# Resolution and accuracy in Congreve & Lamsdell matrices

*Martin R. Smith martin.smith@durham.ac.uk*

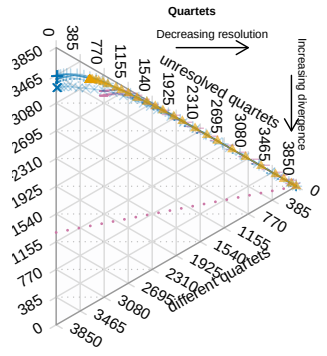
*2019-12-19*

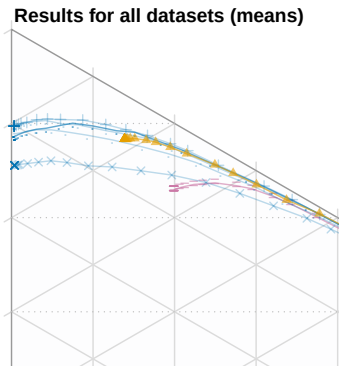
## Contents

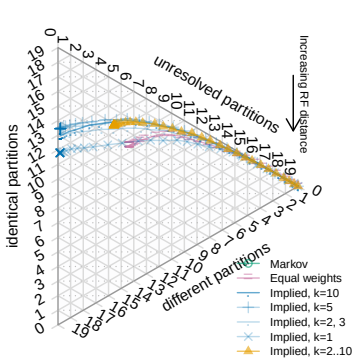

0.1 Summary . . . 1
0.2 Trees 1–10 . . . 3
0.3 Trees 11–20 . . . 9
0.4 Trees 21–30 . . . 15
0.5 Trees 31–40 . . . 21
0.6 Trees 41–50 . . . 27
0.7 Trees 51–60 . . . 33
0.8 Trees 61–70 . . . 39
0.9 Trees 71–80 . . . 45
0.10 Trees 81–90 . . . 51
0.11 Trees 91–100 . . . 57
References . . . 62


This page depicts the analytical results of all 100 matrices generated by Congreve & Lamsdell [1] using a ternary plotting approach [2], with quartets and partitions used as distance metrics.

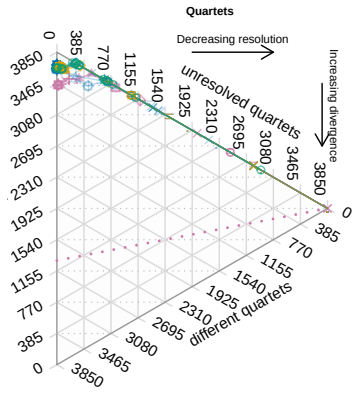
### 0.1 Summary

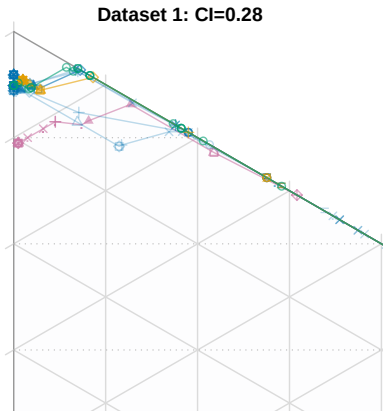


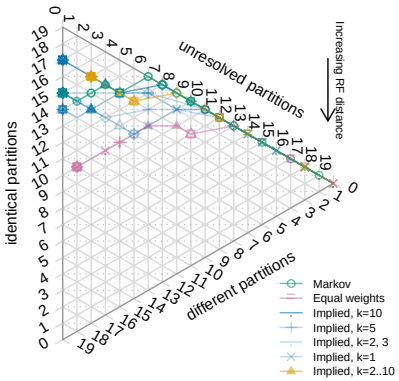



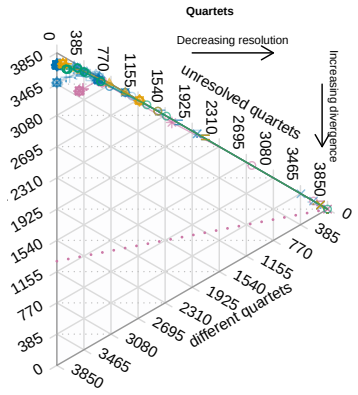



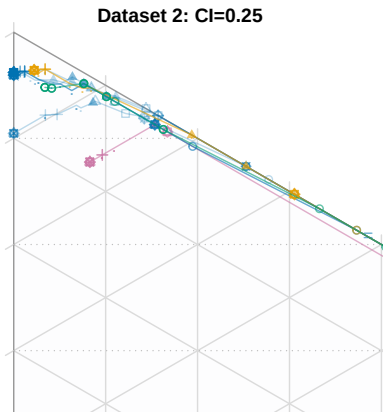
## 0.2 Trees 1–10

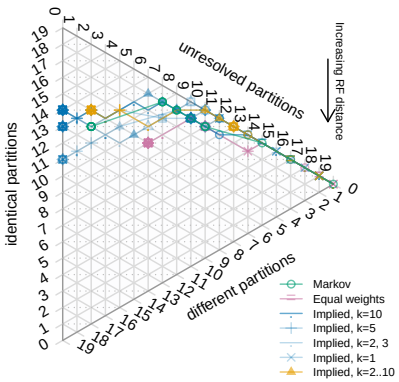

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

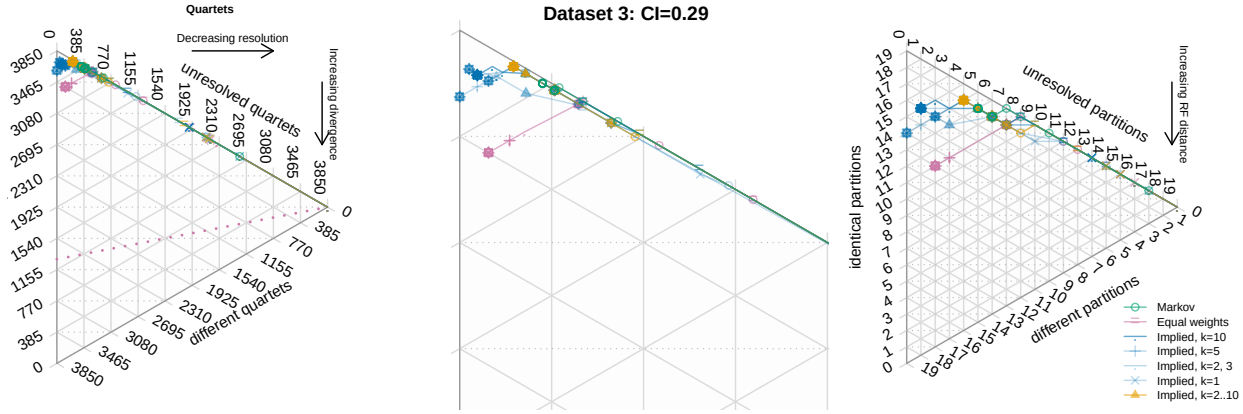

Dataset 1: CI=0.28

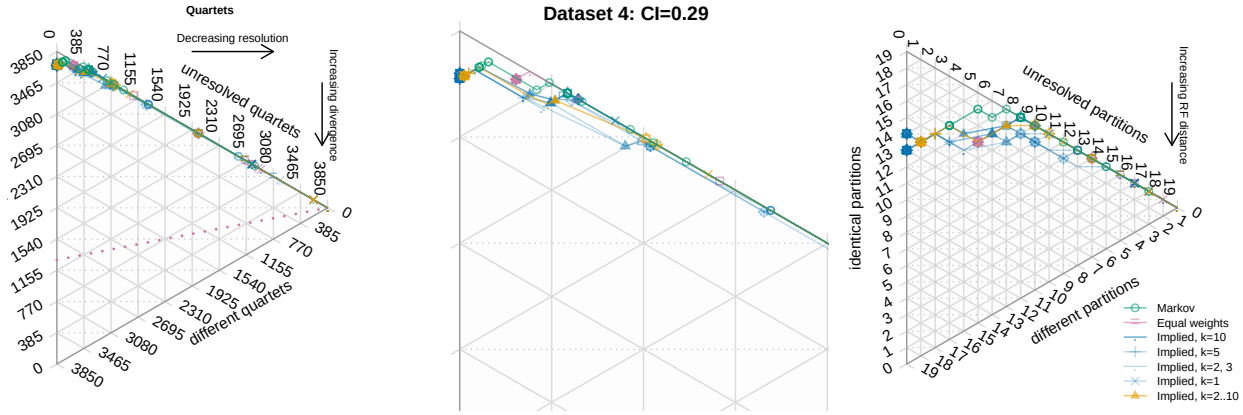

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

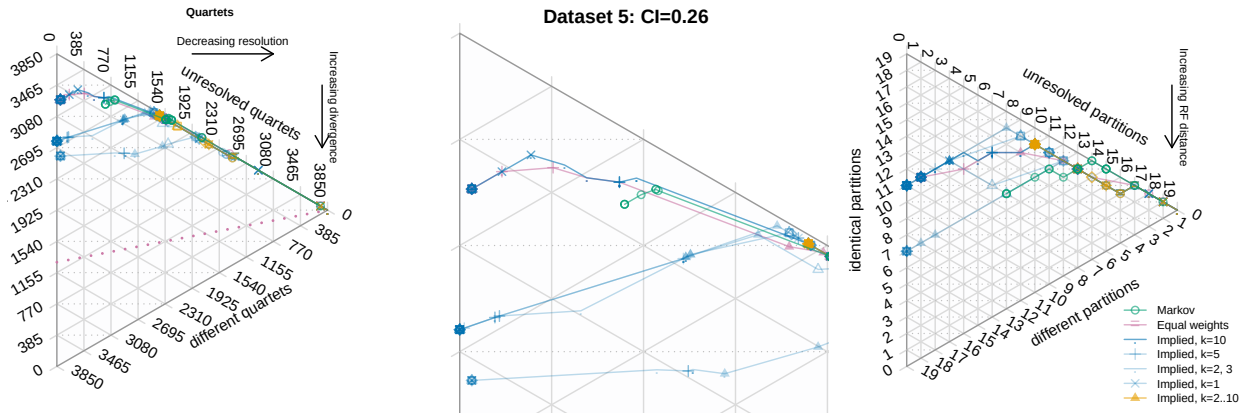

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

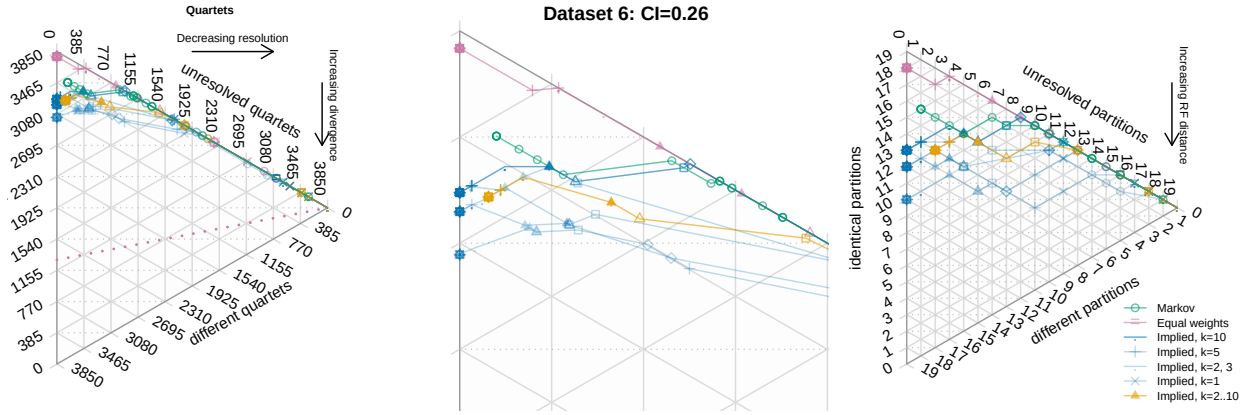

Dataset 2: CI=0.25

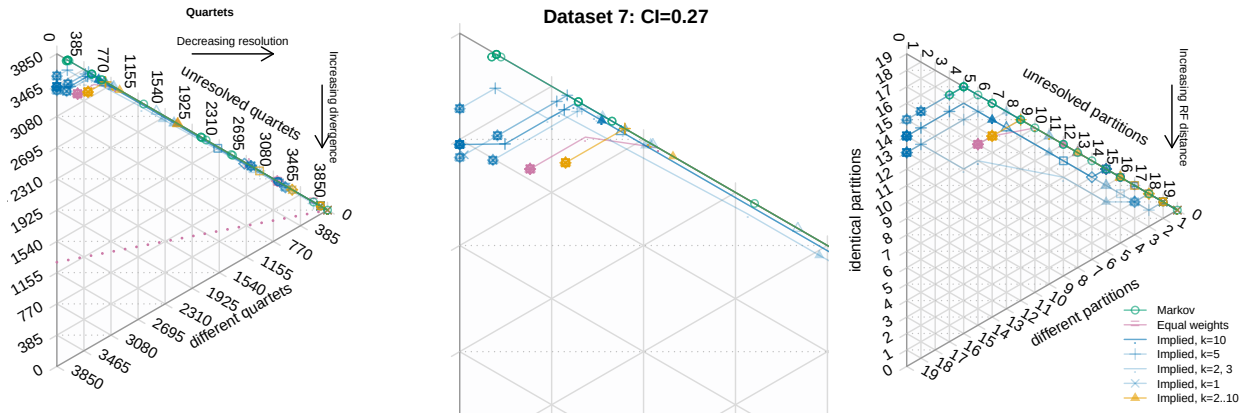

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

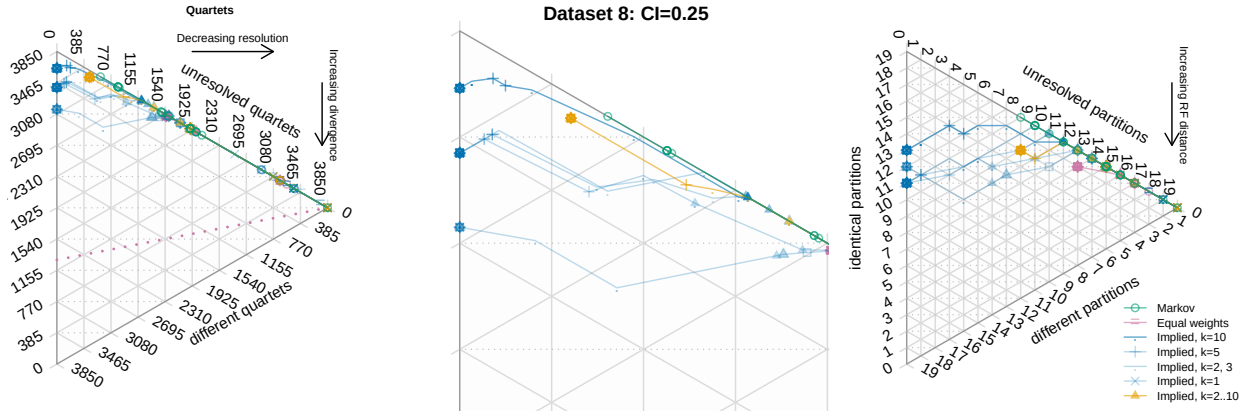

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 3: CI=0.29
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

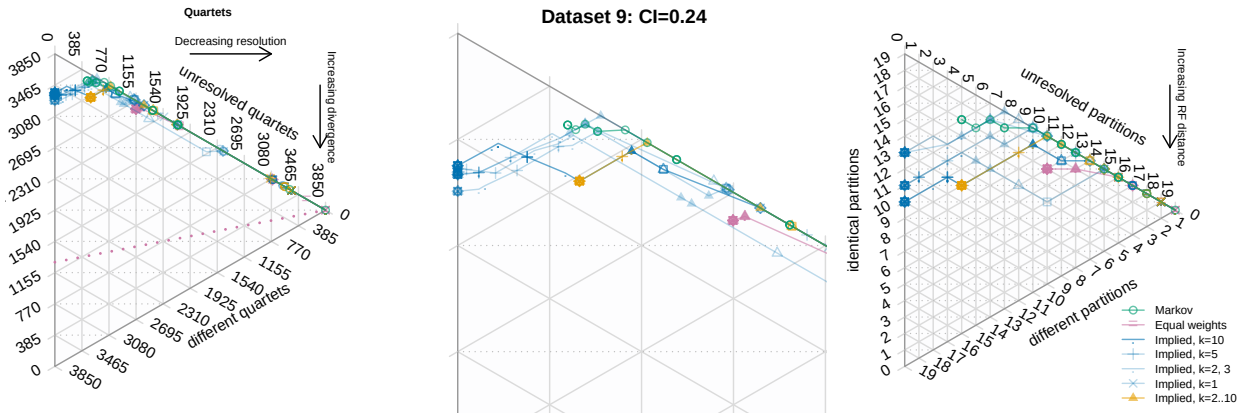

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 4: CI=0.29
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

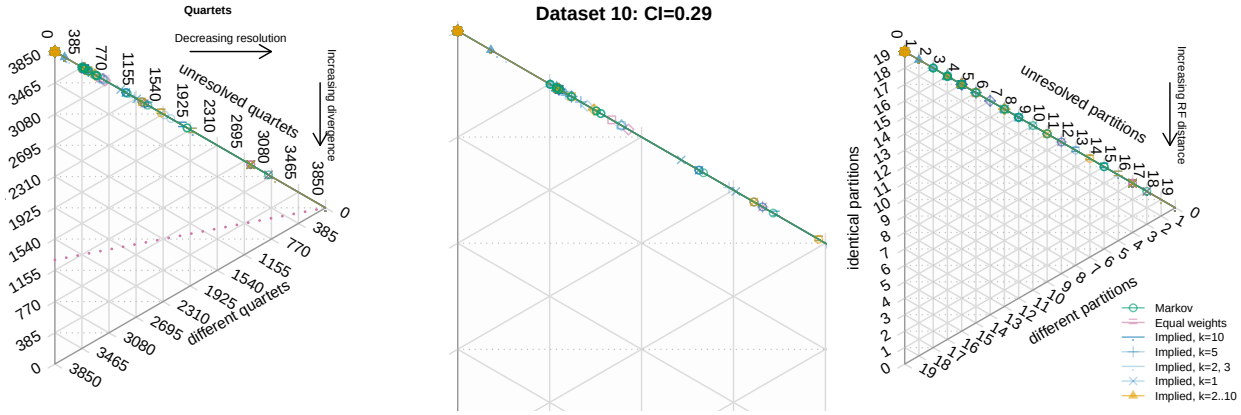

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 5: CI=0.26
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 6: CI=0.26
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

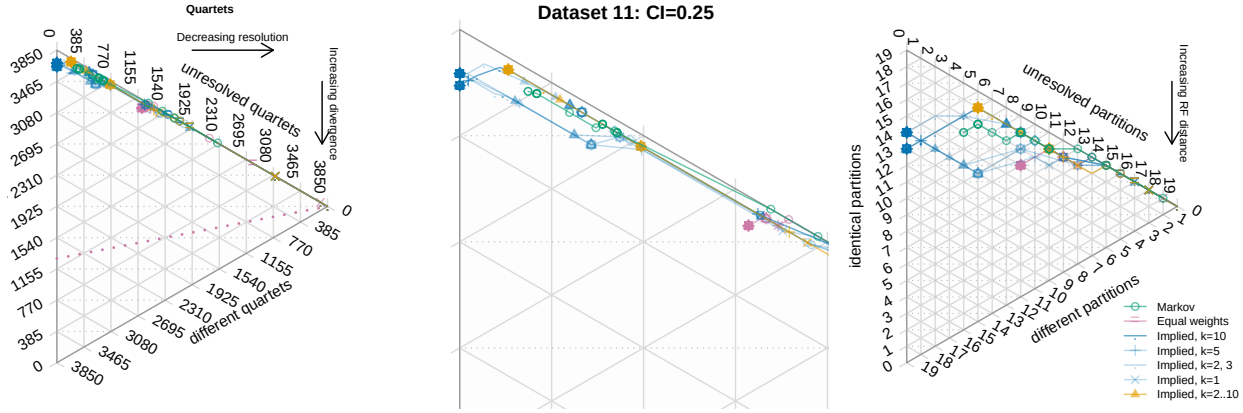

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 7: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

