

```
>> learn_from_data
      [1x16 double]      [1x16 double]

Epoch... 1
Epoch... 2

num. of constraints = 33
dim. of socp var = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0

it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|9.7e+00|3.2e+05|-7.476369e+02  0.000000e+00| 0:0:00| chol  1  1
1|0.988|0.955|1.2e-02|4.6e-01|1.6e+04|-1.611653e+01  1.275880e+02| 0:0:00| chol  1  1
2|1.000|1.000|2.6e-07|1.1e-02|5.3e+02|-4.828675e+00 -1.478115e+01| 0:0:00| chol  1  1
3|0.921|1.000|3.6e-08|3.3e-03|8.5e+01|-1.241154e+01 -1.172513e+01| 0:0:00| chol  1  1
4|1.000|0.980|2.2e-08|1.0e-03|1.6e+01|-1.342945e+01 -1.261481e+01| 0:0:00| chol  1  1
5|0.410|0.677|1.4e-08|4.0e-04|6.0e+00|-1.447091e+01 -1.327839e+01| 0:0:00| chol  2  2
6|0.689|0.353|4.4e-08|2.6e-04|4.9e+00|-1.584670e+01 -1.401808e+01| 0:0:00| chol  2  2
7|0.300|0.196|4.2e-08|2.1e-04|5.0e+00|-1.521849e+01 -1.496067e+01| 0:0:00| chol  2  2
8|0.161|0.331|3.6e-08|1.4e-04|3.7e+00|-1.599687e+01 -1.531931e+01| 0:0:00| chol  1  2
9|0.439|0.689|2.2e-08|4.4e-05|1.9e+00|-1.677927e+01 -1.697878e+01| 0:0:00| chol  2  2
10|0.950|0.749|1.1e-09|1.1e-05|5.2e-01|-1.710171e+01 -1.724930e+01| 0:0:00| chol  2  2
11|0.670|0.831|3.4e-10|1.9e-06|2.1e-01|-1.723053e+01 -1.737306e+01| 0:0:00| chol  2  2
12|0.921|0.929|3.1e-11|1.4e-07|1.7e-02|-1.734459e+01 -1.735757e+01| 0:0:00| chol  2  2
13|0.982|0.980|3.1e-10|4.9e-09|1.3e-03|-1.735534e+01 -1.735646e+01| 0:0:00| chol  2  2
14|0.980|0.988|1.5e-10|6.9e-11|2.3e-05|-1.735623e+01 -1.735625e+01| 0:0:00| chol  4  4
15|0.981|1.000|1.1e-08|5.3e-12|1.7e-06|-1.735625e+01 -1.735625e+01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----

number of iterations    = 15
primal objective value = -1.73562529e+01
dual  objective value = -1.73562489e+01
gap := trace(XZ)        = 1.75e-06
relative gap            = 4.89e-08
actual relative gap     = -1.13e-07
rel. primal infeas      = 1.08e-08
rel. dual infeas        = 5.33e-12
norm(X), norm(y), norm(Z) = 1.7e+03, 4.7e+01, 2.2e+01
norm(A), norm(b), norm(C) = 6.1e+02, 1.3e+03, 4.8e+01
Total CPU time (secs)   = 0.22
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 2.3e-08  0.0e+00  7.3e-12  0.0e+00  -1.1e-07  4.9e-08
-----

ans =

    17.3562

Epoch... 3
```

Epoch... 4

```

num. of constraints = 33
dim. of socp var = 34,    num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|4.3e+01|1.9e+06|-7.253071e+02  0.000000e+00| 0:0:00| chol  1  1
1|0.978|0.941|2.2e-02|2.6e+00|1.2e+05|-1.607109e+01  1.275876e+03| 0:0:00| chol  1  1
2|1.000|0.934|4.7e-08|1.8e-01|1.6e+04| 1.131470e+01 -6.081813e+01| 0:0:00| chol  1  1
3|1.000|1.000|1.2e-08|1.5e-02|2.2e+03| 3.931276e+00 -5.021857e+00| 0:0:00| chol  1  1
4|1.000|1.000|7.7e-10|4.5e-03|3.3e+02|-2.628744e+00 -4.160416e+00| 0:0:00| chol  1  1
5|1.000|1.000|2.0e-10|1.4e-03|5.1e+01|-3.681845e+00 -4.510480e+00| 0:0:00| chol  1  1
6|1.000|1.000|4.7e-11|4.1e-04|7.6e+00|-4.384473e+00 -4.669539e+00| 0:0:00| chol  1  1
7|1.000|0.941|1.8e-10|6.2e-05|1.2e+00|-4.545964e+00 -4.859351e+00| 0:0:00| chol  2  2
8|0.537|0.551|1.1e-10|3.0e-05|6.5e-01|-4.674368e+00 -4.913417e+00| 0:0:00| chol  2  2
9|0.554|0.550|5.4e-11|1.4e-05|3.7e-01|-4.763401e+00 -4.962878e+00| 0:0:00| chol  2  2
10|0.994|0.955|6.7e-10|6.6e-07|1.0e-01|-4.907254e+00 -5.005862e+00| 0:0:00| chol  2  2
11|1.000|1.000|2.1e-10|4.1e-09|2.4e-02|-4.976430e+00 -5.000392e+00| 0:0:00| chol  2  2
12|0.933|0.964|1.5e-10|5.6e-10|2.1e-03|-4.995542e+00 -4.997627e+00| 0:0:00| chol  2  2
13|0.983|0.986|3.0e-11|7.8e-11|5.1e-05|-4.997363e+00 -4.997414e+00| 0:0:00| chol  3  3
14|0.987|0.999|2.7e-11|6.0e-12|1.3e-06|-4.997407e+00 -4.997408e+00| 0:0:00| chol  5  5
15|1.000|1.000|3.6e-11|1.9e-12|1.2e-07|-4.997408e+00 -4.997408e+00| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations = 15
primal objective value = -4.99740818e+00
dual objective value = -4.99740839e+00
gap := trace(XZ) = 1.18e-07
relative gap = 1.08e-08
actual relative gap = 1.89e-08
rel. primal infeas = 3.60e-11
rel. dual infeas = 1.94e-12
norm(X), norm(y), norm(Z) = 3.8e+02, 6.1e+01, 4.1e+01
norm(A), norm(b), norm(C) = 3.6e+03, 6.5e+03, 4.8e+01
Total CPU time (secs) = 0.11
CPU time per iteration = 0.01
termination code = 0
DIMACS errors: 7.4e-11 0.0e+00 2.6e-12 0.0e+00 1.9e-08 1.1e-08
-----

```

ans =

4.9974

Epoch... 5

Epoch... 6

```

num. of constraints = 33
dim. of socp var = 34,    num. of socp blk = 1

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```

dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.1e+03|3.1e+08| 4.906872e+02  0.000000e+00| 0:0:00| chol  2  1
1|0.988|0.955|1.2e-02|2.7e+02|1.6e+07| 1.355719e+03  1.349075e+05| 0:0:00| chol  2  2
2|1.000|0.947|5.2e-10|1.4e+01|1.9e+06| 1.208402e+03 -4.420487e+03| 0:0:00| chol  2  2
3|1.000|0.940|3.4e-10|8.7e-01|3.2e+05| 5.826024e+02 -4.830186e+02| 0:0:00| chol  2  2
4|1.000|0.907|1.9e-09|8.2e-02|5.9e+04| 2.485592e+02 -1.731510e+02| 0:0:00| chol  2  2
5|1.000|1.000|6.0e-11|3.8e-03|8.2e+03| 7.609905e+01 -2.278117e+01| 0:0:00| chol  2  2
6|1.000|1.000|6.2e-11|1.9e-03|1.2e+03| 2.138794e+01 -5.253629e+00| 0:0:00| chol  1  1
7|1.000|1.000|3.2e-11|9.4e-04|1.5e+02| 3.597258e+00 -1.014338e+00| 0:0:00| chol  2  2
8|1.000|1.000|3.0e-12|2.8e-04|2.2e+01| 1.044648e+00 -9.663279e-01| 0:0:00| chol  2  2
9|1.000|1.000|1.3e-12|8.5e-05|3.3e+00| -2.051327e-01 -9.878985e-01| 0:0:00| chol  3  2
10|1.000|1.000|4.8e-12|2.5e-05|4.3e-01| -8.064966e-01 -9.897257e-01| 0:0:00| chol  3  3
11|1.000|0.927|4.0e-11|4.2e-06|8.2e-02| -9.454098e-01 -1.004324e+00| 0:0:00| chol  3  3
12|0.970|1.000|1.7e-11|2.5e-07|5.9e-03| -1.004874e+00 -1.009824e+00| 0:0:00| chol  5  5
13|0.988|0.987|2.4e-11|2.8e-08|7.2e-05| -1.010084e+00 -1.010058e+00| 0:0:00| chol
  linsysolve: Schur complement matrix not positive definite
  switch to LU factor. lu 30 ^19
14|0.976|1.000|3.3e-10|3.4e-12|2.0e-06| -1.010141e+00 -1.010149e+00| 0:0:00| lu 11 ^17
15|1.000|0.908|5.4e-10|1.4e-12|4.1e-08| -1.010142e+00 -1.010149e+00| 0:0:00|
  stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations = 15
primal objective value = -1.01014240e+00
dual  objective value = -1.01014901e+00
gap := trace(XZ)      = 4.11e-08
relative gap          = 1.36e-08
actual relative gap   = 2.19e-06
rel. primal infeas    = 5.38e-10
rel. dual  infeas     = 1.39e-12
norm(X), norm(y), norm(Z) = 2.1e+02, 6.5e+01, 4.6e+01
norm(A), norm(b), norm(C) = 5.1e+05, 1.1e+06, 4.8e+01
Total CPU time (secs) = 0.13
CPU time per iteration = 0.01
termination code      = 0
DIMACS errors: 1.1e-09  0.0e+00  1.9e-12  0.0e+00  2.2e-06  1.4e-08
-----

ans =

    1.0101

Epoch... 7
Epoch... 8

num. of constraints = 33
dim. of socp var = 34,  num. of socp blk = 1
dim. of linear var = 32
*****

```

```

SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0
it  pstep  dstep  pinfeas  dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.4e+03|3.4e+08| 6.507504e+02  0.000000e+00| 0:0:00| chol  2  1
1|0.988|0.956|1.2e-02|2.8e+02|1.7e+07| 1.531294e+03  1.399225e+05| 0:0:00| chol  2  2
2|1.000|0.948|4.2e-10|1.5e+01|2.1e+06| 1.359029e+03 -5.440083e+03| 0:0:00| chol  2  2
3|1.000|0.945|7.1e-10|8.2e-01|3.5e+05| 6.460757e+02 -4.752687e+02| 0:0:00| chol  2  2
4|1.000|0.900|1.6e-09|8.3e-02|6.6e+04| 2.807189e+02 -2.258796e+02| 0:0:00| chol  2  2
5|1.000|1.000|6.9e-11|3.8e-03|9.2e+03| 8.580124e+01 -3.001879e+01| 0:0:00| chol  2  2
6|1.000|1.000|6.0e-11|1.9e-03|1.3e+03| 2.700543e+01 -6.652318e+00| 0:0:00| chol  1  1
7|1.000|1.000|2.3e-11|9.4e-04|1.7e+02| 4.534915e+00 -8.662111e-01| 0:0:00| chol  2  2
8|1.000|1.000|6.8e-12|2.8e-04|2.6e+01| 1.582652e+00 -7.872467e-01| 0:0:00| chol  2  2
9|1.000|1.000|1.2e-12|8.5e-05|3.8e+00| 1.265628e-01 -8.054309e-01| 0:0:00| chol  2  2
10|1.000|1.000|2.0e-11|2.5e-05|5.0e-01|-5.782012e-01 -8.046552e-01| 0:0:00| chol  3  4
11|1.000|0.965|5.7e-11|3.4e-06|5.5e-02|-7.683494e-01 -8.090741e-01| 0:0:00| chol  4  4
12|0.974|0.990|3.3e-11|2.8e-07|3.6e-03|-8.099318e-01 -8.126636e-01| 0:0:00| chol  7  9
13|0.985|0.985|2.9e-11|2.9e-08|5.4e-05|-8.130929e-01 -8.130597e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30  2
14|1.000|1.000|2.1e-10|5.1e-12|2.5e-06|-8.131329e-01 -8.131419e-01| 0:0:00| lu 12  3
15|1.000|0.888|1.2e-09|1.8e-12|3.9e-08|-8.131355e-01 -8.131415e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations    = 15
primal objective value  = -8.13135496e-01
dual  objective value  = -8.13141483e-01
gap := trace(XZ)        = 3.93e-08
relative gap            = 1.50e-08
actual relative gap     = 2.28e-06
rel. primal infeas      = 1.15e-09
rel. dual  infeas       = 1.77e-12
norm(X), norm(y), norm(Z) = 1.8e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.4e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.11
CPU time per iteration  = 0.01
termination code        = 0
DIMACS errors: 2.3e-09  0.0e+00  2.4e-12  0.0e+00  2.3e-06  1.5e-08
-----

ans =

    0.8131

Epoch... 9
Epoch... 10

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****

```

```

version  predcorr  gam  expon  scale_data
   HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.6e+03|3.4e+08| 6.414527e+02  0.000000e+00| 0:0:00| chol  2  1
1|0.988|0.955|1.2e-02|2.9e+02|1.8e+07| 1.515269e+03  1.461657e+05| 0:0:00| chol  2  2
2|1.000|0.946|4.6e-10|1.6e+01|2.1e+06| 1.353704e+03 -5.540441e+03| 0:0:00| chol  2  2
3|1.000|0.946|2.5e-10|8.5e-01|3.6e+05| 6.523678e+02 -4.395663e+02| 0:0:00| chol  2  2
4|1.000|0.899|1.4e-09|8.7e-02|6.7e+04| 2.836301e+02 -2.365472e+02| 0:0:00| chol  2  2
5|1.000|1.000|7.3e-11|3.8e-03|9.4e+03| 8.744872e+01 -3.048544e+01| 0:0:00| chol  2  2
6|1.000|1.000|5.8e-11|1.9e-03|1.4e+03| 2.748031e+01 -6.600978e+00| 0:0:00| chol  1  1
7|1.000|1.000|4.0e-11|9.4e-04|1.7e+02| 4.747994e+00 -7.447188e-01| 0:0:00| chol  2  2
8|1.000|1.000|7.6e-12|2.8e-04|2.6e+01| 1.750879e+00 -6.653224e-01| 0:0:00| chol  2  2
9|1.000|1.000|2.2e-12|8.5e-05|3.9e+00| 2.718215e-01 -6.826208e-01| 0:0:00| chol  2  2
10|1.000|1.000|1.2e-11|2.5e-05|5.1e-01| -4.454528e-01 -6.818595e-01| 0:0:00| chol  4  3
11|1.000|1.000|5.5e-11|2.5e-06|4.8e-02| -6.443879e-01 -6.827068e-01| 0:0:00| chol 10 13
12|0.981|0.992|1.1e-09|2.7e-07|2.9e-03| -6.820859e-01 -6.842161e-01| 0:0:00| chol 25 26
   stop: primal infeas has deteriorated too much, 1.0e-03
13|0.982|0.979|1.1e-09|2.7e-07|2.9e-03| -6.820859e-01 -6.842161e-01| 0:0:00|
-----
number of iterations      = 13
primal objective value    = -6.82085863e-01
dual   objective value    = -6.84216115e-01
gap := trace(XZ)          = 2.85e-03
relative gap              = 1.20e-03
actual relative gap       = 9.00e-04
rel. primal infeas        = 1.06e-09
rel. dual   infeas        = 2.74e-07
norm(X), norm(y), norm(Z) = 1.6e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.5e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)     = 0.09
CPU time per iteration    = 0.01
termination code          = -7
DIMACS errors: 2.1e-09  0.0e+00  3.7e-07  0.0e+00  9.0e-04  1.2e-03
-----

```

ans =

0.6842

Epoch... 11

Epoch... 12

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
   HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.5e+03|3.4e+08| 6.096712e+02  0.000000e+00| 0:0:00| chol  1  1
1|0.987|0.955|1.3e-02|2.9e+02|1.7e+07| 1.477823e+03  1.484805e+05| 0:0:00| chol  2  2

```

```

2|1.000|0.945|4.5e-10|1.6e+01|2.1e+06| 1.327769e+03 -5.506661e+03| 0:0:00| chol 2 2
3|1.000|0.947|4.6e-10|8.6e-01|3.6e+05| 6.472613e+02 -4.134384e+02| 0:0:00| chol 2 2
4|1.000|0.899|1.7e-09|8.8e-02|6.7e+04| 2.817931e+02 -2.385493e+02| 0:0:00| chol 2 2
5|1.000|1.000|6.6e-11|3.8e-03|9.3e+03| 8.700876e+01 -3.019722e+01| 0:0:00| chol 2 2
6|1.000|1.000|5.7e-11|1.9e-03|1.4e+03| 2.723000e+01 -6.423449e+00| 0:0:00| chol 1 1
7|1.000|1.000|1.9e-11|9.4e-04|1.7e+02| 4.772899e+00 -6.849750e-01| 0:0:00| chol 2 2
8|1.000|1.000|5.5e-12|2.8e-04|2.6e+01| 1.795770e+00 -6.076244e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.3e-12|8.5e-05|3.8e+00| 3.265491e-01 -6.247491e-01| 0:0:00| chol 2 2
10|1.000|1.000|8.4e-12|2.5e-05|5.0e-01| -3.866897e-01 -6.242380e-01| 0:0:00| chol 4 4
11|0.941|0.941|1.0e-10|3.9e-06|6.6e-02| -5.737065e-01 -6.240849e-01| 0:0:00| chol

```

linsysolve: Schur complement matrix not positive definite

switch to LU factor. lu 30 30

```

12|0.977|1.000|9.9e-08|2.5e-07|1.1e-02| -6.162425e-01 -6.259845e-01| 0:0:00| lu 22 2
13|1.000|0.809|2.2e-09|6.9e-08|3.0e-03| -6.224988e-01 -6.252909e-01| 0:0:00| lu 20 2
14|0.928|0.985|6.0e-10|3.6e-09|2.0e-04| -6.247308e-01 -6.249416e-01| 0:0:00| lu 30 ^29
15|0.565|0.783|1.8e-08|7.8e-10|1.0e-04| -6.249239e-01 -6.249399e-01| 0:0:00| lu 22 ^22
16|1.000|1.000|2.1e-08|1.1e-11|1.6e-05| -6.248751e-01 -6.249367e-01| 0:0:00| lu 14 ^20
17|0.963|0.813|6.9e-09|1.9e-11|1.7e-06| -6.249866e-01 -6.249352e-01| 0:0:00| lu 20 30
18|0.504|0.504|4.1e-08|3.5e-11|9.1e-07| -6.249780e-01 -6.249351e-01| 0:0:00| lu 30 30
19|0.102|0.140|2.9e-08|6.6e-11|9.2e-07| -6.249825e-01 -6.249351e-01| 0:0:00| lu 11 ^ 7
20|1.000|0.928|2.3e-08|2.2e-11|4.5e-07| -6.249769e-01 -6.249351e-01| 0:0:00| lu 29 30
21|0.713|0.940|1.9e-08|8.4e-12|1.8e-07| -6.249751e-01 -6.249350e-01| 0:0:00|

```

stop: max(relative gap, infeasibilities) < 1.00e-07

```

-----
number of iterations      = 21
primal objective value    = -6.24975116e-01
dual   objective value    = -6.24935048e-01
gap := trace(XZ)          = 1.82e-07
relative gap              = 8.10e-08
actual relative gap       = -1.78e-05
rel. primal infeas        = 1.87e-08
rel. dual   infeas        = 8.40e-12
norm(X), norm(y), norm(Z) = 1.4e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.5e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)    = 0.22
CPU time per iteration   = 0.01
termination code         = 0
DIMACS errors: 3.7e-08  0.0e+00  1.1e-11  0.0e+00  -1.8e-05  8.1e-08
-----

```

ans =

0.6249

Epoch... 13

Epoch... 14

```

num. of constraints = 33
dim. of socp var    = 34,   num. of socp blk = 1
dim. of linear var  = 32

```

SDPT3: Infeasible path-following algorithms

