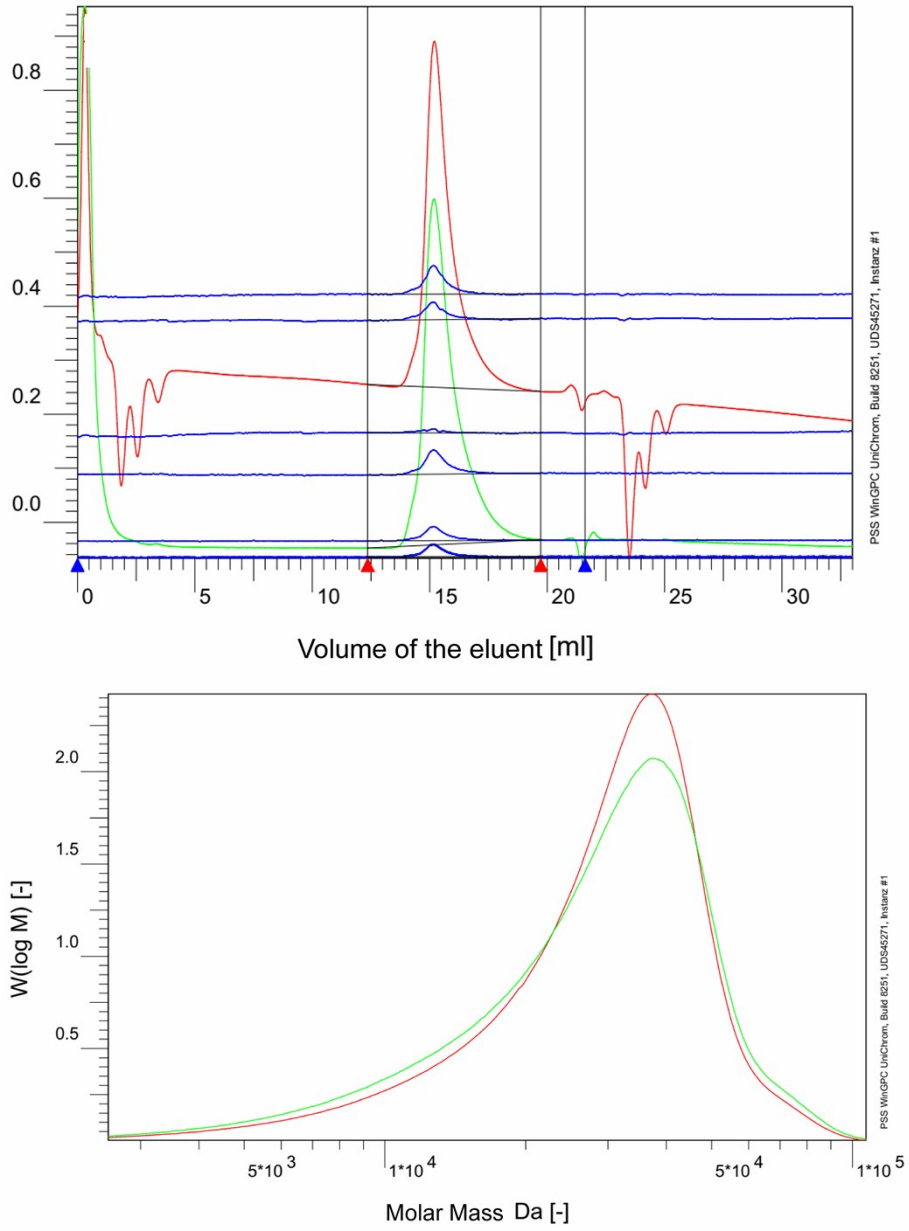

Fig. 1 GPC curves of polymer **3** in different detector modes (red = RI detector, green = UV detector and blue = LS detector). Measurement were performed in THF at 35 °C.

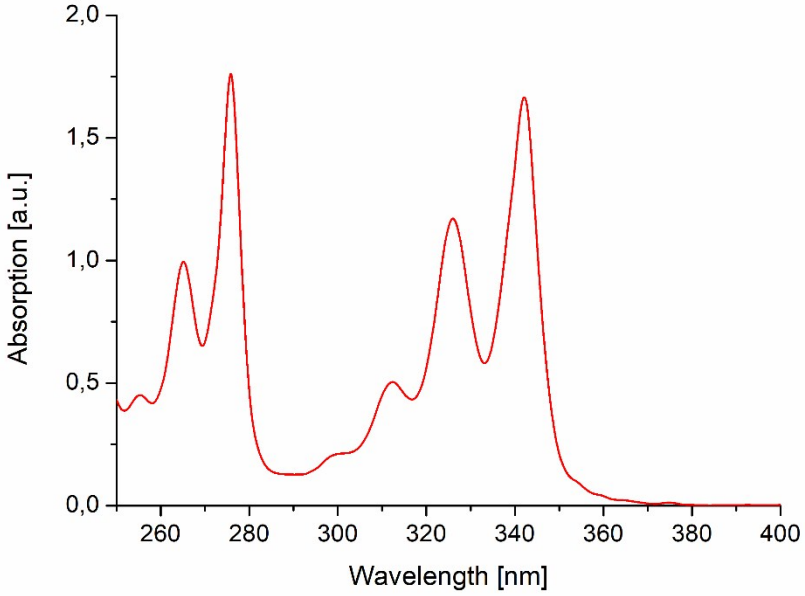

Fig. 2 UV/Vis spectrum of polymer **3** in water.

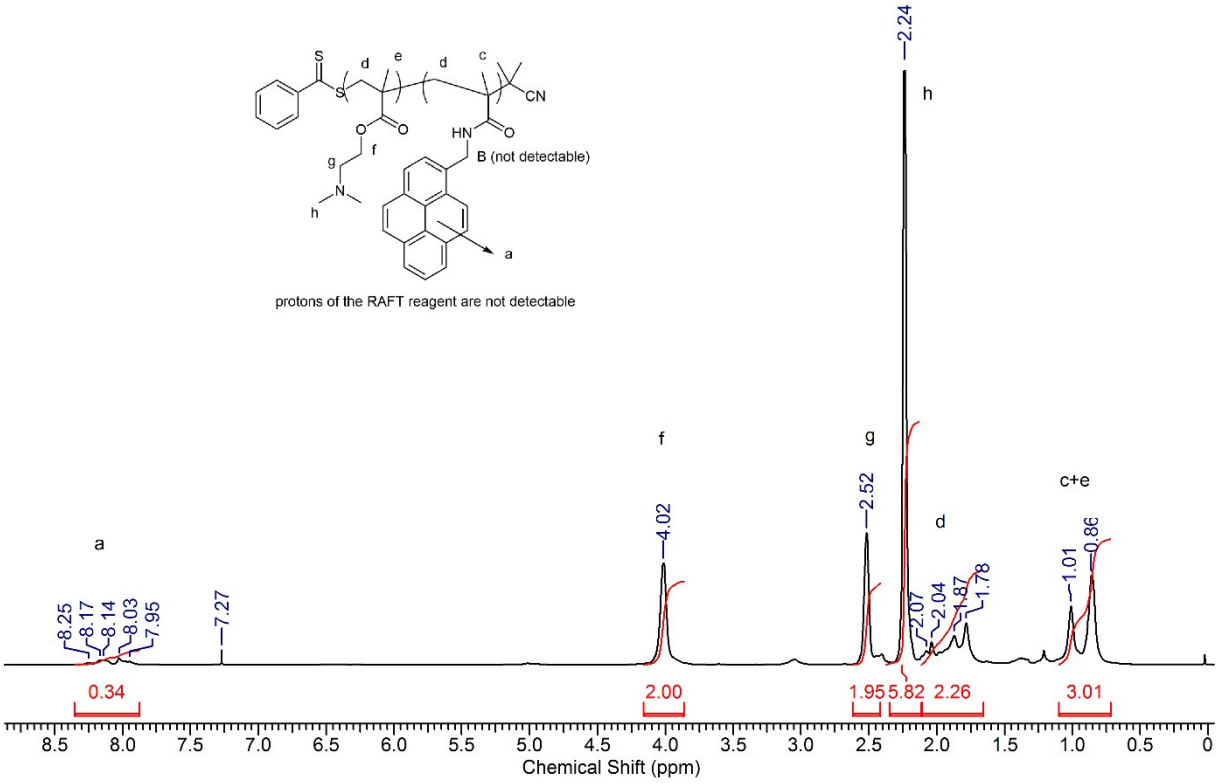

Fig. 3 ^{1}H NMR spectrum of polymer **3**.

