Reviewer's report

Title: SOAPdenovo2: Empirically improved memory-efficient short-read de novo assembler

Version: 2 Date: 3 December 2012

Reviewer: Aleksey Zimin

Reviewer's report:

The revised version of the manuscript is much improved and I appreciate all the additional work performed by the authors.

Major Essential Revisions

I examined the SOAPdenovo2 performance on the GAGE data sets and on the Assemblathon data set. There are definitely clear improvements from the version 1 (1.05). However I do insist that the GAGE comparison along with the table is included into the main body of the paper, and not in the supplementary material. I think readers do need to be aware of the assembler performance metrics and comparisons on both the faux and the real data sets. I reiterate that in my experience the assembler's performance on the faux data is not directly indicative of the performance on the real data, but I do respect the results and effort of the Assemblathon project and I think that the evaluation on the Assemblathon data deserves to be included in the paper.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

No competing interests.