```

version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0

```

it	pstep	dstep	pinfeas	dinfeas	gap	prim-obj	dual-obj	cputime				
0	0.000	0.000	1.0e+00	6.5e+03	3.3e+08	5.848590e+02	0.000000e+00	0:0:00	chol	2	1	
1	0.987	0.954	1.3e-02	3.0e+02	1.7e+07	1.446763e+03	1.499943e+05	0:0:00	chol	2	2	
2	1.000	0.944	4.9e-10	1.7e+01	2.1e+06	1.307097e+03	-5.530482e+03	0:0:00	chol	2	2	
3	1.000	0.948	6.6e-10	8.6e-01	3.5e+05	6.441337e+02	-3.952358e+02	0:0:00	chol	2	2	
4	1.000	0.900	2.0e-09	8.7e-02	6.6e+04	2.799967e+02	-2.384128e+02	0:0:00	chol	2	2	
5	1.000	1.000	7.1e-11	3.8e-03	9.3e+03	8.620133e+01	-2.966618e+01	0:0:00	chol	2	2	
6	1.000	1.000	5.7e-11	1.9e-03	1.3e+03	2.679895e+01	-6.161589e+00	0:0:00	chol	1	1	
7	1.000	1.000	2.6e-11	9.4e-04	1.7e+02	4.763057e+00	-6.423707e-01	0:0:00	chol	2	2	
8	1.000	1.000	6.1e-12	2.8e-04	2.5e+01	1.814853e+00	-5.672573e-01	0:0:00	chol	2	2	
9	1.000	1.000	3.0e-12	8.5e-05	3.8e+00	3.599366e-01	-5.842930e-01	0:0:00	chol	2	2	
10	1.000	1.000	1.6e-11	2.5e-05	5.0e-01	-3.468598e-01	-5.840707e-01	0:0:00	chol	3	4	
11	0.889	0.889	4.8e-11	5.1e-06	8.3e-02	-5.221766e-01	-5.834133e-01	0:0:00	chol			
linsysolve: Schur complement matrix not positive definite												
switch to LU factor. lu 30 30												
12	1.000	1.000	1.2e-08	2.5e-07	2.2e-02	-5.643274e-01	-5.855018e-01	0:0:00	lu	5	1	
13	0.975	0.981	4.5e-10	3.0e-08	5.5e-04	-5.828712e-01	-5.833603e-01	0:0:00	lu	30	^12	
14	0.985	0.987	4.9e-10	2.9e-09	8.1e-06	-5.833549e-01	-5.833620e-01	0:0:00	lu	30	^14	
15	1.000	1.000	5.9e-10	7.6e-12	1.9e-07	-5.833667e-01	-5.833675e-01	0:0:00				
stop: max(relative gap, infeasibilities) < 1.00e-07												

```

-----
number of iterations      = 15
primal objective value   = -5.83366683e-01
dual  objective value    = -5.83367540e-01
gap := trace(XZ)         = 1.92e-07
relative gap             = 8.86e-08
actual relative gap      = 3.95e-07
rel. primal infeas       = 5.88e-10
rel. dual  infeas       = 7.59e-12
norm(X), norm(y), norm(Z) = 1.3e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.4e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)    = 0.13
CPU time per iteration   = 0.01
termination code         = 0
DIMACS errors: 1.2e-09  0.0e+00  1.0e-11  0.0e+00  4.0e-07  8.9e-08
-----

```

ans =

0.5834

Epoch... 15

Epoch... 16

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----

```

```

0|0.000|0.000|1.0e+00|6.5e+03|3.3e+08| 5.942442e+02  0.000000e+00| 0:0:00| chol  1  1
1|0.987|0.953|1.3e-02|3.0e+02|1.8e+07| 1.440891e+03  1.548525e+05| 0:0:00| chol  2  2
2|1.000|0.943|5.5e-10|1.7e+01|2.2e+06| 1.311600e+03 -5.746145e+03| 0:0:00| chol  2  2
3|1.000|0.948|5.2e-09|9.0e-01|3.6e+05| 6.559752e+02 -3.988117e+02| 0:0:00| chol  2  2
4|1.000|0.900|1.7e-09|9.1e-02|6.7e+04| 2.822719e+02 -2.353801e+02| 0:0:00| chol  2  2
5|1.000|1.000|8.2e-11|3.8e-03|9.4e+03| 8.781877e+01 -2.841236e+01| 0:0:00| chol  2  2
6|1.000|1.000|5.6e-11|1.9e-03|1.4e+03| 2.635953e+01 -5.905925e+00| 0:0:00| chol  1  1
7|1.000|1.000|7.7e-12|9.4e-04|1.7e+02| 4.809797e+00 -6.402892e-01| 0:0:00| chol  2  2
8|1.000|1.000|3.5e-12|2.8e-04|2.6e+01| 1.832738e+00 -5.676077e-01| 0:0:00| chol  2  2
9|1.000|1.000|4.4e-12|8.5e-05|3.8e+00| 3.674650e-01 -5.848373e-01| 0:0:00| chol  2  2
10|1.000|1.000|8.0e-12|2.5e-05|5.0e-01|-3.442435e-01 -5.849761e-01| 0:0:00| chol  3  4
11|0.869|0.869|1.5e-10|5.6e-06|9.2e-02|-5.166354e-01 -5.840670e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 ^16
12|1.000|1.000|4.2e-09|2.5e-07|2.9e-02|-5.577871e-01 -5.858594e-01| 0:0:00| lu   5   1
13|0.967|0.974|1.3e-10|3.2e-08|1.0e-03|-5.820681e-01 -5.830093e-01| 0:0:00| lu  11  30
14|0.971|0.798|1.3e-09|8.4e-09|2.9e-05|-5.829458e-01 -5.829478e-01| 0:0:00| lu  11  30
15|0.026|0.045|1.1e-08|8.0e-09|3.2e-05|-5.828316e-01 -5.829522e-01| 0:0:00| lu  11  30
16|0.004|0.010|2.9e-07|8.0e-09|3.2e-05|-5.827776e-01 -5.829528e-01| 0:0:00|
    stop: steps too short consecutively

```

```

-----
number of iterations    = 16
primal objective value = -5.82945765e-01
dual   objective value = -5.82947767e-01
gap := trace(XZ)       = 2.91e-05
relative gap           = 1.34e-05
actual relative gap    = 9.25e-07
rel. primal infeas     = 1.26e-09
rel. dual   infeas     = 8.41e-09
norm(X), norm(y), norm(Z) = 1.2e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.5e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.16
CPU time per iteration = 0.01
termination code        = -5
DIMACS errors: 2.5e-09  0.0e+00  1.1e-08  0.0e+00  9.2e-07  1.3e-05
-----

```

ans =

0.5829

Epoch... 17

Epoch... 18

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
    HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.7e+03|3.5e+08| 6.530845e+02  0.000000e+00| 0:0:00| chol  2  2

```



```

1|0.986|0.953|1.4e-02|3.1e+02|1.9e+07| 1.493937e+03 1.603729e+05| 0:0:00| chol 2 2
2|1.000|0.943|1.0e-09|1.8e+01|2.2e+06| 1.362429e+03 -6.110983e+03| 0:0:00| chol 2 2
3|1.000|0.948|5.8e-09|9.3e-01|3.8e+05| 6.841479e+02 -4.276237e+02| 0:0:00| chol 2 2
4|1.000|0.900|6.9e-10|9.5e-02|7.0e+04| 2.912318e+02 -2.385498e+02| 0:0:00| chol 2 2
5|1.000|1.000|8.5e-11|3.8e-03|9.8e+03| 9.147775e+01 -2.819207e+01| 0:0:00| chol 2 2
6|1.000|1.000|5.6e-11|1.9e-03|1.4e+03| 2.682152e+01 -5.908098e+00| 0:0:00| chol 1 1
7|1.000|1.000|2.2e-11|9.4e-04|1.8e+02| 4.985078e+00 -6.617800e-01| 0:0:00| chol 2 2
8|1.000|1.000|3.1e-12|2.8e-04|2.6e+01| 1.905761e+00 -5.853083e-01| 0:0:00| chol 2 2
9|1.000|1.000|2.0e-12|8.5e-05|4.0e+00| 3.896678e-01 -6.014425e-01| 0:0:00| chol 2 2
10|1.000|1.000|1.0e-11|2.5e-05|5.2e-01|-3.475495e-01 -6.020840e-01| 0:0:00| chol 3 3
11|1.000|1.000|1.0e-10|2.5e-06|6.1e-02|-5.485646e-01 -6.005530e-01| 0:0:00| chol 10 11
12|1.000|1.000|5.8e-10|2.5e-07|1.9e-02|-5.801295e-01 -5.988414e-01| 0:0:00| chol 3 3
13|0.962|0.962|2.3e-11|3.4e-08|7.7e-04|-5.962784e-01 -5.969949e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 1
14|0.988|0.988|1.6e-11|3.0e-09|9.4e-06|-5.969328e-01 -5.969375e-01| 0:0:00| lu 30 1
15|0.995|0.995|5.2e-11|1.9e-11|1.2e-07|-5.969407e-01 -5.969408e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 15
primal objective value = -5.96940681e-01
dual  objective value = -5.96940805e-01
gap := trace(XZ)       = 1.17e-07
relative gap           = 5.32e-08
actual relative gap    = 5.66e-08
rel. primal infeas     = 5.15e-11
rel. dual  infeas     = 1.91e-11
norm(X), norm(y), norm(Z) = 9.5e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.6e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.12
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 1.0e-10  0.0e+00  2.6e-11  0.0e+00  5.7e-08  5.3e-08
-----

```

ans =

0.5969

Epoch... 19

Epoch... 20

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.8e+03|3.5e+08| 6.830178e+02 0.000000e+00| 0:0:00| chol 1 1
1|0.987|0.953|1.3e-02|3.2e+02|1.9e+07| 1.526385e+03 1.629941e+05| 0:0:00| chol 2 2
2|1.000|0.943|6.2e-10|1.8e+01|2.3e+06| 1.391349e+03 -6.263433e+03| 0:0:00| chol 2 2

```

```

3|1.000|0.949|1.2e-09|9.3e-01|3.8e+05| 6.982369e+02 -4.332323e+02| 0:0:00| chol 2 2
4|1.000|0.901|5.8e-10|9.4e-02|7.1e+04| 2.955256e+02 -2.431009e+02| 0:0:00| chol 2 2
5|1.000|1.000|8.2e-11|3.8e-03|1.0e+04| 9.257070e+01 -2.836347e+01| 0:0:00| chol 2 2
6|1.000|1.000|5.5e-11|1.9e-03|1.4e+03| 2.709527e+01 -5.826773e+00| 0:0:00| chol 1 1
7|1.000|1.000|1.5e-11|9.4e-04|1.8e+02| 5.095962e+00 -6.268996e-01| 0:0:00| chol 1 2
8|1.000|1.000|3.0e-12|2.8e-04|2.7e+01| 1.978789e+00 -5.484215e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.0e-12|8.5e-05|4.0e+00| 4.433338e-01 -5.640511e-01| 0:0:00| chol 2 2
10|1.000|1.000|1.3e-11|2.5e-05|5.3e-01|-3.040307e-01 -5.650757e-01| 0:0:00| chol 4 4
11|1.000|1.000|3.3e-11|2.5e-06|7.1e-02|-5.016985e-01 -5.636623e-01| 0:0:00| chol 5 4
12|1.000|1.000|6.2e-11|2.5e-07|1.7e-02|-5.435821e-01 -5.603864e-01| 0:0:00| chol 4 3
13|0.935|0.935|1.9e-11|4.0e-08|1.4e-03|-5.574595e-01 -5.587822e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 ^15
14|0.981|0.981|7.3e-11|3.3e-09|3.0e-05|-5.586091e-01 -5.586376e-01| 0:0:00| lu 30 30
15|0.989|0.897|1.1e-09|3.4e-10|1.2e-06|-5.586192e-01 -5.586375e-01| 0:0:00| lu 21 30
16|1.000|0.882|3.4e-09|4.9e-11|1.2e-07|-5.586195e-01 -5.586374e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 16
primal objective value = -5.58619470e-01
dual   objective value = -5.58637431e-01
gap := trace(XZ)       = 1.15e-07
relative gap           = 5.44e-08
actual relative gap    = 8.48e-06
rel. primal infeas     = 3.39e-09
rel. dual   infeas     = 4.90e-11
norm(X), norm(y), norm(Z) = 7.4e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.7e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.12
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 6.7e-09  0.0e+00  6.7e-11  0.0e+00  8.5e-06  5.4e-08
-----

```

ans =

0.5586

Epoch... 21

Epoch... 22

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.9e+03|3.6e+08| 7.077343e+02  0.000000e+00| 0:0:00| chol 1 1
1|0.987|0.954|1.3e-02|3.2e+02|1.9e+07| 1.556629e+03  1.625321e+05| 0:0:00| chol 2 2
2|1.000|0.943|4.8e-10|1.8e+01|2.3e+06| 1.416965e+03 -6.454734e+03| 0:0:00| chol 2 2
3|1.000|0.950|4.7e-10|9.1e-01|3.9e+05| 7.089059e+02 -4.422489e+02| 0:0:00| chol 2 2

```

```

4|1.000|0.902|5.2e-10|9.1e-02|7.2e+04| 2.993212e+02 -2.488574e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.9e-11|3.8e-03|1.0e+04| 9.275953e+01 -2.893181e+01| 0:0:00| chol 2 2
6|1.000|1.000|5.5e-11|1.9e-03|1.4e+03| 2.741006e+01 -5.789143e+00| 0:0:00| chol 1 1
7|1.000|1.000|2.7e-11|9.4e-04|1.8e+02| 5.154925e+00 -6.206050e-01| 0:0:00| chol 2 2
8|1.000|1.000|3.1e-12|2.8e-04|2.7e+01| 2.012733e+00 -5.396837e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.2e-12|8.5e-05|4.0e+00| 4.640467e-01 -5.550036e-01| 0:0:00| chol 2 2
10|1.000|1.000|1.9e-12|2.5e-05|5.3e-01|-2.906194e-01 -5.562928e-01| 0:0:00| chol 3 4
11|1.000|1.000|3.7e-11|2.5e-06|7.7e-02|-4.869962e-01 -5.549751e-01| 0:0:00| chol 4 3
12|1.000|1.000|4.2e-11|2.5e-07|1.8e-02|-5.336915e-01 -5.511339e-01| 0:0:00| chol 3 4
13|0.930|0.932|2.7e-11|4.1e-08|2.2e-03|-5.474231e-01 -5.495681e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 30
14|1.000|1.000|2.8e-10|2.6e-09|1.2e-04|-5.491984e-01 -5.493194e-01| 0:0:00| lu 30 ^29
15|0.988|0.962|5.2e-10|1.0e-10|1.5e-06|-5.493051e-01 -5.493056e-01| 0:0:00| lu 12 30
16|1.000|0.807|1.8e-09|2.3e-11|3.9e-08|-5.493053e-01 -5.493055e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 16
primal objective value = -5.49305323e-01
dual  objective value = -5.49305486e-01
gap := trace(XZ)       = 3.91e-08
relative gap           = 1.86e-08
actual relative gap    = 7.76e-08
rel. primal infeas     = 1.79e-09
rel. dual  infeas     = 2.32e-11
norm(X), norm(y), norm(Z) = 6.2e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.7e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.14
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 3.5e-09  0.0e+00  3.2e-11  0.0e+00  7.8e-08  1.9e-08
-----

```

ans =

0.5493

Epoch... 23

Epoch... 24

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.9e+03|3.6e+08| 6.982834e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.987|0.954|1.3e-02|3.2e+02|1.9e+07| 1.548523e+03  1.628878e+05| 0:0:00| chol 2 2
2|1.000|0.943|4.7e-10|1.8e+01|2.3e+06| 1.411497e+03 -6.467767e+03| 0:0:00| chol 2 2
3|1.000|0.951|4.6e-10|9.0e-01|3.9e+05| 7.081068e+02 -4.318243e+02| 0:0:00| chol 2 2
4|1.000|0.904|4.9e-10|8.8e-02|7.2e+04| 2.981784e+02 -2.492868e+02| 0:0:00| chol 2 2

```

```

5|1.000|1.000|7.2e-11|3.8e-03|1.0e+04| 9.161841e+01 -2.872001e+01| 0:0:00| chol 2 2
6|1.000|1.000|5.4e-11|1.9e-03|1.4e+03| 2.711087e+01 -5.586137e+00| 0:0:00| chol 1 1
7|1.000|1.000|7.1e-12|9.4e-04|1.8e+02| 5.127618e+00 -5.942168e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.5e-12|2.8e-04|2.7e+01| 2.015135e+00 -5.143369e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.8e-12|8.5e-05|4.0e+00| 4.807654e-01 -5.297209e-01| 0:0:00| chol 2 2
10|1.000|1.000|5.5e-12|2.5e-05|5.3e-01|-2.672637e-01 -5.311670e-01| 0:0:00| chol 3 4
11|1.000|1.000|5.9e-11|2.5e-06|7.8e-02|-4.607619e-01 -5.299427e-01| 0:0:00| chol 3 4
12|1.000|1.000|1.7e-11|2.5e-07|1.8e-02|-5.085175e-01 -5.259860e-01| 0:0:00| chol 4 4
13|0.940|0.943|1.6e-11|3.9e-08|2.4e-03|-5.221094e-01 -5.244501e-01| 0:0:00| chol

```

linsysolve: Schur complement matrix not positive definite

switch to LU factor. lu 15 ^18

```

14|1.000|1.000|2.6e-10|2.6e-09|2.0e-04|-5.239831e-01 -5.241842e-01| 0:0:00| lu 30 1
15|0.987|0.955|5.9e-11|3.6e-10|2.7e-06|-5.241574e-01 -5.241591e-01| 0:0:00| lu 17 30
16|0.996|0.913|2.5e-09|3.9e-11|7.3e-08|-5.241600e-01 -5.241591e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations      = 16
primal objective value    = -5.24160024e-01
dual   objective value    = -5.24159115e-01
gap := trace(XZ)          = 7.27e-08
relative gap              = 3.55e-08
actual relative gap       = -4.43e-07
rel. primal infeas        = 2.47e-09
rel. dual   infeas        = 3.85e-11
norm(X), norm(y), norm(Z) = 5.7e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.7e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)    = 0.13
CPU time per iteration    = 0.01
termination code          = 0
DIMACS errors: 4.9e-09  0.0e+00  5.3e-11  0.0e+00  -4.4e-07  3.5e-08
-----

```

ans =

0.5242

Epoch... 25

Epoch... 26

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.9e+03|3.7e+08| 6.977269e+02  0.000000e+00| 0:0:00| chol 2 2
1|0.986|0.953|1.4e-02|3.2e+02|1.9e+07| 1.546653e+03  1.637678e+05| 0:0:00| chol 2 2
2|1.000|0.942|4.8e-10|1.8e+01|2.3e+06| 1.413102e+03 -6.589633e+03| 0:0:00| chol 2 2
3|1.000|0.952|5.7e-10|8.9e-01|3.9e+05| 7.119794e+02 -4.254233e+02| 0:0:00| chol 2 2
4|1.000|0.906|4.3e-10|8.5e-02|7.2e+04| 2.982259e+02 -2.500072e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.4e-11|3.8e-03|9.9e+03| 9.069234e+01 -2.840000e+01| 0:0:00| chol 2 2

```

```

6|1.000|1.000|5.3e-11|1.9e-03|1.4e+03| 2.677699e+01 -5.338036e+00| 0:0:00| chol 1 1
7|1.000|1.000|5.8e-11|9.4e-04|1.8e+02| 5.102738e+00 -5.792794e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.2e-12|2.8e-04|2.7e+01| 2.012477e+00 -5.001366e-01| 0:0:00| chol 1 2
9|1.000|1.000|1.6e-12|8.5e-05|4.0e+00| 4.885932e-01 -5.154896e-01| 0:0:00| chol 2 2
10|1.000|1.000|6.3e-12|2.5e-05|5.2e-01|-2.544864e-01 -5.170793e-01| 0:0:00| chol 3 3
11|1.000|1.000|2.0e-11|2.5e-06|7.9e-02|-4.459087e-01 -5.159857e-01| 0:0:00| chol 4 3
12|1.000|1.000|1.0e-10|2.5e-07|1.8e-02|-4.943834e-01 -5.119870e-01| 0:0:00| chol 4 3
13|0.959|0.964|6.7e-11|3.4e-08|2.5e-03|-5.079569e-01 -5.104708e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 2
14|1.000|1.000|1.9e-10|2.6e-09|3.0e-04|-5.098944e-01 -5.101923e-01| 0:0:00| lu 24 30
15|0.986|0.984|2.7e-10|3.0e-10|4.1e-06|-5.101492e-01 -5.101553e-01| 0:0:00| lu 11 ^28
16|1.000|0.809|4.8e-09|6.6e-11|9.6e-08|-5.101467e-01 -5.101550e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations      = 16
primal objective value    = -5.10146717e-01
dual   objective value    = -5.10155015e-01
gap := trace(XZ)          = 9.62e-08
relative gap              = 4.76e-08
actual relative gap       = 4.11e-06
rel. primal infeas        = 4.79e-09
rel. dual   infeas        = 6.64e-11
norm(X), norm(y), norm(Z) = 5.3e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.7e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)     = 0.12
CPU time per iteration    = 0.01
termination code          = 0
DIMACS errors: 9.5e-09  0.0e+00  9.0e-11  0.0e+00  4.1e-06  4.8e-08
-----

```

ans =

0.5102

Epoch... 27

Epoch... 28

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.9e+03|3.7e+08| 7.257696e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.986|0.953|1.4e-02|3.2e+02|2.0e+07| 1.574847e+03  1.640179e+05| 0:0:00| chol 2 2
2|1.000|0.942|4.7e-10|1.8e+01|2.4e+06| 1.440330e+03 -6.913564e+03| 0:0:00| chol 2 2
3|1.000|0.953|5.0e-10|8.7e-01|4.0e+05| 7.266206e+02 -4.382640e+02| 0:0:00| chol 2 2
4|1.000|0.908|4.0e-10|8.2e-02|7.2e+04| 3.022668e+02 -2.528415e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.2e-11|3.8e-03|1.0e+04| 9.079163e+01 -2.833793e+01| 0:0:00| chol 2 2
6|1.000|1.000|5.4e-11|1.9e-03|1.4e+03| 2.677507e+01 -5.144284e+00| 0:0:00| chol 1 1

