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In[1]:= SetDirectory[
  "C:/Users/serha/OneDrive/Masaüstü/MyRepo/master_thesis_MMT003/210507_time_windows_and
  _OR_model"];

In[2]:= subsetpositions = Import["subsetpositionsforsequences.mx"];

In[3]:= stoichioforhomosapiens =
  Drop[Import["../210324_disc_time_windows_and_OR_model/iAT_PLT_636_stoichiomat.csv",
    HeaderLines → 1], None, {1}];
SparseArray@stoichioforhomosapiens

Out[3]= SparseArray[ + Specified elements: 4006
Dimensions: {738, 1008} ]
```

Specified elements: 4006
Dimensions: {738, 1008}

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In[4]:= stoichiometricmatrix = stoichioforhomosapiens;
metabolites = 738;
fluxexchanges = 1008;
steadystatevector = ConstantArray[{0, 0}, metabolites];
first[a_] := First /@ GatherBy[Ordering@a, a[[#]] &] // Sort;

In[5]:= AdjmatM = stoichiometricmatrix.Transpose[stoichiometricmatrix];
NormAdjmatM = AdjmatM /. x_ /; x ≠ 0 → 1;
NormAdjmatM = UpperTriangularize[NormAdjmatM, 1] + LowerTriangularize[NormAdjmatM, -1];
AdjmatR = Transpose[stoichioforhomosapiens].stoichioforhomosapiens;
NormAdjmatR = AdjmatR /. x_ /; x ≠ 0 → 1;
NormAdjmatR = UpperTriangularize[NormAdjmatR, 1] + LowerTriangularize[NormAdjmatR, -1];

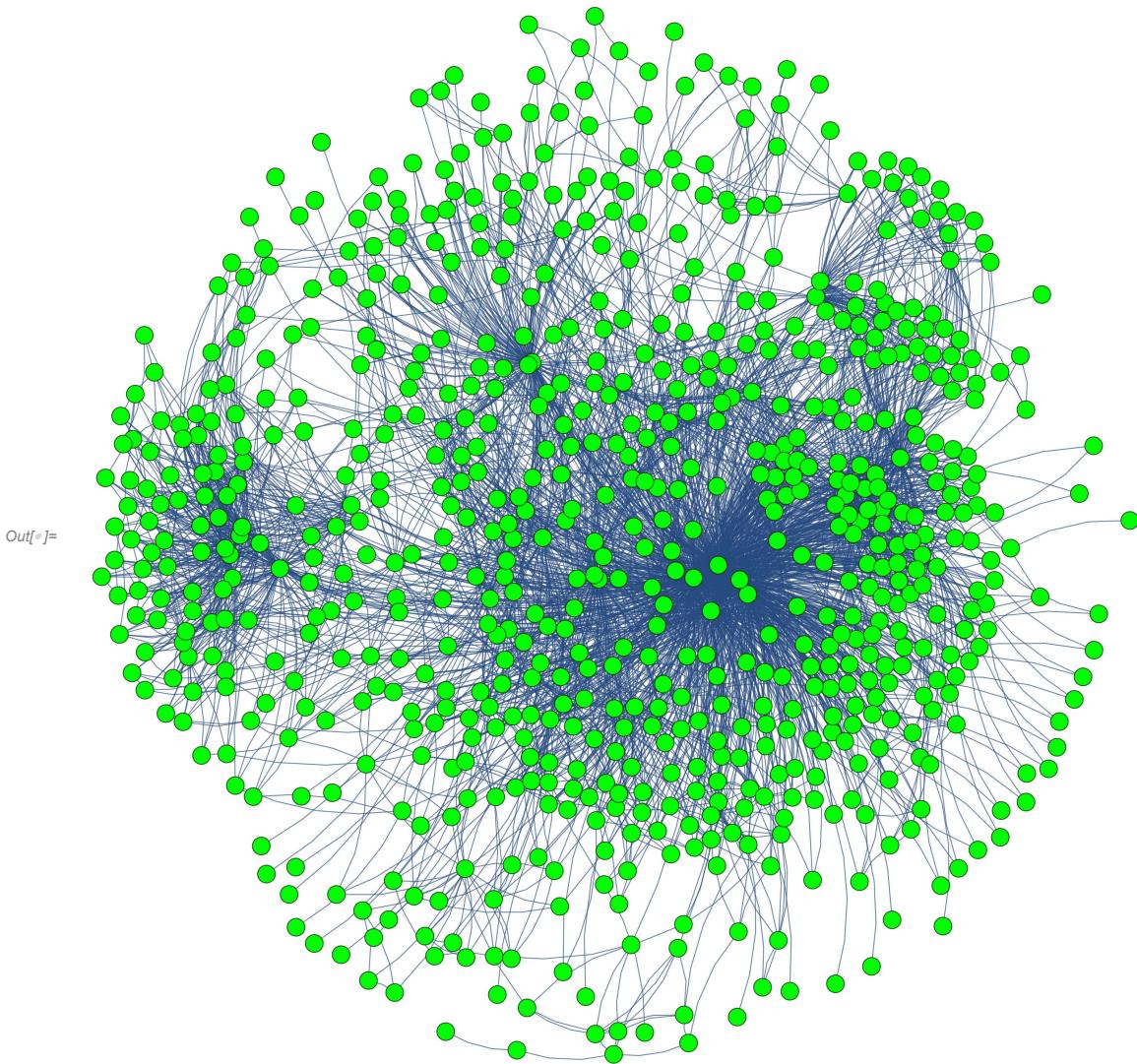
