

## عنوان مقاله:

Optimization of encapsulation efficiency in liposomal nanocarriers production containing garlic essential oil (*Allium sativum*)

## محل انتشار:

سومین همایش بین المللی تحقیقات در علوم و فناوری نانو (سال: 1402)

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## خلاصه مقاله:

This study is aimed to optimize the preparation factors such as sonication time (5-20 minutes), cholesterol to lecetin ratio (CHLR) (0.2-0.8) and essential oil content (0.1-0.3 g/100 g) in solvent evaporation method for formulation of liposomal nanocarriers containing garlic essential oil (GEO) in order to find the highest encapsulation efficiency and stability with strongest antioxidant capacity and antimicrobial activity. Droplet size, zeta potential and encapsulation efficiency were measured for all prepared samples of nanoliposome based on the experimental design. Sonication time is recognized as the most effective factor on the droplet size, zeta potential, encapsulation efficiency while CHLR was the most effective factor on zeta potential. The overall optimum condition was determined by response surface methodology (RSM) as the predicted values of the studied factors (sonication time: 18.99 minutes, CHLR: 0.59 and content of GEO: 0.3 g/100 g) considering all responses including the highest encapsulation efficiency.

## کلمات کلیدی:

Liposomal nanocarriers, Droplet size, Garlic essential oil, Solvent evaporation method, Optimization

## لینک ثابت مقاله در پایگاه سیویلیکا:

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