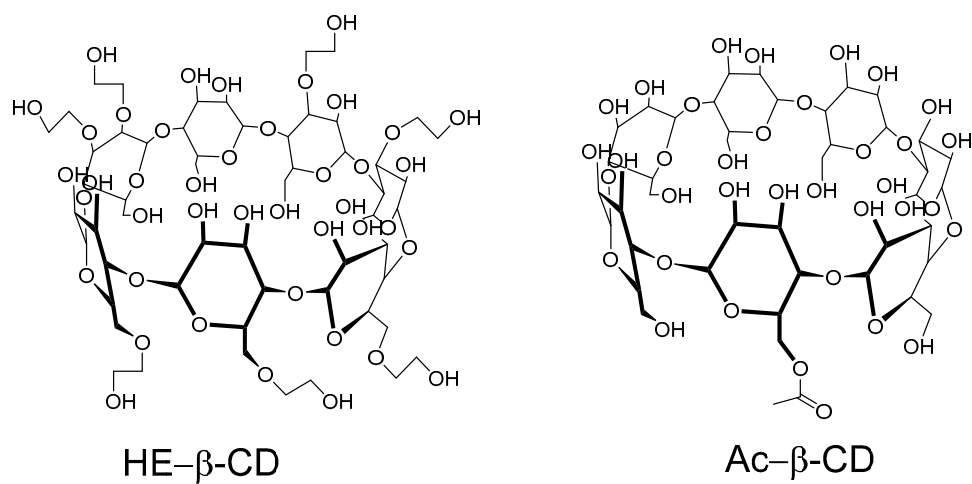


# SUPPORTING INFORMATION

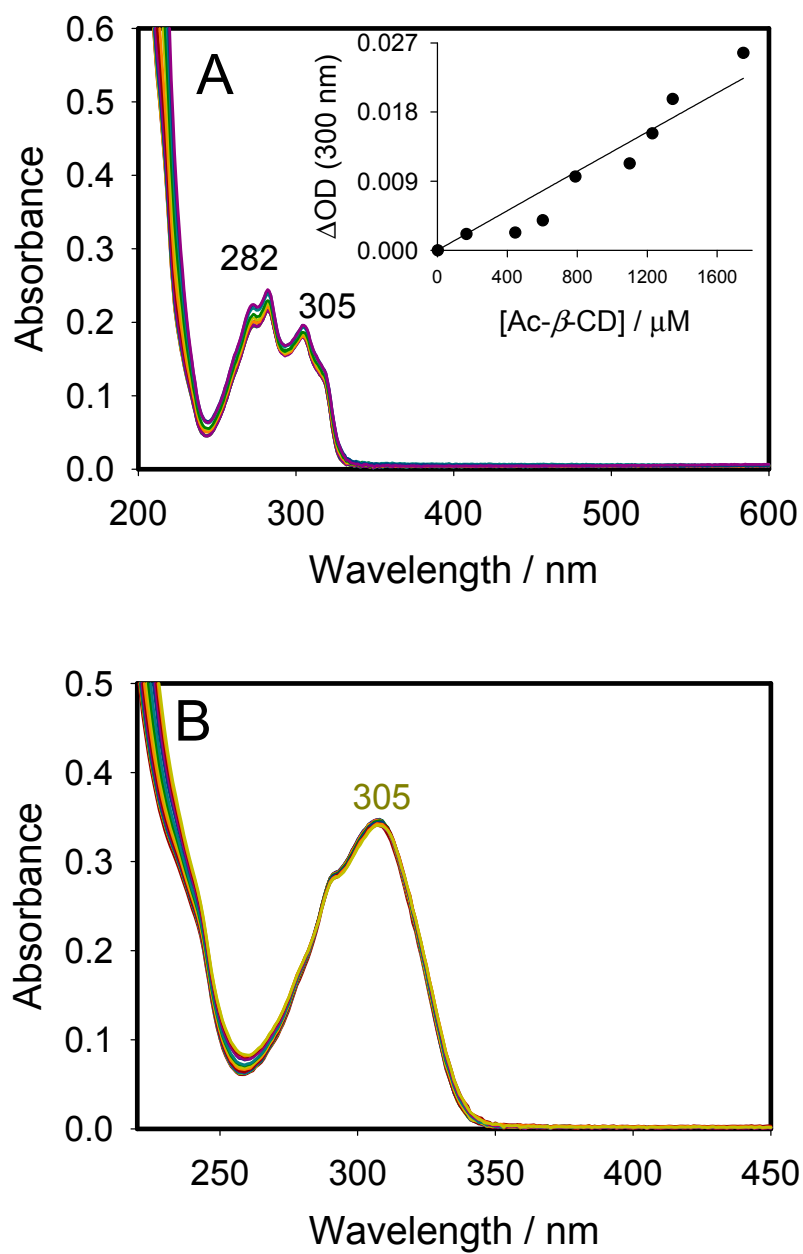
## **Sequestration Effect on the Open-Cyclic Switchable Property of Warfarin by Cyclodextrin: Time-Resolved Fluorescence Study**

Naji Al-Dubaili and Na'il Saleh\*

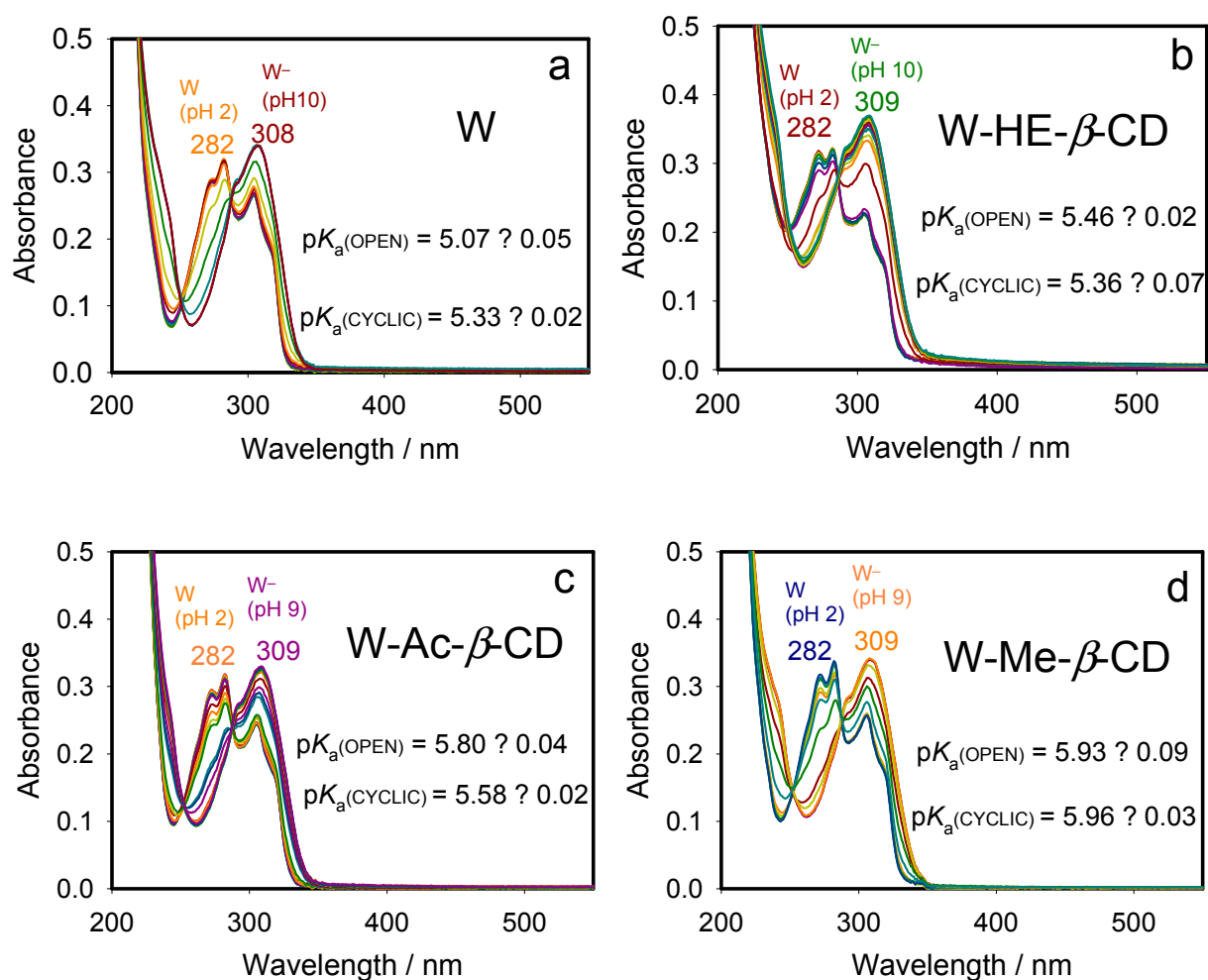
*Chemistry Department, College of Science, United Arab Emirates University, P.O.Box 15551, Al-Ain,  
United Arab Emirates*



