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Tuning the phase diagram of polyelectrolyte blends with a pinch of salt JOS ZWANIKKEN, MONICA OLVERA DE LA CRUZ, Northwestern University — Developments in 'smart' materials and devices for energy storage rely on the versatile properties of charged polymers. The charged properties of the polymer backbone and those of the accompanying ions have a large influence on larger scale (self-assembled) structure and miscibility. With statistical thermodynamic methods, we investigate local ionic structure and the influence of charge correlations on the phase diagram of polyelectrolyte blends. In particular, we study the effects of added salt on the coexistence lines, and explore the possibilities of multiple phase coexistence between phases with a different polymer fraction or charge concentration.

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