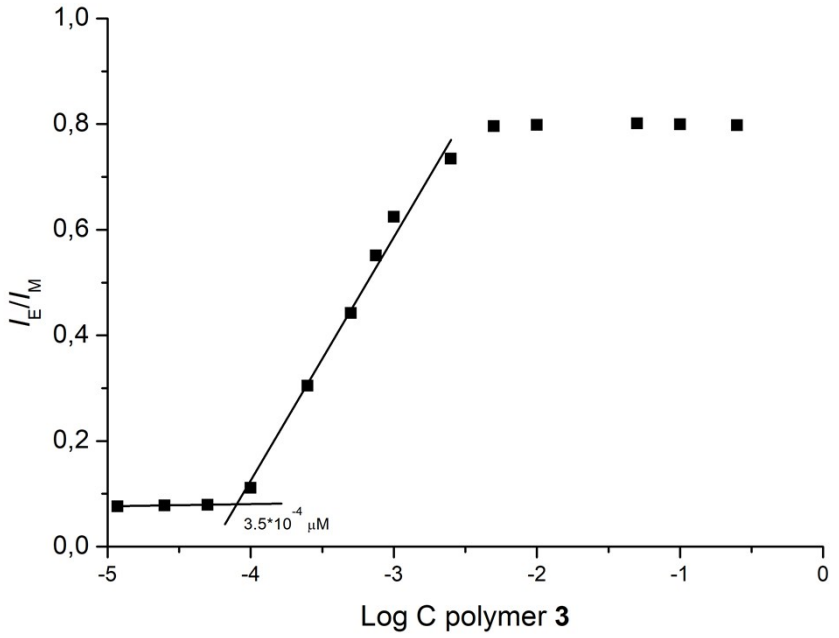

Fig. 4 Plot of the I_E/I_M ratio against Log C of polymer **3**. Measurements were performed in phosphate buffer (50mM NaCl) at pH 7.

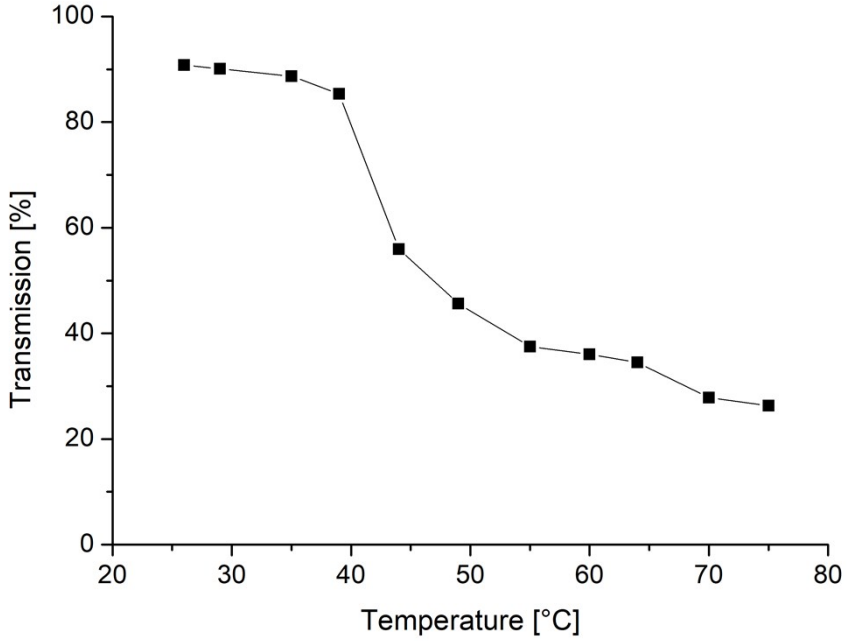

Fig. 5 Transmission/Temperature diagram of polymer **3**. The measurements were performed between 26 and 75 °C at a polymer concentration of 2.2 µM in phosphate buffer (50mM NaCl) at pH 7.

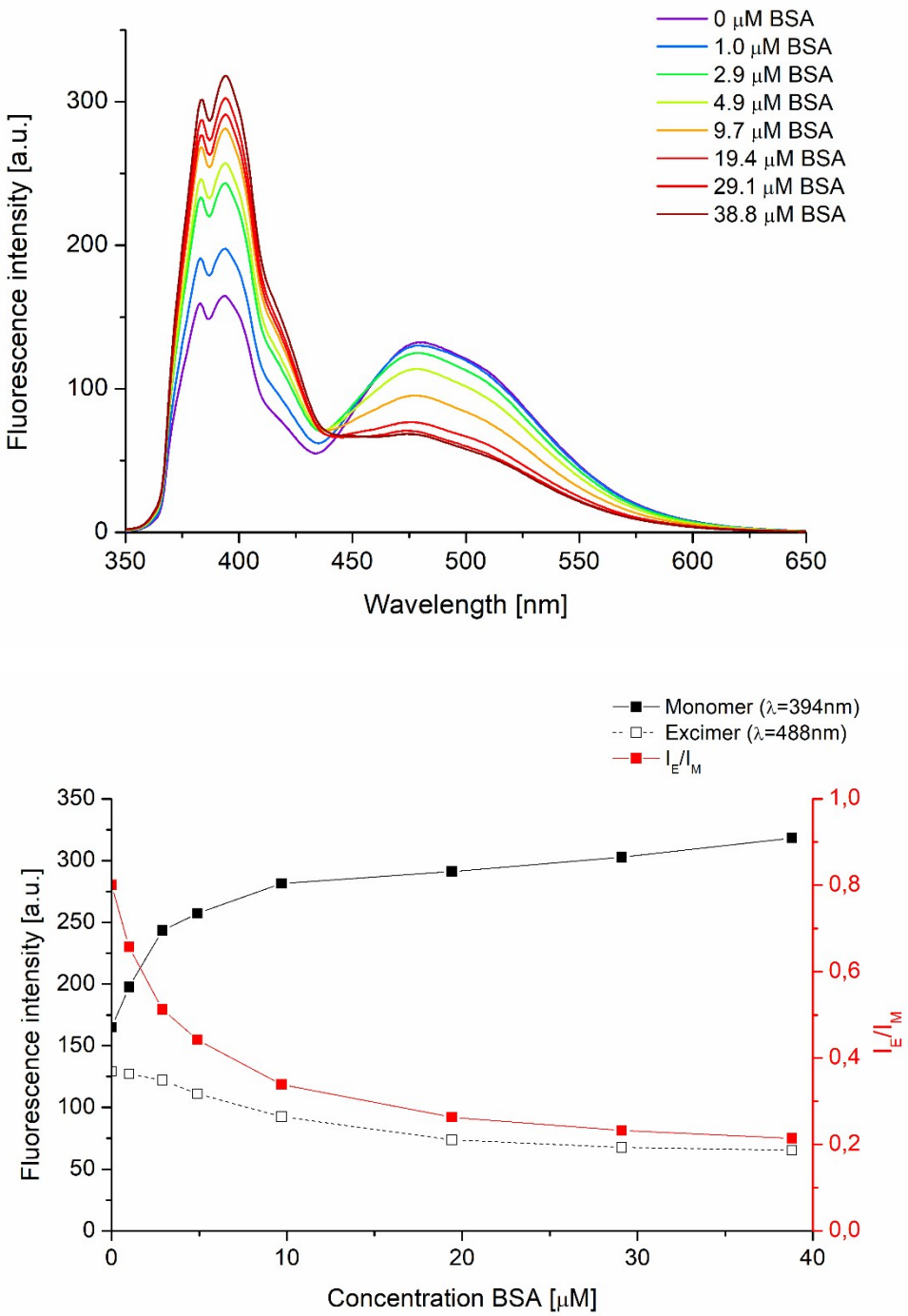

Fig. 6 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of BSA (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

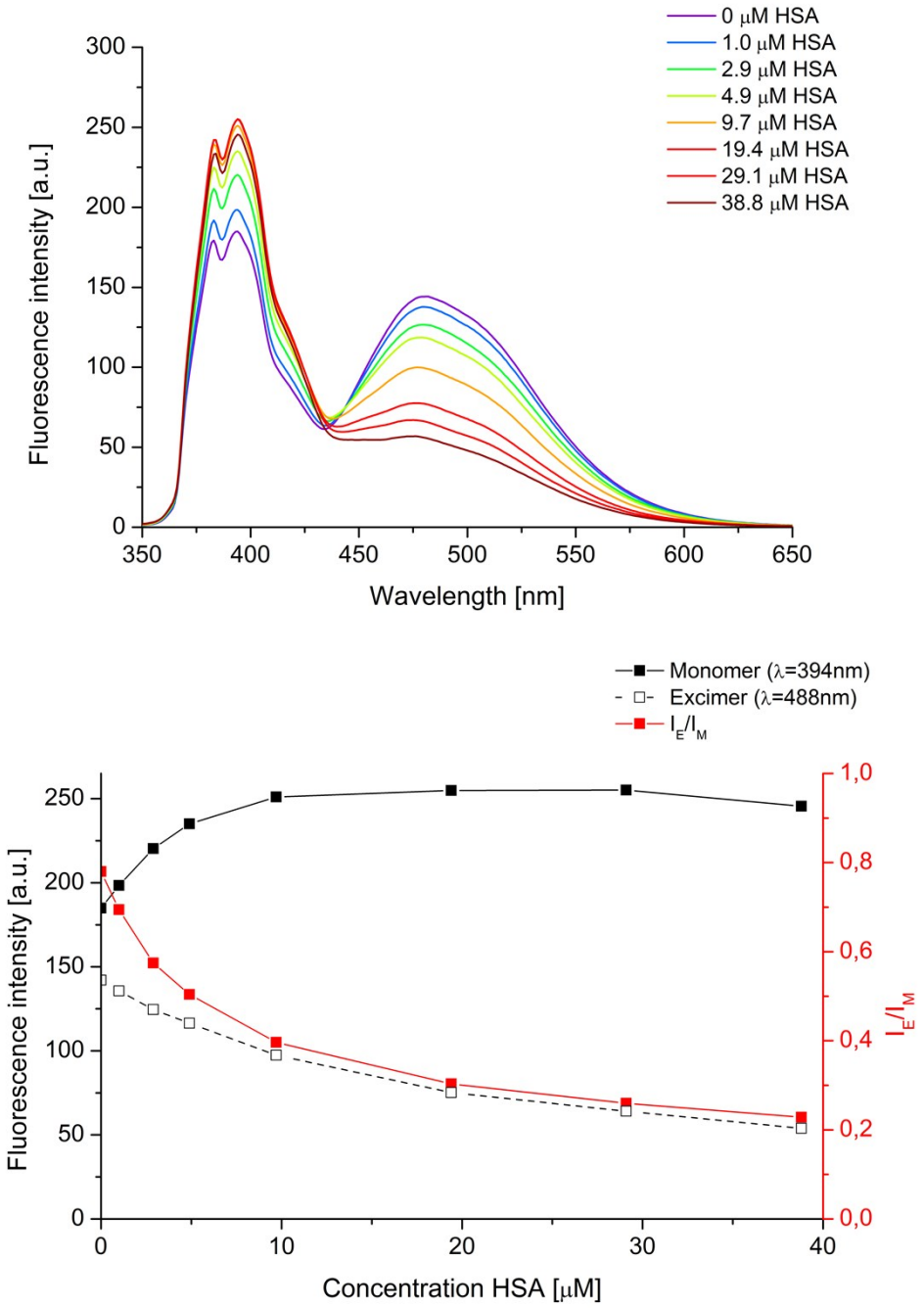

Fig. 7 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of HSA (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