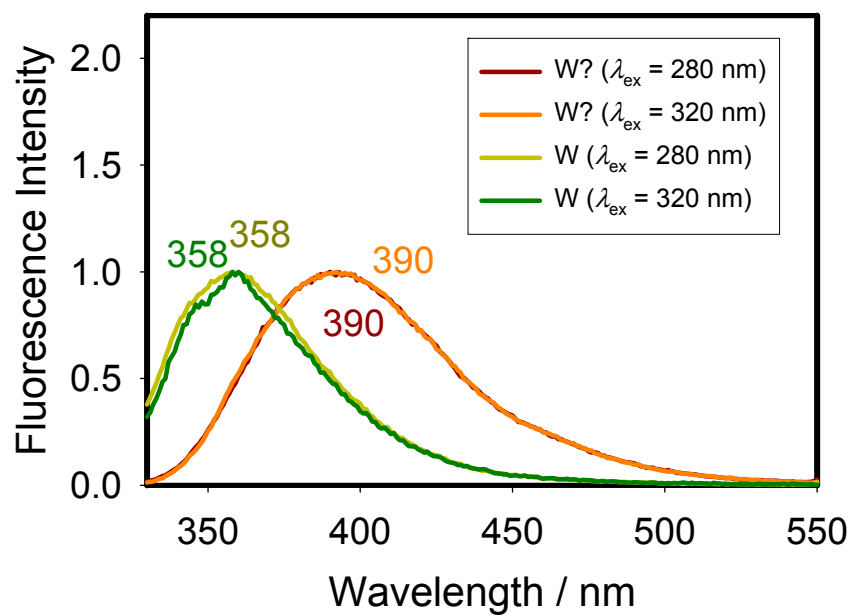
**Chart S1.** The structures of selected  $\beta$ -cyclodextrins macrocycles in the present work that were not previously studied for their interactions with W.



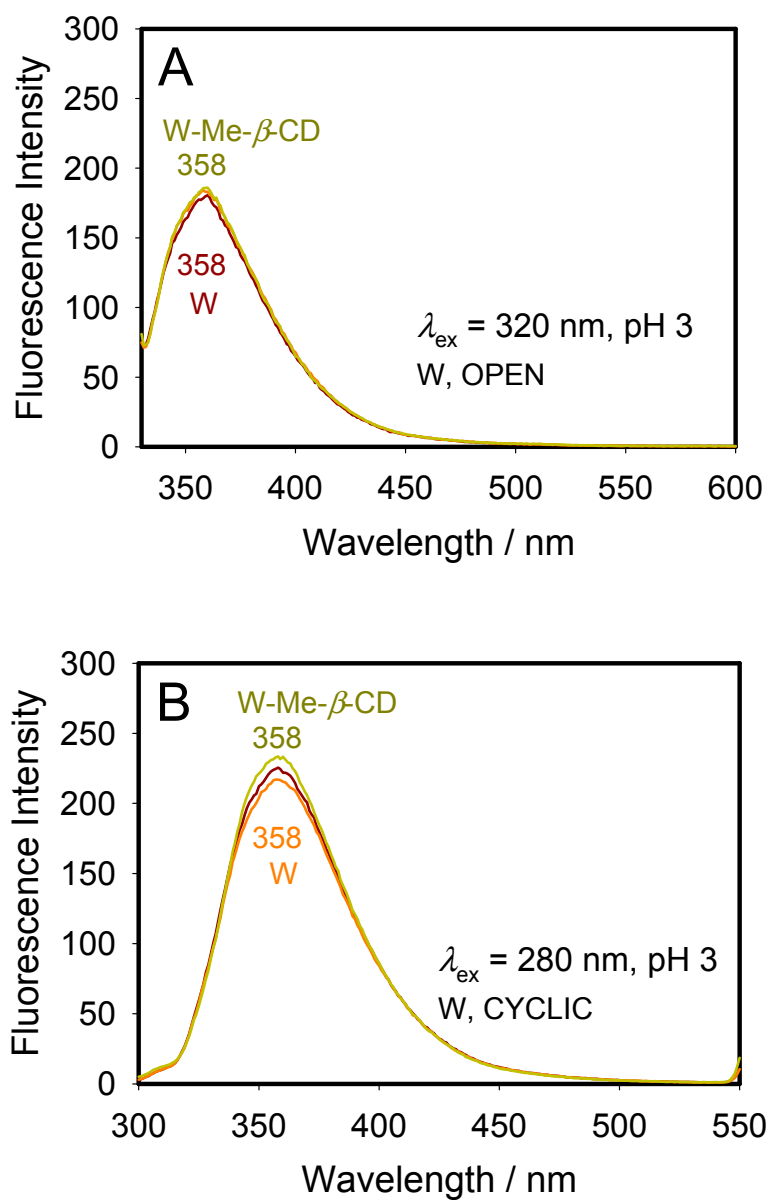
**Figure S1.** UV–Visible absorption titration of W (25  $\mu M$ ) with Ac- $\beta$ -CD at pH 3 (A), and pH 9 (B); the *inset* shows the corresponding titration curve and the 1:1 binding fit (solid line) with  $K = (5.5 \pm 78) \text{ M}^{-1}$ . The very large error in binding affinity reflects very weak binding.



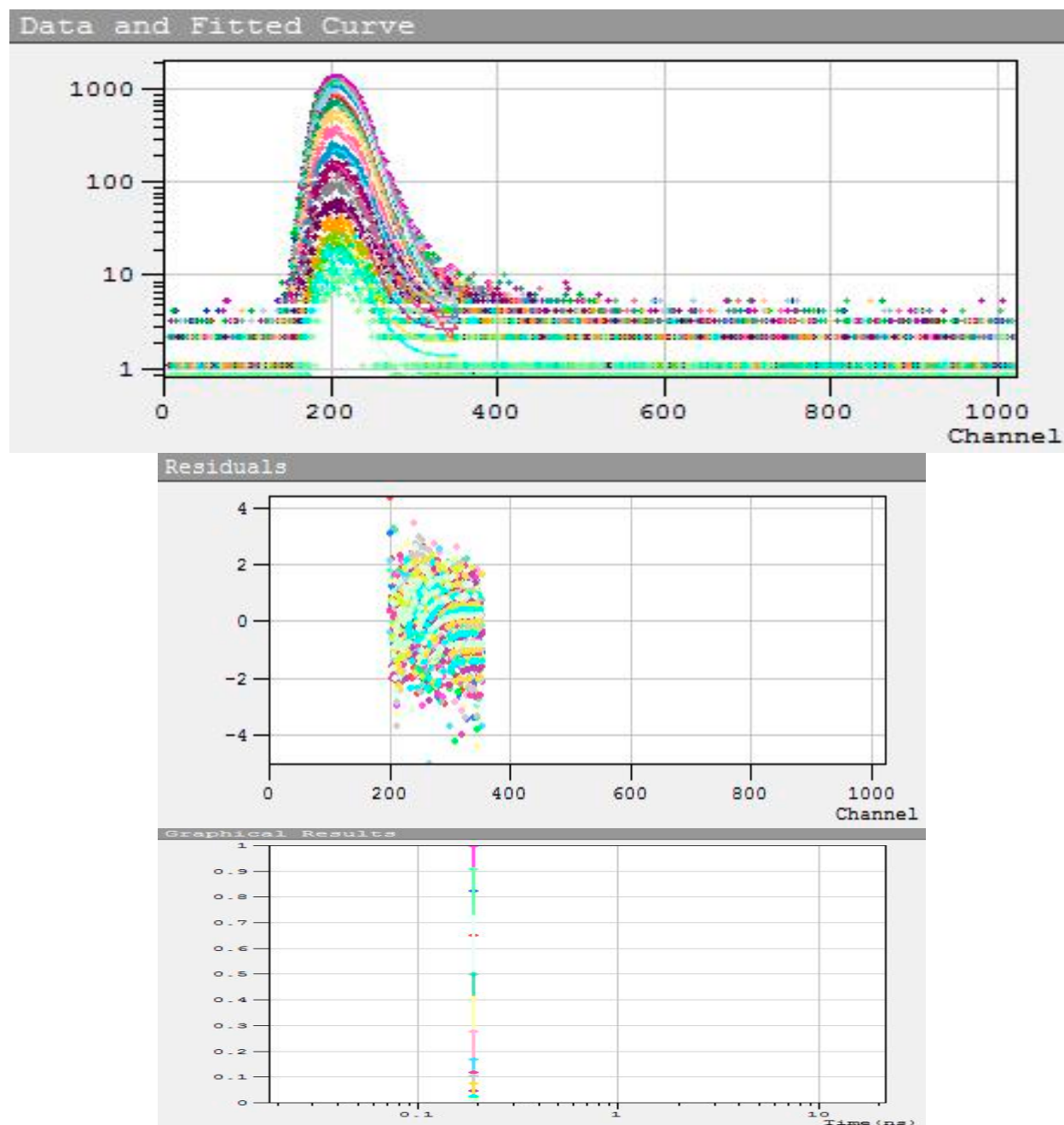
**Figure S2.** UV-visible absorption spectra at different pH values of W in water and inside HE- $\beta$ -CD, Ac- $\beta$ -CD, and Me- $\beta$ -CD hosts. The sigmoidal fitting errors for each extracted  $pK_a$  at 280 (CYCLIC) and 320 nm (OPEN) are shown in the *insets*.



