**Requirements :**

Install Java 9 or above

**Parameter setting:**

For generating bicluster, default value: density=0.5, CP=0.5, Relation number = 3, Tanimoto coefficient = 0.33, Psc=0.5

For generating biclique density=0.5, CP=0.5, Relation number = 3, Tanimoto coefficient = 0.33, Psc=1

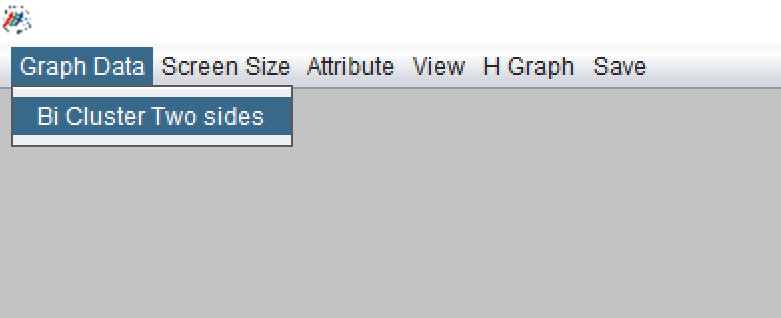
Usually changing density 0.5 to 0.7 will generates high density cluster but some node reduction will occur

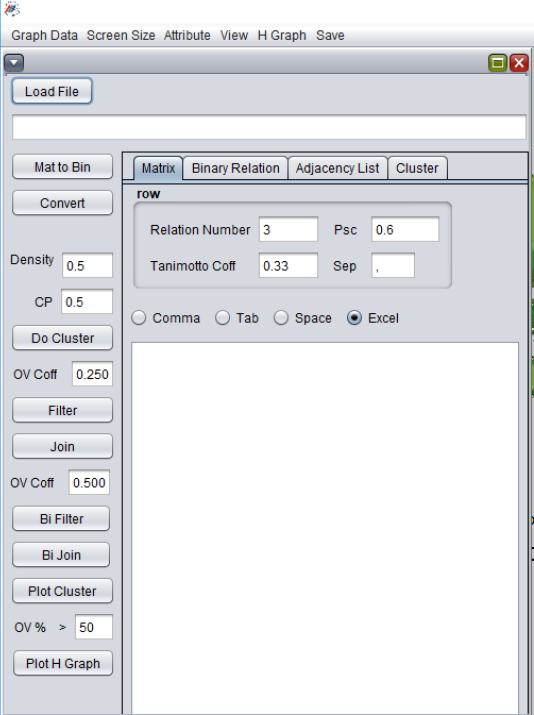
**Mouse interaction:**

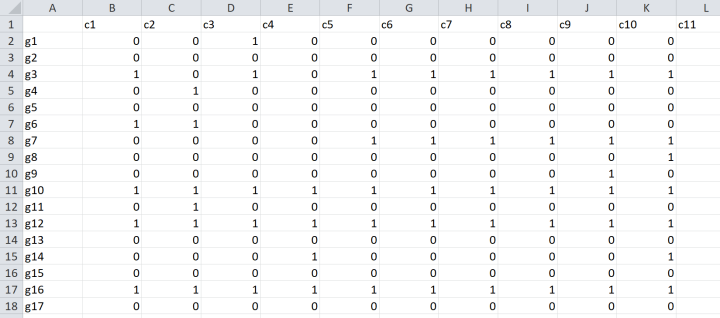
All graphical views will allow the user to rearrange the nodes by mouse interaction.

