

1 We thank all reviewers for their efforts towards improving our manuscript. In the following paragraphs, we mainly
2 address the concerns of Reviewer #3.

3 **Comment #1.** Give a clear example of forest approximation. The brief paragraph on merging nodes was not very clear.

4 **Response.** By definition, the forest approximation of a graph G by a forest F is a mapping from vertices of G to F
5 such that the images of any pair of adjacent vertices are either the same or adjacent.

6 Recall Figure 2 in our manuscript, which is presented below in Figure 1. G is a cycle of 5 vertices and F is a path of 3
7 vertices. ϕ maps each vertex of G to the vertex of F which has the same shape. Say, vertices 1 and 2 of G are mapped
8 to vertex u of F , likewise for the other vertices. We can check that the images of any pair of adjacent vertices of G are
9 either the same or adjacent in F . For example, vertices 1 and 2 have the same image u , while 3 and 4 are mapped to v
10 and w respectively, which are adjacent in F . As a result, ϕ is a forest approximation of G by F .

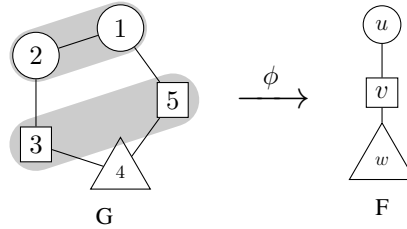


Figure 1: A forest approximation of C_5