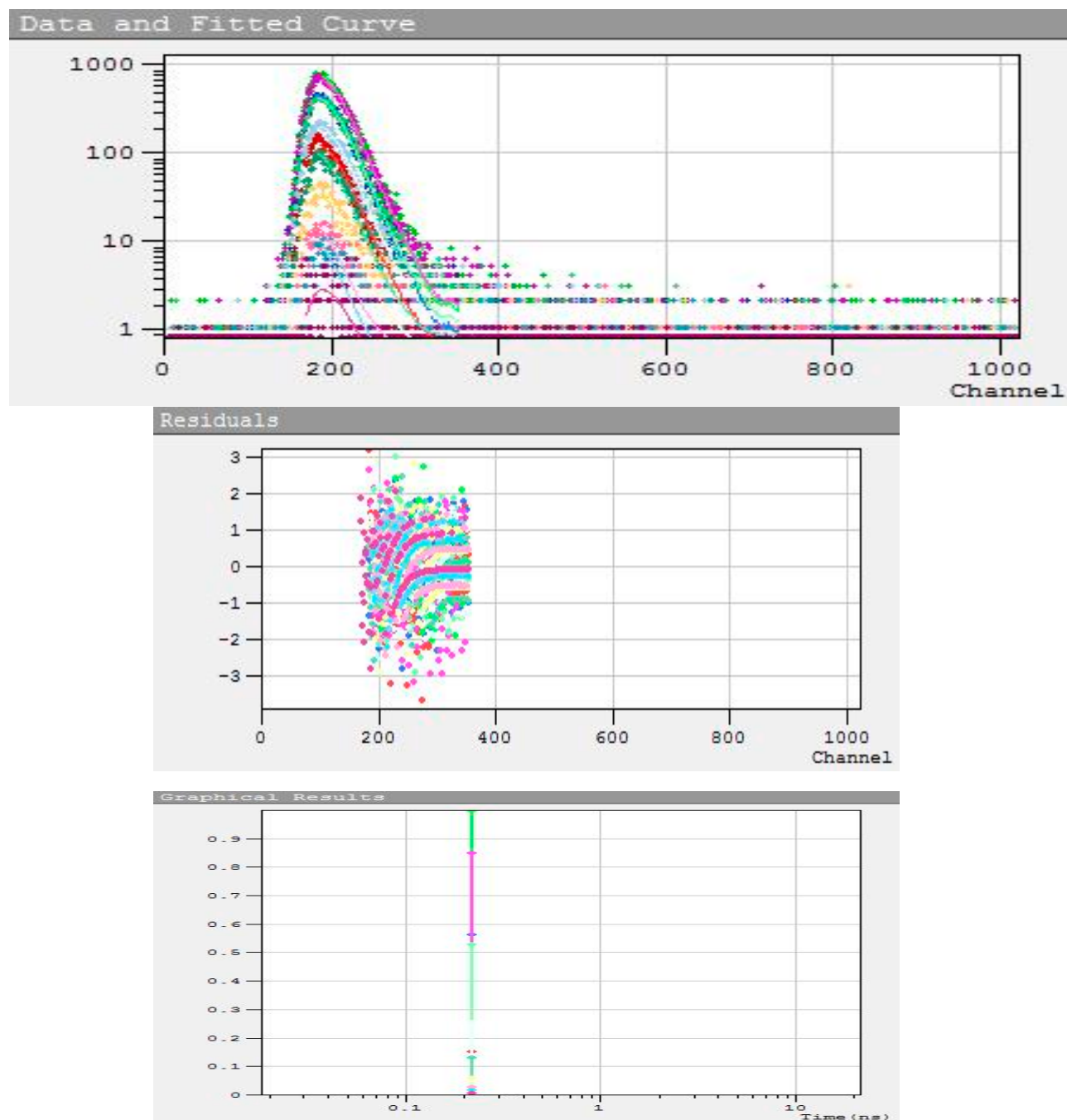
**Figure S3.** Fluorescence spectra of W (25  $\mu$ M) at pH 3 and 9 with  $\lambda_{ex} = 320$  nm and  $\lambda_{ex} = 280$  nm as labeled by a distinct color. While no change in peak position, spectra of neutral W excited at 280 nm (dark yellow) and 320 nm (dark green) are different.



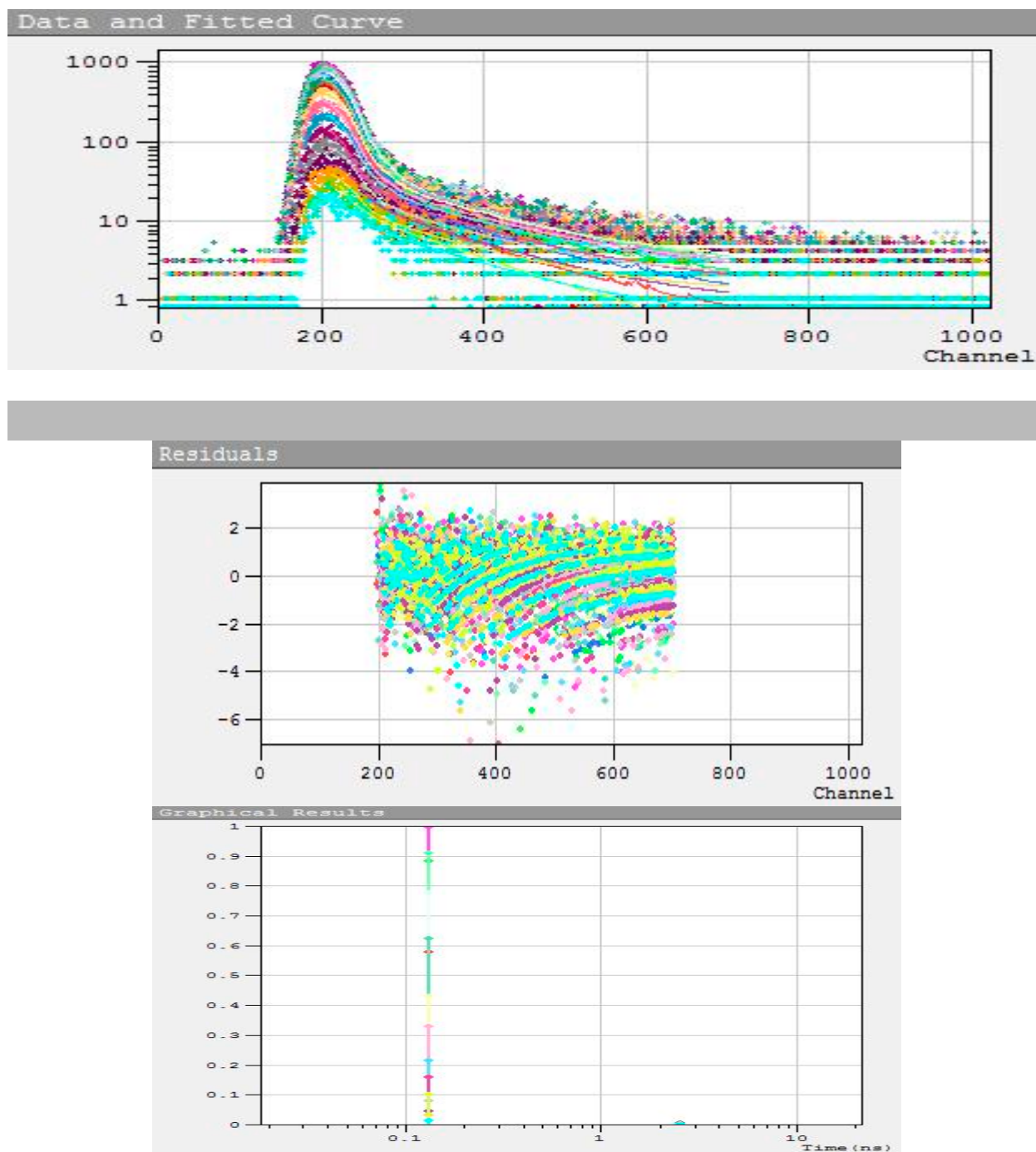
**Figure S4.** Fluorescence spectra of W (25  $\mu$ M) at pH 3 upon the addition of Me- $\beta$ -CD up to 250  $\mu$ M (10 equiv.) with  $\lambda_{\text{ex}} = 320$  nm (A);  $\lambda_{\text{ex}} = 280$  nm (B), no significant changes in spectra were observed.



