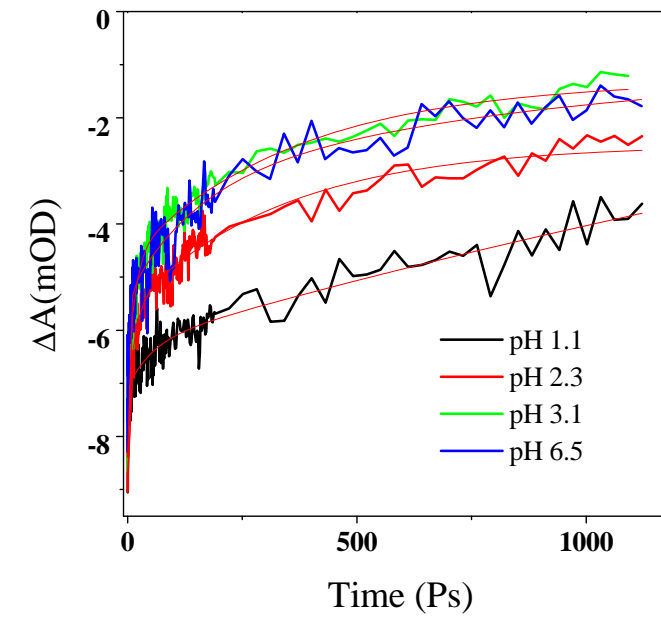
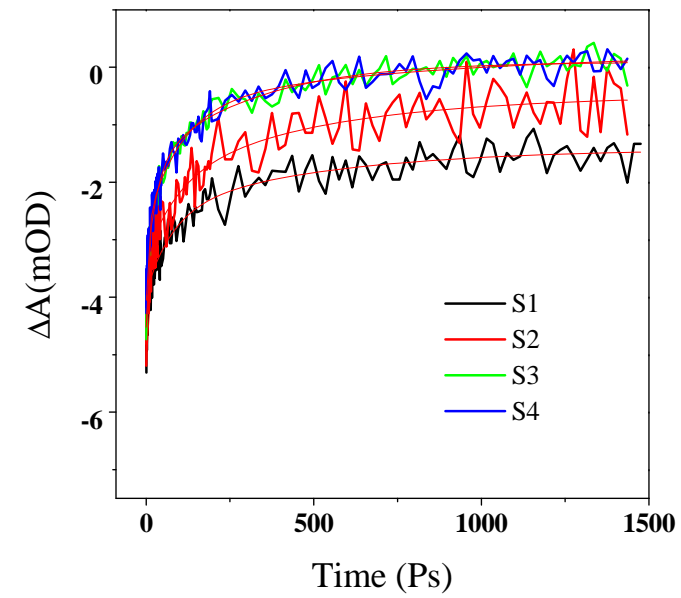
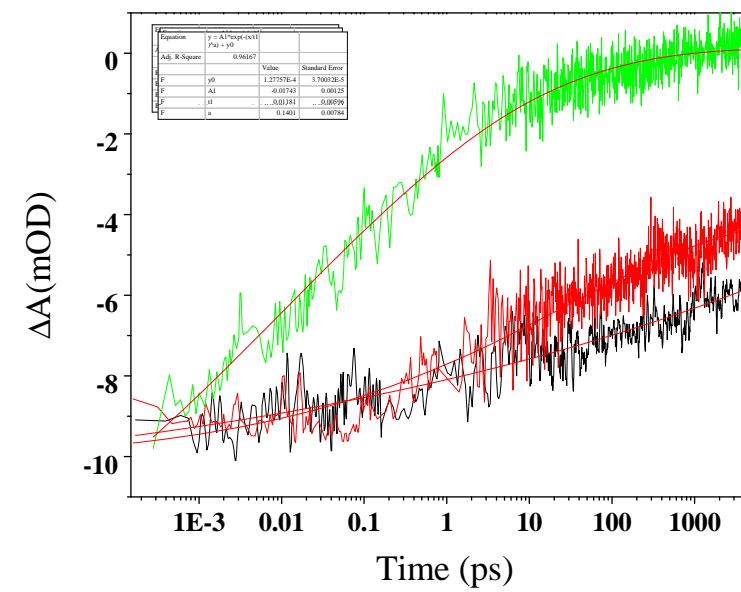