**Bi clustering:**

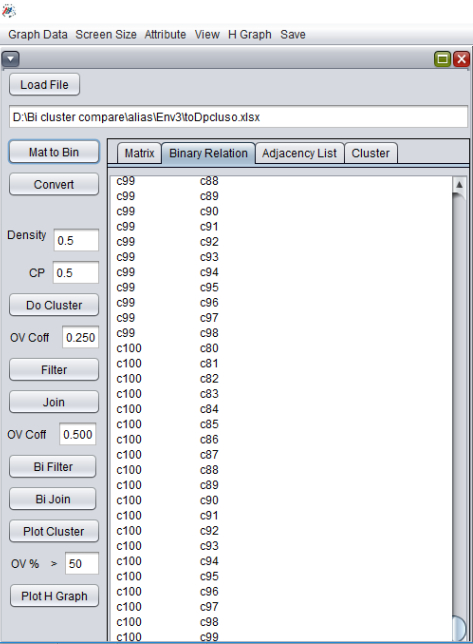
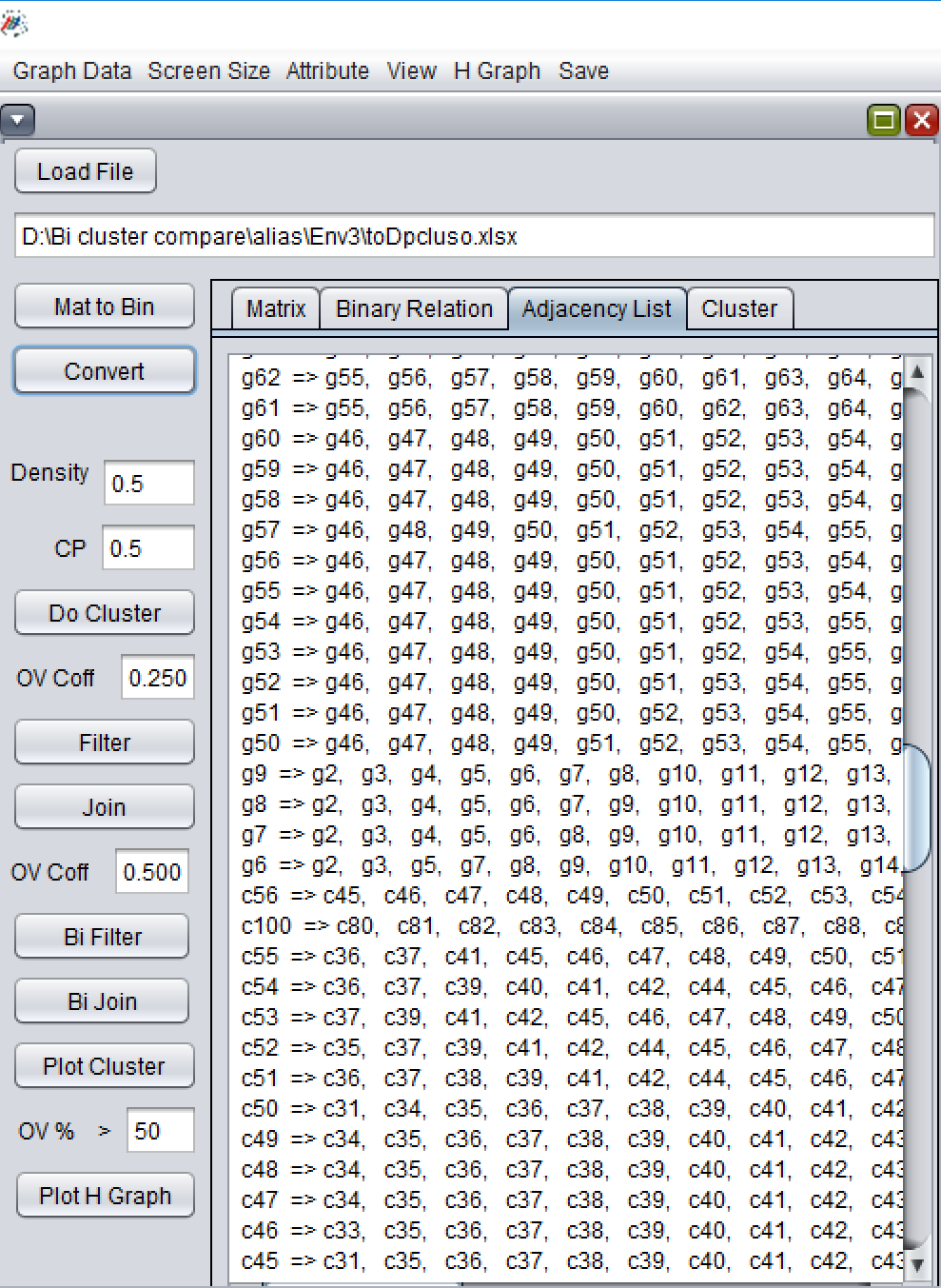
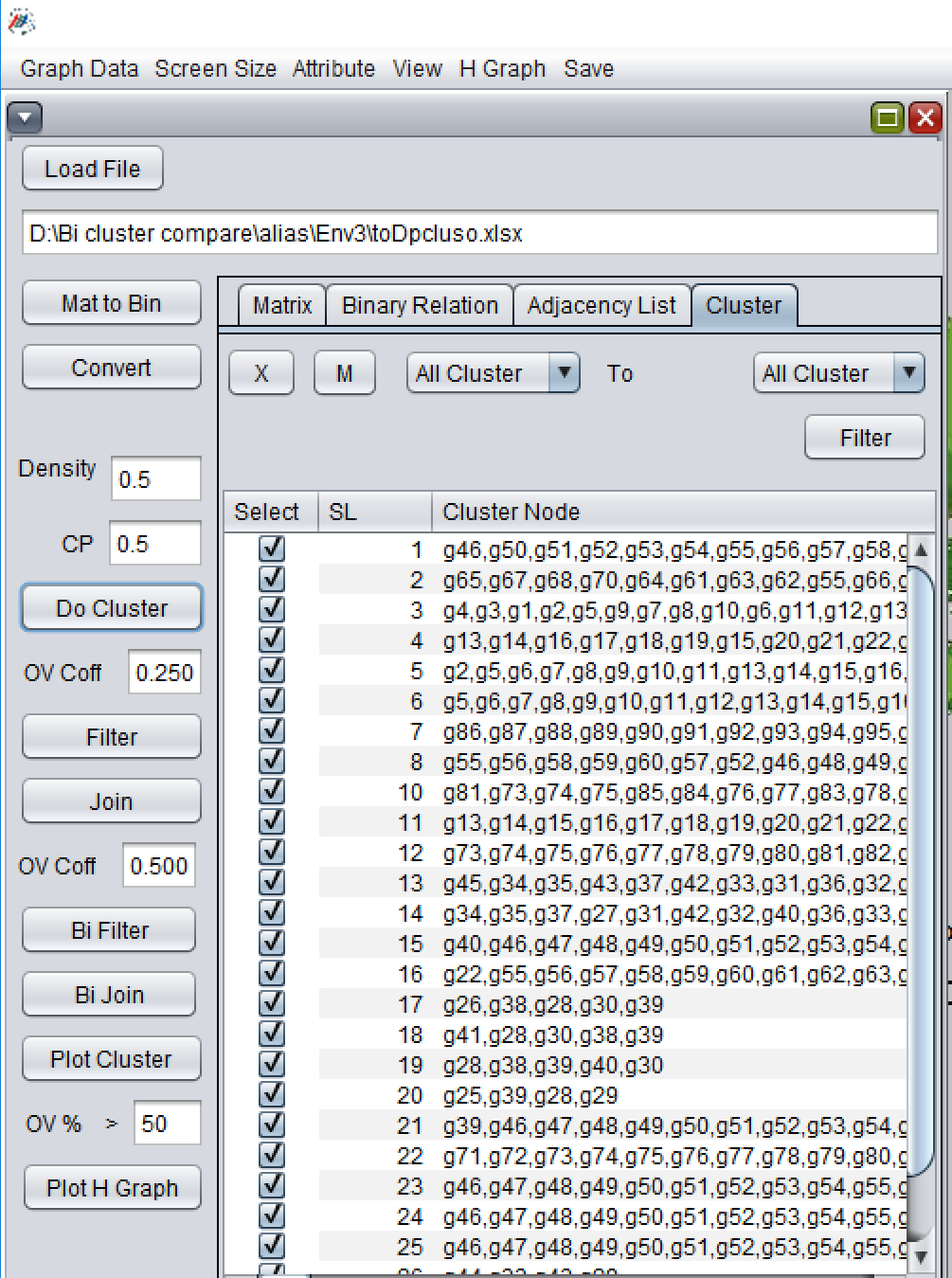
Select ***bicluster two sides*** from ***graph data*** menu item.



