

Electronic supplementary information

Light-up split aptamers: binding thermodynamics and kinetics for sensing

Yichen Zhao^{1§}, Nikesh Patel^{1,2§}, Peihuan Sun¹, Karen Faulds², Duncan Graham^{2*} and Juewen Liu^{1*}

1. Department of Chemistry, Waterloo Institute for Nanotechnology, Waterloo, Ontario, N2L 3G1, Canada

2. Department of Pure and Applied Chemistry, Technology and Innovation Center, University of Strathclyde, 99 George Street, Glasgow G1 1RD, UK

§ Y. Zhao and N. Patel contributed equally to this work.

Email: duncan.graham@strath.ac.uk; liujw@uwaterloo.ca

Table S1. Table of DNA sequences used in this study.

DNA Name	Sequence
OTC5 Full	GAC GAC ATT CCG TTG ATC TCT CCC TTT GGG TTG GTG TCT GTC
OTC5a	GAC GAC ATT CCG TTG ATC TCT CCC GC
OTC5b7/5	GCG GGT TGG TGT CGT C
OTC5b5/6	GCG GGT TGG TGT CGT
OTC5b4/6	ACG GGT TGG TGT CGT
OTC5b5/4	ACG GGT TGG TGT CGA
Thiol OTC5a	/5ThioMC6-D/AA AAA AAA AGA CGA CAT TCC GTT GAT CTC TCC CGC
Thiol OTC5b5/6	5ThioMC6-D/AA AAA AAA AGC GGG TTG GTG TCG T

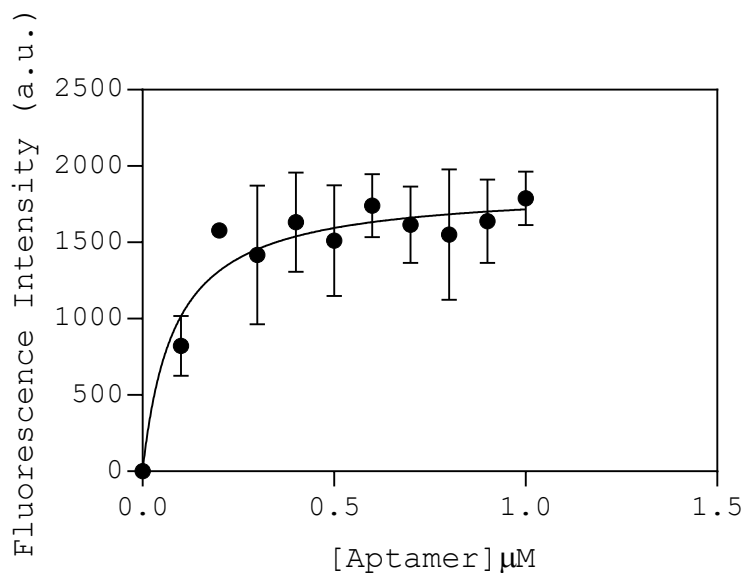


Figure S1. Fluorescence titration of thiolated OTC5a and OTC5b5/6 into 100 nM oxytetracycline. Fluorescence was recorded at an excitation of 370 nm and emission of 535 nm in 10 mM MES pH 6.0 buffer with 2 mM MgCl_2 . A K_D of 0.08 μM aptamer (OTC5a+thiol OTC5b5/6) was fitted.