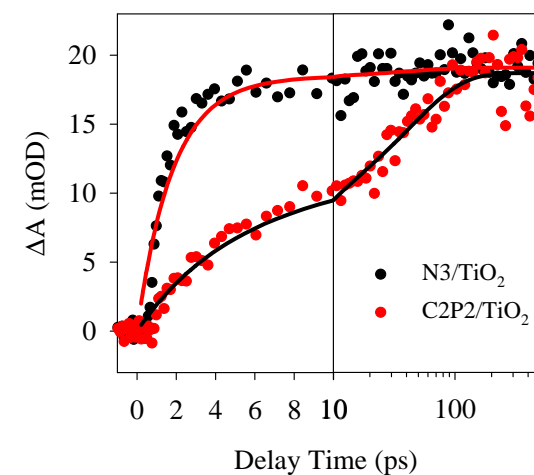
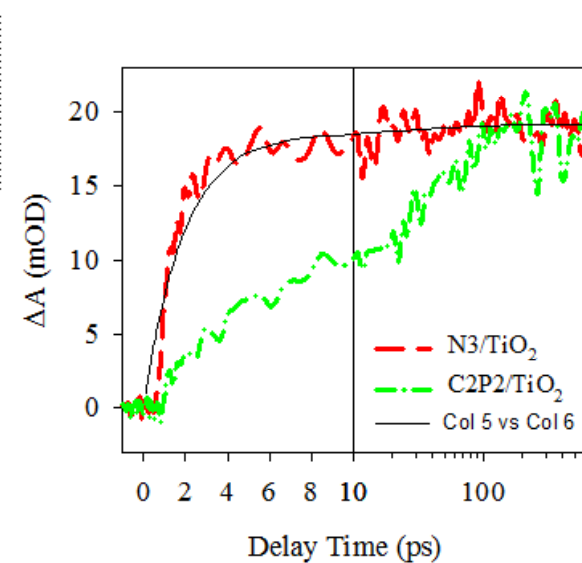
Half lifetime of the systems



| Samples | Peaks from fitting | half peaks from fitting | Half lifetimes |
|---------------------|--------------------|-------------------------|----------------|
| C2P2/TiO2 | -0.00948 | -0.00474 | >6 us |
| SiW12/C2P2/TiO2 | -0.00966 | -0.00483 | 724-864 ns |
| RuPOM/C2P2/TiO2 | -0.00951 | -0.004755 | 66-77ps |
| RuPOM/C2P2(Na)/TiO2 | -0.00597 | -0.002985 | 66-77ps |
| RuPOM/C2P2(Mg)/TiO2 | -0.00597 | -0.002985 | 66-77ps |
| S1 | -0.00514 | -0.00257 | 119-134ps |
| S2 | -0.00452 | -0.00226 | 87-101ps |
| S3 | -0.00443 | -0.002215 | 29-44ps |
| S4 | -0.00405 | -0.002025 | 29-44ps |
| pH1.1 | -0.00872 | -0.00436 | 827-838ps |
| pH2.3 | -0.00903 | -0.004515 | 136-147ps |
| pH3.1 | -0.00839 | -0.004195 | 79-90ps |
| pH6.5 | -0.0087 | -0.00435 | 44-55ps |



Fitting Details



Fitting result of N3/TiO₂

Equation $y = y_0 * (1 - A * \exp(-t/t_1) - (1-A) * \exp(-t/t_2))$

| Adj. R-Square | | 0.92479 | |
|---------------|----|----------|----------------|
| | | Value | Standard Error |
| C | y0 | 0.01908 | 3.36896E-4 |
| C | t1 | 1.79639 | 0.16743 |
| C | t2 | 36.98922 | 84.33713 |
| C | A | 0.95907 | 0.04119 |

