Erratum: Lattice model for the kinetics of rupture of fluid bilayer membranes [Physical Review E 67, 051908 (2003)]

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In Sec. II, discussing a simple model for rupture, below Eq. (4) the energy barrier to rupture for large a_m is given by $\lambda^2\pi/K(\Delta a_m/a_m)^{-1}$. This is correct but the pore area for which it occurs is $a_p=\pi(\lambda(\Delta a_m/a_m)/K)^2$ and not $(\lambda a_m\sqrt{\pi}/K)^{2/3}$. Both quantities are independent of a_m. This argument predicts a barrier height of the order of $10^3 k_B T_{room}$ rather than $10^4 k_B T_{room}$ as quoted in the paper, for experimentally observed stretches $\Delta a_m/a_m=2$ to 4%.

In the last paragraph of Sec. IV A, we state that a lattice of 30 301 sites (60 602 lipids) corresponds to a total membrane area of 18 μm^2. This actually should read 0.018 μm^2. So the size of the samples run in our simulations are smaller than natural biological cells which have a radius of the order of one μm. But, as discussed in Sec. IV A, we observe no qualitative change in rupture kinetics with size.

The statement in Sec. V that the model requires little computer time allowing the handling of real size vesicles remains true. It was well within our computational ability to run samples comparable to real-size vesicles.

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