

Node support efficacy in Congreve & Lamsdell matrices

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2019-02-07

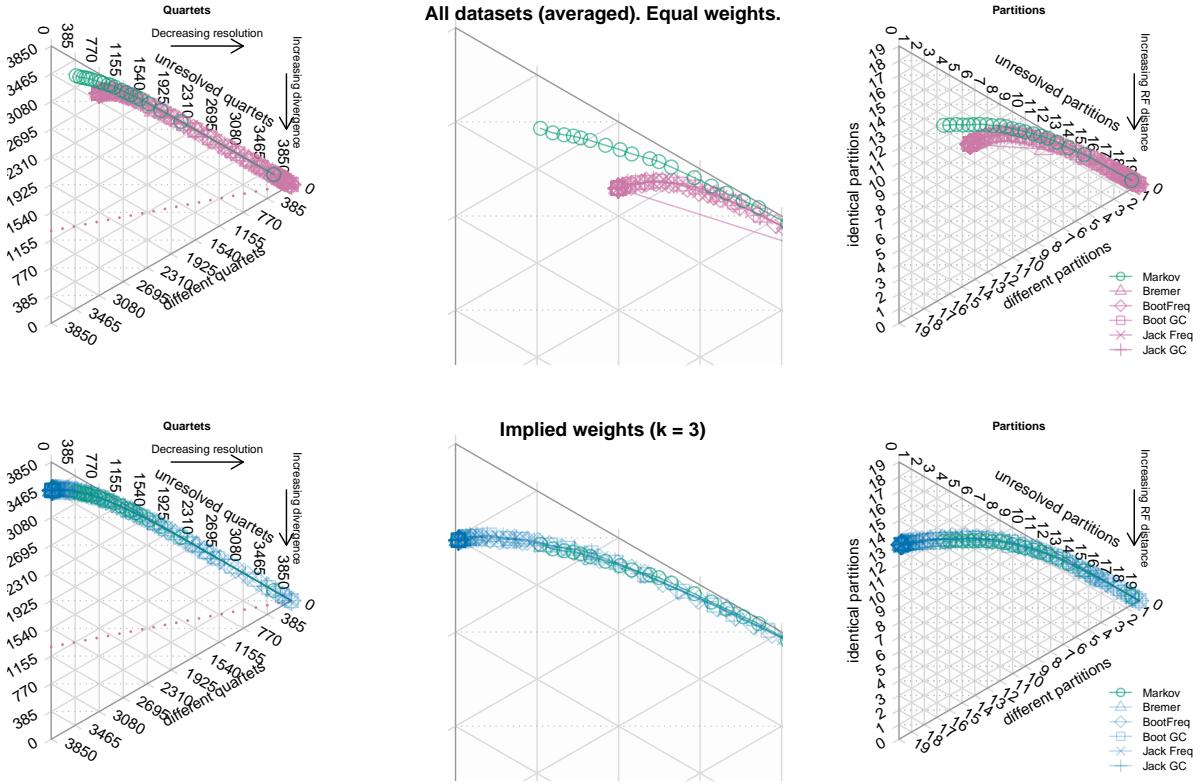
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This page depicts the analytical results of all 100 matrices generated by Congreve & Lamsdell [1] using a ternary plotting approach [2], with quartets and partitions used as distance metrics.

The most highly resolved tree is progressively reduced by collapsing nodes with a support value below an increasing threshold.

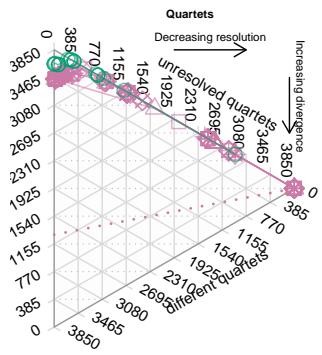
0.1 Summary



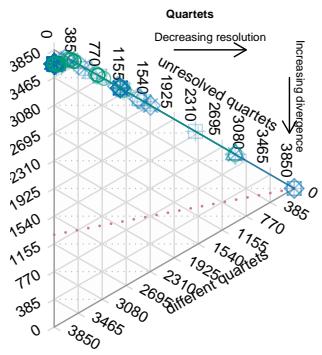
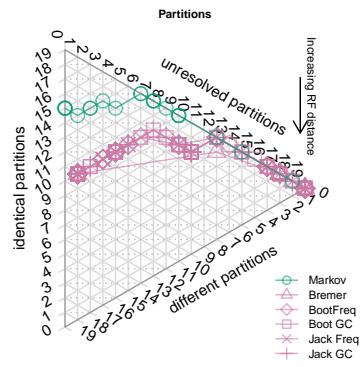
Though the Bootstrap GC metric systematically produces the lowest normalized tree distances ($SD/MaxI$), it is not significantly better than other methods. The following table reports P values that fail to reject the null hypothesis that the specified node support metric is equally good at ascribing incorrect nodes the lowest support values.