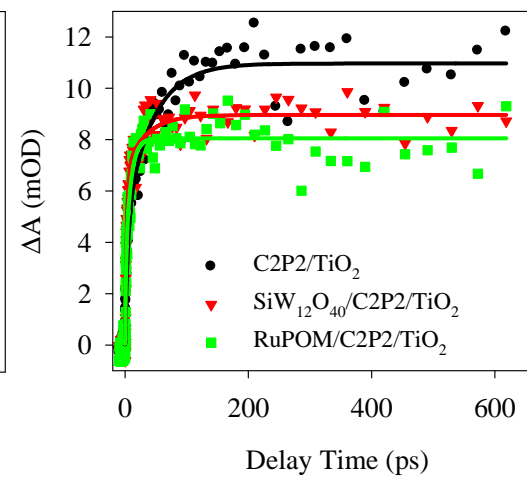
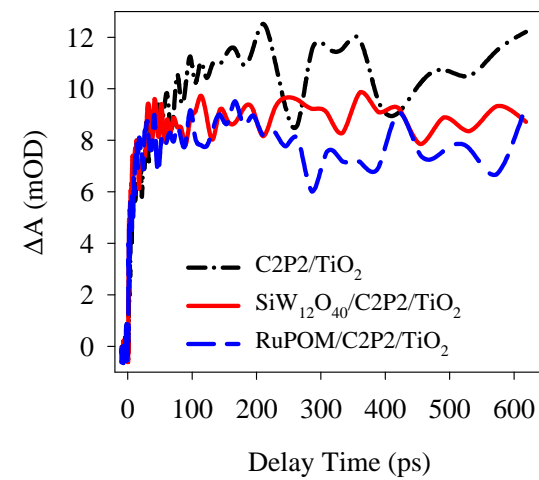
weighted lifetime: 3.24 ps

Fitting result of C2P2/TiO₂

Equation $y = y_0 * (1 - A * \exp(-t/t_1) - (1-A) * \exp(-t/t_2))$

| Adj. R-Square | | 0.97055 | |
|---------------|----|----------|----------------|
| | | Value | Standard Error |
| D | y0 | 0.0187 | 2.77621E-4 |
| D | t1 | 4.33307 | 0.85447 |
| D | t2 | 43.22461 | 7.3347 |
| D | A | 0.43319 | 0.05837 |

weighted lifetime: 26.38ps



fitting result of C2P2/TiO2

$$\text{Equation } y = y_0 * (1 - A_1 * \exp(-t/t_1) - (1 - A_1) * \exp(-t/t_2))$$

Adj. R-Square 0.97208

| | | Value | Standard Error |
|---|----|----------|----------------|
| B | y0 | 0.01097 | 1.61119E-4 |
| B | A1 | 0.43183 | 0.05746 |
| B | t1 | 4.32296 | 0.84386 |
| B | t2 | 43.31717 | 7.23809 |

Fitting result of RuPOM/C2P2/TiO2

$$\text{Equation } y = y_0 * (1 - A * \exp(-t/t_1) - (1 - A) * \exp(-t/t_2))$$

Adj. R-Square 0.94052

| | | Value | Standard Error |
|---|----|---------|----------------|
| E | y0 | 0.00805 | 1.12688E-4 |
| E | t1 | 1.29606 | 0.60641 |
| E | t2 | 8.51707 | 2.08393 |
| E | A | 0.35197 | 0.13897 |

Fitting result of SiW12/C2P2/TiO2

$$\text{Equation } y = y_0 * (1 - A * \exp(-t/t_1) - (1 - A) * \exp(-t/t_2))$$

Adj. R-Square 0.95677

| | | Value | Standard Error |
|---|----|----------|----------------|
| D | y0 | 0.00896 | 1.40061E-4 |
| D | t1 | 2.64476 | 0.32733 |
| D | t2 | 32.36118 | 12.88918 |
| D | A | 0.74967 | 0.0552 |

Sorry, I can't explain the fitting result. I suggest point out the lost of slow component and the possibility of the ligand induced electron transfer pathways.