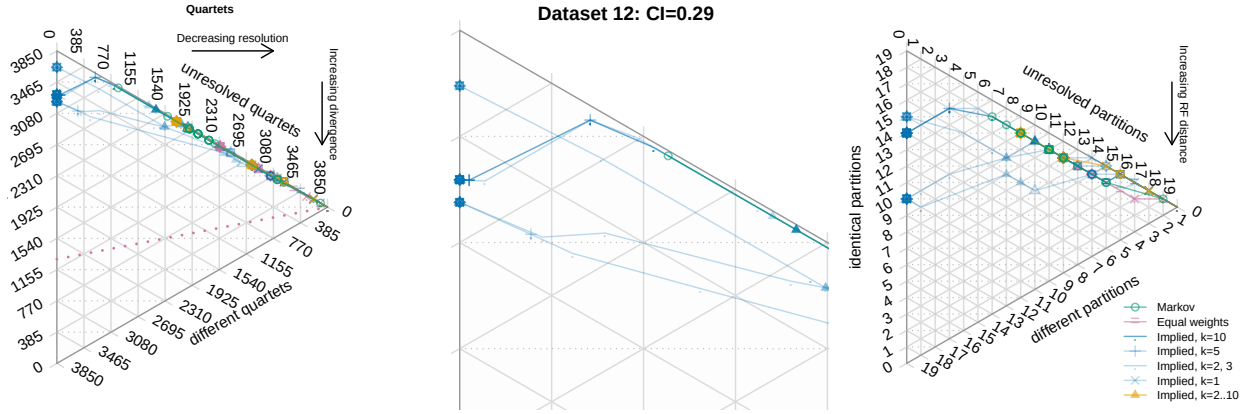

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 8: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

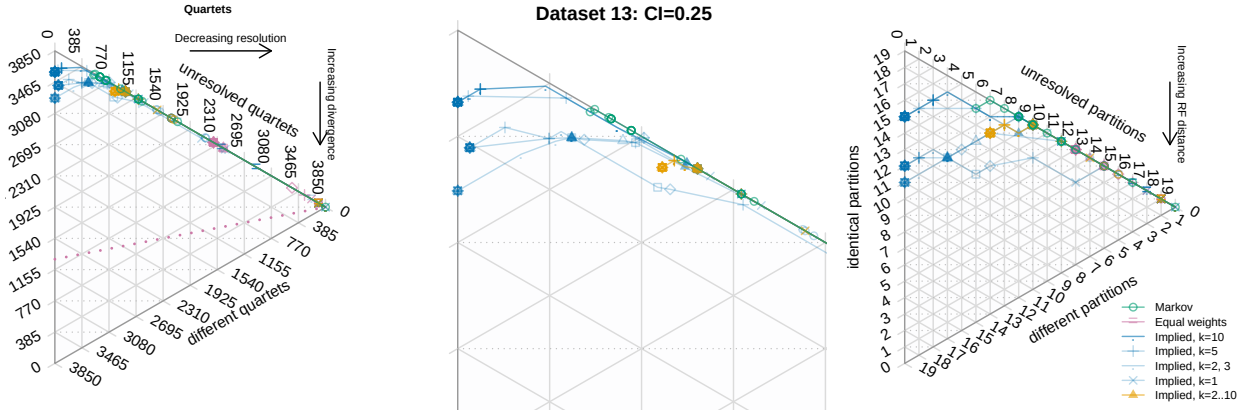

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 9: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

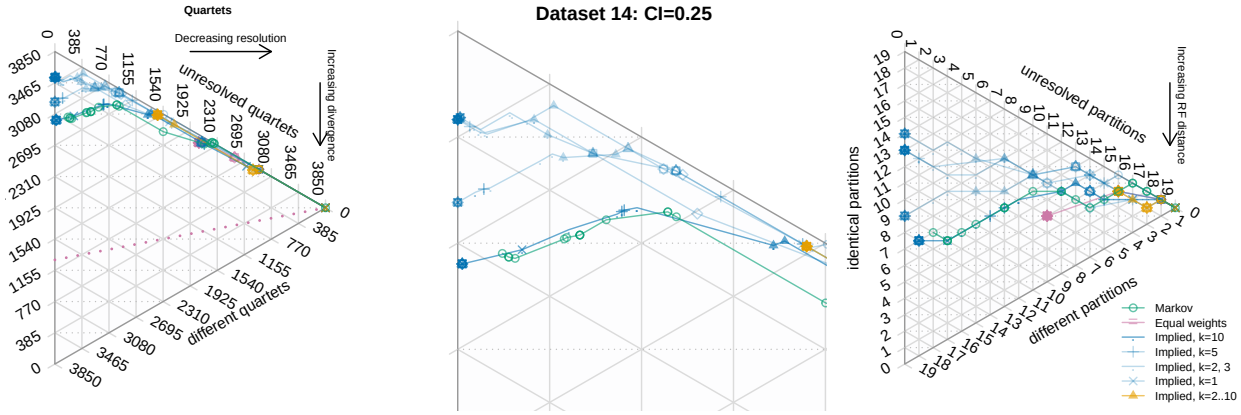

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 10: CI=0.29
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

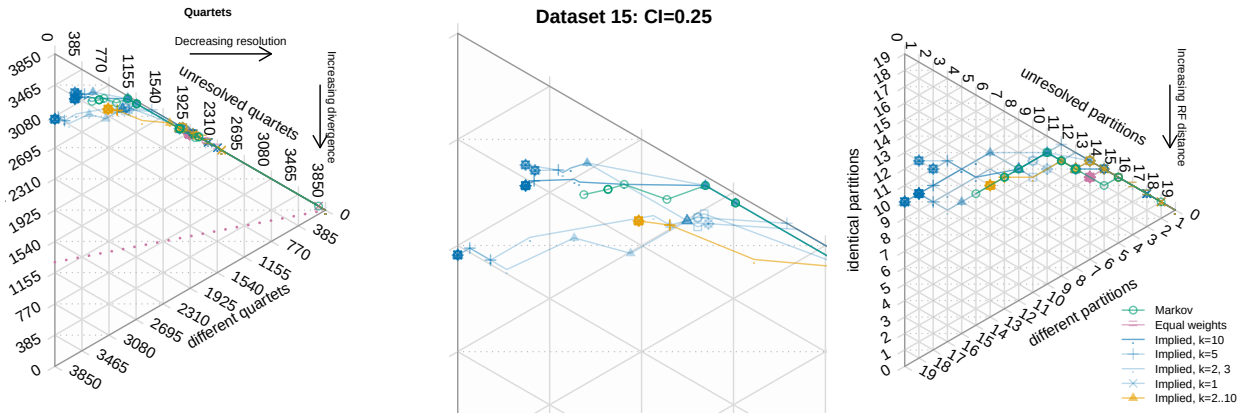
## 0.3 Trees 11–20

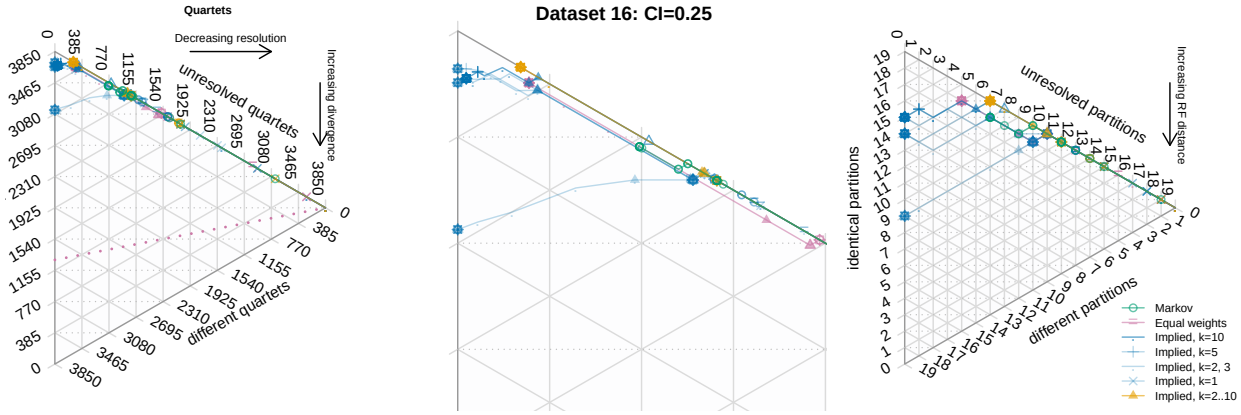


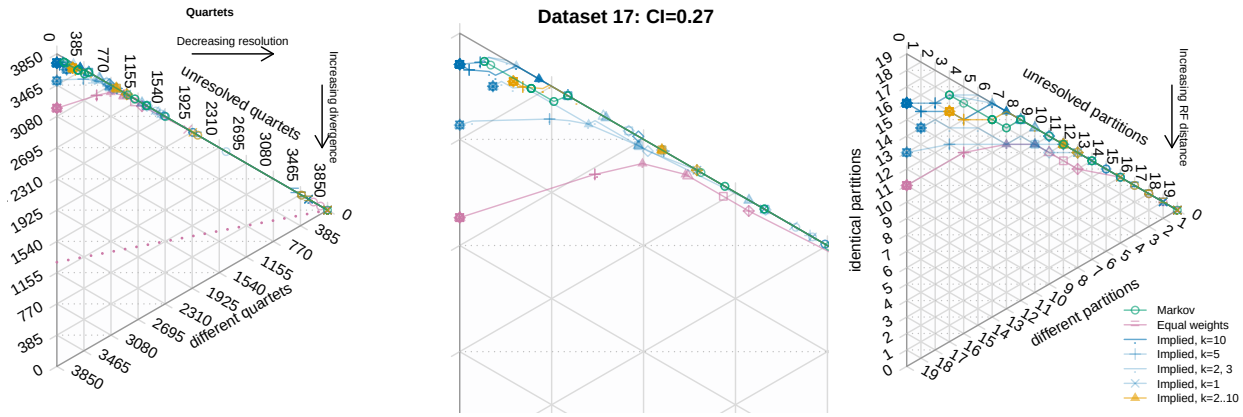



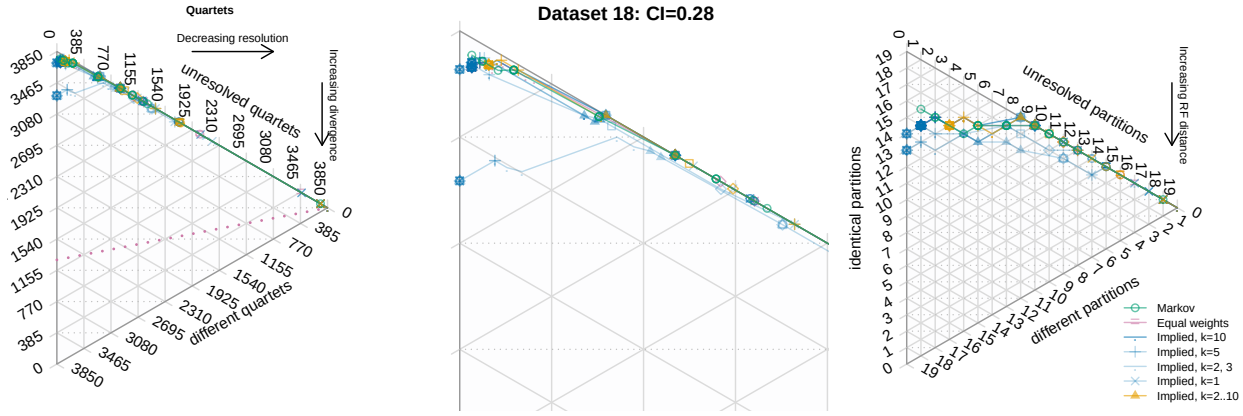

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 13: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

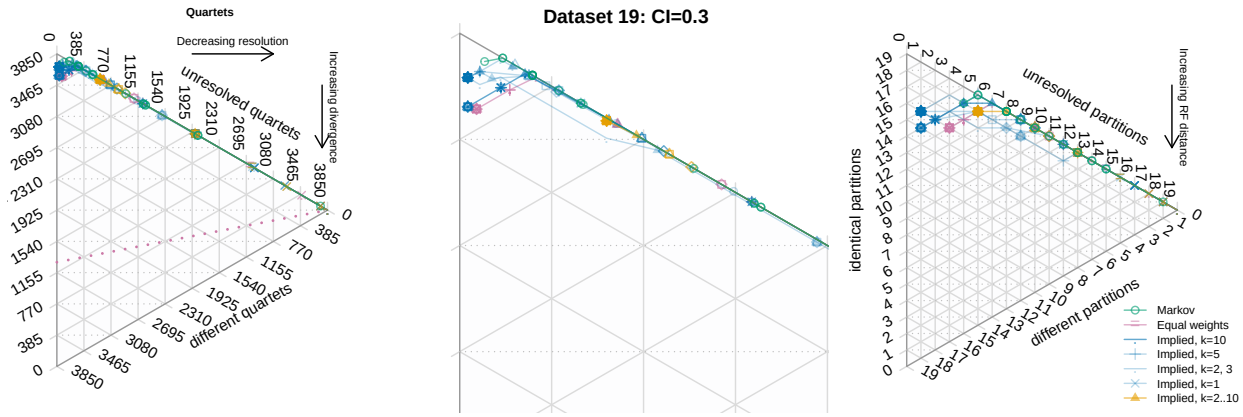

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 14: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

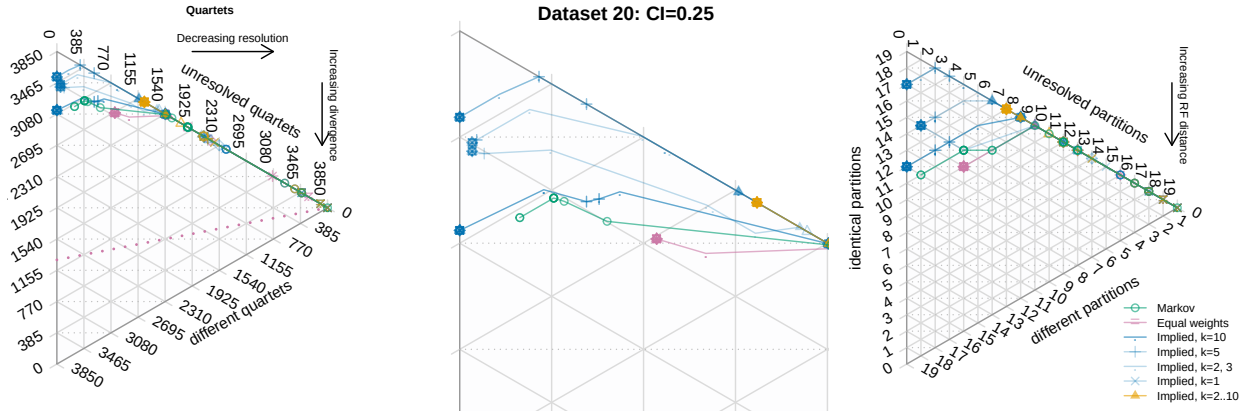

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 15: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 16: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

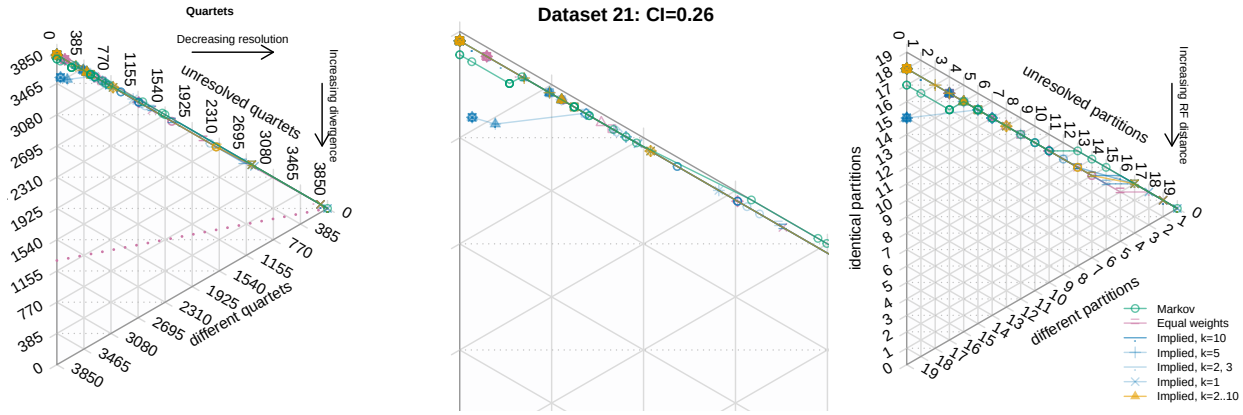

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 17: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

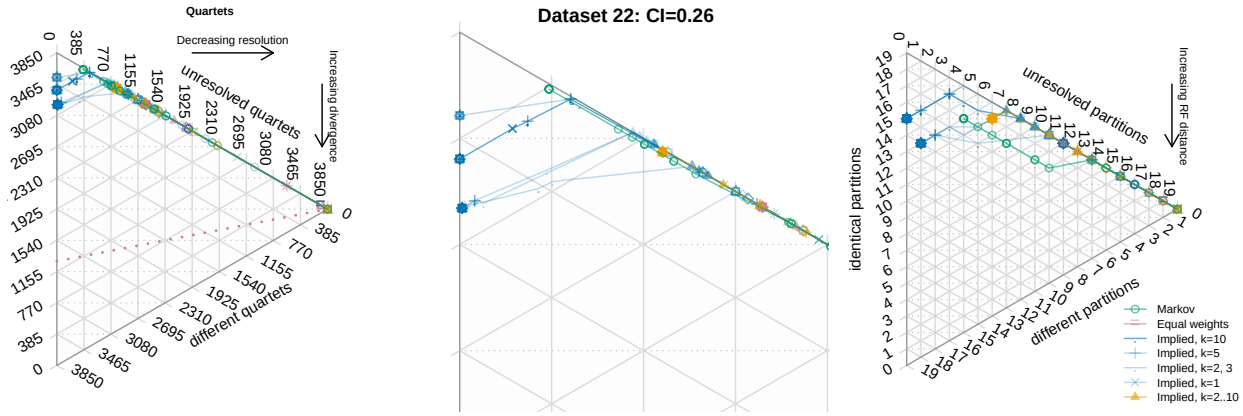

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 18: CI=0.28
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

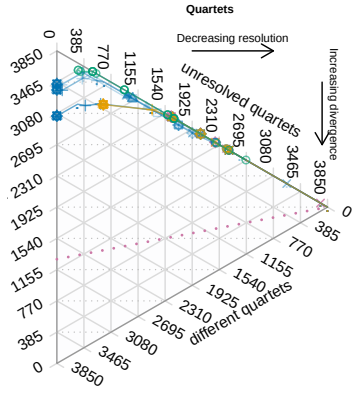

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 19: CI=0.3
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

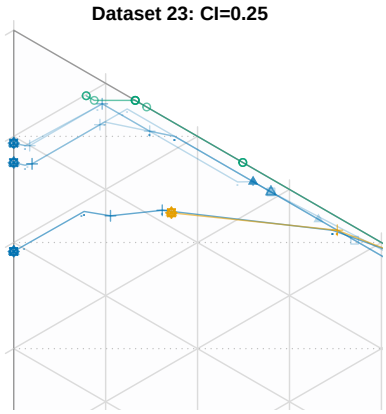

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 20: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

