

### Interfacial tension of complex coacervates using mussel adhesive protein with Hofmeister ions

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Complex coacervation is a liquid-liquid phase separation in colloidal system of two oppositely charged polyelectrolytes. The relation of interfacial tension and various salt solutions was barely known in complex coacervation, although it is the key parameter for micelle formation and microencapsulation. In the present work, the dynamics of sole recombinant mussel adhesive protein, fp-151, and complex coacervate of fp-151 and hyaluronic acid (HA) were determined in various Hofmeister series salt ions. Absorbance at 600nm and hydrodynamic diameter of sole HA, sole fp-151, and coacervated fp-151/HA were measured. Capillary force was measured using colloidal probe-atomic force microscopy method and the receding contact angle was measured in bulk phase separately, so that interfacial tension of complex coacervate phase were calculated to be 0.236, 0.256, and 0.287 mN/m for NaHCOO, NaCl, and NaNO<sub>3</sub> respectively. The results show that the sequence of interfacial tensions and contact angle is found to follow the Hofmeister ordering and this could give better understanding on Hofmeister effect on complex coacervation system.