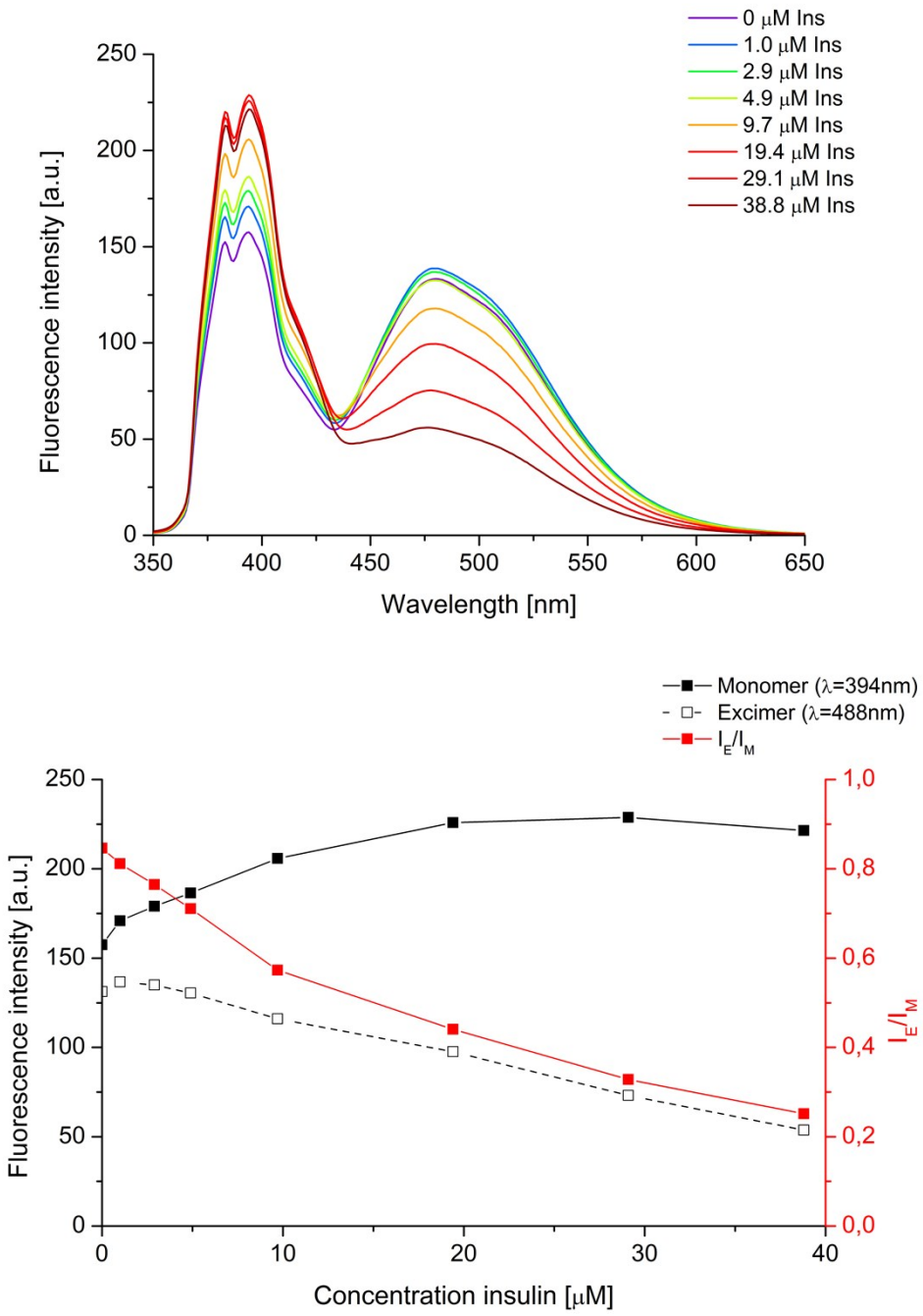

Fig. 8 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of insulin (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

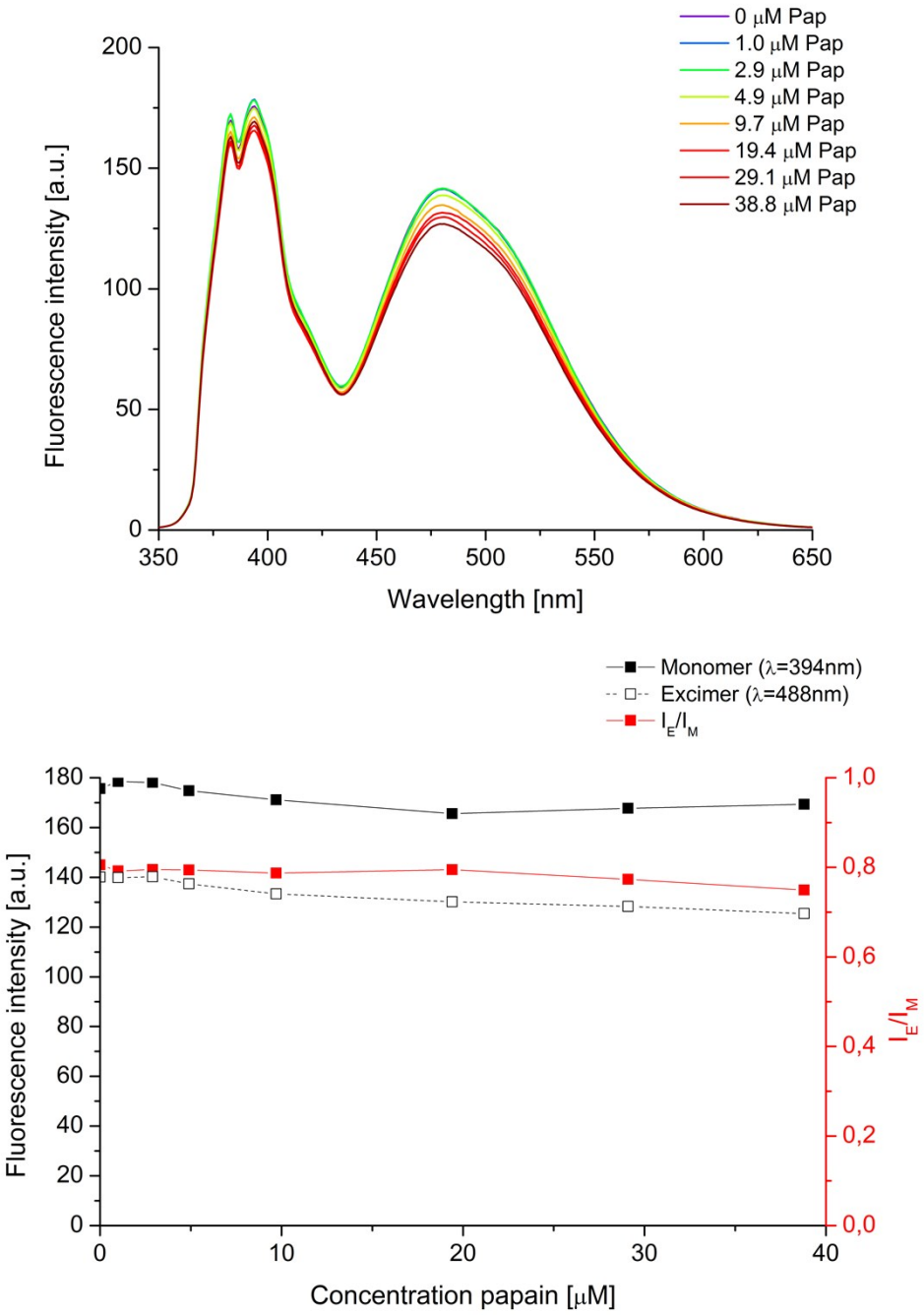

Fig. 9 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of papain (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

