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Addition/Correction

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Correction to “Design and Characterization of 1D Nanotubes and 2D Periodic Arrays Self-Assembled from DNA Multi-Helix Bundles”

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Ⓢ *Supporting Information*

Page 1608. The last paragraph of the Introduction should note that the enhancement in stiffness is less than expected from a naïve model:

> Here, we show that the stiffness of nanotubes constructed from these motifs depends critically on the relative positions of sticky ends. When the sticky ends are staggered, the duplexes external to the basic 6HB motif enhance the stiffness, though measured persistence lengths are less than expected on the basis of a naïve mechanical model. In addition to 1D arrangements, we show that the new motifs are capable of forming 2D arrays.

Page 1611. Figure 5 should be replaced with the corrected version shown below, the text should give the corrected estimated persistence lengths of 6HB+2 and 6HB+3, and the reader should be referred to additional Supporting Information:

> The estimated persistence lengths for 6HB, 6HB+2, and 6HB+3 are 2.7, 6.0, and 7.7 μm, respectively (Figure 5, corrected). See additional Supporting Information for a detailed derivation of the estimates.

Pages 1611−1612. The corrected estimates of persistence length are significantly larger than the measured values. The associated text should be changed to reflect the disagreement:

> As expected, the motifs with extra duplexes (6HB+2, 6HB+3) are more rigid than the 6HB motif. However, the measured persistence lengths of the all three nanotubes are significantly smaller than the estimates. The disagreement is most pronounced for 6HB. This low stiffness might be due, in part, to the phasing of nicks in the DNA backbone.

Page 1615. The first paragraph of the Discussion (specifically, the third sentence, which is the second sentence below) should be similarly amended to reflect the fact that the corrected estimates are significantly larger than the measured values:

> The stiffening of the 6HB motif by the addition of external helices suggests that it might be possible to strengthen it further by further reinforcement. Since measured persistence lengths are all significantly less than expected, such reinforcements may be essential to future applications. In addition, we found that the relative placement of sticky ends affects the rigidity of nanotubes self-assembled from cyclic DNA motifs.

Page 1616. The Supporting Information paragraph should be amended to include a reference to the material in the new file.

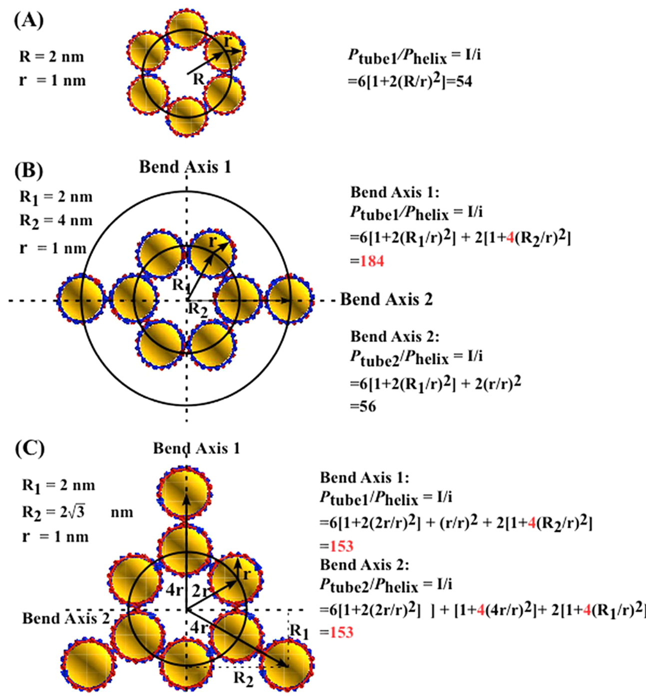

Figure 5. Estimation of the persistence lengths of nanotubes: (A) 6HB, (B) 6HB+2, and (C) 6HB+3. In the cases of 6HB+2 and 6HB+3, assuming two perpendicular bend axes, as indicated by the dotted lines, any bending of nanotubes can be treated as a combination of bends about those two axes. Thus, the overall persistence length was estimated to be the average of the persistence lengths calculated for each of the bend axes. For 6HB+2, estimates were calculated using r = 1 nm, R1 = 2 nm, and R2 = 4 nm. For 6HB+3, estimates were calculated using r = 1 nm, R1 = 2 nm, and R2 ≈ 3.5 nm.

■ ASSOCIATED CONTENT

Ⓢ Supporting Information

Sequences of the molecules used in this work, histograms of the contour length of the different kinds of DNA nanotubes, and an explanation of our persistence length estimation, including explicit derivation of the equations in corrected Figure 5. This material is available free of charge via the Internet at http://pubs.acs.org.

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