

Abstract Submitted
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Role of membrane composition in the formation and stability of buds KURT A. SMITH, ANNA C. BALAZS, University of Pittsburgh — Using dissipative particle dynamics we study the behavior of buds in amphiphilic bilayer membranes. These buds occur during phase separation when line tension between the two phases comes to dominate the bending rigidity of the membrane. We show that the inclusion of twin-tail amphiphiles, which segregate to the interface between the two phases, is a means to controlling the onset of budding. In addition they stabilize the neck when budding does occur, by acting essentially as stitches, thereby increasing the energy needed to detach the bud from the membrane.

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