| | eq | k1 | k2 | k3 | k5 | kX | kC |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Bootstrap GC | 1.0000000 | 1.0000000 | 1.0000000 | 1.0000000 | 1.0000000 | 1.0000000 | 1.0000000 |
| Bootstrap Freq | 0.9840650 | 0.9915189 | 0.9934145 | 0.9760370 | 0.9485781 | 0.9615921 | 0.9720185 |
| Jackknife GC | 0.9888177 | 0.9995312 | 0.9331647 | 0.9599348 | 0.9637166 | 0.9268107 | 0.9743023 |
| Jackknife Freq | 0.9942934 | 0.9554285 | 0.9509308 | 0.9839102 | 0.8639063 | 0.9408796 | 0.9723566 |
| Bremer | 0.4347916 | 0.3324499 | 0.5075762 | 0.4474386 | 0.3405988 | 0.2397081 | 0.8365157 |

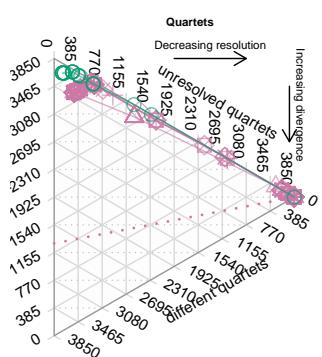
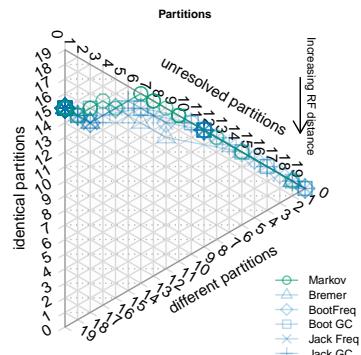
0.2 Trees 1–10



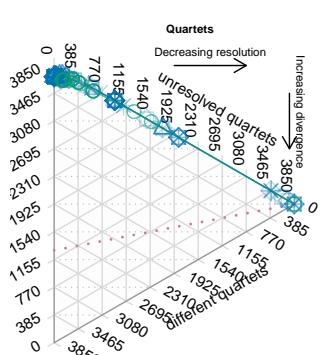
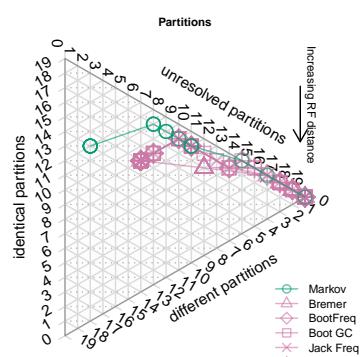
Dataset 1: CI=0.28. Equal weights



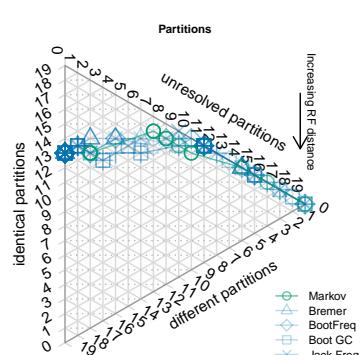
Implied weights (k = 3)

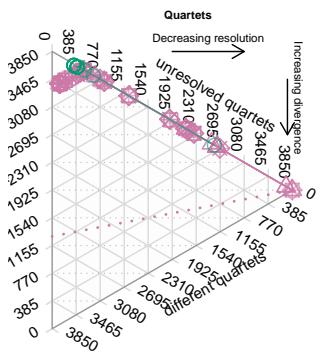


Dataset 2: CI=0.25. Equal weights

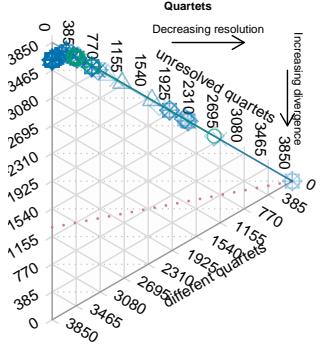
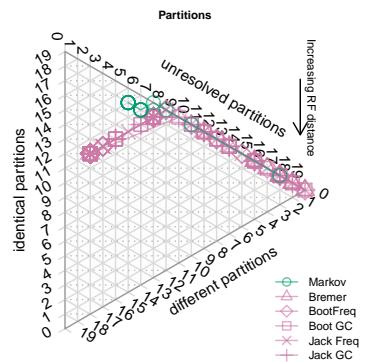


Implied weights (k = 3)

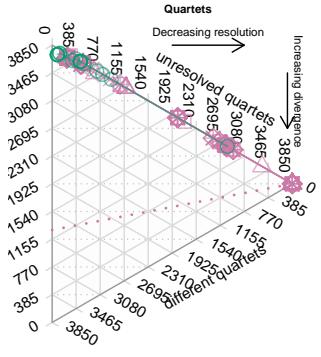
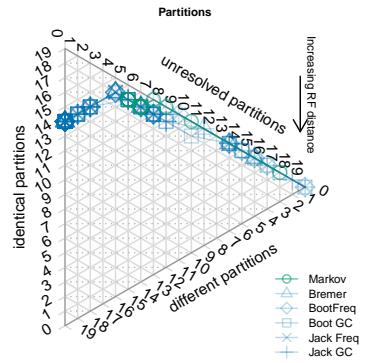




