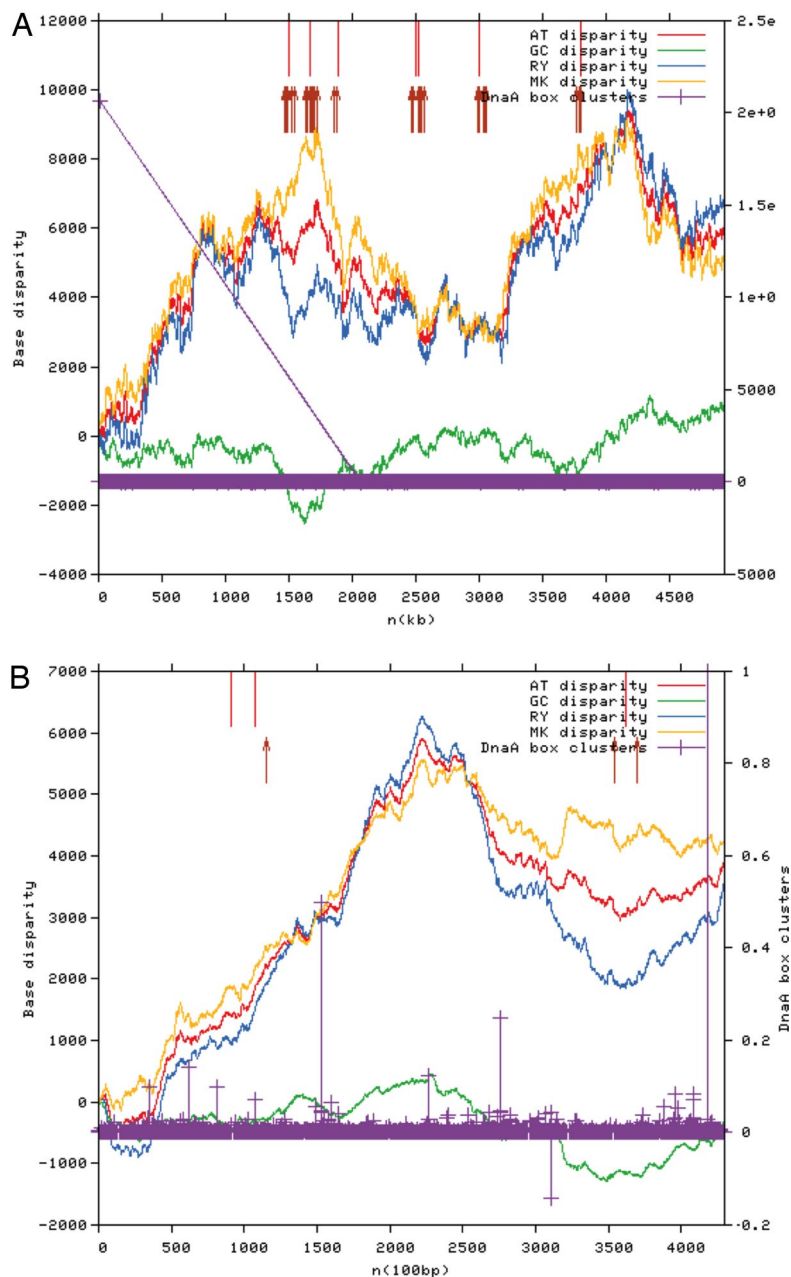


## Reply to Zhang *et al.*: Identification of origins of replication in the *Cyanothece* 51142 genome

We recently reported (1) our analysis of the *Cyanothece* 51142 genome, which included an attempt to identify the origins of replication in the circular and linear chromosomes in this genome. We used the web-based Ori-Finder software developed by Gao and Zhang (2). The program output at the time of

submission of the revised version of our article is shown in Fig. 1.

Origins of replication have been difficult to determine using similar algorithms in numerous cyanobacterial strains lacking distinct patterns of strand asymmetry (3, 4). According to ref. 3, AT skew exhibited a stronger signal than GC skew in strains closely related to *Cyanothece* 51142 and thus could be more informative than GC skew. Additionally, multiple peaks suggested the possibility of multiple origins of replication (3). Our analysis revealed 2 large AT skew peaks in the *Cyanothece* 51142 circular chromosome and 1 in the linear chromosome. Given the weak GC skew signal, strong AT skew signals in disagreement with the GC skew, and multiple



**Fig. 1.** Output of the Ori-Finder program for the *Cyanothece* 51142 circular chromosome (A) and linear chromosome (B) using the TTTTCCACA *dnaA* box motif with 1 allowed mismatch. Predicted candidate sites for the origins of replication are shown by upward-pointing red arrows in both A and B.

candidate *dnaA* box sites, we felt that the results of our analysis were not sufficient to unequivocally determine the origins of replication.

We thank Gao and Zhang (5) for their further analysis, and we were particularly pleased to see their application of additional *oriC* selection criteria and their comparison of different cyanobacterial strains. That Gao and Zhang (5) address this issue may provide clarity to this subject in *Cyanothece* 51142 as well as other cyanobacteria. However, only experimental work will finally answer this question.

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The authors declare no conflict of interest.

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