Resolution and accuracy in Congreve & Lamsdell matrices

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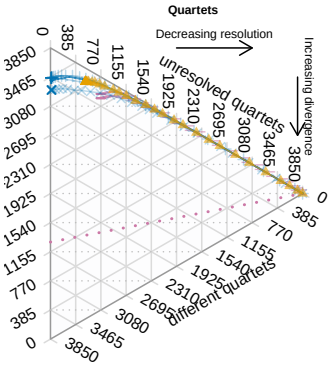
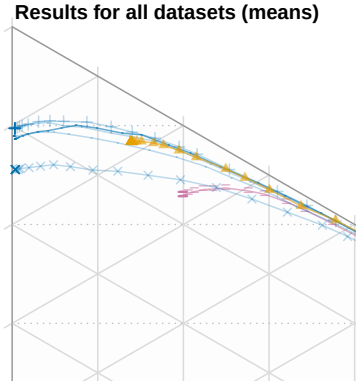
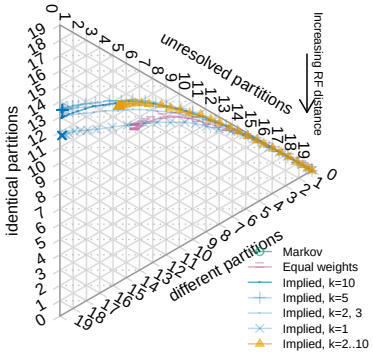
Contents

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.

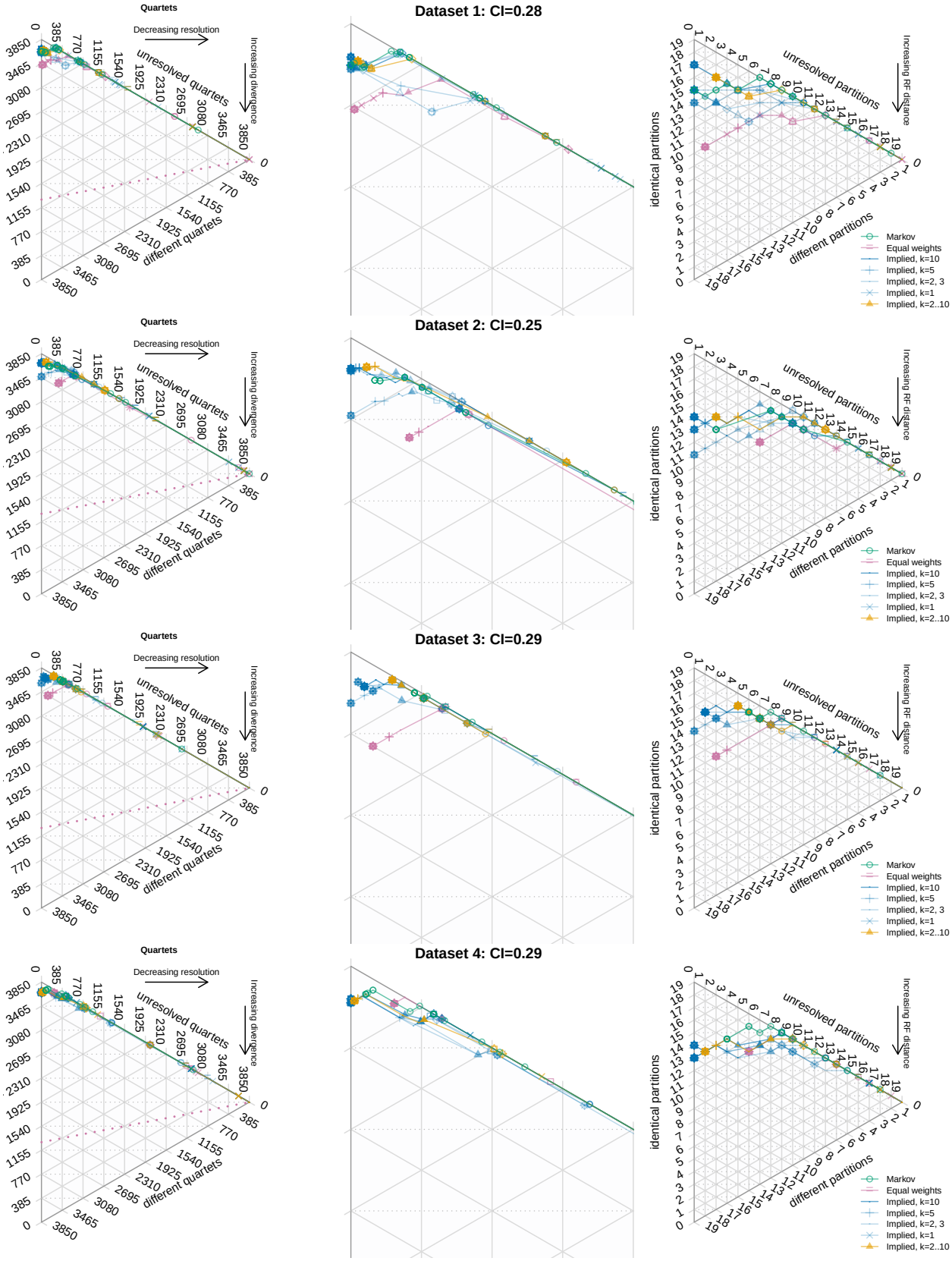
0.1 Summary

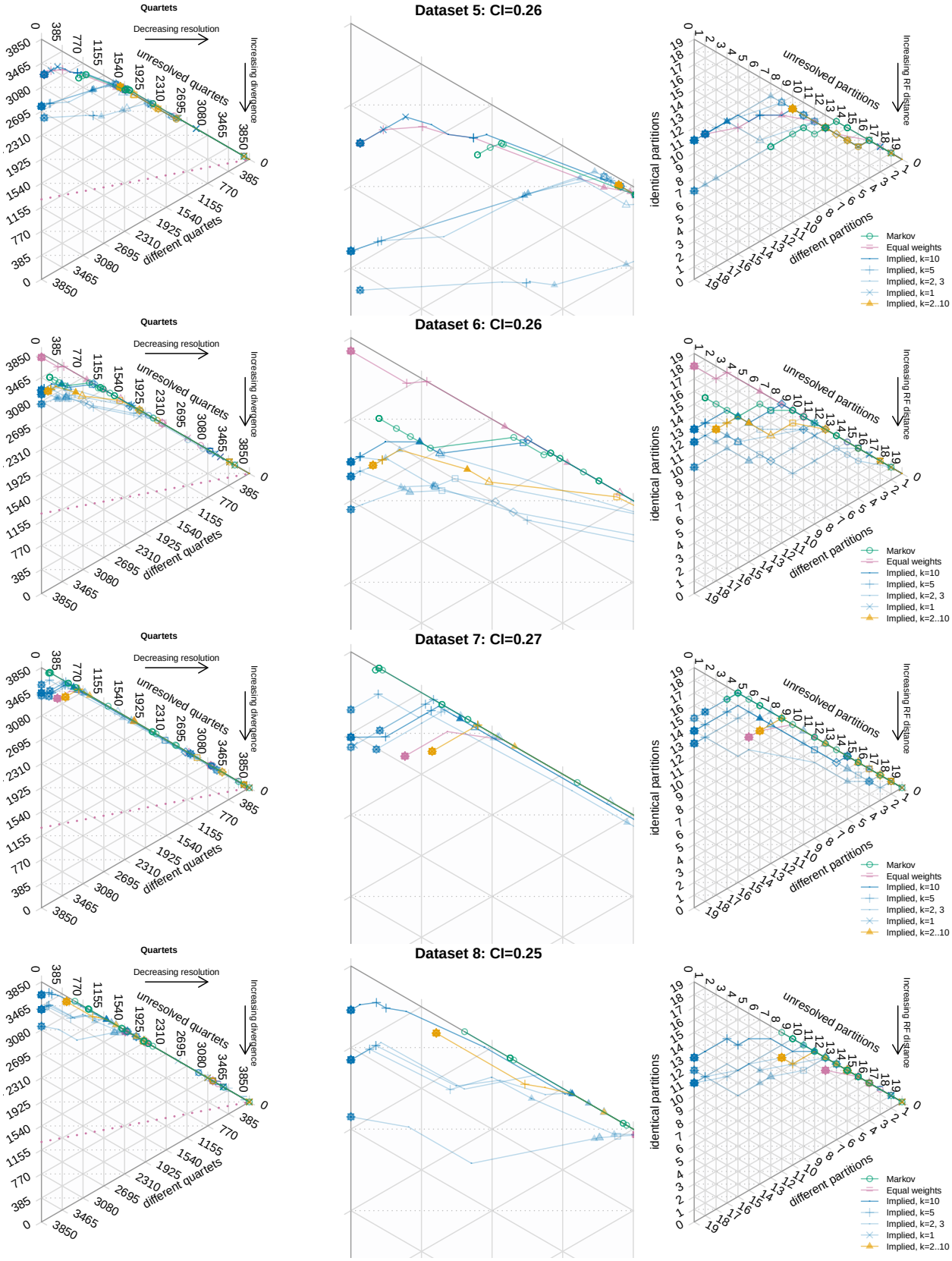


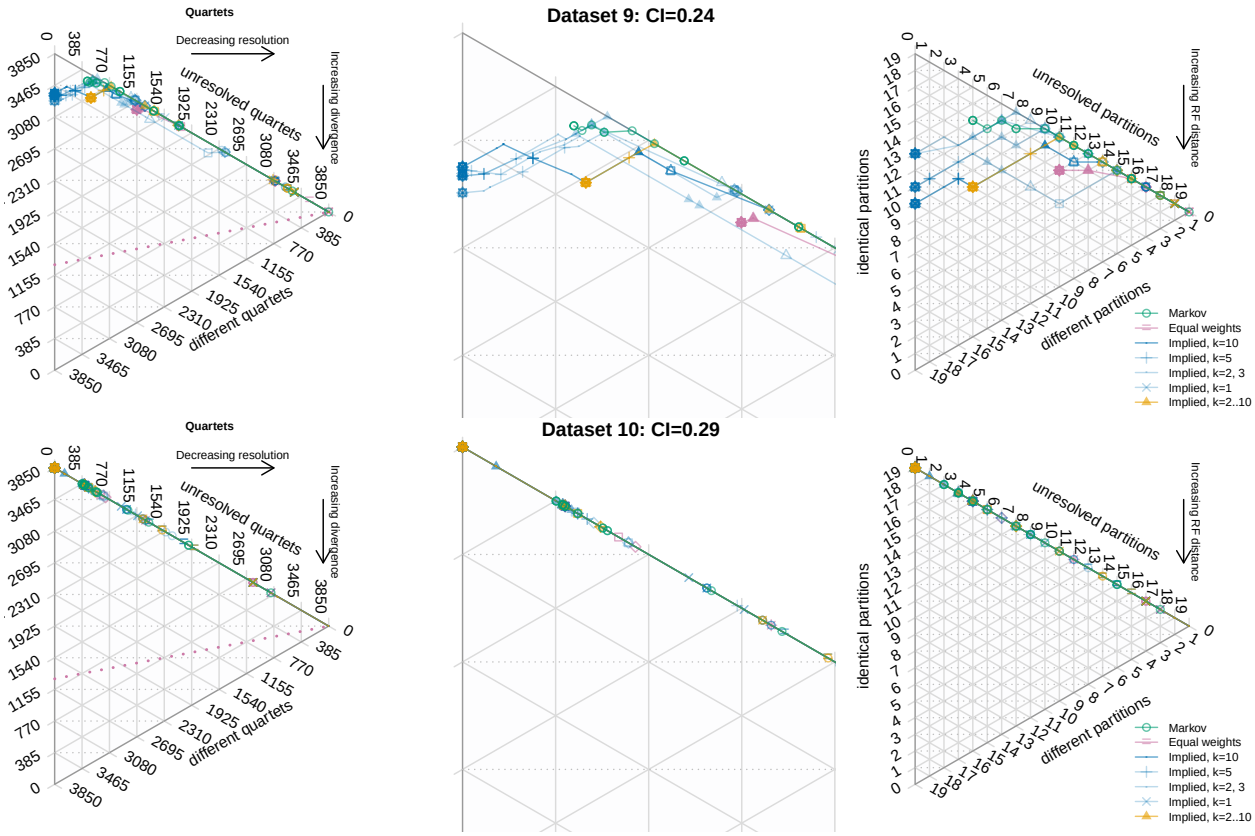




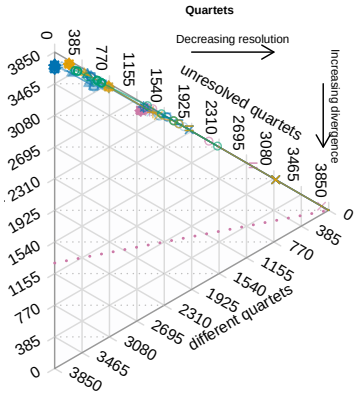
0.2 Trees 1–10

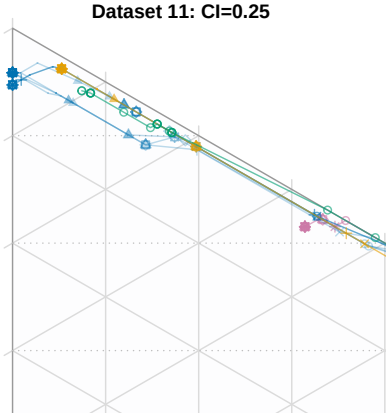

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 1: CI=0.28
Dataset 2: CI=0.25
Dataset 3: CI=0.29
Dataset 4: CI=0.29
unresolved partitions
identical partitions
Increasing RF distance
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

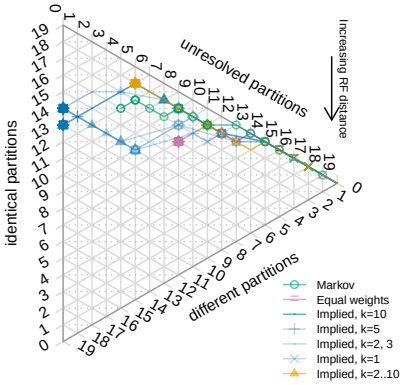

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 5: CI=0.26
Dataset 6: CI=0.26
Dataset 7: CI=0.27
Dataset 8: CI=0.25
identical partitions
unresolved partitions
Increasing RF distance
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

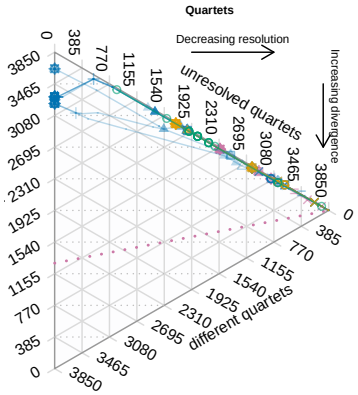

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 9: CI=0.24
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 10: CI=0.29
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