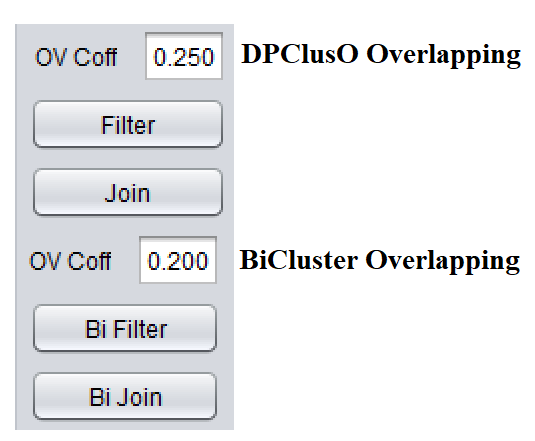
Input file : The input file should be an excel file with the appropriate row and column label or two column tab, comma or space separated text file representing a bipartite graph. We show the example of using an excel file. Row and column label in the excel file represent the two node sets of a bipartite graph. 1 represents an edge between the corresponding row label and column label. A “0” must be present if there is no edge between row label and column label.



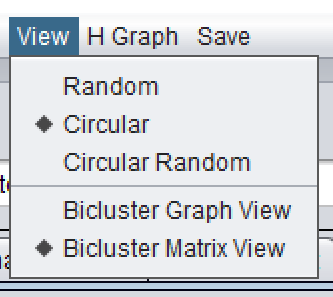
Click ***load file***and select the excel file. Click ***Mat to bin***to convert the data as a simple graph. Click ***convert*** to convert the simple graph as an adjacency matrix. Click ***do cluster*** to generate biclusters.