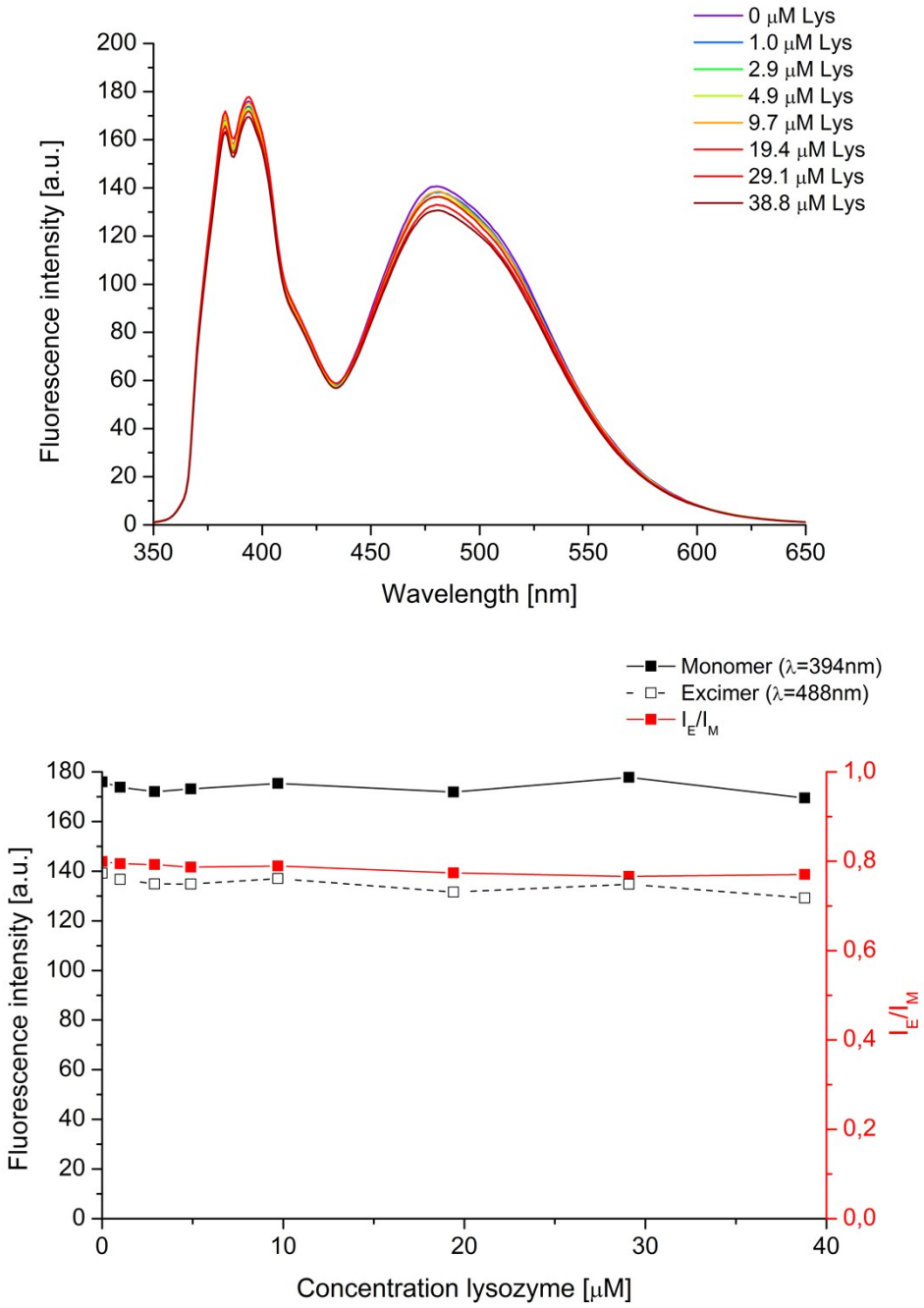

Fig. 10 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of lysozyme (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

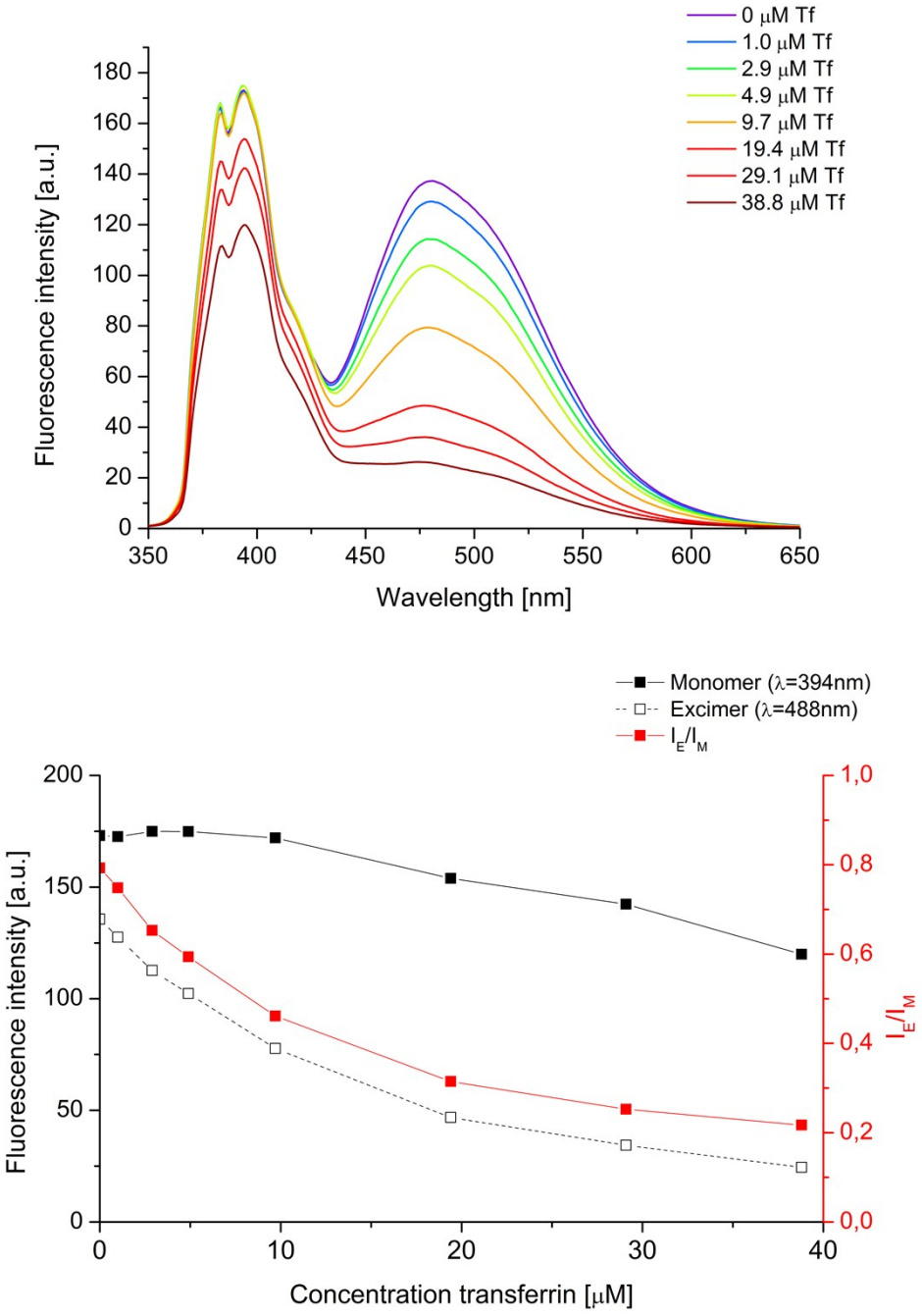

Fig.11 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of transferrin (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