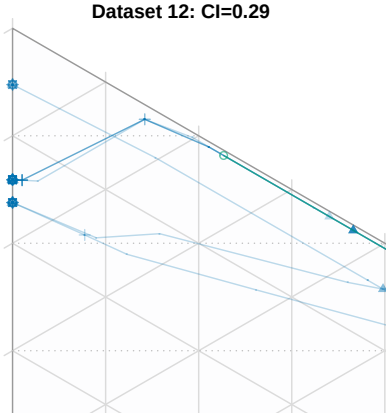
0.3 Trees 11–20

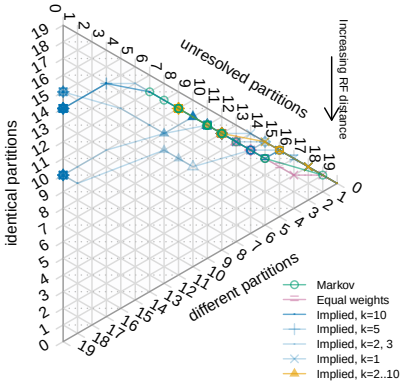


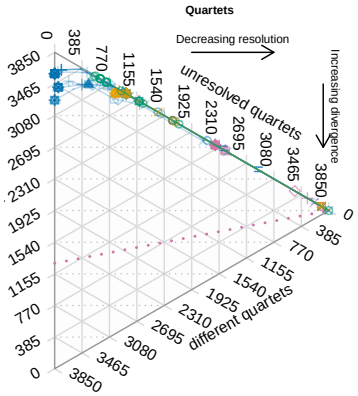


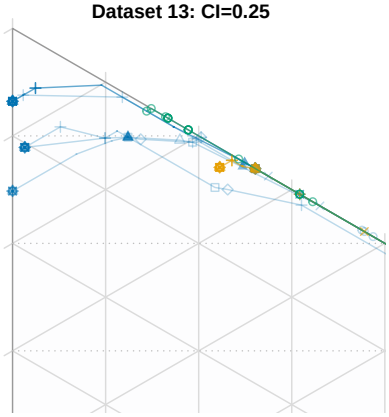


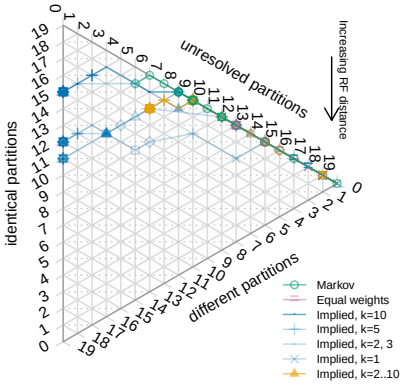


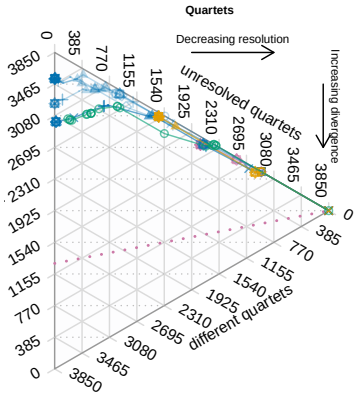


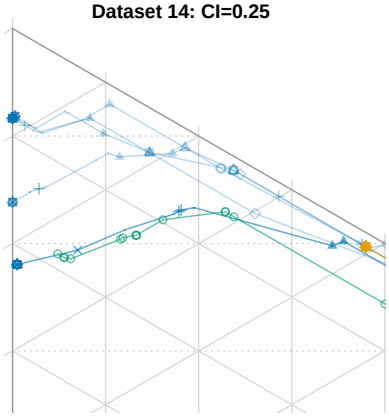


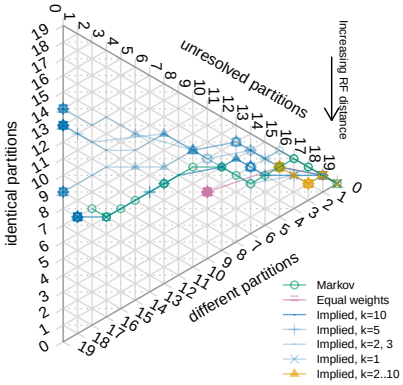


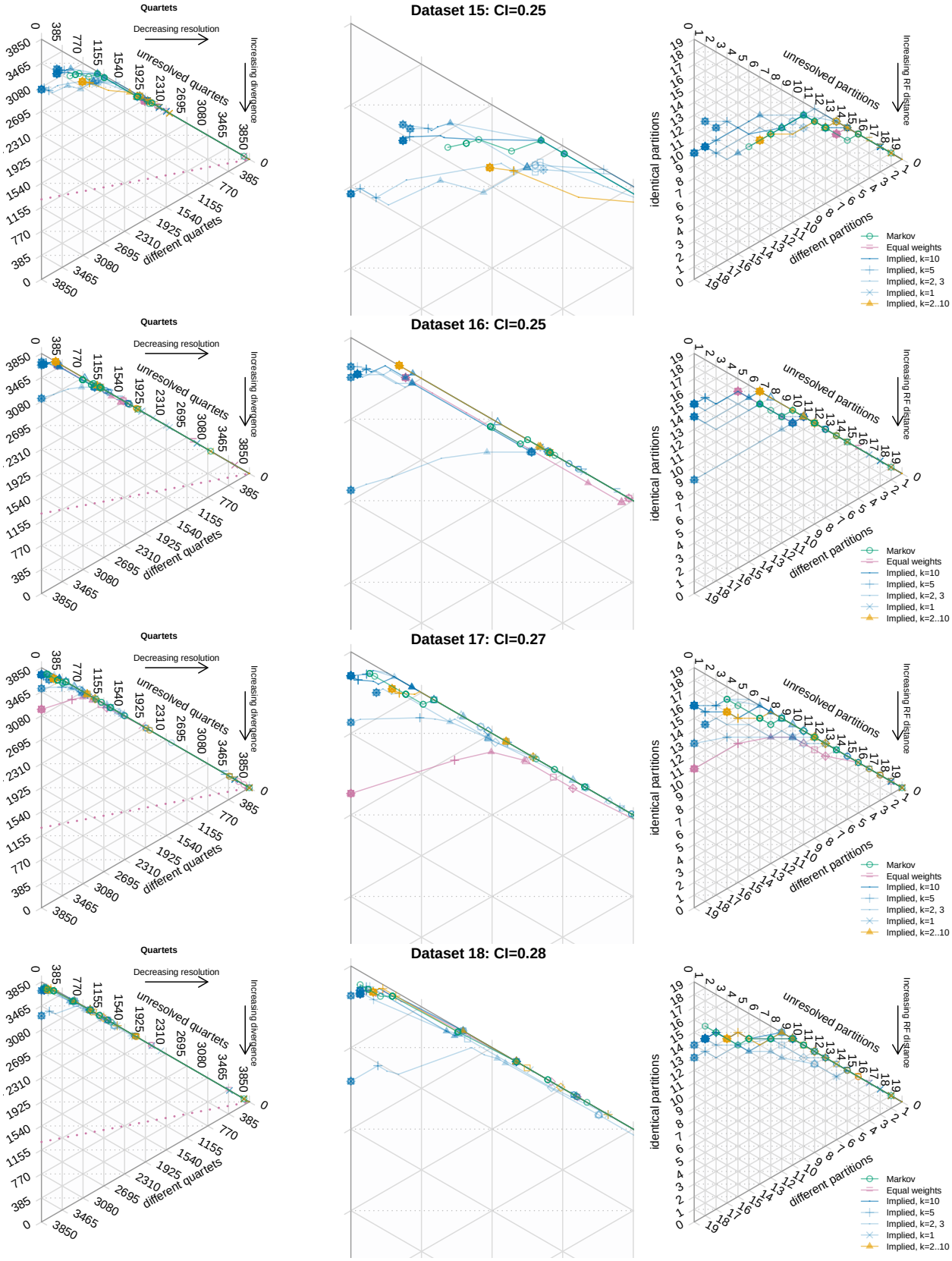


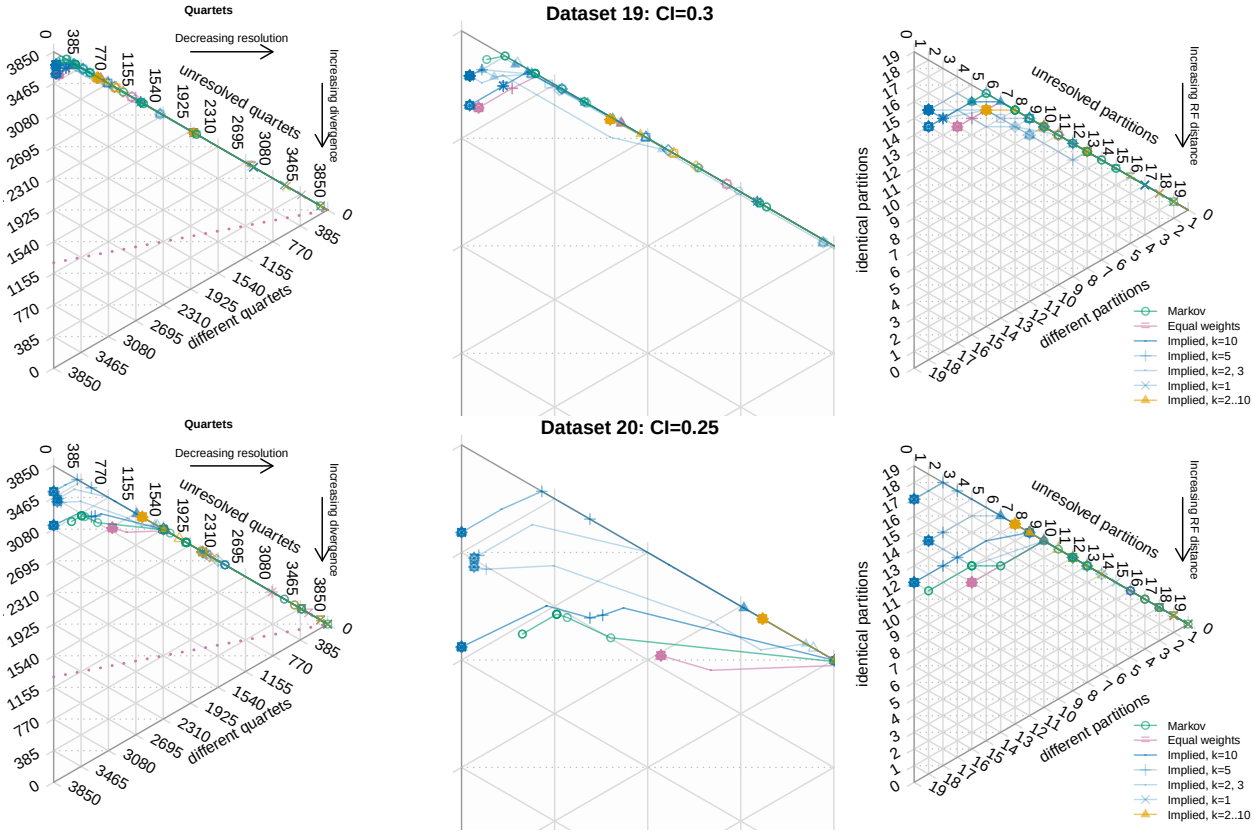




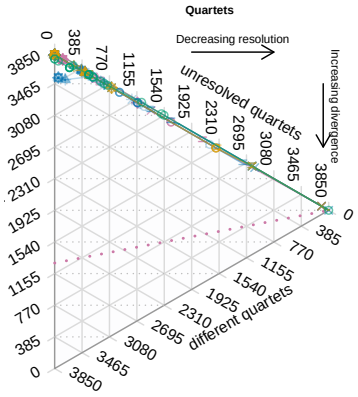


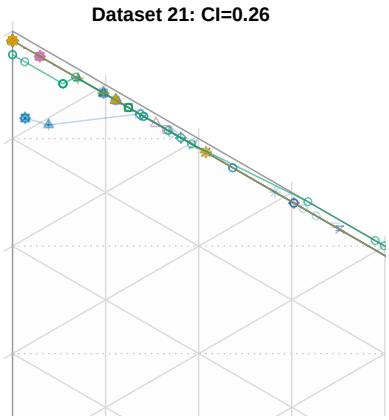


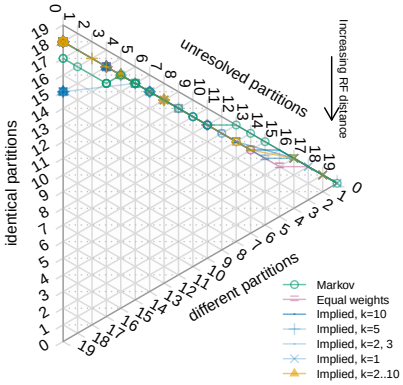

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 15: CI=0.25
Dataset 16: CI=0.25
Dataset 17: CI=0.27
Dataset 18: CI=0.28
identical partitions
unresolved partitions
Increasing RF distance
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

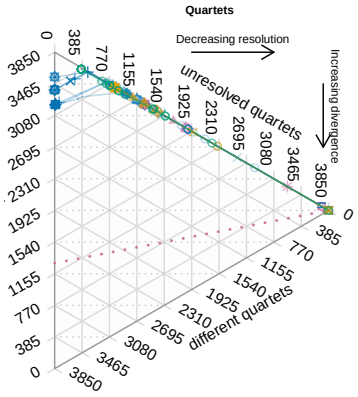

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 19: CI=0.3
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 20: CI=0.25
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