In[6]:= g01 = AdjacencyGraph[NormAdjmatM,
  GraphLayout → "GravityEmbedding", VertexStyle → Green, ImageSize → Large];
g02 = AdjacencyGraph[NormAdjmatM, GraphLayout → "CircularEmbedding"];
EdgeCount@g01
VertexCount@g01

Out[6]= 3986

Out[7]= 738

In[8]:= {g01, g02};

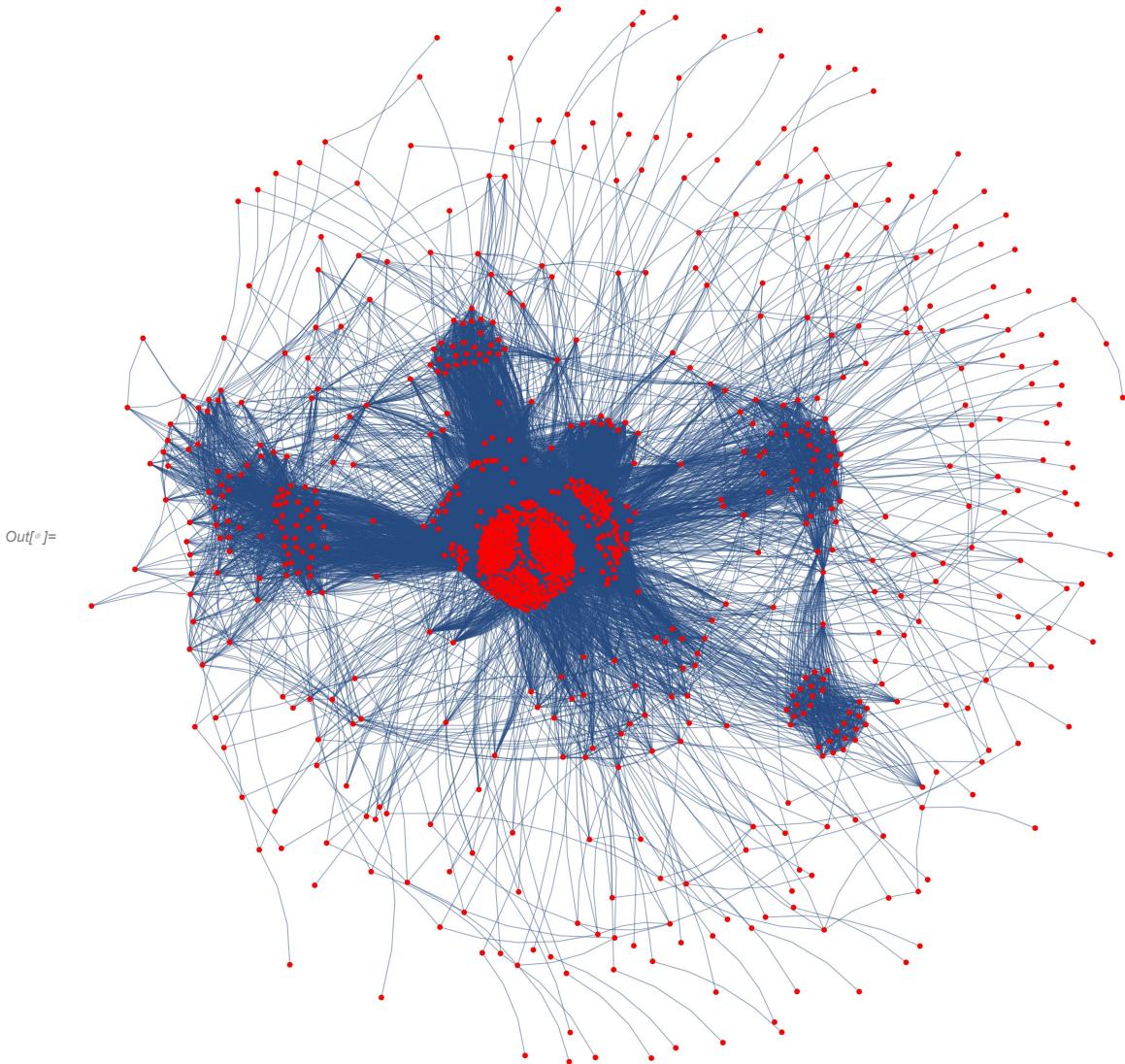
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In[6]:= g01

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In[7]:= g11 = AdjacencyGraph[NormAdjmatR, GraphLayout -> "GravityEmbedding",
VertexStyle -> Red, VertexSize -> 0.1, ImageSize -> Large];
g12 = AdjacencyGraph[NormAdjmatR, GraphLayout -> "CircularEmbedding"];
EdgeCount@g11
VertexCount@g11
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*Out[7]= 99870**Out[8]= 1008*

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In[6]:= g11
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In[6]:= Table[Length@subsetpositions[[i]], {i, 200}];  
Table[Position[Table[Length@subsetpositions[[i]], {i, 200}], a], {a, {215, 158, 226}}]  
Out[6]= {{7}, {9}, {28}}
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In[6]:= HighlightGraph[g1, {Style[subsetpositions[[7]], Red],  
Style[subsetpositions[[9]], Green], Style[subsetpositions[[28]], Orange]}]
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