

Abstract Submitted
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Drainage of protein foams and foam films LENA HASSAN, CHENX-
IAN XU, VIVEK SHARMA, University of Illinois at Chicago — Many food, cosmetic
and pharmaceutical foams contain proteins that influence both the interfacial and
bulk properties of formulations. In this study, we characterize the drainage of
protein-based foams as well as single foam films, and contrast their behavior with
micellar foams formed with small molecular surfactants above the critical micelle
concentration. Micellar foam films undergo drainage via stratification manifested
as step-wise thinning in the plots of average film thickness over time. Stratification
in micellar foam films is accompanied by formation of coexisting thick-thin regions
visualized in reflected light microscopy as exhibiting distinct grey regions as inten-
sity is correlated with thin film interference. We critically examine the drainage of
protein foam films to determine how and when stratification can be observed, and
evaluate the connection between drainage of single foam films and bulk foams.

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