Reviewer's report

Title: Using graph theory to analyze biological networks

Version: 2 Date: 13 December 2010

Reviewer: Simona Rossi

Reviewer's report:

Pavlopoulos and colleagues address an important and actual issue. The review is well organized and well written; there is a nice balance between theory and examples associated to a large but adequate number figures that makes the text easier to understand and pleasant to read.

I have a list of minor but essential revisions:

a) page 5: "Weighted graph", E->R, please describe R...maybe the authors meant: E->V
b) page 7: "...Figure 2 below", please delete below since the final format is not ready yet
c) page 9: "has tuning time complexity..", theta(N3) should be substituted with O(N3)
d) page 10: clique definition should be moved before the paragraph "Clustering Coefficient" since in the latter, the term clique is introduced
e) page 11: In Degree Centrality, add ref to Figure 5 when writing about hubs
f) page 15: please add references to Network Models descriptions
g) page 18: please add a brief introduction before starting with the type of linkage list
h) page 21: "Very often, we encounter.....", please add few examples.
i) Figure legend 1: Title, please add "Bipartite"
m) Figure Legend 3: "and very node" -> "and every node"
n) Figure legend 8: there confusion between the terms genes and probes; since genes appear in Figure 8, please change the legend accordingly.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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