

*Supplementary Information***Quadruplex Integrated DNA (QuID) Nanosensors for Monitoring Dopamine. *Sensors* 2015, 15, 19912–19924****Jennifer M. Morales, Christopher G. Skipwith and Heather A. Clark ***

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DNA sequences used to produce the nanosensor. All sequences are shown in the 5' to 3' direction.

Center Sequences

GCTAGGGGTCCTTGGGGGGCGAGGAGGAGGCT

ATCATACTAATCGCACGCATCACCATAGCCTCCTCCTCGGGGGGG

GGGGGGTAAACTTTCCTAG

ATCATACTAATCGCACGCATCACCATCTAGGAAAGTTTAGGGGGG

AAGGACCCCTAGCCCGCAGCGAACAT

TTCAGTTTTTAACGGGGGGCCATGGTACCCTC

ATCATACTAATCGCACGCATCACCATGAGGGTACCATGGGGGGGG

GGGGGGGGTCTTTCCTCTG

ATCATACTAATCGCACGCATCACCATCAGGAGAAAGACCGGGGGG

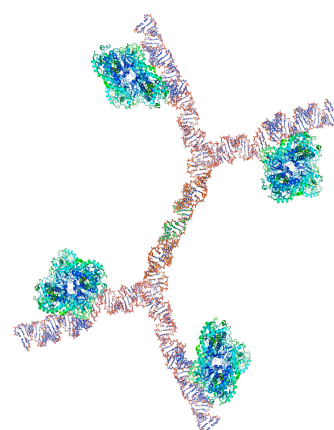
GTAAAAAAGTGAATGTTTCGCTGCGG

Features

Complementary sticky ends for binding central pieces

CCGCAGCGAACAT ATGTTTCGCTGCGG

Common sticky end to bind Layer 1



ATCATACTAATCG

Guanine Quadruplex coupling region

GGGGGG

Enzyme tethering region and complementary DNA sequence for enzyme attachment

CACGCATCACCAT ATGGTGATGCGTG

Layer 1 Sequences

CGATTAGTATGATTGATGCTAACTTAGGGGGGTTAGACGATGCTG

TCAACTTTCCTCCACGCATCACCATCAGCATCGTCTAAGGGGGG

GGGGGGAGGGACGTCGCGT

TCAACTTTCCTCCACGCATCACCATACGCGACGTCCCTGGGGGGTAAGTTAGCATCA

Features

Complementary sticky ends for binding to center piece

CGATTAGTATGAT