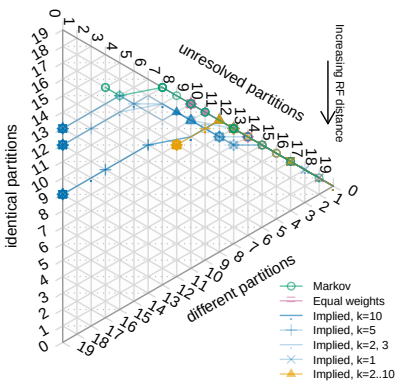
## 0.4 Trees 21–30

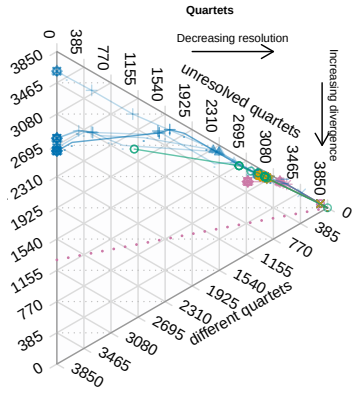


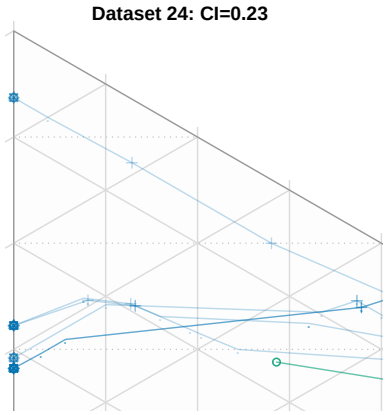



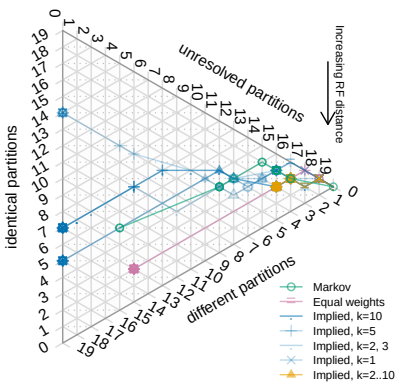

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

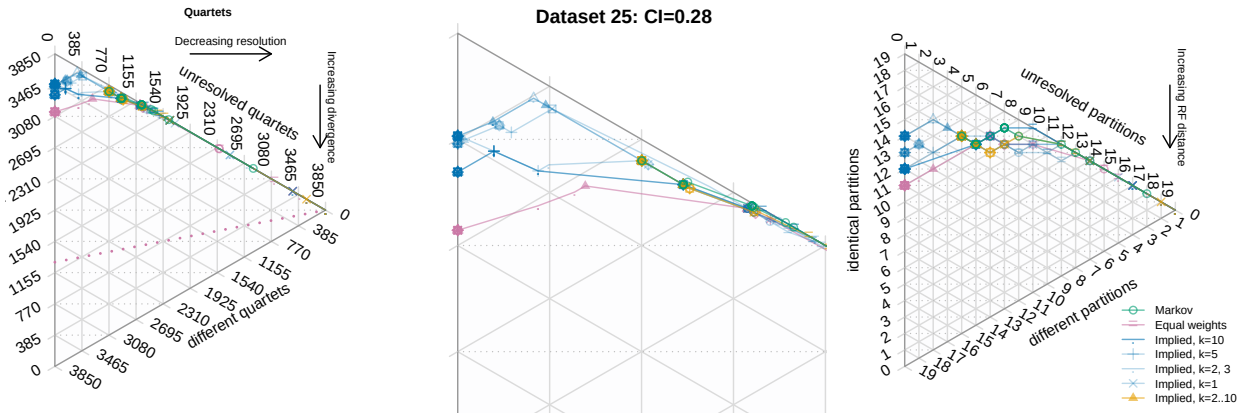

Dataset 23: CI=0.25

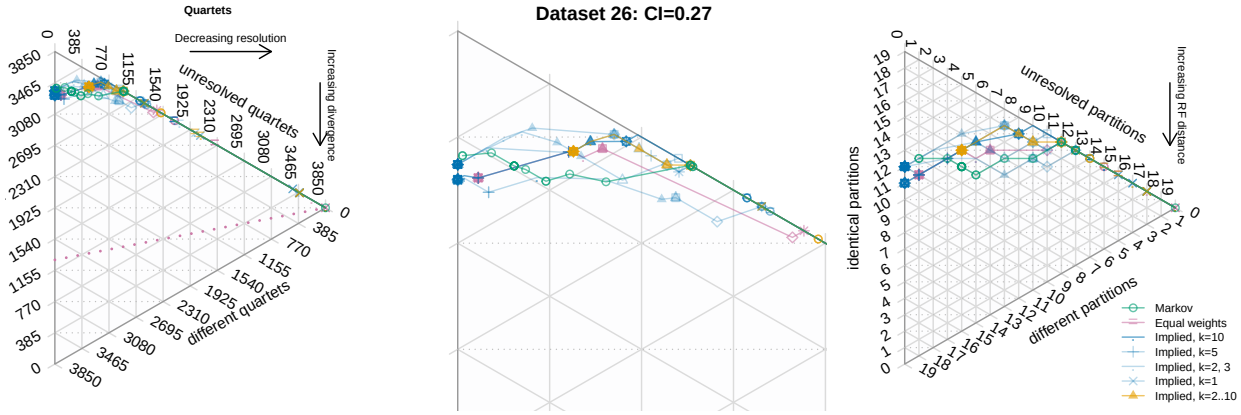

identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

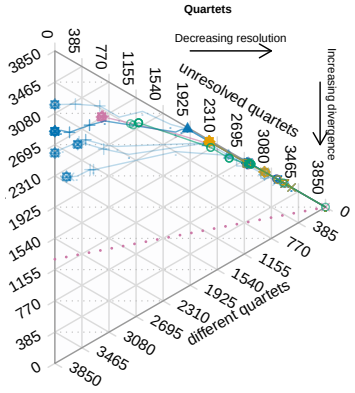

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

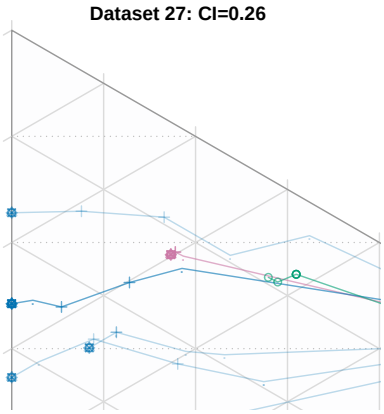

Dataset 24: CI=0.23

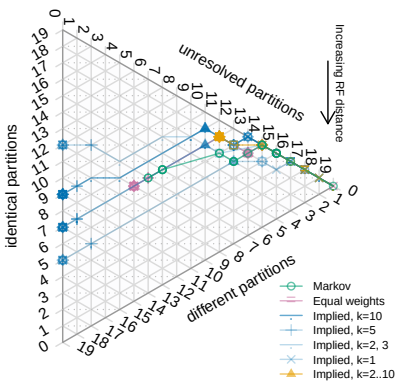

identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

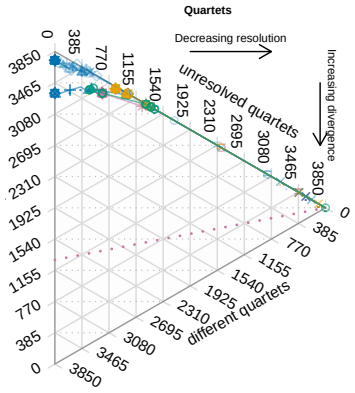

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 25: CI=0.28
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

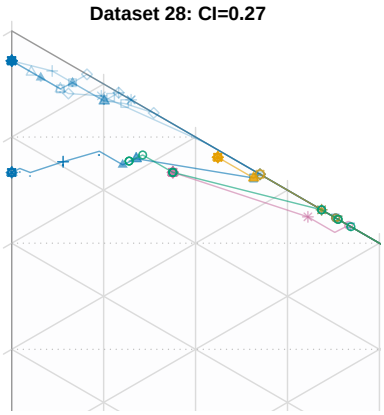

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 26: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

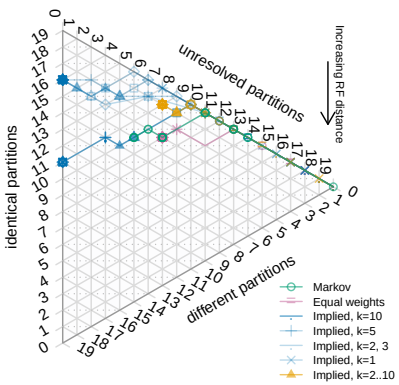

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

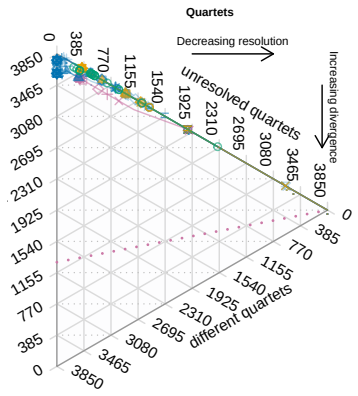

Dataset 27: CI=0.26

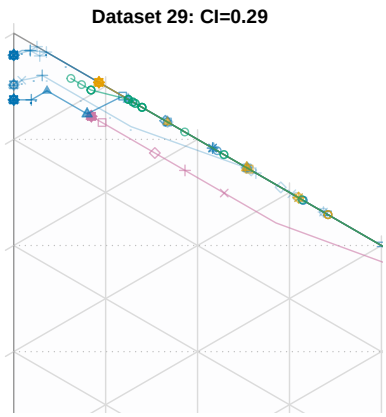

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

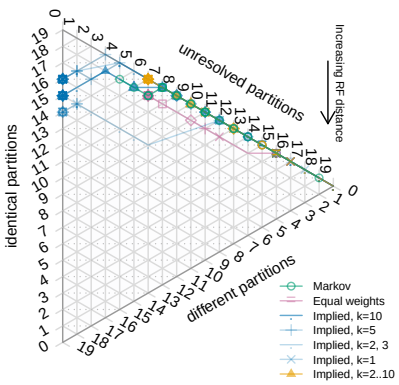

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

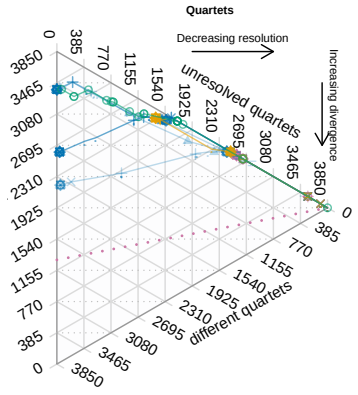

Dataset 28: CI=0.27

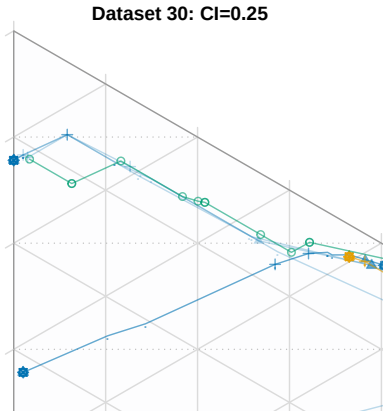

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

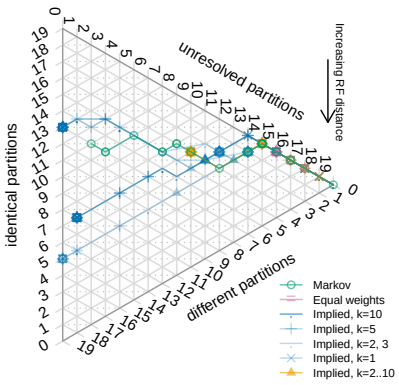

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850


Dataset 29: CI=0.29

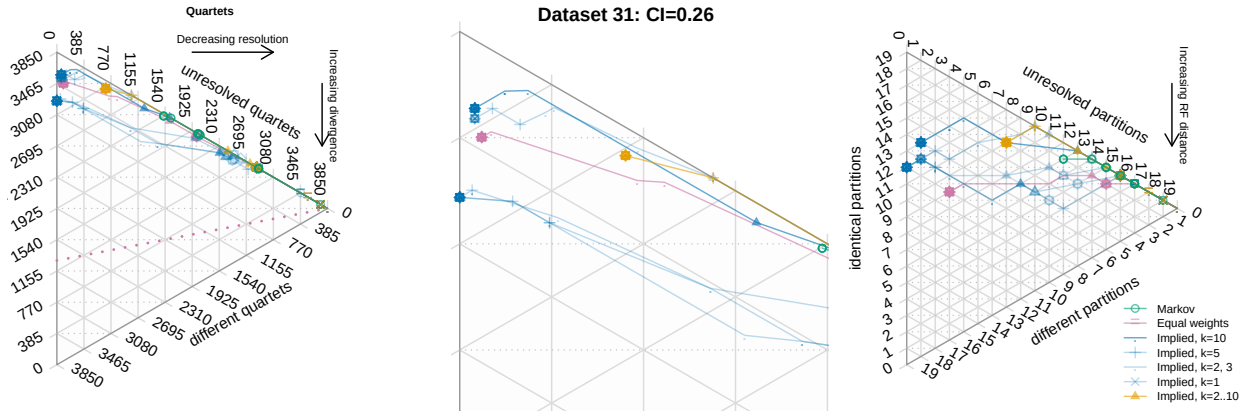

unresolved partitions
different partitions
identical partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

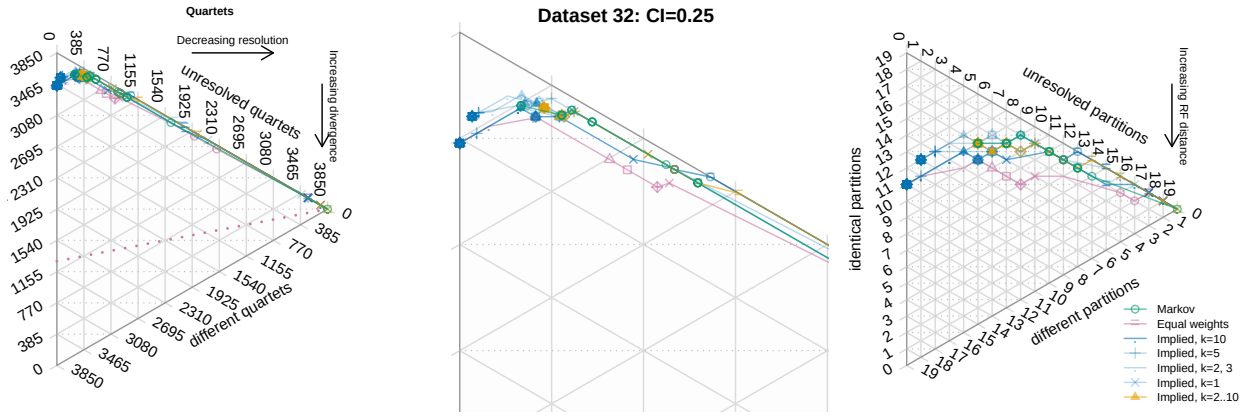

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

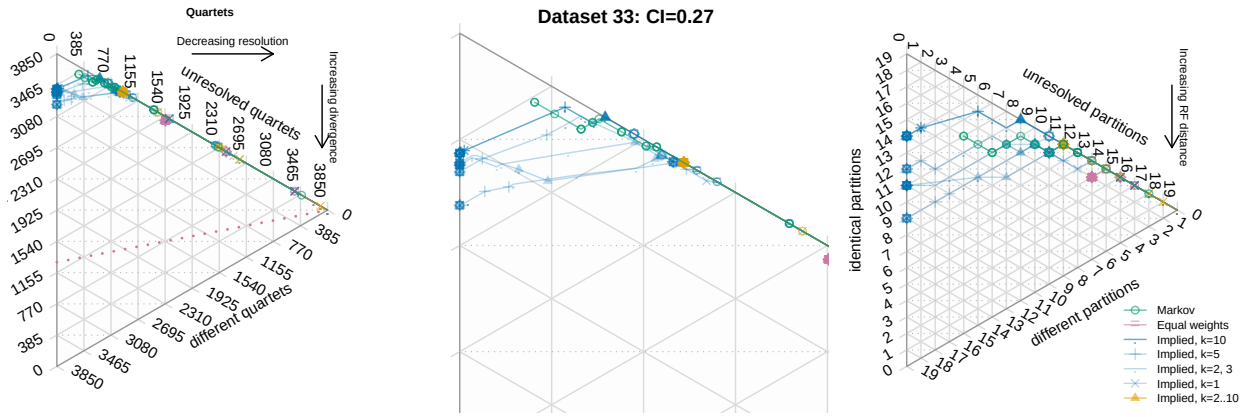

Dataset 30: CI=0.25

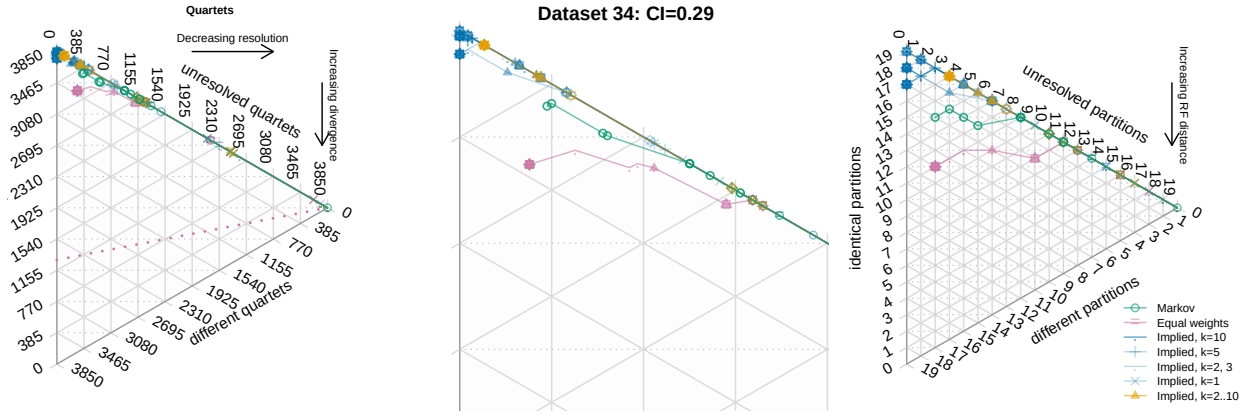

unresolved partitions
different partitions
identical partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

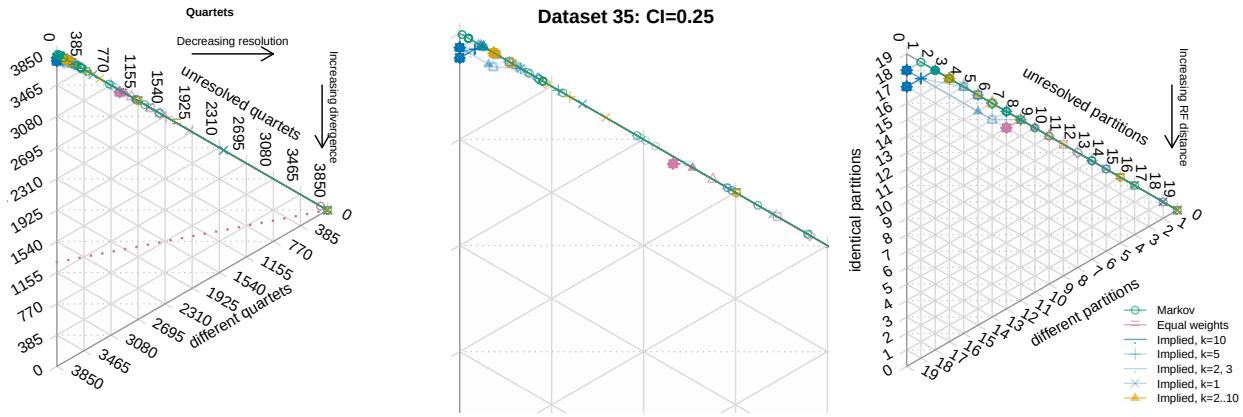
## 0.5 Trees 31–40

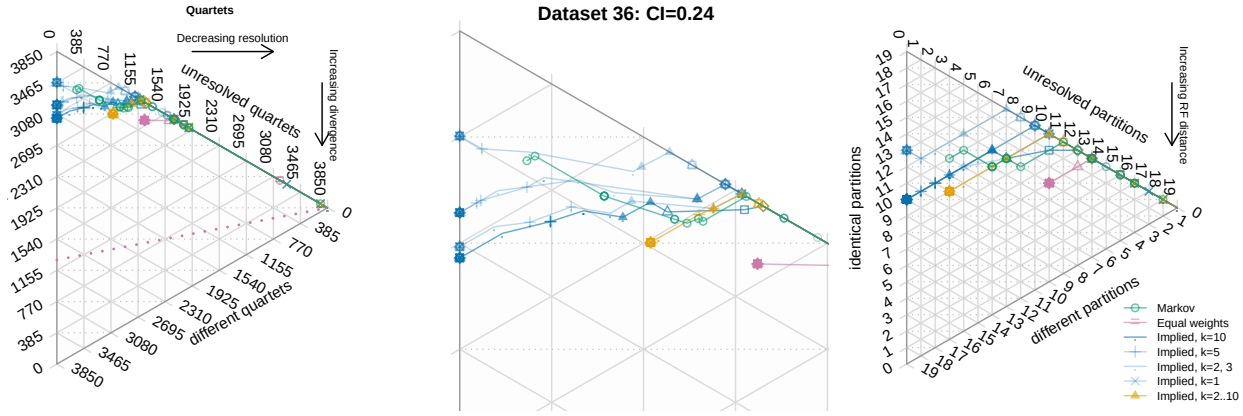


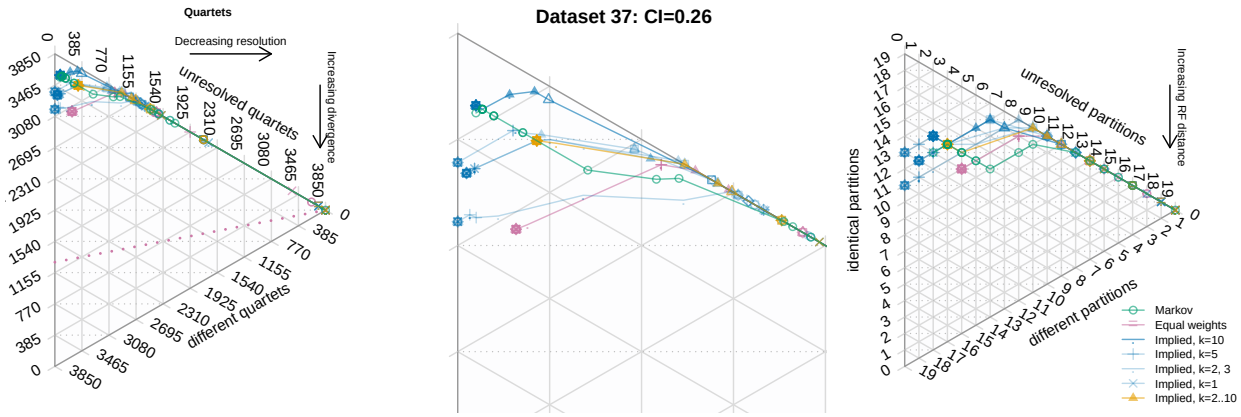



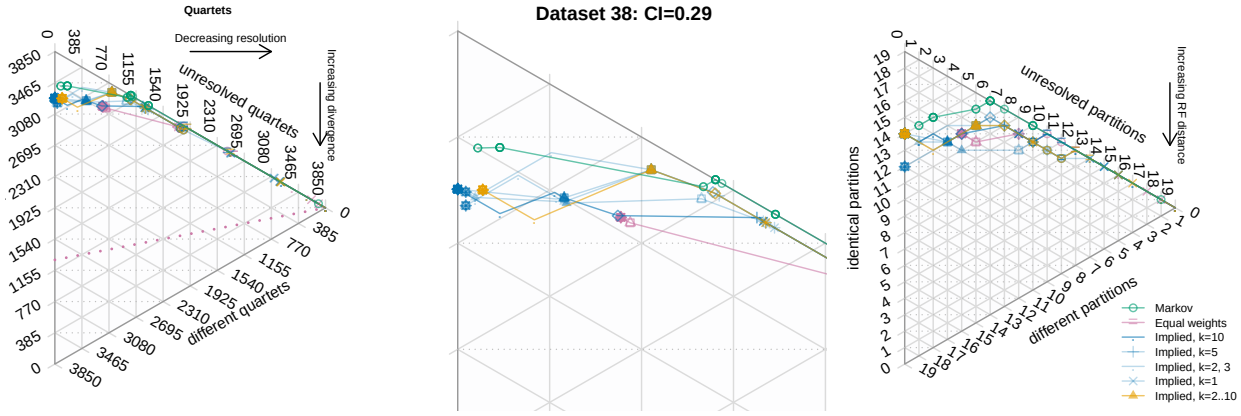

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 33: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

