EIGEN SPECTRAL ANALYSIS

PDB – 1se8.pdb

nodes = 205
average degree = 7.79512195122
avg clustering coeff = 0.541262775165
edges = 799
average shortest path = 5.19818268771

FOR ADJACENCY MATRIX:

Largest EigenValue = 9.37099067922
Corresponding eigenvector =
[-1.50726224e-03 -6.70281456e-05   6.08115059e-03 -3.52816531e-02
   2.22651810e-02 -9.22150989e-03   7.14153134e-04   1.65240184e-02
   1.62733788e-02   1.13364908e-02 -1.52937985e-02   9.57344436e-03
   5.11057222e-02   1.29260006e-03   4.94887381e-02 -1.72038520e-01
   1.45755426e-01 -7.09441316e-04   5.96961950e-02 -1.00667984e-01
  -2.85042595e-02   8.58458345e-02 -2.68613291e-02 -9.41121719e-02
   1.76473524e-01   3.99402062e-02   2.13631440e-02   5.11726065e-02
   1.80689811e-02 -9.63084039e-04 -7.94815221e-02 -1.08047300e-02
  -1.85010262e-02 -3.98474477e-02 -1.66139626e-03   2.01927573e-02
  -6.54415476e-02 -3.27459792e-02 -1.93414715e-02   3.81856094e-02
   6.38042452e-02 -5.78687174e-02   5.81415646e-02 -1.43561402e-02
   1.01738554e-02 -8.99981108e-02   6.76300913e-02   2.96254490e-02
   2.91254712e-02   9.91410507e-02 -2.13738429e-03 -8.55343094e-02
  -3.85294691e-02 -1.99170903e-02 -3.22311549e-02   1.08749282e-01
  -1.01870722e-01 -8.93017781e-02   4.95541641e-03   6.48563063e-02
   4.65085302e-02   1.67453068e-02   3.51548609e-02   1.16665431e-02
  -5.76512189e-02   5.55697907e-02   2.89520925e-02 -6.69750242e-02
  -1.81302638e-01 -2.04619890e-02   4.37572356e-03 -5.33763893e-02
  -7.37301051e-02   5.13518535e-02 -5.56615140e-02 -1.23458294e-02
   3.60647047e-02   5.39675232e-02   3.14422488e-02   5.29874555e-02
   2.75773074e-02 -3.29991124e-02 -4.79443767e-02 -4.80259152e-02
   9.51029555e-03 -9.87502455e-03 -3.60985915e-02   1.21801973e-01
  -3.11729132e-02 -7.28135700e-02   7.82849290e-02 -3.55905034e-02
  -3.26986165e-02   3.11469989e-02   6.59223703e-03   1.76516744e-02
   1.17183231e-01 -8.30731746e-02 -6.03965550e-02   7.83505782e-02

-6.62585753e-03 -2.27722461e-01   6.87671064e-03 -1.06349248e-01
 4.02912912e-02 -4.13708236e-02 -2.80064993e-02 -2.38735139e-03
-7.30830521e-02 -3.33031648e-02   1.31961350e-02 -2.92491347e-03
-3.64682060e-02   3.25149251e-02 -7.78484612e-02   1.47872423e-02
-2.60492926e-02 -4.14786697e-02   3.17545118e-02 -7.31606713e-02
-6.40708144e-02 -9.18999619e-02   7.60175669e-02   4.43352538e-02
-2.65262165e-02 -1.19983466e-02   4.18829001e-02 -3.12205835e-02
-3.62273143e-02 -6.18034259e-02 -4.18482120e-02 -7.88331018e-02
-8.68093574e-02 -7.69691099e-02 -1.27706415e-01   1.24842803e-01
 6.59296179e-02   6.15151837e-03 -1.99440613e-01 -8.08728192e-02
-4.93453827e-02 -1.44366598e-01   7.32634353e-02 -5.41390987e-02
 8.44707126e-02 -5.12001209e-02   4.34615687e-02 -5.89569710e-02
 8.57524299e-02 -1.21462413e-01   1.15859170e-01   1.50871077e-03
-1.01087019e-01   8.40010369e-02 -7.54717390e-02 -3.25109111e-02
-2.55148367e-05 -1.16678904e-01   3.13392658e-01 -6.34997502e-02
 1.44964953e-01   1.54480734e-01   1.00312971e-01   8.87452797e-02
 2.10656627e-02 -6.42660533e-02   2.59156312e-03   7.03632245e-03
-4.86065872e-02   5.18755993e-03 -8.97966505e-02   1.43214183e-01
 6.33095207e-02 -6.60873366e-02 -1.11130068e-02   5.85687244e-02
-8.82047626e-02   8.95339181e-02 -3.45592134e-02 -4.25612300e-02
 1.31548428e-01   5.76390397e-02 -5.14385708e-02 -1.29632099e-01
-8.08362639e-03 -2.77633449e-02   7.82629008e-03   8.29185036e-03
-2.30779364e-02   3.01732621e-02 -5.96224863e-02   4.27848895e-02
-3.17519604e-02 -7.36701370e-02   1.09706991e-02 -3.91851312e-02
 2.44416673e-03   5.06277542e-02   2.03170609e-02   5.07843929e-03
 2.83952684e-02 -3.97343644e-02   2.64150070e-03 -1.67585895e-02
 3.03760377e-03]

