Supporting Information for:

Effects of Hofmeister Anions on the Phase Transition Temperature of Elastin-like Polypeptides

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Phase transition measurements for all ELPs were made as noted in the experimental section of the main text by using light scattering techniques previously reported from our laboratory. Specifically, six square glass capillary tubes containing sample solutions were placed side-by-side and oriented perpendicular to a linear temperature gradient on the sample stage of a dark field microscope (Nikon ECLIPSE TE 2000-U). The samples were imaged by a MicroMAX 1024B CCD camera (Princeton Instruments) equipped with MetaMorph software (MDS Analytical Technologies). A typical dark field image of a working device is shown in Figure S1. As the temperature increased linearly from left to the right, the solution became cloudy and scattered light which was manifest by the purple color in the false color image. The top and bottom capillaries in the image contained PNIPAM standards with known LCST values of 30.9 °C and 22.7 °C, respectively. The horizontal positions for the phase transitions of these two standards are used to convert the horizontal direction of the image to a temperature value and a linear gradient is assumed. In between these two standards are four samples of ELP V₅-120 in aqueous

solution at a concentration of 6.4 mg/ml. From top to bottom they contain, 0.4 M, 0.2 M, 0.1 M, and 0.0 M NaCl, respectively. A dotted line is drawn in the direction of the temperature gradient across the sample containing 0.4 M NaCl. The corresponding line profile for light scattering as a function of temperature (position) for this sample is plotted in Figure S2. As can be seen, the light scattering from the sample is negligible at low temperature, but rises sharply above the onset of the phase transition. It then levels off at a maximum value at higher temperature. By convention, the onset temperature is employed as the phase transition temperature as is determined by the insertion of two straight lines through the data points.



Figure S1. Dark filed microscopy image of light scattering from six capillary tubes placed in a linear temperature gradient.



Figure S2. Line profile of for light scattering vs. temperature for the capillary tube denoted in Figure S1. The red dots are the data point and the dotted blue lines were employed to measure the onset of the phase transition temperature.