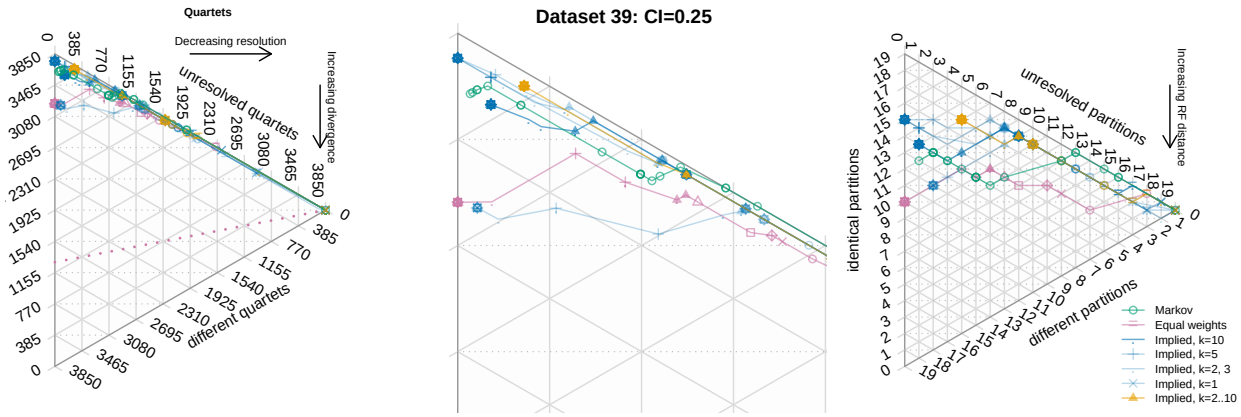

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 34: CI=0.29
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

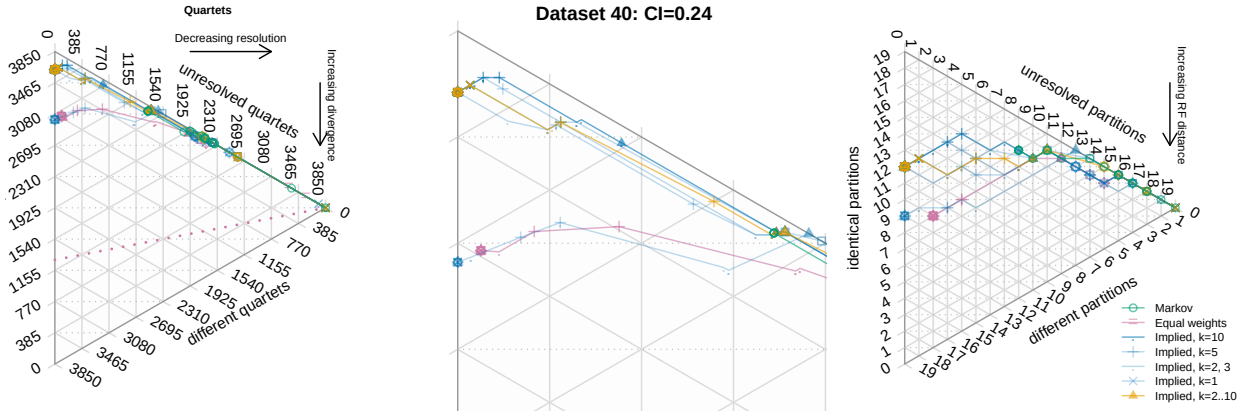

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 35: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 36: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

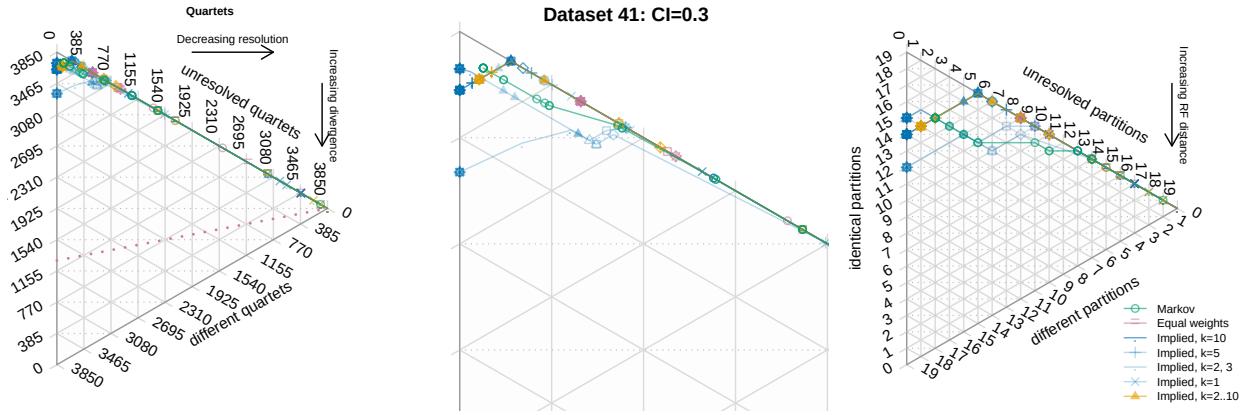

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 37: CI=0.26
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

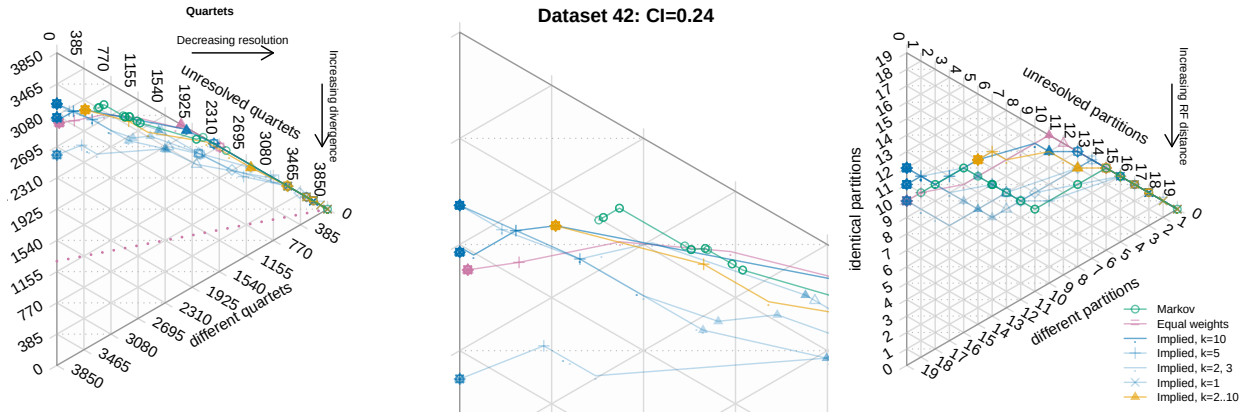

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 38: CI=0.29
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

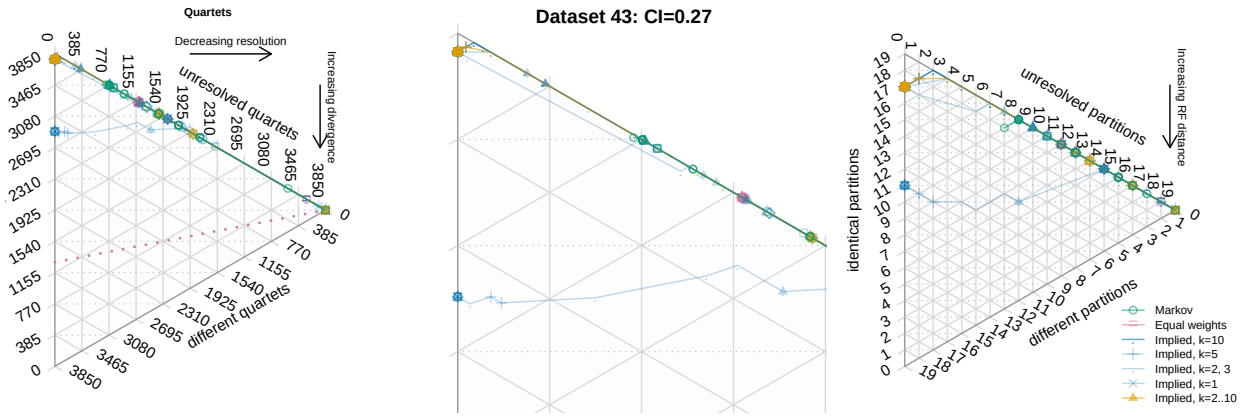

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 39: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

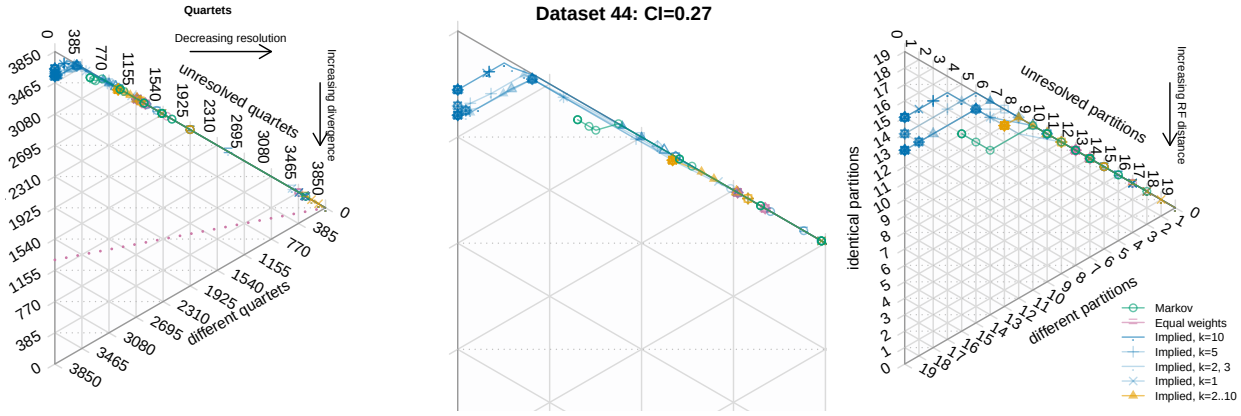

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 40: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

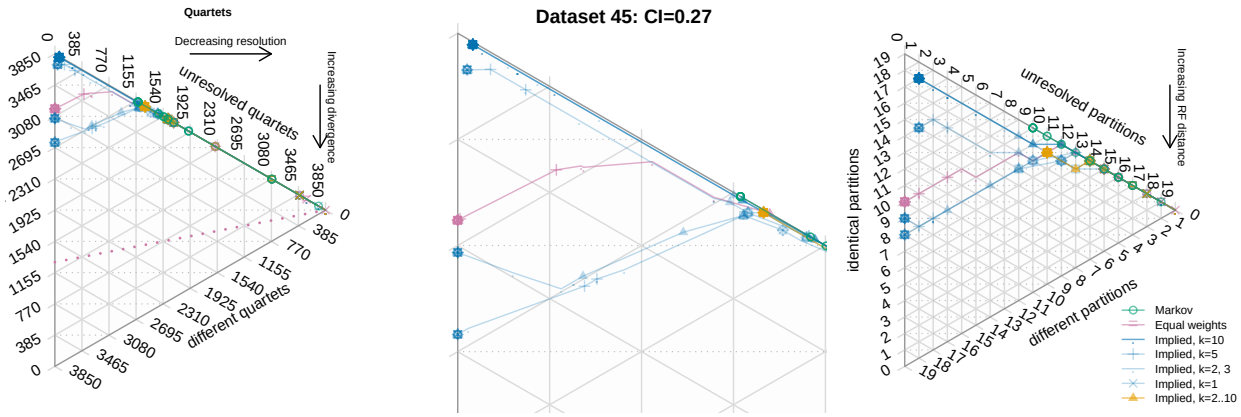
## 0.6 Trees 41–50

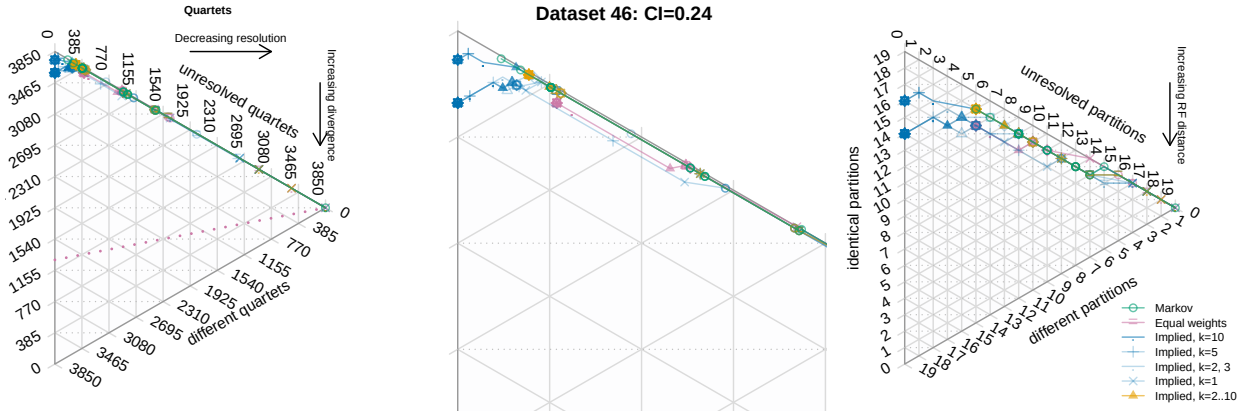


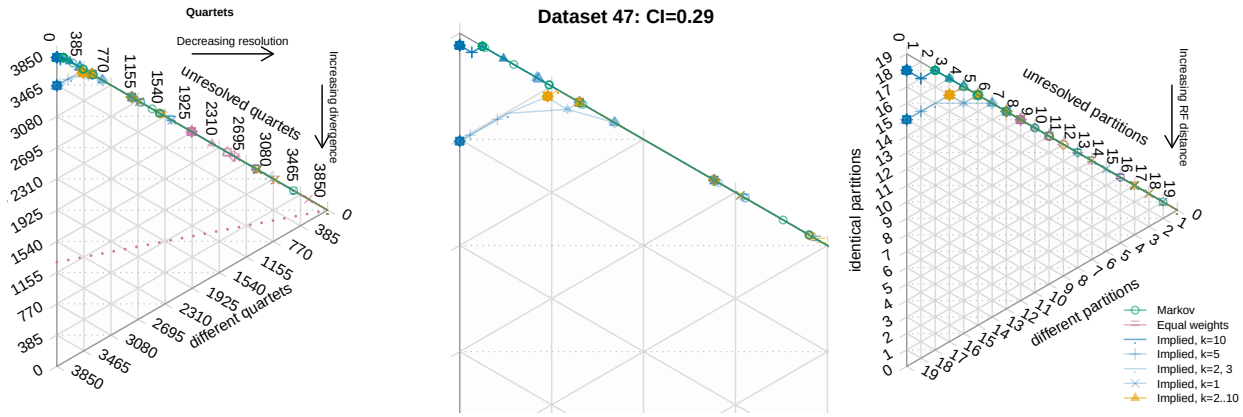



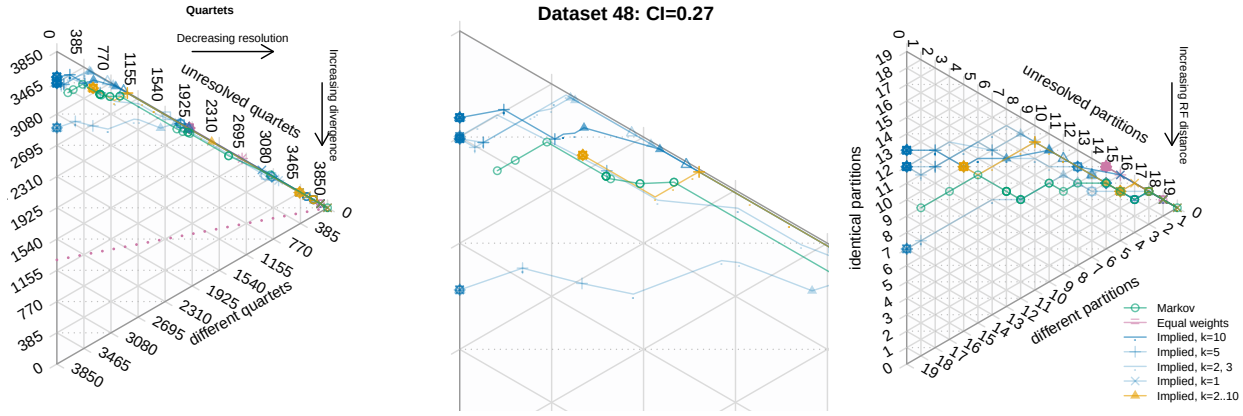

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 43: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

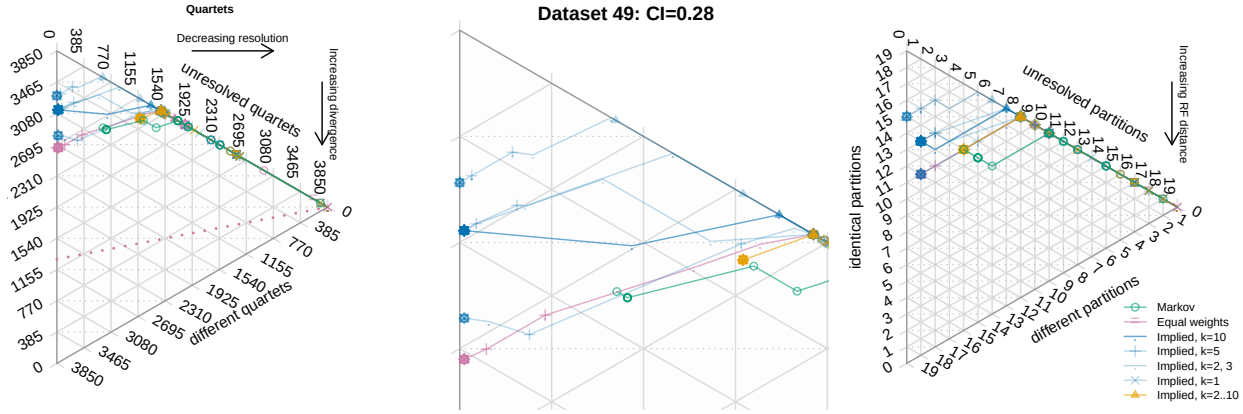

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 44: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

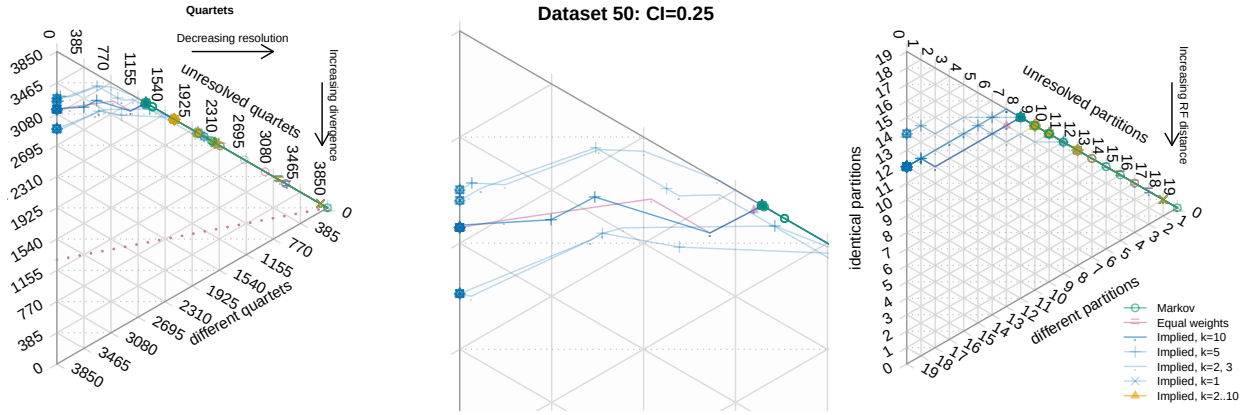

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 45: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 46: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

