

E-Step Testing Results

Python results

```
{ 't': array([[1.00007244e-07, 9.99999800e-01, 9.9999700e-08],
 [9.99999800e-01, 1.00101891e-07, 9.9999700e-08],
 [9.99999800e-01, 9.9999700e-08, 9.9999701e-08],
 [9.99999800e-01, 9.9999701e-08, 9.9999727e-08],
 [9.99999800e-01, 9.9999700e-08, 9.9999700e-08],
 [9.99999800e-01, 1.00000596e-07, 9.9999700e-08],
 [9.99999800e-01, 9.9999700e-08, 9.9999700e-08],
 [9.99999800e-01, 9.9999700e-08, 9.9999700e-08],
 [9.92402093e-01, 7.59780671e-03, 9.9999700e-08],
 [9.05032455e-01, 9.49674446e-02, 9.9999701e-08],
 [2.87803776e-04, 9.99712096e-01, 9.9999700e-08],
 [8.77753131e-04, 9.99122147e-01, 9.9999700e-08],
 [4.61449012e-02, 9.53854999e-01, 9.9999700e-08],
 [9.99999800e-01, 9.9999700e-08, 9.9999700e-08],
 [9.99999703e-08, 9.9999700e-08, 9.9999800e-01],
 [9.9999700e-08, 9.9999700e-08, 9.9999800e-01],
 [9.31110275e-06, 9.9999701e-08, 9.99990589e-01],
 [4.02234660e-06, 9.9999700e-08, 9.9995878e-01],
 [1.18402708e-07, 9.9999700e-08, 9.9999782e-01],
 [9.99999800e-01, 9.9999700e-08, 9.9999700e-08],
 [9.99589221e-01, 1.00160113e-07, 4.10678953e-04]]), 'tw': array([[7.72394487e-01, 8.60205437e+00, 1.95998178e-02],
 [3.23416288e+00, 5.23765578e-01, 3.07326931e-02],
 [1.75264186e+00, 7.91713314e-02, 1.08695405e-01],
 [1.46575931e+00, 7.31840878e-02, 1.22312785e-01],
 [1.14999900e+01, 1.96776856e-01, 4.67538875e-02],
 [4.13472582e+00, 4.30019299e-01, 3.27494440e-02],
 [2.31120134e+00, 8.89523251e-02, 9.30272854e-02],
 [7.62716575e+00, 2.87744443e-01, 3.83640239e-02],
 [1.58160852e+00, 1.23971034e+00, 2.50651127e-02],
 [1.49597480e-01, 1.47233862e-01, 9.04675599e-03],
 [3.04348374e-01, 7.40456510e-01, 1.31384390e-02],
 [2.88451597e-01, 6.36882706e-01, 1.28002086e-02],
 [2.29532368e-01, 3.57638856e-01, 1.14105980e-02],
 [4.05868762e+00, 1.11111225e-01, 7.26473091e-02],
 [2.22428934e-01, 2.61271993e-02, 7.77706233e+00],
 [2.29944809e-01, 2.66955428e-02, 9.79475241e+00],
 [1.53322713e-01, 2.03688647e-02, 6.47722574e-01],
 [3.41459829e-01, 3.41674784e-02, 1.55368455e+00],
 [3.16307168e-01, 3.26179380e-02, 2.29416628e+00],
 [5.07021992e+00, 1.21034473e-01, 6.69799520e-02],
 [6.32426304e-02, 1.06528337e-02, 4.94806222e-02]]), 'L': -959.209487371476}
```

R Results

```
$t
      [,1]      [,2]      [,3]
[1,] 1.000072e-07 9.999998e-01 9.999997e-08
[2,] 9.999998e-01 1.001019e-07 9.999997e-08
[3,] 9.999998e-01 9.999997e-08 9.999997e-08
[4,] 9.999998e-01 9.999997e-08 9.999997e-08
[5,] 9.999998e-01 9.999997e-08 9.999997e-08
[6,] 9.999998e-01 1.000006e-07 9.999997e-08
[7,] 9.999998e-01 9.999997e-08 9.999997e-08
[8,] 9.999998e-01 9.999997e-08 9.999997e-08
[9,] 9.924021e-01 7.597807e-03 9.999997e-08
[10,] 9.050325e-01 9.496744e-02 9.999997e-08
[11,] 2.878038e-04 9.997121e-01 9.999997e-08
[12,] 8.777531e-04 9.991221e-01 9.999997e-08
[13,] 4.614490e-02 9.538550e-01 9.999997e-08
[14,] 9.999998e-01 9.999997e-08 9.999997e-08
[15,] 9.999997e-08 9.999997e-08 9.999998e-01
[16,] 9.999997e-08 9.999997e-08 9.999998e-01
[17,] 9.311103e-06 9.999997e-08 9.999906e-01
[18,] 4.022347e-06 9.999997e-08 9.999959e-01
[19,] 1.184027e-07 9.999997e-08 9.999998e-01
[20,] 9.999998e-01 9.999997e-08 9.999997e-08
[21,] 9.995892e-01 1.001601e-07 4.106790e-04
```

```
$tw
      [,1]      [,2]      [,3]
[1,] 0.77239449 8.60205437 0.019599818
[2,] 3.23416288 0.52376558 0.030732693
[3,] 1.75264186 0.07917133 0.108695405
[4,] 1.46575931 0.07318409 0.122312785
[5,] 11.49999004 0.19677686 0.046753887
[6,] 4.13472582 0.43001930 0.032749444
[7,] 2.31120134 0.08895233 0.093027285
[8,] 7.62716575 0.28774444 0.038364024
[9,] 1.58160852 1.23971034 0.025065113
[10,] 0.14959748 0.14723386 0.009046756
[11,] 0.30434837 0.74045651 0.013138439
[12,] 0.28845160 0.63688271 0.012800209
[13,] 0.22953237 0.35763886 0.011410598
[14,] 4.05868762 0.11111122 0.072647309
[15,] 0.22242893 0.02612720 7.777062333
[16,] 0.22994481 0.02669554 9.794752413
[17,] 0.15332271 0.02036886 0.647722574
[18,] 0.34145983 0.03416748 1.553684554
[19,] 0.31630717 0.03261794 2.294166278
[20,] 5.07021992 0.12103447 0.066979952
[21,] 0.06324263 0.01065283 0.049480622
```

```
$L
[1] -959.2095
```