Exercise 2 Kyle Verdeyen

		0	1	2	3	4	5
Forward		S	T	T	A	C	G
0	start	1	0	0	0	0	0
1	island	0	0.04	0.0068	0.001372	0.00118352	0.000489539
2	non-island	0	0.18	0.0414	0.009306	0.00138516	0.000264934
3	E	0					

		0	1	2	3	4	5
Backward		S	T	T	A	C	G
0	start						
1	island		6.09863E-12	3.81299E-11	3.30602E-10	9.62411E-10	2.80268E-09
2	non-island		1.18128E-11	5.08041E-11	1.94695E-10	5.65757E-10	1.63883E-09
3	E						

		0	1	2	3	4	5
Posterior		S	T	T	A	C	G
0	start						
1	island		2.43945E-13	2.59283E-13	4.53586E-13	1.13903E-12	1.37202E-12
2	non-island		2.1263E-12	2.10329E-12	1.81183E-12	7.83664E-13	4.3418E-13
3	E						

InitProb		TransProb	I
I	0.4	I	0.8
N	0.6	N	0.3

Note: 1 used as start for backward algorithm. May affect results somewhat.

Note: No end state/probability given, so resulting posterior are raw values rather than normalized

	6	7	8	9	10	11	12
C	G	C	G	C	G	C	
	0	0	0	0	0	0	0
	0.000177847	6.22282E-05	2.15111E-05	7.40596E-06	2.5463E-06	8.7506E-07	3.00675E-07
	6.64631E-05	1.99757E-05	6.53028E-06	2.2049E-06	7.53044E-07	2.58204E-07	8.86522E-08

	6	7	8	9	10	11	12
C	G	C	G	C	G	C	
	8.17056E-09	2.38944E-08	7.05215E-08	1.61857E-07	4.68181E-07	1.33765E-06	3.6785E-06
	4.70256E-09	1.31088E-08	3.31875E-08	9.83189E-08	3.00979E-07	1.00329E-06	4.01338E-06

	6	7	8	9	10	11	12
C	G	C	G	C	G	C	
	1.45311E-12	1.4869E-12	1.51699E-12	1.19871E-12	1.19213E-12	1.17053E-12	1.10603E-12
	3.12547E-13	2.61858E-13	2.16724E-13	2.16784E-13	2.26651E-13	2.59054E-13	3.55795E-13

N	EmissProb	A	C	G	T
0.2	I	0.1	0.4	0.4	0.1
0.7	N	0.3	0.2	0.2	0.3

l probabilities

13	14	15	16	17	18	19
G	A	T	A	T	T	T
0	0	0	0	0	0	0
1.03308E-07	8.8737E-09	1.02375E-09	1.63782E-10	3.21404E-11	6.864E-12	1.50845E-12
3.04518E-08	1.56926E-08	4.09409E-09	9.51895E-10	2.14638E-10	4.79667E-11	1.06908E-11

13	14	15	16	17	18	19
G	A	T	A	T	T	T
8.86136E-06	3.97729E-05	0.000178186	0.0007934	0.00346	0.014	0.04
2.10715E-05	9.46588E-05	0.000425301	0.0019119	0.00861	0.039	0.18

13	14	15	16	17	18	19
G	A	T	A	T	T	T
9.15452E-13	3.52933E-13	1.82418E-13	1.29944E-13	1.11206E-13	9.6096E-14	6.03382E-14
6.41667E-13	1.48545E-12	1.74122E-12	1.81993E-12	1.84804E-12	1.8707E-12	1.92434E-12