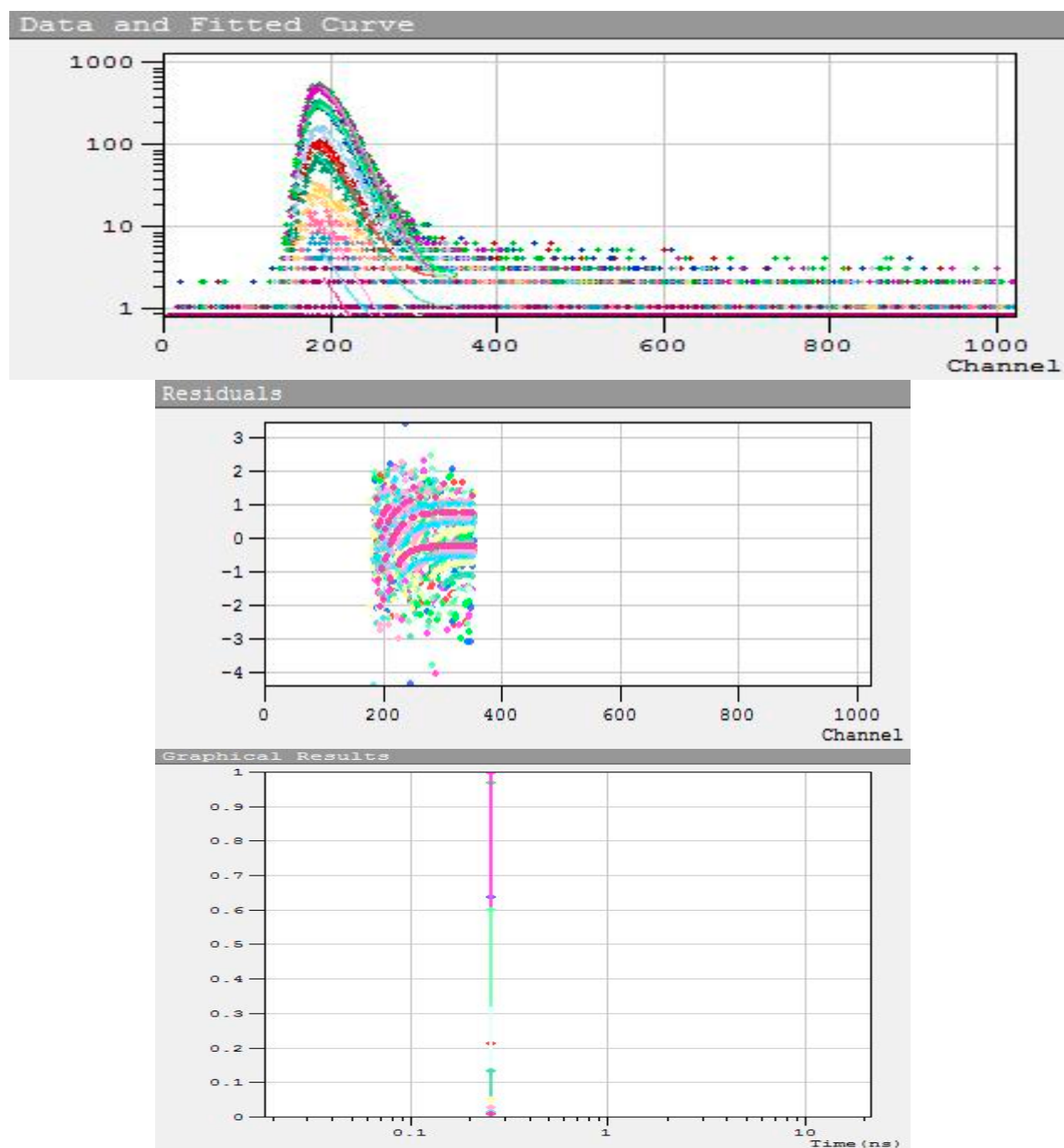
**Figure S5.** Collected emission decays measured over the emission spectrum of W at pH 3, excited at 320 nm from 330 to 490 nm every 10 nm with a dwell time of 50 s at each wavelength. Data at each wavelength were fitted to a mono-exponential model convoluted with IRF  $\sim 90$  ps (as shown in the residuals), see Appendix I for fitting parameters.



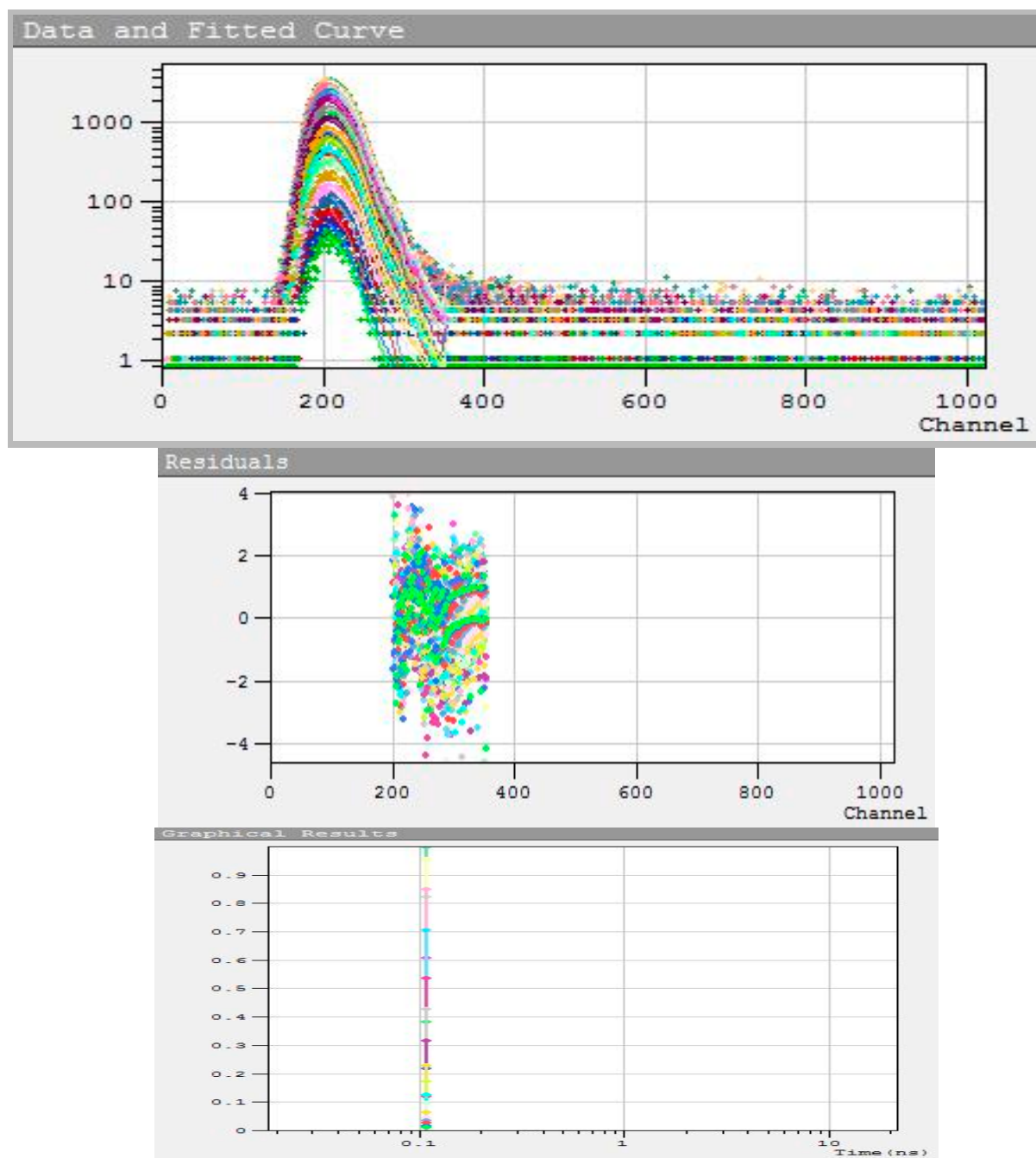
**Figure S6.** Collected emission decays measured over the emission spectrum of W at pH 3, excited at 280 nm from 310 to 510 nm every 20 nm with a dwell time of 50 s at each wavelength. Data at each wavelength were fitted to a mono-exponential model convoluted with IRF  $\sim 90$  ps (as shown in the residuals, see Appendix II for fitting parameters).



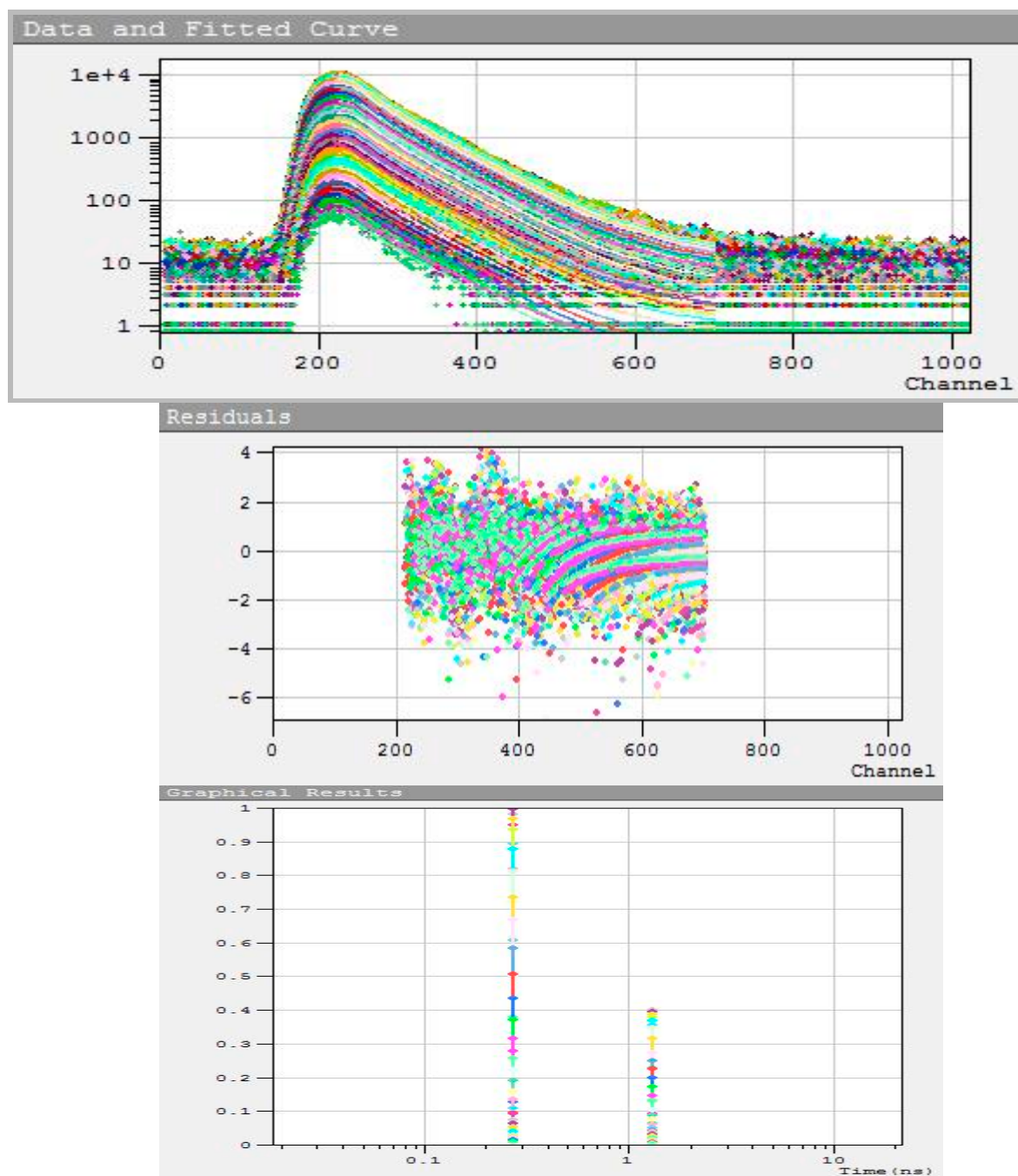
**Figure S7.** Collected emission decays measured over the emission spectrum of W-Me- $\beta$ -CD at pH 3, excited at 320 nm (Figure 6A) from 330 to 480 nm every 10 nm with a dwell time of 50 s at each wavelength. Data at each wavelength were fitted to a bi-exponential model convoluted with IRF  $\sim$  90 ps (as shown in the residuals), assuming 2 excited states that decay mono-exponentially in parallel (Figure 8A),<sup>11</sup> see Appendix III for fitting parameters.



