

APPENDIX S2: Characteristics of the Bayesian Inference run on a concatenated matrix of ITS and *trnL-F* on 79 samples in the fine-scale analysis.

Average standard deviation of split frequencies: 0.009878

Analysis stopped because convergence diagnostic hit stop value.

Analysis completed in 33 mins 13 seconds

Analysis used 1993.00 seconds of CPU time

Likelihood of best state for "cold" chain of run 1 was -19512.52

Likelihood of best state for "cold" chain of run 2 was -19514.73

Acceptance rates for the moves in the "cold" chain of run 1:

With prob.	(last 100)	chain accepted proposals by move
9.1 %	( 10 %)	Dirichlet(Revmat{all})
33.2 %	( 29 %)	Slider(Revmat{all})
16.9 %	( 14 %)	Dirichlet(Pi{1})
24.9 %	( 28 %)	Slider(Pi{1})
15.0 %	( 17 %)	Dirichlet(Pi{2})
23.6 %	( 19 %)	Slider(Pi{2})
23.1 %	( 21 %)	Multiplier(Alpha{all})
47.9 %	( 30 %)	Slider(Pinvar{2,3})
7.1 %	( 8 %)	ExtSPR(Tau{all},V{all})
3.8 %	( 7 %)	ExtTBR(Tau{all},V{all})
8.4 %	( 17 %)	NNI(Tau{all},V{all})
9.8 %	( 6 %)	ParsSPR(Tau{all},V{all})
27.6 %	( 32 %)	Multiplier(V{all})
28.0 %	( 26 %)	Nodeslider(V{all})
15.7 %	( 27 %)	TLMultiplier(V{all})

Acceptance rates for the moves in the "cold" chain of run 2:

With prob.	(last 100)	chain accepted proposals by move
9.5 %	( 13 %)	Dirichlet(Revmat{all})
32.9 %	( 36 %)	Slider(Revmat{all})
15.3 %	( 8 %)	Dirichlet(Pi{1})
24.7 %	( 18 %)	Slider(Pi{1})
13.9 %	( 8 %)	Dirichlet(Pi{2})
24.7 %	( 23 %)	Slider(Pi{2})
22.5 %	( 24 %)	Multiplier(Alpha{all})
48.4 %	( 36 %)	Slider(Pinvar{2,3})
7.2 %	( 10 %)	ExtSPR(Tau{all},V{all})
3.7 %	( 4 %)	ExtTBR(Tau{all},V{all})
8.5 %	( 7 %)	NNI(Tau{all},V{all})
10.0 %	( 13 %)	ParsSPR(Tau{all},V{all})
27.7 %	( 18 %)	Multiplier(V{all})
28.9 %	( 32 %)	Nodeslider(V{all})
15.0 %	( 29 %)	TLMultiplier(V{all})

Chain swap information for run 1:

	1	2	3	4
1		0.33	0.08	0.01
2	44699		0.41	0.09

```
3 | 43822 44139          0.40
4 | 44060 44066 44214
```

Chain swap information for run 2:

```
      1      2      3      4
-----
1 |          0.36  0.08  0.01
2 | 44275          0.40  0.10
3 | 44159 44152          0.42
4 | 44465 44183 43766
```

Upper diagonal: Proportion of successful state exchanges between chains  
Lower diagonal: Number of attempted state exchanges between chains

Chain information:

```
ID -- Heat
-----
1 -- 1.00 (cold chain)
2 -- 0.91
3 -- 0.83
4 -- 0.77
```

Heat = 1 / (1 + T \* (ID - 1))  
(where T = 0.10 is the temperature and ID is the chain number)