Common sticky end to bind Layer 2

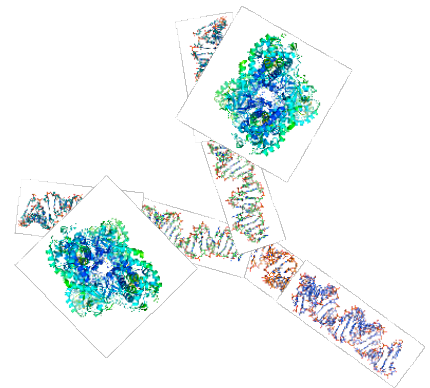
TCAACTTTCCTC

Guanine Quadruplex coupling region

GGGGGG

Enzyme tethering region and complementary DNA sequence
for enzyme attachment

CACGCATCACCAT ATGGTGATGCGTG



Layer 2 Sequences

GAGGGAAAGTTGATTTCAGTTTTTAACGGGGGGCCTCTAATCCCCA

ATAATTCAGCGATCACGCATCACCATTGGGGATTAGAGGGGGGGG

GGGGGGCCAGAAAGAGGAC

ATAATTCAGCGATCACGCATCACCATGTCCTCTTCTGGGGGGGGTTAAAACTGAA

Features

Complementary sticky ends for binding to Layer 1

GAGGGAAAGTTGA

Common sticky end for additional binding

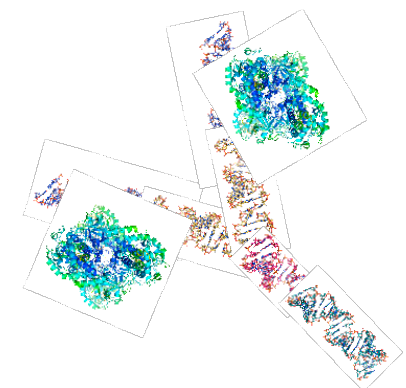
ATAATTCAGCGAT

Guanine Quadruplex coupling region

GGGGGG

Enzyme tethering region and complementary DNA sequence for
enzyme attachment

CACGCATCACCAT ATGGTGATGCGTG



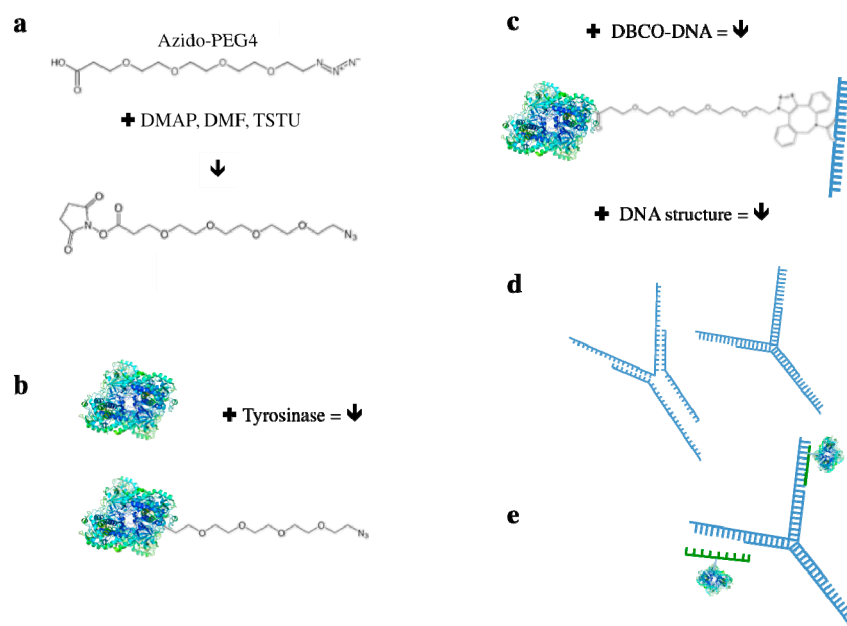


Figure S1. Schematic description of QuID assembly. The Azido-PEG4 linker is first activated (**a**) and conjugated to tyrosinase with amine reactive chemistry (**b**); Next the DNA is attached to the linker by a copper-free click chemistry reaction (**c**); Separately, the DNA structure is assembled (**d**) and mixed with the enzyme conjugated DNA (**e**).

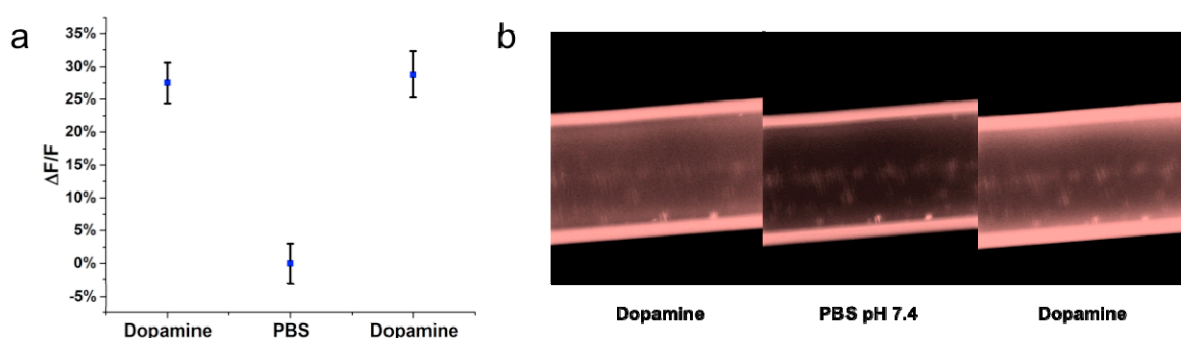


Figure S2. Reversibility of QuID phosphorescence (**a**) with corresponding images of the time points during perfusion (**b**).