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Title: PREPARATION AND CHARACTERIZATION OF QUERCETIN-LOADED LIPID LIQUID CRYSTALLINE SYSTEMS

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1 PREPARATION AND CHARACTERIZATION OF QUERCETIN-LOADED  
2 LIPID LIQUID CRYSTALLINE SYSTEMS

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17  
18 **Abstract**

19 The aim of the present study was to investigate mixtures of soy phosphatidylcholine (SPC) and  
20 glycerol dioleate (GDO) as encapsulation matrices for antioxidant quercetin. The effects of  
21 quercetin loading into non-aqueous formulations, non-lamellar liquid crystalline phases and their  
22 colloidal dispersions were studied by using synchrotron small angle X-ray diffraction, dynamic  
23 light scattering, cryogenic electron microscopy and high performance liquid chromatography.  
24 Quercetin incorporation is discussed in the context of lipid aggregation behavior, self-assembled  
25 nanostructure and chemical stability. The obtained results show that SPC/GDO-based  
26 formulations can incorporate relatively high amounts of quercetin and serve as liquid crystalline  
27 delivery vehicles in the form of bulk phases or colloidal dispersions.

28  
29 *Keywords:*

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