```

```

7|1.000|1.000|1.3e-11|9.4e-04|1.8e+02| 5.139007e+00 -5.787766e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.2e-12|2.8e-04|2.7e+01| 2.031374e+00 -4.978969e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.1e-11|8.5e-05|4.0e+00| 4.981453e-01 -5.129945e-01| 0:0:00| chol 2 2
10|1.000|1.000|4.3e-12|2.5e-05|5.3e-01|-2.497181e-01 -5.146624e-01| 0:0:00| chol 3 4
11|1.000|1.000|5.9e-11|2.5e-06|8.1e-02|-4.419939e-01 -5.135883e-01| 0:0:00| chol 3 3
12|1.000|1.000|5.2e-11|2.5e-07|1.8e-02|-4.915000e-01 -5.094907e-01| 0:0:00| chol 4 4
13|0.986|0.995|4.1e-11|2.7e-08|2.6e-03|-5.053350e-01 -5.079549e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 2
14|1.000|1.000|8.8e-11|2.6e-09|3.3e-04|-5.073343e-01 -5.076667e-01| 0:0:00| lu 30 ^14
15|0.986|0.985|3.8e-10|2.9e-10|4.8e-06|-5.076204e-01 -5.076253e-01| 0:0:00| lu 11 ^13
16|1.000|0.805|6.6e-10|6.5e-11|1.1e-07|-5.076211e-01 -5.076248e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations      = 16
primal objective value    = -5.07621062e-01
dual   objective value    = -5.07624841e-01
gap := trace(XZ)          = 1.08e-07
relative gap              = 5.35e-08
actual relative gap       = 1.88e-06
rel. primal infeas        = 6.60e-10
rel. dual   infeas        = 6.51e-11
norm(X), norm(y), norm(Z) = 5.0e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.8e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)     = 0.13
CPU time per iteration    = 0.01
termination code          = 0
DIMACS errors: 1.3e-09  0.0e+00  8.9e-11  0.0e+00  1.9e-06  5.4e-08
-----

```

ans =

0.5076

Epoch... 29

Epoch... 30

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|6.9e+03|3.8e+08| 7.378534e+02  0.000000e+00| 0:0:00| chol 1 2
1|0.986|0.953|1.4e-02|3.2e+02|2.0e+07| 1.587286e+03  1.657921e+05| 0:0:00| chol 2 2
2|1.000|0.942|4.8e-10|1.9e+01|2.4e+06| 1.453291e+03 -7.042734e+03| 0:0:00| chol 2 2
3|1.000|0.954|5.2e-10|8.7e-01|4.0e+05| 7.348081e+02 -4.369779e+02| 0:0:00| chol 2 2
4|1.000|0.909|3.7e-10|8.0e-02|7.3e+04| 3.043510e+02 -2.557526e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.1e-11|3.8e-03|1.0e+04| 9.090966e+01 -2.827009e+01| 0:0:00| chol 2 2
6|1.000|1.000|5.2e-11|1.9e-03|1.4e+03| 2.673540e+01 -5.016979e+00| 0:0:00| chol 1 2
7|1.000|1.000|5.7e-12|9.4e-04|1.8e+02| 5.166456e+00 -5.691179e-01| 0:0:00| chol 2 2

```

```

8|1.000|1.000|4.9e-12|2.8e-04|2.7e+01| 2.050312e+00 -4.876259e-01| 0:0:00| chol 2 2
9|1.000|1.000|4.7e-12|8.5e-05|4.0e+00| 5.126066e-01 -5.025595e-01| 0:0:00| chol 1 2
10|1.000|1.000|2.4e-12|2.5e-05|5.3e-01|-2.376548e-01 -5.044310e-01| 0:0:00| chol 3 3
11|1.000|1.000|7.6e-11|2.5e-06|8.3e-02|-4.296507e-01 -5.035051e-01| 0:0:00| chol 3 3
12|1.000|1.000|3.2e-11|2.5e-07|1.9e-02|-4.808165e-01 -4.993801e-01| 0:0:00| chol 5 5
13|1.000|1.000|2.9e-11|2.5e-08|3.8e-03|-4.941912e-01 -4.979940e-01| 0:0:00| chol 8 10
14|1.000|0.979|5.6e-11|3.0e-09|3.6e-04|-4.972272e-01 -4.975816e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 ^ 6
15|0.983|0.988|8.1e-10|2.9e-10|1.2e-05|-4.975100e-01 -4.975276e-01| 0:0:00| lu 30 ^17
16|1.000|0.900|2.3e-10|3.7e-11|1.8e-07|-4.975235e-01 -4.975262e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations      = 16
primal objective value    = -4.97523525e-01
dual   objective value    = -4.97526189e-01
gap := trace(XZ)          = 1.81e-07
relative gap              = 9.09e-08
actual relative gap       = 1.34e-06
rel. primal infeas        = 2.27e-10
rel. dual   infeas        = 3.70e-11
norm(X), norm(y), norm(Z) = 4.2e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.8e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)     = 0.13
CPU time per iteration    = 0.01
termination code          = 0
DIMACS errors: 4.5e-10  0.0e+00  5.0e-11  0.0e+00  1.3e-06  9.1e-08
-----

```

ans =

0.4975

Epoch... 31

Epoch... 32

```

num. of constraints = 33
dim. of socp var    = 34,   num. of socp blk = 1
dim. of linear var  = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.0e+03|3.8e+08| 7.467380e+02  0.000000e+00| 0:0:00| chol 2 2
1|0.986|0.953|1.4e-02|3.2e+02|2.0e+07| 1.596938e+03  1.667654e+05| 0:0:00| chol 2 2
2|1.000|0.942|4.8e-10|1.9e+01|2.5e+06| 1.463932e+03 -7.189360e+03| 0:0:00| chol 2 2
3|1.000|0.955|4.9e-10|8.6e-01|4.1e+05| 7.419104e+02 -4.349876e+02| 0:0:00| chol 2 2
4|1.000|0.911|3.5e-10|7.8e-02|7.3e+04| 3.062264e+02 -2.591069e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.5e-11|3.8e-03|1.0e+04| 9.066715e+01 -2.826083e+01| 0:0:00| chol 2 2
6|1.000|1.000|5.2e-11|1.9e-03|1.4e+03| 2.667696e+01 -4.867167e+00| 0:0:00| chol 1 2
7|1.000|1.000|5.9e-12|9.4e-04|1.8e+02| 5.190768e+00 -5.488717e-01| 0:0:00| chol 2 2
8|1.000|1.000|7.2e-12|2.8e-04|2.7e+01| 2.073522e+00 -4.667765e-01| 0:0:00| chol 2 2

```

```

 9|1.000|1.000|7.5e-12|8.5e-05|4.0e+00| 5.347010e-01 -4.815917e-01| 0:0:00| chol 2 2
10|1.000|1.000|6.3e-12|2.5e-05|5.3e-01|-2.161890e-01 -4.835201e-01| 0:0:00| chol 3 3
11|1.000|1.000|1.5e-11|2.5e-06|8.4e-02|-4.077641e-01 -4.826211e-01| 0:0:00| chol 3 4
12|1.000|1.000|1.9e-11|2.5e-07|1.9e-02|-4.596922e-01 -4.784353e-01| 0:0:00| chol 3 5
13|1.000|1.000|3.0e-11|2.6e-08|4.1e-03|-4.729499e-01 -4.770753e-01| 0:0:00| chol 10 10
14|0.994|0.965|5.7e-11|3.4e-09|4.0e-04|-4.762474e-01 -4.766401e-01| 0:0:00| chol

```

```
linsysolve: Schur complement matrix not positive definite
```

```
switch to LU factor. lu 30 ^10
```

```
15|1.000|0.988|3.0e-10|3.0e-10|1.3e-05|-4.765630e-01 -4.765777e-01| 0:0:00| lu 13 30
```

```
16|1.000|0.971|1.1e-09|1.8e-11|1.7e-07|-4.765769e-01 -4.765754e-01| 0:0:00|
```

```
stop: max(relative gap, infeasibilities) < 1.00e-07
```

```

-----
number of iterations    = 16
primal objective value = -4.76576853e-01
dual   objective value = -4.76575416e-01
gap := trace(XZ)        = 1.74e-07
relative gap            = 8.92e-08
actual relative gap     = -7.36e-07
rel. primal infeas      = 1.12e-09
rel. dual   infeas      = 1.81e-11
norm(X), norm(y), norm(Z) = 4.0e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.8e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.12
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 2.2e-09  0.0e+00  2.5e-11  0.0e+00  -7.4e-07  8.9e-08
-----

```

```
ans =
```

```
0.4766
```

```
Epoch... 33
```

```
Epoch... 34
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

```
*****
```

```
SDPT3: Infeasible path-following algorithms
```

```
*****
```

```
version predcorr gam expon scale_data
```

```
HKM      1      0.000  1      0
```

```
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
```

```

-----
0|0.000|0.000|1.0e+00|7.0e+03|3.9e+08| 7.601516e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.986|0.953|1.4e-02|3.3e+02|2.1e+07| 1.611144e+03  1.678949e+05| 0:0:00| chol 2 2
2|1.000|0.942|4.8e-10|1.9e+01|2.5e+06| 1.478317e+03 -7.348974e+03| 0:0:00| chol 2 2
3|1.000|0.955|4.6e-10|8.5e-01|4.1e+05| 7.505703e+02 -4.378176e+02| 0:0:00| chol 2 2
4|1.000|0.912|3.4e-10|7.6e-02|7.4e+04| 3.084508e+02 -2.611359e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.0e-11|3.8e-03|1.0e+04| 9.072078e+01 -2.811976e+01| 0:0:00| chol 2 2
6|1.000|1.000|4.9e-11|1.9e-03|1.4e+03| 2.662426e+01 -4.727545e+00| 0:0:00| chol 1 2
7|1.000|1.000|6.0e-12|9.4e-04|1.8e+02| 5.219442e+00 -5.356306e-01| 0:0:00| chol 2 2
8|1.000|1.000|5.7e-12|2.8e-04|2.7e+01| 2.094521e+00 -4.529411e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.7e-11|8.5e-05|4.0e+00| 5.517392e-01 -4.676584e-01| 0:0:00| chol 2 2

```



```

10|1.000|1.000|2.5e-12|2.5e-05|5.3e-01|-2.011698e-01 -4.696733e-01| 0:0:00| chol 3 3
11|1.000|1.000|2.8e-11|2.5e-06|8.5e-02|-3.929738e-01 -4.688079e-01| 0:0:00| chol 3 3
12|1.000|1.000|2.4e-11|2.5e-07|1.9e-02|-4.455746e-01 -4.645904e-01| 0:0:00| chol 6 5
13|1.000|1.000|4.4e-11|2.5e-08|4.4e-03|-4.588399e-01 -4.632646e-01| 0:0:00| chol 8 7
14|0.995|0.960|3.5e-11|3.5e-09|4.7e-04|-4.623442e-01 -4.628165e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 ^21
15|1.000|1.000|6.5e-10|2.6e-10|3.0e-05|-4.627133e-01 -4.627425e-01| 0:0:00| lu 29 ^ 9
16|1.000|0.834|2.5e-09|5.1e-11|6.7e-07|-4.627369e-01 -4.627387e-01| 0:0:00| lu 20 30
17|1.000|0.939|1.3e-09|5.2e-12|1.3e-08|-4.627364e-01 -4.627386e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value  = -4.62736415e-01
dual   objective value  = -4.62738620e-01
gap := trace(XZ)        = 1.34e-08
relative gap            = 6.95e-09
actual relative gap     = 1.15e-06
rel. primal infeas      = 1.27e-09
rel. dual   infeas      = 5.22e-12
norm(X), norm(y), norm(Z) = 3.7e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.14
CPU time per iteration  = 0.01
termination code        = 0
DIMACS errors: 2.5e-09  0.0e+00  7.1e-12  0.0e+00  1.1e-06  7.0e-09

```

```
ans =
```

```
0.4627
```

```
Epoch... 35
```

```
Epoch... 36
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

```
*****
```

```
SDPT3: Infeasible path-following algorithms
```

```
*****
```

```
version predcorr gam expon scale_data
```

```
HKM      1      0.000  1      0
```

```
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
```

```

-----
0|0.000|0.000|1.0e+00|7.0e+03|4.0e+08| 7.753035e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.986|0.953|1.4e-02|3.3e+02|2.1e+07| 1.626741e+03  1.685727e+05| 0:0:00| chol 2 2
2|1.000|0.942|4.5e-10|1.9e+01|2.5e+06| 1.493789e+03 -7.534100e+03| 0:0:00| chol 2 2
3|1.000|0.956|4.5e-10|8.4e-01|4.1e+05| 7.594285e+02 -4.424468e+02| 0:0:00| chol 2 2
4|1.000|0.913|4.7e-10|7.5e-02|7.4e+04| 3.109842e+02 -2.635322e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.2e-11|3.8e-03|1.0e+04| 9.086879e+01 -2.809095e+01| 0:0:00| chol 2 2
6|1.000|1.000|4.8e-11|1.9e-03|1.4e+03| 2.664032e+01 -4.628576e+00| 0:0:00| chol 1 2
7|1.000|1.000|5.9e-12|9.4e-04|1.8e+02| 5.247036e+00 -5.324810e-01| 0:0:00| chol 2 2
8|1.000|1.000|3.2e-12|2.8e-04|2.7e+01| 2.109590e+00 -4.487634e-01| 0:0:00| chol 2 2
9|1.000|1.000|5.5e-11|8.5e-05|4.0e+00| 5.603617e-01 -4.633693e-01| 0:0:00| chol 2 2

```

```

10|1.000|1.000|5.0e-12|2.5e-05|5.3e-01|-1.956571e-01 -4.653741e-01| 0:0:00| chol 3 3
11|1.000|1.000|1.9e-11|2.5e-06|8.6e-02|-3.879312e-01 -4.644835e-01| 0:0:00| chol 4 4
12|1.000|1.000|1.7e-11|2.5e-07|2.0e-02|-4.410457e-01 -4.601979e-01| 0:0:00| chol 5 5
13|1.000|1.000|6.1e-11|2.5e-08|4.5e-03|-4.543458e-01 -4.588635e-01| 0:0:00| chol 6 8
14|0.991|0.957|3.2e-11|3.5e-09|4.7e-04|-4.579334e-01 -4.584040e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 13 30
15|1.000|1.000|4.0e-10|2.6e-10|2.7e-05|-4.583063e-01 -4.583294e-01| 0:0:00| lu 12 ^22
16|1.000|0.883|9.7e-10|3.8e-11|5.0e-07|-4.583323e-01 -4.583259e-01| 0:0:00| lu 30 30
17|1.000|0.834|1.3e-08|9.6e-12|2.1e-08|-4.583328e-01 -4.583259e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.58332763e-01
dual   objective value = -4.58325850e-01
gap := trace(XZ)       = 2.08e-08
relative gap           = 1.09e-08
actual relative gap    = -3.61e-06
rel. primal infeas     = 1.34e-08
rel. dual   infeas     = 9.65e-12
norm(X), norm(y), norm(Z) = 3.7e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.14
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 2.7e-08  0.0e+00  1.3e-11  0.0e+00  -3.6e-06  1.1e-08

```

```
ans =
```

```
0.4583
```

```
Epoch... 37
```

```
Epoch... 38
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

```
*****
```

```
SDPT3: Infeasible path-following algorithms
```

```
*****
```

```
version predcorr gam expon scale_data
```

```
HKM      1      0.000  1      0
```

```
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
```

```

-----
0|0.000|0.000|1.0e+00|7.0e+03|4.0e+08| 7.914502e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.986|0.953|1.4e-02|3.3e+02|2.1e+07| 1.636637e+03  1.699000e+05| 0:0:00| chol 2 2
2|1.000|0.942|4.6e-10|1.9e+01|2.6e+06| 1.508928e+03 -7.911974e+03| 0:0:00| chol 2 2
3|1.000|0.957|7.8e-10|8.4e-01|4.2e+05| 7.726436e+02 -4.528059e+02| 0:0:00| chol 2 2
4|1.000|0.916|4.6e-10|7.2e-02|7.5e+04| 3.128795e+02 -2.599409e+02| 0:0:00| chol 2 2
5|1.000|1.000|6.9e-11|3.8e-03|1.0e+04| 9.060276e+01 -2.697559e+01| 0:0:00| chol 2 2
6|1.000|1.000|4.6e-11|1.9e-03|1.4e+03| 2.614462e+01 -4.304195e+00| 0:0:00| chol 1 1
7|1.000|1.000|6.7e-11|9.4e-04|1.8e+02| 5.217214e+00 -5.483839e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.3e-12|2.8e-04|2.7e+01| 2.085720e+00 -4.656180e-01| 0:0:00| chol 2 2
9|1.000|1.000|2.9e-11|8.5e-05|4.0e+00| 5.404934e-01 -4.803404e-01| 0:0:00| chol 2 2

```

```

10|1.000|1.000|1.8e-11|2.5e-05|5.3e-01|-2.133375e-01 -4.824870e-01| 0:0:00| chol 3 3
11|1.000|1.000|6.3e-11|2.5e-06|8.5e-02|-4.055256e-01 -4.817203e-01| 0:0:00| chol 3 3
12|1.000|1.000|1.8e-11|2.5e-07|2.0e-02|-4.582657e-01 -4.775765e-01| 0:0:00| chol 6 3
13|1.000|1.000|6.1e-11|2.6e-08|4.8e-03|-4.715032e-01 -4.763046e-01| 0:0:00| chol 8 5
14|1.000|0.959|3.8e-11|3.5e-09|5.8e-04|-4.752673e-01 -4.758441e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 13 ^13
15|1.000|1.000|1.6e-10|2.6e-10|6.4e-05|-4.756965e-01 -4.757584e-01| 0:0:00| lu 30 30
16|1.000|0.995|2.0e-09|1.3e-11|1.5e-06|-4.757598e-01 -4.757501e-01| 0:0:00| lu 29 30
17|1.000|0.812|1.1e-09|7.3e-12|2.7e-08|-4.757609e-01 -4.757500e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value  = -4.75760855e-01
dual   objective value  = -4.75750012e-01
gap := trace(XZ)        = 2.72e-08
relative gap           = 1.39e-08
actual relative gap    = -5.56e-06
rel. primal infeas     = 1.13e-09
rel. dual   infeas     = 7.33e-12
norm(X), norm(y), norm(Z) = 3.4e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.16
CPU time per iteration  = 0.01
termination code        = 0
DIMACS errors: 2.2e-09  0.0e+00  1.0e-11  0.0e+00  -5.6e-06  1.4e-08

```

```
ans =
```

```
0.4758
```

```
Epoch... 39
```

```
Epoch... 40
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

```
*****
```

```
SDPT3: Infeasible path-following algorithms
```

```
*****
```

```
version predcorr gam expon scale_data
```

```
HKM      1      0.000  1      0
```

```
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
```

```

-----
0|0.000|0.000|1.0e+00|7.0e+03|4.0e+08| 8.033422e+02  0.000000e+00| 0:0:00| chol 2 2
1|0.986|0.953|1.4e-02|3.3e+02|2.2e+07| 1.642895e+03  1.719956e+05| 0:0:00| chol 2 2
2|1.000|0.941|4.6e-10|2.0e+01|2.6e+06| 1.520422e+03 -8.218616e+03| 0:0:00| chol 2 2
3|1.000|0.957|5.5e-09|8.4e-01|4.3e+05| 7.841078e+02 -4.602429e+02| 0:0:00| chol 2 2
4|1.000|0.917|4.8e-10|7.1e-02|7.5e+04| 3.146563e+02 -2.563334e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.0e-11|3.8e-03|1.0e+04| 9.091844e+01 -2.605151e+01| 0:0:00| chol 2 2
6|1.000|1.000|4.2e-11|1.9e-03|1.4e+03| 2.586092e+01 -4.078591e+00| 0:0:00| chol 1 2
7|1.000|1.000|5.4e-12|9.4e-04|1.8e+02| 5.222566e+00 -5.504774e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.3e-12|2.8e-04|2.7e+01| 2.084874e+00 -4.680527e-01| 0:0:00| chol 2 2
9|1.000|1.000|8.3e-12|8.5e-05|4.0e+00| 5.378429e-01 -4.829449e-01| 0:0:00| chol 2 2

```