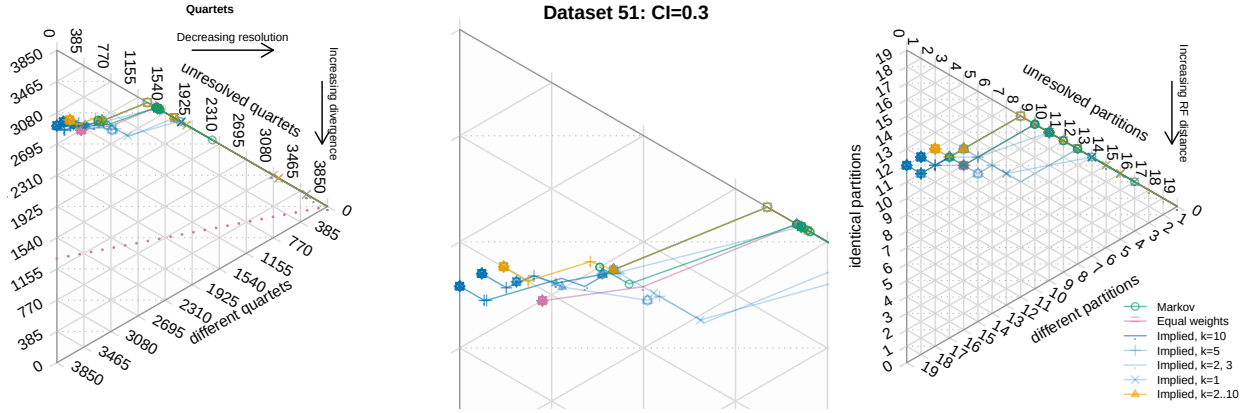

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 47: CI=0.29
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

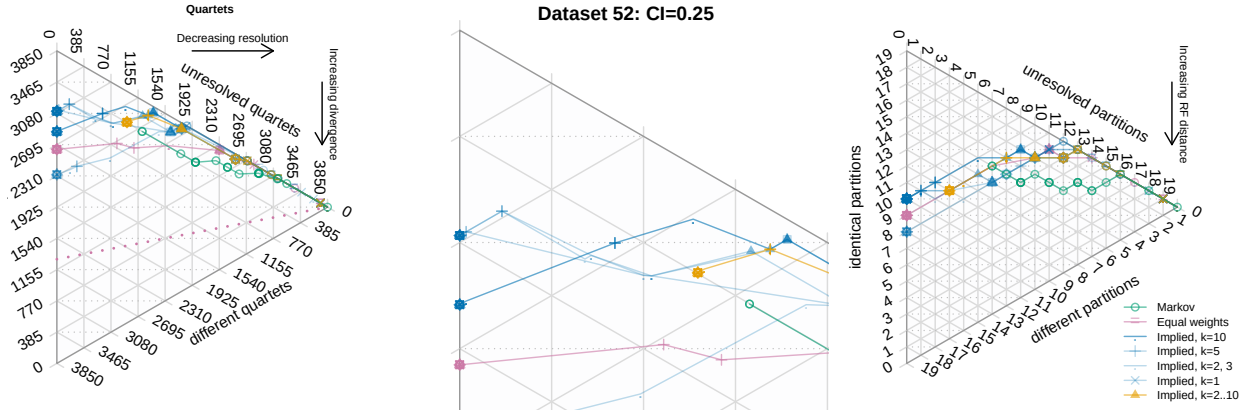

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 48: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

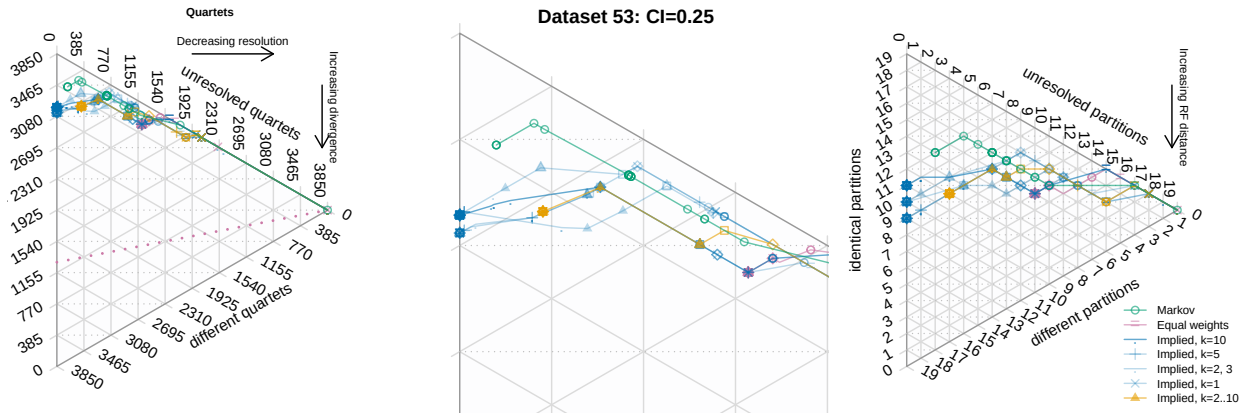

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 49: CI=0.28
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

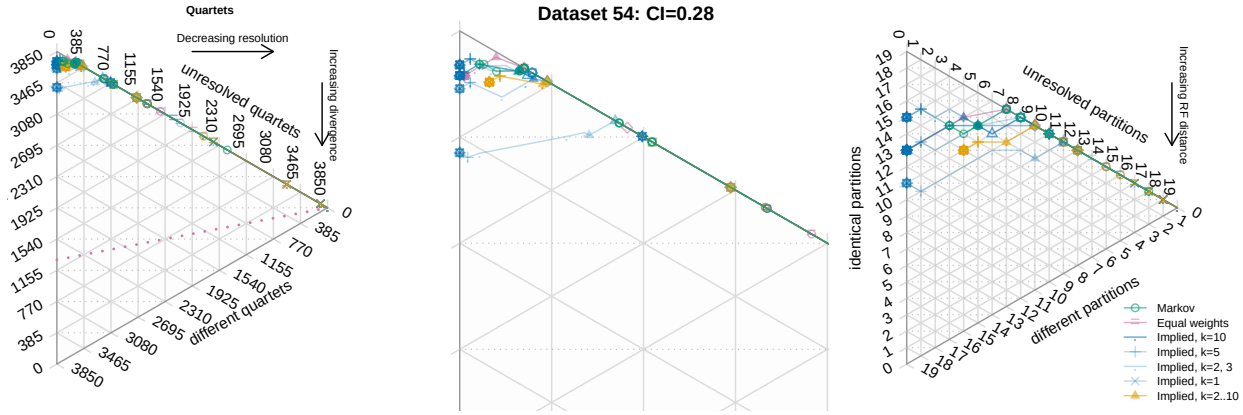

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 50: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

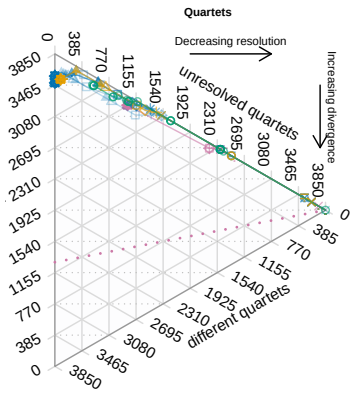
## 0.7 Trees 51–60

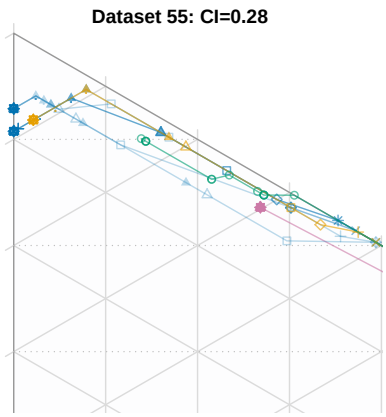


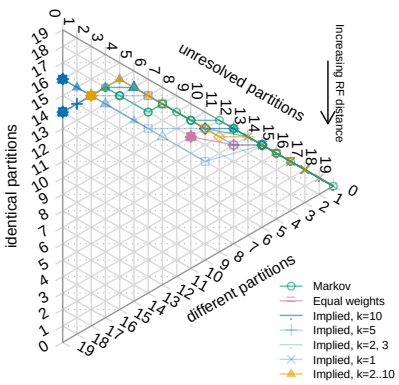



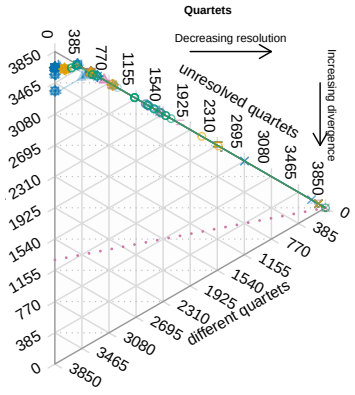

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 53: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

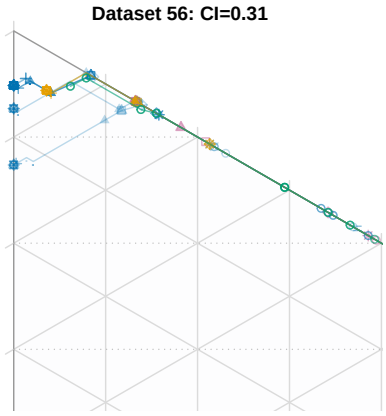

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 54: CI=0.28
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

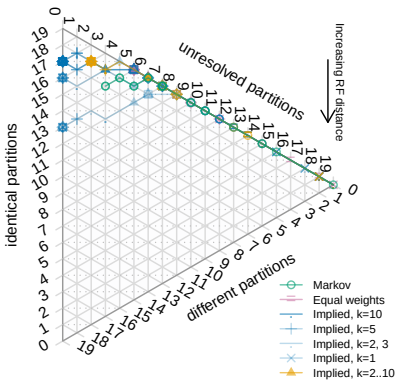

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

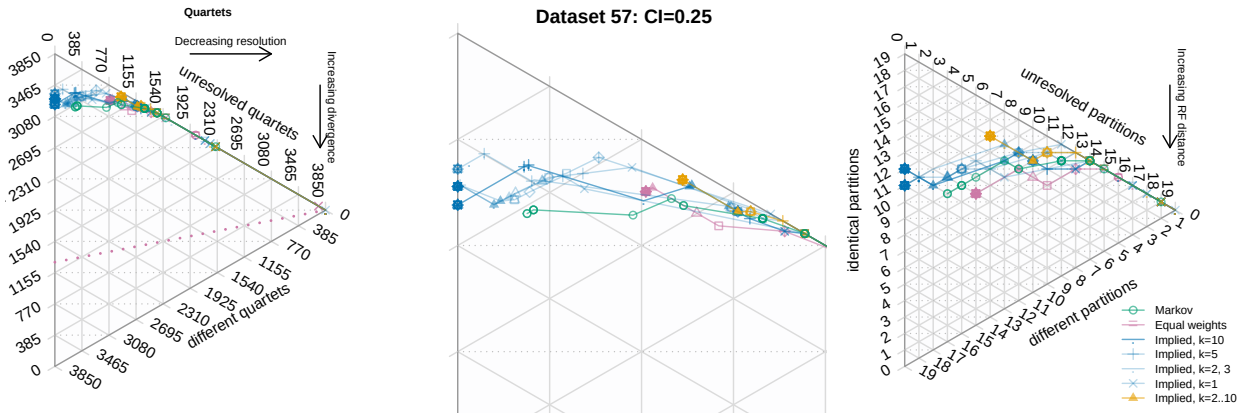

Dataset 55: CI=0.28

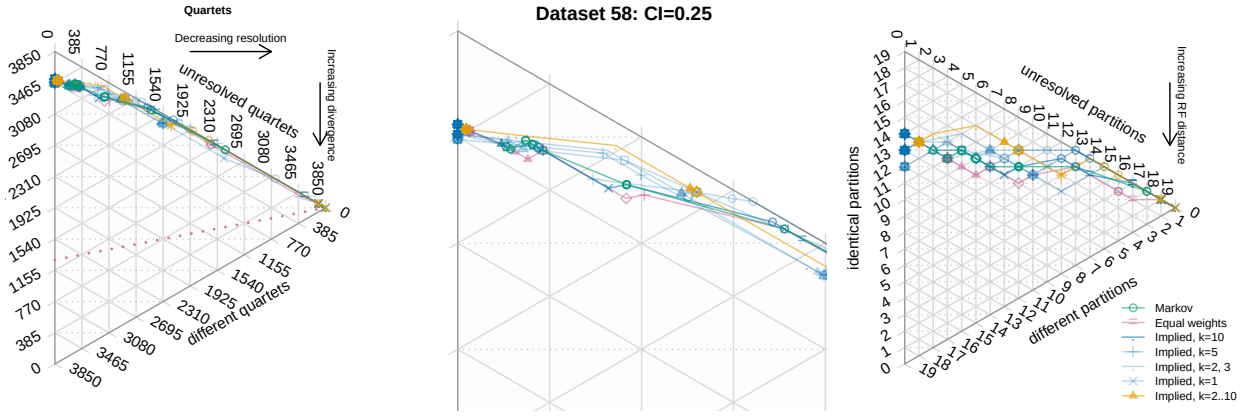

unresolved partitions
different partitions
identical partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

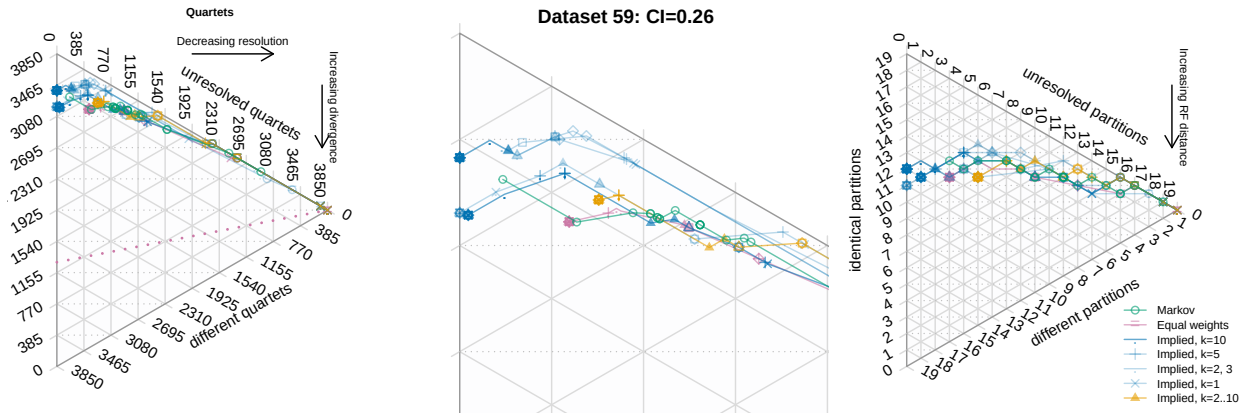

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

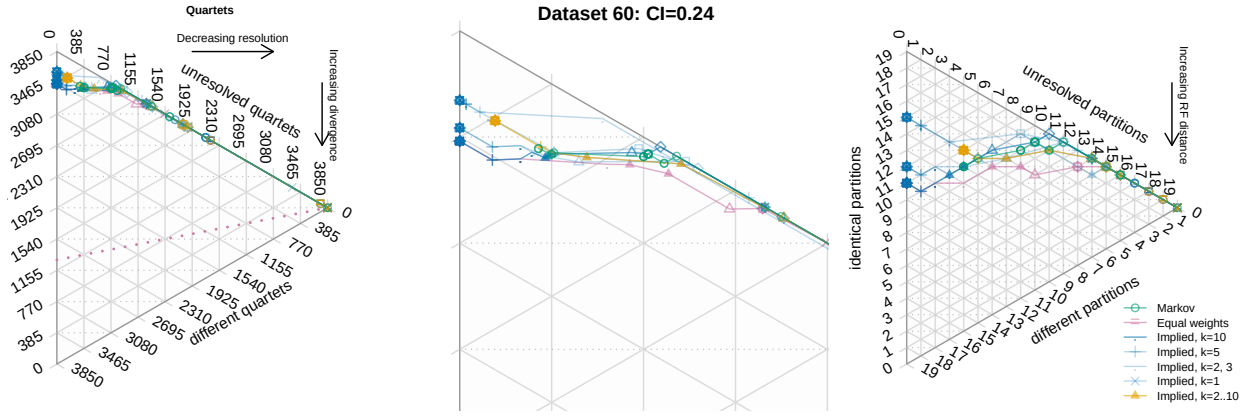

Dataset 56: CI=0.31


unresolved partitions
different partitions
identical partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

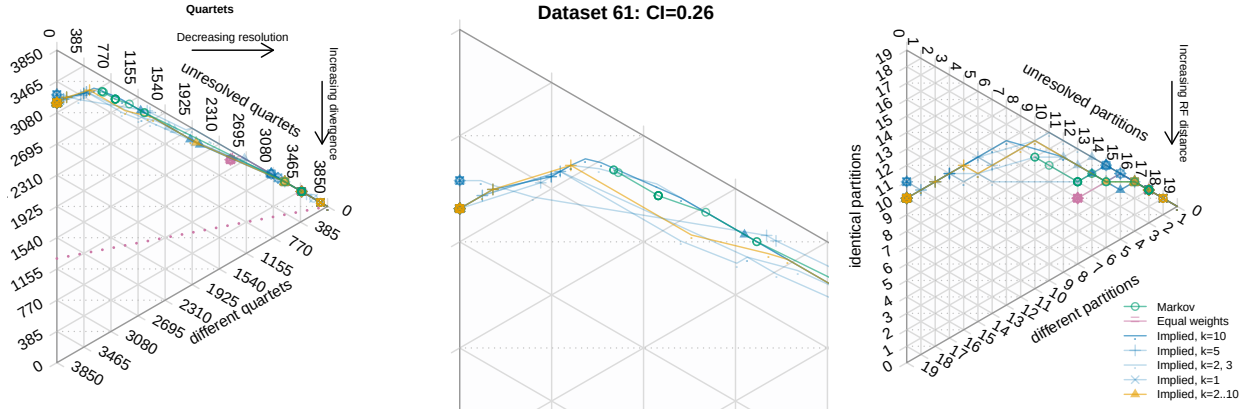

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 57: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

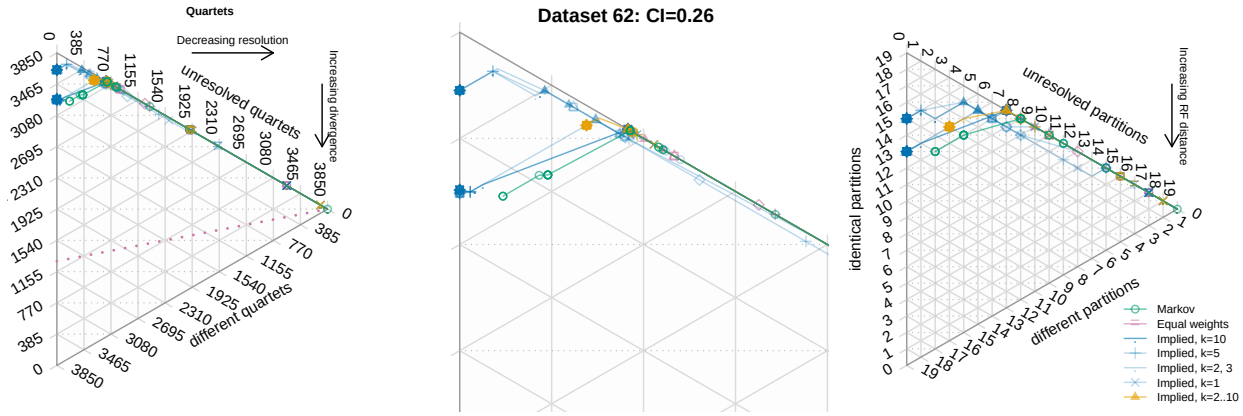

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 58: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

