

Supplementary material for:

Optimized Light-Directed Synthesis of Aptamer Microarrays

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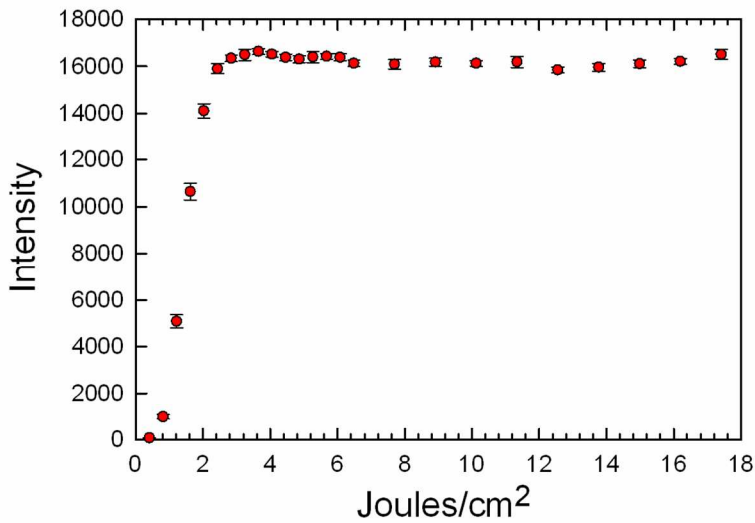


Figure S1. Normalized hybridization fluorescent signals for a single 60mer sequence synthesized with a photodeprotection light exposure gradient between 0.2 and 18 J/cm². Sequence on microarray: GTT AAG CGA AGA AGA AAG TAG CGT GGC GCA CAG TTG CCC AAT CAA TTA CAC CCT CAT TTC.

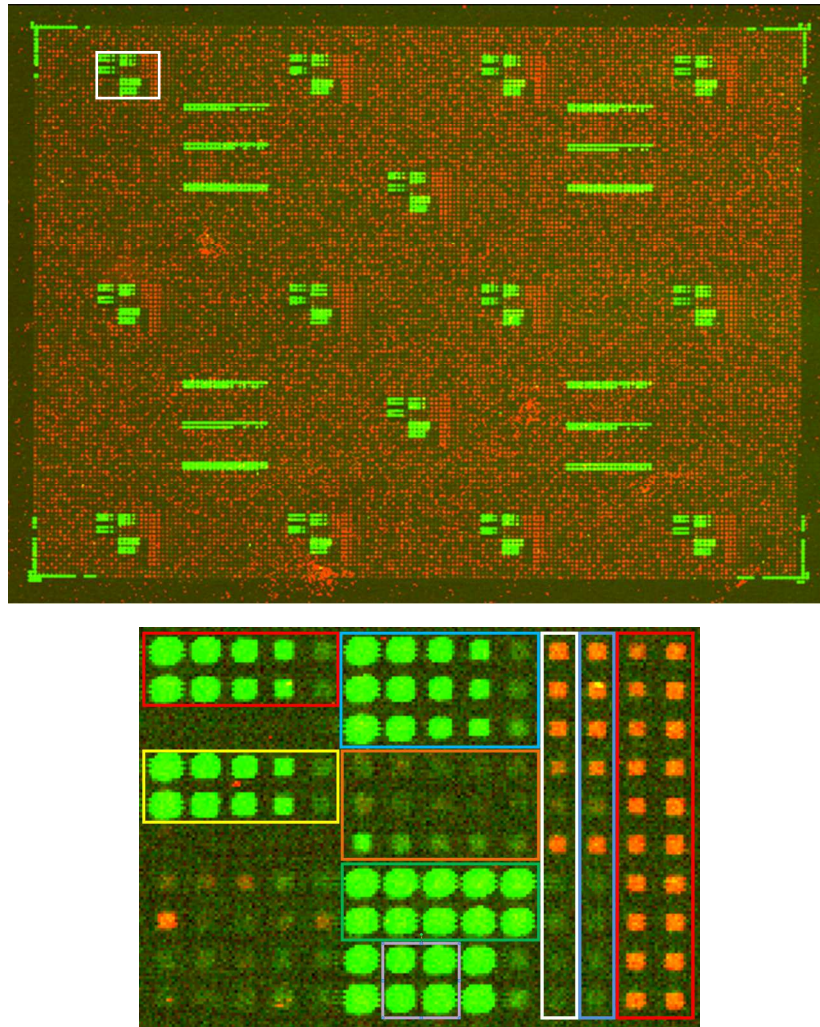


Figure S2. Overview of the array layout. **Top.** The full array contains 14 small QC-blocks (white square). All sequences outside the QC-blocks are for the aptamer binding assays. **Bottom.** Enlarged picture of one of the 14 small QC-blocks. **Cy3-labeled QC oligo hybridization:** Spots in the **blue** rectangle are QC1-5 (row 1), QC6-10 (row 2) and QC11-15 (row 3). The **orange** rectangles contain 15 negative control spots. The **red** rectangle contains spots on top of a 5T-spacer for QC1-5 (row 1) and QC6-10 (row 2). The **yellow** rectangle contains spots on top of a 10T-spacer for QC1-5 (row 1) and QC6-10 (row 2). The **green** rectangle contains spots for a coupling efficiency test. Two hybridization sequences were synthesized: QC1 (top row) and QC6 (bottom row). These were synthesized on mixed-base linkers with sequence ACGTACGT... with lengths increasing in steps of five from a 5mer to a 25mer. The **purple** square indicates the spots for the coupling efficiency test of the four separate amidites. QC6 on a dA 5mer (spot 1, row 1), QC6 on a dC 5mer (spot 2, row 1), QC6 on a dG 5mer (spot 1, row 2), QC6 on a dT 5mer (spot 2, row 2). A step capping followed each coupling in the linker synthesis. Other spots in this block are not relevant in this experiment. **Cy5-labeled streptavidin binding to aptamers:** In the white area from top to bottom sequences SBA001-SBA010. In the **blue** area from top to bottom: sequences SBA013-SBA022. In