```

10|1.000|1.000|5.2e-11|2.5e-05|5.3e-01|-2.163164e-01 -4.850216e-01| 0:0:00| chol 4 4
11|1.000|1.000|5.0e-11|2.5e-06|8.5e-02|-4.087079e-01 -4.842400e-01| 0:0:00| chol 3 3
12|1.000|1.000|2.8e-11|2.5e-07|2.0e-02|-4.609103e-01 -4.800985e-01| 0:0:00| chol 4 5
13|1.000|1.000|5.5e-11|2.6e-08|4.6e-03|-4.741755e-01 -4.787685e-01| 0:0:00| chol 8 7
14|0.997|0.965|4.3e-11|3.4e-09|4.8e-04|-4.778281e-01 -4.783008e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 25 1
15|1.000|1.000|1.5e-10|2.6e-10|2.2e-05|-4.782059e-01 -4.782262e-01| 0:0:00| lu 30 ^30
16|0.999|0.991|6.6e-10|1.5e-11|2.8e-07|-4.782234e-01 -4.782234e-01| 0:0:00| lu 30 ^13
17|1.000|0.885|1.2e-10|2.6e-12|5.0e-09|-4.782236e-01 -4.782233e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.78223624e-01
dual   objective value = -4.78223324e-01
gap := trace(XZ)        = 5.02e-09
relative gap           = 2.56e-09
actual relative gap    = -1.53e-07
rel. primal infeas     = 1.15e-10
rel. dual   infeas     = 2.60e-12
norm(X), norm(y), norm(Z) = 3.6e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.11
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 2.3e-10  0.0e+00  3.5e-12  0.0e+00  -1.5e-07  2.6e-09

```

```
ans =
```

```
0.4782
```

```
Epoch... 41
```

```
Epoch... 42
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

```
*****
```

```
SDPT3: Infeasible path-following algorithms
```

```
*****
```

```
version predcorr gam expon scale_data
```

```
HKM      1      0.000  1      0
```

```
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
```

```

-----
0|0.000|0.000|1.0e+00|7.0e+03|4.1e+08| 8.137794e+02  0.000000e+00| 0:0:00| chol 2 2
1|0.986|0.952|1.4e-02|3.3e+02|2.2e+07| 1.652761e+03  1.732712e+05| 0:0:00| chol 2 2
2|1.000|0.941|4.7e-10|2.0e+01|2.6e+06| 1.531680e+03 -8.394109e+03| 0:0:00| chol 2 2
3|1.000|0.958|4.2e-09|8.3e-01|4.3e+05| 7.920780e+02 -4.620345e+02| 0:0:00| chol 2 2
4|1.000|0.918|7.0e-10|7.0e-02|7.6e+04| 3.167102e+02 -2.576717e+02| 0:0:00| chol 2 2
5|1.000|1.000|8.0e-11|3.8e-03|1.0e+04| 9.113834e+01 -2.584658e+01| 0:0:00| chol 2 2
6|1.000|1.000|4.1e-11|1.9e-03|1.4e+03| 2.584671e+01 -3.967419e+00| 0:0:00| chol 2 2
7|1.000|1.000|5.2e-12|9.4e-04|1.8e+02| 5.257959e+00 -5.335868e-01| 0:0:00| chol 2 2
8|1.000|1.000|2.4e-12|2.8e-04|2.7e+01| 2.109908e+00 -4.506073e-01| 0:0:00| chol 2 2
9|1.000|1.000|6.4e-12|8.5e-05|4.1e+00| 5.579732e-01 -4.655114e-01| 0:0:00| chol 2 2

```

```

10|1.000|1.000|2.1e-11|2.5e-05|5.4e-01|-1.983501e-01 -4.675090e-01| 0:0:00| chol 3 3
11|1.000|1.000|3.8e-11|2.5e-06|8.5e-02|-3.911060e-01 -4.666703e-01| 0:0:00| chol 3 3
12|1.000|1.000|4.5e-11|2.5e-07|2.0e-02|-4.433419e-01 -4.624652e-01| 0:0:00| chol 5 5
13|1.000|1.000|4.8e-11|2.6e-08|4.4e-03|-4.566693e-01 -4.610886e-01| 0:0:00| chol 8 6
14|0.987|0.963|6.5e-11|3.4e-09|4.1e-04|-4.602158e-01 -4.606211e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 30
15|0.994|0.987|9.6e-10|3.1e-10|1.2e-05|-4.605520e-01 -4.605577e-01| 0:0:00| lu 30 30
16|1.000|0.916|2.4e-09|4.1e-11|2.0e-07|-4.605639e-01 -4.605558e-01| 0:0:00| lu 30 30
17|1.000|0.906|6.0e-09|4.6e-12|5.5e-09|-4.605625e-01 -4.605558e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value  = -4.60562481e-01
dual   objective value  = -4.60555782e-01
gap := trace(XZ)        = 5.49e-09
relative gap           = 2.86e-09
actual relative gap    = -3.49e-06
rel. primal infeas     = 6.04e-09
rel. dual   infeas     = 4.64e-12
norm(X), norm(y), norm(Z) = 3.8e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.13
CPU time per iteration  = 0.01
termination code        = 0
DIMACS errors: 1.2e-08  0.0e+00  6.3e-12  0.0e+00  -3.5e-06  2.9e-09

```

```
ans =
```

```
0.4606
```

```
Epoch... 43
```

```
Epoch... 44
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.0e+03|4.1e+08| 8.141926e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.986|0.952|1.4e-02|3.4e+02|2.2e+07| 1.649037e+03  1.744615e+05| 0:0:00| chol 2 2
2|1.000|0.941|4.7e-10|2.0e+01|2.7e+06| 1.533144e+03 -8.607569e+03| 0:0:00| chol 2 2
3|1.000|0.959|7.2e-09|8.3e-01|4.3e+05| 7.976011e+02 -4.604801e+02| 0:0:00| chol 2 2
4|1.000|0.920|9.2e-10|6.8e-02|7.6e+04| 3.171365e+02 -2.560331e+02| 0:0:00| chol 2 2
5|1.000|1.000|8.1e-11|3.8e-03|1.0e+04| 9.077616e+01 -2.519639e+01| 0:0:00| chol 2 2
6|1.000|1.000|4.0e-11|1.9e-03|1.4e+03| 2.556794e+01 -3.774934e+00| 0:0:00| chol 2 2
7|1.000|1.000|5.0e-12|9.4e-04|1.8e+02| 5.247792e+00 -5.230219e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.3e-12|2.8e-04|2.7e+01| 2.109833e+00 -4.407478e-01| 0:0:00| chol 2 2
9|1.000|1.000|6.4e-12|8.5e-05|4.0e+00| 5.633274e-01 -4.557742e-01| 0:0:00| chol 2 3

```

```

10|1.000|1.000|3.0e-12|2.5e-05|5.3e-01|-1.900415e-01 -4.577415e-01| 0:0:00| chol 4 4
11|1.000|1.000|1.4e-11|2.5e-06|8.4e-02|-3.819371e-01 -4.569059e-01| 0:0:00| chol 3 3
12|1.000|1.000|5.3e-11|2.5e-07|1.9e-02|-4.337447e-01 -4.526994e-01| 0:0:00| chol 4 5
13|1.000|1.000|6.2e-11|2.5e-08|4.3e-03|-4.470580e-01 -4.512965e-01| 0:0:00| chol 6 9
14|0.982|0.962|5.4e-11|3.4e-09|3.6e-04|-4.504817e-01 -4.508372e-01| 0:0:00| chol
  linsysolve: Schur complement matrix not positive definite
  switch to LU factor. lu 30 ^ 5
15|0.985|0.974|5.2e-10|3.4e-10|9.6e-06|-4.507646e-01 -4.507828e-01| 0:0:00| lu 30 30
16|1.000|0.936|2.7e-09|3.0e-11|1.5e-07|-4.507761e-01 -4.507810e-01| 0:0:00|
  stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 16
primal objective value = -4.50776100e-01
dual   objective value = -4.50781011e-01
gap := trace(XZ)       = 1.55e-07
relative gap           = 8.15e-08
actual relative gap    = 2.58e-06
rel. primal infeas     = 2.70e-09
rel. dual   infeas     = 2.95e-11
norm(X), norm(y), norm(Z) = 4.0e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.12
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 5.4e-09  0.0e+00  4.0e-11  0.0e+00  2.6e-06  8.1e-08
-----

```

ans =

0.4508

Epoch... 45

Epoch... 46

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.0e+03|4.2e+08| 8.195334e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.986|0.952|1.4e-02|3.4e+02|2.2e+07| 1.659090e+03  1.738921e+05| 0:0:00| chol 2 2
2|1.000|0.941|5.2e-10|2.0e+01|2.7e+06| 1.541382e+03 -8.681059e+03| 0:0:00| chol 2 2
3|1.000|0.959|1.8e-09|8.1e-01|4.4e+05| 8.007935e+02 -4.566909e+02| 0:0:00| chol 2 2
4|1.000|0.921|7.7e-10|6.6e-02|7.6e+04| 3.187273e+02 -2.614077e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.8e-11|3.8e-03|1.0e+04| 9.020995e+01 -2.553261e+01| 0:0:00| chol 2 2
6|1.000|1.000|4.0e-11|1.9e-03|1.4e+03| 2.561279e+01 -3.726602e+00| 0:0:00| chol 1 2
7|1.000|1.000|5.4e-12|9.4e-04|1.8e+02| 5.264874e+00 -5.059520e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.5e-12|2.8e-04|2.7e+01| 2.129083e+00 -4.230706e-01| 0:0:00| chol 2 2
9|1.000|1.000|7.0e-11|8.5e-05|4.0e+00| 5.825786e-01 -4.379045e-01| 0:0:00| chol 2 2
10|1.000|1.000|5.4e-11|2.5e-05|5.3e-01|-1.712986e-01 -4.399956e-01| 0:0:00| chol 3 3

```

```

11|1.000|1.000|3.7e-11|2.5e-06|8.5e-02|-3.632799e-01 -4.391149e-01| 0:0:00| chol 3 3
12|1.000|1.000|1.9e-11|2.5e-07|2.0e-02|-4.156737e-01 -4.348424e-01| 0:0:00| chol 5 4
13|1.000|1.000|4.8e-11|2.6e-08|4.5e-03|-4.289625e-01 -4.334782e-01| 0:0:00| chol 5 7
14|0.984|0.958|4.6e-11|3.5e-09|4.2e-04|-4.325849e-01 -4.330035e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 20 2
15|0.995|0.979|3.5e-10|3.3e-10|1.3e-05|-4.329266e-01 -4.329381e-01| 0:0:00| lu 30 ^15
16|1.000|0.993|8.2e-11|1.5e-11|1.9e-07|-4.329384e-01 -4.329355e-01| 0:0:00| lu 11 ^14
17|1.000|0.801|2.1e-09|4.4e-12|8.4e-09|-4.329384e-01 -4.329355e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.32938420e-01
dual  objective value = -4.32935466e-01
gap := trace(XZ)        = 8.38e-09
relative gap           = 4.49e-09
actual relative gap    = -1.58e-06
rel. primal infeas     = 2.11e-09
rel. dual  infeas      = 4.35e-12
norm(X), norm(y), norm(Z) = 3.7e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.13
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 4.2e-09  0.0e+00  5.9e-12  0.0e+00  -1.6e-06  4.5e-09
-----

```

ans =

0.4329

Epoch... 47

Epoch... 48

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

SDPT3: Infeasible path-following algorithms

version predcorr gam expon scale_data

HKM 1 0.000 1 0

it pstep dstep pinfeas dinfeas gap prim-obj dual-obj cputime

```

-----
0|0.000|0.000|1.0e+00|7.1e+03|4.2e+08| 8.104366e+02 0.000000e+00| 0:0:00| chol 2 1
1|0.985|0.952|1.5e-02|3.4e+02|2.3e+07| 1.644620e+03 1.766592e+05| 0:0:00| chol 2 2
2|1.000|0.940|5.2e-10|2.0e+01|2.7e+06| 1.533767e+03 -8.774060e+03| 0:0:00| chol 2 2
3|1.000|0.960|2.7e-09|8.3e-01|4.4e+05| 8.032040e+02 -4.535279e+02| 0:0:00| chol 2 2
4|1.000|0.922|6.0e-10|6.6e-02|7.6e+04| 3.175847e+02 -2.555291e+02| 0:0:00| chol 2 2
5|1.000|1.000|8.4e-11|3.8e-03|1.0e+04| 9.024461e+01 -2.458605e+01| 0:0:00| chol 2 2
6|1.000|1.000|3.9e-11|1.9e-03|1.4e+03| 2.527208e+01 -3.571420e+00| 0:0:00| chol 2 1
7|1.000|1.000|2.7e-11|9.4e-04|1.8e+02| 5.237367e+00 -5.082210e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.3e-12|2.8e-04|2.7e+01| 2.113128e+00 -4.267609e-01| 0:0:00| chol 2 2
9|1.000|1.000|9.8e-12|8.5e-05|4.0e+00| 5.734751e-01 -4.418113e-01| 0:0:00| chol 2 3
10|1.000|1.000|4.0e-12|2.5e-05|5.3e-01|-1.767922e-01 -4.439314e-01| 0:0:00| chol 4 4

```

```

11|1.000|1.000|5.2e-11|2.5e-06|8.4e-02|-3.684609e-01 -4.431313e-01| 0:0:00| chol 3 4
12|1.000|1.000|6.3e-11|2.5e-07|1.9e-02|-4.199474e-01 -4.389907e-01| 0:0:00| chol 5 5
13|1.000|1.000|5.5e-11|2.5e-08|4.5e-03|-4.331975e-01 -4.376302e-01| 0:0:00| chol 5 3
14|0.987|0.963|3.3e-11|3.4e-09|4.1e-04|-4.367528e-01 -4.371631e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 ^ 9
15|0.993|0.967|1.5e-09|3.6e-10|1.2e-05|-4.370919e-01 -4.370997e-01| 0:0:00| lu 11 30
16|0.995|0.801|1.5e-09|8.0e-11|5.9e-07|-4.370975e-01 -4.370976e-01| 0:0:00| lu 30 ^ 8
17|1.000|0.850|1.4e-09|2.3e-11|1.1e-07|-4.371000e-01 -4.370973e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.37099955e-01
dual   objective value = -4.37097281e-01
gap := trace(XZ)       = 1.06e-07
relative gap           = 5.63e-08
actual relative gap    = -1.43e-06
rel. primal infeas     = 1.43e-09
rel. dual   infeas     = 2.33e-11
norm(X), norm(y), norm(Z) = 3.7e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.12
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 2.8e-09  0.0e+00  3.2e-11  0.0e+00  -1.4e-06  5.6e-08
-----

```

ans =

0.4371

Epoch... 49

Epoch... 50

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.2e+03|4.2e+08| 8.212468e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.985|0.952|1.5e-02|3.4e+02|2.3e+07| 1.656462e+03  1.786306e+05| 0:0:00| chol 2 2
2|1.000|0.940|5.7e-10|2.1e+01|2.7e+06| 1.545199e+03 -8.845654e+03| 0:0:00| chol 2 2
3|1.000|0.960|4.4e-09|8.3e-01|4.4e+05| 8.099661e+02 -4.526768e+02| 0:0:00| chol 2 2
4|1.000|0.922|9.0e-10|6.6e-02|7.7e+04| 3.198406e+02 -2.588760e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.6e-11|3.8e-03|1.1e+04| 9.083050e+01 -2.469193e+01| 0:0:00| chol 2 2
6|1.000|1.000|3.8e-11|1.9e-03|1.4e+03| 2.539873e+01 -3.557207e+00| 0:0:00| chol 2 2
7|1.000|1.000|4.8e-12|9.4e-04|1.8e+02| 5.278304e+00 -5.047186e-01| 0:0:00| chol 2 2
8|1.000|1.000|1.3e-12|2.8e-04|2.7e+01| 2.134436e+00 -4.222451e-01| 0:0:00| chol 2 2
9|1.000|1.000|3.6e-11|8.5e-05|4.0e+00| 5.850475e-01 -4.371674e-01| 0:0:00| chol 2 2
10|1.000|1.000|9.7e-12|2.5e-05|5.3e-01|-1.700444e-01 -4.393524e-01| 0:0:00| chol 4 4

```



```

11|1.000|1.000|5.0e-11|2.5e-06|8.5e-02|-3.628115e-01 -4.385823e-01| 0:0:00| chol 3 3
12|1.000|1.000|1.0e-10|2.5e-07|2.0e-02|-4.150908e-01 -4.344529e-01| 0:0:00| chol 5 4
13|1.000|1.000|1.4e-10|2.6e-08|4.8e-03|-4.283640e-01 -4.331439e-01| 0:0:00| chol 12 9
14|0.997|0.964|1.0e-10|3.4e-09|5.2e-04|-4.321501e-01 -4.326677e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 ^ 3
15|1.000|1.000|2.1e-09|2.6e-10|3.2e-05|-4.325390e-01 -4.325875e-01| 0:0:00| lu 14 ^22
16|0.993|0.807|3.9e-09|6.6e-11|9.5e-07|-4.325200e-01 -4.325835e-01| 0:0:00| lu 30 30
17|0.926|0.801|2.1e-08|3.3e-11|1.1e-07|-4.325425e-01 -4.325834e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.32542511e-01
dual   objective value = -4.32583396e-01
gap := trace(XZ)       = 1.13e-07
relative gap           = 6.08e-08
actual relative gap    = 2.19e-05
rel. primal infeas     = 2.10e-08
rel. dual   infeas     = 3.28e-11
norm(X), norm(y), norm(Z) = 3.5e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.0e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.14
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 4.2e-08  0.0e+00  4.5e-11  0.0e+00  2.2e-05  6.1e-08
-----

```

ans =

0.4326

Epoch... 51

Epoch... 52

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.2e+03|4.2e+08| 8.232858e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.986|0.952|1.4e-02|3.5e+02|2.3e+07| 1.661030e+03  1.795906e+05| 0:0:00| chol 2 2
2|1.000|0.940|8.4e-10|2.1e+01|2.7e+06| 1.549208e+03 -8.844980e+03| 0:0:00| chol 2 2
3|1.000|0.960|1.3e-09|8.2e-01|4.4e+05| 8.122004e+02 -4.469201e+02| 0:0:00| chol 2 2
4|1.000|0.922|8.9e-10|6.6e-02|7.7e+04| 3.213358e+02 -2.641411e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.7e-11|3.8e-03|1.1e+04| 9.099151e+01 -2.504234e+01| 0:0:00| chol 2 2
6|1.000|1.000|3.8e-11|1.9e-03|1.4e+03| 2.553959e+01 -3.566906e+00| 0:0:00| chol 2 1
7|1.000|1.000|1.4e-11|9.4e-04|1.8e+02| 5.313914e+00 -4.906809e-01| 0:0:00| chol 2 2
8|1.000|1.000|3.1e-12|2.8e-04|2.7e+01| 2.159529e+00 -4.074182e-01| 0:0:00| chol 2 2
9|1.000|1.000|3.1e-11|8.5e-05|4.1e+00| 6.046146e-01 -4.222298e-01| 0:0:00| chol 2 2
10|1.000|1.000|7.4e-11|2.5e-05|5.4e-01|-1.534963e-01 -4.245130e-01| 0:0:00| chol 4 4

```

```

11|1.000|1.000|4.0e-11|2.5e-06|8.6e-02|-3.471532e-01 -4.237346e-01| 0:0:00| chol 3 3
12|1.000|1.000|3.9e-11|2.5e-07|2.0e-02|-3.999598e-01 -4.195942e-01| 0:0:00| chol 6 8
13|1.000|1.000|1.7e-10|2.6e-08|5.1e-03|-4.132643e-01 -4.183353e-01| 0:0:00| chol 7 8
14|1.000|0.958|8.2e-11|3.5e-09|6.2e-04|-4.172382e-01 -4.178580e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 30
15|1.000|1.000|3.7e-10|2.7e-10|7.5e-05|-4.176818e-01 -4.177673e-01| 0:0:00| lu 30 ^20
16|0.974|0.883|6.1e-09|4.8e-11|2.0e-06|-4.177559e-01 -4.177578e-01| 0:0:00| lu 30 30
17|1.000|0.870|9.0e-10|1.6e-11|4.9e-08|-4.177585e-01 -4.177575e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.17758497e-01
dual   objective value = -4.17757488e-01
gap := trace(XZ)       = 4.90e-08
relative gap           = 2.67e-08
actual relative gap    = -5.50e-07
rel. primal infeas     = 9.04e-10
rel. dual   infeas     = 1.58e-11
norm(X), norm(y), norm(Z) = 3.2e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.0e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.14
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 1.8e-09  0.0e+00  2.2e-11  0.0e+00  -5.5e-07  2.7e-08
-----

```

ans =

0.4178

Epoch... 53

Epoch... 54

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

SDPT3: Infeasible path-following algorithms

version predcorr gam expon scale_data

HKM 1 0.000 1 0

it pstep dstep pinfeas dinfeas gap prim-obj dual-obj cputime

```

-----
0|0.000|0.000|1.0e+00|7.3e+03|4.2e+08| 8.194444e+02 0.000000e+00| 0:0:00| chol 1 1
1|0.985|0.952|1.5e-02|3.5e+02|2.3e+07| 1.655625e+03 1.818375e+05| 0:0:00| chol 2 2
2|1.000|0.940|1.3e-09|2.1e+01|2.7e+06| 1.546791e+03 -8.856952e+03| 0:0:00| chol 2 2
3|1.000|0.960|1.7e-09|8.4e-01|4.4e+05| 8.141808e+02 -4.426706e+02| 0:0:00| chol 2 2
4|1.000|0.922|8.0e-10|6.7e-02|7.7e+04| 3.218126e+02 -2.643272e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.9e-11|3.8e-03|1.1e+04| 9.149422e+01 -2.492565e+01| 0:0:00| chol 2 2
6|1.000|1.000|3.8e-11|1.9e-03|1.4e+03| 2.556688e+01 -3.552167e+00| 0:0:00| chol 1 1
7|1.000|1.000|7.1e-11|9.4e-04|1.8e+02| 5.335366e+00 -4.857909e-01| 0:0:00| chol 2 2
8|1.000|1.000|5.2e-12|2.8e-04|2.7e+01| 2.171745e+00 -4.023742e-01| 0:0:00| chol 2 2
9|1.000|1.000|2.2e-12|8.5e-05|4.1e+00| 6.125059e-01 -4.171658e-01| 0:0:00| chol 2 2
10|1.000|1.000|7.3e-11|2.5e-05|5.4e-01|-1.476685e-01 -4.194469e-01| 0:0:00| chol 3 4

```