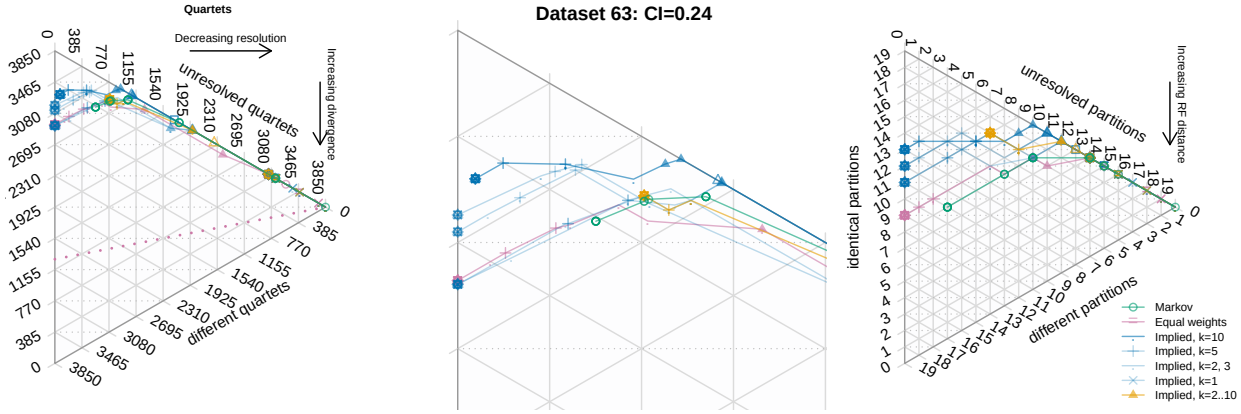

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 59: CI=0.26
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

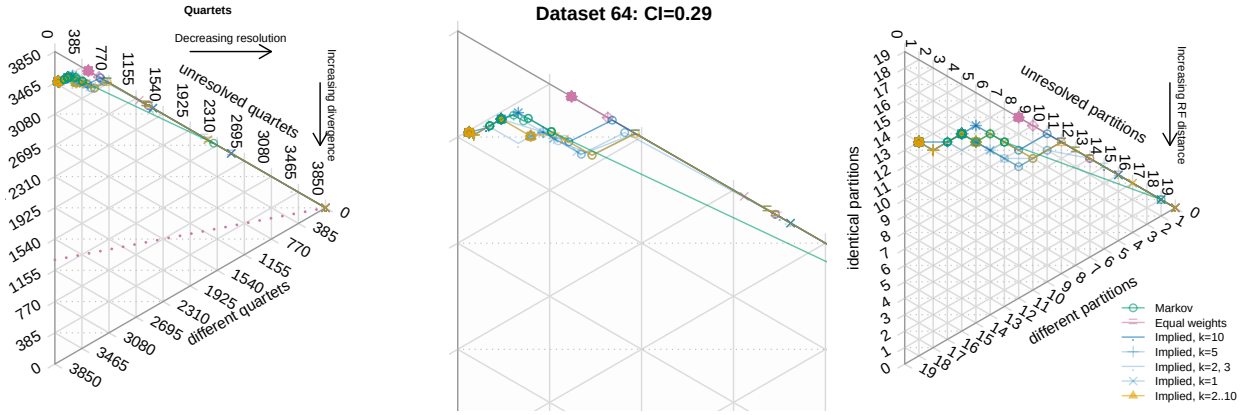

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 60: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

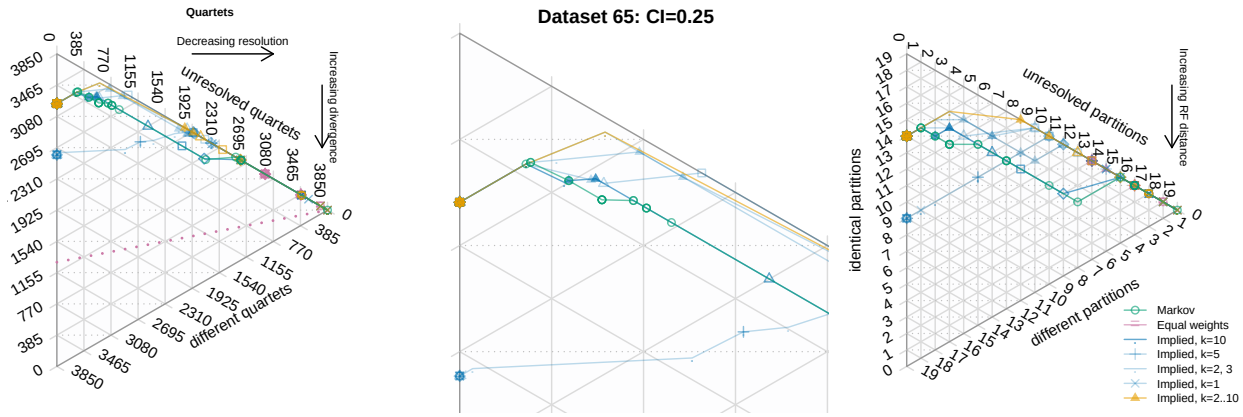
## 0.8 Trees 61–70

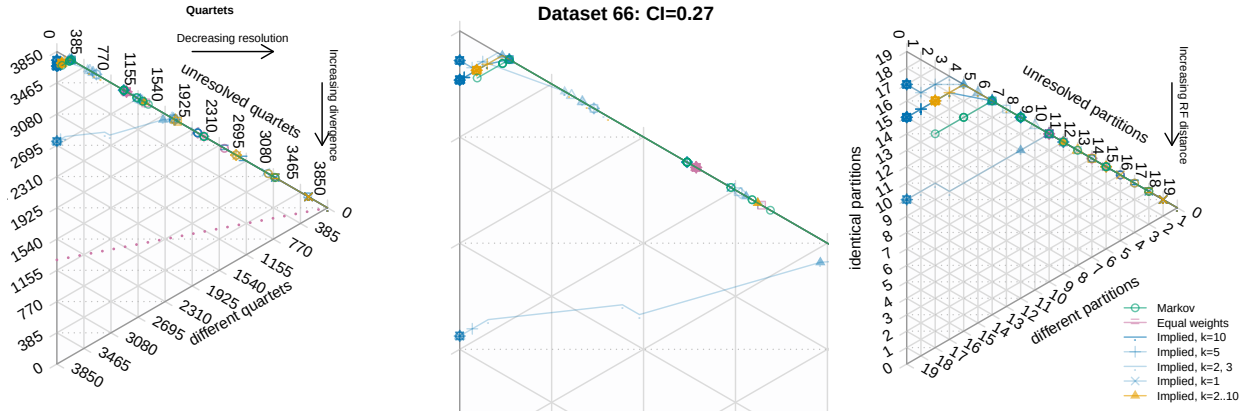


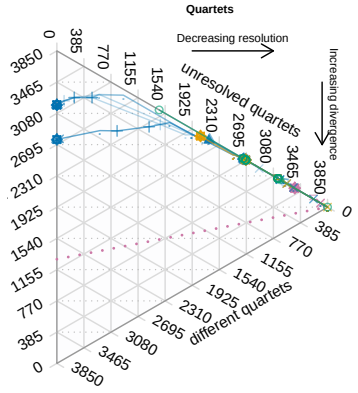



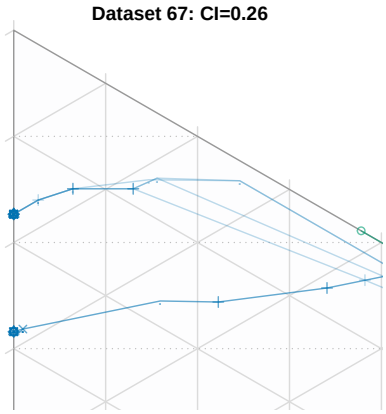

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 63: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

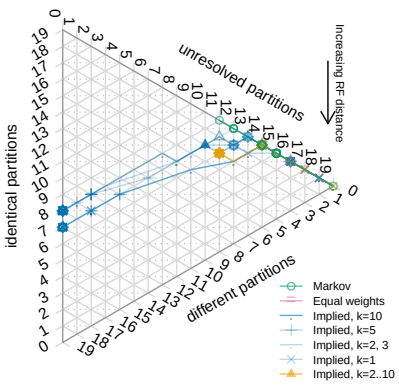

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 64: CI=0.29
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

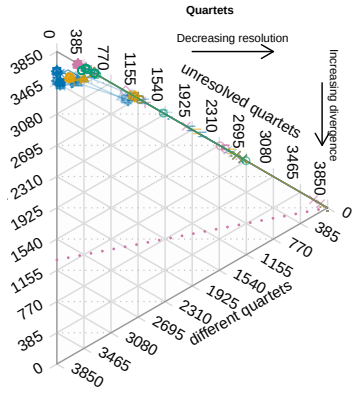

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 65: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

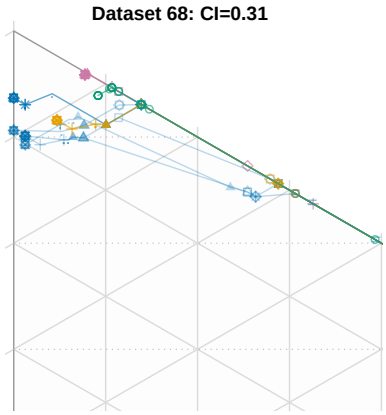

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 66: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

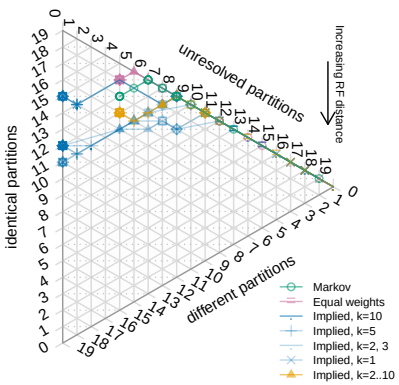

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

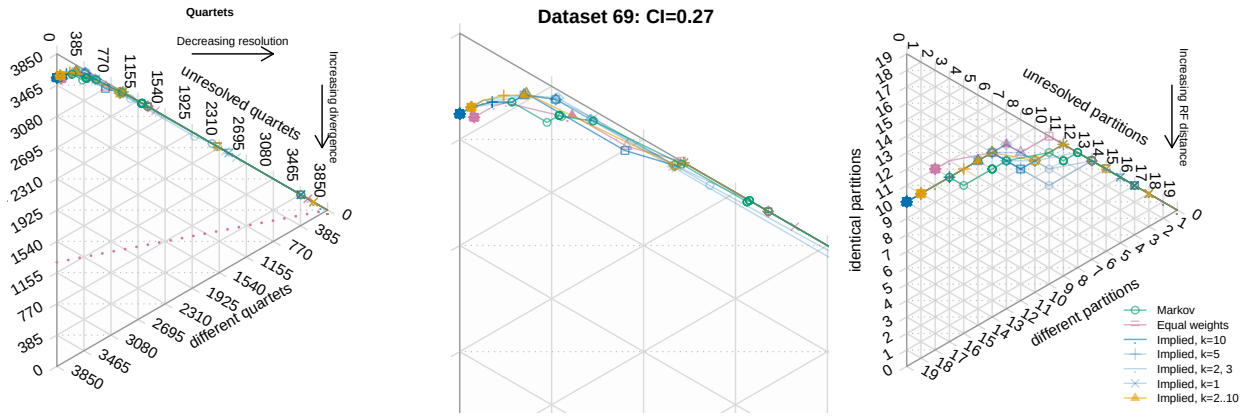

Dataset 67: CI=0.26

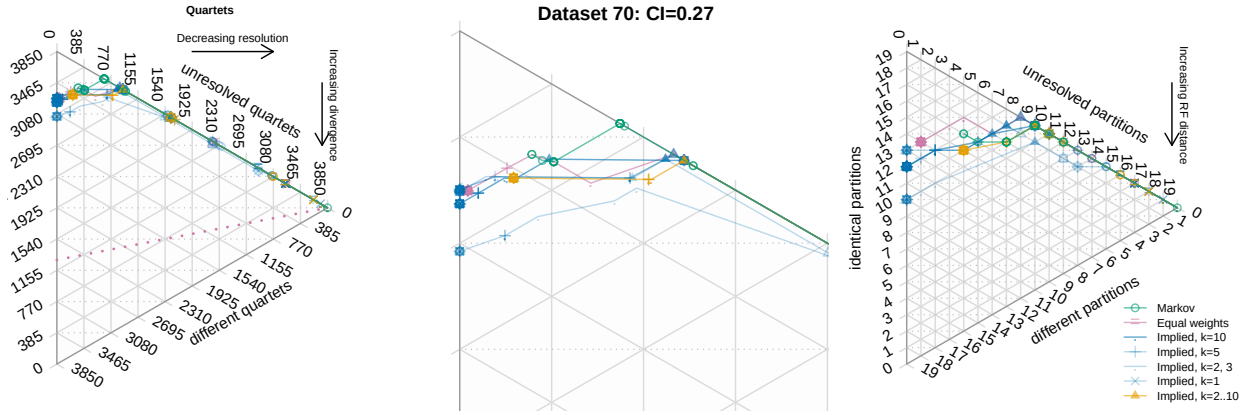

identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

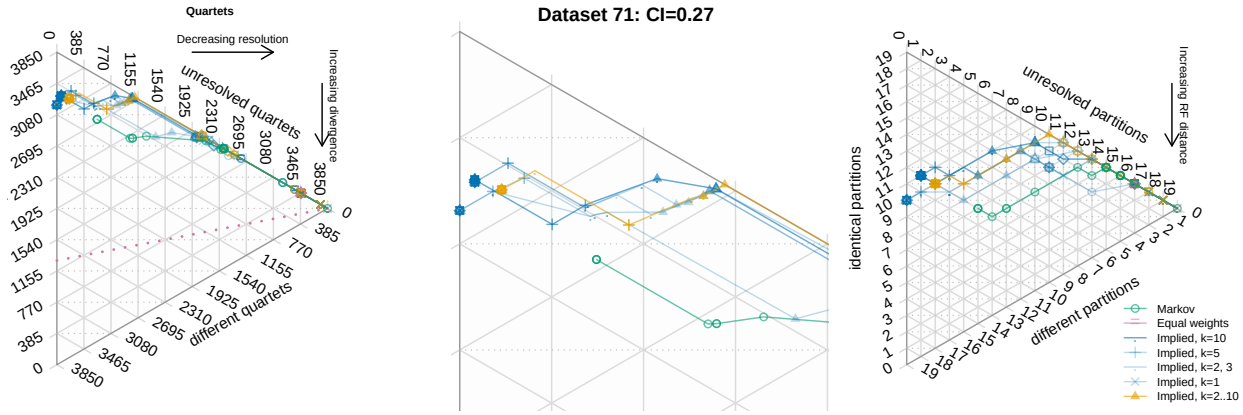

Dataset 68: CI=0.31

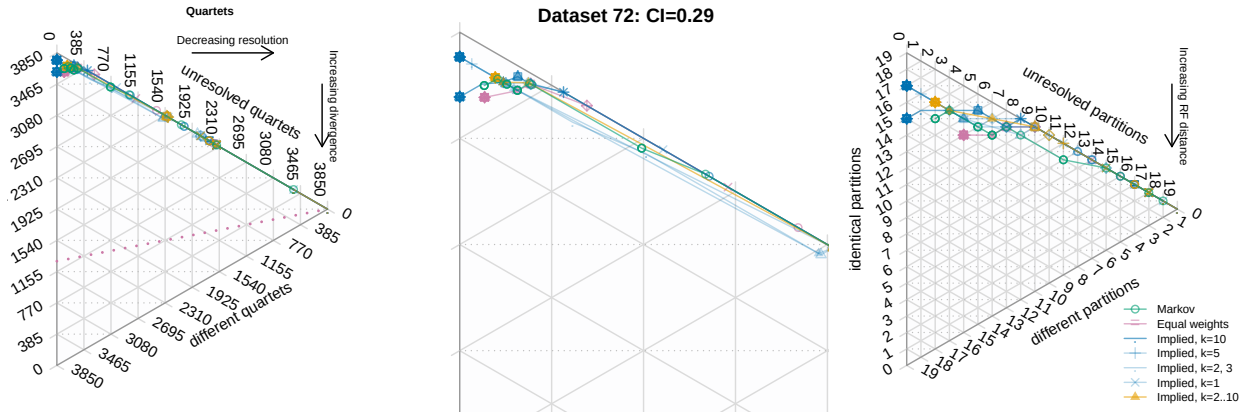

identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

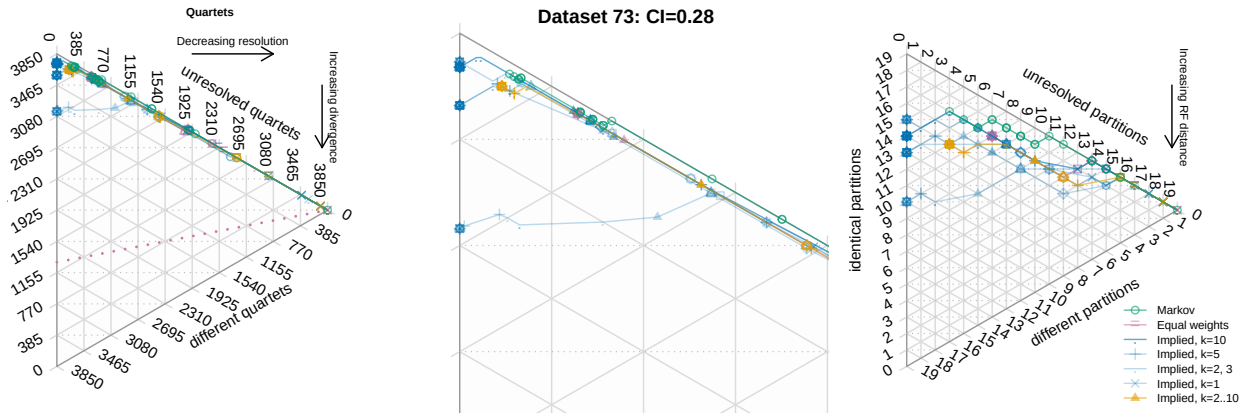

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 69: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

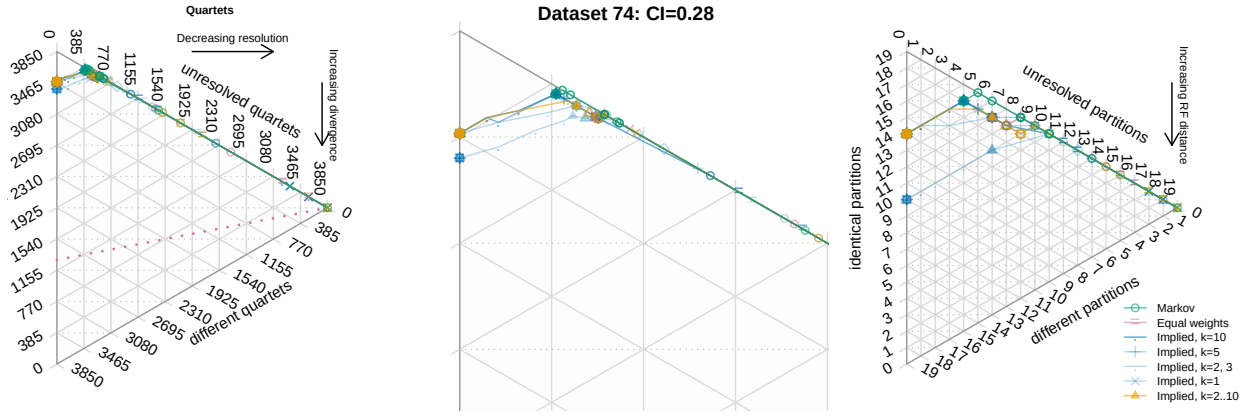

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 70: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

