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(54) Title: **CONDITIONALLY ACTIVATABLE NUCLEIC ACID COMPLEXES**

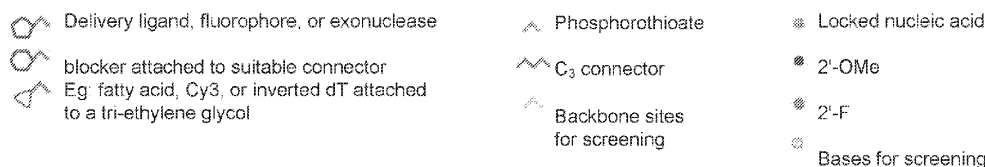
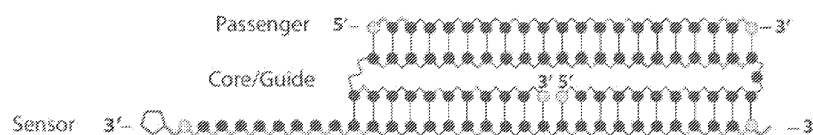


FIG. 3

(57) Abstract: Provided herein include conditionally activatable small interfering RNA (siRNA) complexes, components, compositions, and related methods and systems. The siRNA complex can be conditionally activated upon a complementary binding to an input nucleic acid strand (e.g. a mRNA of a biomarker gene specific to a target cell) through a sequence in a sensor nucleic acid strand of the nucleic acid complex. The activated nucleic acid complex can release a potent RNAi duplex formed by a core nucleic acid strand and a passenger nucleic acid strand, which can specifically inhibit a target RNA.

[Continued on next page]

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