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Teasing Bio-inspired Micro-Reactor Chemistry out of Simple Polymer Solutions HUAN WANG, STEVE GRANICK, IBS Center for Soft and Living Matter — We live in an age where research fields benefit from cross-pollination. In living cells, liquid droplets, which mostly are dynamical assemblies of macromolecules, function to enable chemical reactions by concentrating reactants through this nonequilibrium process. We have noticed that droplets of polymer in volatile solvent similarly concentrate into local dynamical pockets as evaporation proceeds. This presents interesting new physics on the one hand as the influence of polymer viscoelasticity in this nonequilibrium situation is subtle. It also presents chemists with a practical tool to trigger chemical reactions that in the bulk solutions would at equilibrium not occur or cease reaction by selective depletion of reactants into pockets.

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