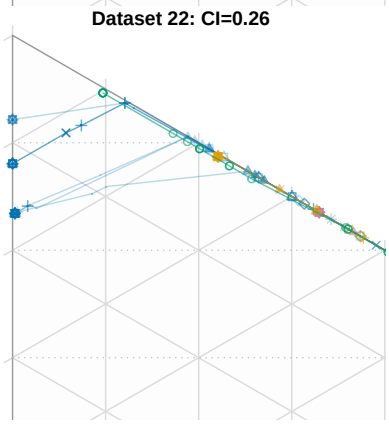
0.4 Trees 21–30

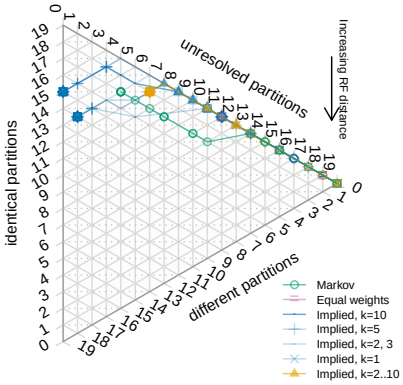


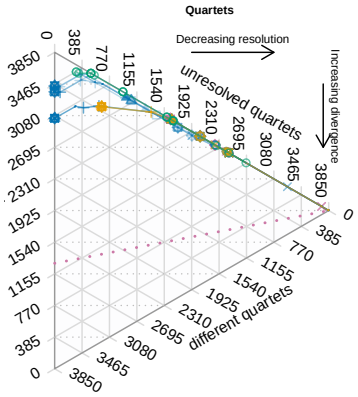


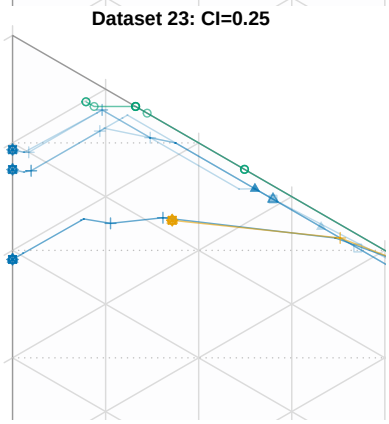


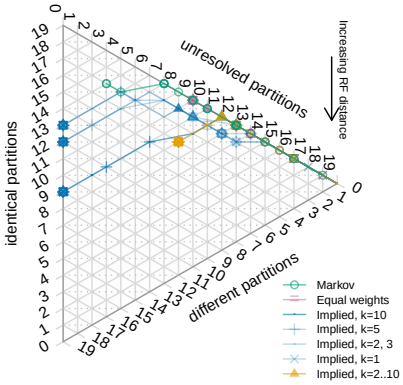


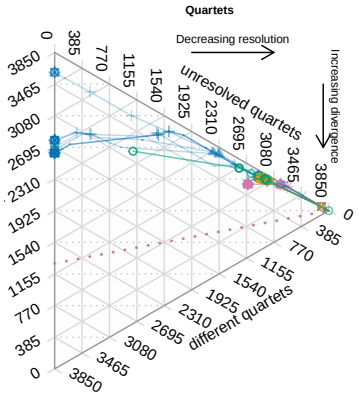


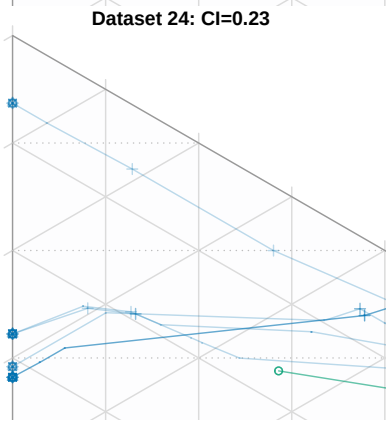


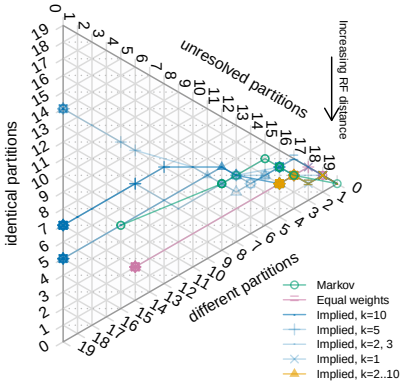


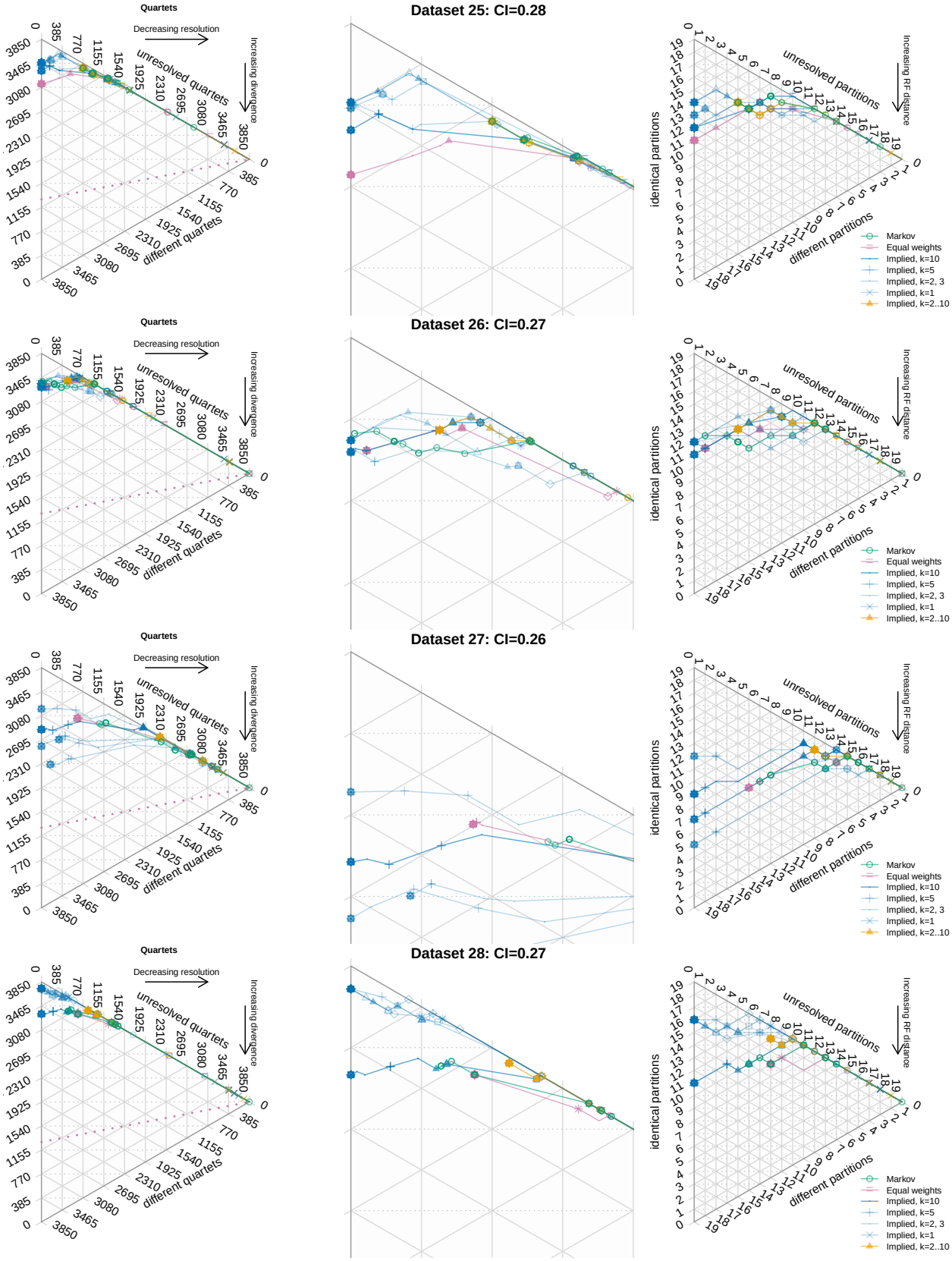


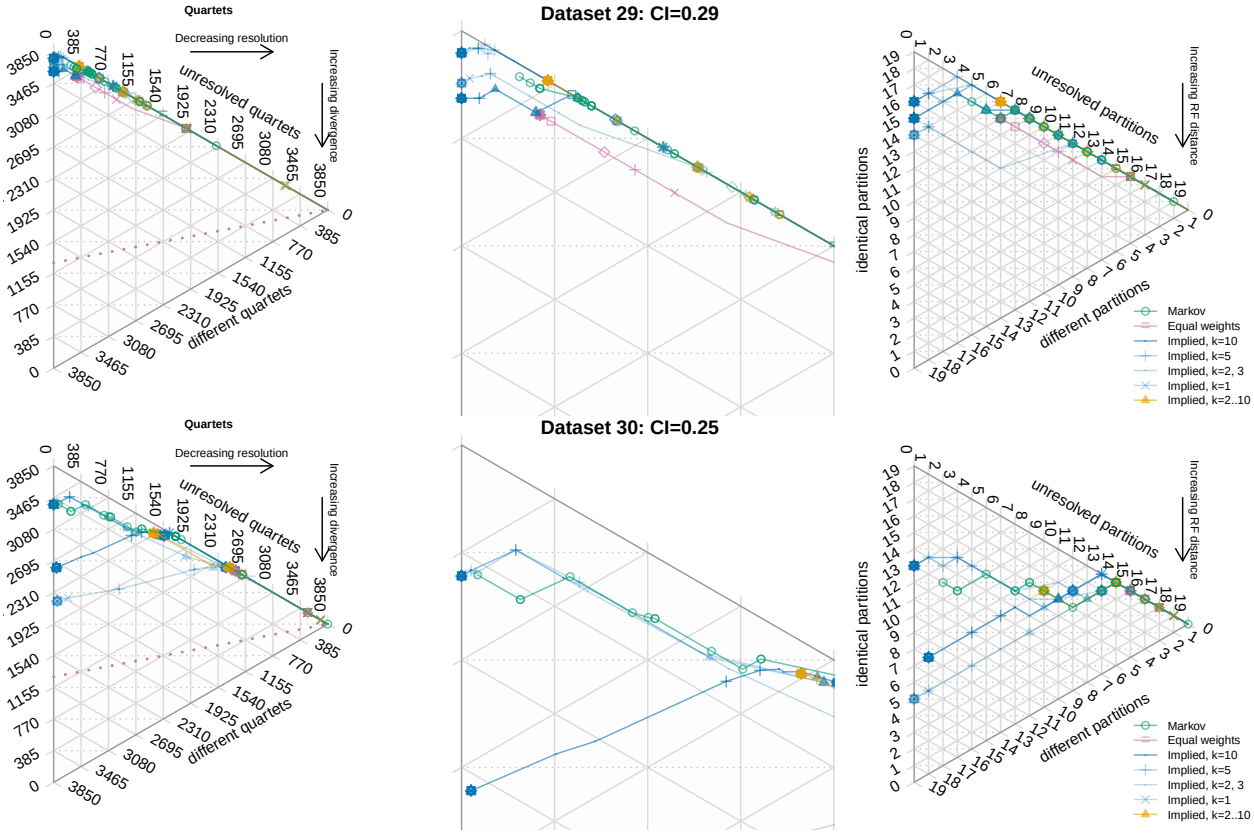




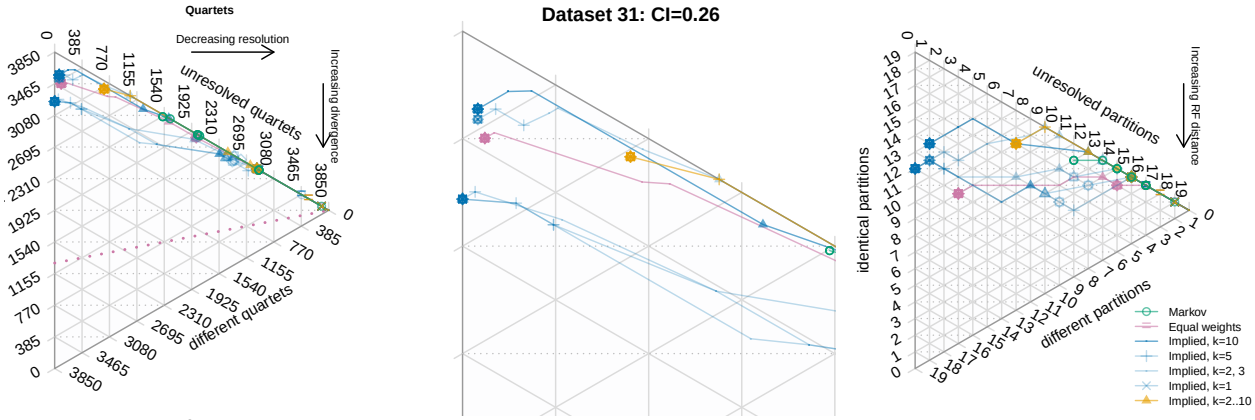


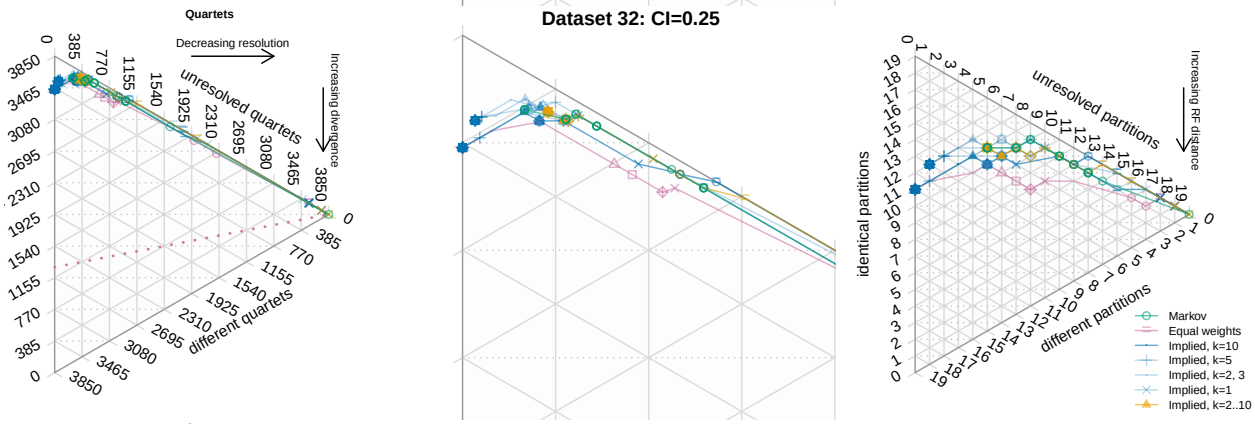


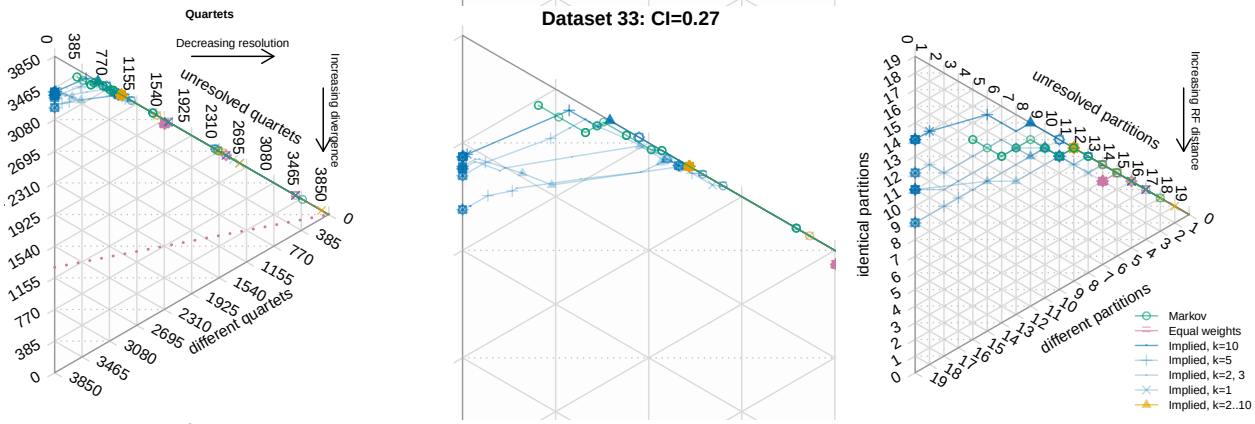

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 25: CI=0.28
Dataset 26: CI=0.27
Dataset 27: CI=0.26
Dataset 28: CI=0.27
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

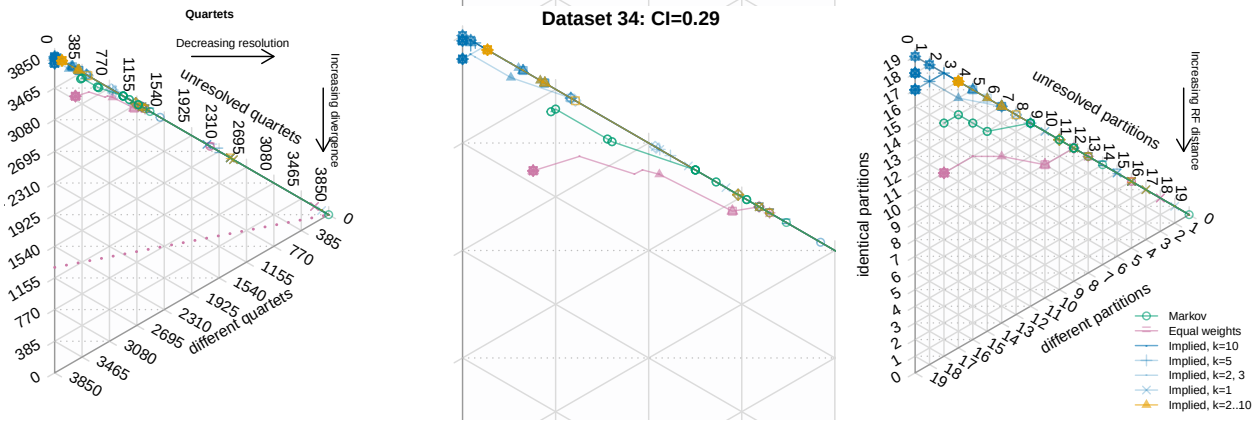

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 29: CI=0.29
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 30: CI=0.25
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

