Supporting Information

Figure 1. Analysis of reproduceability of data in Figure 4B (Anaerobic photochemistry of methionine). The average ± standard deviation of data points at 2470eV (blue, corresponding to growth of pre-edge feature) and 2473.8eV (red, corresponding to decay of intense edge feature) are plotted for a series of three kinetic runs. The maximum standard deviation in the edge feature (±0.02) is larger than in the smaller pre-edge feature (±0.006) due to larger uncertainties in background/normalization in the edge region.