**Figure S8.** Collected emission decays measured over the emission spectrum of W-Me- $\beta$ -CD at pH 3, excited at 280 nm from 310 to 510 nm every 20 nm with a dwell time of 50 s at each wavelength. Data at each wavelength were fitted to a mono-exponential model convoluted with IRF  $\sim$  90 ps (as shown in the residuals), see Appendix IV.



**Figure S9.** Collected emission decays measured over the emission spectrum of W at pH 9, excited at 320 nm from 330 to 550 nm every 10 nm with a dwell time of 50 s at each wavelength. Data at each wavelength were fitted to a mono-exponential model convoluted with IRF  $\sim 90$  ps (as shown in the residuals), see Appendix V for fitting parameters.



**Figure S10.** Collected emission decays measured over the emission spectrum of W-Me- $\beta$ -CD at pH 9, excited at 320 nm (Figure 6B) from 330 to 550 nm every 5 nm with a dwell time of 50 s at each wavelength. Data at each wavelength were fitted to a bi-exponential model convoluted with IRF~ 90 ps (as shown in the residuals), assuming 2 excited states that decay bi-exponentially in parallel (Figure 8B),<sup>11</sup> see Appendix VI.

# APPENDIX I

## Global Analysis Data of W (pH 3; 320 nm)

**File: Em1=330.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [198; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.373

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.1193         | 100.00         | 0.182 linked  |

Shift : -0.0623 ns

Decay Background : 1.7676

IRF Background : 0.6000

---

**File: Em1=340.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [198; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.317

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.1511         | 100.00         | 0.182 linked  |

Shift : -0.0843 ns

Decay Background : 2.6230

IRF Background : 0.6000

---

**File: Em1=350.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [203; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.502

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.1835 | 100.00 | 0.182 linked  |

Shift : -0.0662 ns

Decay Background : 3.3868

IRF Background : 0.6000

---

**File: Em1=360.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [205; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.284

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.1830 | 100.00 | 0.182 linked  |

Shift : -0.0390 ns

Decay Background : 5.2076

IRF Background : 0.6000

---

**File: Em1=370.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [199; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.108

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.1667 | 100.00 | 0.182 linked  |

Shift : -0.0609 ns

Decay Background : 5.1108

IRF Background : 0.6000

---

### File: Em1=380.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [206; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.399

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.1327 | 100.00 | 0.182 linked  |

Shift : -0.0579 ns

Decay Background : 4.8014

IRF Background : 0.6000

---

### File: Em1=390.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [204; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.121

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0915 | 100.00 | 0.182 linked  |

Shift : -0.0348 ns

Decay Background : 5.0537

IRF Background : 0.6000

---

### File: Em1=400.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [199; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.309

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0742 | 100.00 | 0.182 linked  |

Shift : -0.0820 ns

Decay Background : 4.7219

IRF Background : 0.6000

---

### File: Em1=410.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [203; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.611

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0505 | 100.00 | 0.182 linked  |

Shift : -0.0890 ns

Decay Background : 5.1625

IRF Background : 0.6000

---

### File: Em1=420.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [198; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.370

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0305 | 100.00 | 0.182 linked  |

Shift : -0.0587 ns

Decay Background : 4.5170

IRF Background : 0.6000

---

### File: Em1=430.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [199; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.577

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0214 | 100.00 | 0.182 linked  |

Shift : -0.1367 ns

Decay Background : 3.5061

IRF Background : 0.6000

---

### File: Em1=440.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [207; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.943

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0187 | 100.00 | 0.182 linked  |

Shift : -0.2734 ns

Decay Background : 3.2706

IRF Background : 0.6000

---

### File: Em1=450.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [210; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.086

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0079 | 100.00 | 0.182 linked  |

Shift : -0.0781 ns

Decay Background : 2.6210

IRF Background : 0.6000

---

### File: Em1=460.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [210; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.479

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0136 | 100.00 | 0.182 linked  |

Shift : -0.5469 ns

Decay Background : 1.9734

IRF Background : 0.6000

---

### File: Em1=470.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [201; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 1.158

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0032 | 100.00 | 0.182 linked  |

Shift : -0.0977 ns

Decay Background : 1.3457

IRF Background : 0.6000

---

**File: Em1=480.00nm**

Fitting range : [227; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 0.955

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0041 | 100.00 | 0.182 linked  |

Shift : -0.2148 ns

Decay Background : 1.3984

IRF Background : 0.6000

---

**File: Em1=490.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [202; 350] channels

Global  $\chi^2$  : 1.330

$\chi^2$  : 0.968

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0018 | 100.00 | 0.182 linked  |

Shift : -0.2736 ns

Decay Background : 0.7885

IRF Background : 0.6000

# APPENDIX II

## Global Analysis Data of W (pH 3; 280 nm)

**File: Em1=310.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [182; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 1.185

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0161         | 100.00         | 0.210 linked  |

Shift : -0.1562 ns

Decay Background : 0.6212

IRF Background : 0.3000

---

**File: Em1=330.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [178; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 0.935

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0597         | 100.00         | 0.210 linked  |

Shift : -0.1969 ns

Decay Background : 0.7525

IRF Background : 0.3000

---

**File: Em1=350.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [186; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 1.057

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.1064 | 100.00 | 0.210 linked  |

Shift : -0.1953 ns

Decay Background : 1.3562

IRF Background : 0.3000

---

**File: Em1=370.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [182; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 1.427

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0905 | 100.00 | 0.210 linked  |

Shift : -0.1325 ns

Decay Background : 1.6502

IRF Background : 0.3000

---

**File: Em1=390.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [180; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 0.949

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0563 | 100.00 | 0.210 linked  |

Shift : -0.1777 ns

Decay Background : 1.0776

IRF Background : 0.3000

---

### **File: Em1=410.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [184; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 1.151

|          | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|----------|--------|--------|---------------|
| <b>1</b> | 0.0271 | 100.00 | 0.210 linked  |

Shift : -0.1758 ns

Decay Background : 1.1854

IRF Background : 0.3000

---

### **File: Em1=430.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [180; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 0.963

|          | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|----------|--------|--------|---------------|
| <b>1</b> | 0.0137 | 100.00 | 0.210 linked  |

Shift : -0.2871 ns

Decay Background : 0.8345

IRF Background : 0.3000

---

### **File: Em1=450.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [188; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 0.842

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0060 | 100.00 | 0.210 linked  |

Shift : -0.3125 ns

Decay Background : 0.5586

IRF Background : 0.3000

---

**File: Em1=470.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [187; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 0.765

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0026 | 100.00 | 0.210 linked  |

Shift : -0.4883 ns

Decay Background : 0.5237

IRF Background : 0.3000

---

**File: Em1=490.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [185; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 0.503

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0016 | 100.00 | 0.210 linked  |

Shift : -0.4687 ns

Decay Background : 0.2748

IRF Background : 0.3000

### **File: Em1=510.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [166; 350] channels

Global  $\chi^2$  : 0.934

$\chi^2$  : 0.524

|          | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|----------|--------|--------|---------------|
| <b>1</b> | 0.0004 | 100.00 | 0.210 linked  |