FOR LAPLACIAN MATRIX:

Largest eigenValue = 15.6463231127
Corresponding EigenVector =
[-6.98430296e-02   7.06821327e-02   2.54936200e-02   8.25077336e-03
 -2.17172311e-03 -6.51965817e-02   1.91179541e-01 -8.54282773e-03
 -1.34083435e-01 -9.14351912e-03   1.94053557e-02 -3.15516162e-02
  2.59053198e-01 -1.60541817e-02   1.27415244e-01 -3.42892721e-02
 -1.36835595e-01   3.18969311e-03   1.64444829e-01 -3.72415640e-02
  6.15538457e-03   8.87421703e-02 -1.20119906e-02 -1.40511601e-01

-4.01461896e-02	-2.53655344e-02	-7.73747980e-02	9.10377730e-02
-7.55353963e-02	-7.40149302e-02	-1.17801470e-02	2.78797703e-02
-8.88387826e-02	1.75351366e-01	2.46745535e-01	-4.93623930e-02
4.26756062e-01	2.84079670e-01	-1.64897363e-01	-3.60350681e-01
-9.17342939e-02	1.90186043e-03	-1.43569818e-04	3.64470992e-02
-9.44733413e-04	1.59476644e-02	-8.15672957e-03	1.16741551e-02
1.24997721e-01	2.17308916e-02	-2.23886031e-01	-1.02071125e-02
7.13801213e-02	-1.00111859e-03	-4.51851975e-02	3.12404616e-02
8.26201963e-02	-4.98866995e-02	-1.44765083e-01	3.62074051e-03
6.47692054e-02	-4.02158003e-02	-1.35314986e-02	8.95350567e-03
7.34055721e-03	6.80973076e-02	-9.57869633e-02	-8.86385018e-02
3.71995831e-02	2.78067966e-02	-2.03861261e-03	-8.42428163e-02
3.11331912e-02	-3.73175656e-02	-2.17420682e-02	2.92472808e-02
1.16447798e-02	3.42875008e-02	6.79651932e-03	-1.36395132e-02
-7.49193995e-04	8.43546765e-03	-2.82695369e-03	7.36994774e-03
3.41325987e-03	-7.14712032e-03	1.23740770e-03	4.23337465e-03
-5.67343542e-03	-2.52752247e-02	2.46839575e-03	3.65660315e-02
-1.82430136e-02	1.22601765e-01	1.17946543e-02	-3.66469840e-02
1.62941084e-02	-1.76336708e-03	-1.08526286e-02	-4.01365908e-02
3.03460695e-02	5.36162368e-02	1.05168688e-02	-3.48689561e-02
-2.65925553e-02	9.40695520e-03	-7.08128364e-03	3.52447240e-02
-8.16540072e-04	-5.11144859e-04	1.76931071e-02	-1.15645305e-02
2.62493503e-03	-2.73052163e-02	-9.77015755e-03	2.07549962e-02
-3.77609353e-02	-1.42579423e-02	-4.26019722e-02	6.10623235e-03
1.59799072e-02	3.07834578e-02	-3.96992861e-02	4.89678301e-03
1.22783771e-02	3.02746371e-02	1.01783978e-02	3.15065734e-02
4.60178519e-02	-7.16132330e-03	-2.67897271e-02	-8.35442373e-03
-2.06987156e-02	-1.02702878e-02	1.22020160e-02	1.01111777e-02
-1.02875270e-02	-3.59306934e-03	8.34065752e-03	-5.32014975e-03
-1.06607241e-02	1.70174649e-03	-3.06833581e-03	-3.16540963e-02
-1.25556382e-02	1.76814436e-02	1.73600690e-03	-1.79869359e-02
-3.05076960e-02	3.01940972e-02	-2.05089007e-02	-6.69844023e-03
-4.10719524e-02	1.06982653e-02	4.74219278e-02	2.50335646e-03
3.31616828e-02	-5.13562317e-03	6.71899456e-02	3.09728660e-03
-3.46837608e-02	4.01292968e-02	7.13055966e-03	-3.66015143e-03
1.35270492e-02	1.95680046e-03	-8.56096574e-03	3.65657451e-03
9.53983401e-05	1.00518431e-03	-3.03470714e-03	2.39492371e-02
2.53114121e-03	-8.07855061e-03	6.57817566e-04	-4.38574093e-03
3.52536101e-03	7.33675246e-03	-1.01610840e-02	-6.15549254e-03

5.13948151e-03 1.96604109e-02 -1.33670379e-02 5.33044833e-03
 -6.04705265e-03 7.72819217e-04 6.65337626e-03 -1.21977047e-04
 -4.93080741e-04 5.01114277e-03 1.10369768e-04 -5.66684124e-03
  1.30256501e-04 -1.56797007e-05 5.83942942e-03 6.82019145e-04
 -7.24958099e-05 2.11780123e-02 6.74527662e-04 4.73499601e-04
 -4.82292831e-03 4.93510305e-03 6.59635723e-06 -2.42516093e-04
 -3.19950061e-07]