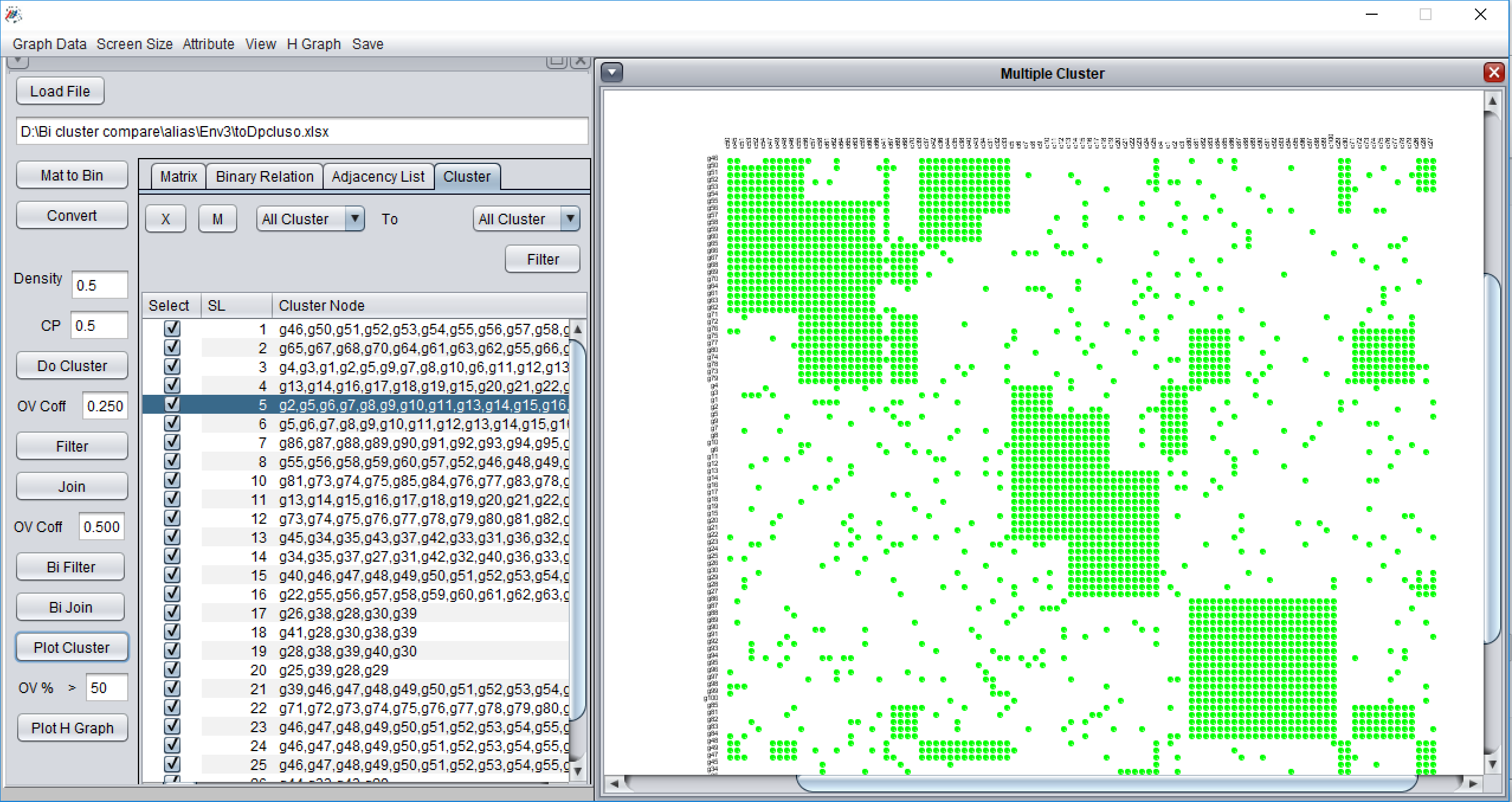


Filter/ Join: There are two coefficients to filter or join biclusters 1) DpClusO overlapping coefficient 2) Bi Cluster overlapping coefficient. User can use any one or both of them to filter and join biclusters

