

**Figure S2.** Overlay of the natural abundance  $^1\text{HN}$ - $^{15}\text{N}$  HSQC spectra of the shape-shifter peptide in  $\text{H}_2\text{O}$  (black) and in 50% TFE (red) at pH 7 collected at 600 and 500 MHz, respectively. Peaks are labelled with their sequence-specific assignments.

