

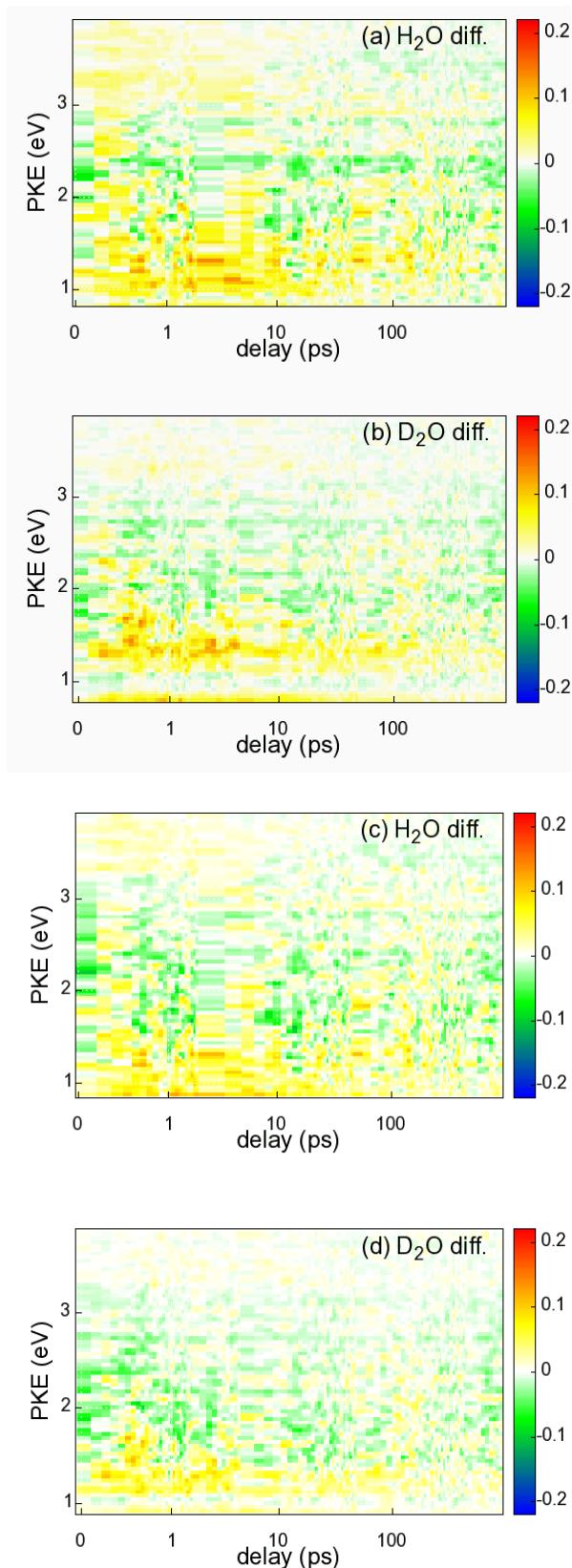
## Supplementary information

### Isotope Effect on Ultrafast Charge-Transfer-to-Solvent Reaction from $\Gamma^-$ to Water in Aqueous NaI Solution

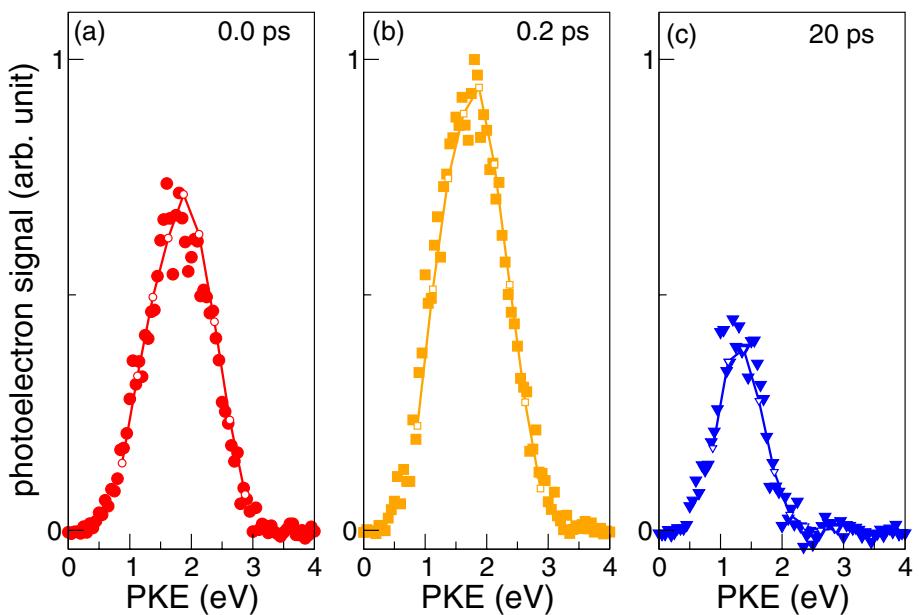
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Figures S1 shows residuals in the global fit of time-dependent photoelectron kinetic energy distributions (PKEDs). S2 compares the observed photoelectron spectra with those reconstructed by global fitting for D<sub>2</sub>O.



**Figure S1:** Residuals of global fitting of photoelectron kinetic energy distributions for  $\text{H}_2\text{O}$  and  $\text{D}_2\text{O}$  using 0.25 eV energy bins [(a) and (b)] and 0.1 eV bins [(c) and (d)]. The scales on the color bars are the same as the Fig.1.



**Figure S2:** Photoelectron spectra observed for CTTS in D<sub>2</sub>O for delay times of (a) 0.0 ps, (b) 0.2 ps, and (c) 20 ps at 226 nm (probe) and 274 nm (probe). The lines indicate reconstructed spectra by global fitting of time-dependent PKED. Thick lines represent the results obtained using 0.25 eV energy bins between 0.75 and 3.0 eV.