

Table 1S. ODN sequences (supplement to figures 4B and C)

ODN Duplex	Sequences	b.p. distance and nucleotides	Absorbance spectra changes ^{b)}	Donor fluorescence intensity decrease, % ^{c)}	Acceptor fluorescence intensity change, % ^{d)}	Acceptor fluorescence intensity change, % ^{e)}
D9	5' AGCCT ⊗TGCAGTCACTA-C ATCG 3' 3' TCGGA -ACGTCAGTGAT⊗ GTAGC 5'	10 T,T	-	ND	ND	ND
D10	5' AGCCTG ⊗GAAAGTC-CCAC ATCG 3' 3' TCGGAC -CTTTCAG⊗GGT GTAGC 5'	7 G,G	+	89.3	-86.6	-91.9

a) ⊗ positions of donor and acceptor dyes linking to ODNs, blue – Cy5.5 (donor), green- 800CW, acceptor

b) + Indicates the presence of the absence of 640 nm absorbance peak

c) Fluorescence intensity change at 700nm (excited at 675nm) (%)

d) Fluorescence intensity change at 800nm (excited at 675nm) (%)

e) Fluorescence intensity change at 800nm (excited at 778nm) (%)

c,d,e The results are shown as mean±SD (n=2-3).

Phosphorothoates are shown in bold.

Table 2S. Fluorescence lifetimes measured at 650/716 band pass (donor dye Cy5.5) and 750/800 long pass (acceptor dye, 800CW and Cy7). The results are mean±SD (n=2).

Fluorophore*	Free fluorophore, ns	Single-stranded ODN, ns	ODN duplex, ns
Cy5.5	0.85±0.05	1.05±0.05	1.19±0.09
800CW	0.4±0.05	0.56±0.06	0.55±0.08
Cy7	0.55±0.05	0.75±0.05	0.71±0.06

* Fluorophore concentration – 75 nM in all experiments.