Supporting Information

Quantitative electronic structure and work-function changes of liquid water induced by solute

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Figures

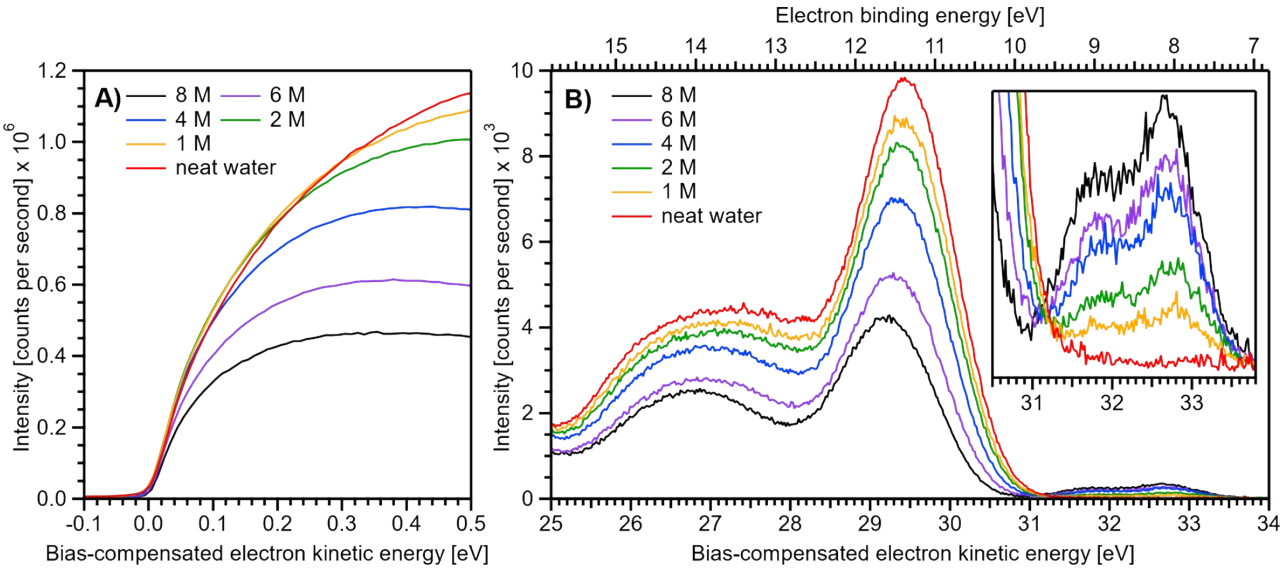

Figure SI-1: The same data for $NaI_{(aq)}$ as in Fig. 1, but here the intensity is shown as measured. The water signal decreases with higher NaI concentration.

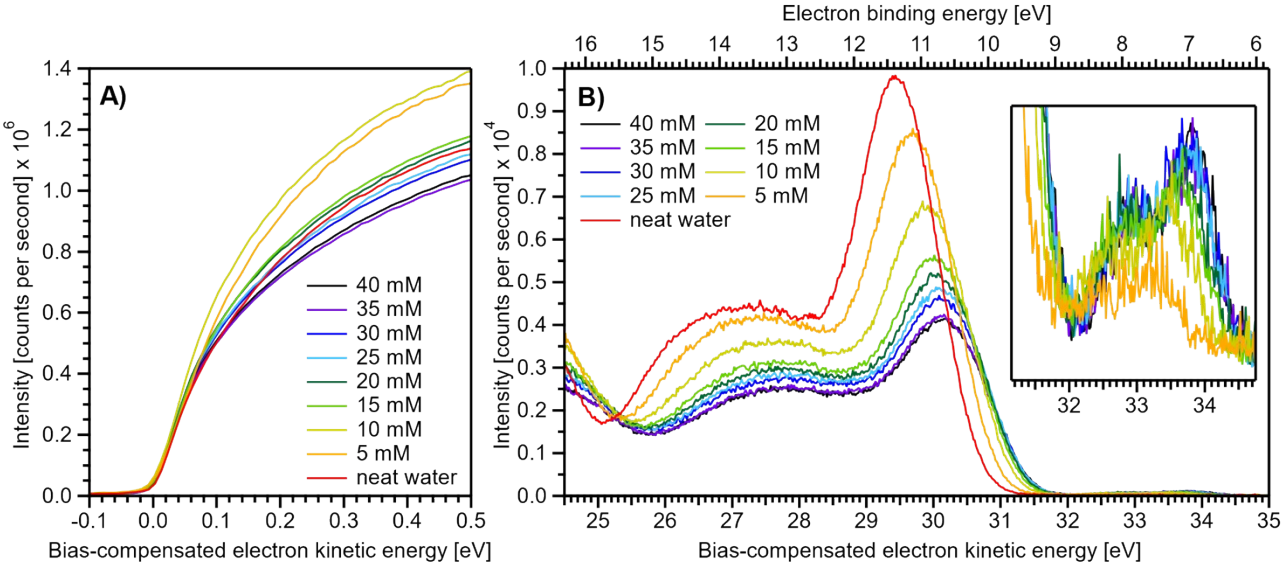

Figure SI-2: The same data for $TBAI_{(aq)}$ as shown in Fig. 5, but here the intensity is shown as measured. Similar to NaI, the water signal decreases with higher TBAI concentration.