```

11|1.000|1.000|2.6e-11|2.5e-06|8.6e-02|-3.419035e-01 -4.186669e-01| 0:0:00| chol 4 4
12|1.000|1.000|6.0e-11|2.5e-07|2.0e-02|-3.948067e-01 -4.145188e-01| 0:0:00| chol 5 5
13|1.000|1.000|9.9e-11|2.6e-08|5.1e-03|-4.081533e-01 -4.132569e-01| 0:0:00| chol 5 5
14|0.998|0.959|3.5e-11|3.5e-09|6.4e-04|-4.121449e-01 -4.127786e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 ^27
15|1.000|1.000|9.1e-10|2.6e-10|7.9e-05|-4.126074e-01 -4.126875e-01| 0:0:00| lu 30 ^17
16|0.983|0.968|2.1e-10|1.9e-11|1.3e-06|-4.126813e-01 -4.126773e-01| 0:0:00| lu 22 30
17|0.997|0.966|3.8e-09|4.0e-12|1.7e-08|-4.126824e-01 -4.126771e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.12682382e-01
dual   objective value = -4.12677061e-01
gap := trace(XZ)        = 1.71e-08
relative gap           = 9.39e-09
actual relative gap    = -2.92e-06
rel. primal infeas     = 3.79e-09
rel. dual   infeas     = 4.01e-12
norm(X), norm(y), norm(Z) = 3.2e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.1e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.14
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 7.5e-09  0.0e+00  5.5e-12  0.0e+00  -2.9e-06  9.4e-09
-----

```

ans =

0.4127

Epoch... 55

Epoch... 56

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.3e+03|4.3e+08| 8.191236e+02  0.000000e+00| 0:0:00| chol 1 1
1|0.985|0.952|1.5e-02|3.5e+02|2.3e+07| 1.657672e+03  1.821137e+05| 0:0:00| chol 2 2
2|1.000|0.940|3.2e-09|2.1e+01|2.7e+06| 1.548100e+03 -8.825442e+03| 0:0:00| chol 2 2
3|1.000|0.960|1.1e-09|8.3e-01|4.4e+05| 8.146372e+02 -4.409142e+02| 0:0:00| chol 2 2
4|1.000|0.922|1.1e-09|6.7e-02|7.7e+04| 3.222504e+02 -2.660770e+02| 0:0:00| chol 2 2
5|1.000|1.000|8.3e-11|3.8e-03|1.1e+04| 9.146315e+01 -2.507623e+01| 0:0:00| chol 2 2
6|1.000|1.000|3.8e-11|1.9e-03|1.4e+03| 2.560323e+01 -3.558144e+00| 0:0:00| chol 2 2
7|1.000|1.000|4.8e-12|9.4e-04|1.8e+02| 5.342632e+00 -4.815760e-01| 0:0:00| chol 2 2
8|1.000|1.000|1.6e-12|2.8e-04|2.7e+01| 2.177587e+00 -3.979790e-01| 0:0:00| chol 2 2
9|1.000|1.000|2.0e-11|8.5e-05|4.1e+00| 6.175883e-01 -4.127699e-01| 0:0:00| chol 2 3
10|1.000|1.000|7.5e-12|2.5e-05|5.4e-01|-1.430492e-01 -4.150491e-01| 0:0:00| chol 3 4

```

```

11|1.000|1.000|1.3e-11|2.5e-06|8.6e-02|-3.372201e-01 -4.142658e-01| 0:0:00| chol 4 3
12|1.000|1.000|1.9e-11|2.5e-07|2.0e-02|-3.903234e-01 -4.100885e-01| 0:0:00| chol 5 6
13|1.000|1.000|1.7e-10|2.6e-08|5.2e-03|-4.036670e-01 -4.088269e-01| 0:0:00| chol 5 7
14|0.996|0.956|3.3e-11|3.6e-09|6.4e-04|-4.077032e-01 -4.083437e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 12 ^15
15|1.000|1.000|9.4e-11|2.6e-10|7.2e-05|-4.081784e-01 -4.082485e-01| 0:0:00| lu 16 ^27
16|0.978|0.980|2.4e-10|1.5e-11|1.6e-06|-4.082379e-01 -4.082413e-01| 0:0:00| lu 30 ^23
17|0.998|0.995|5.5e-10|4.4e-12|2.2e-08|-4.082404e-01 -4.082411e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.08240404e-01
dual   objective value = -4.08241129e-01
gap := trace(XZ)       = 2.19e-08
relative gap           = 1.20e-08
actual relative gap    = 3.99e-07
rel. primal infeas     = 5.48e-10
rel. dual   infeas     = 4.40e-12
norm(X), norm(y), norm(Z) = 3.2e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.1e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.13
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 1.1e-09  0.0e+00  6.0e-12  0.0e+00  4.0e-07  1.2e-08
-----

```

ans =

0.4082

Epoch... 57

Epoch... 58

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.3e+03|4.2e+08| 8.042930e+02  0.000000e+00| 0:0:00| chol 2 2
1|0.985|0.952|1.5e-02|3.5e+02|2.3e+07| 1.636455e+03  1.849535e+05| 0:0:00| chol 2 2
2|1.000|0.939|1.7e-09|2.2e+01|2.7e+06| 1.534552e+03 -8.874622e+03| 0:0:00| chol 2 2
3|1.000|0.960|1.7e-09|8.6e-01|4.4e+05| 8.144442e+02 -4.371022e+02| 0:0:00| chol 2 2
4|1.000|0.922|7.3e-10|6.8e-02|7.7e+04| 3.210007e+02 -2.604634e+02| 0:0:00| chol 2 2
5|1.000|1.000|6.8e-11|3.8e-03|1.1e+04| 9.185239e+01 -2.439788e+01| 0:0:00| chol 2 2
6|1.000|1.000|3.8e-11|1.9e-03|1.4e+03| 2.541626e+01 -3.491116e+00| 0:0:00| chol 1 1
7|1.000|1.000|1.4e-11|9.4e-04|1.8e+02| 5.326818e+00 -4.866232e-01| 0:0:00| chol 2 2
8|1.000|1.000|1.5e-12|2.8e-04|2.7e+01| 2.165624e+00 -4.039469e-01| 0:0:00| chol 2 2
9|1.000|1.000|2.4e-11|8.5e-05|4.1e+00| 6.080836e-01 -4.188366e-01| 0:0:00| chol 2 3
10|1.000|1.000|2.6e-12|2.5e-05|5.4e-01|-1.506981e-01 -4.209255e-01| 0:0:00| chol 5 3

```

```

11|1.000|1.000|1.9e-10|2.5e-06|8.5e-02|-3.443955e-01 -4.200927e-01| 0:0:00| chol 3 4
12|1.000|1.000|2.9e-11|2.5e-07|2.0e-02|-3.965241e-01 -4.158807e-01| 0:0:00| chol 6 5
13|1.000|1.000|5.8e-11|2.5e-08|4.6e-03|-4.099428e-01 -4.145026e-01| 0:0:00| chol 9 5
14|0.985|0.964|8.9e-11|3.4e-09|4.4e-04|-4.135881e-01 -4.140261e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 ^30
15|0.995|0.985|6.6e-11|3.1e-10|1.3e-05|-4.139474e-01 -4.139597e-01| 0:0:00| lu 30 ^21
16|0.999|0.995|4.8e-10|9.1e-12|1.7e-07|-4.139618e-01 -4.139575e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 16
primal objective value = -4.13961814e-01
dual   objective value = -4.13957462e-01
gap := trace(XZ)       = 1.68e-07
relative gap           = 9.19e-08
actual relative gap    = -2.38e-06
rel. primal infeas     = 4.76e-10
rel. dual   infeas     = 9.13e-12
norm(X), norm(y), norm(Z) = 3.7e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.1e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.12
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 9.4e-10  0.0e+00  1.2e-11  0.0e+00  -2.4e-06  9.2e-08
-----

```

ans =

0.4140

Epoch... 59

Epoch... 60

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.4e+03|4.3e+08| 7.996930e+02  0.000000e+00| 0:0:00| chol 1 1
1|0.985|0.952|1.5e-02|3.6e+02|2.3e+07| 1.631382e+03  1.863073e+05| 0:0:00| chol 2 2
2|1.000|0.939|4.2e-09|2.2e+01|2.7e+06| 1.531414e+03 -8.861971e+03| 0:0:00| chol 2 2
3|1.000|0.960|1.4e-09|8.6e-01|4.4e+05| 8.149704e+02 -4.325827e+02| 0:0:00| chol 2 2
4|1.000|0.922|8.1e-10|6.9e-02|7.8e+04| 3.218377e+02 -2.627974e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.6e-11|3.8e-03|1.1e+04| 9.237794e+01 -2.461466e+01| 0:0:00| chol 2 2
6|1.000|1.000|3.7e-11|1.9e-03|1.4e+03| 2.556412e+01 -3.531718e+00| 0:0:00| chol 1 1
7|1.000|1.000|1.9e-11|9.4e-04|1.8e+02| 5.358927e+00 -4.784760e-01| 0:0:00| chol 2 2
8|1.000|1.000|4.2e-12|2.8e-04|2.7e+01| 2.183997e+00 -3.951289e-01| 0:0:00| chol 2 2
9|1.000|1.000|7.2e-12|8.5e-05|4.1e+00| 6.199331e-01 -4.100771e-01| 0:0:00| chol 2 3
10|1.000|1.000|3.1e-12|2.5e-05|5.4e-01|-1.416537e-01 -4.119051e-01| 0:0:00| chol 3 4
11|1.000|1.000|3.1e-11|2.5e-06|8.5e-02|-3.357286e-01 -4.108833e-01| 0:0:00| chol 4 3

```

```

12|1.000|1.000|1.9e-11|2.5e-07|1.9e-02|-3.875337e-01 -4.065028e-01| 0:0:00| chol 4 3
13|1.000|1.000|4.4e-11|2.5e-08|3.7e-03|-4.013461e-01 -4.049780e-01| 0:0:00| chol 10 10
14|0.979|0.968|7.7e-11|3.3e-09|2.3e-04|-4.043376e-01 -4.045592e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 11 30
15|0.917|0.794|6.7e-10|8.8e-10|2.1e-05|-4.045208e-01 -4.045304e-01| 0:0:00| lu 12 30
16|1.000|0.992|4.3e-09|1.5e-11|1.5e-06|-4.045395e-01 -4.045257e-01| 0:0:00| lu 12 30
17|1.000|0.825|5.5e-09|6.3e-12|3.0e-08|-4.045424e-01 -4.045255e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 17
primal objective value = -4.04542370e-01
dual   objective value = -4.04525540e-01
gap := trace(XZ)       = 2.95e-08
relative gap           = 1.63e-08
actual relative gap    = -9.30e-06
rel. primal infeas     = 5.48e-09
rel. dual   infeas     = 6.27e-12
norm(X), norm(y), norm(Z) = 4.4e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.1e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.15
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 1.1e-08  0.0e+00  8.5e-12  0.0e+00  -9.3e-06  1.6e-08
-----

```

ans =

0.4045

Epoch... 61

Epoch... 62

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.3e+03|4.0e+08| 7.264031e+02  0.000000e+00| 0:0:00| chol 2 1
1|0.983|0.948|1.7e-02|3.8e+02|2.3e+07| 1.510010e+03  2.014468e+05| 0:0:00| chol 2 2
2|1.000|0.934|6.5e-10|2.5e+01|2.8e+06| 1.454734e+03 -9.206484e+03| 0:0:00| chol 2 2
3|1.000|0.961|4.9e-10|9.7e-01|4.5e+05| 8.135945e+02 -3.967645e+02| 0:0:00| chol 2 2
4|1.000|0.922|2.3e-10|7.7e-02|7.7e+04| 3.140301e+02 -2.311379e+02| 0:0:00| chol 2 2
5|1.000|1.000|7.2e-11|3.8e-03|1.1e+04| 9.276781e+01 -2.070882e+01| 0:0:00| chol 2 2
6|1.000|1.000|3.0e-11|1.9e-03|1.4e+03| 2.422385e+01 -3.056713e+00| 0:0:00| chol 1 1
7|1.000|1.000|4.9e-11|9.4e-04|1.8e+02| 5.155812e+00 -5.530908e-01| 0:0:00| chol 2 2
8|1.000|1.000|1.7e-12|2.8e-04|2.7e+01| 2.036698e+00 -4.737169e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.3e-12|8.5e-05|4.0e+00| 5.032691e-01 -4.898826e-01| 0:0:00| chol 2 3
10|1.000|1.000|4.3e-12|2.5e-05|5.3e-01| -2.382611e-01 -4.907184e-01| 0:0:00| chol 4 4
11|0.932|0.933|6.6e-11|4.1e-06|7.9e-02| -4.284007e-01 -4.903195e-01| 0:0:00| chol

```

```

linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 30
12|1.000|1.000|1.2e-09|2.5e-07|2.8e-02|-4.628929e-01 -4.906195e-01| 0:0:00| lu 4 1
13|0.949|0.949|5.6e-11|3.7e-08|1.6e-03|-4.864044e-01 -4.879429e-01| 0:0:00| lu 30 1
14|0.985|0.984|5.7e-11|3.1e-09|2.5e-05|-4.877690e-01 -4.877881e-01| 0:0:00| lu 12 ^ 2
15|0.988|0.951|3.7e-10|1.6e-10|8.2e-07|-4.877908e-01 -4.877903e-01| 0:0:00| lu 30 30
16|1.000|0.942|3.4e-10|1.1e-11|3.6e-08|-4.877914e-01 -4.877901e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations = 16
primal objective value = -4.87791387e-01
dual objective value = -4.87790126e-01
gap := trace(XZ) = 3.57e-08
relative gap = 1.80e-08
actual relative gap = -6.38e-07
rel. primal infeas = 3.37e-10
rel. dual infeas = 1.10e-11
norm(X), norm(y), norm(Z) = 1.1e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.1e+05, 1.3e+06, 4.8e+01
Total CPU time (secs) = 0.14
CPU time per iteration = 0.01
termination code = 0
DIMACS errors: 6.5e-10 0.0e+00 1.5e-11 0.0e+00 -6.4e-07 1.8e-08
-----

ans =

    0.4878

Epoch... 63
Epoch... 64

num. of constraints = 33
dim. of socp var = 34, num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM 1 0.000 1 0
it pstep dstep pinfeas dinfeas gap prim-obj dual-obj cputime
-----
0|0.000|0.000|1.0e+00|7.3e+03|3.8e+08| 6.701864e+02 0.000000e+00| 0:0:00| chol 2 1
1|0.982|0.946|1.8e-02|4.0e+02|2.3e+07| 1.428782e+03 2.124083e+05| 0:0:00| chol 2 2
2|1.000|0.931|6.4e-09|2.8e+01|2.8e+06| 1.398162e+03 -8.906630e+03| 0:0:00| chol 2 2
3|1.000|0.962|7.5e-10|1.1e+00|4.4e+05| 8.056147e+02 -3.468297e+02| 0:0:00| chol 2 2
4|1.000|0.923|2.2e-10|8.4e-02|7.7e+04| 3.100853e+02 -2.220451e+02| 0:0:00| chol 2 2
5|1.000|1.000|6.2e-11|3.8e-03|1.1e+04| 9.298916e+01 -1.948543e+01| 0:0:00| chol 2 2
6|1.000|1.000|2.9e-11|1.9e-03|1.4e+03| 2.379792e+01 -2.925297e+00| 0:0:00| chol 2 1
7|1.000|1.000|7.8e-11|9.4e-04|1.8e+02| 5.086245e+00 -5.713445e-01| 0:0:00| chol 2 2
8|1.000|1.000|1.7e-12|2.8e-04|2.7e+01| 1.990449e+00 -4.931782e-01| 0:0:00| chol 2 2
9|1.000|1.000|4.8e-12|8.5e-05|4.0e+00| 4.690966e-01 -5.098232e-01| 0:0:00| chol 2 3
10|1.000|1.000|8.5e-12|2.5e-05|5.2e-01|-2.648213e-01 -5.106951e-01| 0:0:00| chol 4 4
11|0.932|0.933|3.9e-11|4.1e-06|7.4e-02|-4.547682e-01 -5.114980e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite

```

```

switch to LU factor. lu 30 30
12|1.000|1.000|2.0e-08|2.5e-07|2.4e-02|-4.900628e-01 -5.137344e-01| 0:0:00| lu 8 1
13|0.986|0.977|2.5e-10|3.1e-08|8.8e-04|-5.101582e-01 -5.109751e-01| 0:0:00| lu 30 1
14|0.985|0.985|1.6e-10|3.0e-09|1.3e-05|-5.108911e-01 -5.109002e-01| 0:0:00| lu 30 30
15|0.995|0.989|1.3e-09|4.1e-11|4.7e-07|-5.108994e-01 -5.109045e-01| 0:0:00| lu 30 ^13
16|1.000|0.985|9.4e-10|2.1e-12|3.4e-08|-5.108988e-01 -5.109045e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations = 16
primal objective value = -5.10898846e-01
dual objective value = -5.10904534e-01
gap := trace(XZ) = 3.40e-08
relative gap = 1.68e-08
actual relative gap = 2.81e-06
rel. primal infeas = 9.38e-10
rel. dual infeas = 2.09e-12
norm(X), norm(y), norm(Z) = 1.3e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.1e+05, 1.2e+06, 4.8e+01
Total CPU time (secs) = 0.13
CPU time per iteration = 0.01
termination code = 0
DIMACS errors: 1.8e-09 0.0e+00 2.8e-12 0.0e+00 2.8e-06 1.7e-08
-----

ans =

    0.5109

Epoch... 65
Epoch... 66

num. of constraints = 33
dim. of socp var = 34, num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM 1 0.000 1 0
it pstep dstep pinfeas dinfeas gap prim-obj dual-obj cputime
-----
0|0.000|0.000|1.0e+00|7.4e+03|3.6e+08| 6.220452e+02 0.000000e+00| 0:0:00| chol 2 2
1|0.980|0.943|2.0e-02|4.2e+02|2.3e+07| 1.349411e+03 2.273025e+05| 0:0:00| chol 2 2
2|1.000|0.926|9.8e-10|3.1e+01|2.9e+06| 1.347541e+03 -8.542565e+03| 0:0:00| chol 2 2
3|1.000|0.963|8.7e-10|1.2e+00|4.5e+05| 8.054200e+02 -2.862551e+02| 0:0:00| chol 2 2
4|1.000|0.923|1.5e-10|9.1e-02|7.7e+04| 3.090686e+02 -2.135329e+02| 0:0:00| chol 2 2
5|1.000|1.000|6.0e-11|3.8e-03|1.1e+04| 9.399547e+01 -1.826997e+01| 0:0:00| chol 2 1
6|1.000|1.000|8.9e-11|1.9e-03|1.4e+03| 2.361519e+01 -2.776962e+00| 0:0:00| chol 2 2
7|1.000|1.000|3.4e-12|9.4e-04|1.8e+02| 5.084784e+00 -5.781167e-01| 0:0:00| chol 2 2
8|1.000|1.000|3.8e-12|2.8e-04|2.7e+01| 1.983011e+00 -4.994845e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.2e-11|8.5e-05|4.0e+00| 4.589067e-01 -5.164024e-01| 0:0:00| chol 2 3
10|1.000|1.000|8.2e-12|2.5e-05|5.2e-01|-2.748306e-01 -5.174855e-01| 0:0:00| chol 3 3
11|1.000|0.999|3.0e-11|2.6e-06|5.3e-02|-4.776688e-01 -5.198851e-01| 0:0:00| chol 6 8
12|0.971|0.986|1.3e-10|2.9e-07|5.0e-03|-5.162247e-01 -5.204881e-01| 0:0:00| chol 11 16
13|0.987|0.986|6.0e-11|2.9e-08|6.7e-05|-5.205898e-01 -5.205867e-01| 0:0:00| chol

```