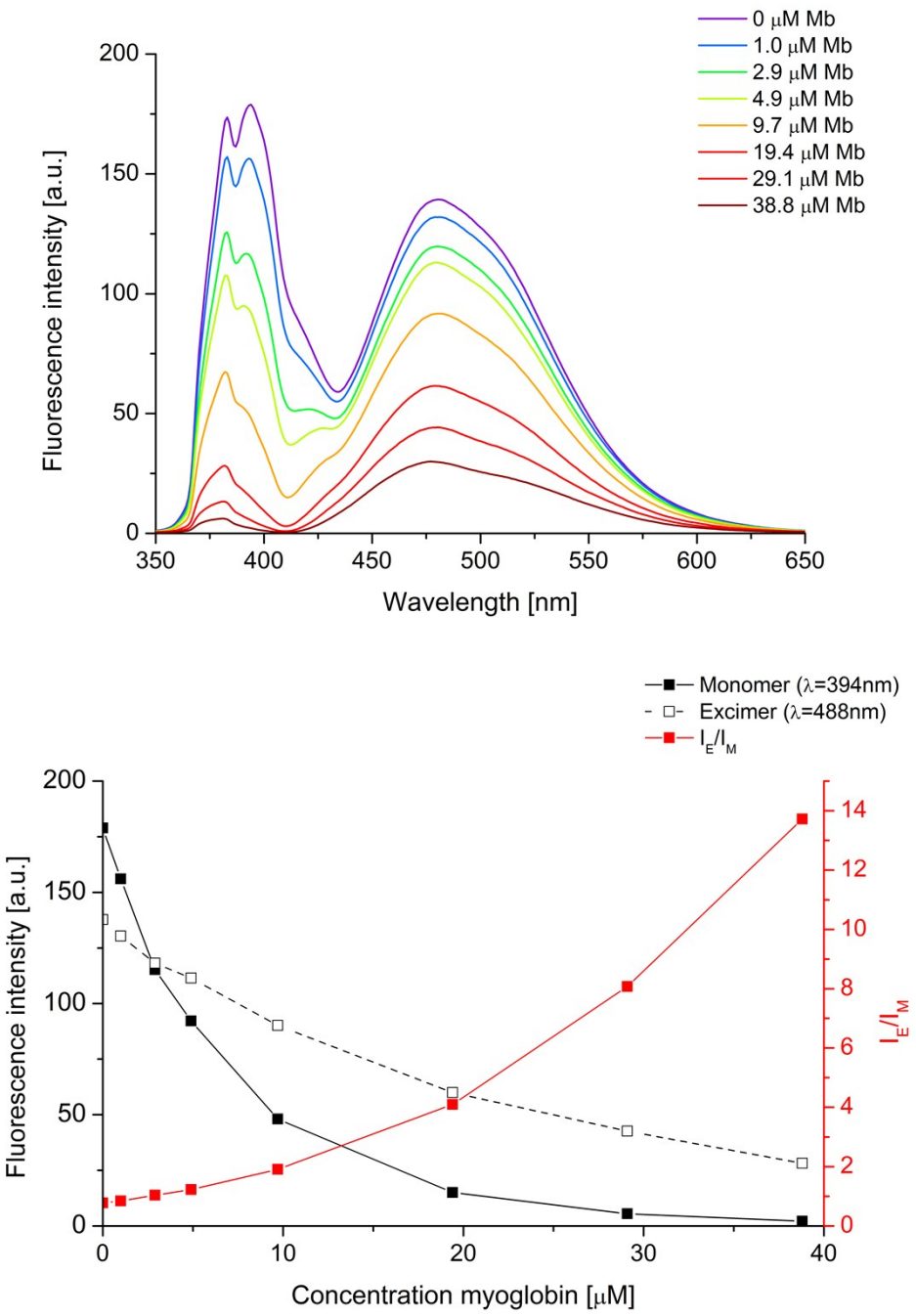

Fig. 12 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of myoglobin(*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

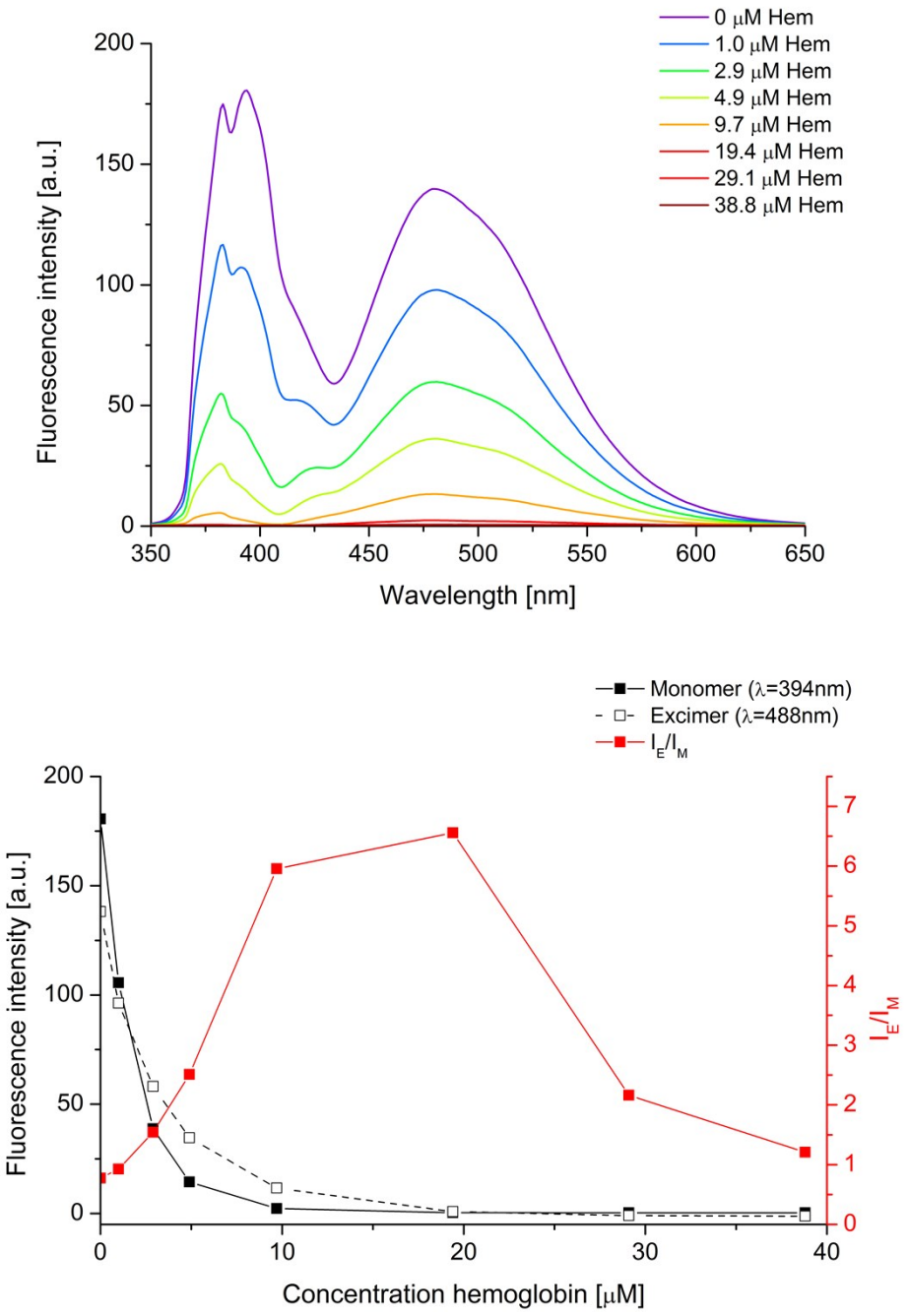

Fig. 13 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of hemoglobin (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

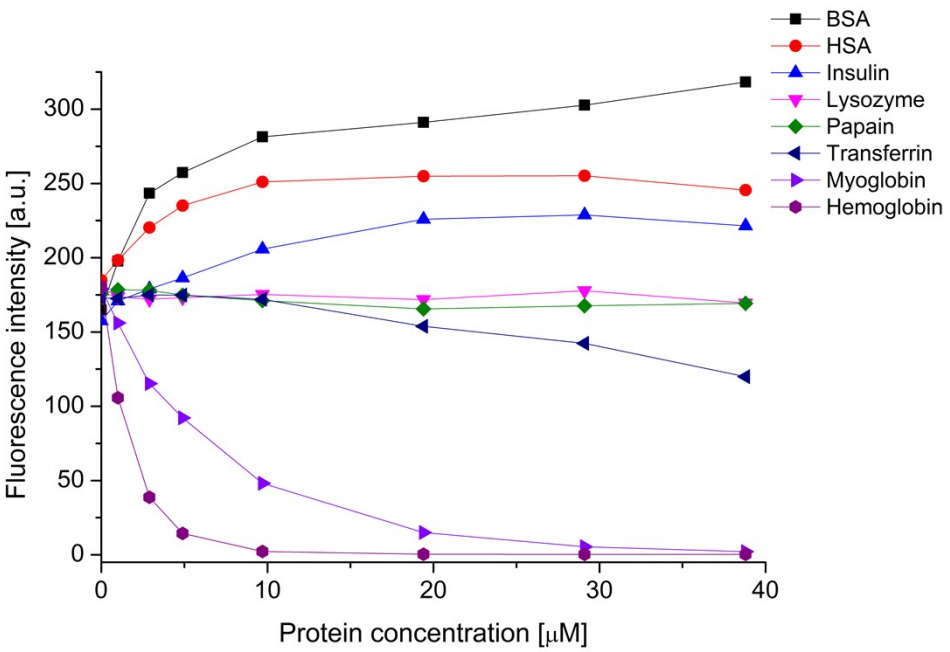

Fig. 14 Absolute monomer emission intensity at 394 nm of polymer **3** (10 μM) after stepwise addition with different proteins in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

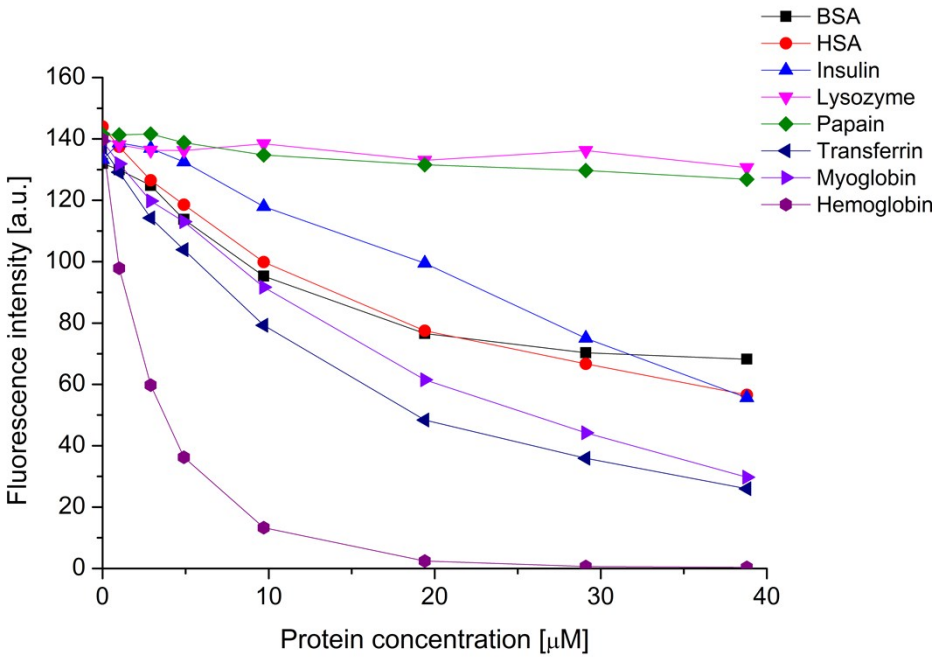

Fig. 15 Absolute excimer emission intensity at 488 nm of polymer **3** (10 μM) after stepwise addition with different proteins in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

