

FLUORESCENTLY LABELED
BIONANOTRANSPORTERS OF NUCLEIC
ACID BASED ON CARBON NANOTUBES

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S u m m a r y

We propose an approach to the design of a new type of hybrids of oligonucleotides with fluorescein-functionalized single-walled carbon nanotubes. The approach is based on stacking interactions of functionalized nanotubes with pyrene residues in conjugates of oligonucleotides. The amino- and fluorescein-modified single-walled carbon nanotubes are obtained, and their physico-chemical properties are investigated. The effect of the functionalization type of carbon nanotubes on the efficacy of the sorption of pyrene conjugates of oligonucleotides was examined. The proposed non-covalent hybrids of fluorescein-labeled carbon nanotubes with oligonucleotides may be used for the intracellular transport of functional nucleic acids.