

## UNDERSTANDING THE ELECTROSPINABILITY OF COMPLEX COACERVATES

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Complex coacervation is an associative, liquid-liquid phase separation that is driven by the electrostatic and entropic interactions between oppositely-charged polymers in water. For many coacervating systems it is possible to transition from the liquid coacervate state to a solid material by removing salt. This 'saloplasticity' allows for the processing of materials via methods such as spin coating, extrusion, etc. using the coacervate phase as a liquid precursor. In particular, we have developed an approach that uses complex coacervation as an environmentally friendly method for fabricating ultra-stable electrospun fibers directly from aqueous solutions. We have used this method to electrospin complexes of various synthetic polymers as well as natural biopolymers. These efforts have required the simultaneous exploration of the phase behavior of coacervate formation, as well as the rheology of the liquid coacervates.