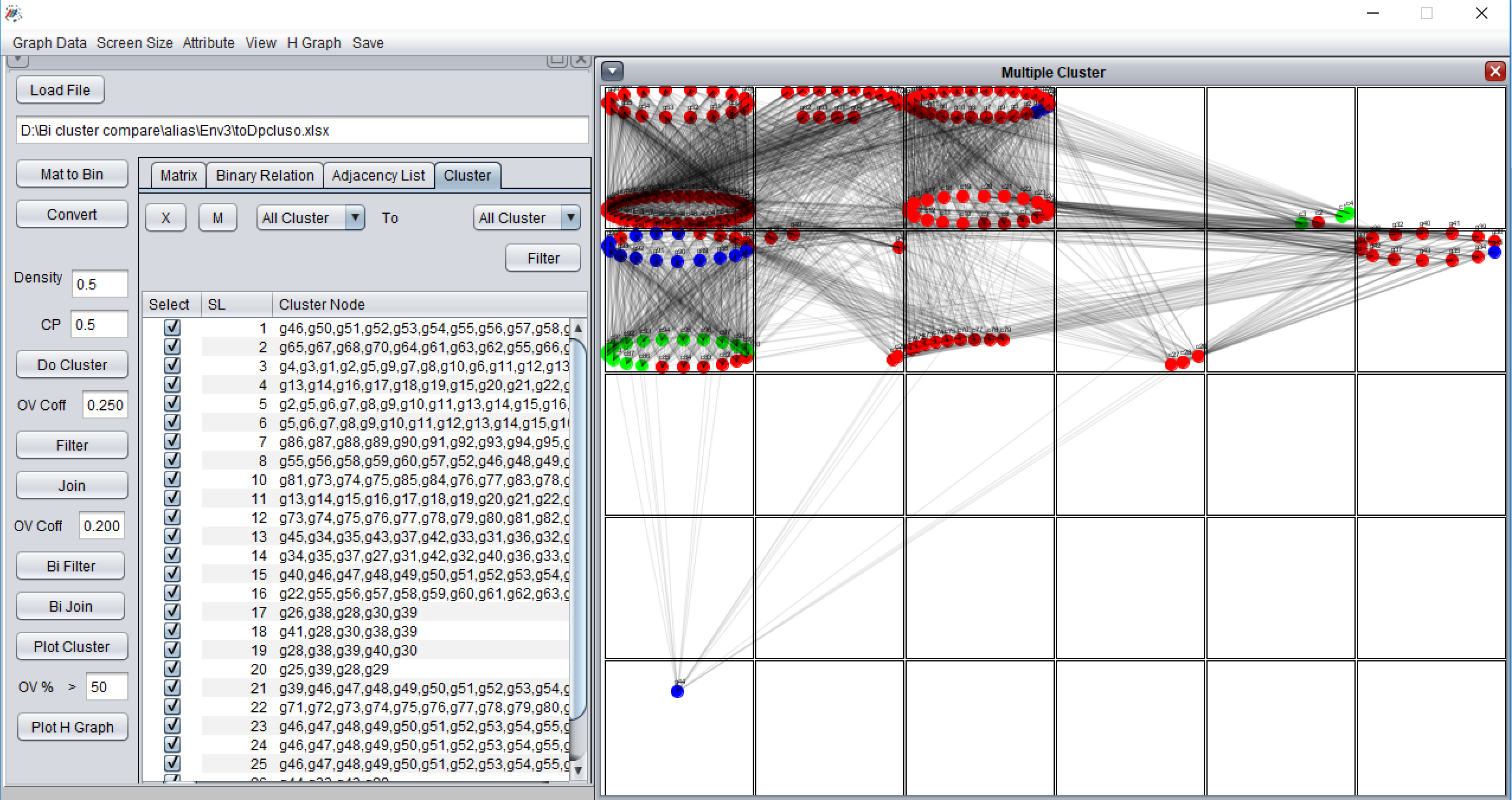


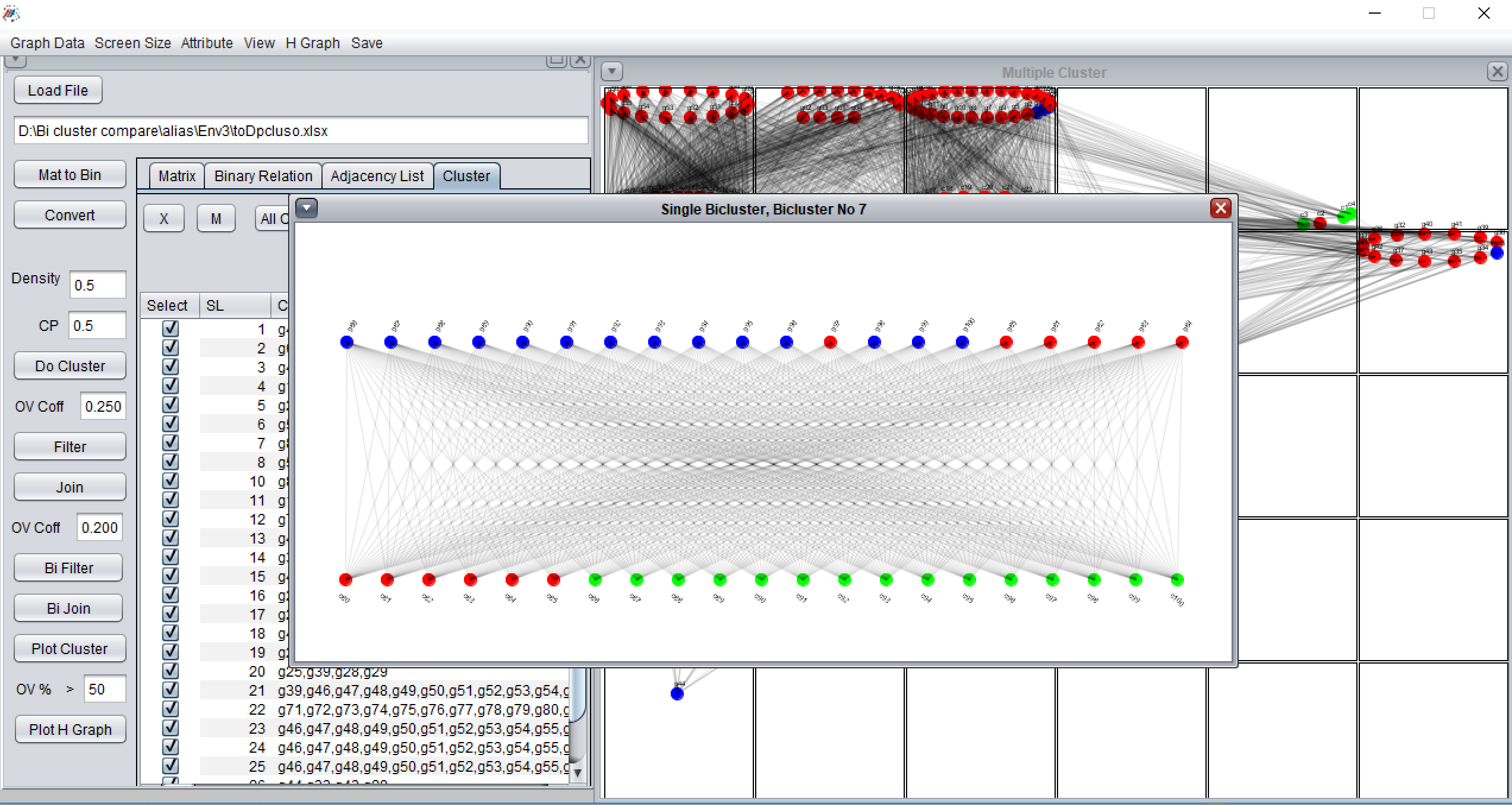
View bicluster: There are two types of view to render the bicluster set which are ***Bicluster Graph view*** and ***Bicluster Matrix view***. User can select any types of view from the view menu and click the ***plot cluster*** to render the bicluster set.



