CELL JOURNAL (Yakhteh)

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Supplementary Information for

Disulfiram-Loaded Niosomes Reduces Cancerous Phenotypes in Oral Squamous Cell Carcinoma Cells

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Table S1: Design of experiments for Niosome-loaded DSF

A. Design of experiments using central composite design method to optimize the N-DSF

Number	Lipid (µM)	Surfactant: Cholesterol	Size (nm)	PDI	EE (%)
1	200	2	200.2	0.17	68.79
2	250	1	291.4	0.275	77.23
3	300	0.5	332.9	0.121	65.11
4	200	0.5	230.8	0.248	51.35
5	250	1	217.9	0.248	72.23
6	250	1	206	0.219	71.1
7	200	1	169.9	0.221	55.5
8	250	2	178	0.187	82
9	250	0.5	270.3	0.145	63.51
10	250	1	194.7	0.205	70.4
11	300	2	263.2	0.292	84.4

Received: 26/December/2022, Revised: 19/April/2023, Accepted: 04/May/2023
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Table S1: Continued

B. ANOVA statistical analysis

Source		F value	P value, prob>f
	Particle size (nm)		
Model	17.59	0.0034	Significant
A	48.57	0.0009	
B	21.93	0.0054	
A2	7.43	0.0415	
	PDI		
Model	11.68	0.0087	Significant
B	6.80	0.0477	
AB	34.73	0.0020	
B2	13.44	0.0145	
	EE (%) of DSF		
Model	54.96	0.0002	Significant
A	118.32	0.0001	
B	138.17	< 0.0001	
A2	18.07	0.0081	

1A; Niosomal compositions were optimized utilizing RSM and a Central Composite design. Niosome particle size (nm), PDI, and EE% were investigated as a function of two selected numerical parameters [lipid content (M) and Surfactant per cholesterol molar ratio]. In order to derive the polynomial equation, design-expert was used (version 7.0.10, Stat-Ease, Inc., Minneapolis, MN, USA). Evaluation of experimental results versus predictions. 1B; Quadratic polynomial modeled response ($P \leq 0.05$). Statistically, the model worked. Particle size was affected by lipid content and surfactant-to-cholesterol molar ratio. PDI variance analysis shows that the quadratic model is adequate due to polynomial responses. This statistically significant model ($P \leq 0.05$) implies that surfactant-to-cholesterol ratio affects PDI. SF's lipid content and surfactant molar ratio affected EE (%). RSM; Respone surface methodology, N-DSF; Disulfiram-loaded Niosomes PDI; Polydispersity index, and EE; Entrapment efficiency.

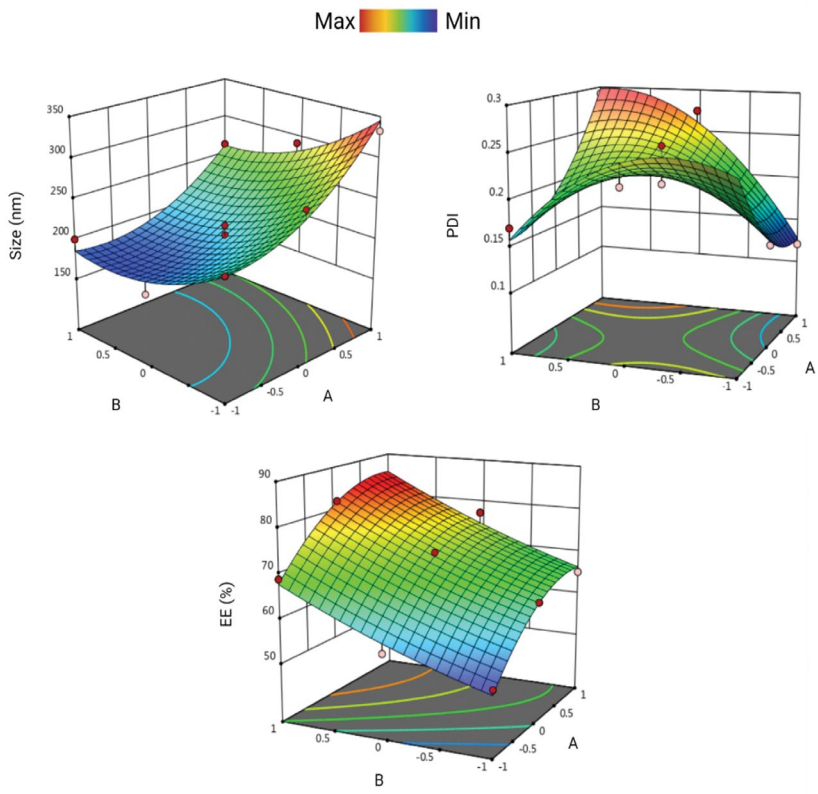

Fig.S1: Response surfaces as a function of the lipid content (µM) and molar ratio surfactant per cholesterol. **A.** Size, **B.** PDI, and **C.** EE (%) of DSF. PDI; Polidispercity index, EE; Entrapment efficiency, and DSF; Disulfiram.