



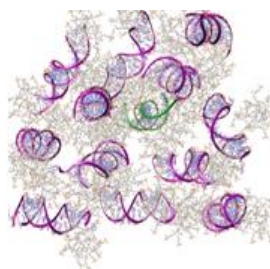
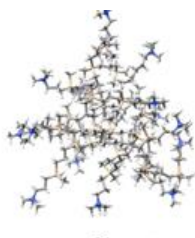
COMPUTER DESIGN OF NANOMATERIALS

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.

