**OP-14**

# APPLICATION OF ADAMANTYL AMINOGUANIDINES IN FUNCTIONAL SELF-ASSEMBLED NANOVESICLES

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Combination of a lipophilic adamantyl subunit and a highly polar guanidine moiety affords adamantyl aminoguanidines, compounds with membrane compatible features capable of binding to complementary molecules possessing phosphate groups.[1] We recently showed that adamantyl aminoguanidines can effectively be incorporated into liposomes and the resulting liposome formulations were capable of recognizing complementary liposomes.[2] We therefore turned out attention to preparing multicomponent self-assembled supramolecular nanovesicles capable of recognition and binding to fluorescently labelled DNA.[3] Our findings suggest that such nanovesicles (Figure 1) could potentially be applied as nonviral gene delivery vectors.

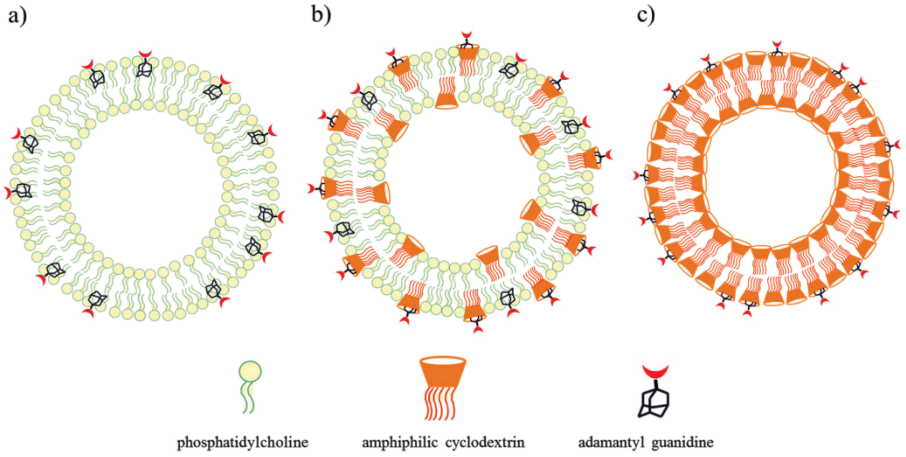


**Figure 1.** Schematic representation of the prepared functional supramolecular systems consisting of adamantyl aminoguanidines and different liposomes and vesicles.

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[2] M. Šekutor, A. Štimac, K. Mlinarić-Majerski, R. Frkanec, *Org. Biomol. Chem.* **2014**, *12*, 6005–6013.
[3] A. Štimac, M. Tokić, A. Ljubetič, T. Vuletić, M. Šekutor, J. Požar, K. Leko, M. Hanževački, L. Frkanec, R. Frkanec, *Org. Biomol. Chem.* **2019**, *17*, 4640–4651. https://doi.org/10.1039/c9ob00488b