

SUPPORTING INFORMATION

Modular Multi-Level Circuits From Immobilized DNA-Based Logic Gates

Brian M. Frezza, Scott L. Cockroft, and M. Reza Ghadiri*

*Departments of Chemistry and Molecular Biology and the Skaggs Institute for Chemical Biology,
The Scripps Research Institute, 10550 North Torrey Pines Rd, La Jolla, California 92037*

DNA Sequences. The sequences used were as follows:

Strand: 3'-(X'X_T'Y'Y_T')-biotin-5'

Sequence:

5'-(Biotin)-TTAGCAACCTCATCCTTAGGCCACCATTCGGTTAGCTGCCAAACCAGCGCGAAACCTTGCTCGAGACCATTATTGGAAGAATCCCTATTATGTGT-3'

Strand: 3'-(dabcyl)-(Z'Z_T')-biotin-5'

Sequence:

5'-(Biotin)-CCTTGGTCGCTCTCTTTTCGTAAGTCTAATACGCGGGTGTGTCTCTTCC-(dabcyl)-3'

Strand: 3'-(N'N_T')-biotin-5'

Sequence:

5'-(Biotin)-TGAGGCTTATGCTCTTGCACTCCTACCATGTTTCAGCAGTGGTCCCTCTGT-3'

Strand: 5'-(XYN_T)-3'

Sequence:

5'-ACACATAAATAGGGATTCTTCAAAACGCTGGTTTGGCAGCTAAACGGAATTAGGACTGCAAGAGCATAAGCCTCA-3'

Strand: 5'-(XYZZ_T)-3'

Sequence:

5'-ACACATAAATAGGGATTCTTCAAAACGCTGGTTTGGCAGCTAAACGGAATGAAAGGACAACACCCGCGTATTAGACTTACGAAAAGAGAGCGACCAAGG-3'

Strand: 5'-(XNN_T)-3'

Sequence:

5'-ACACATAAATAGGGATTCTTCAAAACAGAGGGACCACTGCTGAACATGGTAGGACTGCAAGAGCATAAGCCTCA-3'

Strand: 5'-(XZZ_T)-3'

Sequence:

5'-ACACATAAATAGGGATTCTTCAAAAGGAAAGGACAACACCCGCGTATTAGACTTACGAAAAGAGAGCGACCAAGG-3'

Strand: 5'-(YNN_T)-3'

Sequence:

5'-CGCTGGTTTGGCAGCTAAACGGAATACAGAGGGACCACTGCTGAACATGGTAGGACTGCAAGAGCATAAGCCTCA-3'

Strand: 5'-(YZZ_T)-3'

Sequence:

5'-CGCTGGTTTGGCAGCTAAACGGAATGGAAAGGACAACACCCGCGTATTAGACTTACGAAAAGAGAGCGACCAAGG-3'

Strand: 5'-(XX_T)-3'

Sequence:

5'-ACACATAAATAGGGATTCTTCAAAATAATATGGTCTCAGACAAGGTTTCG-3'

Strand: 5'-(YY_T)-3'

Sequence:

5'-CGCTGGTTTGGCAGCTAAACGGAATGGTGGCCTAAGGATGAGGTTGCTAA-3'

Strand: 5'-(NN_T)-3'

Sequence:

|-----N-----|-----N_T-----|
5'-ACAGAGGGACCACTGCTGAACATGGTAGGACTGCAAGAGCATAAGCCTCA-3'

Strand: 5'-(...N_T)-3'

Sequence:

|...N-|-----N_T-----|
5'-CATGGTAGGACTGCAAGAGCATAAGCCTCA-3'

Strand: 5'-(Cy3)-(Z)-3'

Sequence:

|-----Z-----|
5'-(Cy3)-GGAAAGGACAACACCCGCGTATTAG-3'