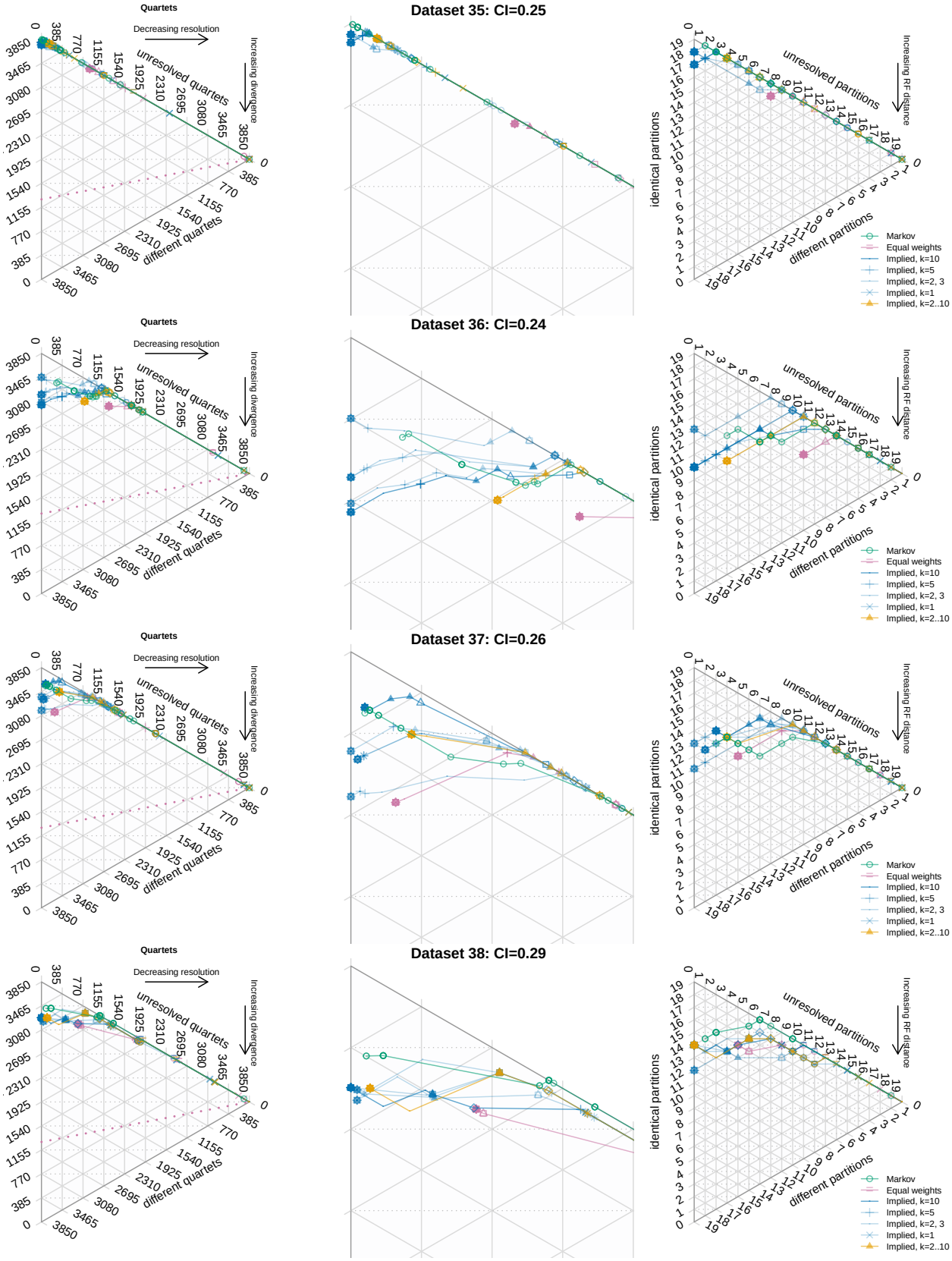
0.5 Trees 31–40

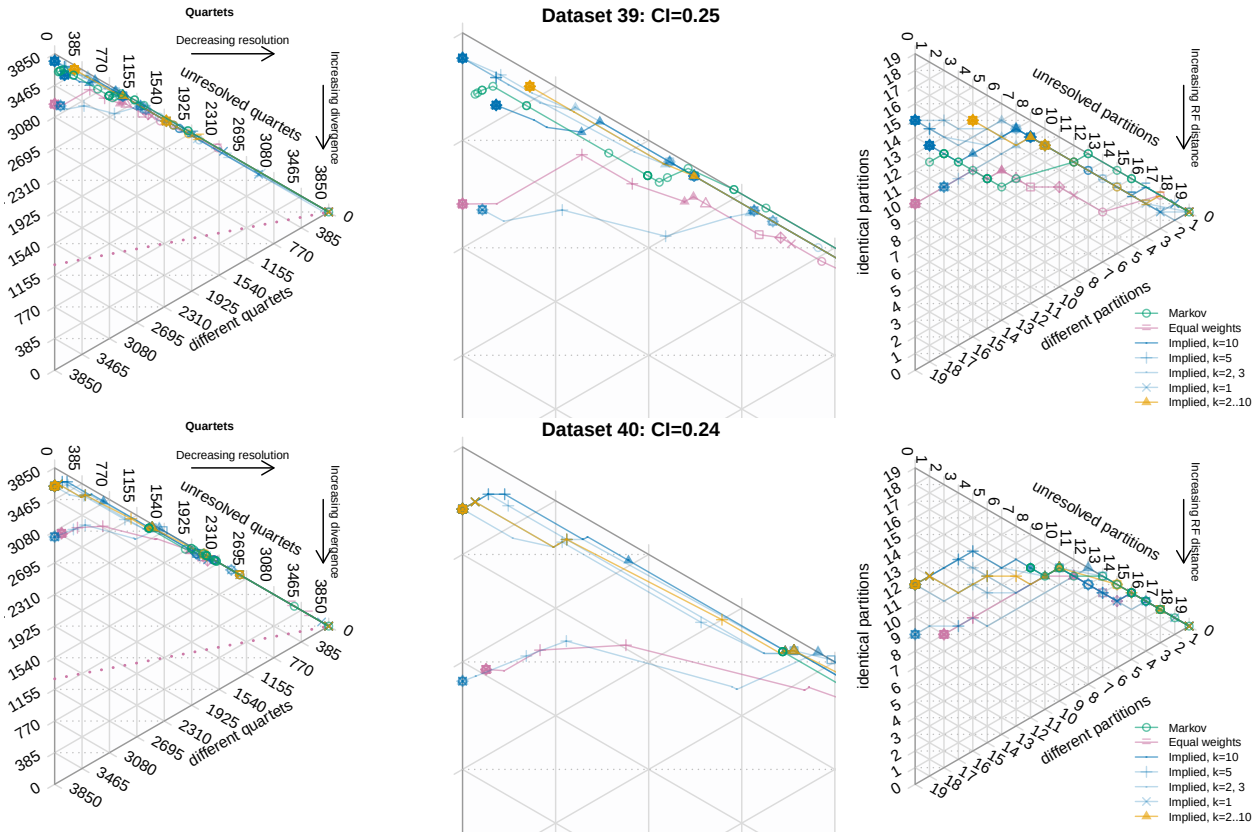




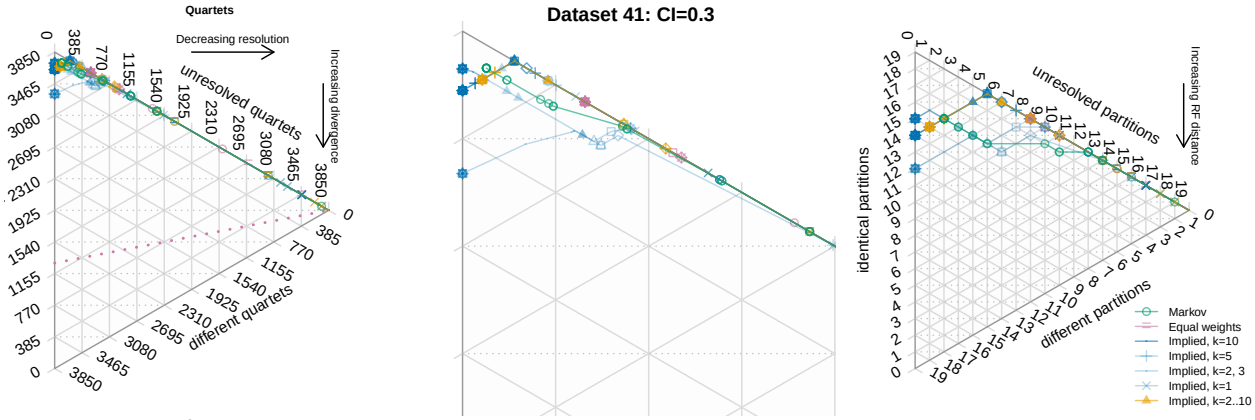


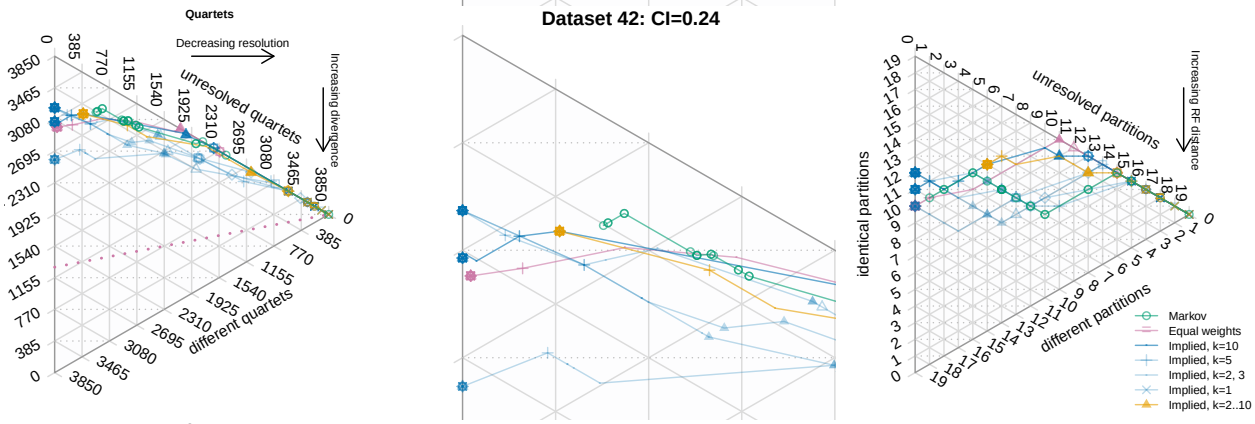


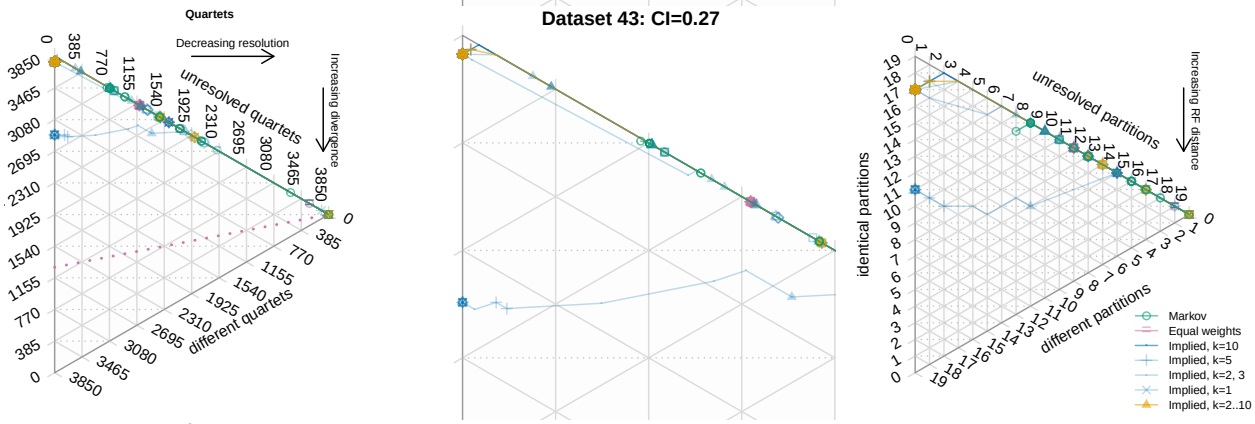

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 35: CI=0.25
Dataset 36: CI=0.24
Dataset 37: CI=0.26
Dataset 38: CI=0.29
unresolved partitions
identical partitions
Increasing RF distance
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

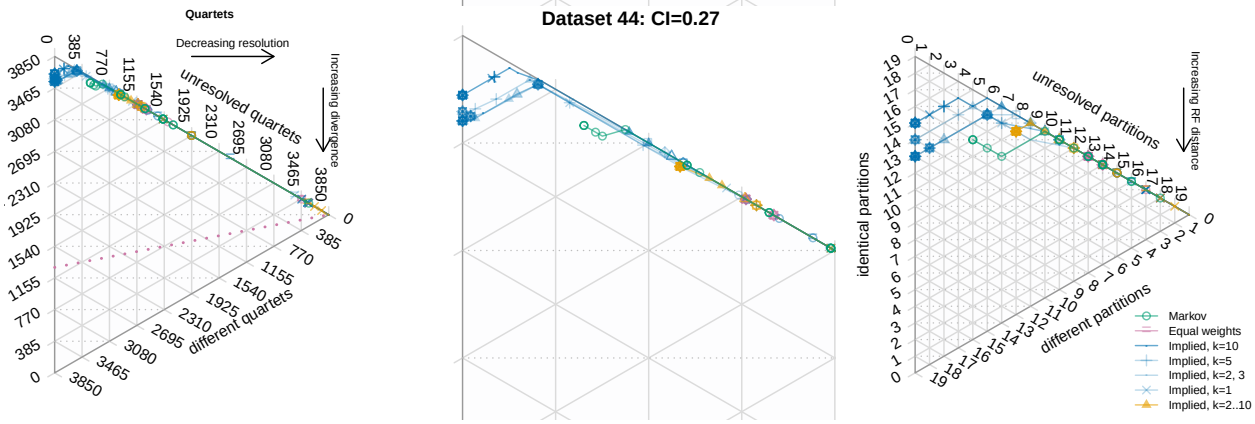

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 39: CI=0.25
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 40: 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

