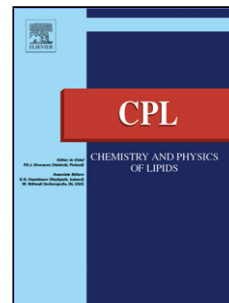


Accepted Manuscript

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Authors: Yu Zheng, Xin Liu, Nataliya M. Samoshina, Vyacheslav V. Samoshin, Andreas H. Franz, Xin Guo



PII: S0009-3084(17)30184-6
DOI: <https://doi.org/10.1016/j.chemphyslip.2017.10.004>
Reference: CPL 4595

To appear in: *Chemistry and Physics of Lipids*

Received date: 20-7-2017
Revised date: 10-10-2017
Accepted date: 11-10-2017

Please cite this article as: Zheng, Yu, Liu, Xin, Samoshina, Nataliya M., Samoshin, Vyacheslav V., Franz, Andreas H., Guo, Xin, Fliposomes: *trans*-2-Aminocyclohexanol-based amphiphiles as pH-sensitive conformational switches of liposome membrane – a structure-activity relationship study. *Chemistry and Physics of Lipids* <https://doi.org/10.1016/j.chemphyslip.2017.10.004>

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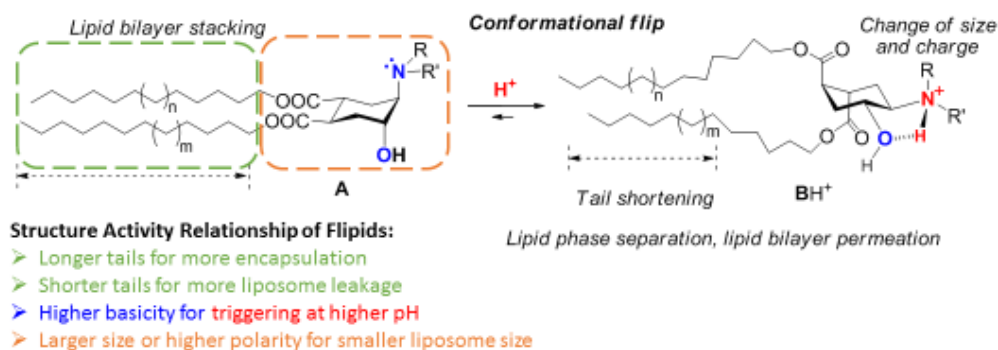
Yu Zheng ^{a,b}, Xin Liu ^a, Nataliya M. Samoshina ^{a,b}, Vyacheslav V. Samoshin ^{a,*}, Andreas H. Franz ^a, Xin Guo ^{b,*}

^a Department of Chemistry, College of the Pacific, University of the Pacific, 3601 Pacific Avenue, Stockton, CA 95211, USA

^b Department of Pharmaceutics and Medicinal Chemistry, Thomas J Long School of Pharmacy and Health Sciences, University of the Pacific, 751 Brookside Road, Stockton, CA 95211, USA

* Corresponding authors: xguo@pacific.edu; vsamoshin@pacific.edu

Graphic abstract



Highlights

- Trans-2-aminocyclohexanol-based pH-sensitive conformational switches (flipids) of liposome membrane were investigated
- Structure of the flipids affects size, encapsulation capacity and shelf stability of their liposomes
- Flipids with shorter, linear tails triggered the liposome to release more efficiently
- A more basic amino headgroup of flipids triggers the liposome to release at higher pH

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