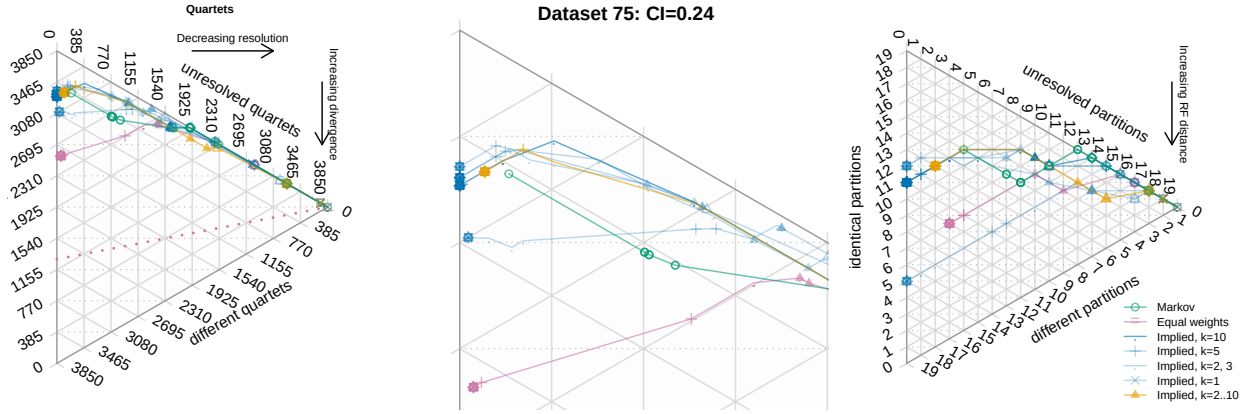
## 0.9 Trees 71–80

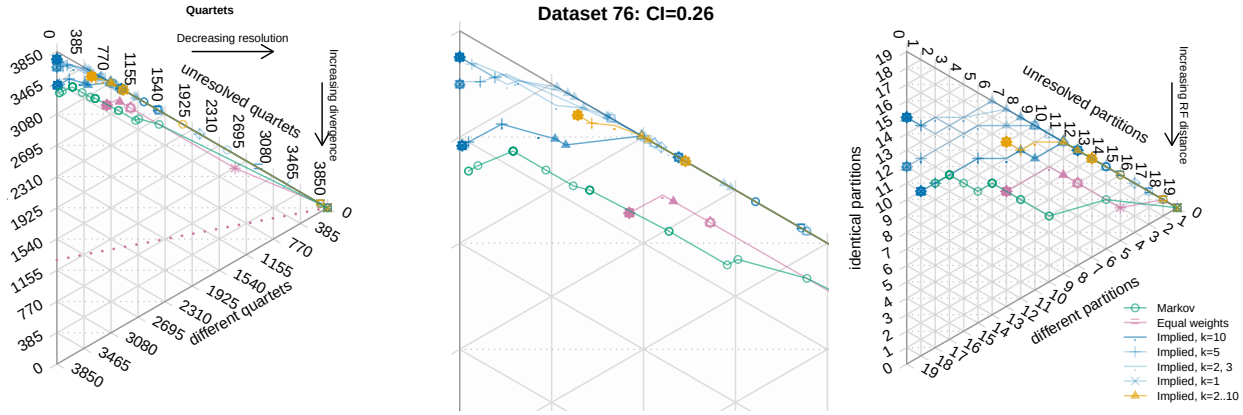


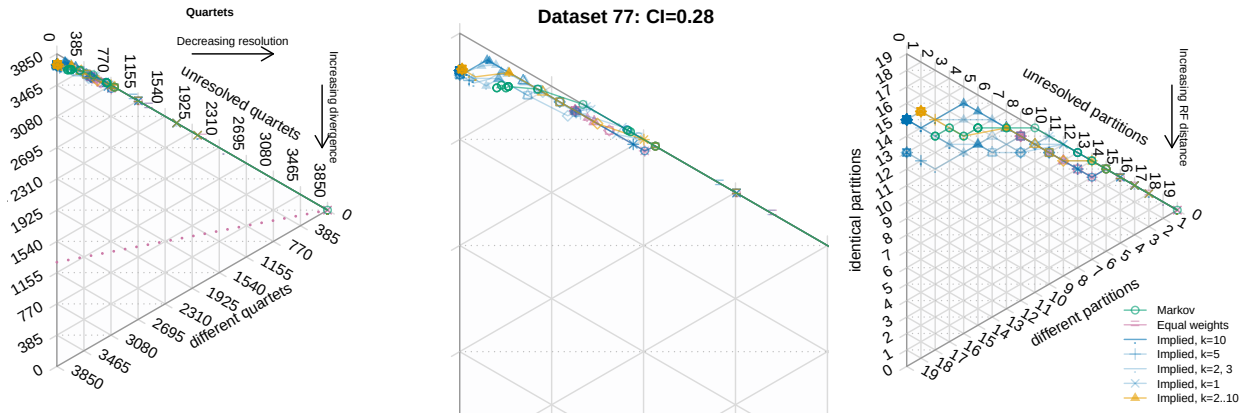



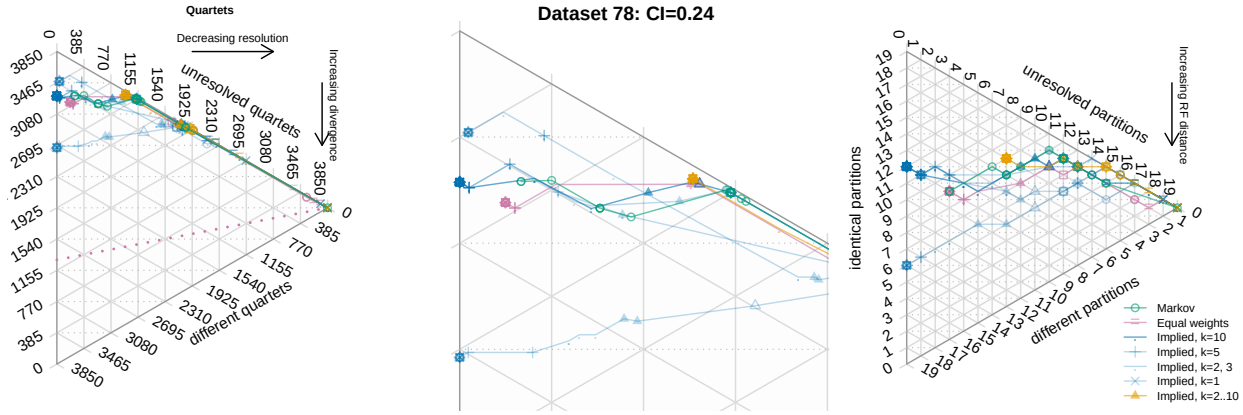

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 73: CI=0.28
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

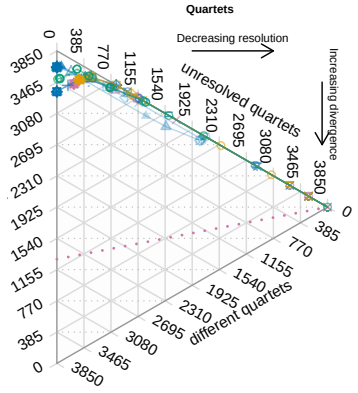

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 74: CI=0.28
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

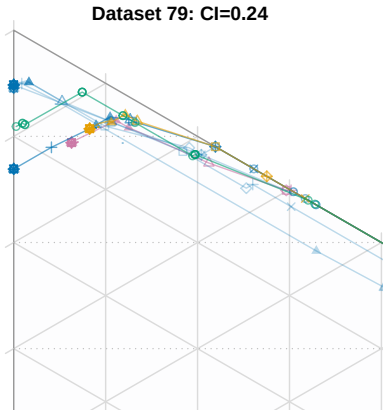

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 75: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

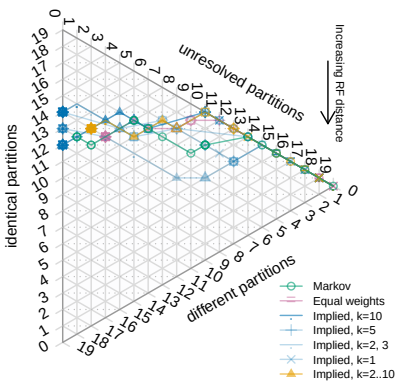

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 76: CI=0.26
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

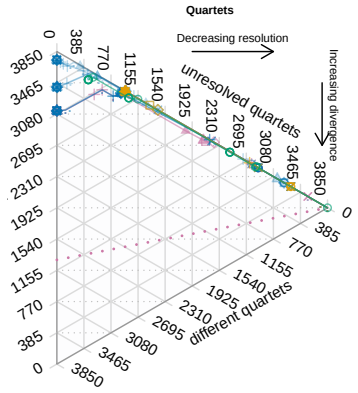

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 77: CI=0.28
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

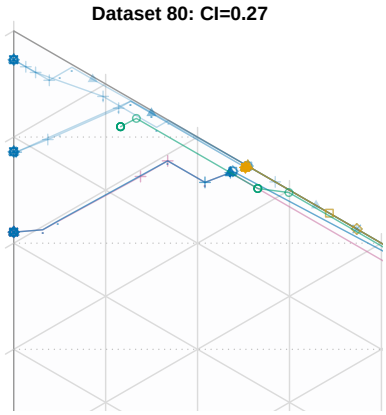

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 78: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