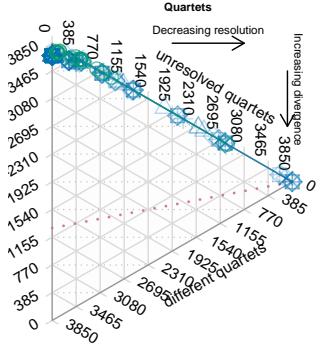
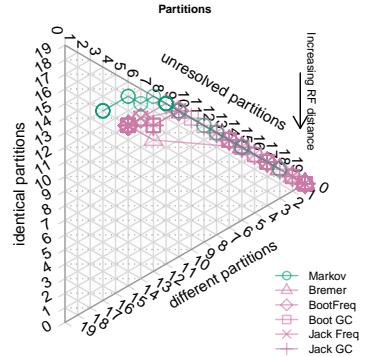
Dataset 3: CI=0.29. Equal weights



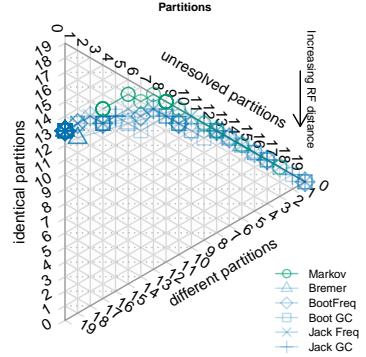
Implied weights ($k = 3$)

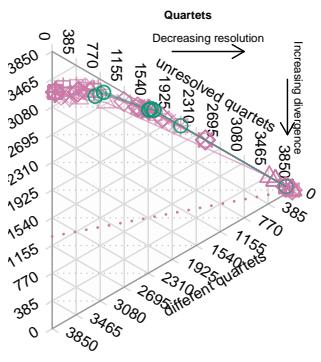


Dataset 4: CI=0.29. Equal weights

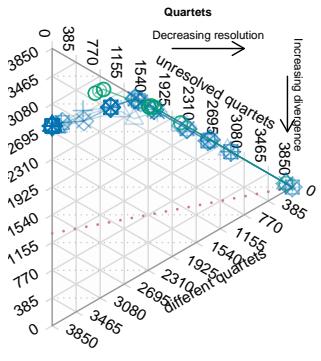
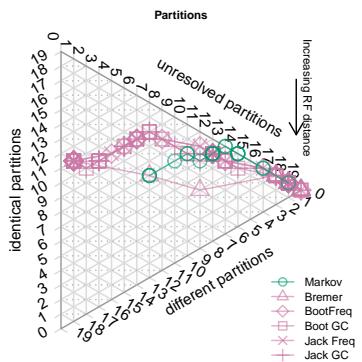


Implied weights ($k = 3$)

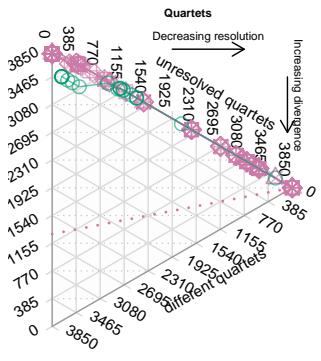
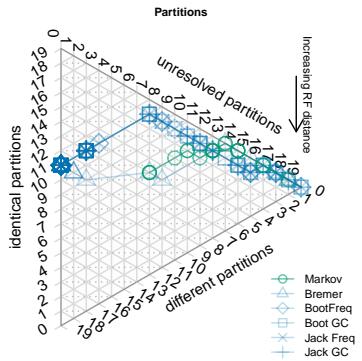




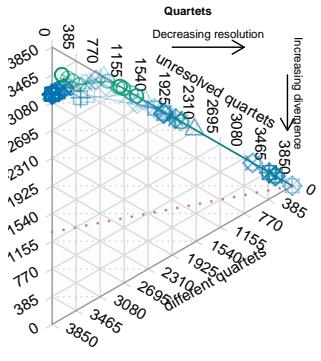
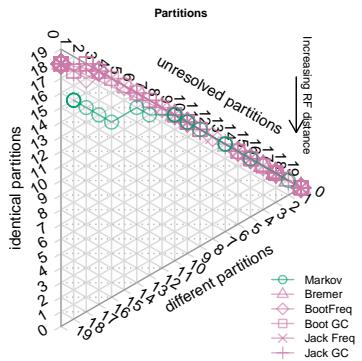
Dataset 5: CI=0.26. Equal weights



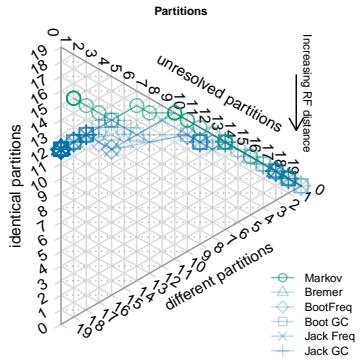
Implied weights ($k = 3$)

