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Creaming of Emulsion aggregations and gels CHANJOONG KIM, DAVID WEITZ, DEAS and Department of Physics, Harvard University, EXPERIMENTAL SOFT CONDENSED MATTER GROUP TEAM — Even though creaming of emulsion has been considered as a simple phenomenon due to the hydrodynamics interaction and the density mismatch between dispersed phase and continuous phase, actual creaming behavior is not so simple once emulsion droplets interact with each other. Interaction between droplets was controlled by depletion force, which depends on the concentration of smaller micelles. Creaming behaviors can be categorized to three different groups; 1) The boundary moves up fast at a constant speed with low surfactant concentrations, 2) it moves slowly in the beginning but suddenly collapses up at intermediated concentrations, and 3) it moves up slowly without collapsing at high concentrations. These behaviors are interpreted in terms of poroelatic model.

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