```

linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 5
14|0.983|0.987|9.0e-11|3.9e-10|1.2e-06|-5.206494e-01 -5.206493e-01| 0:0:00| lu 30 21
15|0.967|1.000|4.0e-10|5.4e-12|1.5e-07|-5.206508e-01 -5.206502e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations = 15
primal objective value = -5.20650822e-01
dual objective value = -5.20650165e-01
gap := trace(XZ) = 1.45e-07
relative gap = 7.12e-08
actual relative gap = -3.22e-07
rel. primal infeas = 4.01e-10
rel. dual infeas = 5.42e-12
norm(X), norm(y), norm(Z) = 1.5e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.1e+05, 1.2e+06, 4.8e+01
Total CPU time (secs) = 0.11
CPU time per iteration = 0.01
termination code = 0
DIMACS errors: 7.7e-10 0.0e+00 7.4e-12 0.0e+00 -3.2e-07 7.1e-08
-----

ans =

    0.5207

Epoch... 67
Epoch... 68

num. of constraints = 33
dim. of socp var = 34, num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM 1 0.000 1 0
it pstep dstep pinfeas dinfeas gap prim-obj dual-obj cputime
-----
0|0.000|0.000|1.0e+00|7.3e+03|3.2e+08| 5.063305e+02 0.000000e+00| 0:0:00| chol 2 1
1|0.975|0.935|2.5e-02|4.7e+02|2.2e+07| 1.168140e+03 2.548652e+05| 0:0:00| chol 2 2
2|1.000|0.916|1.3e-08|4.0e+01|3.1e+06| 1.222281e+03 -6.409581e+03| 0:0:00| chol 2 2
3|1.000|0.965|1.0e-09|1.4e+00|4.5e+05| 7.887069e+02 -1.248587e+02| 0:0:00| chol 2 2
4|1.000|0.927|8.3e-11|1.0e-01|7.7e+04| 3.018162e+02 -1.871968e+02| 0:0:00| chol 2 2
5|1.000|1.000|5.5e-11|3.8e-03|1.1e+04| 9.315693e+01 -1.596408e+01| 0:0:00| chol 2 2
6|1.000|1.000|2.1e-11|1.9e-03|1.4e+03| 2.291318e+01 -2.519038e+00| 0:0:00| chol 2 1
7|1.000|1.000|5.4e-11|9.4e-04|1.8e+02| 4.955173e+00 -6.030041e-01| 0:0:00| chol 2 2
8|1.000|1.000|1.5e-12|2.8e-04|2.6e+01| 1.903945e+00 -5.270756e-01| 0:0:00| chol 2 2
9|1.000|1.000|4.5e-11|8.5e-05|3.9e+00| 4.049705e-01 -5.446807e-01| 0:0:00| chol 2 3
10|1.000|1.000|2.6e-12|2.5e-05|5.1e-01|-3.143106e-01 -5.464953e-01| 0:0:00| chol 3 3
11|1.000|0.942|9.6e-12|3.9e-06|6.5e-02|-5.060119e-01 -5.524996e-01| 0:0:00| chol 3 3
12|0.955|0.967|9.3e-12|3.7e-07|6.0e-03|-5.508172e-01 -5.556607e-01| 0:0:00| chol 3 5
13|0.985|0.985|4.1e-12|3.1e-08|9.0e-05|-5.560407e-01 -5.560375e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 1

```

```

14|0.981|0.989|2.7e-10|3.3e-10|1.9e-06|-5.561195e-01 -5.561196e-01| 0:0:00| lu 14 1
15|0.989|1.000|1.0e-10|1.3e-12|4.3e-08|-5.561208e-01 -5.561203e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations      = 15
primal objective value    = -5.56120791e-01
dual   objective value    = -5.56120308e-01
gap := trace(XZ)          = 4.27e-08
relative gap              = 2.02e-08
actual relative gap       = -2.28e-07
rel. primal infeas        = 1.01e-10
rel. dual   infeas        = 1.28e-12
norm(X), norm(Y), norm(Z) = 1.9e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.0e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)     = 0.10
CPU time per iteration    = 0.01
termination code          = 0
DIMACS errors: 1.9e-10  0.0e+00  1.7e-12  0.0e+00  -2.3e-07  2.0e-08
-----

```

```
ans =
```

```
0.5561
```

```
Epoch... 69
```

```
Epoch... 70
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

```
*****
```

```
SDPT3: Infeasible path-following algorithms
```

```
*****
```

```

version predcorr gam expon scale_data
HKM      1      0.000 1      0

```

it	pstep	dstep	pinfeas	dinfeas	gap	prim-obj	dual-obj	cputime			
0	0.000	0.000	1.0e+00	7.2e+03	3.0e+08	4.467000e+02	0.000000e+00	0:0:00	chol	1	2
1	0.971	0.930	2.9e-02	5.0e+02	2.2e+07	1.073723e+03	2.724677e+05	0:0:00	chol	2	2
2	1.000	0.909	2.2e-09	4.6e+01	3.2e+06	1.154585e+03	-4.164812e+03	0:0:00	chol	2	2
3	1.000	0.966	3.0e-09	1.6e+00	4.4e+05	7.767176e+02	-3.968733e+00	0:0:00	chol	2	2
4	1.000	0.927	5.7e-11	1.2e-01	7.7e+04	2.999083e+02	-1.791936e+02	0:0:00	chol	2	2
5	1.000	1.000	5.0e-11	3.8e-03	1.1e+04	9.341345e+01	-1.526875e+01	0:0:00	chol	2	2
6	1.000	1.000	2.0e-11	1.9e-03	1.4e+03	2.290720e+01	-2.500897e+00	0:0:00	chol	2	2
7	1.000	1.000	4.0e-12	9.4e-04	1.8e+02	4.961786e+00	-5.975654e-01	0:0:00	chol	2	2
8	1.000	1.000	2.5e-12	2.8e-04	2.6e+01	1.908005e+00	-5.215820e-01	0:0:00	chol	2	2
9	1.000	1.000	6.2e-12	8.5e-05	3.9e+00	4.077594e-01	-5.393611e-01	0:0:00	chol	2	2
10	1.000	1.000	1.0e-11	2.5e-05	5.1e-01	-3.112764e-01	-5.413837e-01	0:0:00	chol	3	3
11	1.000	0.923	1.8e-11	4.3e-06	7.2e-02	-4.983966e-01	-5.486931e-01	0:0:00	chol	3	3
12	0.956	0.973	4.0e-11	3.6e-07	7.7e-03	-5.467049e-01	-5.531101e-01	0:0:00	chol	5	6
13	0.986	0.985	1.0e-11	3.0e-08	1.1e-04	-5.533389e-01	-5.533478e-01	0:0:00	chol		

```
linsysolve: Schur complement matrix not positive definite
```

```
switch to LU factor. lu 30 7
```

```

14|0.983|0.983|3.6e-10|5.1e-10|2.0e-06|-5.534316e-01 -5.534334e-01| 0:0:00| lu 30 30
15|0.960|1.000|1.7e-09|3.0e-12|3.2e-07|-5.534333e-01 -5.534351e-01| 0:0:00| lu 30 30

```

```

number of iterations      = 16
primal objective value   = -5.53433308e-01
dual   objective value   = -5.53434839e-01
gap := trace(XZ)         = 2.86e-08
relative gap             = 1.36e-08
actual relative gap      = 7.27e-07
rel. primal infeas       = 2.24e-10
rel. dual   infeas       = 1.35e-12
norm(X), norm(y), norm(Z) = 2.1e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.1e+06, 4.8e+01
Total CPU time (secs)    = 0.14
CPU time per iteration   = 0.01
termination code         = 0
DIMACS errors: 4.2e-10   0.0e+00   1.8e-12   0.0e+00   7.3e-07   1.4e-08

```

0.5534

```
num. of constraints = 33
dim. of socp var = 34,    num. of socp blk = 1
dim. of linear var = 32
```

SDPT3: Infeasible path-following algorithms

```
version  predcorr  gam  expon  scale_data
```

HKM	1	0.000	1	0
-----	---	-------	---	---

[illegible]

```

-----
number of iterations    = 15
primal objective value = -5.32535879e-01
dual   objective value = -5.32538711e-01
gap := trace(XZ)       = 7.62e-08
relative gap           = 3.69e-08
actual relative gap    = 1.37e-06
rel. primal infeas     = 8.39e-10
rel. dual   infeas     = 2.17e-12
norm(X), norm(y), norm(Z) = 2.1e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 5.9e+05, 1.1e+06, 4.8e+01
Total CPU time (secs)   = 0.10
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 1.5e-09  0.0e+00  3.0e-12  0.0e+00  1.4e-06  3.7e-08
-----

```

ans =

0.5325

Epoch... 73

Epoch... 74

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0

it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.5e+03|2.5e+08| 3.055125e+02  0.000000e+00| 0:0:00| chol  2  2
1|0.966|0.922|3.4e-02|5.8e+02|2.0e+07| 8.840562e+02  3.129242e+05| 0:0:00| chol  2  2
2|1.000|0.896|1.9e-09|6.0e+01|3.2e+06| 9.932399e+02  5.129843e+03| 0:0:00| chol  2  2
3|1.000|0.965|1.7e-09|2.1e+00|4.2e+05| 7.120359e+02  3.944746e+02| 0:0:00| chol  2  2
4|1.000|0.923|7.4e-11|1.6e-01|7.5e+04| 2.868421e+02 -1.521792e+02| 0:0:00| chol  2  2
5|1.000|1.000|4.9e-11|3.8e-03|1.0e+04| 9.227175e+01 -1.382249e+01| 0:0:00| chol  2  2
6|1.000|1.000|1.9e-11|1.9e-03|1.4e+03| 2.293356e+01 -2.760794e+00| 0:0:00| chol  2  2
7|1.000|1.000|3.8e-12|9.4e-04|1.7e+02| 4.953562e+00 -5.509046e-01| 0:0:00| chol  2  2
8|1.000|1.000|2.0e-12|2.8e-04|2.6e+01| 1.932024e+00 -4.745995e-01| 0:0:00| chol  2  2
9|1.000|1.000|3.4e-12|8.5e-05|3.9e+00| 4.467284e-01 -4.918542e-01| 0:0:00| chol  2  2
10|1.000|1.000|9.1e-12|2.5e-05|5.1e-01|-2.639785e-01 -4.941841e-01| 0:0:00| chol  3  4
11|1.000|0.945|4.0e-11|3.8e-06|6.0e-02|-4.552641e-01 -4.987610e-01| 0:0:00| chol  4  4
12|0.952|0.990|1.3e-10|2.9e-07|7.5e-03|-4.954529e-01 -5.020342e-01| 0:0:00| chol  8  7
13|0.986|0.985|5.7e-11|2.9e-08|1.0e-04|-5.019843e-01 -5.020037e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30  30
14|0.945|1.000|6.8e-10|5.1e-12|7.9e-06|-5.020749e-01 -5.020787e-01| 0:0:00| lu 27  30
15|1.000|0.928|4.5e-10|6.5e-12|1.9e-07|-5.020805e-01 -5.020763e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07
-----

```

```

number of iterations    = 15

```

```

primal objective value = -5.02080486e-01
dual   objective value = -5.02076327e-01
gap := trace(XZ)       = 1.92e-07
relative gap           = 9.57e-08
actual relative gap    = -2.08e-06
rel. primal infeas     = 4.45e-10
rel. dual   infeas     = 6.47e-12
norm(X), norm(y), norm(Z) = 1.9e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.1e+05, 1.1e+06, 4.8e+01
Total CPU time (secs)   = 0.12
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 8.1e-10  0.0e+00  8.8e-12  0.0e+00  -2.1e-06  9.6e-08
-----

```

```
ans =
```

```
0.5021
```

```
Epoch... 75
```

```
Epoch... 76
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|7.7e+03|2.4e+08| 2.521986e+02  0.000000e+00| 0:0:00| chol 1 1
1|0.966|0.924|3.4e-02|5.9e+02|1.9e+07| 8.387904e+02  3.171369e+05| 0:0:00| chol 2 2
2|1.000|0.896|2.8e-09|6.1e+01|3.0e+06| 9.395265e+02  7.525175e+03| 0:0:00| chol 2 2
3|1.000|0.963|1.5e-09|2.2e+00|4.0e+05| 6.726181e+02  5.081181e+02| 0:0:00| chol 2 2
4|1.000|0.920|8.0e-11|1.8e-01|7.2e+04| 2.752011e+02 -1.416735e+02| 0:0:00| chol 2 2
5|1.000|1.000|4.6e-11|3.8e-03|1.0e+04| 8.959096e+01 -1.323904e+01| 0:0:00| chol 2 2
6|1.000|1.000|1.9e-11|1.9e-03|1.3e+03| 2.235832e+01 -2.822462e+00| 0:0:00| chol 2 2
7|1.000|1.000|4.3e-12|9.4e-04|1.7e+02| 4.813794e+00 -5.268333e-01| 0:0:00| chol 2 2
8|1.000|1.000|2.9e-12|2.8e-04|2.5e+01| 1.881660e+00 -4.539934e-01| 0:0:00| chol 2 2
9|1.000|1.000|3.2e-11|8.5e-05|3.8e+00| 4.400813e-01 -4.712558e-01| 0:0:00| chol 2 2
10|1.000|1.000|3.2e-11|2.5e-05|4.9e-01| -2.492174e-01 -4.738064e-01| 0:0:00| chol 3 4
11|1.000|0.962|5.0e-11|3.4e-06|5.5e-02| -4.366004e-01 -4.771243e-01| 0:0:00| chol 4 5
12|0.957|1.000|5.4e-10|2.5e-07|6.9e-03| -4.732258e-01 -4.793675e-01| 0:0:00| chol 9 10
13|0.986|0.986|6.1e-11|2.9e-08|9.5e-05| -4.792390e-01 -4.792567e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 30 30
14|0.636|1.000|2.0e-09|7.6e-12|9.7e-05| -4.793309e-01 -4.793830e-01| 0:0:00| lu 30 30
15|1.000|0.838|2.5e-09|1.3e-11|1.3e-05| -4.791133e-01 -4.793268e-01| 0:0:00| lu 14 ^12
16|0.820|0.818|4.5e-08|1.9e-11|2.3e-06| -4.792620e-01 -4.793207e-01| 0:0:00| lu 11 30
17|1.000|0.883|3.2e-08|8.4e-12|1.7e-07| -4.792445e-01 -4.793204e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations = 17

```

```

primal objective value = -4.79244524e-01
dual   objective value = -4.79320410e-01
gap := trace(XZ)       = 1.73e-07
relative gap           = 8.82e-08
actual relative gap    = 3.87e-05
rel. primal infeas     = 3.22e-08
rel. dual   infeas     = 8.40e-12
norm(X), norm(y), norm(Z) = 1.7e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.2e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.16
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 5.8e-08  0.0e+00  1.1e-11  0.0e+00  3.9e-05  8.8e-08
-----

```

ans =

0.4793

Epoch... 77

Epoch... 78

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|8.0e+03|2.4e+08| 2.613661e+02  0.000000e+00| 0:0:00| chol  2  2
1|0.966|0.923|3.4e-02|6.2e+02|1.9e+07| 8.432570e+02  3.347985e+05| 0:0:00| chol  2  2
2|1.000|0.894|9.9e-10|6.6e+01|3.1e+06| 9.474722e+02  9.643927e+03| 0:0:00| chol  2  2
3|1.000|0.963|1.5e-09|2.4e+00|4.1e+05| 6.823724e+02  6.210824e+02| 0:0:00| chol  2  2
4|1.000|0.918|7.7e-11|2.0e-01|7.5e+04| 2.823226e+02 -1.489196e+02| 0:0:00| chol  2  2
5|1.000|1.000|4.6e-11|3.8e-03|1.0e+04| 9.283312e+01 -1.351389e+01| 0:0:00| chol  2  2
6|1.000|1.000|1.8e-11|1.9e-03|1.4e+03| 2.321597e+01 -2.920931e+00| 0:0:00| chol  2  2
7|1.000|1.000|3.9e-12|9.4e-04|1.7e+02| 5.033282e+00 -5.087472e-01| 0:0:00| chol  2  2
8|1.000|1.000|2.5e-12|2.8e-04|2.6e+01| 1.996833e+00 -4.291673e-01| 0:0:00| chol  2  2
9|1.000|1.000|4.8e-11|8.5e-05|3.9e+00| 5.034390e-01 -4.456530e-01| 0:0:00| chol  2  2
10|1.000|1.000|1.1e-11|2.5e-05|5.1e-01|-2.113288e-01 -4.479569e-01| 0:0:00| chol  3  4
11|0.997|0.998|3.3e-11|2.6e-06|5.3e-02|-4.066278e-01 -4.495590e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 14 30
12|1.000|1.000|3.7e-09|2.5e-07|1.8e-02|-4.336461e-01 -4.511620e-01| 0:0:00| lu   6   1
13|0.956|0.958|2.2e-10|3.5e-08|1.0e-03|-4.484584e-01 -4.494226e-01| 0:0:00| lu  30 ^22
14|0.986|0.986|4.8e-10|3.0e-09|1.5e-05|-4.493369e-01 -4.493475e-01| 0:0:00| lu  30 ^13
15|0.854|0.954|5.8e-09|1.5e-10|3.9e-06|-4.494542e-01 -4.493533e-01| 0:0:00| lu  25  30
16|0.906|0.728|2.7e-08|5.7e-11|7.2e-07|-4.493863e-01 -4.493519e-01| 0:0:00| lu  30 ^17
17|1.000|0.980|1.1e-08|1.4e-11|2.9e-07|-4.493192e-01 -4.493517e-01| 0:0:00| lu  24  30
18|0.908|0.903|8.3e-09|3.4e-12|4.7e-08|-4.493498e-01 -4.493517e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----

```

```

number of iterations    = 18
primal objective value = -4.49349759e-01
dual  objective value = -4.49351712e-01
gap := trace(XZ)       = 4.75e-08
relative gap           = 2.50e-08
actual relative gap    = 1.03e-06
rel. primal infeas     = 8.29e-09
rel. dual  infeas      = 3.44e-12
norm(X), norm(y), norm(Z) = 1.3e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.5e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.17
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 1.5e-08  0.0e+00  4.7e-12  0.0e+00  1.0e-06  2.5e-08
-----

```

```
ans =
```

```
0.4494
```

```
Epoch... 79
```

```
Epoch... 80
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0

it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|8.0e+03|2.4e+08| 2.477527e+02  0.000000e+00| 0:0:00| chol  2  2
1|0.966|0.923|3.4e-02|6.1e+02|1.9e+07| 8.334781e+02  3.307398e+05| 0:0:00| chol  2  2
2|1.000|0.895|8.3e-10|6.4e+01|3.0e+06| 9.347294e+02  9.315538e+03| 0:0:00| chol  2  2
3|1.000|0.963|1.4e-09|2.4e+00|4.0e+05| 6.720024e+02  6.090317e+02| 0:0:00| chol  2  2
4|1.000|0.918|1.2e-10|2.0e-01|7.4e+04| 2.784517e+02 -1.477077e+02| 0:0:00| chol  2  2
5|1.000|1.000|4.5e-11|3.8e-03|1.0e+04| 9.158530e+01 -1.335728e+01| 0:0:00| chol  2  2
6|1.000|1.000|1.9e-11|1.9e-03|1.3e+03| 2.289615e+01 -2.879067e+00| 0:0:00| chol  1  2
7|1.000|1.000|4.7e-12|9.4e-04|1.7e+02| 4.969634e+00 -4.904896e-01| 0:0:00| chol  2  2
8|1.000|1.000|3.9e-12|2.8e-04|2.6e+01| 1.976395e+00 -4.131202e-01| 0:0:00| chol  2  2
9|1.000|1.000|1.8e-11|8.5e-05|3.8e+00| 5.044018e-01 -4.298108e-01| 0:0:00| chol  2  2
10|1.000|1.000|2.5e-11|2.5e-05|5.0e-01|-1.997323e-01 -4.321035e-01| 0:0:00| chol  3  4
11|1.000|1.000|3.3e-11|2.5e-06|5.1e-02|-3.920196e-01 -4.336116e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 12  30
12|0.184|0.605|1.1e-08|1.2e-06|4.2e-02|-3.977036e-01 -4.356117e-01| 0:0:00| lu 10  3
13|0.283|0.170|1.1e-08|9.7e-07|3.6e-02|-4.024879e-01 -4.342005e-01| 0:0:00| lu  5  1
14|0.682|1.000|3.3e-09|2.6e-09|1.7e-02|-4.185270e-01 -4.357253e-01| 0:0:00| lu  6  1
15|1.000|0.970|3.3e-10|3.4e-10|4.0e-03|-4.300434e-01 -4.340260e-01| 0:0:00| lu  8  1
16|0.985|0.987|4.3e-11|4.7e-11|6.0e-05|-4.334916e-01 -4.335536e-01| 0:0:00| lu 11  30
17|0.976|0.966|2.0e-09|1.0e-11|1.8e-06|-4.335539e-01 -4.335474e-01| 0:0:00| lu 30 ^19
18|0.996|1.000|1.8e-09|8.1e-12|1.9e-07|-4.335713e-01 -4.335473e-01| 0:0:00| lu 30 ^20
19|1.000|0.920|1.2e-08|1.4e-12|1.7e-08|-4.335771e-01 -4.335472e-01| 0:0:00|

```

```

stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations    = 19
primal objective value = -4.33577101e-01
dual   objective value = -4.33547249e-01
gap := trace(XZ)       = 1.69e-08
relative gap           = 9.05e-09
actual relative gap    = -1.60e-05
rel. primal infeas     = 1.21e-08
rel. dual   infeas     = 1.36e-12
norm(X), norm(y), norm(Z) = 1.4e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.4e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.19
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 2.2e-08  0.0e+00  1.9e-12  0.0e+00  -1.6e-05  9.0e-09
-----