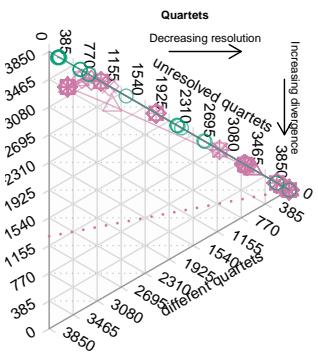


Dataset 6: CI=0.26. Equal weights

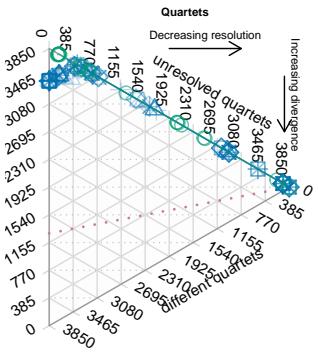
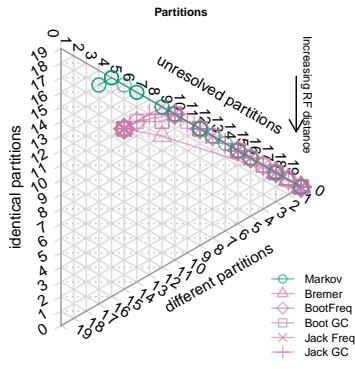
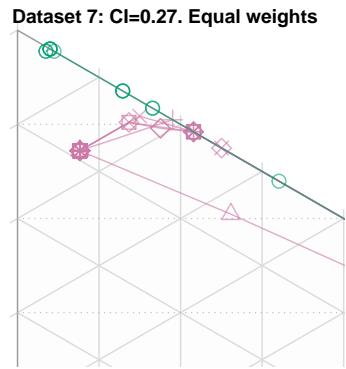


Implied weights ($k = 3$)

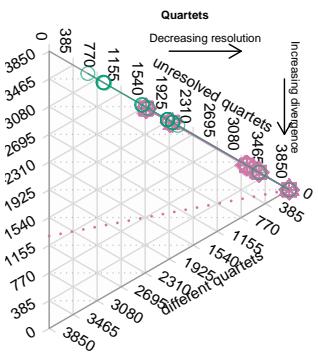
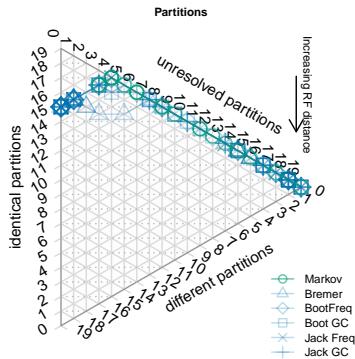
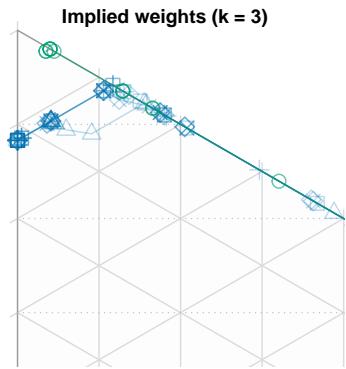




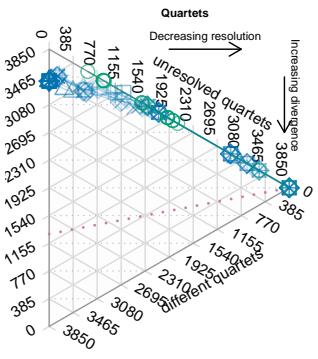
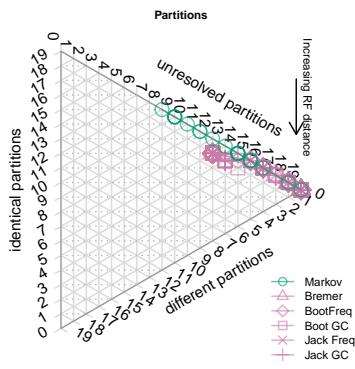
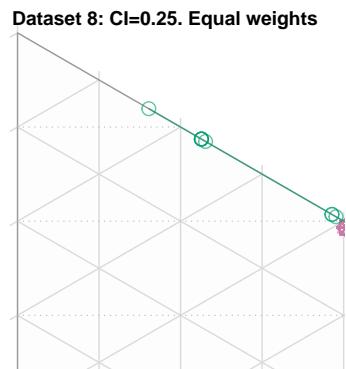
Dataset 7: CI=0.27. Equal weights



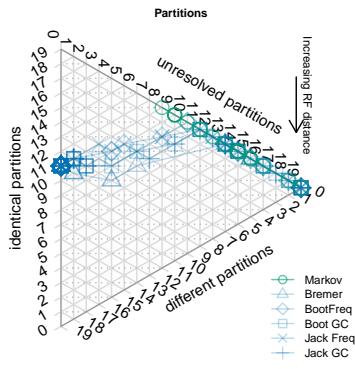
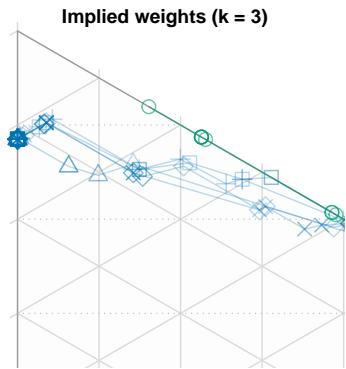
Implied weights ($k = 3$)