Shift : -0.0504 ns

Decay Background : 0.0985

IRF Background : 0.3000

# APPENDIX III

## Global Analysis Data of W-Me- $\beta$ -CD (pH 3; 320 nm)

**File: Em1=330.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [194; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.081

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.1037         | 92.15          | 0.127 linked  |
| 2 | 0.0005         | 7.8472         | 2.433 linked  |

Shift : -0.0757 ns

Decay Background : 0.4957

IRF Background : 0.6000

**File: Em1=340.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [198; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.130

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.1393         | 91.95          | 0.127 linked  |
| 2 | 0.0006         | 8.0530         | 2.433 linked  |

Shift : -0.0730 ns

Decay Background : 1.1128

IRF Background : 0.6000

---

**File: Em1=350.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [200; 700] channels

 Global  $\chi^2$  : 1.302

 $\chi^2$  : 1.408

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.1586 | 91.31  | 0.127 linked  |
| 2 | 0.0008 | 8.6939 | 2.433 linked  |

Shift : -0.0112 ns

Decay Background : 1.8160

IRF Background : 0.6000

---

**File: Em1=360.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [198; 700] channels

 Global  $\chi^2$  : 1.302

 $\chi^2$  : 1.418

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.1792 | 89.69 | 0.127 linked  |
| 2 | 0.0011 | 10.31 | 2.433 linked  |

Shift : -0.0514 ns

Decay Background : 2.0862

IRF Background : 0.6000

---

**File: Em1=370.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [200; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.274

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.1632 | 88.40 | 0.127 linked  |
| 2 | 0.0011 | 11.60 | 2.433 linked  |

Shift : -0.0391 ns

Decay Background : 2.7184

IRF Background : 0.6000

---

### File: Em1=380.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [201; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.341

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.1392 | 85.91 | 0.127 linked  |
| 2 | 0.0012 | 14.09 | 2.433 linked  |

Shift : -0.0510 ns

Decay Background : 2.2448

IRF Background : 0.6000

---

### File: Em1=390.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [196; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.419

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.1120 | 83.21 | 0.127 linked  |

|          |        |       |              |
|----------|--------|-------|--------------|
| <b>2</b> | 0.0012 | 16.79 | 2.433 linked |
|----------|--------|-------|--------------|

Shift : -0.0977 ns

Decay Background : 2.3790

IRF Background : 0.6000

---

### **File: Em1=400.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [202; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.278

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.0769               | 80.35                | 0.127 linked                    |
| <b>2</b> | 0.0010               | 19.65                | 2.433 linked                    |

Shift : -0.0427 ns

Decay Background : 3.1892

IRF Background : 0.6000

---

### **File: Em1=410.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [200; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.624

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.0587               | 77.32                | 0.127 linked                    |
| <b>2</b> | 0.0009               | 22.68                | 2.433 linked                    |

Shift : -0.1172 ns

Decay Background : 2.6179

IRF Background : 0.6000

---

**File: Em1=420.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [203; 700] channels

 Global  $\chi^2$  : 1.302

 $\chi^2$  : 1.381

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0382 | 72.45 | 0.127 linked  |
| 2 | 0.0008 | 27.55 | 2.433 linked  |

Shift : -0.0781 ns

Decay Background : 2.4877

IRF Background : 0.6000

---

**File: Em1=430.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [208; 700] channels

 Global  $\chi^2$  : 1.302

 $\chi^2$  : 1.387

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0281 | 67.55 | 0.127 linked  |
| 2 | 0.0007 | 32.45 | 2.433 linked  |

Shift : -0.1953 ns

Decay Background : 1.6332

IRF Background : 0.6000

---

**File: Em1=440.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [204; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.370

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0138 | 60.46 | 0.127 linked  |
| 2 | 0.0005 | 39.54 | 2.433 linked  |

Shift : -7e-6 ns

Decay Background : 1.9908

IRF Background : 0.6000

---

### File: Em1=450.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [204; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.142

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0079 | 48.22 | 0.127 linked  |
| 2 | 0.0004 | 51.78 | 2.433 linked  |

Shift : 0.0459 ns

Decay Background : 0.8921

IRF Background : 0.6000

---

### File: Em1=460.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [207; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.258

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0057 | 47.92 | 0.127 linked  |

|          |        |       |              |
|----------|--------|-------|--------------|
| <b>2</b> | 0.0003 | 52.08 | 2.433 linked |
|----------|--------|-------|--------------|

Shift : -5e-6 ns

Decay Background : 1.2734

IRF Background : 0.6000

---

### **File: Em1=470.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [219; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.246

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.0179               | 68.44                | 0.127 linked                    |
| <b>2</b> | 0.0004               | 31.56                | 2.433 linked                    |

Shift : -0.6250 ns

Decay Background : 0.1238

IRF Background : 0.6000

---

### **File: Em1=480.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [206; 700] channels

Global  $\chi^2$  : 1.302

$\chi^2$  : 1.062

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.0022               | 31.99                | 0.127 linked                    |
| <b>2</b> | 0.0002               | 68.01                | 2.433 linked                    |

Shift : -0.0195 ns

Decay Background : 0.5745

IRF Background : 0.6000

# APPENDIX IV

## Global Analysis Data of W-Me- $\beta$ -CD (pH 3; 280 nm)

**File: Em1=310.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [184; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 1.118

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0128         | 100.00         | 0.245 linked  |

Shift : -0.3125 ns

Decay Background : 2.4569

IRF Background : 0.3000

---

**File: Em1=330.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [184; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 1.222

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0386         | 100.00         | 0.245 linked  |

Shift : -0.2734 ns

Decay Background : 2.8583

IRF Background : 0.3000

---

**File: Em1=350.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [184; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 1.121

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0586 | 100.00 | 0.245 linked  |

Shift : -0.1808 ns

Decay Background : 2.4454

IRF Background : 0.3000

---

### File: Em1=370.00nm

### ❖ Global Analysis (Reconvolution)

Fitting range : [182; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 1.300

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0605 | 100.00 | 0.245 linked  |

Shift : -0.2498 ns

Decay Background : 2.0239

IRF Background : 0.3000

---

### File: Em1=390.00nm

### ❖ Global Analysis (Reconvolution)

Fitting range : [183; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 1.262

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0363 | 100.00 | 0.245 linked  |

Shift : -0.2144 ns

Decay Background : 2.2432

IRF Background : 0.3000

### **File: Em1=410.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [189; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 0.951

|          | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|----------|----------------|----------------|---------------|
| <b>1</b> | 0.0188         | 100.00         | 0.245 linked  |

Shift : -0.2539 ns

Decay Background : 1.4608

IRF Background : 0.3000

### **File: Em1=430.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [183; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 0.968

|          | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|----------|----------------|----------------|---------------|
| <b>1</b> | 0.0080         | 100.00         | 0.245 linked  |

Shift : -0.2532 ns

Decay Background : 1.0641

IRF Background : 0.3000

### **File: Em1=450.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [175; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 0.689

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0030 | 100.00 | 0.245 linked  |

Shift : -0.2539 ns

Decay Background : 0.7463

IRF Background : 0.3000

---

### File: Em1=470.00nm

### ❖ Global Analysis (Reconvolution)

Fitting range : [191; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 0.850

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0015 | 100.00 | 0.245 linked  |

Shift : -0.3907 ns

Decay Background : 0.4401

IRF Background : 0.3000

---

### File: Em1=490.00nm

### ❖ Global Analysis (Reconvolution)

Fitting range : [180; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 0.673

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0007 | 100.00 | 0.245 linked  |

Shift : -0.4688 ns

Decay Background : 0.5554

IRF Background : 0.3000

### **File: Em1=510.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [187; 350] channels

Global  $\chi^2$  : 0.959

$\chi^2$  : 0.398

|          | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|----------|--------|--------|---------------|
| <b>1</b> | 0.0003 | 100.00 | 0.245 linked  |

Shift : -0.4297 ns

Decay Background : 0.2456

IRF Background : 0.3000

# APPENDIX V

## Global Analysis Data of W (pH 9; 320 nm)

**File: Em1=330.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [198; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 1.248

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0992         | 100.00         | 0.104 linked  |

Shift : -0.0028 ns

Decay Background : 0.5518

IRF Background : 0.6000

---

**File: Em1=340.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [198; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 1.447

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.1835         | 100.00         | 0.104 linked  |

Shift : -0.0064 ns

Decay Background : 1.1423

IRF Background : 0.6000

---

**File: Em1=350.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [201; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 1.553

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.3226 | 100.00 | 0.104 linked  |

Shift : 0.0332 ns

Decay Background : 3.0877

IRF Background : 0.6000

**File: Em1=360.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [204; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 1.601

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.5130 | 100.00 | 0.104 linked  |

Shift : 0.0276 ns

Decay Background : 3.2082

IRF Background : 0.6000

**File: Em1=370.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [201; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 2.018

|  | $B_i$ | $f_i$ | $\tau_i$ (ns) |
|--|-------|-------|---------------|
|--|-------|-------|---------------|

|          |        |        |              |
|----------|--------|--------|--------------|
| <b>1</b> | 0.6966 | 100.00 | 0.104 linked |
|----------|--------|--------|--------------|

Shift : 0.0253 ns

Decay Background : 4.3292

IRF Background : 0.6000

---

### **File: Em1=380.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [203; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 1.667

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.8048               | 100.00               | 0.104 linked                    |