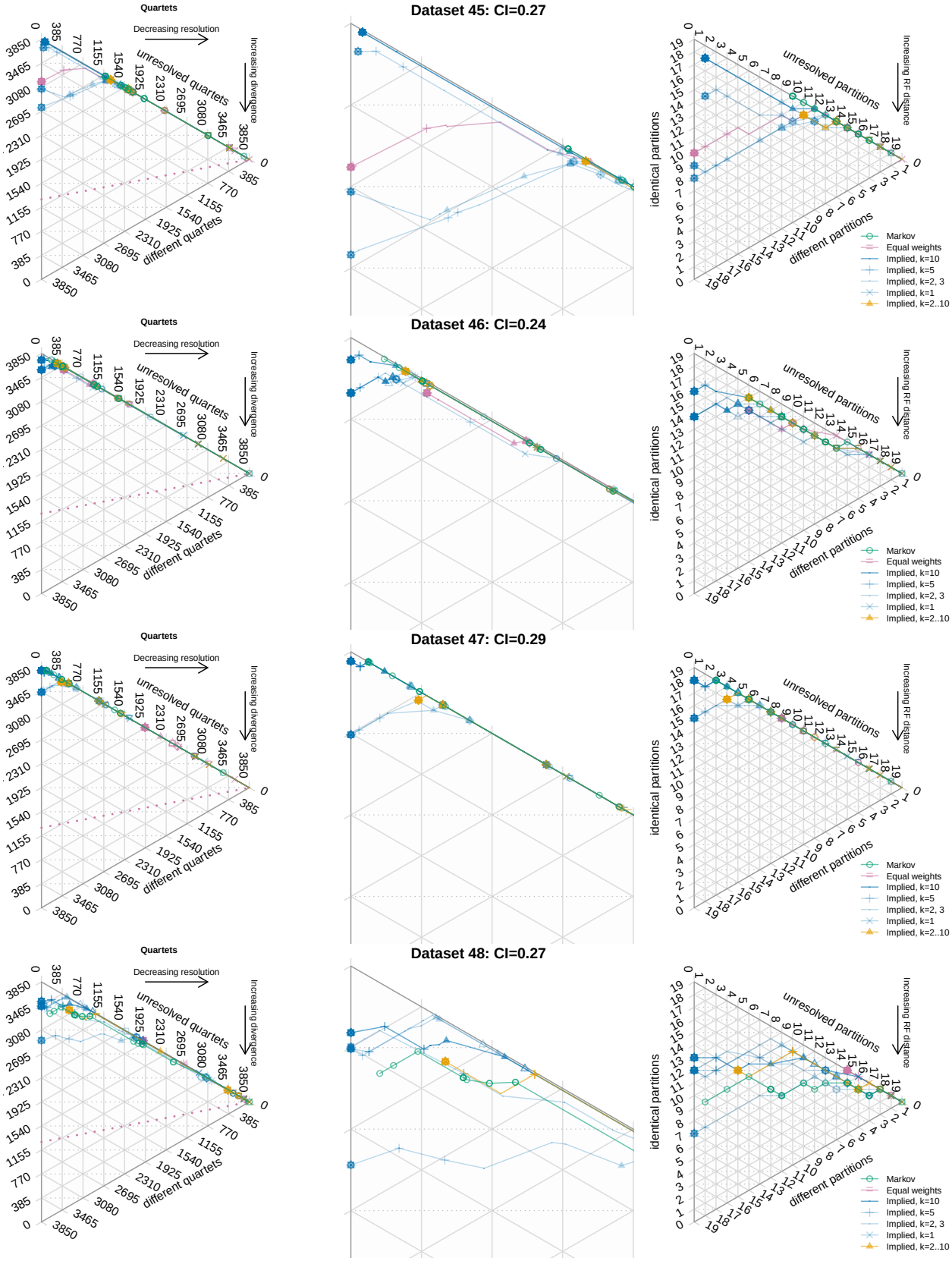
0.6 Trees 41–50

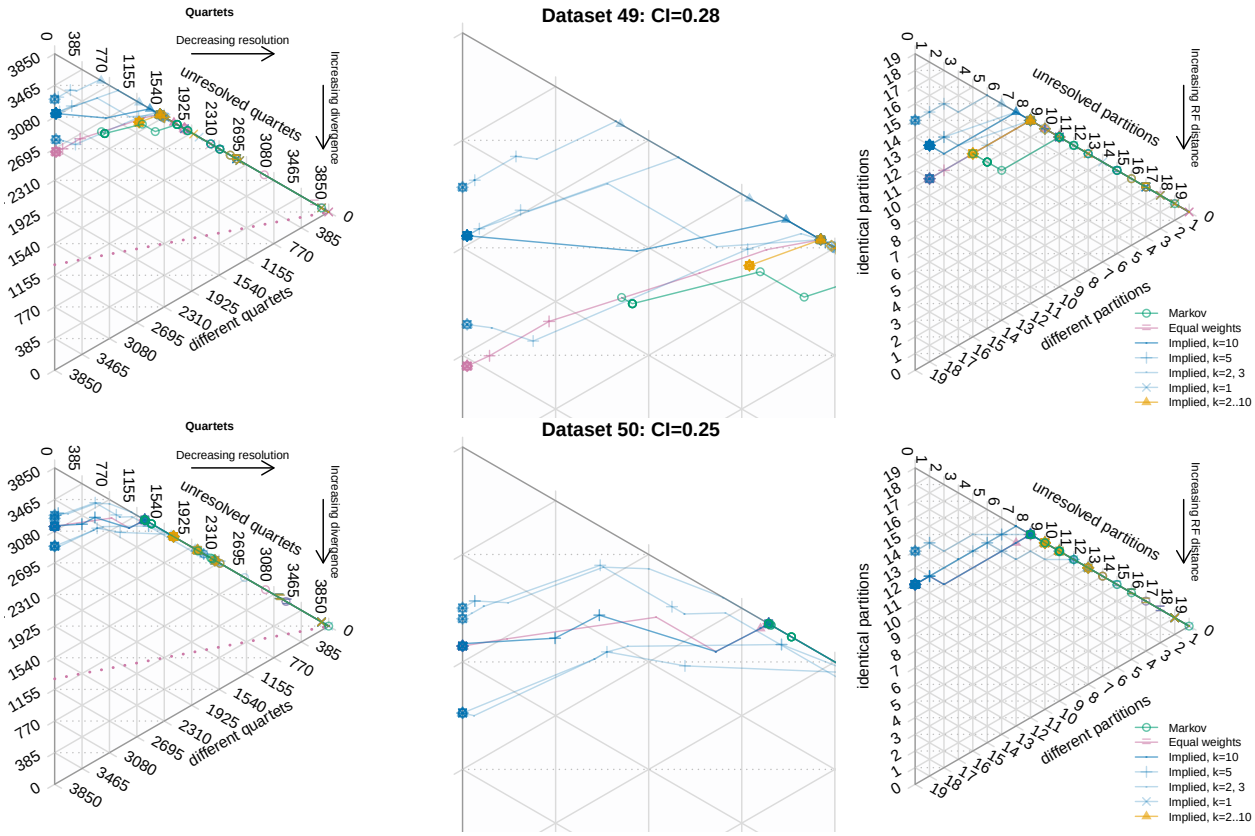




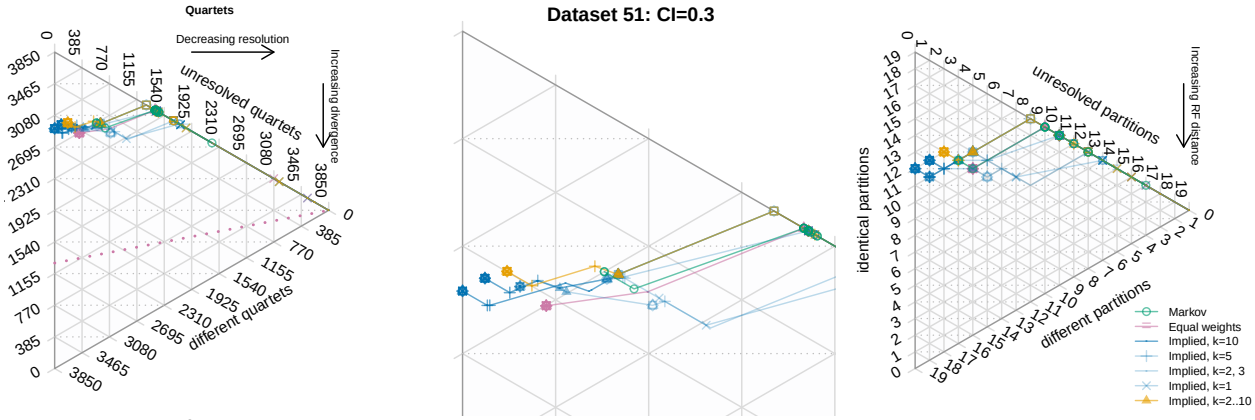


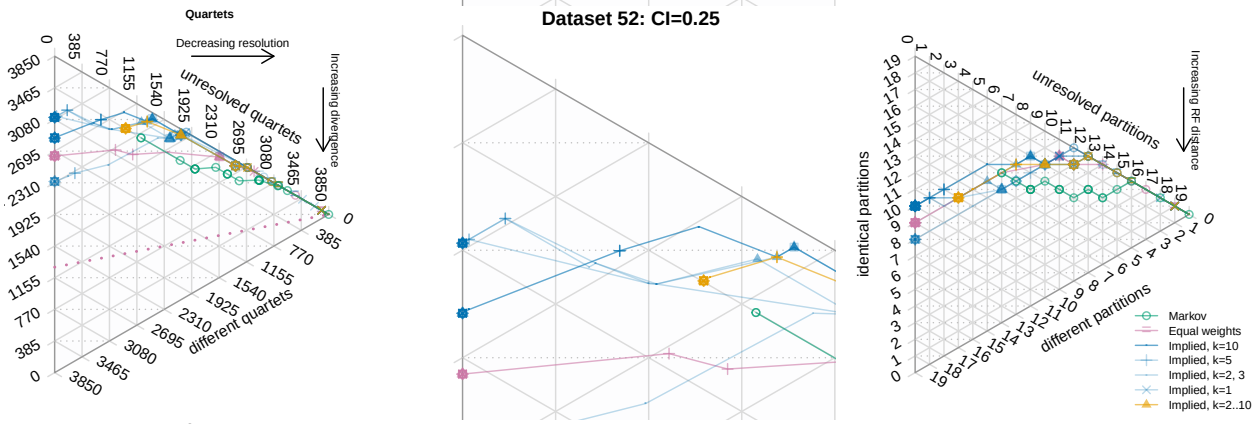


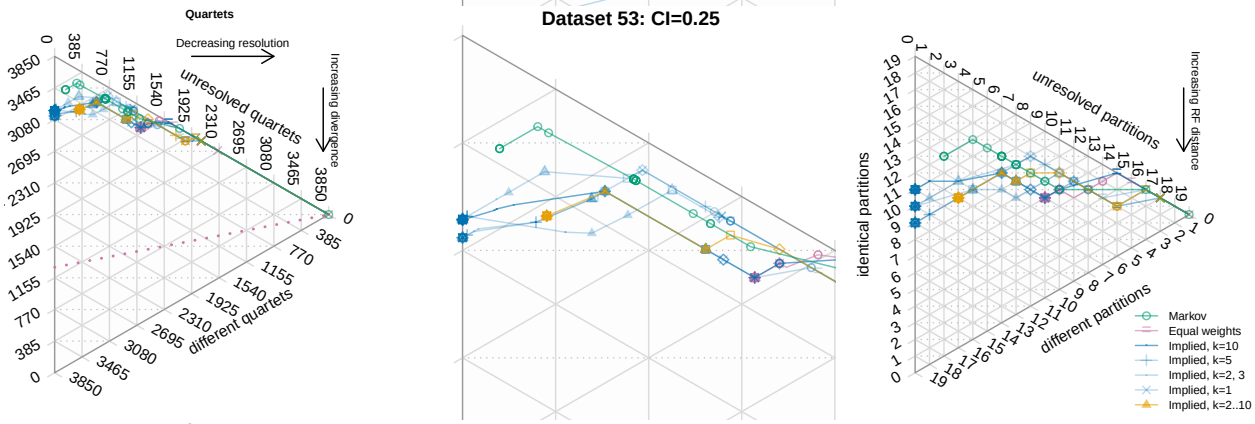

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 45: CI=0.27
Dataset 46: CI=0.24
Dataset 47: CI=0.29
Dataset 48: CI=0.27
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

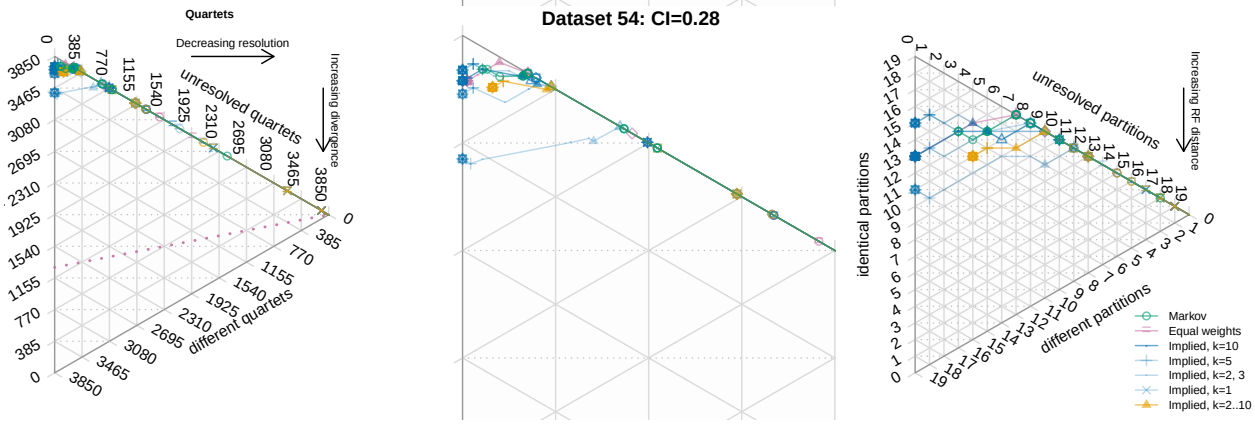

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 49: CI=0.28
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 50: CI=0.25
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

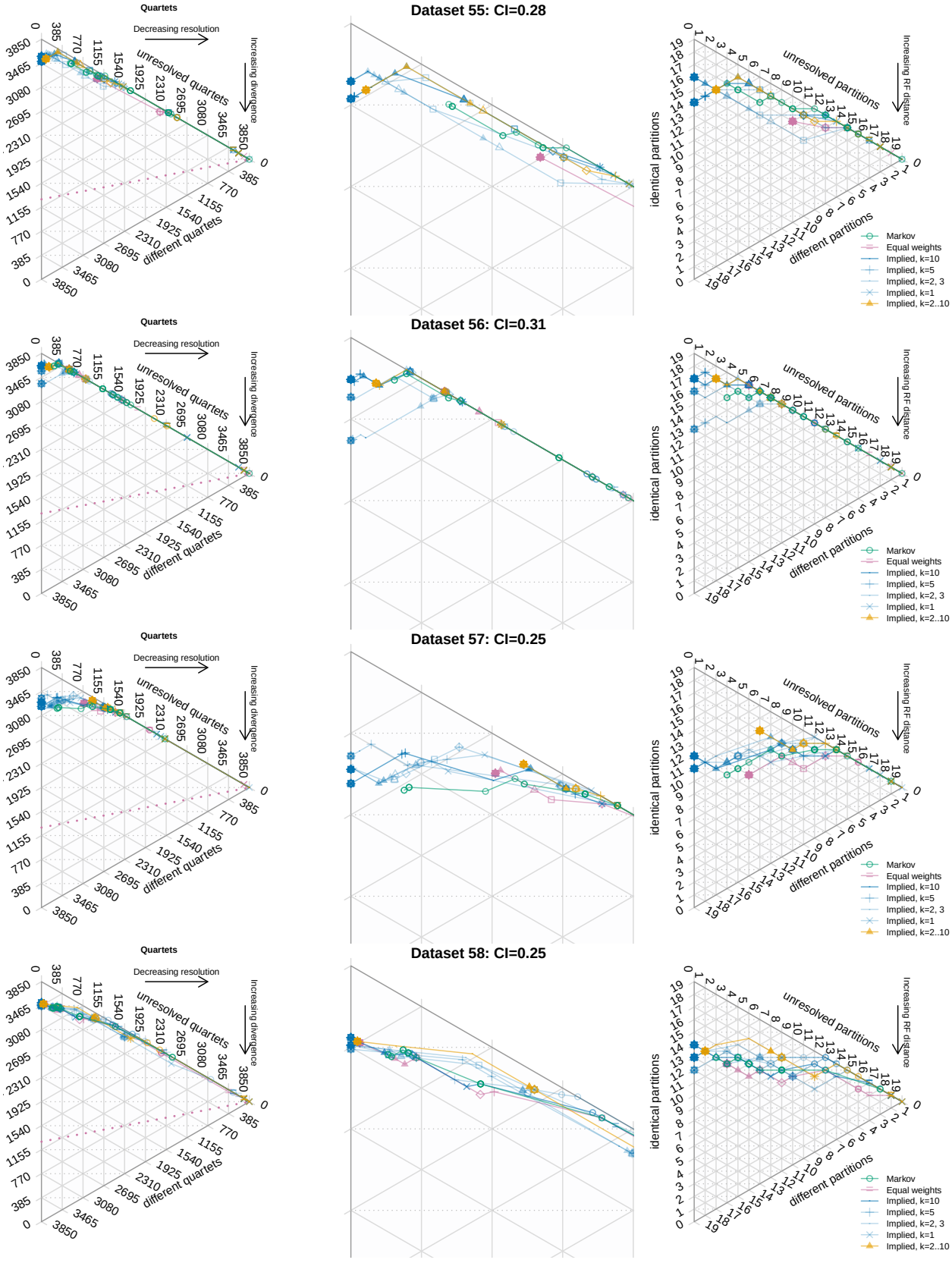
0.7 Trees 51–60

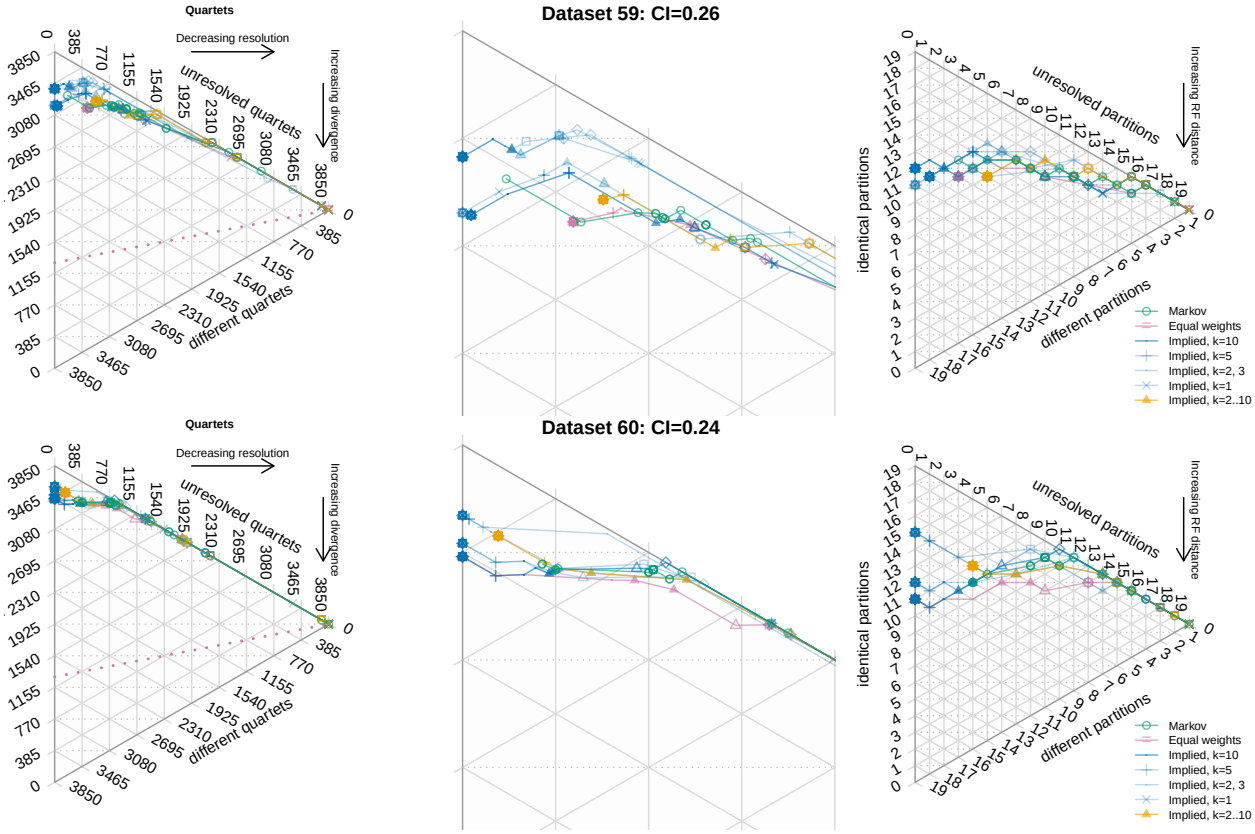




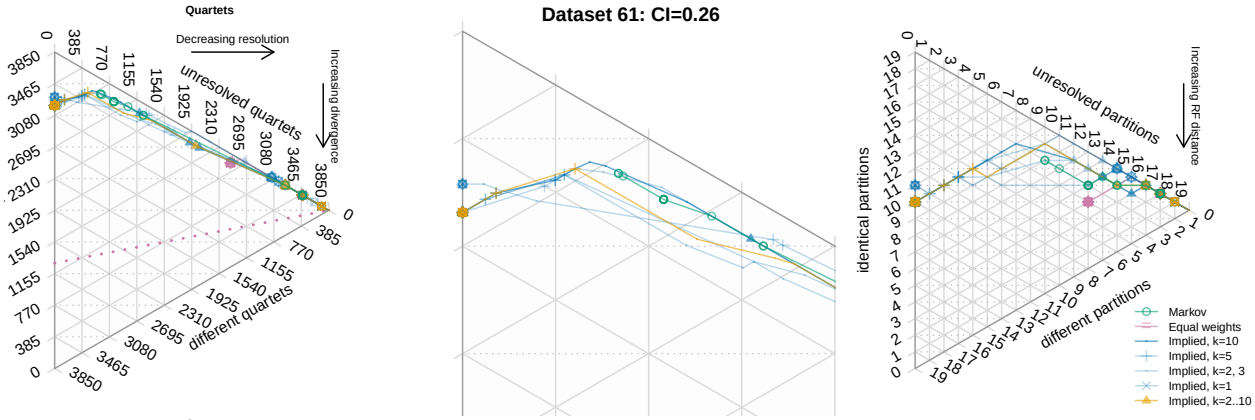


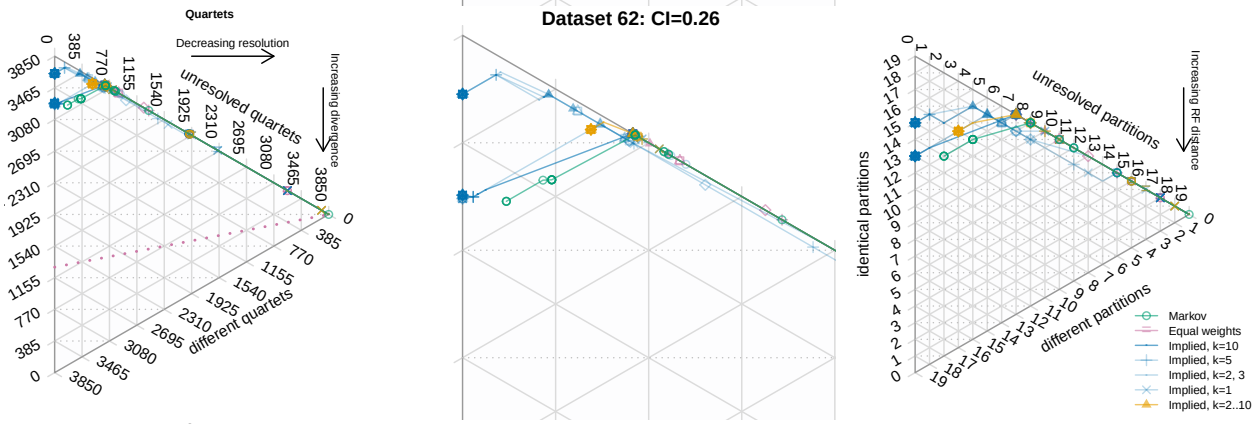


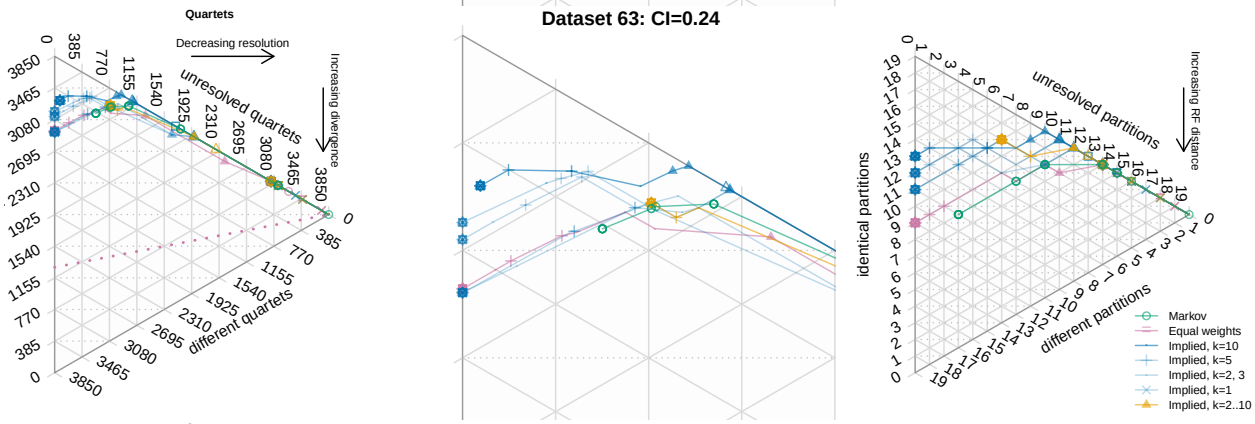

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 55: CI=0.28
Dataset 56: CI=0.31
Dataset 57: CI=0.25
Dataset 58: CI=0.25
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