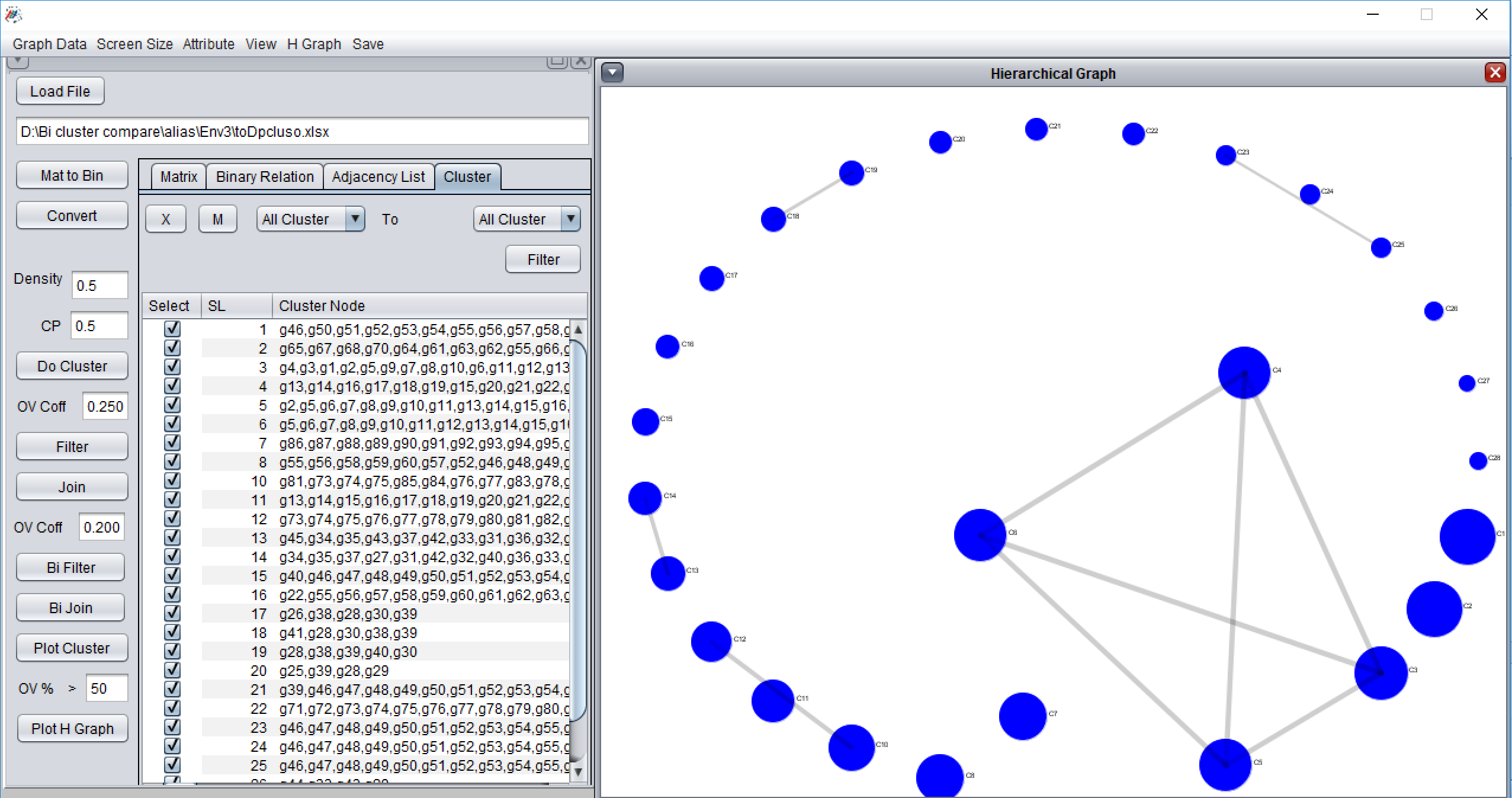
Matrix view: Matrix view arranges the biclusters by descending order according to their size and plot accordingly. 

