Tentative Outline (Preliminary Proposal of Thematic Issue)

Special/Thematic Issue for the journal Drug Delivery Letters

Title of the Thematic Issue: Novel Self-Assembled Nanoparticles for Targeted Gene Delivery

Guest Editor's Name: Dr. Jason Duskey

Co-Guest Editor's Name: Dr. Ilaria Ottonelli

- **Scope of the Thematic Issue:**

The scope is to provide the scientific community with novel nanomaterial that can self-assemble into nanoparticles, easily, rapidly and in a "green" way. The application of self-assembling nanoparticles to targeted delivery of DNA and RNA should be discussed and encouraged, on the one hand because of the recent regresses that gene delivery has made in clinics, and, on the other hand, because of the concrete possibility to scale-up a self-assembling process and have promising outcomes in therapy.

Keywords: Self-Assembly, Nanoparticles, siRNA, mRNA, DNA, Targeted delivery, biocompatibility

Sub-topics:

- Self-assembling nanomaterial could allow to obtain nanoparticles in a rapid and easy way, without the use of high energy techniques and many organic solvents, thereby reducing the impact on the environment and on human health
- The biocompatibility and safety of self-assembling nanomaterial is essential to provide the possibility of carrying on the experiments in vivo and having a transition to clinics
- The recent commercial approval of RNA-based therapeutics (mRNA and siRNA-based) is paving the way toward a future where the power of gene therapy and delivery could be fully expressed and exploited
- Targeting moieties can be used to decorate nanoparticles to perform targeted gene delivery

Schedule:

- Complete Thematic issue submission deadline: June 2023

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