| Metric                               | Normoxia | Hyperoxia | Value  | pVal      | Description  |
|--------------------------------------|----------|-----------|--------|-----------|--|
| Adjusted Rand Index                  |          |           | 0.462  | 0.000 *** | Chance-adjusted similarity of node pair placements.        |
| Components                           | 1        | 16        | +15    | 0.001 *** | Number of disconnected components in the network.          |
| Cluster Coefficient                  | 0.688    | 0.841     | +0.154 | 0.002 **  | Degree to which nodes cluster together.                    |
| Degree Centrality Dissimilarity      | ,        |           | 0.920  | 0.004 **  | Degree of shift to the average number of node connections. |
| Positive Edge Percentage             | 0.879    | 0.977     | +0.098 | 0.004 **  | Proportion of nodes associations that are positive.        |
| Density                              | 0.308    | 0.150     | -0.158 | 0.068 •   | Proportion of possible relationships that are actualized.  |
| Betweenness Centrality Dissimilarity | ,        |           | 0.786  | 0.126     | Degree of shift to which nodes make up the shortest paths. |
| Microbe Dissimilarity                | 0.843    | 0.908     | +0.065 | 0.162     | Average microbial pair dissimilarity.                      |
| Modularity                           | 0.335    | 0.264     | -0.071 | 0.213     | Strength of distinction between clusters.                  |
| Node Connectivity                    | 2        | 0         | -2     | 0.215     | Minimum nodes to remove for separation into 2+ components. |
| Edge Connectivity                    | 2        | 0         | -2     | 0.235     | Minimum edges to remove for separation into 2+ components. |
| Path Length                          | 1.113    | 1.328     | +0.215 | 0.367     | Average steps in the shortest path between nodes.          |
| Closeness Centrality Dissimilarity   | ,        |           | 0.692  | 0.482     | Degree of shift in which nodes are closest to all others.  |
| Hub Taxa Dissimilarity               | ,        |           | 0.600  | 0.790     | Degree of shift to which nodes act as network hubs.        |
| Natural Connectivity                 | 0.163    | 0.166     | +0.002 | 0.955     | Average eigenvalue of all network nodes.                   |
| Eigenvector Centrality Dissimilarity | •        |           | 0.381  | 0.998     | Degree of shift to which nodes are most influential.       |