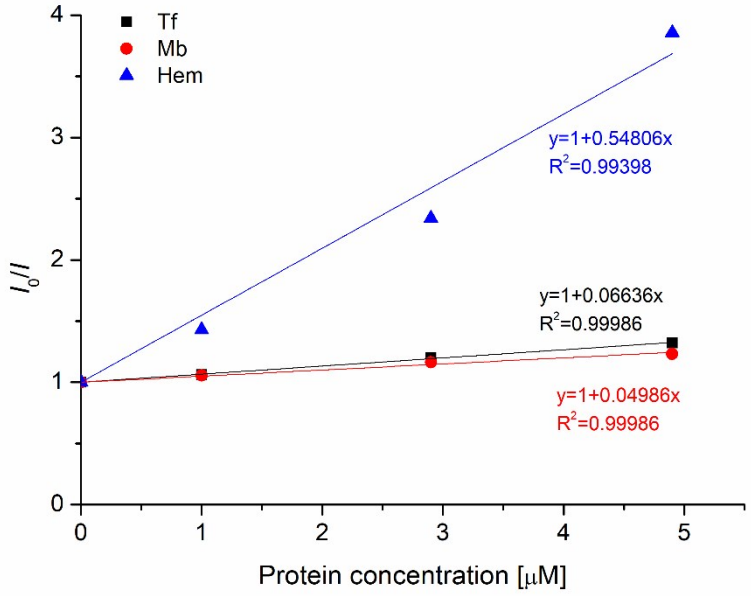

Fig. 16 STERN-VOLMER plots of polymer **3** (10 μM) and the corresponding proteins in aqueous phosphate buffer (50mM NaCl) at pH 7.0.

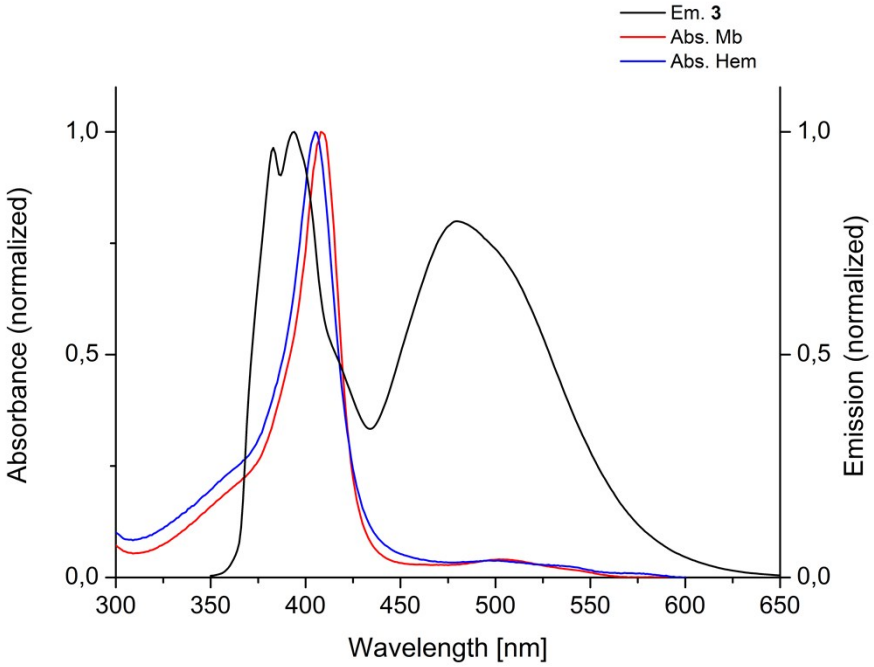

Fig. 17 Absorption spectra of myoglobin and hemoglobin. Emission spectrum of polymer **3**. All measurements were performed in aqueous phosphate buffer at (50mM NaCl) pH 7.0

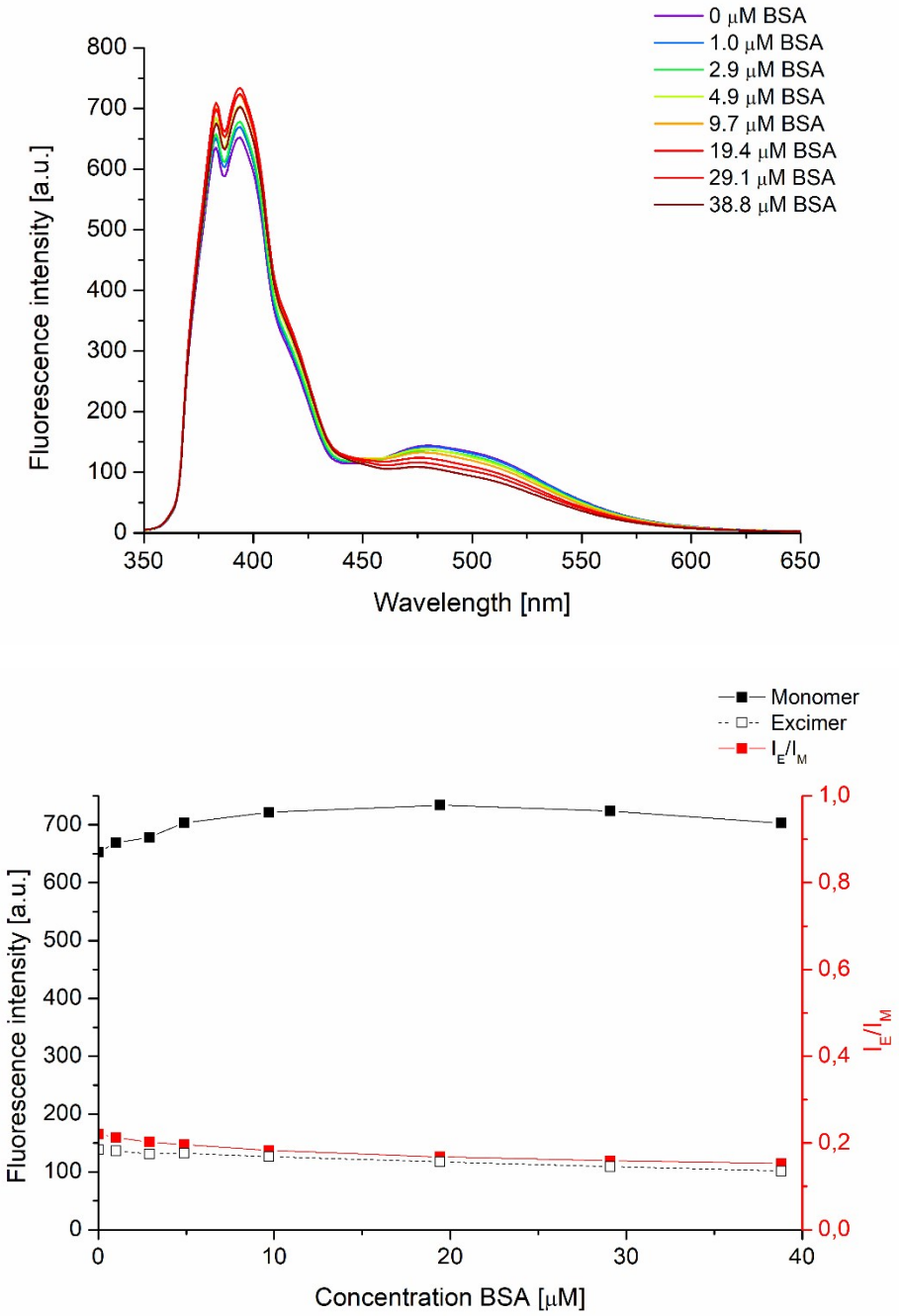

Fig. 18 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of BSA (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous sodium acetate buffer (50mM NaCl) at pH 5.0.

