

Biophysical Journal, Volume 96

Supporting Material

Visualization of membrane loss during the shrinkage of giant vesicles under electropulsation

Thomas Portet, Franc Camps i Febrer, Jean-Michel Escoffre , Cyril Favard, Marie-Pierre Rols, and David S. Dean

Supplementary Information

I. Information about pulse spacing

Table S1 summarizes times when pulses were applied, and times when images were acquired for the liposomes A, B, C and D presented in the main text. Time origin is defined as the onset of the first pulse. Pictures were taken roughly 0.5 s after each pulse. Numbers in bold font correspond to moments before which recentering had to be carried out (black arrows on fig.2 in the main text). No recentering was necessary for liposome B.

II. Movies legends

As Supplementary Data, we also provide movies depicting the three different mechanisms of lipid loss described in the main text, whose legends are the following.

Movie S1: Animation of a GUV exhibiting lipid loss via the formation of small vesicles. Pulse duration is 5 ms, and pulse amplitude is 410 V/cm. Anode is on the right side of the vesicle. Initial diameter is 41 μm .

Movie S2: Animation of liposome B from main text showing the formation of tubular structures. Pulse duration is 5 ms, and pulse amplitude is 360 V/cm. Anode is on the right hand side of the vesicle. Initial diameter is 47 μm .

Movie S3: Animation of liposome D from main text showing the formation of pores (indicated by the red arrow) and tubules. Pulse duration is 5 ms, and pulse amplitude is 300 V/cm. Anode is on the right hand side of the vesicle. Initial diameter is 56 μm .

Pulse/Image number	Liposome A		Liposome B		Liposome C		Liposome D	
	Times of pulse applications (s)	Times of image acquisitions (s)	Times of pulse applications (s)	Times of image acquisitions (s)	Times of pulse applications (s)	Times of image acquisitions (s)	Times of pulse applications (s)	Times of image acquisitions (s)
1	0	0.5	0	0.5	0	0.5	0	0.5
2	2	2.5	2	2.5	2	2.5	2	2.5
3	4	4.5	4	4.5	4	4.5	4	4.5
4	6	6.5	6	6.5	6	6.5	6	6.5
5	8	8.5	8	8.5	8	8.5	8	8.5
6	10	10.5	10	10.5	10	10.5	10	10.5
7	12	12.5	12	12.5	20	20.5	12	12.5
8	14	14.5	14	14.5	22	22.5	14	14.5
9	16	16.5	16	16.5	24	24.5	16	16.5
10	18	18.5	18	18.5	26	26.5	18	18.5
11	28	28.5	20	20.5	28	28.5	20	20.5
12	30	30.5	22	22.5	30	30.5	22	22.5
13	32	32.5	24	24.5	32	32.5	32	32.5
14	34	34.5	26	26.5	34	34.5	34	34.5
15	36	36.5	28	28.5	36	36.5	36	36.5
16	38	38.5	30	30.5	38	38.5	38	38.5
17	40	40.5	32	32.5	48	48.5	40	40.5
18	42	42.5	34	34.5	50	50.5	42	42.5
19	44	44.5	36	36.5	52	52.5	44	44.5
20	46	46.5	38	38.5	54	54.5	46	46.5
21	56	56.5	40	40.5	56	56.5	48	48.5
22	58	58.5	42	42.5	58	58.5	50	50.5
23	60	60.5	44	44.5	60	60.5	52	52.5
24	62	62.5	46	46.5	62	62.5	54	54.5
25	64	64.5	48	48.5	64	64.5	56	56.5
26	66	66.5	50	50.5	74	74.5	58	58.5
27	68	68.5	52	52.5	76	76.5	60	60.5
28	70	70.5	54	54.5	78	78.5	62	62.5
29			56	56.5	80	80.5	64	64.5
30			58	58.5			66	66.5
31			60	60.5			76	76.5
32			62	62.5			78	78.5
33			64	64.5			80	80.5
34			66	66.5			82	82.5
35			68	68.5			84	84.5
36			70	70.5			86	86.5
37			72	72.5			88	88.5
38			74	74.5			90	90.5
39			76	76.5			92	92.5
40							102	102.5
41							104	104.5
42							106	106.5
43							108	108.5
44							110	110.5
45							112	112.5
46							114	114.5
47							116	116.5
48							118	118.5
49							120	120.5
50							122	122.5
51							124	124.5
52							126	126.5
53							128	128.5
54							130	130.5
55							132	132.5

Table S1 : Detailed time information for liposomes A, B, C and D presented in the main text.