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Correction to "Silver Nanoassemblies Constructed from Boranephosphonate DNA"

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S Supporting Information

The following correction is required for the DNA sequences used to prepare the A-tile as used in these arrays.

On page S22 of the Supporting Information, a typographical error within the sequences of DNA oligomers A4 and A5 used for the construction of the DNA arrays led to an insertion of an extra base pair in the A-tile. These were typographical errors and were not present in the DNAs used to construct the arrays. The correct sequences are given here and in the corrected Supporting Information:

A1: GATGGCGACATCCTGCCGCTATGATTACACAG-CCTGAGCATTGACAC

A2: GTAGCGCCGTTAGTGGATGTC

A3: TGTAGTATCGTGGCTGTGTAATCATAGCGGCA-CCAACTGGCA

A4: GACTGCGTGTCAATGCTCACCGATCAACCAG A5: CTGACGCTGGTTGATCGGACGATACTACATGC-CAGTTGGACTAACGG

Bla: CAGTGACCGCATCGGACAGCAGC-T

B1b: CGCTACCGTGCATCATGGACTAAC

B2: CGTCAGGCTGCTGTGGTCGTGC

B3: AGTACAACGCCACCGATGCGGTCACTGGTTA-GTGGATTGCGT

B4: GCCATCCGTCGATACGGCACCATGATGCACG B5: GCAGTCGCACGACCTGGCGT<u>CTGTTGGCTTT-</u> <u>TGCCAACAGTT</u>TGTACTACGCAATCCTGCCGT-

ATCGACG

The sequences reported by Winfree et al.¹ were used. In **B1***a*, an extra thymidine residue at the 3' end was added as a convenience for synthesis of boranephosphonate DNA. It allowed the use of commercially available solid support linked 2'-deoxythymidine. The quality of the arrays was not altered by the addition of this terminal nucleotide. We note in the Winfree et al. manuscript as referenced here that hairpin looped structures extending above/below the arrays were added without affecting the tiles.

The following comments are added in order to clarify various questions regarding the original publication:

1. We note that the observed differences between theoretical and observed masses of bpDNA oligomers in MALDI-TOF data were due to the fact that the MALDI-TOF spectra of longer (>10-12 mers) bpDNA oligomers in our hands yielded very broad peaks. The mass provided in the original paper is what we estimated to be the center of these broad peaks. These data should therefore be used in conjunction with other data such as the ³¹P NMR and gel analysis for complete characterization of these oligomers. 2. Update regarding oxidation using tert-butyl hydroperoxide: As noted in the Supporting Information (Table S1), our solid-phase syntheses of oligomers containing mixed phosphate and boranephosphonate linkages used a 15 s treatment with 1.0 M solution of *tert*-butyl hydroperoxide. While other protocols using *tert*-butyl hydroperoxide have been reported in the literature, these conditions were chosen to minimize possible oxidation of the borane group. However, since the publication of the article, we have tested longer times, up to 60 s, and have found no effect on BH₃.

ASSOCIATED CONTENT

S Supporting Information

The Supporting Information is available free of charge on the ACS Publications website at DOI: 10.1021/jacs.7b08409.

Detailed synthetic procedures, characterization data for compounds reported, HPLC and MALDI-TOF data for phosphate DNA sequences synthesized using BIBSphosphoramidites as well as additional AFM and TEM images are provided (corrected) (PDF)

REFERENCES

(1) Winfree, E.; Liu, F.; Wenzler, L. A.; Seeman, N. C. Nature 1998, 394, 539-544.