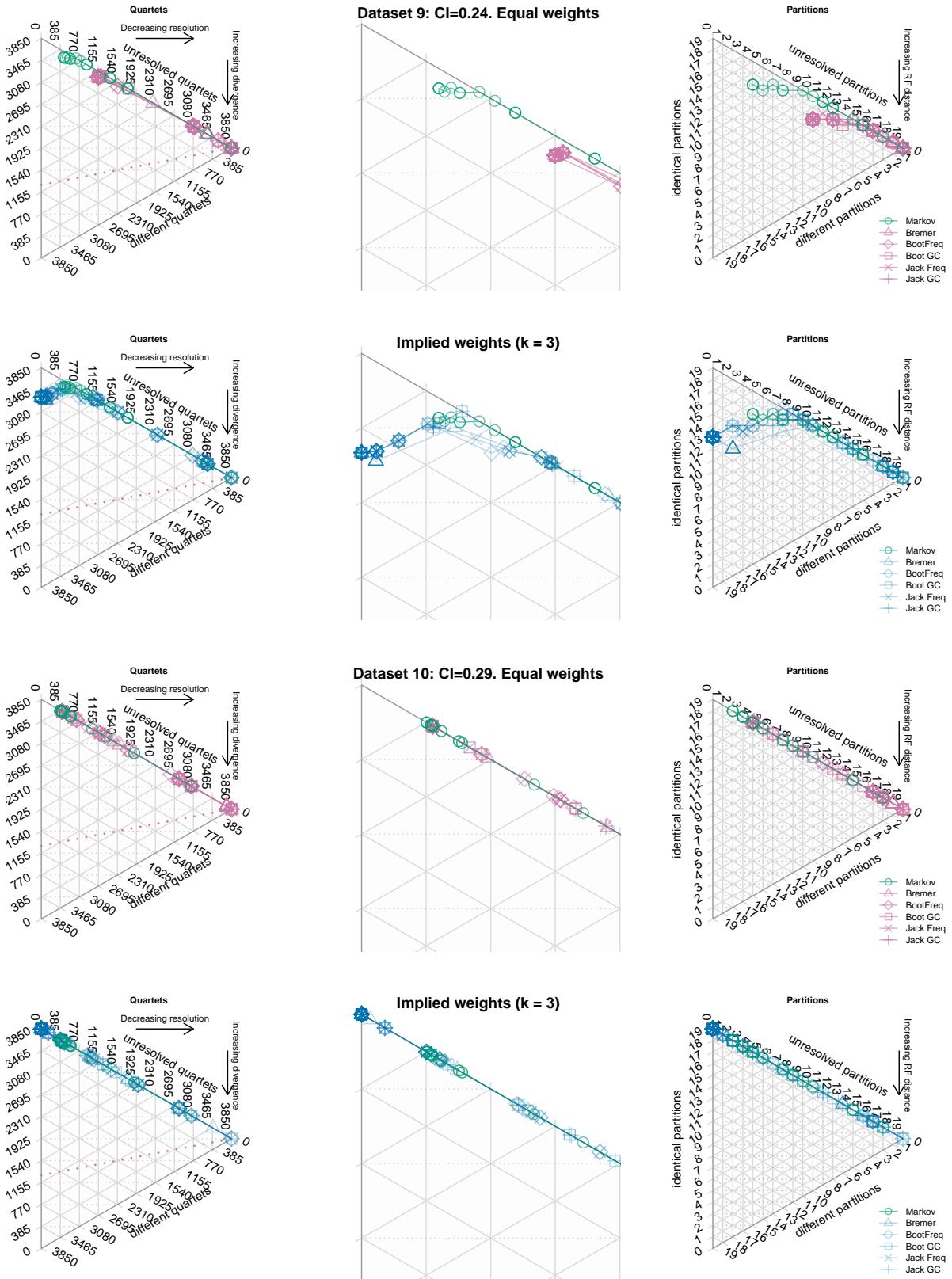


Dataset 8: CI=0.25. Equal weights

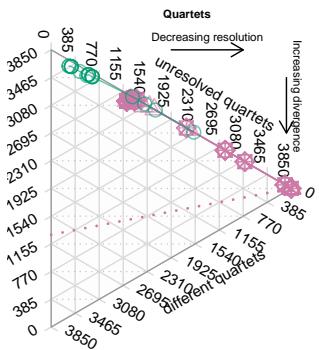


Implied weights ($k = 3$)

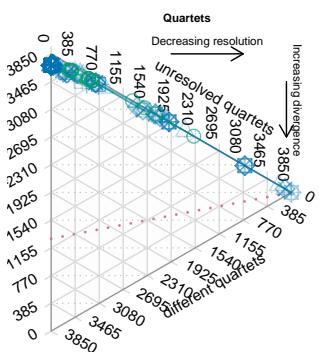
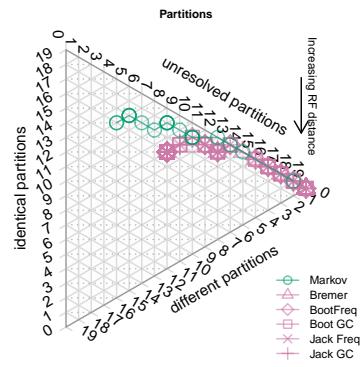




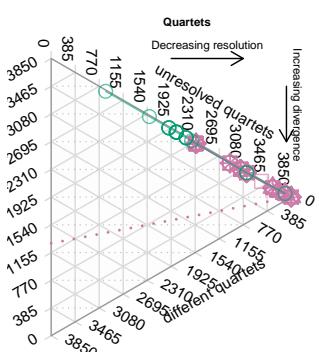
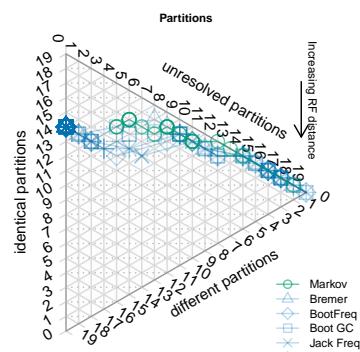
0.3 Trees 11–20