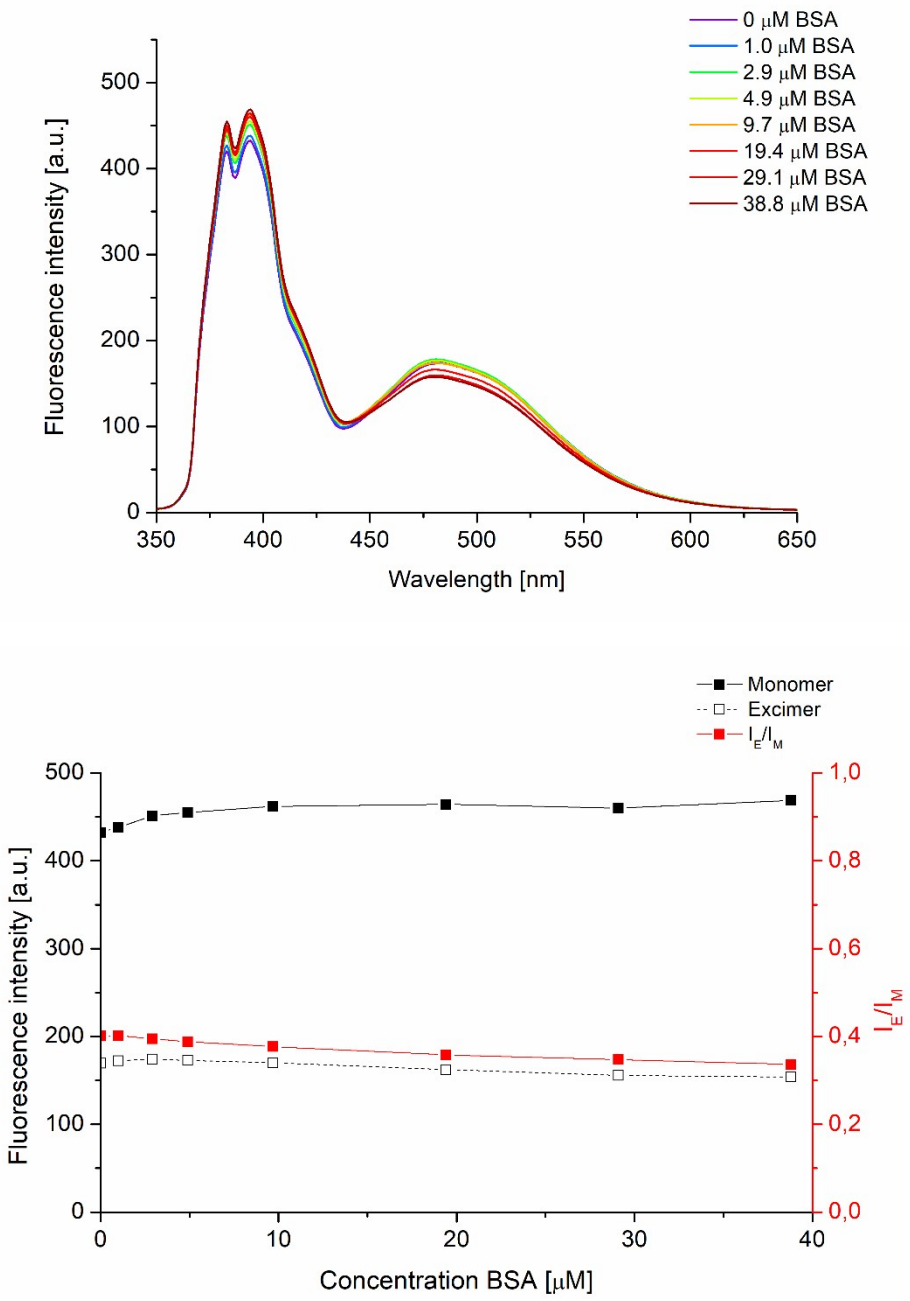

Fig. 19 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of BSA (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous sodium citrate buffer (50mM NaCl) at pH 6.0.

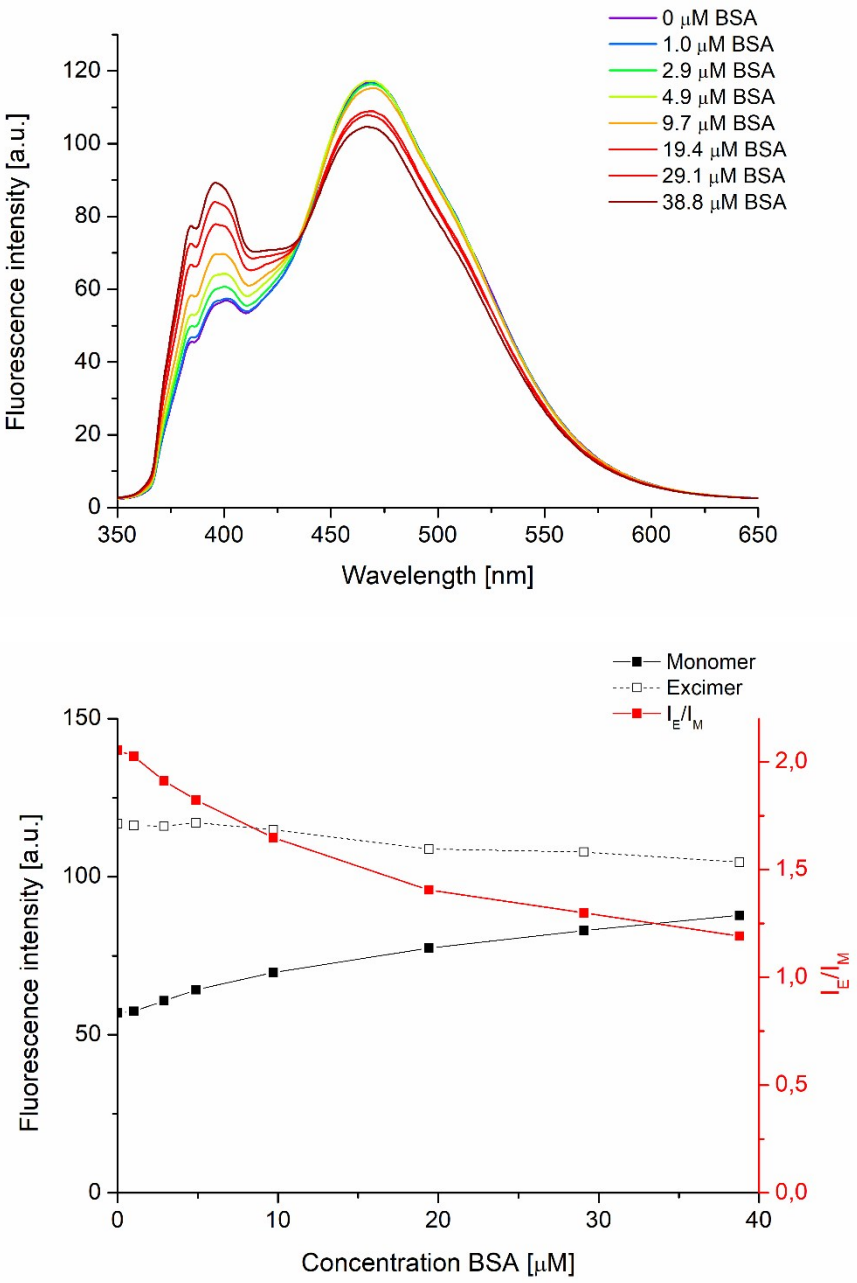

Fig. 20 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of BSA (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous tris/boric acid buffer (50mM NaCl) at pH 8.0.

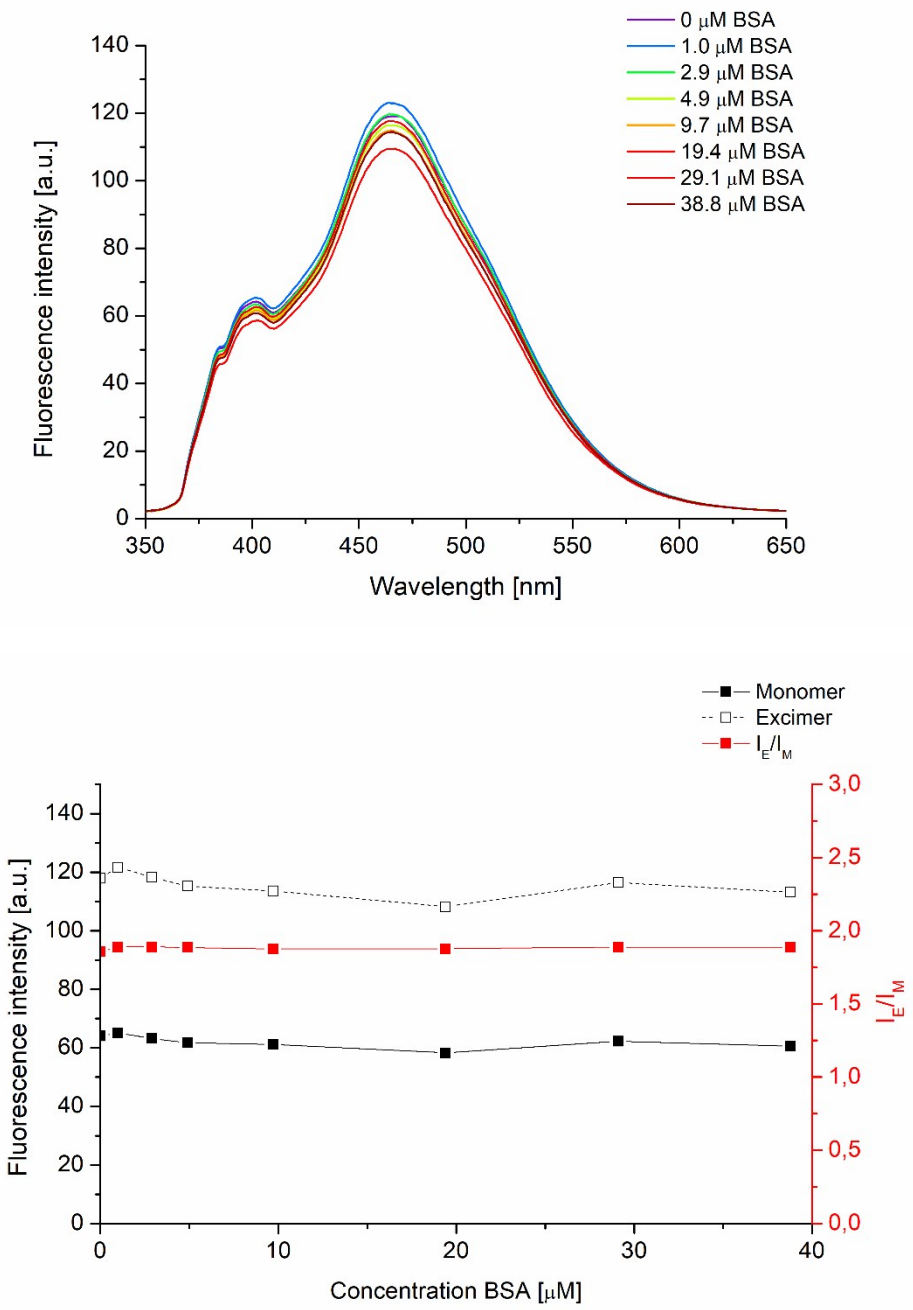

Fig. 21 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of BSA (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous borate buffer (50mM NaCl) at pH 9.0.