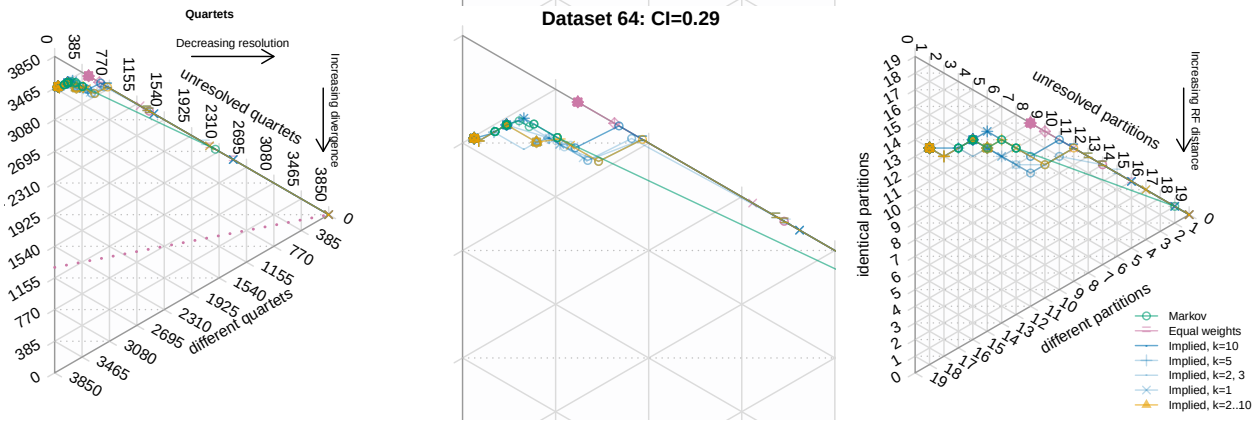

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 59: CI=0.26
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 60: CI=0.24
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

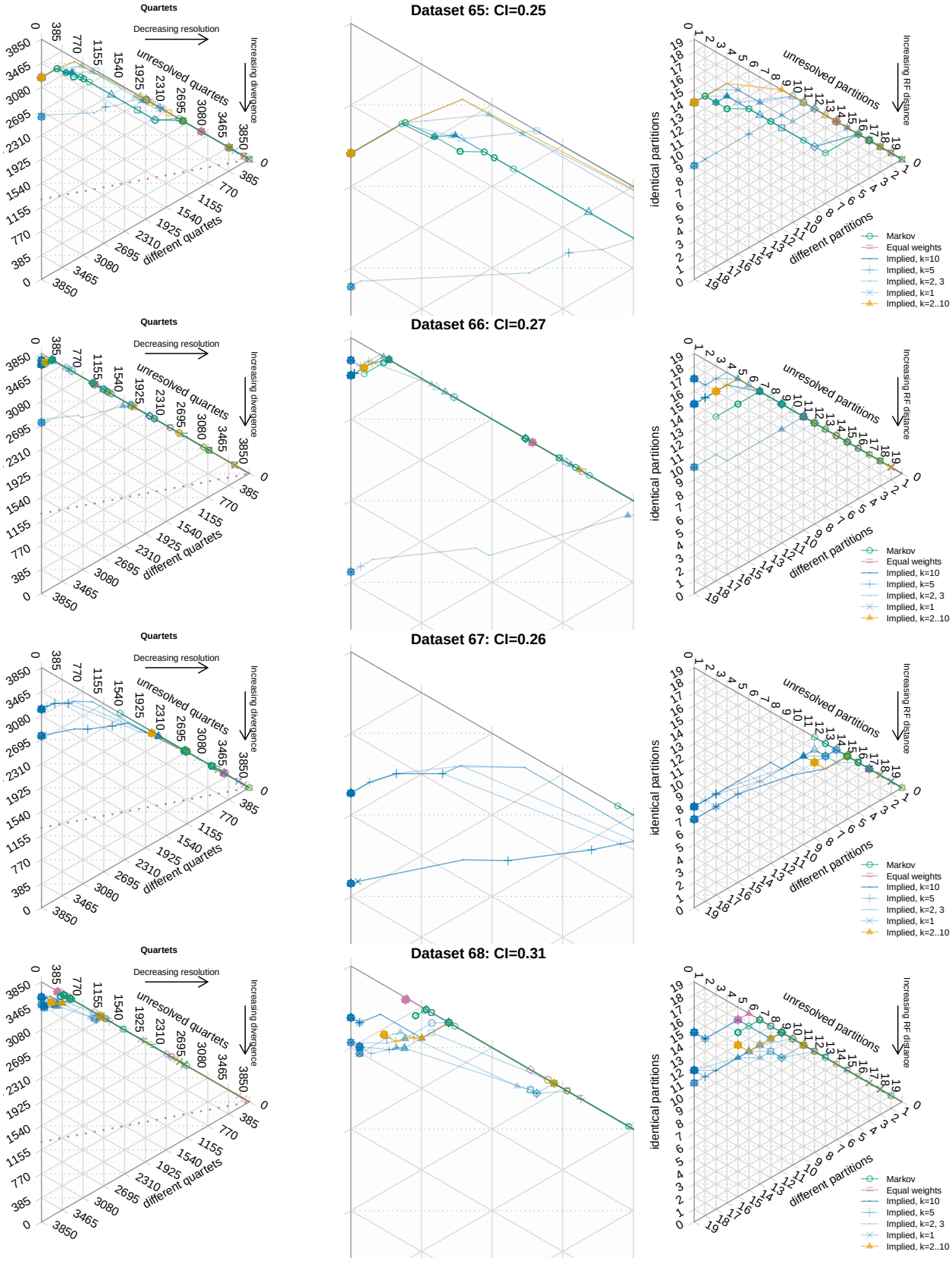
0.8 Trees 61–70

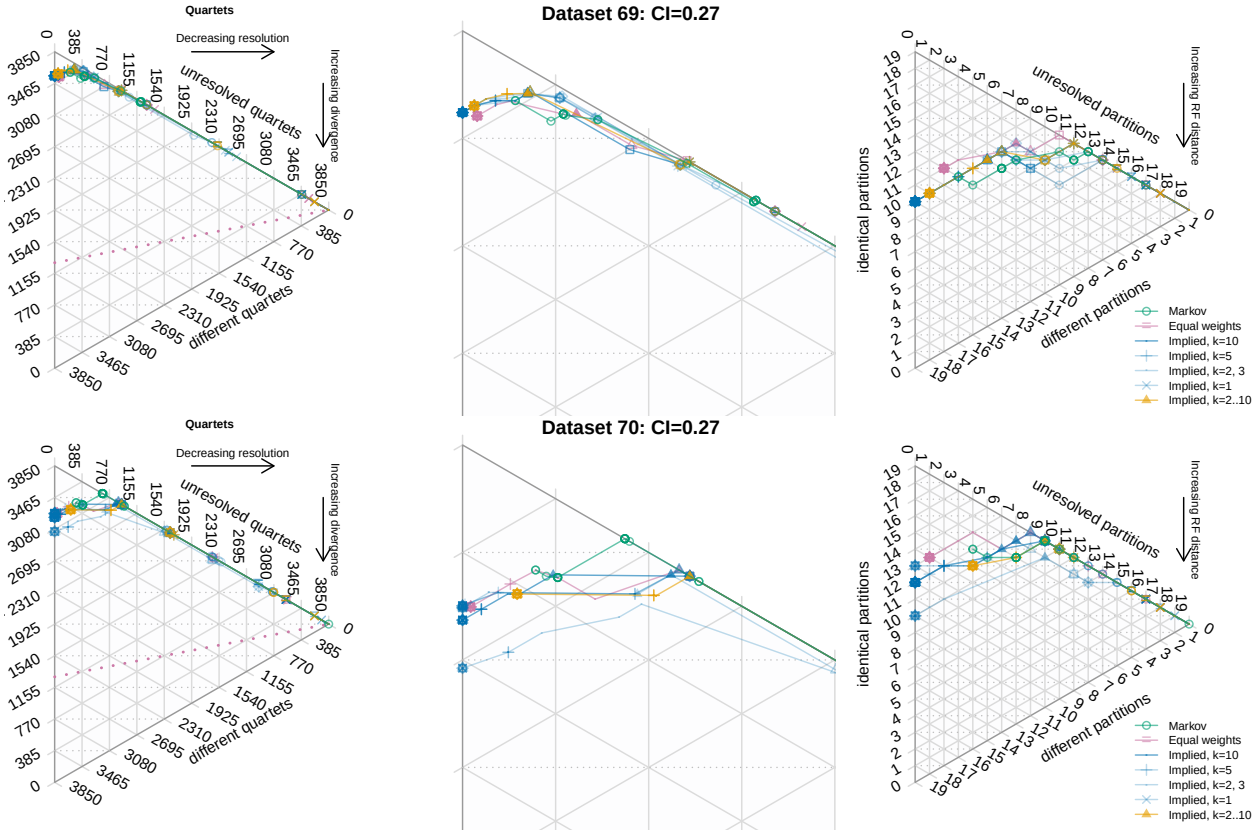




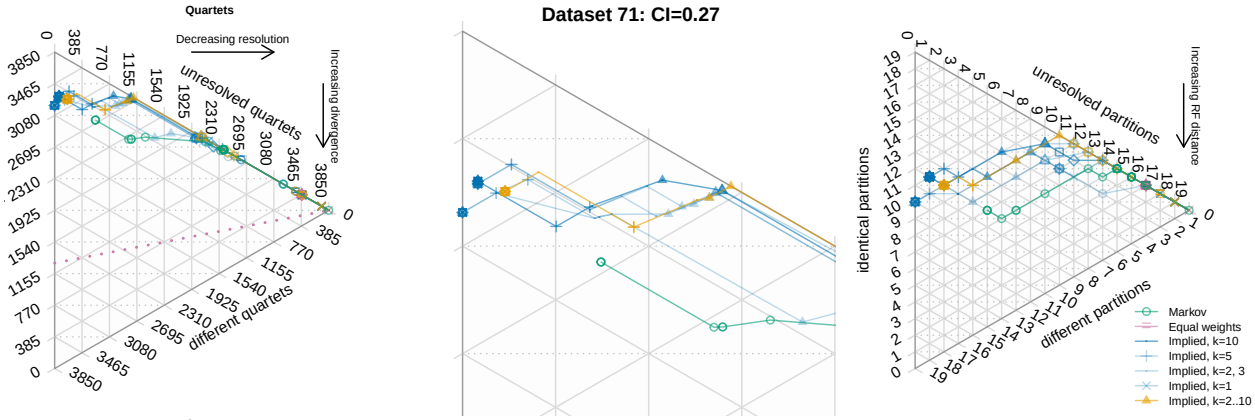


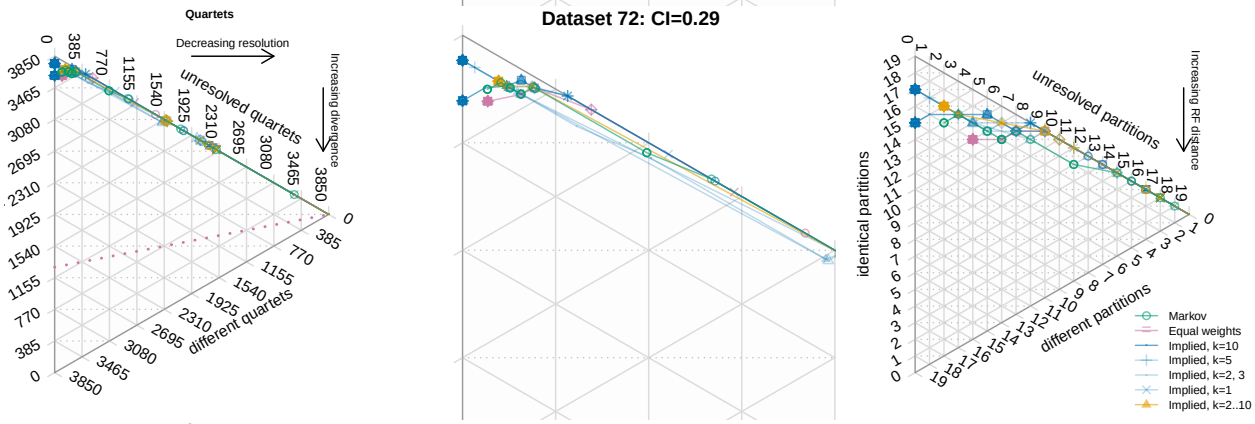


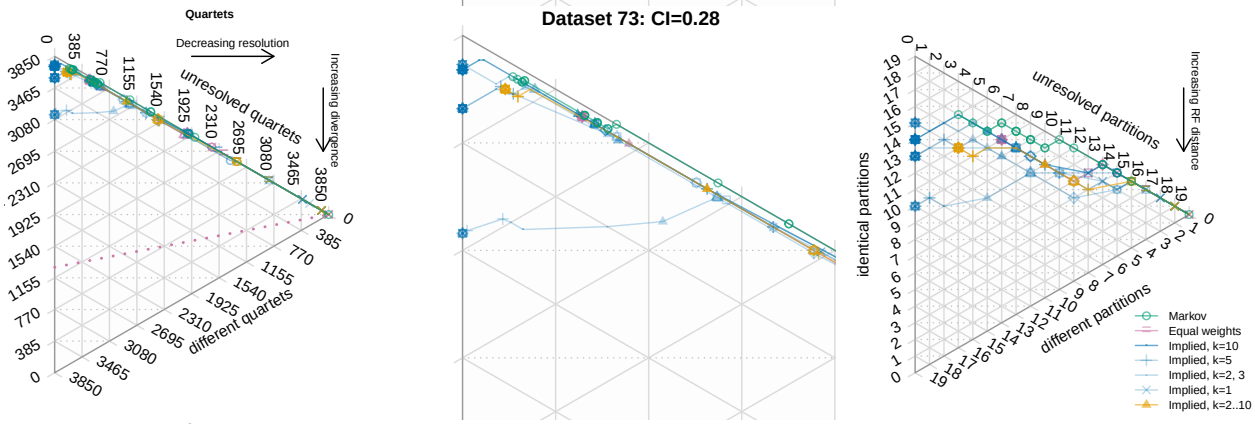

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 65: CI=0.25
Dataset 66: CI=0.27
Dataset 67: CI=0.26
Dataset 68: CI=0.31
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

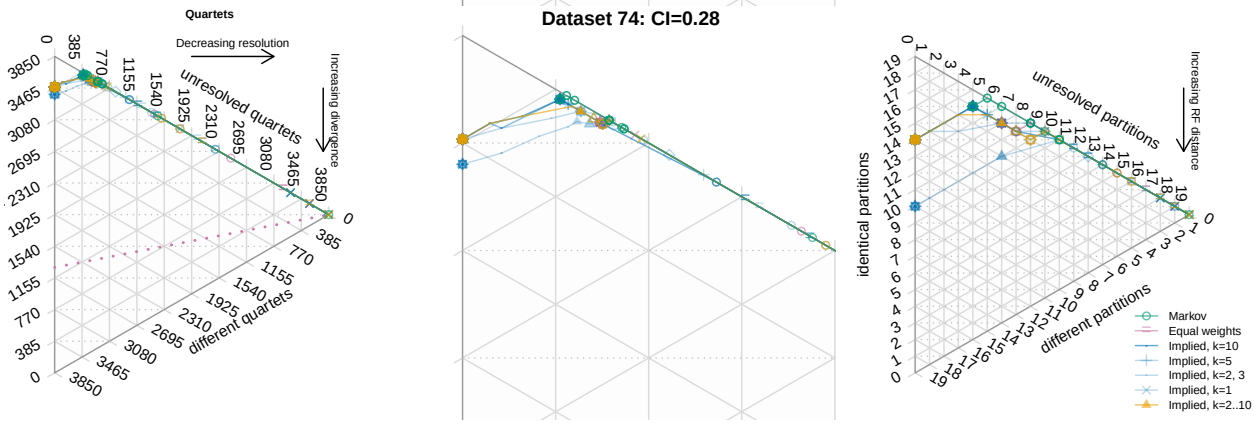

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 69: CI=0.27
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 70: CI=0.27
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