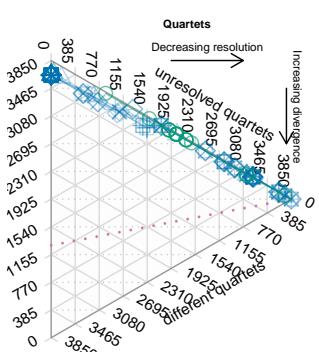
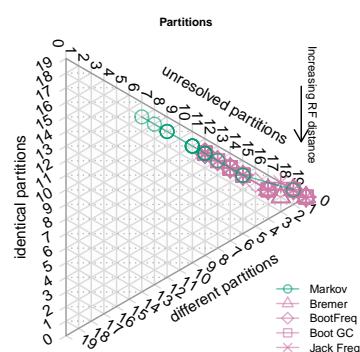
Dataset 11: CI=0.25. Equal weights



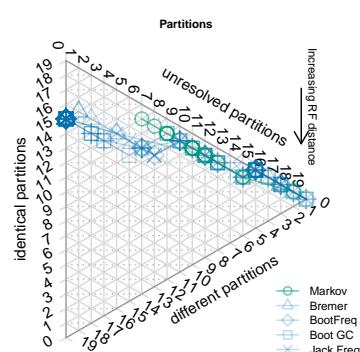
Implied weights ($k = 3$)

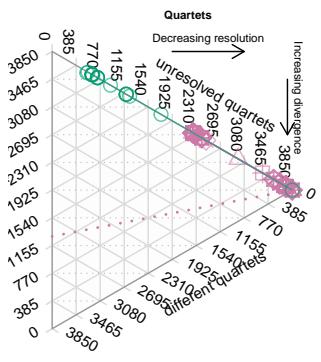


Dataset 12: CI=0.29, Equal weights

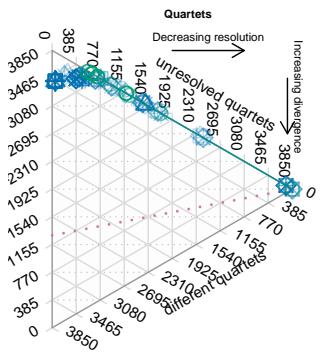
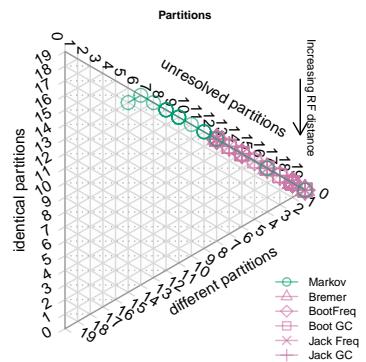


Implied weights ($k = 3$)

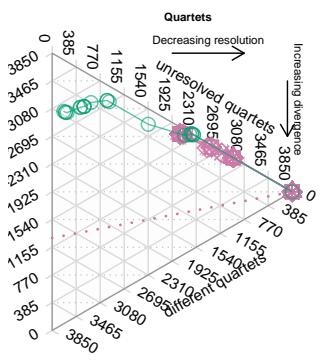
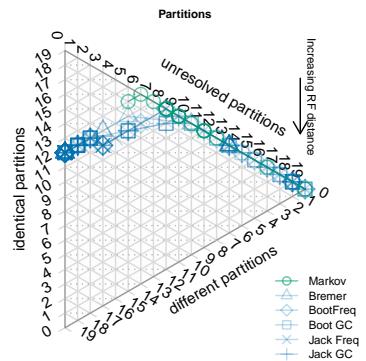




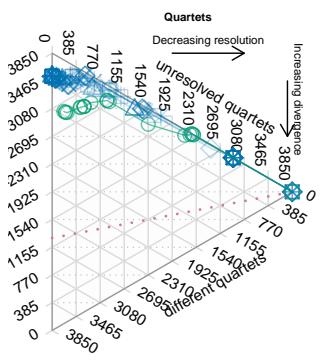
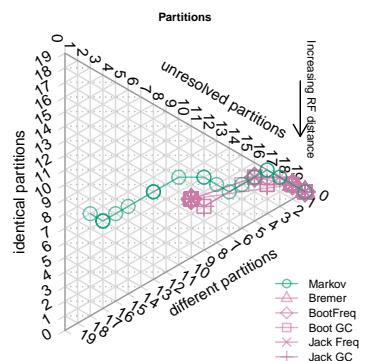
Dataset 13: CI=0.25. Equal weights



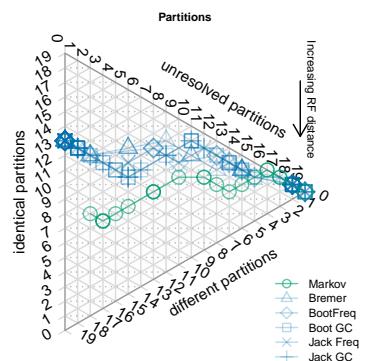
Implied weights ($k = 3$)

