Supplementary Information

Cyclic dinucleotide detection with riboswitch-G-quadruplex hybrid

Genichiro Tsujia,b and Herman O. Sintima,b,c*

aDepartment of Chemistry and Biochemistry, University of Maryland, College Park, MD 20742, US.
bPresent address: Department of Chemistry, Purdue University, 560 Oval Drive, West Lafayette, IN 47907, US.
cCenter for Drug Discovery, Purdue University, West Lafayette, IN 47907, US.
Email: hsintim@purdue.edu

Experimental Section:

RNA sequences used in this study (5’ to 3’):

**F3-ST1Asym**
GGGUAGGGUUGGGGGCACCAGGGCAAAACAUUCGAAAGAGUGGGACGC
AAAGCCUCCCGCCUAAACUUCGGUAGGUAGCGGGGUUACCAGC
Length: 98 mer
Molar excitation coefficient (260 nm): 1106200 mol⁻¹ L cm⁻¹

**F3-ST2Asym**
GGGUAGGGUUGGGGCUCGCAACAGGGCAAAACAUUCGAAAGAGUGGGACGC
AAAGCCUCCCGCCUAAACUUCGGUAGGUAGCGGGGUUACCAGCG
Length: 97 mer
Molar excitation coefficient (260 nm): 1096900 mol⁻¹ L cm⁻¹

**F3-ST3Asym**
GGGUAGGGUUGGGGCUCGCAACAGGGCAAAACAUUCGAAAGAGUGGGACGC
AAAGCCUCCCGCCUAAACUUCGGUAGGUAGCGGGGUUACCAGCG
Length: 97 mer
Molar excitation coefficient (260 nm): 1093200 mol⁻¹ L cm⁻¹

**F3-ST1Sym**
GGGUAGGGGGCACCAGGGCAAAACAUUCGAAAGAGUGGGACGC
AAAGCCUCCCGCCUAAACUUCGGUAGGUAGCGGGGUUACCAGC
Length: 98 mer
Molar excitation coefficient (260 nm): 1106200 mol⁻¹ L cm⁻¹
**F3-ST2Sym**
GGGUAGGGGCUCCACAGGGCAACCAUCCGAAAGAGUGGGACGCAAAGCCUCC
G GCCCUAAACUUCGUAGGUAGCGGGGUUACCAGCGGGGUUUGGG
Length : 97 mer
Molar excitation coefficient (260 nm) : 1096900 mol⁻¹ L cm⁻¹

**F3-ST3Sym**
GGGUAGGGGCUCCACAGGGCAACCAUCCGAAAGAGUGGGACGCAAAGCCUCC
G GCCCUAAACUUCGUAGGUAGCGGGGUUACCAGCGGGGUUUGGG
Length : 97 mer
Molar excitation coefficient (260 nm) : 1093200 mol⁻¹ L cm⁻¹

**F3-ST4Sym**
GGGUAGGGGCACGCACAGGGCAACCAUCCGAAAGAGUGGGACGCAAAGCCUCC
UCCGCUCUAAACUUCGUAGGUAGCGGGGUUACCAGCGGGGUUUGGG
Length : 97 mer
Molar excitation coefficient (260 nm) : 1109900 mol⁻¹ L cm⁻¹

**F3-ST5Sym**
GGGUAGGGGCACGCACAGGGCAACCAUCCGAAAGAGUGGGACGCAAAGCCUCC
G GCCCUAAACUUCGUAGGUAGCGGGGUUACCAGCGGGGUUUGGG
Length : 97 mer
Molar excitation coefficient (260 nm) : 1109900 mol⁻¹ L cm⁻¹

**F3-ST6Sym**
GGGUAGGGGACUCGCACAGGGCAACCAUCCGAAAGAGUGGGACGCAAAGCCUCC
G GCCCUAAACUUCGUAGGUAGCGGGGUUACCAGCGGGGUUUGGG
Length : 99 mer
Molar excitation coefficient (260 nm) : 1122200 mol⁻¹ L cm⁻¹

**F3-ST7Sym**
GGGUAGGGGACUCGCACAGGGCAACCAUCCGAAAGAGUGGGACGCAAAGCCUCC
G GCCCUAAACUUCGUAGGUAGCGGGGUUACCAGCGGGGUUUGGG
Length : 99 mer
Molar excitation coefficient (260 nm) : 1116100 mol⁻¹ L cm⁻¹

**F2-ST2Sym**
GGUAGGGGCUCCACAGGGCAACCAUCCGAAAGAGUGGGACGCAAAGCCUCC
G GCCCUAAACUUCGUAGGUAGCGGGGUUACCAGCGGGGUUUGGG
Length : 93 mer
Molar excitation coefficient (260 nm) : 1050100 mol⁻¹ L cm⁻¹

**F2-ST5Sym**
GGUAGGGGCUCCACAGGGCAACCAUCCGAAAGAGUGGGACGCAAAGCCUCC
G GCCCUAAACUUCGUAGGUAGCGGGGUUACCAGCGGGGUUUGGG
Length : 93 mer
Molar excitation coefficient (260 nm) : 1046400 mol⁻¹ L cm⁻¹