

### Characterization of complex coacervate based on DOPA derivatives

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Marine mussel is known to new strategy for adhesion in wet conditions. A key adhesive component in these adhesive is L,3-4-dihydroxyphenylalanine(DOPA), that have the ability to attach themselves to a various type of surfaces through many interactions.

In this study, we were prepared DOPA derivatives with acrylic monomers and amino-sulfonate zwitterions to improve adhesion strength. The adhesion strength was improved by different blend ratios of the synthesized DOPA derivatives and block copolymers. The adhesion properties were evaluated by adding various kinds of metal cations ( $Mg^{2+}$ ,  $Ca^{2+}$ ,  $Fe^{3+}$ ,  $V^{5+}$ ) to induce cation- $\pi$  interaction, which is a one of the specific interaction of DOPA. This study provides an overview of complex coacervate based cation- $\pi$  interaction, with an emphasis on their characterization and practical applications.