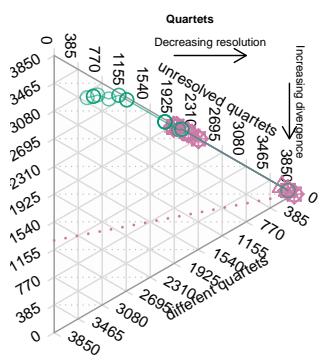


Dataset 14: CI=0.25. Equal weights

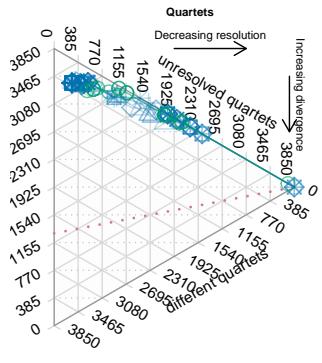
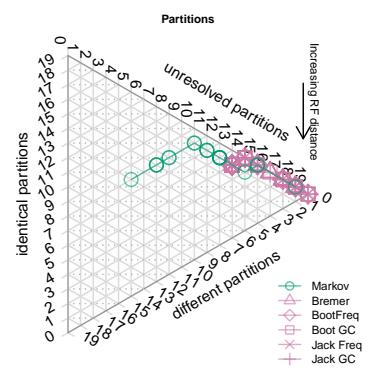


Implied weights ($k = 3$)

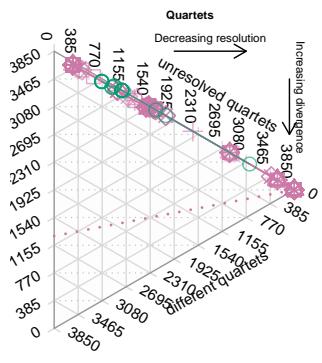
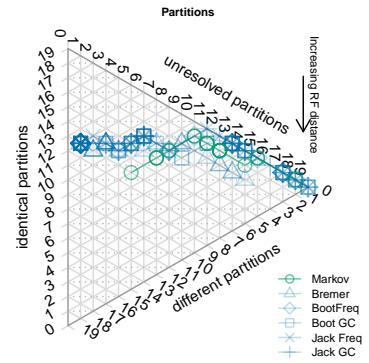




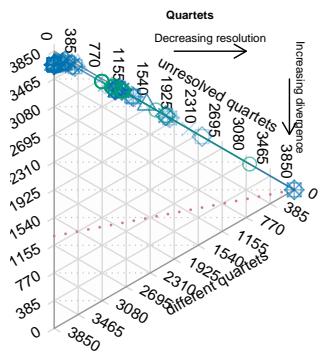
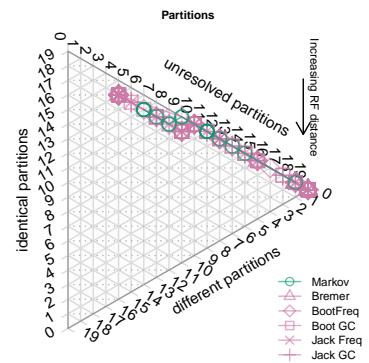
Dataset 15: CI=0.25. Equal weights



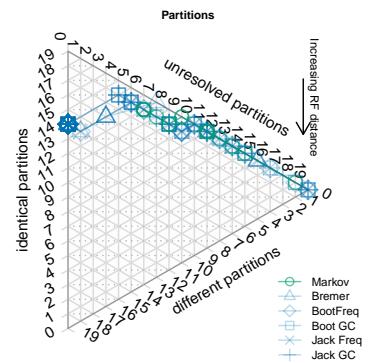
Implied weights ($k = 3$)