```

```
ans =
```

```
0.4335
```

```
Epoch... 81
```

```
Epoch... 82
```

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|8.3e+03|2.4e+08| 2.711846e+02  0.000000e+00| 0:0:00| chol  2  2
1|0.965|0.922|3.5e-02|6.5e+02|2.0e+07| 8.467737e+02  3.530160e+05| 0:0:00| chol  2  2
2|1.000|0.892|8.9e-10|7.0e+01|3.2e+06| 9.558185e+02  1.172678e+04| 0:0:00| chol  2  2
3|1.000|0.963|1.6e-09|2.6e+00|4.2e+05| 6.939326e+02  7.326007e+02| 0:0:00| chol  2  2
4|1.000|0.917|9.8e-11|2.2e-01|7.7e+04| 2.901613e+02 -1.582773e+02| 0:0:00| chol  2  2
5|1.000|1.000|4.3e-11|3.8e-03|1.1e+04| 9.611474e+01 -1.379118e+01| 0:0:00| chol  2  2
6|1.000|1.000|1.6e-11|1.9e-03|1.4e+03| 2.413805e+01 -3.036312e+00| 0:0:00| chol  1  2
7|1.000|1.000|4.0e-12|9.4e-04|1.8e+02| 5.260277e+00 -4.914530e-01| 0:0:00| chol  2  2
8|1.000|1.000|2.8e-12|2.8e-04|2.7e+01| 2.113964e+00 -4.054246e-01| 0:0:00| chol  2  2
9|1.000|1.000|3.1e-11|8.5e-05|4.0e+00| 5.660333e-01 -4.212236e-01| 0:0:00| chol  2  3
10|1.000|1.000|2.5e-12|2.5e-05|5.3e-01|-1.752227e-01 -4.233313e-01| 0:0:00| chol  4  3
11|0.924|0.925|3.4e-11|4.3e-06|8.1e-02|-3.615759e-01 -4.238360e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 ^11
12|0.023|0.144|8.3e-09|3.7e-06|7.9e-02|-3.630758e-01 -4.257158e-01| 0:0:00| lu 30  3
13|0.419|0.108|3.7e-08|3.3e-06|6.7e-02|-3.732150e-01 -4.237439e-01| 0:0:00| lu  5  1
14|0.204|1.000|2.9e-08|2.6e-09|5.0e-02|-3.805904e-01 -4.300205e-01| 0:0:00| lu  4  1
15|0.889|1.000|2.7e-09|2.6e-10|2.0e-02|-4.043083e-01 -4.238201e-01| 0:0:00| lu  6  1
16|1.000|1.000|2.2e-10|3.3e-11|2.7e-03|-4.194851e-01 -4.222025e-01| 0:0:00| lu 28  1
17|0.982|0.982|1.6e-10|1.4e-11|5.2e-05|-4.217996e-01 -4.218446e-01| 0:0:00| lu 30 30

```



```

18|0.998|0.953|3.1e-10|1.8e-11|6.6e-07|-4.218413e-01 -4.218376e-01| 0:0:00| lu 12 23
19|1.000|0.801|5.4e-10|4.8e-12|2.3e-08|-4.218443e-01 -4.218375e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations      = 19
primal objective value    = -4.21844327e-01
dual   objective value    = -4.21837453e-01
gap := trace(XZ)          = 2.29e-08
relative gap              = 1.24e-08
actual relative gap       = -3.73e-06
rel. primal infeas        = 5.40e-10
rel. dual   infeas        = 4.82e-12
norm(X), norm(Y), norm(Z) = 1.0e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.7e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)     = 0.17
CPU time per iteration    = 0.01
termination code          = 0
DIMACS errors: 9.7e-10  0.0e+00  6.6e-12  0.0e+00  -3.7e-06  1.2e-08
-----

```

ans =

0.4218

Epoch... 83

Epoch... 84

```

num. of constraints = 33
dim. of socp var    = 34,   num. of socp blk = 1
dim. of linear var  = 32

```

SDPT3: Infeasible path-following algorithms

```

version predcorr gam expon scale_data
HKM      1      0.000 1      0

```

it	pstep	dstep	pinfeas	dinfeas	gap	prim-obj	dual-obj	cputime			
0	0.000	0.000	1.0e+00	8.3e+03	2.3e+08	2.209440e+02	0.000000e+00	0:0:00	chol	2	2
1	0.966	0.923	3.4e-02	6.4e+02	1.9e+07	8.084999e+02	3.464823e+05	0:0:00	chol	2	2
2	1.000	0.893	7.6e-10	6.8e+01	3.0e+06	9.073921e+02	1.236235e+04	0:0:00	chol	2	2
3	1.000	0.962	1.5e-09	2.6e+00	3.9e+05	6.548348e+02	7.712398e+02	0:0:00	chol	2	2
4	1.000	0.916	1.4e-10	2.2e-01	7.3e+04	2.759313e+02	-1.450613e+02	0:0:00	chol	2	2
5	1.000	1.000	4.5e-11	3.8e-03	1.0e+04	9.189785e+01	-1.323649e+01	0:0:00	chol	2	2
6	1.000	1.000	1.8e-11	1.9e-03	1.4e+03	2.301050e+01	-2.942733e+00	0:0:00	chol	1	2
7	1.000	1.000	4.3e-12	9.4e-04	1.7e+02	5.004029e+00	-4.731295e-01	0:0:00	chol	2	2
8	1.000	1.000	3.9e-12	2.8e-04	2.6e+01	2.003611e+00	-3.939183e-01	0:0:00	chol	3	2
9	1.000	1.000	1.3e-11	8.5e-05	3.8e+00	5.277389e-01	-4.102635e-01	0:0:00	chol	3	2
10	1.000	1.000	2.8e-11	2.5e-05	5.0e-01	-1.779241e-01	-4.126796e-01	0:0:00	chol	3	5
11	0.927	0.927	3.3e-11	4.2e-06	7.6e-02	-3.553932e-01	-4.133631e-01	0:0:00	chol		
linsysolve: Schur complement matrix not positive definite											
switch to LU factor. lu 30 ^29											
12	0.013	0.058	1.4e-08	4.0e-06	7.5e-02	-3.554716e-01	-4.141786e-01	0:0:00	lu 30	5	
13	0.019	0.026	1.6e-08	3.9e-06	7.4e-02	-3.568618e-01	-4.134196e-01	0:0:00	lu 30	^11	
14	0.026	0.037	2.1e-08	3.7e-06	7.2e-02	-3.570539e-01	-4.138882e-01	0:0:00	lu 19	14	
15	0.090	0.065	5.2e-08	3.5e-06	6.8e-02	-3.599715e-01	-4.135814e-01	0:0:00	lu 30	8	

```

16|0.057|0.086|1.0e-07|3.2e-06|6.5e-02|-3.609960e-01 -4.145409e-01| 0:0:00| lu 29 4
17|0.079|0.226|7.5e-08|2.5e-06|5.9e-02|-3.635728e-01 -4.128770e-01| 0:0:00| lu 11 2
18|0.216|1.000|5.2e-08|3.9e-11|4.4e-02|-3.706198e-01 -4.150906e-01| 0:0:00| lu 7 1
19|1.000|1.000|9.5e-10|5.8e-11|1.5e-02|-3.984292e-01 -4.132407e-01| 0:0:00| lu 5 1
20|0.935|0.956|7.4e-11|8.9e-11|1.2e-03|-4.106311e-01 -4.118358e-01| 0:0:00| lu 30 30
21|0.582|0.639|1.7e-08|4.7e-11|4.8e-04|-4.116166e-01 -4.117404e-01| 0:0:00| lu 30 ^ 8
22|0.199|1.000|1.1e-08|2.2e-11|4.0e-04|-4.112506e-01 -4.117200e-01| 0:0:00| lu 11 30
23|0.368|0.347|6.2e-09|4.8e-11|2.6e-04|-4.113420e-01 -4.117140e-01| 0:0:00| lu 30 30
24|0.073|0.299|8.7e-08|8.4e-11|2.5e-04|-4.107876e-01 -4.117144e-01| 0:0:00| lu 30 ^ 3
25|0.198|1.000|5.3e-08|7.5e-11|2.1e-04|-4.111529e-01 -4.117126e-01| 0:0:00|
stop: progress is too slow

```

```

-----
number of iterations    = 25
primal objective value = -4.11341978e-01
dual   objective value = -4.11714013e-01
gap := trace(XZ)       = 2.59e-04
relative gap           = 1.42e-04
actual relative gap    = 2.04e-04
rel. primal infeas     = 6.21e-09
rel. dual   infeas     = 4.78e-11
norm(X), norm(y), norm(Z) = 1.1e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.7e+05, 1.2e+06, 4.8e+01
Total CPU time (secs)   = 0.27
CPU time per iteration = 0.01
termination code        = -5
DIMACS errors: 1.1e-08  0.0e+00  6.5e-11  0.0e+00  2.0e-04  1.4e-04
-----

```

ans =

0.4117

Epoch... 85

Epoch... 86

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|8.6e+03|2.4e+08| 2.427248e+02  0.000000e+00| 0:0:00| chol 2 2
1|0.965|0.922|3.5e-02|6.7e+02|1.9e+07| 8.213435e+02  3.638775e+05| 0:0:00| chol 2 2
2|1.000|0.891|7.4e-10|7.3e+01|3.1e+06| 9.267872e+02  1.409145e+04| 0:0:00| chol 2 2
3|1.000|0.962|2.4e-09|2.8e+00|4.1e+05| 6.742568e+02  8.606935e+02| 0:0:00| chol 2 2
4|1.000|0.915|2.3e-10|2.4e-01|7.6e+04| 2.857091e+02 -1.540914e+02| 0:0:00| chol 2 2
5|1.000|1.000|4.2e-11|3.8e-03|1.1e+04| 9.547877e+01 -1.360498e+01| 0:0:00| chol 2 2
6|1.000|1.000|1.8e-11|1.9e-03|1.4e+03| 2.406154e+01 -3.106247e+00| 0:0:00| chol 2 2
7|1.000|1.000|3.9e-12|9.4e-04|1.8e+02| 5.235081e+00 -4.758811e-01| 0:0:00| chol 2 2
8|1.000|1.000|6.1e-12|2.8e-04|2.7e+01| 2.109295e+00 -3.903470e-01| 0:0:00| chol 2 2
9|1.000|1.000|1.5e-11|8.5e-05|4.0e+00| 5.714885e-01 -4.062046e-01| 0:0:00| chol 3 2

```

```

10|1.000|1.000|1.2e-11|2.5e-05|5.2e-01|-1.635400e-01 -4.083320e-01| 0:0:00| chol 3 4
11|0.926|0.927|7.8e-11|4.2e-06|8.0e-02|-3.474070e-01 -4.087421e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 11 ^ 4
12|0.021|0.977|1.6e-08|3.5e-07|9.0e-02|-3.482076e-01 -4.383782e-01| 0:0:00| lu 4 1
13|1.000|0.792|6.2e-10|9.2e-08|3.6e-02|-3.755797e-01 -4.115979e-01| 0:0:00| lu 3 1
14|0.950|0.918|5.7e-11|1.0e-08|2.1e-03|-4.050160e-01 -4.071135e-01| 0:0:00| lu 30 2
15|0.900|0.935|2.3e-09|8.9e-10|2.6e-04|-4.063992e-01 -4.066557e-01| 0:0:00| lu 22 ^18
16|0.150|0.326|6.7e-09|6.3e-10|2.1e-04|-4.063151e-01 -4.066373e-01| 0:0:00| lu 11 ^25
17|0.234|0.661|5.4e-09|2.4e-10|1.5e-04|-4.065693e-01 -4.066128e-01| 0:0:00| lu 30 ^11
18|0.091|1.000|1.4e-07|3.9e-11|1.3e-04|-4.065100e-01 -4.066080e-01| 0:0:00| lu 13 ^10
19|0.341|0.467|9.0e-08|7.8e-11|8.9e-05|-4.063822e-01 -4.066038e-01| 0:0:00| lu 11 ^29
20|0.636|1.000|2.3e-08|8.7e-11|4.3e-05|-4.063244e-01 -4.066025e-01| 0:0:00| lu 11 ^10
21|0.392|0.625|2.9e-08|1.6e-10|2.6e-05|-4.065486e-01 -4.066013e-01| 0:0:00| lu 13 ^14
22|0.326|1.000|4.0e-08|1.9e-10|2.2e-05|-4.064972e-01 -4.066021e-01| 0:0:00| lu 30 30
23|0.935|0.769|6.0e-08|3.3e-10|5.2e-06|-4.062376e-01 -4.066008e-01| 0:0:00| lu 30 ^20
24|0.372|0.312|4.0e-08|4.6e-10|4.3e-06|-4.061212e-01 -4.066005e-01| 0:0:00| lu 16 ^25
25|1.000|1.000|1.1e-08|7.7e-11|1.4e-06|-4.061771e-01 -4.066004e-01| 0:0:00| lu 30 ^21
26|0.651|0.651|7.9e-08|5.9e-11|5.9e-07|-4.062971e-01 -4.066003e-01| 0:0:00| lu 30 30
27|1.000|0.894|2.6e-08|1.7e-11|1.9e-07|-4.063088e-01 -4.066003e-01| 0:0:00| lu 12 ^27
28|0.707|0.788|4.3e-08|6.9e-12|6.1e-08|-4.062991e-01 -4.066002e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07

```

```

-----
number of iterations    = 28
primal objective value = -4.06299125e-01
dual   objective value = -4.06600231e-01
gap := trace(XZ)       = 6.07e-08
relative gap           = 3.35e-08
actual relative gap    = 1.66e-04
rel. primal infeas     = 4.30e-08
rel. dual   infeas     = 6.89e-12
norm(X), norm(y), norm(Z) = 1.0e+02, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 6.9e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.32
CPU time per iteration = 0.01
termination code        = 0
DIMACS errors: 7.7e-08  0.0e+00  9.4e-12  0.0e+00  1.7e-04  3.4e-08
-----

```

ans =

0.4066

Epoch... 87

Epoch... 88

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000 1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime

```

```

-----
0|0.000|0.000|1.0e+00|8.7e+03|2.3e+08| 2.003673e+02  0.000000e+00| 0:0:00| chol  2  2
1|0.966|0.923|3.4e-02|6.7e+02|1.8e+07| 7.853466e+02  3.667425e+05| 0:0:00| chol  2  2
2|1.000|0.891|6.6e-10|7.4e+01|3.0e+06| 8.846064e+02  1.596514e+04| 0:0:00| chol  3  3
3|1.000|0.961|2.6e-09|2.9e+00|3.9e+05| 6.429499e+02  9.638240e+02| 0:0:00| chol  2  2
4|1.000|0.914|4.5e-10|2.5e-01|7.4e+04| 2.753111e+02 -1.405604e+02| 0:0:00| chol  2  2
5|1.000|1.000|4.3e-11|3.8e-03|1.0e+04| 9.261808e+01 -1.317956e+01| 0:0:00| chol  2  2
6|1.000|1.000|1.7e-11|1.9e-03|1.4e+03| 2.339662e+01 -3.117941e+00| 0:0:00| chol  2  2
7|1.000|1.000|4.2e-12|9.4e-04|1.7e+02| 5.067839e+00 -4.687462e-01| 0:0:00| chol  2  2
8|1.000|1.000|5.8e-12|2.8e-04|2.6e+01| 2.035934e+00 -3.876861e-01| 0:0:00| chol  2  2
9|1.000|1.000|3.3e-11|8.5e-05|3.9e+00| 5.440564e-01 -4.037325e-01| 0:0:00| chol  3  2
10|1.000|1.000|4.3e-11|2.5e-05|5.1e-01|-1.685312e-01 -4.062044e-01| 0:0:00| chol  3  3
11|0.935|0.935|6.3e-11|4.0e-06|7.6e-02|-3.476484e-01 -4.066346e-01| 0:0:00| chol
linsysolve: Schur complement matrix not positive definite
switch to LU factor. lu 21  30
12|1.000|1.000|8.2e-09|2.5e-07|2.9e-02|-3.801340e-01 -4.076946e-01| 0:0:00| lu  5  1
13|1.000|0.983|2.4e-10|2.9e-08|3.5e-03|-4.010897e-01 -4.045114e-01| 0:0:00| lu 29  2
14|0.936|0.993|8.9e-11|2.7e-09|2.4e-04|-4.039159e-01 -4.041529e-01| 0:0:00| lu 30  30
15|0.970|0.975|8.3e-10|3.3e-10|6.9e-06|-4.041204e-01 -4.041431e-01| 0:0:00| lu 11  30
16|0.715|0.707|7.5e-08|1.2e-10|2.6e-06|-4.042161e-01 -4.041436e-01| 0:0:00| lu 30 ^18
17|1.000|0.995|4.4e-08|3.0e-11|4.8e-07|-4.041806e-01 -4.041433e-01| 0:0:00| lu 30  30
18|0.810|0.816|1.2e-08|1.3e-11|1.1e-07|-4.041837e-01 -4.041433e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----

```

```

number of iterations    = 18
primal objective value  = -4.04183717e-01
dual   objective value  = -4.04143298e-01
gap := trace(XZ)        = 1.13e-07
relative gap            = 6.27e-08
actual relative gap     = -2.24e-05
rel. primal infeas      = 1.24e-08
rel. dual   infeas      = 1.29e-11
norm(X), norm(y), norm(Z) = 8.8e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 7.1e+05, 1.3e+06, 4.8e+01
Total CPU time (secs)   = 0.18
CPU time per iteration  = 0.01
termination code        = 0
DIMACS errors: 2.2e-08  0.0e+00  1.8e-11  0.0e+00  -2.2e-05  6.3e-08
-----

```

ans =

0.4041

Epoch... 89

Epoch... 90

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

SDPT3: Infeasible path-following algorithms

```

version predcorr gam expon scale_data
HKM      1      0.000  1      0

```

it	pstep	dstep	pinfeas	dinfeas	gap	prim-obj	dual-obj	cputime			
0	0.000	0.000	1.0e+00	9.2e+03	2.5e+08	3.231157e+02	0.000000e+00	0:0:00	chol	2	2
1	0.962	0.918	3.8e-02	7.6e+02	2.1e+07	8.750845e+02	4.095875e+05	0:0:00	chol	2	2
2	1.000	0.886	8.4e-10	8.6e+01	3.6e+06	1.003325e+03	1.826348e+04	0:0:00	chol	2	3
3	1.000	0.964	3.8e-09	3.1e+00	4.5e+05	7.458924e+02	1.050107e+03	0:0:00	chol	2	2
4	1.000	0.915	6.4e-10	2.7e-01	8.6e+04	3.182509e+02	-1.873579e+02	0:0:00	chol	2	2
5	1.000	1.000	4.2e-11	3.8e-03	1.2e+04	1.064815e+02	-1.467757e+01	0:0:00	chol	2	2
6	1.000	1.000	1.7e-11	1.9e-03	1.6e+03	2.735481e+01	-3.602343e+00	0:0:00	chol	2	2
7	1.000	1.000	2.7e-12	9.4e-04	2.0e+02	5.951730e+00	-5.005956e-01	0:0:00	chol	2	2
8	1.000	1.000	4.2e-12	2.8e-04	3.0e+01	2.432839e+00	-3.960691e-01	0:0:00	chol	3	3
9	1.000	1.000	2.7e-12	8.5e-05	4.5e+00	7.000693e-01	-4.100653e-01	0:0:00	chol	3	3
10	1.000	1.000	2.9e-12	2.5e-05	5.9e-01	-1.298305e-01	-4.116021e-01	0:0:00	chol	4	4
11	1.000	1.000	8.7e-11	2.5e-06	7.5e-02	-3.470203e-01	-4.111396e-01	0:0:00	chol	6	6
12	1.000	1.000	3.3e-10	2.5e-07	2.4e-02	-3.854118e-01	-4.088058e-01	0:0:00	chol	4	4
13	0.898	0.901	1.2e-10	4.8e-08	4.4e-03	-4.026894e-01	-4.070484e-01	0:0:00	chol		
linsysolve: Schur complement matrix not positive definite											
switch to LU factor. lu 30 5											
14	1.000	1.000	4.5e-10	2.6e-09	1.1e-03	-4.056190e-01	-4.066801e-01	0:0:00	lu 30	^11	
15	0.958	0.954	1.2e-09	3.7e-10	5.9e-05	-4.064668e-01	-4.065532e-01	0:0:00	lu 12	30	
16	1.000	0.808	3.6e-09	7.8e-11	2.6e-06	-4.064417e-01	-4.065454e-01	0:0:00	lu 30	^ 3	
17	1.000	0.985	9.5e-09	1.0e-11	8.3e-08	-4.064557e-01	-4.065452e-01	0:0:00			
stop: max(relative gap, infeasibilities) < 1.00e-07											

```

-----
number of iterations      = 17
primal objective value   = -4.06455691e-01
dual  objective value    = -4.06545193e-01
gap := trace(XZ)         = 8.25e-08
relative gap             = 4.55e-08
actual relative gap      = 4.94e-05
rel. primal infeas       = 9.54e-09
rel. dual  infeas        = 1.04e-11
norm(X), norm(y), norm(Z) = 5.1e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 7.4e+05, 1.4e+06, 4.8e+01
Total CPU time (secs)    = 0.15
CPU time per iteration   = 0.01
termination code         = 0
DIMACS errors: 1.7e-08   0.0e+00   1.4e-11   0.0e+00   4.9e-05   4.6e-08
-----

```

ans =

0.4065

Epoch... 91

Epoch... 92

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

SDPT3: Infeasible path-following algorithms

