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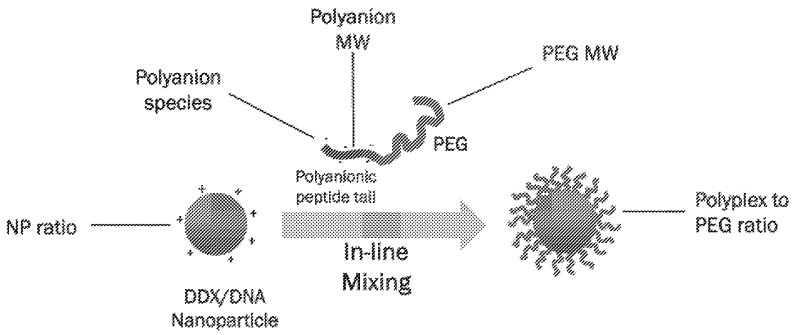
(54) **Title:** REVERSIBLE COATING OF CHITOSAN-NUCLEIC ACID NANOPARTICLES AND METHODS OF THEIR USE

Fig. 1

Reversible coating of nanoparticles surface with PEG



(57) **Abstract:** Chitosan-nucleic acid polyplex compositions containing a reversibly bound polymer coat comprising linear block copolymers with a polyanionic anchor region and at least one polyethylene glycol tail region are described herein. In some cases, the compositions exhibit improved stability and/or mucosal diffusion as compared to uncoated particles. In some cases, the reversibly bound polymer coat does not interfere with, or enhances, transfection of target cells or tissues as compared to uncoated particles.

WO 2020/183238 A1

[Continued on next page]

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