Shift : 0.0334 ns

Decay Background : 4.5986

IRF Background : 0.6000

---

### **File: Em1=390.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [202; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 1.906

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.8458               | 100.00               | 0.104 linked                    |

Shift : 0.0291 ns

Decay Background : 4.6974

IRF Background : 0.6000

---

**File: Em1=400.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [202; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 1.812

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.8080         | 100.00         | 0.104 linked  |

Shift : 0.0336 ns

Decay Background : 4.4687

IRF Background : 0.6000

**File: Em1=410.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [203; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 2.044

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.7190         | 100.00         | 0.104 linked  |

Shift : 0.0345 ns

Decay Background : 3.7058

IRF Background : 0.6000

**File: Em1=420.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [204; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 2.066

|  | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|--|----------------|----------------|---------------|
|--|----------------|----------------|---------------|

|   |        |        |              |
|---|--------|--------|--------------|
| 1 | 0.5974 | 100.00 | 0.104 linked |
|---|--------|--------|--------------|

Shift : 0.0492 ns

Decay Background : 2.7790

IRF Background : 0.6000

---

### File: Em1=430.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [205; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 2.049

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.4522         | 100.00         | 0.104 linked  |

Shift : 0.0781 ns

Decay Background : 2.6920

IRF Background : 0.6000

---

### File: Em1=440.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [199; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 1.753

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.3605         | 100.00         | 0.104 linked  |

Shift : 0.0530 ns

Decay Background : 2.1747

IRF Background : 0.6000

---

**File: Em1=450.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [204; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 1.301

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.2664 | 100.00 | 0.104 linked  |

Shift : 0.0479 ns

Decay Background : 1.4656

IRF Background : 0.6000

**File: Em1=460.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [203; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 1.305

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.1934 | 100.00 | 0.104 linked  |

Shift : 0.0499 ns

Decay Background : 0.9652

IRF Background : 0.6000

**File: Em1=470.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [200; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 1.139

|  | $B_i$ | $f_i$ | $\tau_i$ (ns) |
|--|-------|-------|---------------|
|--|-------|-------|---------------|

|   |        |        |              |
|---|--------|--------|--------------|
| 1 | 0.1461 | 100.00 | 0.104 linked |
|---|--------|--------|--------------|

Shift : 0.0306 ns

Decay Background : 0.7773

IRF Background : 0.6000

---

### File: Em1=480.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [202; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 1.251

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.1048 | 100.00 | 0.104 linked  |

Shift : 0.0420 ns

Decay Background : 0.6611

IRF Background : 0.6000

---

### File: Em1=490.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [207; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 1.041

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0796 | 100.00 | 0.104 linked  |

Shift : 0.0195 ns

Decay Background : 0.5155

IRF Background : 0.6000

---

**File: Em1=500.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [207; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 0.994

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0534         | 100.00         | 0.104 linked  |

Shift : 0.0276 ns

Decay Background : 0.4548

IRF Background : 0.6000

**File: Em1=510.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [203; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 0.872

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0366         | 100.00         | 0.104 linked  |

Shift : 0.0195 ns

Decay Background : 0.3143

IRF Background : 0.6000

**File: Em1=520.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [206; 350] channels

Global  $\chi^2$  : 1.436 $\chi^2$  : 1.267

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0290 | 100.00 | 0.104 linked  |

Shift : -0.0585 ns

Decay Background : 0.1086

IRF Background : 0.6000

---

### File: Em1=530.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [204; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 0.951

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0204 | 100.00 | 0.104 linked  |

Shift : -0.1172 ns

Decay Background : 0.1034

IRF Background : 0.6000

---

### File: Em1=540.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [199; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 0.988

|   | $B_i$  | $f_i$  | $\tau_i$ (ns) |
|---|--------|--------|---------------|
| 1 | 0.0132 | 100.00 | 0.104 linked  |

Shift : -0.1172 ns

Decay Background : 0.0268

IRF Background : 0.6000

---

## File: Em1=550.00nm

### ❖ Global Analysis (Reconvolution)

Fitting range : [201; 350] channels

Global  $\chi^2$  : 1.436

$\chi^2$  : 0.751

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0089         | 100.00         | 0.104 linked  |

Shift : -0.0918 ns

Decay Background : 0.0312

IRF Background : 0.6000

# APPENDIX VI

## Global Analysis Data of W-Me- $\beta$ -CD (pH 9; 320 nm)

**File: Em1=330.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [218; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.215

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0524         | 41.84          | 0.259 linked  |
| 2 | 0.0151         | 58.16          | 1.248 linked  |

Shift : -0.0071 ns

Decay Background : 1.4812

IRF Background : 0.6000

**File: Em1=335.00nm**

### ❖ Global Analysis (Reconvolution)

Fitting range : [217; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.311

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0705         | 39.78          | 0.259 linked  |
| 2 | 0.0222         | 60.22          | 1.248 linked  |

Shift : 0.0781 ns

Decay Background : 1.7349

IRF Background : 0.6000

---

### **File: Em1=340.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [221; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.341

|          | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|----------|----------------|----------------|---------------|
| <b>1</b> | 0.1063         | 38.57          | 0.259 linked  |
| <b>2</b> | 0.0352         | 61.43          | 1.248 linked  |

Shift : 0.0693 ns

Decay Background : 2.0643

IRF Background : 0.6000

---

### **File: Em1=345.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [218; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.187

|          | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|----------|----------------|----------------|---------------|
| <b>1</b> | 0.1558         | 38.86          | 0.259 linked  |
| <b>2</b> | 0.0510         | 61.14          | 1.248 linked  |

Shift : 0.1477 ns

Decay Background : 4.2210

IRF Background : 0.6000

**File: Em1=350.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [221; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.231

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.2122         | 37.53          | 0.259 linked  |
| 2 | 0.0734         | 62.47          | 1.248 linked  |

Shift : 0.1527 ns

Decay Background : 5.0772

IRF Background : 0.6000

**File: Em1=355.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [216; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.496

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.2801         | 36.23          | 0.259 linked  |
| 2 | 0.1025         | 63.77          | 1.248 linked  |

Shift : 0.1117 ns

Decay Background : 6.9354

IRF Background : 0.6000

**File: Em1=360.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [218; 700] channels

Global  $\chi^2$  : 1.253 $\chi^2$  : 1.281

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.3405         | 35.73          | 0.259 linked  |
| 2 | 0.1273         | 64.27          | 1.248 linked  |

Shift : 0.1313 ns

Decay Background : 8.7025

IRF Background : 0.6000

**File: Em1=365.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [218; 700] channels

Global  $\chi^2$  : 1.253 $\chi^2$  : 1.466

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.4045         | 35.49          | 0.259 linked  |
| 2 | 0.1528         | 64.51          | 1.248 linked  |

Shift : 0.1396 ns

Decay Background : 9.7300

IRF Background : 0.6000

**File: Em1=370.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [218; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.378

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.4601 | 35.08 | 0.259 linked  |
| 2 | 0.1770 | 64.92 | 1.248 linked  |

Shift : 0.1486 ns

Decay Background : 11.44

IRF Background : 0.6000

### File: Em1=375.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [217; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.585

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.5019 | 34.41 | 0.259 linked  |
| 2 | 0.1988 | 65.59 | 1.248 linked  |

Shift : 0.1444 ns

Decay Background : 12.98

IRF Background : 0.6000

### File: Em1=380.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [216; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.532

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.5336 | 33.83 | 0.259 linked  |
| 2 | 0.2168 | 66.17 | 1.248 linked  |

Shift : 0.1332 ns

Decay Background : 13.65

IRF Background : 0.6000

### File: Em1=385.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [221; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.455

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.5510 | 33.82 | 0.259 linked  |
| 2 | 0.2241 | 66.18 | 1.248 linked  |

Shift : 0.1514 ns

Decay Background : 14.16

IRF Background : 0.6000

### File: Em1=390.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [220; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.532

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.5608 | 34.54 | 0.259 linked  |

|          |        |       |              |
|----------|--------|-------|--------------|
| <b>2</b> | 0.2209 | 65.46 | 1.248 linked |
|----------|--------|-------|--------------|

Shift : 0.1744 ns

Decay Background : 15.06

IRF Background : 0.6000

---

### **File: Em1=395.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [222; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.612

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.5432               | 34.19                | 0.259 linked                    |
| <b>2</b> | 0.2173               | 65.81                | 1.248 linked                    |

Shift : 0.1929 ns

Decay Background : 15.69

IRF Background : 0.6000

---

### **File: Em1=400.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [223; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.668

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.5264               | 34.02                | 0.259 linked                    |
| <b>2</b> | 0.2121               | 65.98                | 1.248 linked                    |

Shift : 0.1842 ns

Decay Background : 14.83

IRF Background : 0.6000

**File: Em1=405.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [221; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.434

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.4933         | 33.13          | 0.259 linked  |
| 2 | 0.2069         | 66.87          | 1.248 linked  |

Shift : 0.1658 ns

Decay Background : 14.43

IRF Background : 0.6000

**File: Em1=410.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [222; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.380

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.4553         | 32.71          | 0.259 linked  |
| 2 | 0.1947         | 67.29          | 1.248 linked  |

Shift : 0.1585 ns

Decay Background : 13.98

IRF Background : 0.6000

**File: Em1=415.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [220; 700] channels

Global  $\chi^2$  : 1.253 $\chi^2$  : 1.511

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.4129         | 32.68          | 0.259 linked  |
| 2 | 0.1768         | 67.32          | 1.248 linked  |