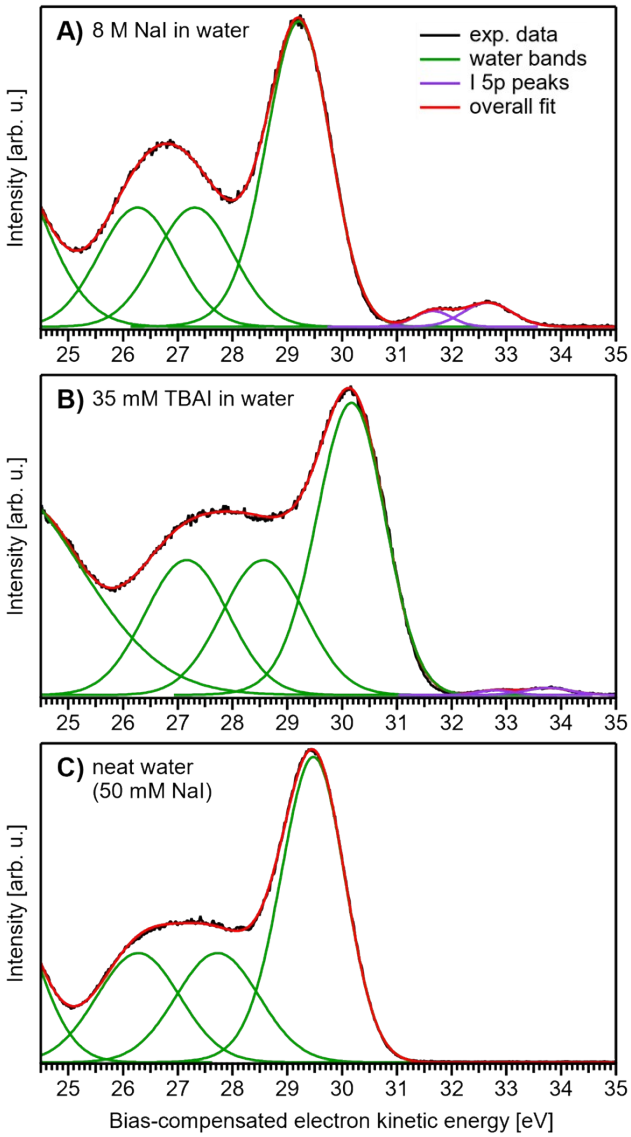

Figure SI-3: Exemplary fits to the spectra: **A)** 8 M NaI solution, **B)** 35 mM TBAI solution, and **C)** neat water (*i.e.*, with only 50 mM NaI added for charge compensation and to enable sample biasing); measured data in black, the overall fit in red, water-band features in green, and the I^- 5p doublet peak in violet. See text for details.

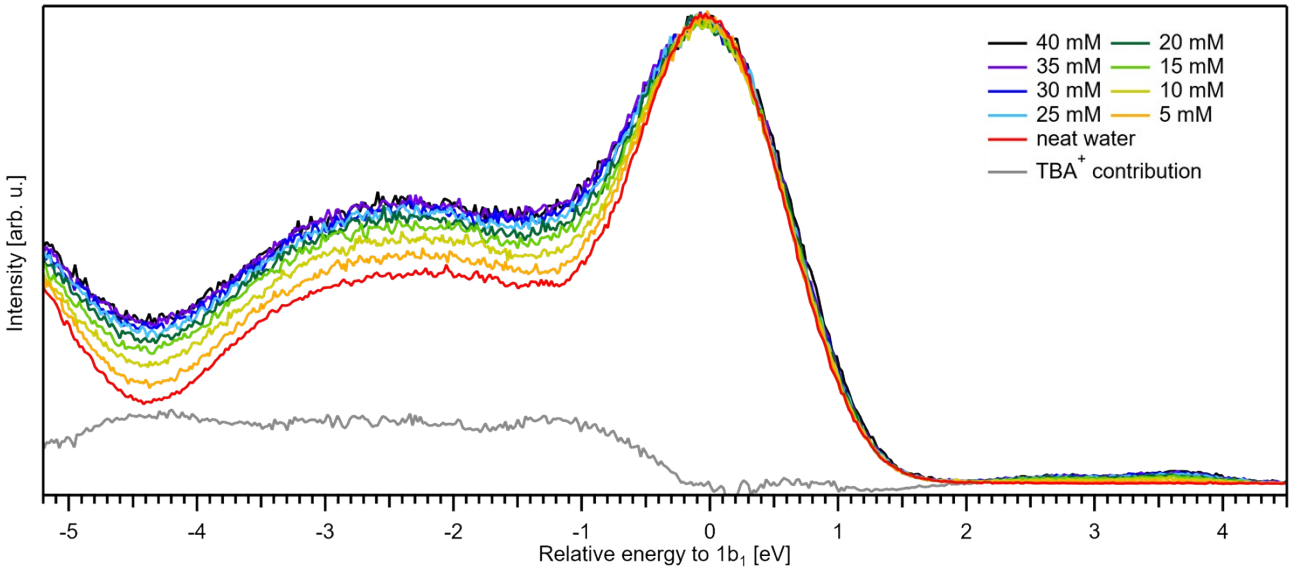

Figure SI-4: The same data for $TBAI_{(aq)}$ as in Figs. 5B and SI-2B but aligned to the same $1b_1$ peak position for better comparison of spectral changes with increasing concentration. The grey curve shows the difference between the 35-mM $TBAI_{(aq)}$ and neat water spectrum, which we assign to TBA^+.