



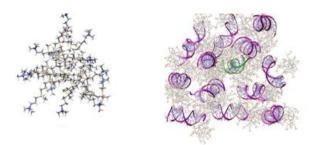
## COMPUTER DESIGN OF NANOMATERIALS

## Aim of developed technology

Molecular modeling of drug carriers for gene therapy

Problem: Cell transfection and siRNA delivery

Solution: Suitable carriers for gene transfer have been found. Based on molecular modeling, we designed carbosilane dendrimer carriers and their complexes that were successfully tested.



## Molecular modeling of polymeric nanofibers modified with antimicrobial agents

Problem: The key problem in development of antimicrobial filtration media based on antimicrobial modified polymeric nanofibrous fabrics is the finding a suitable combination of polymer and modifying agent.

Solution: Using molecular modeling and calculations of interaction energy polymer- additive we found the optimum combinations of polymeric carrier material and additives for maximum stability of composite: polymeric carrier-antimicrobial agent.





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