Shift : 0.1779 ns

Decay Background : 12.56

IRF Background : 0.6000

**File: Em1=420.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [224; 700] channels

Global  $\chi^2$  : 1.253 $\chi^2$  : 1.498

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.3752         | 33.82          | 0.259 linked  |
| 2 | 0.1526         | 66.18          | 1.248 linked  |

Shift : 0.2195 ns

Decay Background : 12.78

IRF Background : 0.6000

**File: Em1=425.00nm****❖ Global Analysis (Reconvolution)**

Fitting range : [226; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.397

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.3279 | 32.92 | 0.259 linked  |
| 2 | 0.1389 | 67.08 | 1.248 linked  |

Shift : 0.1953 ns

Decay Background : 11.28

IRF Background : 0.6000

---

### File: Em1=430.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [223; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.237

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.2836 | 31.93 | 0.259 linked  |
| 2 | 0.1257 | 68.07 | 1.248 linked  |

Shift : 0.1733 ns

Decay Background : 10.30

IRF Background : 0.6000

---

### File: Em1=435.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [217; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.181

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.2434 | 31.18 | 0.259 linked  |

|          |        |       |              |
|----------|--------|-------|--------------|
| <b>2</b> | 0.1117 | 68.82 | 1.248 linked |
|----------|--------|-------|--------------|

Shift : 0.1482 ns

Decay Background : 8.7256

IRF Background : 0.6000

---

### **File: Em1=440.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [220; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.037

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.2075               | 31.08                | 0.259 linked                    |
| <b>2</b> | 0.0957               | 68.92                | 1.248 linked                    |

Shift : 0.1525 ns

Decay Background : 8.1860

IRF Background : 0.6000

---

### **File: Em1=445.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [221; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.289

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.1769               | 31.27                | 0.259 linked                    |
| <b>2</b> | 0.0808               | 68.73                | 1.248 linked                    |

Shift : 0.1634 ns

Decay Background : 7.4017

IRF Background : 0.6000

---

**File: Em1=450.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [216; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.363

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.1432 | 28.97 | 0.259 linked  |
| 2 | 0.0730 | 71.03 | 1.248 linked  |

Shift : 0.0997 ns

Decay Background : 6.2817

IRF Background : 0.6000

---

**File: Em1=455.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [219; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.175

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.1249 | 31.40 | 0.259 linked  |
| 2 | 0.0567 | 68.60 | 1.248 linked  |

Shift : 0.1771 ns

Decay Background : 4.9216

IRF Background : 0.6000

---

**File: Em1=460.00nm**
**❖ Global Analysis (Reconvolution)**

Fitting range : [217; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.175

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.1067 | 31.15 | 0.259 linked  |
| 2 | 0.0490 | 68.85 | 1.248 linked  |

Shift : 0.1482 ns

Decay Background : 4.3856

IRF Background : 0.6000

---

### File: Em1=465.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [225; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.142

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0880 | 30.09 | 0.259 linked  |
| 2 | 0.0425 | 69.91 | 1.248 linked  |

Shift : 0.1172 ns

Decay Background : 3.2145

IRF Background : 0.6000

---

### File: Em1=470.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [224; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.442

|  | $B_i$ | $f_i$ | $\tau_i$ (ns) |
|--|-------|-------|---------------|
|--|-------|-------|---------------|

|          |        |       |              |
|----------|--------|-------|--------------|
| <b>1</b> | 0.0746 | 31.85 | 0.259 linked |
| <b>2</b> | 0.0332 | 68.15 | 1.248 linked |

Shift : 0.1897 ns

Decay Background : 3.4595

IRF Background : 0.6000

---

### **File: Em1=475.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [229; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.072

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.0606               | 31.22                | 0.259 linked                    |
| <b>2</b> | 0.0278               | 68.78                | 1.248 linked                    |

Shift : 0.1952 ns

Decay Background : 3.2892

IRF Background : 0.6000

---

### **File: Em1=480.00nm**

#### **❖ Global Analysis (Reconvolution)**

Fitting range : [226; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.242

|          | <b>B<sub>i</sub></b> | <b>f<sub>i</sub></b> | <b><math>\tau_i</math> (ns)</b> |
|----------|----------------------|----------------------|---------------------------------|
| <b>1</b> | 0.0512               | 31.71                | 0.259 linked                    |
| <b>2</b> | 0.0229               | 68.29                | 1.248 linked                    |

Shift : 0.2066 ns

Decay Background : 2.3549

IRF Background : 0.6000

---

### File: Em1=485.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [223; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.200

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0409 | 28.09 | 0.259 linked  |
| 2 | 0.0218 | 71.91 | 1.248 linked  |

Shift : 0.0804 ns

Decay Background : 2.3291

IRF Background : 0.6000

---

### File: Em1=490.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [212; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.314

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0357 | 29.66 | 0.259 linked  |
| 2 | 0.0176 | 70.34 | 1.248 linked  |

Shift : 0.0956 ns

Decay Background : 2.0109

IRF Background : 0.6000

---

### File: Em1=495.00nm

### ❖ Global Analysis (Reconvolution)

Fitting range : [227; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.130

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0298 | 30.73 | 0.259 linked  |
| 2 | 0.0140 | 69.27 | 1.248 linked  |

Shift : 0.1367 ns

Decay Background : 1.7137

IRF Background : 0.6000

---

### File: Em1=500.00nm

### ❖ Global Analysis (Reconvolution)

Fitting range : [218; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.068

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0229 | 28.46 | 0.259 linked  |
| 2 | 0.0119 | 71.54 | 1.248 linked  |

Shift : 0.1115 ns

Decay Background : 1.3398

IRF Background : 0.6000

---

### File: Em1=505.00nm

### ❖ Global Analysis (Reconvolution)

Fitting range : [215; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.106

|  | $B_i$ | $f_i$ | $\tau_i$ (ns) |
|--|-------|-------|---------------|
|--|-------|-------|---------------|

|   |        |       |              |
|---|--------|-------|--------------|
| 1 | 0.0210 | 32.54 | 0.259 linked |
| 2 | 0.0091 | 67.46 | 1.248 linked |

Shift : 0.1656 ns

Decay Background : 1.0679

IRF Background : 0.6000

---

### File: Em1=510.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [221; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.121

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0154         | 29.12          | 0.259 linked  |
| 2 | 0.0078         | 70.88          | 1.248 linked  |

Shift : 0.1367 ns

Decay Background : 1.3310

IRF Background : 0.6000

---

### File: Em1=515.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [228; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.079

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0131         | 30.77          | 0.259 linked  |
| 2 | 0.0061         | 69.23          | 1.248 linked  |

Shift : 0.1454 ns

Decay Background : 0.7937

IRF Background : 0.6000

---

**File: Em1=520.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [221; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.008

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0104 | 28.63 | 0.259 linked  |
| 2 | 0.0054 | 71.37 | 1.248 linked  |

Shift : 0.0298 ns

Decay Background : 0.8950

IRF Background : 0.6000

---

**File: Em1=525.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [215; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 0.979

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0080 | 28.51 | 0.259 linked  |
| 2 | 0.0041 | 71.49 | 1.248 linked  |

Shift : 0.0675 ns

Decay Background : 0.6009

IRF Background : 0.6000

---

**File: Em1=530.00nm**

❖ **Global Analysis (Reconvolution)**

Fitting range : [211; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 1.048

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0052 | 22.01 | 0.259 linked  |
| 2 | 0.0039 | 77.99 | 1.248 linked  |

Shift : -0.0679 ns

Decay Background : 0.3592

IRF Background : 0.6000

---

### File: Em1=535.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [224; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 0.924

|   | $B_i$  | $f_i$ | $\tau_i$ (ns) |
|---|--------|-------|---------------|
| 1 | 0.0067 | 32.04 | 0.259 linked  |
| 2 | 0.0030 | 67.96 | 1.248 linked  |

Shift : -0.0719 ns

Decay Background : 0.3084

IRF Background : 0.6000

---

### File: Em1=540.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [216; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 0.803

|  | $B_i$ | $f_i$ | $\tau_i$ (ns) |
|--|-------|-------|---------------|
|--|-------|-------|---------------|

|   |        |       |              |
|---|--------|-------|--------------|
| 1 | 0.0046 | 32.57 | 0.259 linked |
| 2 | 0.0020 | 67.43 | 1.248 linked |

Shift : 0.0888 ns

Decay Background : 0.2895

IRF Background : 0.6000

### File: Em1=545.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [227; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 0.878

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0037         | 29.54          | 0.259 linked  |
| 2 | 0.0018         | 70.46          | 1.248 linked  |

Shift : -0.0247 ns

Decay Background : 0.4206

IRF Background : 0.6000

### File: Em1=550.00nm

#### ❖ Global Analysis (Reconvolution)

Fitting range : [228; 700] channels

Global  $\chi^2$  : 1.253

$\chi^2$  : 0.847

|   | B <sub>i</sub> | f <sub>i</sub> | $\tau_i$ (ns) |
|---|----------------|----------------|---------------|
| 1 | 0.0039         | 31.83          | 0.259 linked  |
| 2 | 0.0017         | 68.17          | 1.248 linked  |

Shift : -0.2150 ns

Decay Background : 0.2680

IRF Background : 0.6000