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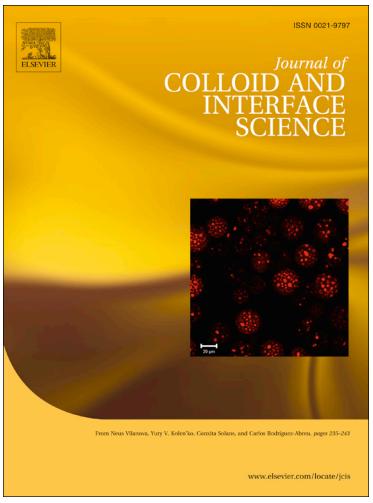

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PII: S0021-9797(18)30706-9
DOI: https://doi.org/10.1016/j.jcis.2018.06.058
Reference: YJCIS 23749

To appear in: *Journal of Colloid and Interface Science*

Received Date: 21 February 2018
Revised Date: 14 June 2018
Accepted Date: 21 June 2018

Please cite this article as: R.S. Schuh, E. Poletto, F.N.S. Fachel, U. Matte, G. Baldo, H.F. Teixeira, Physicochemical properties of cationic nanoemulsions and liposomes obtained by microfluidization complexed with a single plasmid or along with an oligonucleotide: implications for CRISPR/Cas technology, *Journal of Colloid and Interface Science* (2018), doi: https://doi.org/10.1016/j.jcis.2018.06.058

Physicochemical properties of cationic nanoemulsions and liposomes obtained by microfluidization complexed with a single plasmid or along with an oligonucleotide: implications for CRISPR/Cas technology

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Abstract

In this study, we investigated the effects of the association of a single plasmid or its co-complexation along with an oligonucleotide on the physicochemical properties of cationic nanoemulsions and liposomes intended for gene editing. Formulations composed of DOPE, DOTAP, DSPE-PEG (liposomes), and MCT (nanoemulsions) were obtained by microfluidization. DSPE-PEG was found to play a crucial role on the size and polydispersity index of nanocarriers. Nucleic acids were complexated by adsorption at different charge ratios. No significant differences were noticed in the physicochemical properties of nanocarriers (i.e.