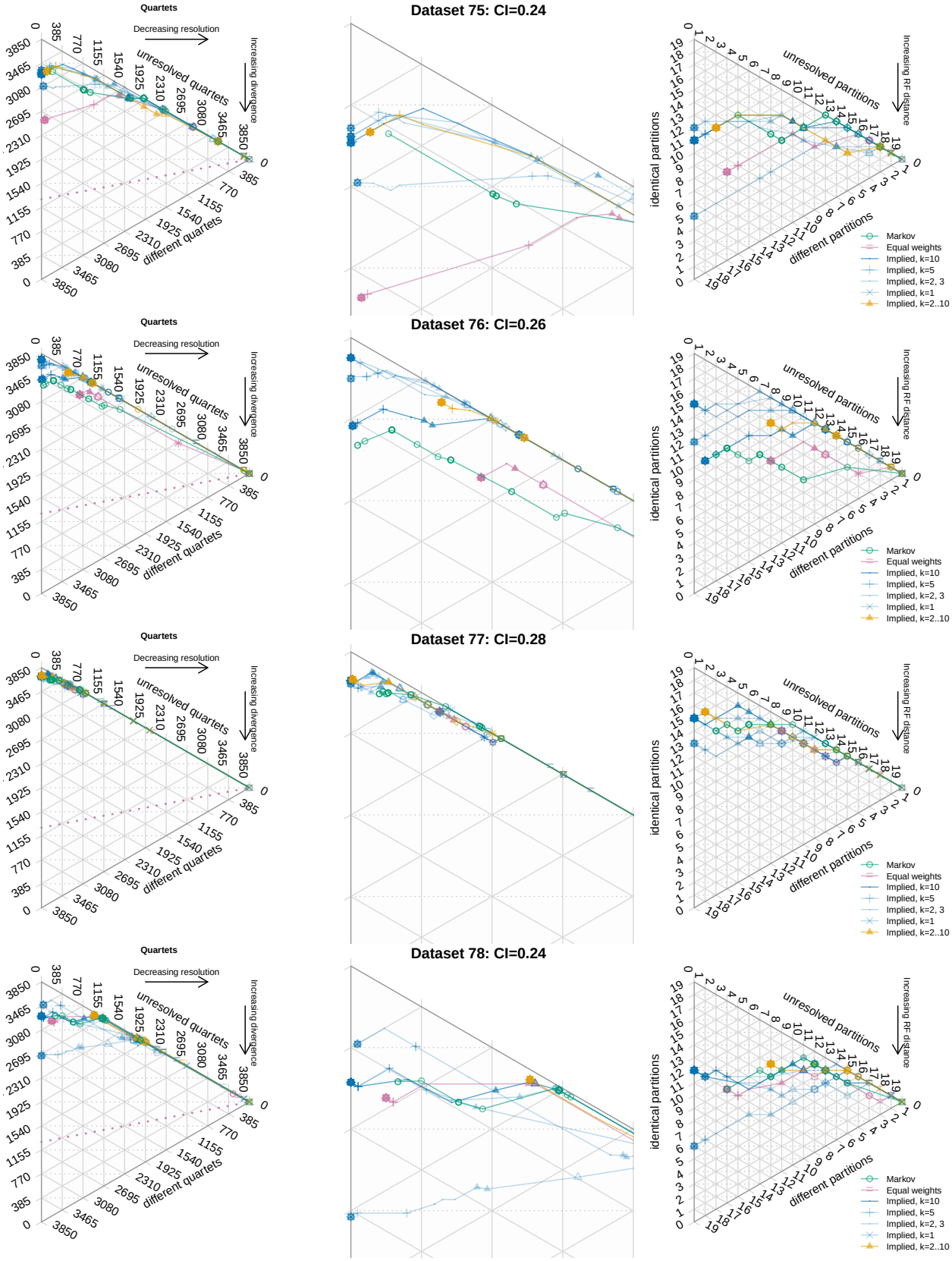
0.9 Trees 71–80

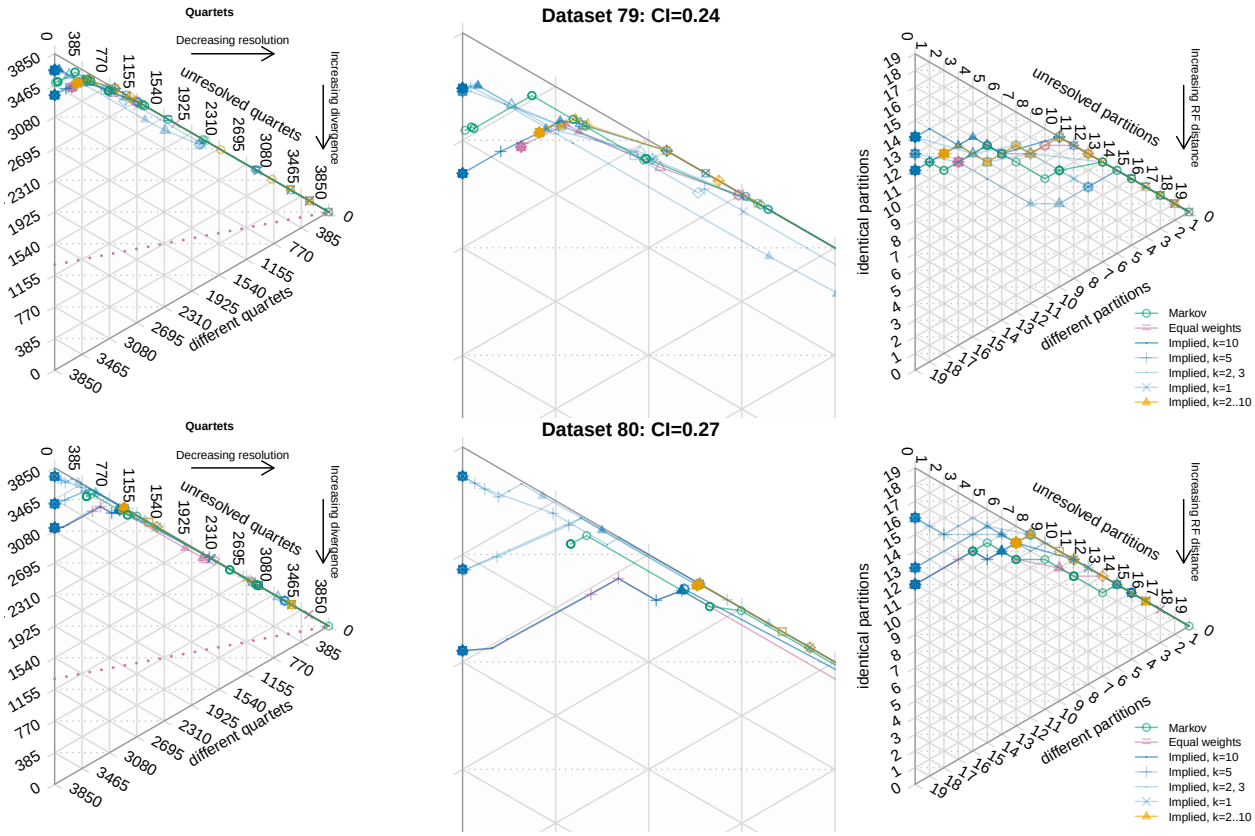




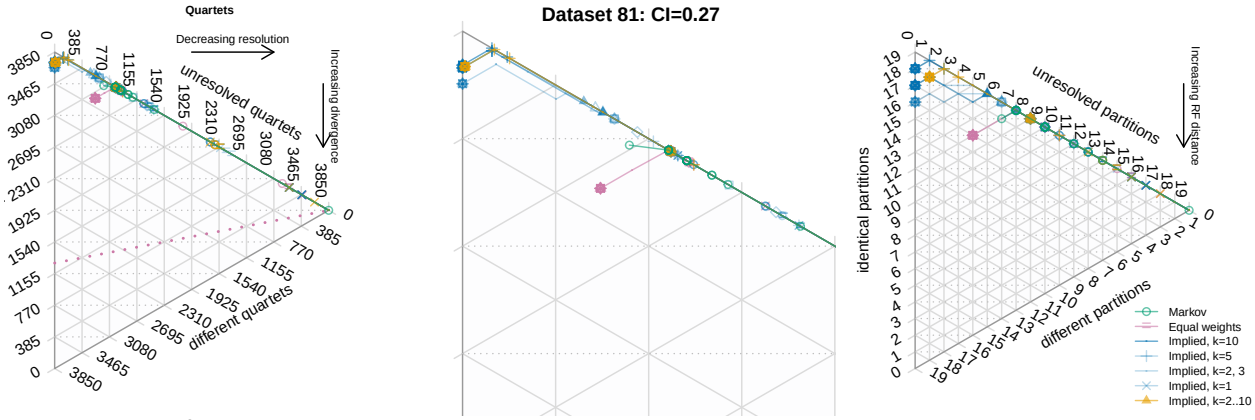


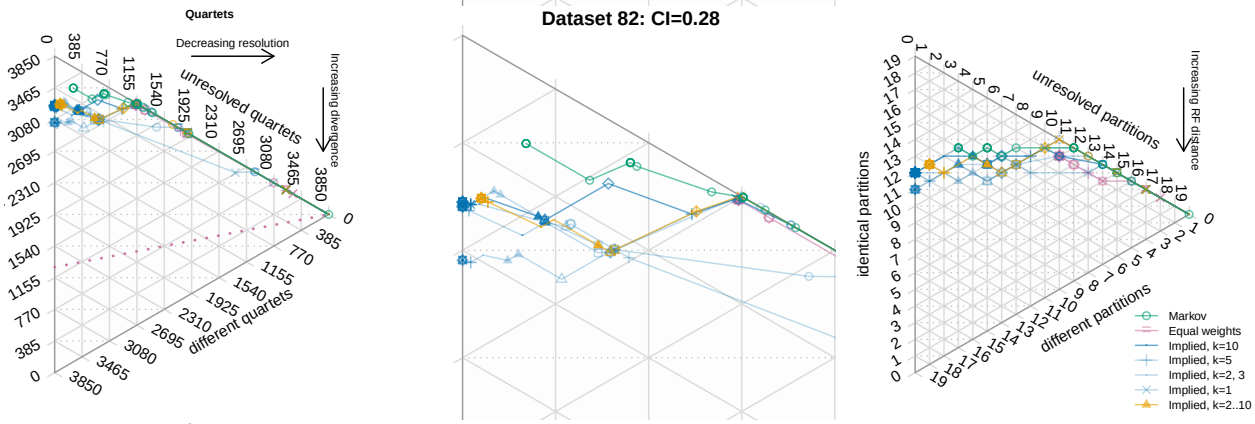


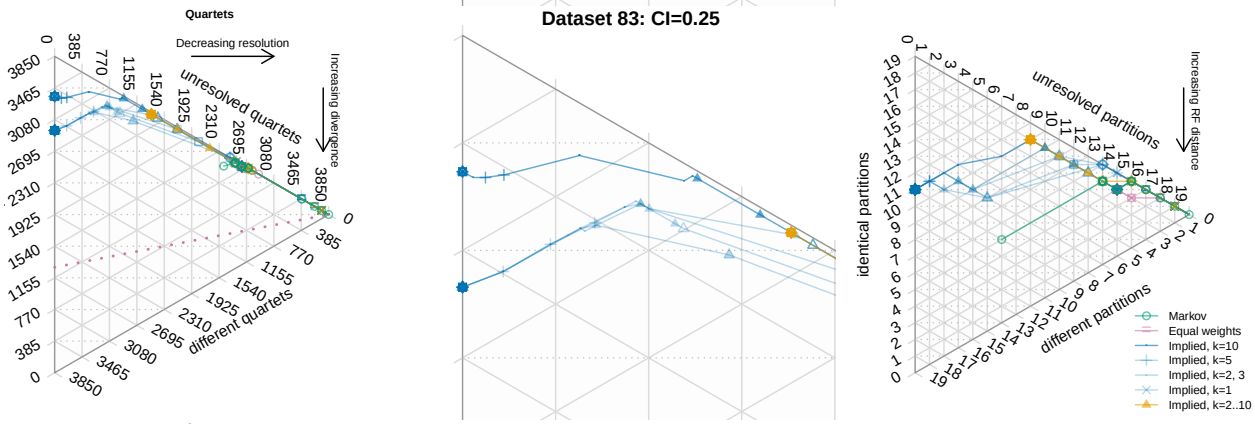

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 75: CI=0.24
Dataset 76: CI=0.26
Dataset 77: CI=0.28
Dataset 78: CI=0.24
identical partitions
unresolved partitions
Increasing RF distance
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

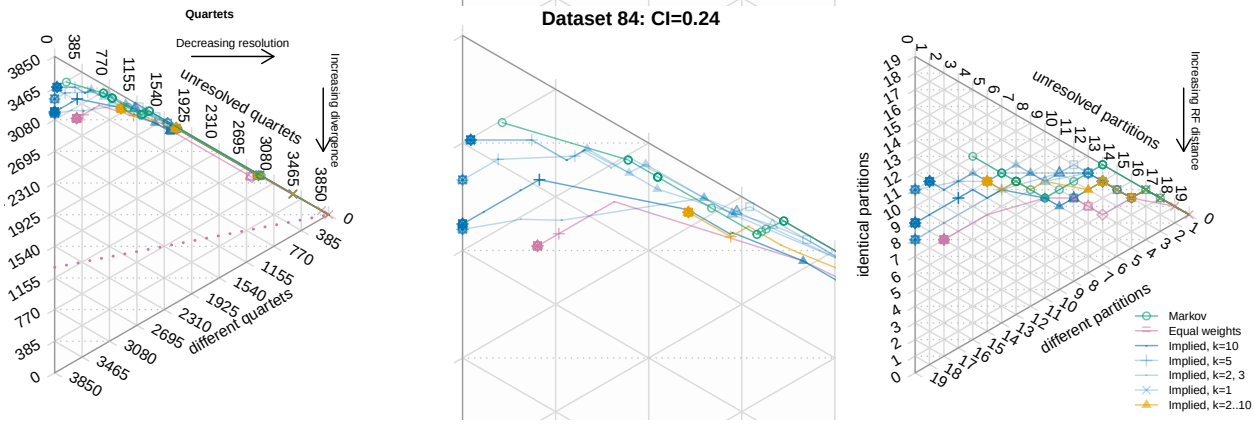

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 79: CI=0.24
identical partitions
unresolved partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 80: 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