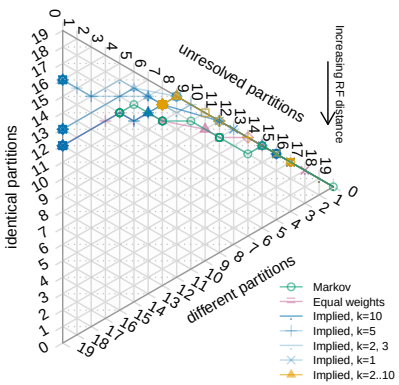

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850


Dataset 79: CI=0.24

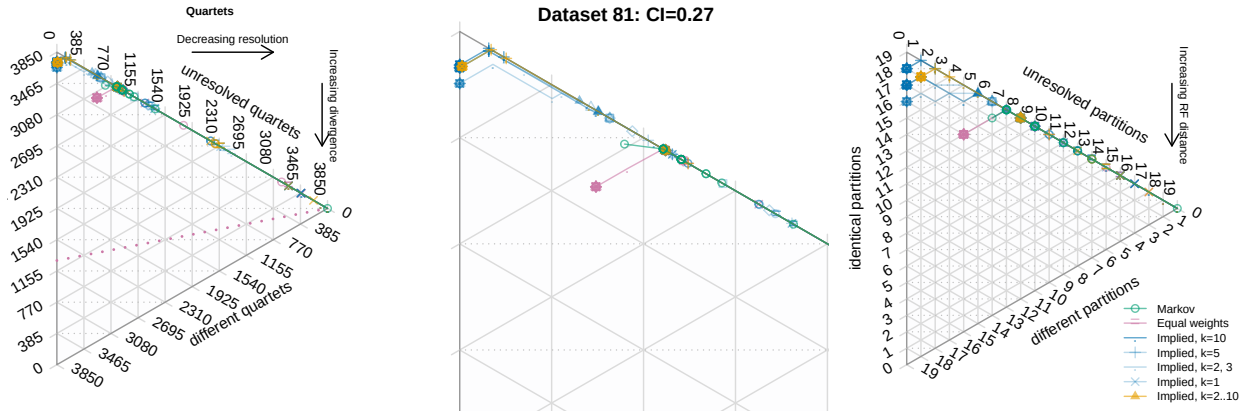

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

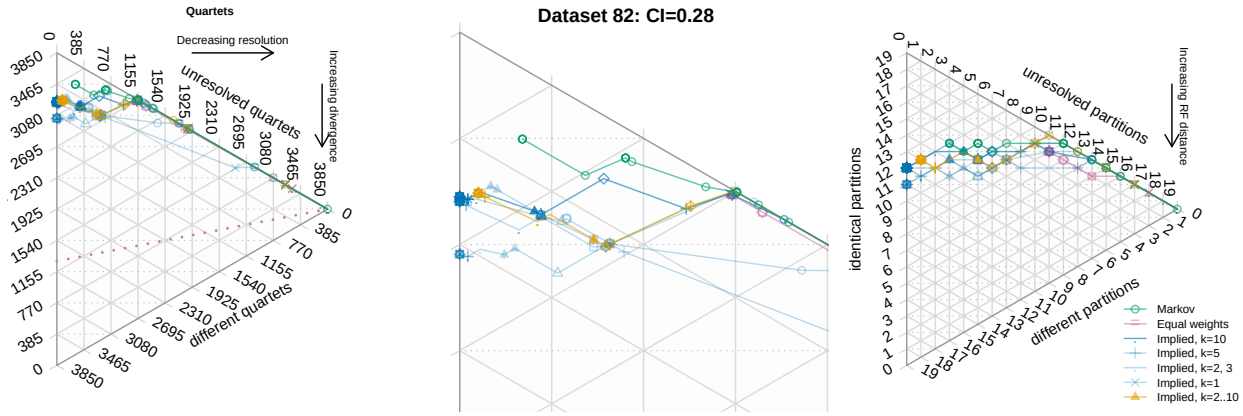

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

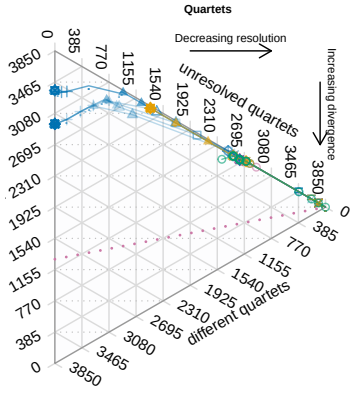

Dataset 80: CI=0.27

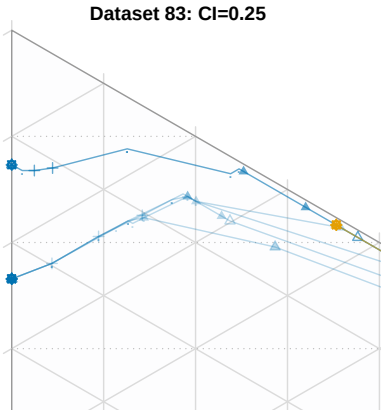

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

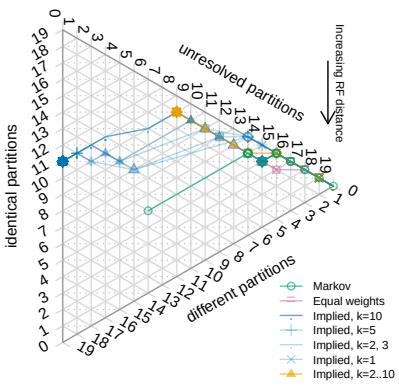
## 0.10 Trees 81–90

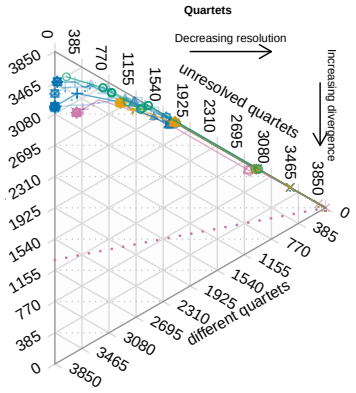


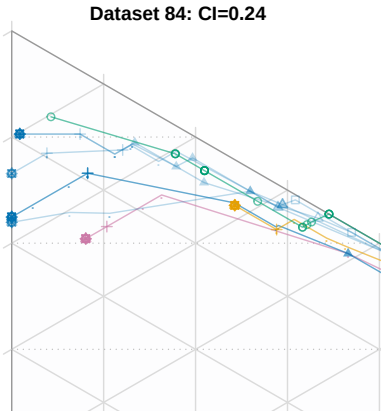



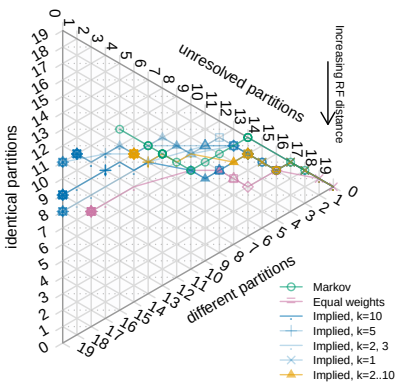

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

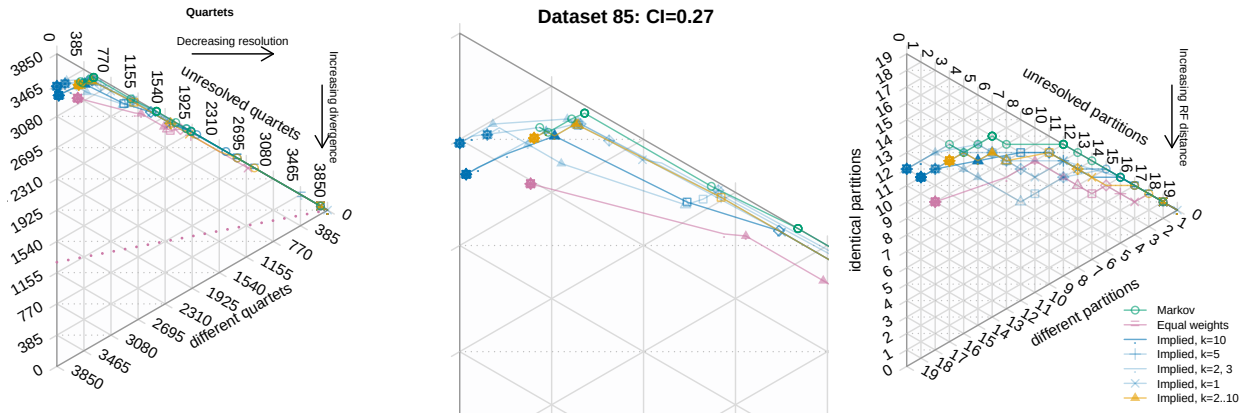

Dataset 83: CI=0.25

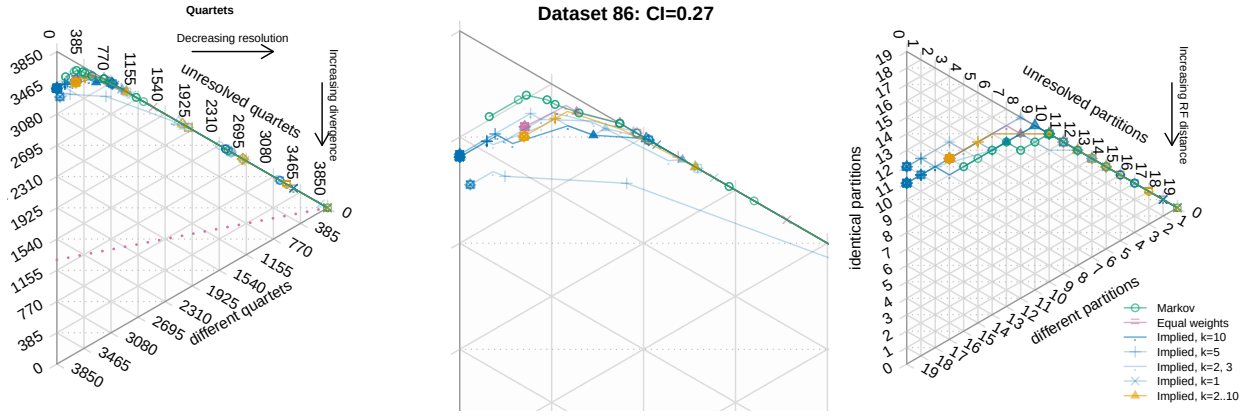

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

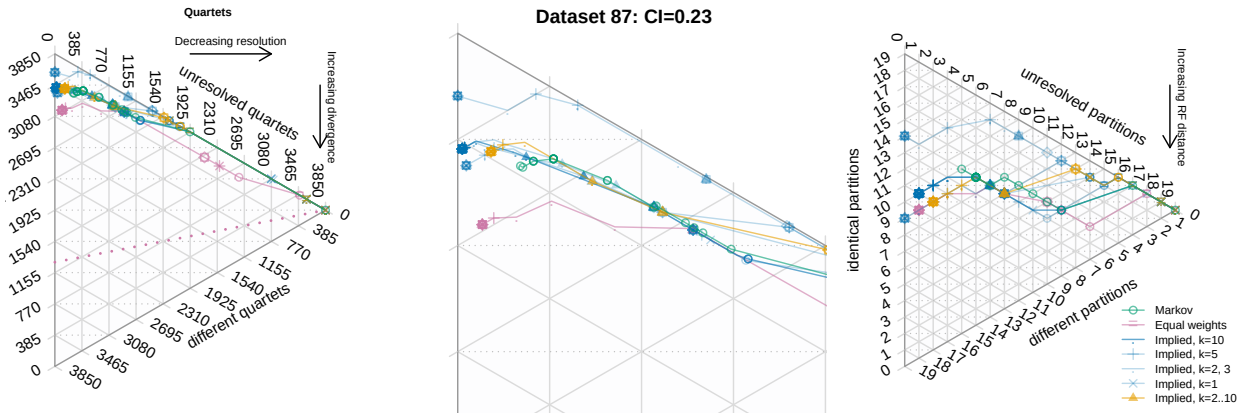

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

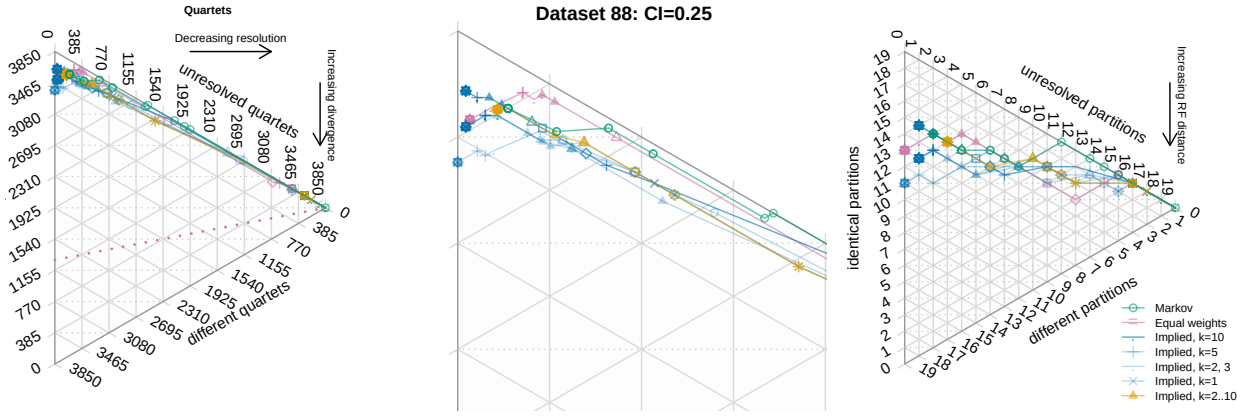

Dataset 84: CI=0.24

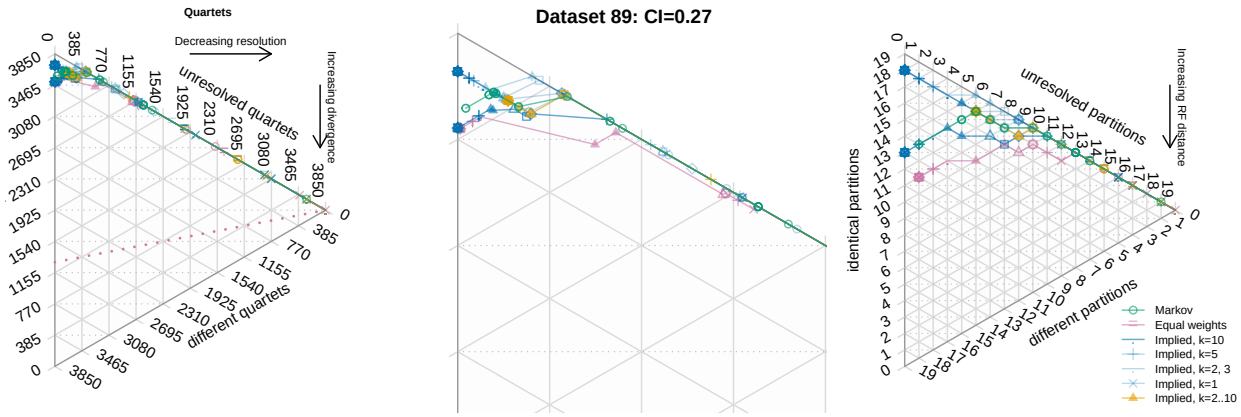

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

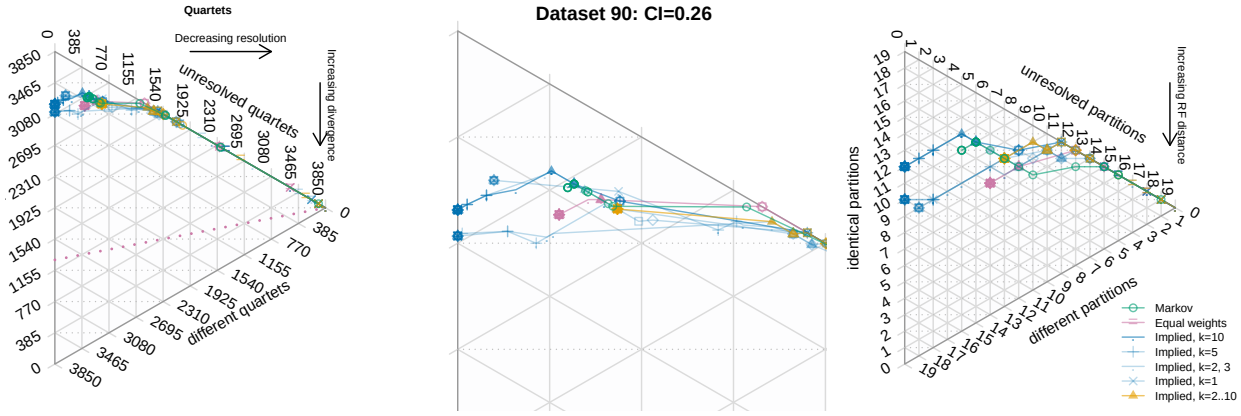

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 85: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 86: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

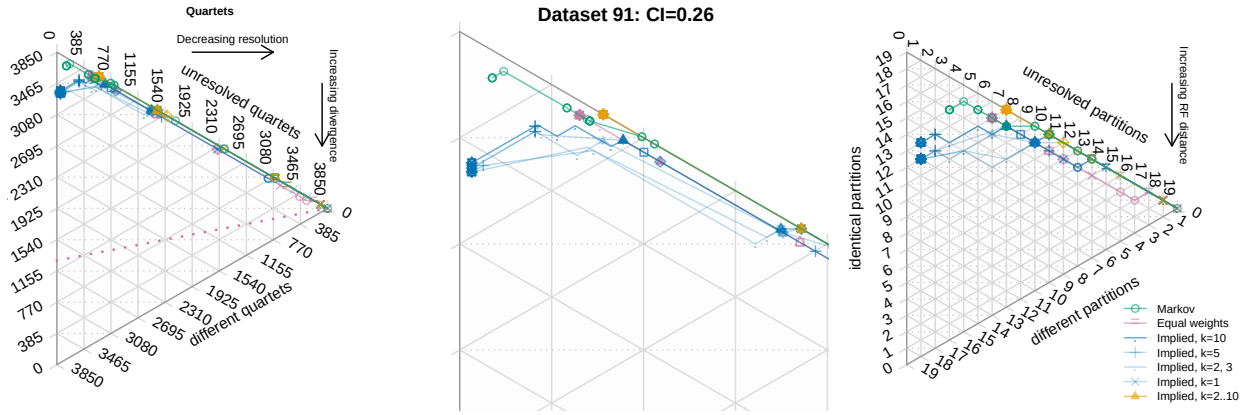

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 87: CI=0.23
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

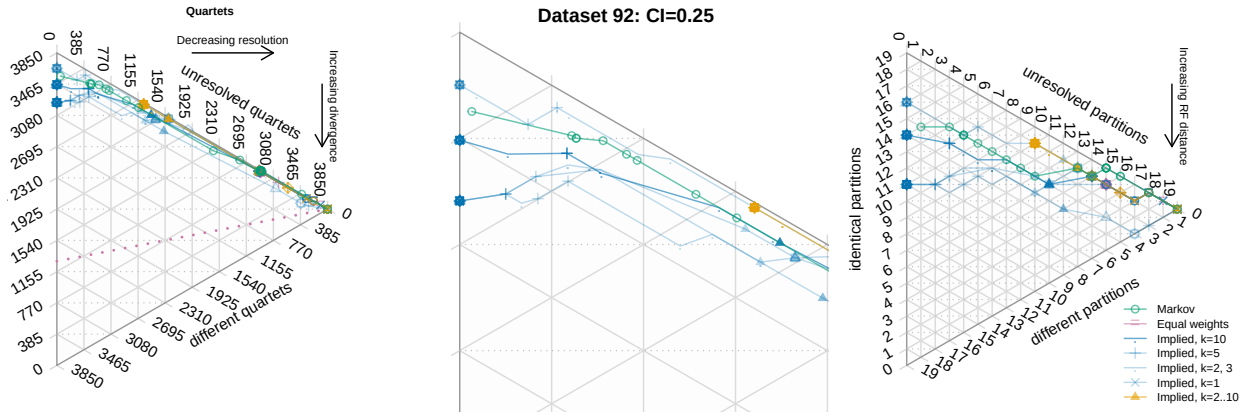

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 88: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

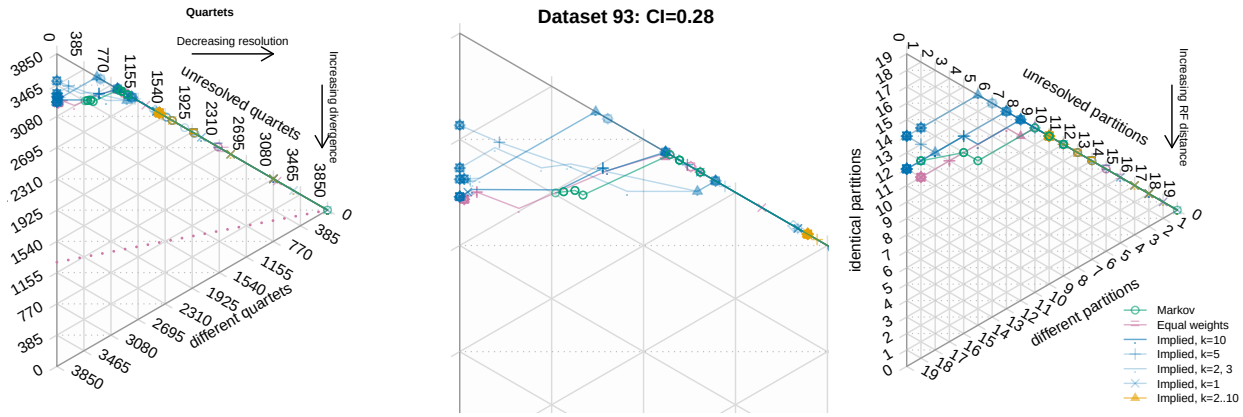

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 89: CI=0.27
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

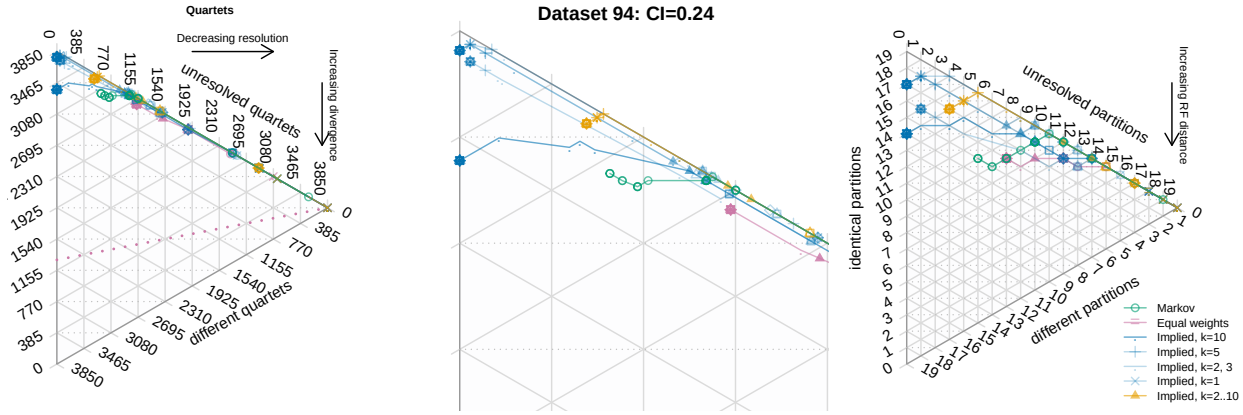

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 90: CI=0.26
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

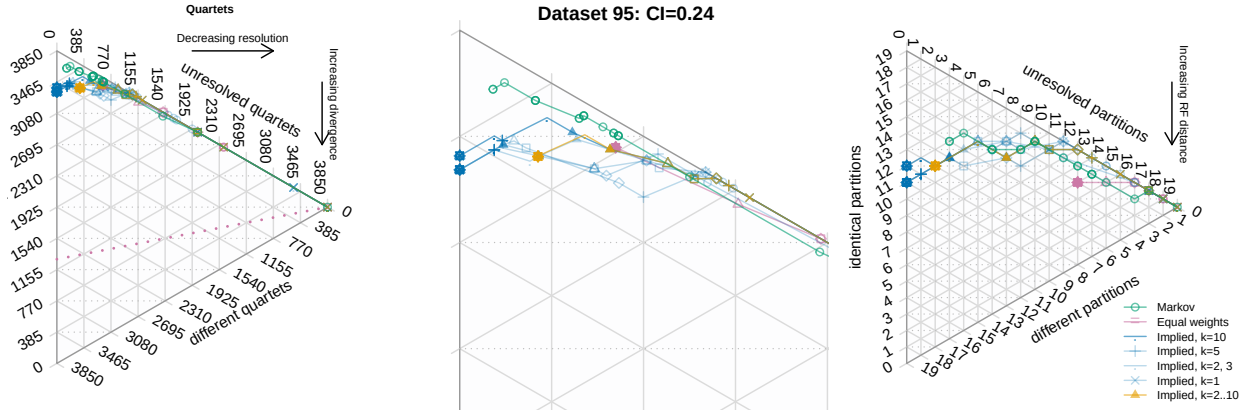
## 0.11 Trees 91–100

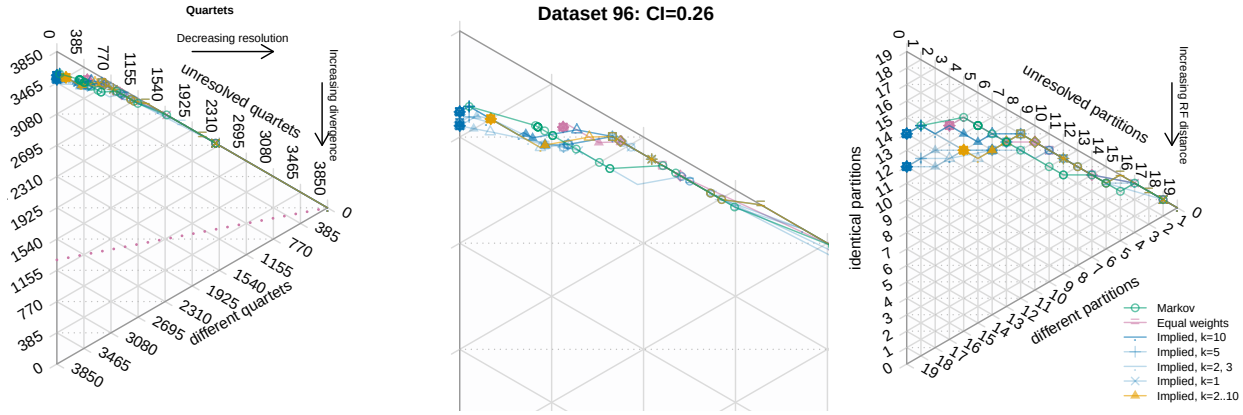


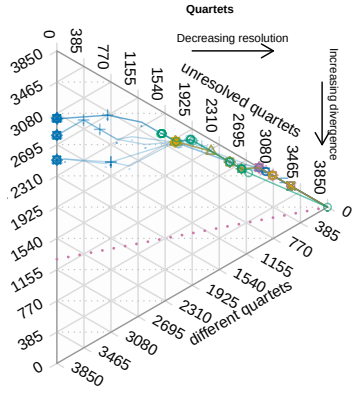



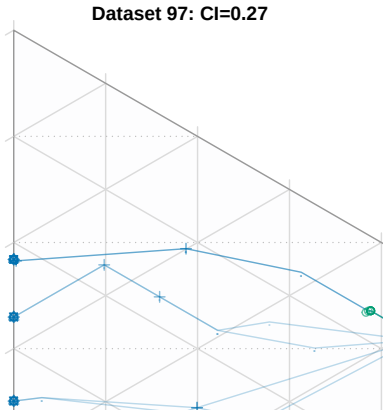

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 93: CI=0.28
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

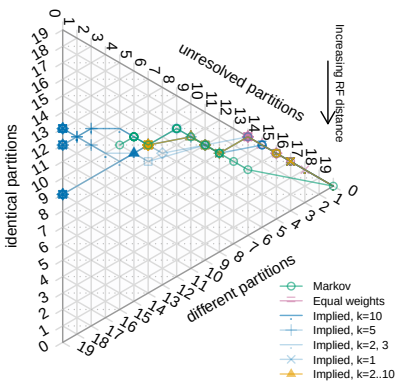

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 94: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

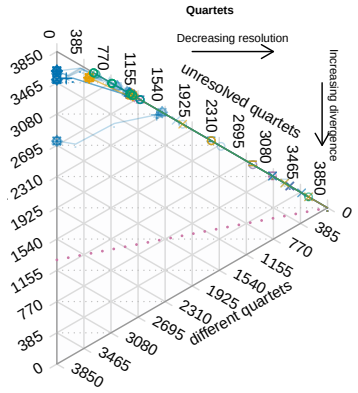

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 95: CI=0.24
unresolved partitions
different partitions
identical partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

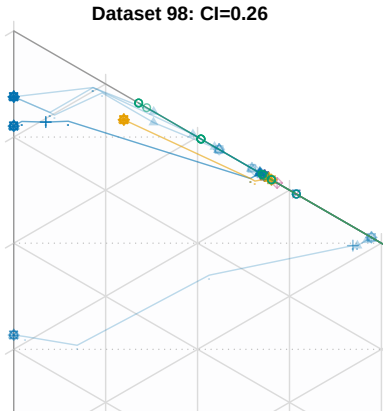

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 96: CI=0.26
unresolved partitions
different partitions
identical partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

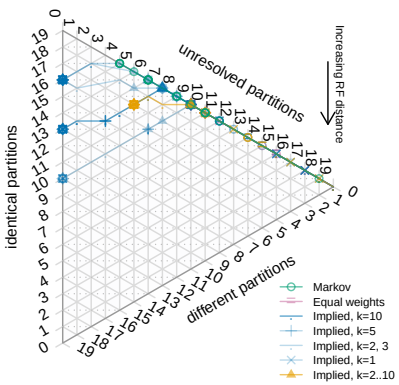

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850

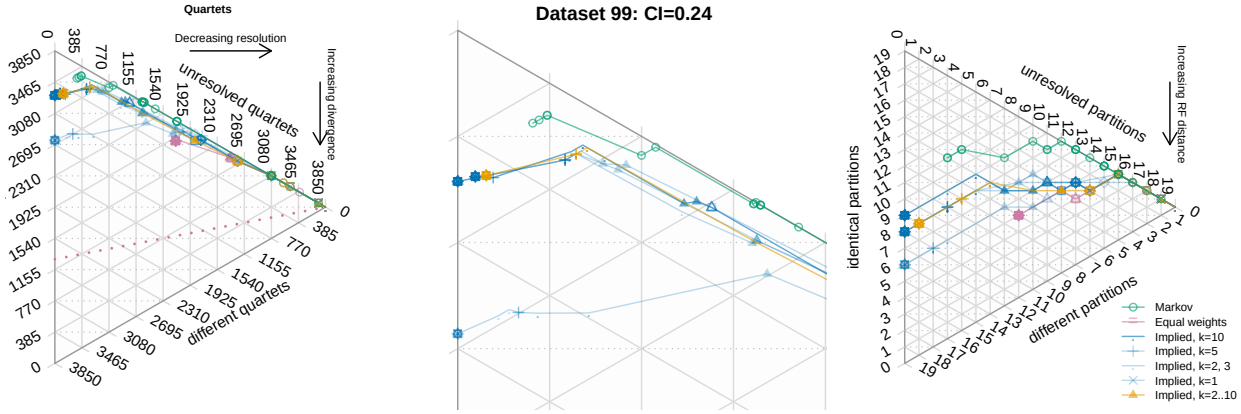

Dataset 97: CI=0.27

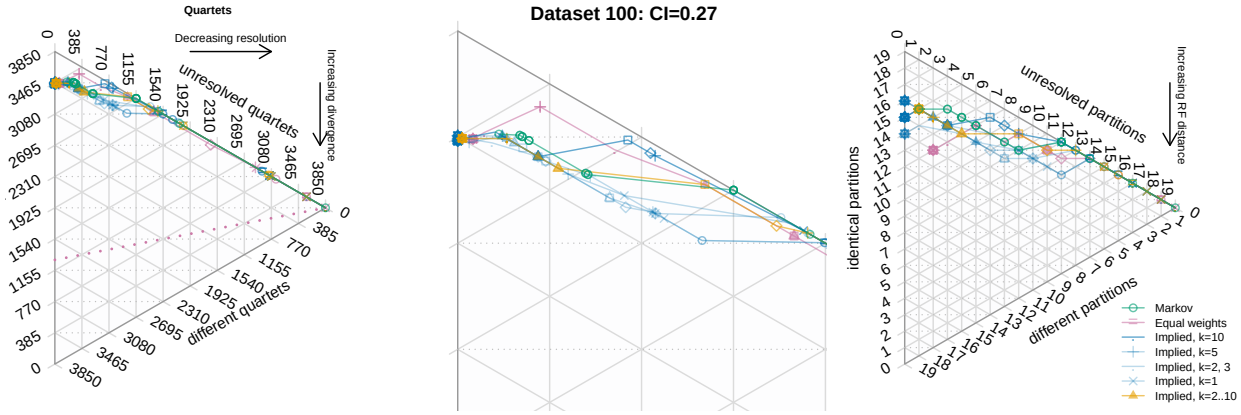

identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850


Dataset 98: CI=0.26


identical partitions
unresolved partitions
different partitions
Increasing RF distance
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 99: CI=0.24
unresolved partitions
identical partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10


Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
0
385
770
1155
1540
1925
2310
2695
3080
3465
3850
Dataset 100: CI=0.27
unresolved partitions
identical partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

## References

1. Congreve CR, Lamsdell JC. 2016 Implied weighting and its utility in palaeontological datasets: a study using modelled phylogenetic matrices. *Palaeontology* **59**, 447–465. (doi:10.1111/pala.12236)

2. Smith MR. 2019 Bayesian and parsimony approaches reconstruct informative trees from simulated morphological datasets. *Biology Letters* **15**, 20180632. (doi:10.1098/rsbl.2018.0632)