Graph view: Graph view renders the graphical view of each bicluster as a bipartite graph. Rendering window is divided by an equal sized small rectangle. Each rectangle renders a bicluster by placing each side of nodes by oval-shaped arrangement. Red nodes indicate the overlapping nodes. Each node is plotted only once hence some of the regions become blank as all of its nodes are somehow overlapped by other biclusters.

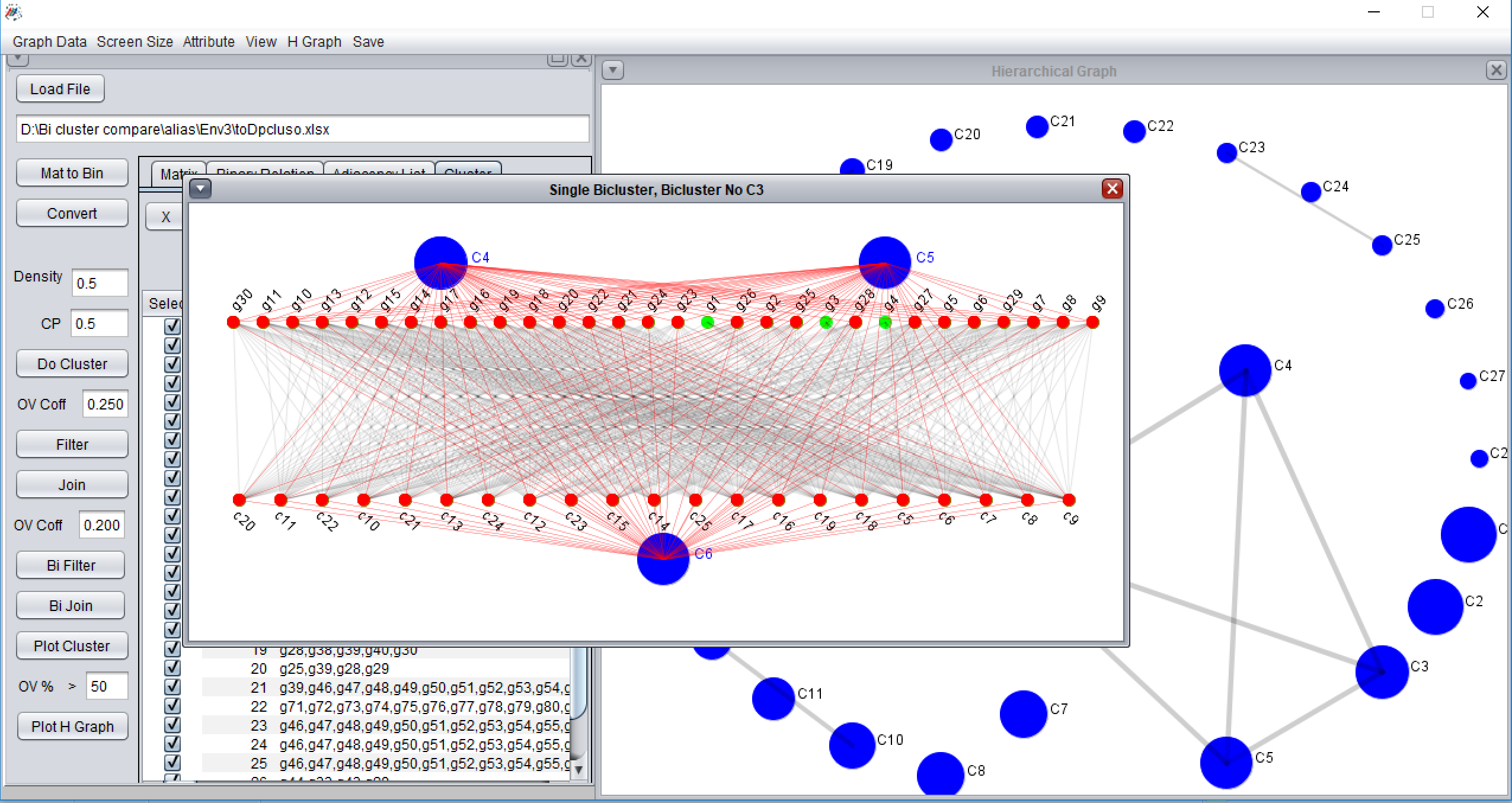


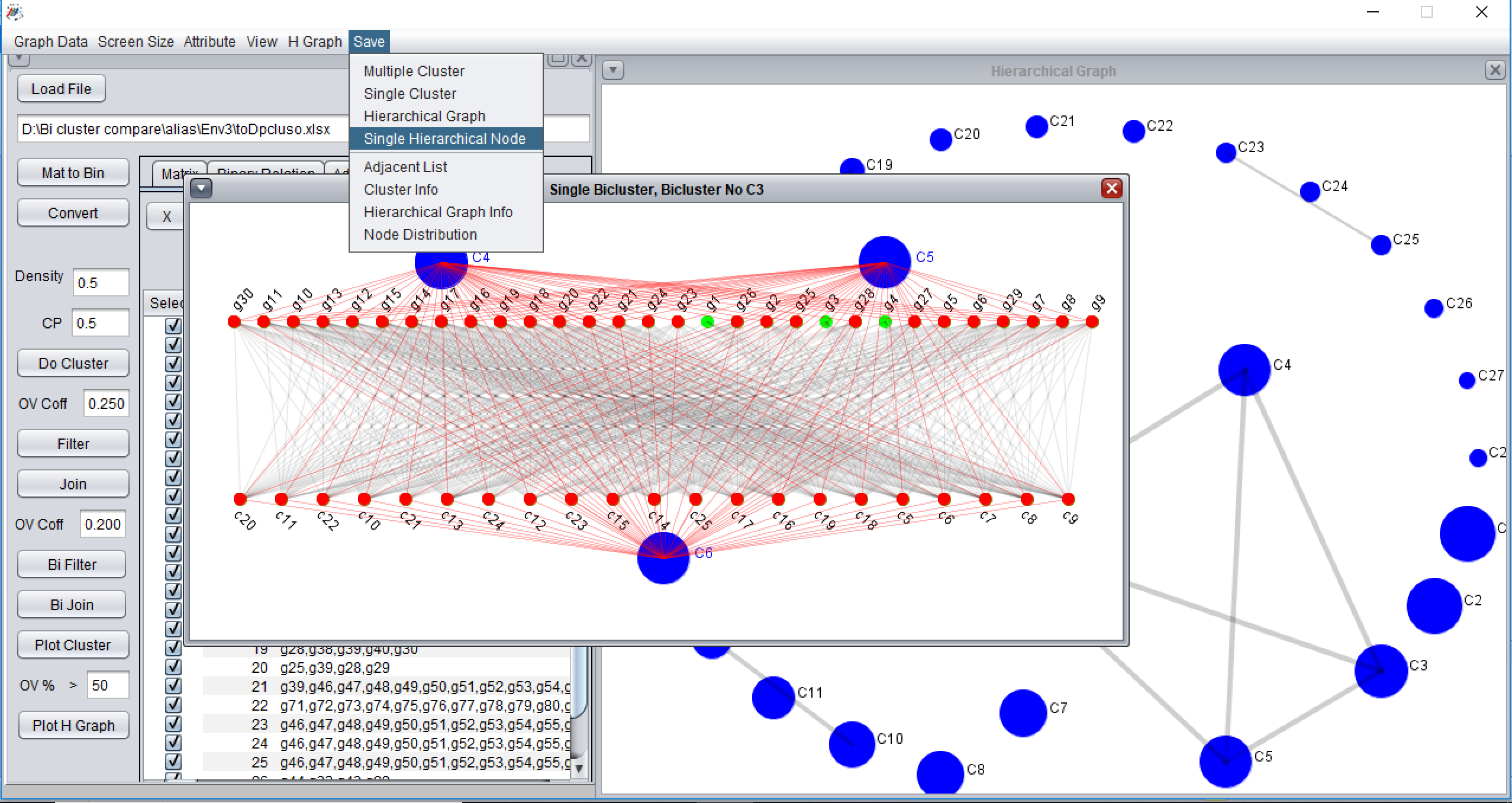
Single view of a bicluster: Double-clicking any region will produce a single view of the corresponding bicluster. Single view extracts all nodes including overlapping and renders a clear view of a bicluster. 

Hierarchical bicluster view: Hierarchical bicluster view renders the biclusters considering each bicluster as a node and overlapping measurement between two biclusters as an edge. The parameter in the text field “OV%” is used to calculate the minimum number of the overlapping percentage to be considered while drawing an edge. Edge thickness is proportional to the overlapping percentage between two biclusters. Enter the value as a percentage in the text field and click “Plot H graph”



Hierarchical bicluster node: Click any node in the hierarchical view. A new window will appear expanding the selected node and its adjacent overlapping nodes where red nodes indicate the common nodes between two biclusters.



Save Picture: Menu item save option has different submenu to save the picture of different Bicluster set, a single node of different Bicluster, hierarchical relation of different Bicluster set, a single node of the hierarchical graph of Bicluster. In order to save any picture, the user has to highlight the appropriate window by clicking the window header and select the corresponding submenu item from the Save menu.

In this example, we first highlight the window of a hierarchical node and then click the sub menu Single hierarchical node to save the picture.