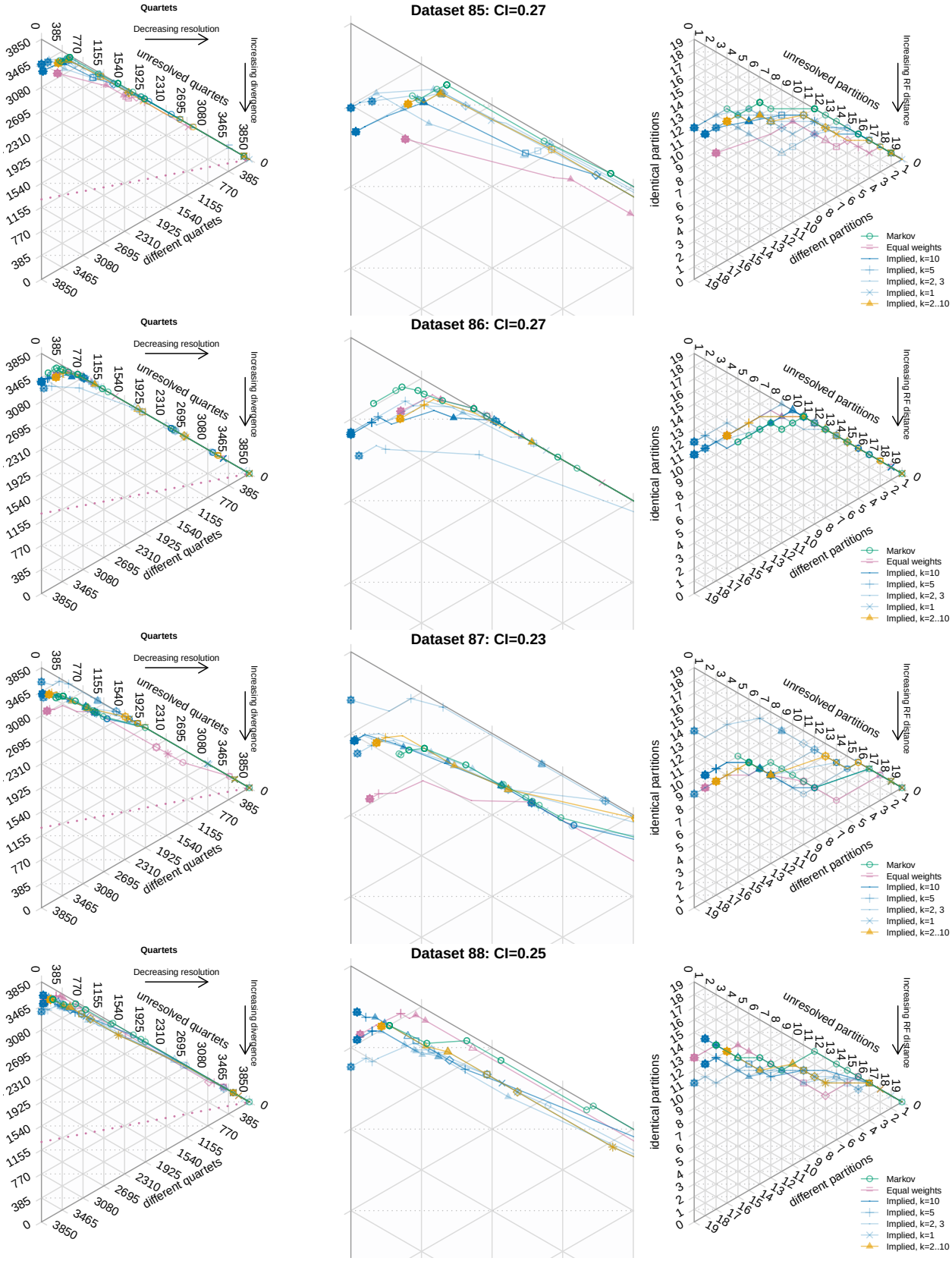
0.10 Trees 81–90

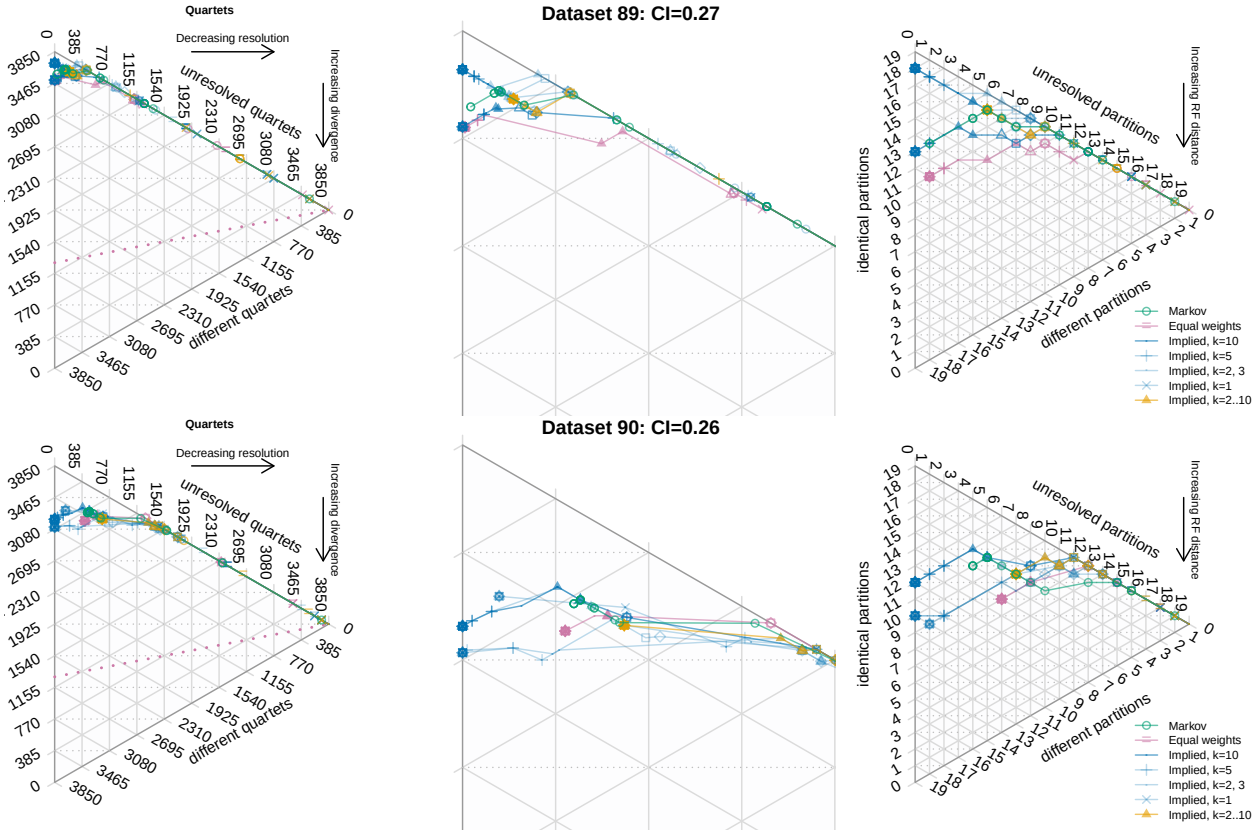




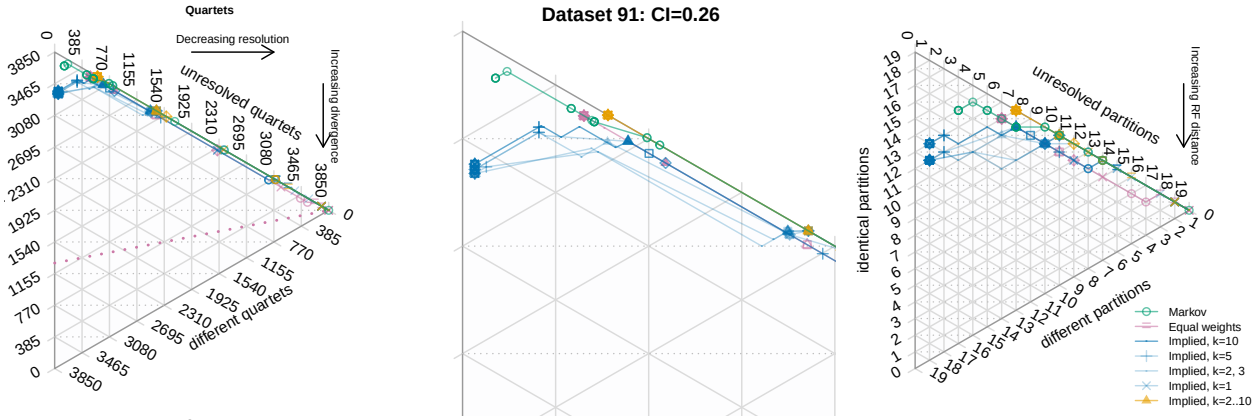


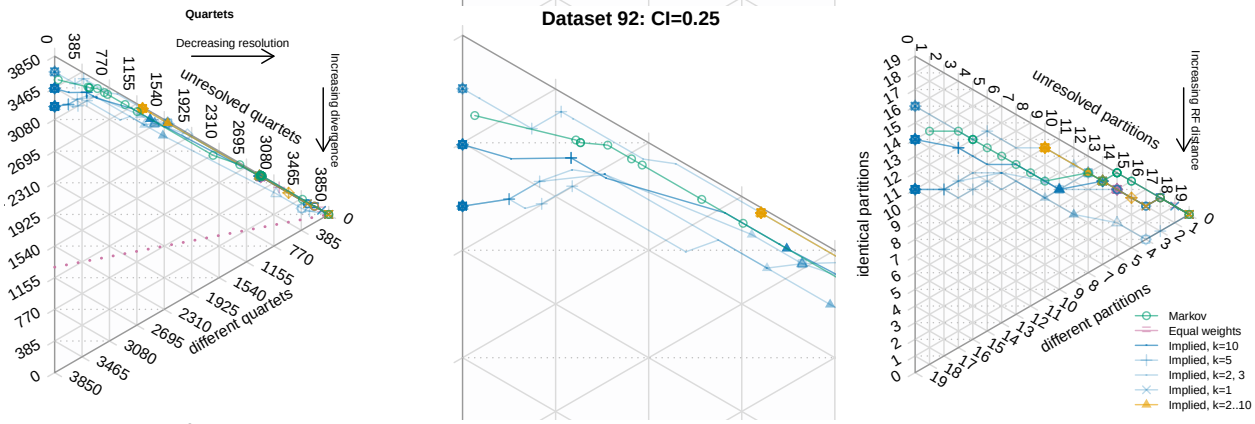


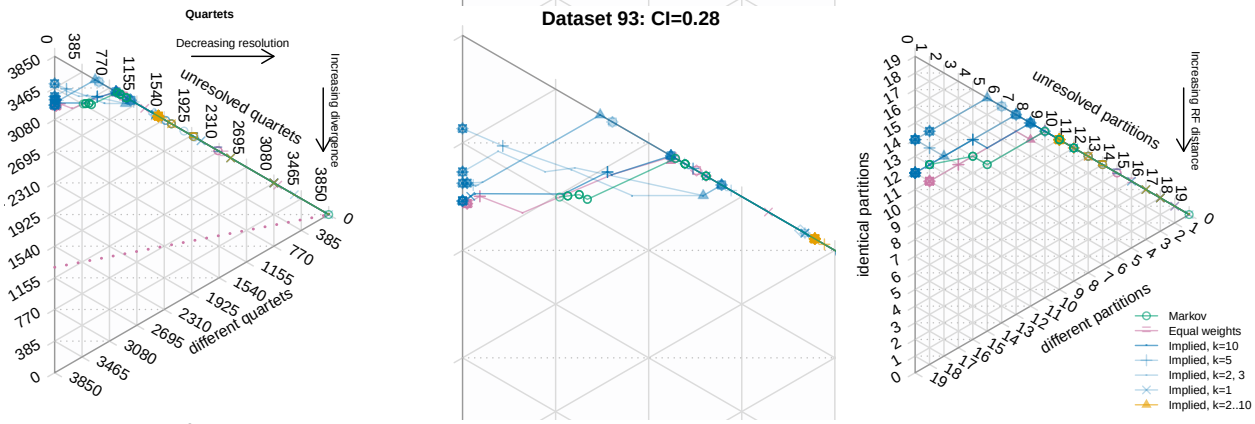

Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 85: CI=0.27
Dataset 86: CI=0.27
Dataset 87: CI=0.23
Dataset 88: CI=0.25
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10

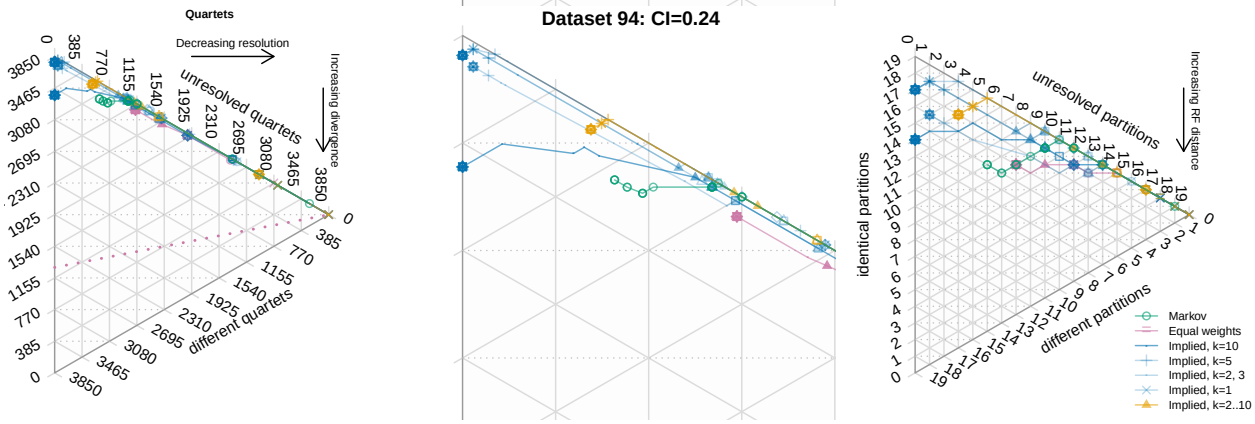

Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 89: CI=0.27
unresolved partitions
identical partitions
different partitions
Increasing RF distance
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10
Quartets
Decreasing resolution
Increasing divergence
unresolved quartets
different quartets
Dataset 90: CI=0.26
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

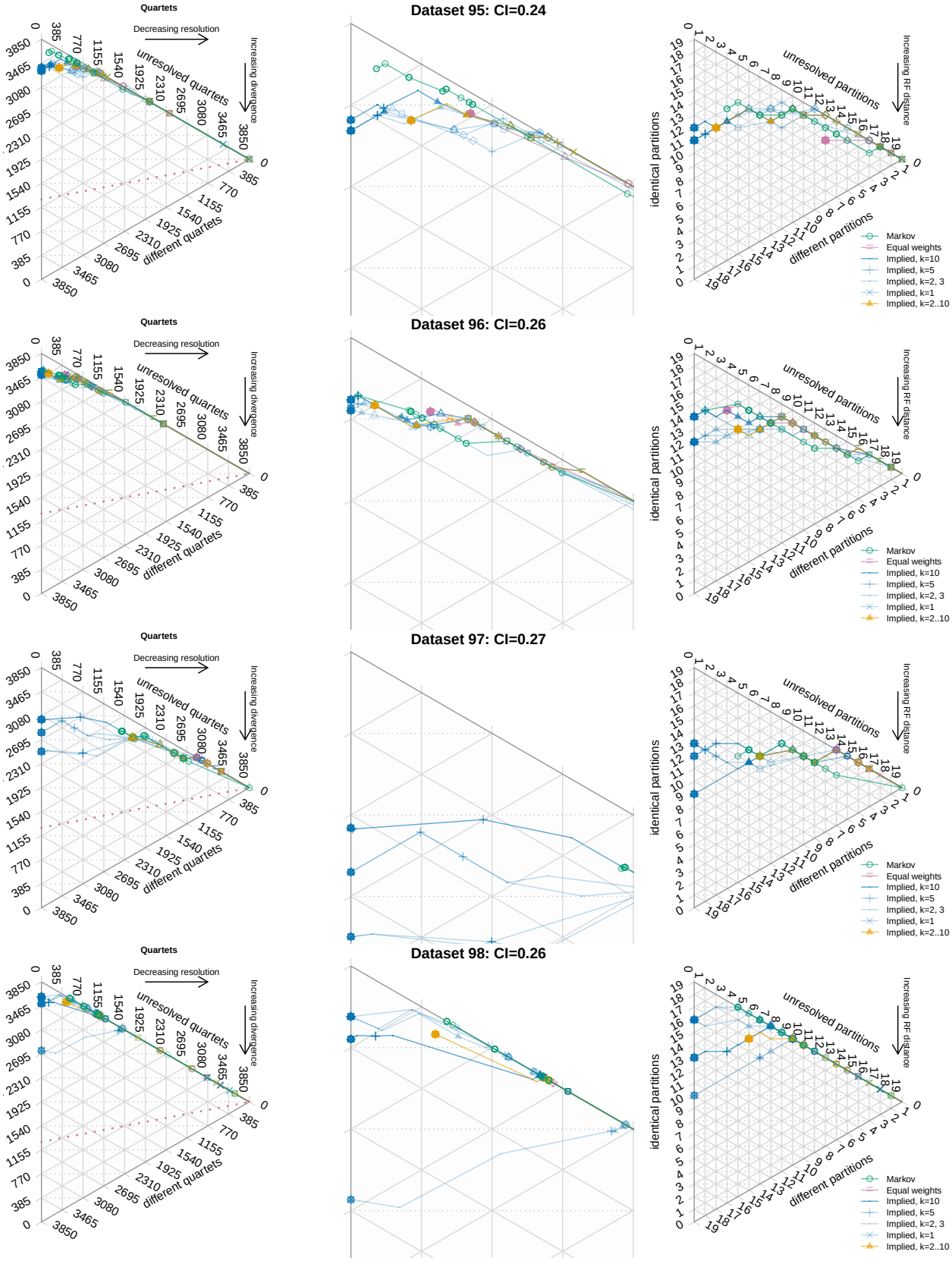
0.11 Trees 91–100

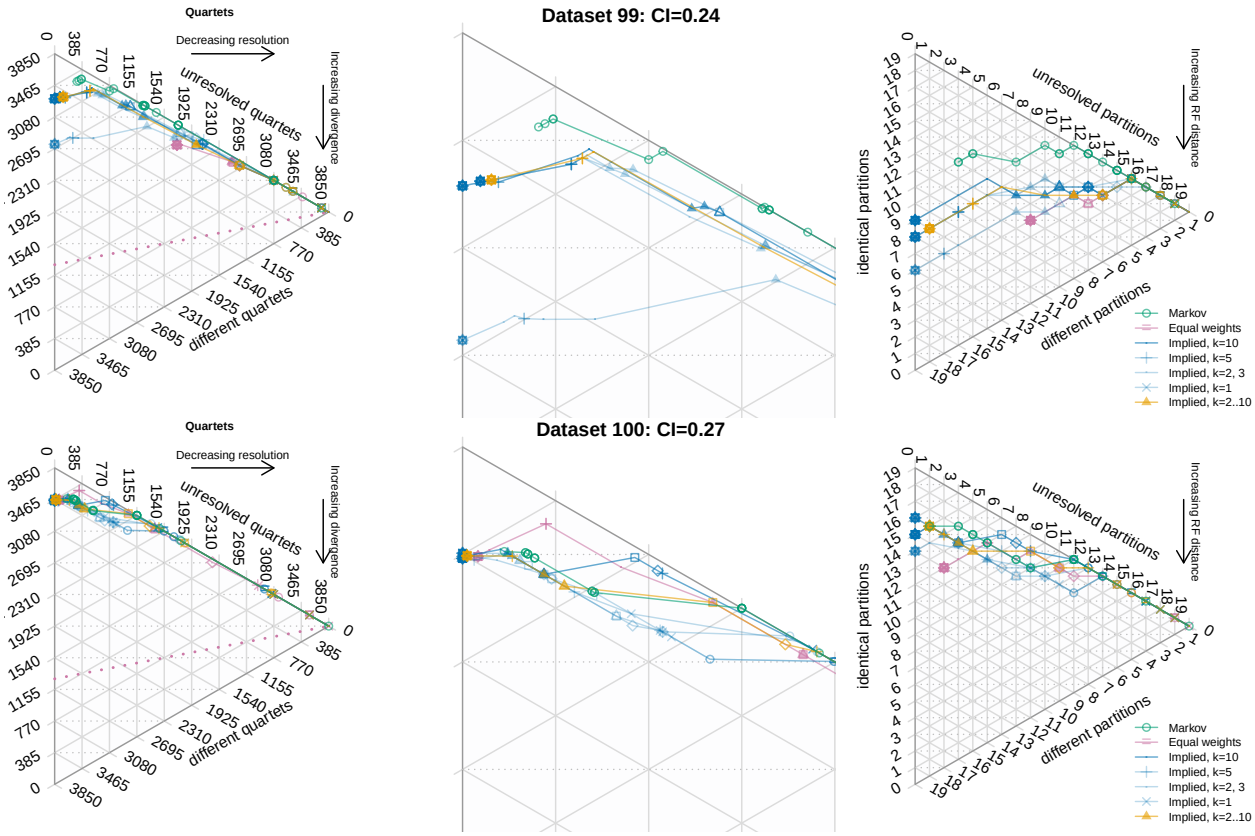









Quartets
Decreasing resolution
unresolved quartets
Increasing divergence
different quartets
Dataset 95: CI=0.24
Dataset 96: CI=0.26
Dataset 97: CI=0.27
Dataset 98: CI=0.26
unresolved partitions
Increasing RF distance
identical partitions
different partitions
Markov
Equal weights
Implied, k=10
Implied, k=5
Implied, k=2, 3
Implied, k=1
Implied, k=2..10



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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)