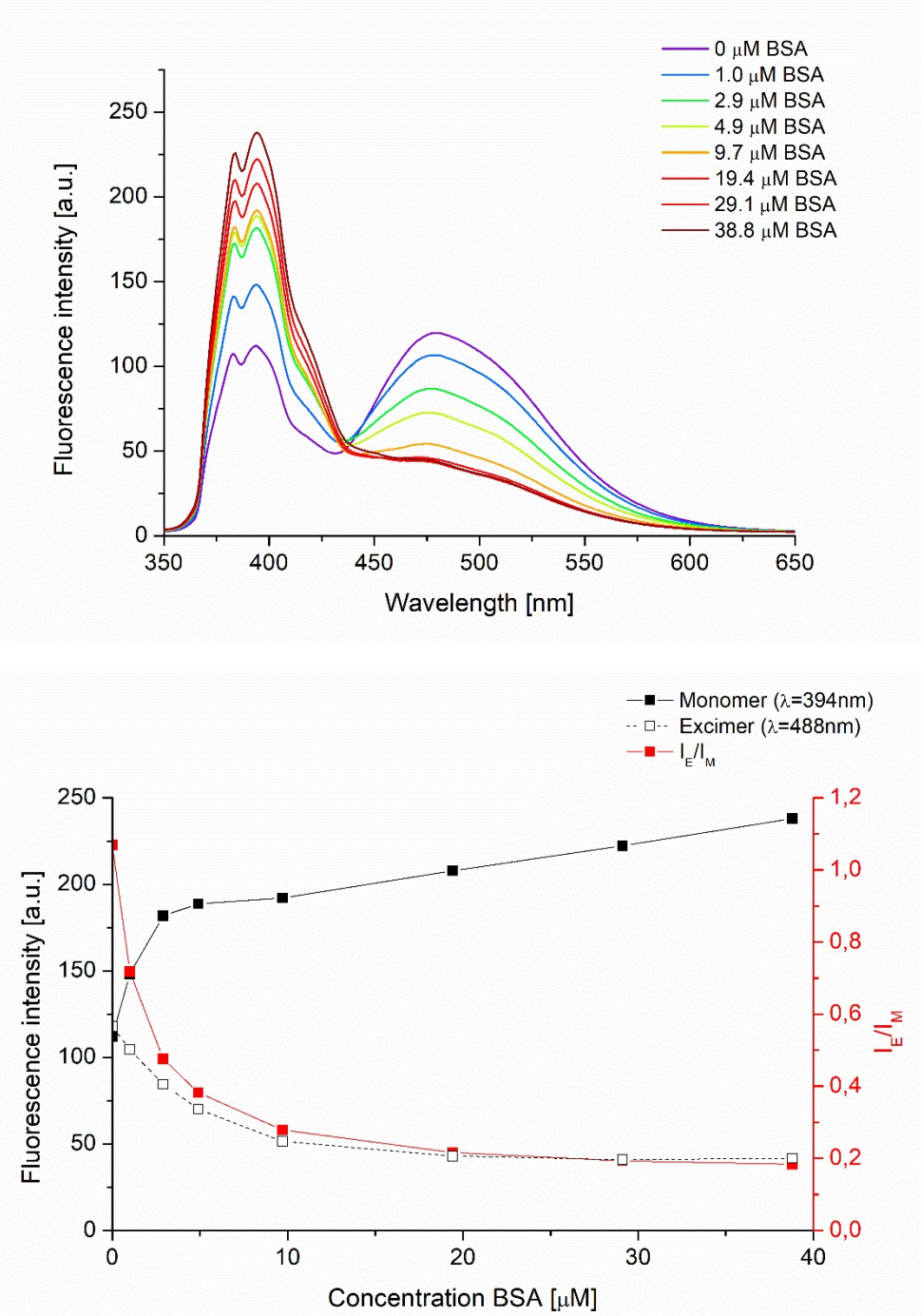

Fig. 22 Spectra of the titration experiment of co-polymer **3** (2.2 μM) with different concentrations of BSA (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer without NaCl at pH 7.0.

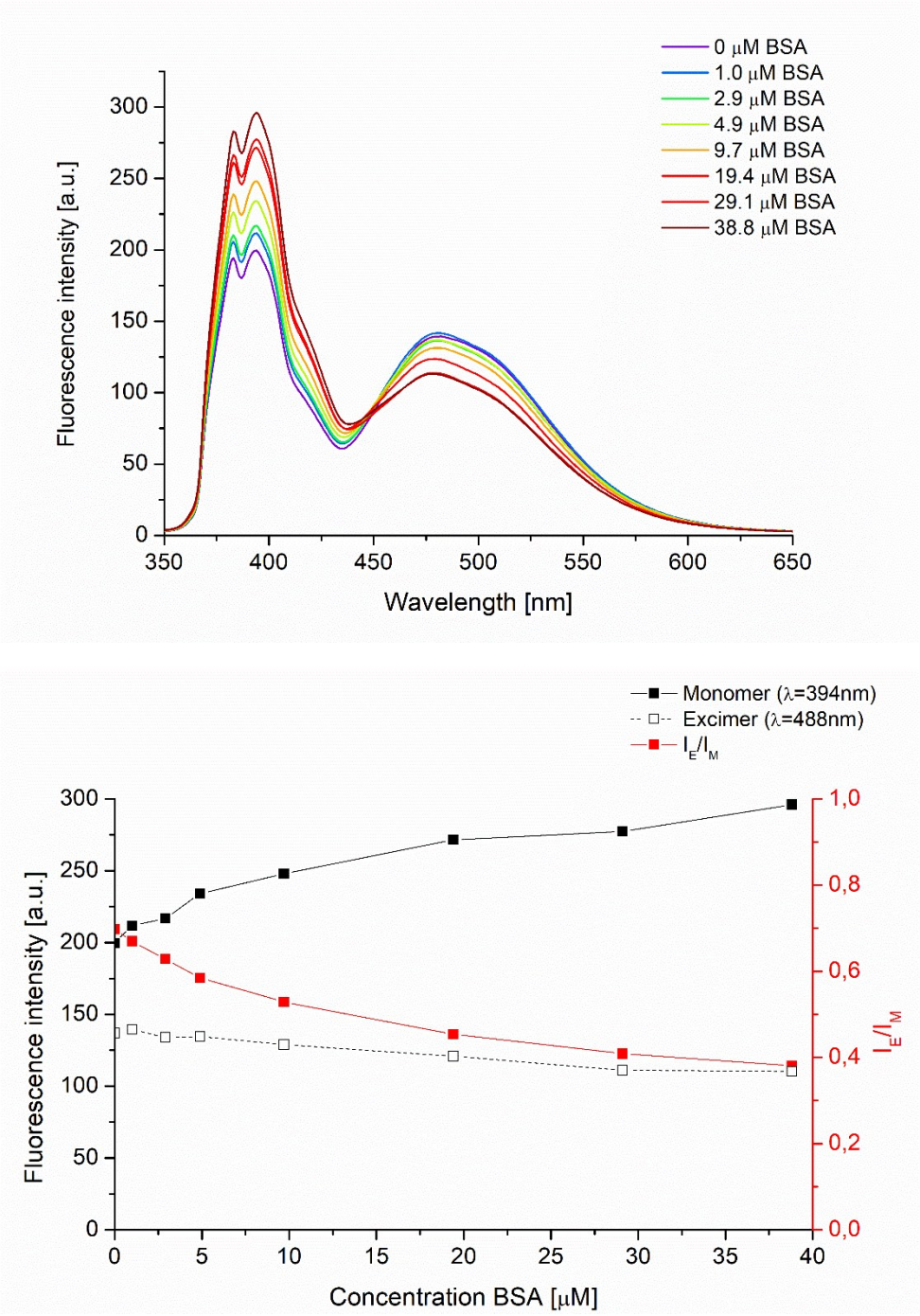

Fig. 22 Spectra of the titration experiment of co-polymer **3** (2.2 µM) with different concentrations of BSA (*top*). Plots of the monomer excimer fluorescence intensity and I_E/I_M ratio against the protein concentration (*bottom*). Stepwise addition was performed in aqueous phosphate buffer (200mM NaCl) at pH 7.0.