```

version predcorr gam expon scale_data
HKM      1      0.000  1      0

```

it	pstep	dstep	pinfeas	dinfeas	gap	prim-obj	dual-obj	cputime			
0	0.000	0.000	1.0e+00	9.4e+03	2.5e+08	3.190313e+02	0.000000e+00	0:0:00	chol	2	2
1	0.962	0.918	3.8e-02	7.7e+02	2.1e+07	8.713588e+02	4.190964e+05	0:0:00	chol	2	2
2	1.000	0.886	7.9e-10	8.9e+01	3.6e+06	9.992427e+02	1.983157e+04	0:0:00	chol	2	3
3	1.000	0.963	3.1e-09	3.2e+00	4.5e+05	7.439219e+02	1.132421e+03	0:0:00	chol	2	2
4	1.000	0.915	5.7e-10	2.8e-01	8.6e+04	3.192873e+02	-1.886017e+02	0:0:00	chol	2	2
5	1.000	1.000	4.0e-11	3.8e-03	1.2e+04	1.071506e+02	-1.465772e+01	0:0:00	chol	2	2
6	1.000	1.000	1.7e-11	1.9e-03	1.6e+03	2.770832e+01	-3.735300e+00	0:0:00	chol	1	2
7	1.000	1.000	3.5e-12	9.4e-04	2.0e+02	6.010917e+00	-4.962151e-01	0:0:00	chol	2	2
8	1.000	1.000	2.3e-12	2.8e-04	3.0e+01	2.462002e+00	-3.905840e-01	0:0:00	chol	3	3
9	1.000	1.000	8.8e-12	8.5e-05	4.5e+00	7.142099e-01	-4.044397e-01	0:0:00	chol	2	3
10	1.000	1.000	6.6e-12	2.5e-05	6.0e-01	-1.222271e-01	-4.059250e-01	0:0:00	chol	4	4
11	1.000	1.000	3.8e-11	2.5e-06	7.7e-02	-3.396119e-01	-4.053854e-01	0:0:00	chol	7	7
12	1.000	1.000	7.3e-10	2.5e-07	2.4e-02	-3.793025e-01	-4.027716e-01	0:0:00	chol	4	4
13	0.907	0.911	3.0e-11	4.6e-08	4.6e-03	-3.964344e-01	-4.010033e-01	0:0:00	chol	12	30
14	1.000	1.000	5.1e-09	2.6e-09	1.1e-03	-3.995081e-01	-4.006233e-01	0:0:00	chol		
warning: symqmr failed: 0.3											
switch to LU factor. lu 30 30											
15	0.958	0.957	5.5e-10	3.6e-10	6.4e-05	-4.004340e-01	-4.004885e-01	0:0:00	lu 30	30	
16	1.000	0.795	2.2e-09	8.4e-11	2.5e-06	-4.005372e-01	-4.004799e-01	0:0:00	lu 21	^27	
17	1.000	0.809	1.4e-08	2.8e-11	9.4e-08	-4.005432e-01	-4.004796e-01	0:0:00			
stop: max(relative gap, infeasibilities) < 1.00e-07											

```

-----
number of iterations      = 17
primal objective value   = -4.00543243e-01
dual  objective value    = -4.00479625e-01
gap := trace(XZ)         = 9.37e-08
relative gap             = 5.20e-08
actual relative gap      = -3.53e-05
rel. primal infeas       = 1.39e-08
rel. dual  infeas        = 2.76e-11
norm(X), norm(y), norm(Z) = 4.6e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 7.6e+05, 1.4e+06, 4.8e+01
Total CPU time (secs)    = 0.15
CPU time per iteration   = 0.01
termination code         = 0
DIMACS errors: 2.5e-08   0.0e+00   3.8e-11   0.0e+00   -3.5e-05   5.2e-08
-----

```

ans =

0.4005

Epoch... 93

Epoch... 94

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

SDPT3: Infeasible path-following algorithms

```

version predcorr gam expon scale_data
HKM      1      0.000  1      0

```

```

it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|9.6e+03|2.5e+08| 3.026467e+02  0.000000e+00| 0:0:00| chol  1  2
1|0.962|0.918|3.8e-02|7.9e+02|2.1e+07| 8.580450e+02  4.271848e+05| 0:0:00| chol  2  2
2|1.000|0.885|7.0e-10|9.1e+01|3.5e+06| 9.826028e+02  2.161198e+04| 0:0:00| chol  2  2
3|1.000|0.963|2.9e-09|3.4e+00|4.5e+05| 7.312417e+02  1.232389e+03| 0:0:00| chol  2  2
4|1.000|0.914|1.3e-10|2.9e-01|8.5e+04| 3.161209e+02 -1.820761e+02| 0:0:00| chol  2  2
5|1.000|1.000|4.0e-11|3.8e-03|1.2e+04| 1.065647e+02 -1.453210e+01| 0:0:00| chol  2  2
6|1.000|1.000|2.0e-11|1.9e-03|1.6e+03| 2.782131e+01 -3.912346e+00| 0:0:00| chol  2  1
7|1.000|1.000|1.9e-11|9.4e-04|2.0e+02| 5.991865e+00 -4.982400e-01| 0:0:00| chol  2  2
8|1.000|1.000|1.9e-12|2.8e-04|3.0e+01| 2.451326e+00 -3.938907e-01| 0:0:00| chol  3  2
9|1.000|1.000|5.5e-11|8.5e-05|4.5e+00| 7.072726e-01 -4.077264e-01| 0:0:00| chol  2  3
10|1.000|1.000|2.4e-12|2.5e-05|6.0e-01|-1.266853e-01 -4.093147e-01| 0:0:00| chol  3  4
11|1.000|1.000|4.2e-11|2.5e-06|7.7e-02|-3.430058e-01 -4.088350e-01| 0:0:00| chol  8  8
12|1.000|1.000|4.3e-10|2.5e-07|2.4e-02|-3.826572e-01 -4.062257e-01| 0:0:00| chol  5  5
13|0.911|0.915|1.4e-10|4.5e-08|4.9e-03|-3.996193e-01 -4.045031e-01| 0:0:00| chol 21 25
14|1.000|1.000|6.0e-07|2.6e-09|1.3e-03|-4.028013e-01 -4.041224e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 15 11
15|0.941|0.940|3.0e-08|4.0e-10|1.2e-04|-4.037668e-01 -4.039798e-01| 0:0:00| lu 12 30
16|0.914|0.766|5.8e-09|1.0e-10|1.1e-05|-4.039082e-01 -4.039646e-01| 0:0:00| lu 15 ^20
17|1.000|0.994|4.5e-09|1.2e-11|7.3e-07|-4.039376e-01 -4.039629e-01| 0:0:00| lu 30 ^23
18|1.000|0.855|7.4e-09|7.1e-12|3.6e-08|-4.039279e-01 -4.039628e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations      = 18
primal objective value    = -4.03927911e-01
dual  objective value     = -4.03962809e-01
gap := trace(XZ)          = 3.63e-08
relative gap              = 2.01e-08
actual relative gap       = 1.93e-05
rel. primal infeas        = 7.45e-09
rel. dual  infeas         = 7.13e-12
norm(X), norm(y), norm(Z) = 4.0e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 7.8e+05, 1.4e+06, 4.8e+01
Total CPU time (secs)    = 0.15
CPU time per iteration    = 0.01
termination code          = 0
DIMACS errors: 1.3e-08  0.0e+00  9.7e-12  0.0e+00  1.9e-05  2.0e-08
-----

```

ans =

0.4040

Epoch... 95

Epoch... 96

```

num. of constraints = 33
dim. of socp var   = 34,   num. of socp blk = 1
dim. of linear var = 32

```

```

*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data

```

```

HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|9.5e+03|2.5e+08| 3.083673e+02  0.000000e+00| 0:0:00| chol  2  2
1|0.962|0.918|3.8e-02|7.8e+02|2.1e+07| 8.621474e+02  4.238575e+05| 0:0:00| chol  2  2
2|1.000|0.885|7.1e-10|9.0e+01|3.6e+06| 9.886186e+02  2.083332e+04| 0:0:00| chol  2  2
3|1.000|0.963|3.4e-09|3.3e+00|4.5e+05| 7.367549e+02  1.182978e+03| 0:0:00| chol  2  2
4|1.000|0.914|2.4e-10|2.9e-01|8.6e+04| 3.173412e+02 -1.851657e+02| 0:0:00| chol  2  2
5|1.000|1.000|4.2e-11|3.8e-03|1.2e+04| 1.066928e+02 -1.454483e+01| 0:0:00| chol  2  2
6|1.000|1.000|1.9e-11|1.9e-03|1.6e+03| 2.769170e+01 -3.789870e+00| 0:0:00| chol  2  2
7|1.000|1.000|3.4e-12|9.4e-04|2.0e+02| 5.991463e+00 -4.916297e-01| 0:0:00| chol  2  2
8|1.000|1.000|9.7e-13|2.8e-04|3.0e+01| 2.453271e+00 -3.870062e-01| 0:0:00| chol  3  2
9|1.000|1.000|5.7e-11|8.5e-05|4.5e+00| 7.108406e-01 -4.009857e-01| 0:0:00| chol  3  3
10|1.000|1.000|2.0e-12|2.5e-05|6.0e-01|-1.217076e-01 -4.024072e-01| 0:0:00| chol  4  4
11|1.000|1.000|4.7e-11|2.5e-06|7.6e-02|-3.377379e-01 -4.018308e-01| 0:0:00| chol 10  6
12|1.000|1.000|4.8e-10|2.5e-07|2.4e-02|-3.756224e-01 -3.992300e-01| 0:0:00| chol  4  4
13|0.905|0.908|8.0e-11|4.6e-08|4.4e-03|-3.929235e-01 -3.972904e-01| 0:0:00| chol 14 30
14|1.000|1.000|3.9e-10|2.6e-09|1.0e-03|-3.958870e-01 -3.969019e-01| 0:0:00| chol
warning: symqmr failed: 0.3
switch to LU factor. lu 30  8
15|0.973|0.972|1.1e-09|3.2e-10|3.1e-05|-3.967520e-01 -3.967779e-01| 0:0:00| lu 12  30
16|0.997|0.950|2.2e-09|2.4e-11|4.6e-07|-3.967739e-01 -3.967740e-01| 0:0:00| lu 30  30
17|0.964|0.832|7.8e-09|6.7e-12|2.7e-08|-3.967716e-01 -3.967739e-01| 0:0:00|
stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations      = 17
primal objective value    = -3.96771650e-01
dual  objective value     = -3.96773929e-01
gap := trace(XZ)          = 2.65e-08
relative gap              = 1.48e-08
actual relative gap       = 1.27e-06
rel. primal infeas        = 7.80e-09
rel. dual  infeas         = 6.74e-12
norm(X), norm(y), norm(Z) = 5.3e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 7.7e+05, 1.4e+06, 4.8e+01
Total CPU time (secs)     = 0.15
CPU time per iteration    = 0.01
termination code          = 0
DIMACS errors: 1.4e-08  0.0e+00  9.2e-12  0.0e+00  1.3e-06  1.5e-08
-----

```

ans =

0.3968

Epoch... 97

Epoch... 98

```

num. of constraints = 33
dim. of socp var    = 34,   num. of socp blk = 1
dim. of linear var  = 32

```

```

*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data

```



```

HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|9.9e+03|2.6e+08| 3.694882e+02  0.000000e+00| 0:0:00| chol  2  2
1|0.960|0.916|4.0e-02|8.4e+02|2.3e+07| 9.094203e+02  4.515099e+05| 0:0:00| chol  2  2
2|1.000|0.883|8.2e-10|9.8e+01|3.9e+06| 1.050546e+03  2.298302e+04| 0:0:00| chol  2  2
3|1.000|0.965|3.4e-08|3.5e+00|4.8e+05| 7.906327e+02  1.255163e+03| 0:0:00| chol  2  2
4|1.000|0.915|2.5e-10|3.0e-01|9.2e+04| 3.398554e+02 -2.110347e+02| 0:0:00| chol  2  2
5|1.000|1.000|3.9e-11|3.8e-03|1.3e+04| 1.138524e+02 -1.523794e+01| 0:0:00| chol  2  2
6|1.000|1.000|1.6e-11|1.9e-03|1.7e+03| 2.992957e+01 -4.137964e+00| 0:0:00| chol  2  1
7|1.000|1.000|1.2e-11|9.4e-04|2.2e+02| 6.473772e+00 -5.039270e-01| 0:0:00| chol  2  2
8|1.000|1.000|2.8e-12|2.8e-04|3.3e+01| 2.673210e+00 -3.864280e-01| 0:0:00| chol  3  3
9|1.000|1.000|3.7e-12|8.5e-05|4.9e+00| 8.008965e-01 -3.991658e-01| 0:0:00| chol  3  2
10|1.000|1.000|4.8e-11|2.5e-05|6.4e-01|-9.504252e-02 -4.002679e-01| 0:0:00| chol  3  4
11|1.000|1.000|1.2e-10|2.5e-06|8.8e-02|-3.236860e-01 -3.995217e-01| 0:0:00| chol  5  5
12|1.000|1.000|7.4e-10|2.5e-07|2.5e-02|-3.714945e-01 -3.962498e-01| 0:0:00| chol  5  5
13|0.951|0.957|8.8e-11|3.5e-08|5.7e-03|-3.889368e-01 -3.945778e-01| 0:0:00| chol 20 30
14|1.000|1.000|3.4e-09|2.6e-09|1.6e-03|-3.926023e-01 -3.941978e-01| 0:0:00| chol 13 27
15|0.963|0.953|7.9e-10|3.7e-10|2.7e-04|-3.938001e-01 -3.940651e-01| 0:0:00| chol
    linsysolve: Schur complement matrix not positive definite
    switch to LU factor. lu 30 30
16|1.000|1.000|1.2e-08|3.7e-11|6.5e-05|-3.943202e-01 -3.940399e-01| 0:0:00| lu 13 ^24
17|0.590|0.491|7.9e-08|3.6e-11|3.1e-05|-3.942687e-01 -3.940351e-01| 0:0:00| lu 22 30
18|0.927|1.000|2.0e-08|2.6e-11|1.2e-05|-3.942856e-01 -3.940329e-01| 0:0:00| lu 13 ^28
19|0.697|0.788|1.5e-08|4.4e-11|4.5e-06|-3.942124e-01 -3.940320e-01| 0:0:00| lu 26 ^ 3
20|0.966|1.000|1.2e-08|5.8e-11|1.6e-06|-3.941635e-01 -3.940320e-01| 0:0:00| lu 25 ^ 9
21|1.000|1.000|5.7e-09|8.6e-11|3.4e-07|-3.941591e-01 -3.940318e-01| 0:0:00| lu 14 ^ 6
22|0.868|0.718|3.4e-08|4.0e-11|6.2e-08|-3.941678e-01 -3.940318e-01| 0:0:00|
    stop: max(relative gap, infeasibilities) < 1.00e-07
-----
number of iterations    = 22
primal objective value  = -3.94167812e-01
dual  objective value   = -3.94031785e-01
gap := trace(XZ)        = 6.22e-08
relative gap            = 3.48e-08
actual relative gap     = -7.61e-05
rel. primal infeas      = 3.39e-08
rel. dual  infeas       = 4.04e-11
norm(X), norm(y), norm(Z) = 2.9e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 8.0e+05, 1.5e+06, 4.8e+01
Total CPU time (secs)   = 0.20
CPU time per iteration  = 0.01
termination code        = 0
DIMACS errors: 6.0e-08  0.0e+00  5.5e-11  0.0e+00  -7.6e-05  3.5e-08
-----

ans =

    0.3940

Epoch... 99
Epoch... 100

num. of constraints = 33
dim. of socp var = 34,    num. of socp blk = 1

```

```

dim. of linear var = 32
*****
SDPT3: Infeasible path-following algorithms
*****
version   predcorr   gam   expon   scale_data
HKM       1         0.000   1         0

it pstep dstep pinfeas dinfeas   gap      prim-obj      dual-obj      cputime
-----
0|0.000|0.000|1.0e+00|9.7e+03|2.6e+08| 3.748904e+02  0.000000e+00| 0:0:00| chol  1  1
1|0.960|0.915|4.0e-02|8.2e+02|2.3e+07| 9.135697e+02  4.430110e+05| 0:0:00| chol  2  2
2|1.000|0.884|8.5e-10|9.6e+01|4.0e+06| 1.056550e+03  2.133582e+04| 0:0:00| chol  2  3
3|1.000|0.965|1.6e-08|3.3e+00|4.8e+05| 7.957029e+02  1.166774e+03| 0:0:00| chol  2  2
4|1.000|0.916|5.2e-10|2.8e-01|9.2e+04| 3.399534e+02 -2.112142e+02| 0:0:00| chol  2  2
5|1.000|1.000|3.9e-11|3.8e-03|1.3e+04| 1.135075e+02 -1.523756e+01| 0:0:00| chol  2  2
6|1.000|1.000|1.7e-11|1.9e-03|1.7e+03| 2.953738e+01 -3.916537e+00| 0:0:00| chol  1  2
7|1.000|1.000|3.0e-12|9.4e-04|2.2e+02| 6.431633e+00 -4.945351e-01| 0:0:00| chol  2  2
8|1.000|1.000|2.6e-12|2.8e-04|3.2e+01| 2.657187e+00 -3.783902e-01| 0:0:00| chol  2  3
9|1.000|1.000|3.3e-12|8.5e-05|4.8e+00| 7.979887e-01 -3.914000e-01| 0:0:00| chol  3  3
10|1.000|1.000|3.4e-12|2.5e-05|6.4e-01|-9.109994e-02 -3.923147e-01| 0:0:00| chol  3  4
11|1.000|1.000|6.8e-11|2.5e-06|8.6e-02|-3.182586e-01 -3.914409e-01| 0:0:00| chol  5  7
12|1.000|1.000|5.7e-10|2.5e-07|2.5e-02|-3.637243e-01 -3.881054e-01| 0:0:00| chol  5  5
13|0.927|0.932|1.4e-10|4.1e-08|5.2e-03|-3.809712e-01 -3.861633e-01| 0:0:00| chol
warning: symqmr failed: 0.3
switch to LU factor. lu 29  2
14|1.000|1.000|7.6e-10|2.6e-09|1.4e-03|-3.843328e-01 -3.857078e-01| 0:0:00| lu 30 ^19
15|0.878|0.866|6.2e-09|5.7e-10|1.8e-04|-3.855131e-01 -3.855632e-01| 0:0:00| lu 16 ^24
16|0.273|0.255|1.4e-08|4.4e-10|1.3e-04|-3.853534e-01 -3.855573e-01| 0:0:00| lu 30 30
17|1.000|1.000|3.5e-08|1.1e-11|3.4e-05|-3.853695e-01 -3.855452e-01| 0:0:00| lu 16 ^11
18|0.727|0.627|1.2e-08|2.1e-11|1.1e-05|-3.856455e-01 -3.855432e-01| 0:0:00| lu 11 30
19|0.965|1.000|7.1e-08|2.6e-11|8.2e-07|-3.855595e-01 -3.855424e-01| 0:0:00| lu 30 30
20|0.274|0.300|9.8e-08|5.6e-11|6.8e-07|-3.855641e-01 -3.855424e-01| 0:0:00| lu 15 30
21|0.409|0.380|1.1e-08|9.3e-11|5.2e-07|-3.855607e-01 -3.855424e-01| 0:0:00| lu 11 30
22|0.132|0.292|6.5e-09|1.3e-10|5.0e-07|-3.855604e-01 -3.855424e-01| 0:0:00| lu 12 ^ 8
23|0.857|0.642|5.8e-09|8.1e-11|2.7e-07|-3.855836e-01 -3.855424e-01| 0:0:00| lu 26 ^12
24|0.350|0.328|1.9e-08|8.3e-11|2.2e-07|-3.855658e-01 -3.855424e-01| 0:0:00| lu 19 ^28
25|0.185|0.424|4.4e-08|7.3e-11|1.9e-07|-3.855694e-01 -3.855424e-01| 0:0:00|
stop: progress is too slow
-----
number of iterations = 25
primal objective value = -3.85569444e-01
dual objective value = -3.85542375e-01
gap := trace(XZ) = 1.91e-07
relative gap = 1.08e-07
actual relative gap = -1.53e-05
rel. primal infeas = 4.43e-08
rel. dual infeas = 7.30e-11
norm(X), norm(y), norm(Z) = 4.3e+01, 6.5e+01, 4.7e+01
norm(A), norm(b), norm(C) = 7.8e+05, 1.4e+06, 4.8e+01
Total CPU time (secs) = 0.27
CPU time per iteration = 0.01
termination code = -5
DIMACS errors: 7.9e-08 0.0e+00 9.9e-11 0.0e+00 -1.5e-05 1.1e-07
-----

```

ans =

0.3855

The total representation error of the testing signals is: 0.063859

Error using uiimport (line 69)

Cannot open the Import Wizard on a file while the Import Wizard is open.

>>