the **blue** area from top to bottom: sequences SBA013-SBA022. In the **red** area from upper left to lower left, sequences SBA025-SBA034 and on the right, SBA037-SBA046. Aptamer sequences are given on the next page.

no	name	5' to 3'	nt
SBA001	St-2-1_T10	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTT	39
SBA002	St-2-A_T10	GCATTGACCGCTGTGTGACGCAAACTCAATGCTTTTTTTTTT	43
SBA003	St-2-T-1_T10	TTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTT	37
SBA004	St-2-T-2_T10	TGACCGCTGTGTGACGCAAACTCATTTTTTTTTTTTT	35
SBA005	St-2-T-3_T10	GACCGCTGTGTGACGCAAACTCTTTTTTTTTTTT	33
SBA006	St-2-R-1_T10	ATTGACGCGTGTGACGCAAACTCAATTTTTTTTTTTT	37
SBA007	St-2-R-2_T10	ATTGAGTGTGACGCAAACTCAATTTTTTTTTTTT	34
SBA008	St-2-M-1_T10	ATTGACCTCTGTGTGACGCAAACTCAATTTTTTTTTTTT	39
SBA009	St-2-M-2_T10	ATTGACCGCTGTGTGACTCAAACTCAATTTTTTTTTTTT	39
SBA010	St-2-M-3_T10	ATTGACCGCTGTGTAACGCAAACTCAATTTTTTTTTTTT	39
SBA011	St-D-1_T10	GGGGGCCGCTCCCCGACGAGGGGCCCTTTTTTTTTTTT	39
SBA012	St-2-1_rev_T10	TAACTCACAACGCAGTGTGTCGCCAGTTATTTTTTTTTTTT	39
SBA013	St-2-1_T20	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	49
SBA014	St-2-A_T20	GCATTGACCGCTGTGTGACGCAAACTCAATGCTTTTTTTTTTTTTTTTTTTT	53
SBA015	St-2-T-1_T20	TTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	47
SBA016	St-2-T-2_T20	TGACCGCTGTGTGACGCAAACTCATTTTTTTTTTTTTTTTTTTTT	45
SBA017	St-2-T-3_T20	GACCGCTGTGTGACGCAAACTCTTTTTTTTTTTTTTTTTTTT	43
SBA018	St-2-R-1_T20	ATTGACGCGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	47
SBA019	St-2-R-2_T20	ATTGAGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	44
SBA020	St-2-M-1_T20	ATTGACCTCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	49
SBA021	St-2-M-2_T20	ATTGACCGCTGTGTGACTCAAACTCAATTTTTTTTTTTTTTTTTTTT	49
SBA022	St-2-M-3_T20	ATTGACCGCTGTGTAACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	49
SBA023	St-D-1_T20	GGGGGCCGCTCCCCGACGAGGGGCCCTTTTTTTTTTTTTTTTTTTT	49
SBA024	St-2-1_rev_T20	TAACTCACAACGCAGTGTGTCGCCAGTTATTTTTTTTTTTTTTTTTTTT	49
SBA025	St-2-1_T00	ATTGACCGCTGTGTGACGCAAACTCAAT	29
SBA026	St-2-1_T01	ATTGACCGCTGTGTGACGCAAACTCAATT	30
SBA027	St-2-1_T02	ATTGACCGCTGTGTGACGCAAACTCAATTT	31
SBA028	St-2-1_T03	ATTGACCGCTGTGTGACGCAAACTCAATTTT	32
SBA029	St-2-1_T04	ATTGACCGCTGTGTGACGCAAACTCAATTTTT	33
SBA030	St-2-1_T05	ATTGACCGCTGTGTGACGCAAACTCAATTTTTT	34
SBA031	St-2-1_T06	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTT	35
SBA032	St-2-1_T07	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTT	36
SBA033	St-2-1_T08	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTT	37
SBA034	St-2-1_T09	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTT	38
SBA035	St-2-1_T10	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTT	39
SBA036	St-2-1_T11	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTT	40
SBA037	St-2-1_T12	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTT	41
SBA038	St-2-1_T13	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTT	42
SBA039	St-2-1_T14	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTT	43
SBA040	St-2-1_T15	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTT	44
SBA041	St-2-1_T16	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTT	45
SBA042	St-2-1_T17	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTT	46
SBA043	St-2-1_T18	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTT	47
SBA044	St-2-1_T19	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	48
SBA045	St-2-1_T20	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	49
SBA046	St-2-1_T21	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	50
SBA047	St-2-1_T22	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	51
SBA048	St-2-1_T23	ATTGACCGCTGTGTGACGCAAACTCAATTTTTTTTTTTTTTTTTTTT	52