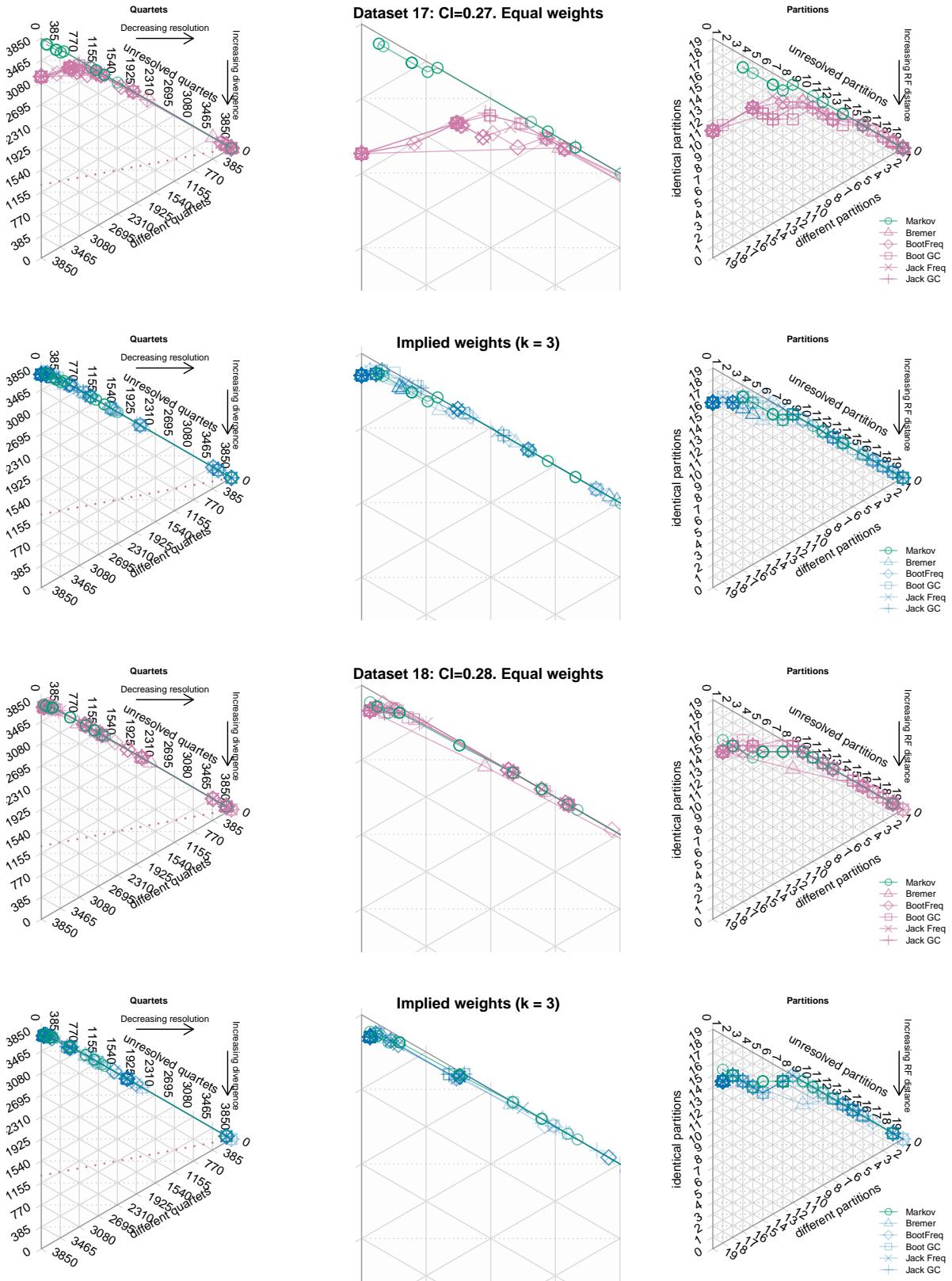


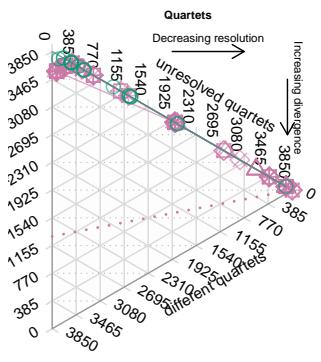
Dataset 16: CI=0.25. Equal weights



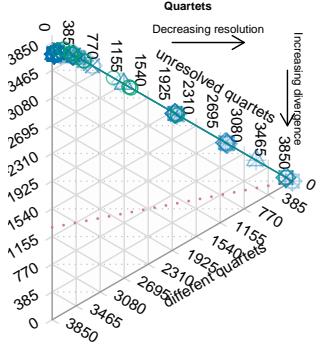
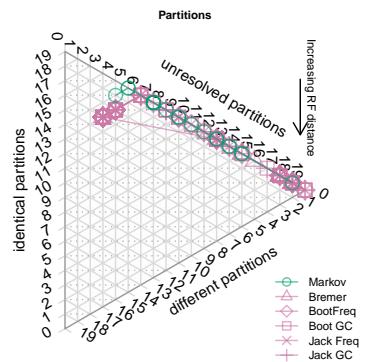
Implied weights ($k = 3$)



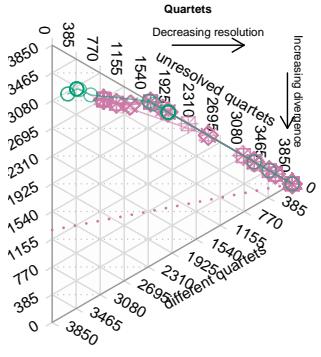
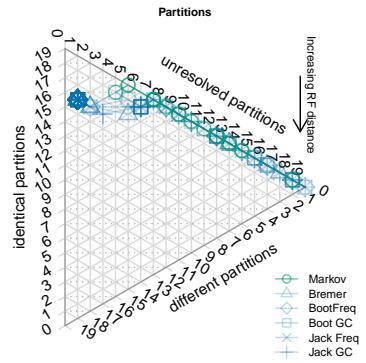




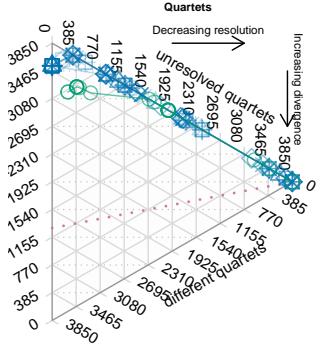
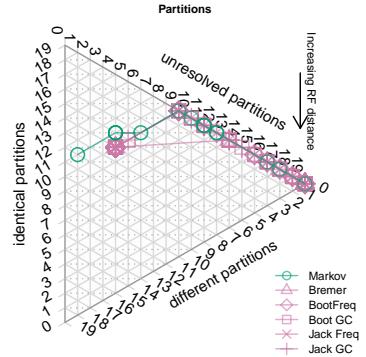
Dataset 19: CI=0.3. Equal weights



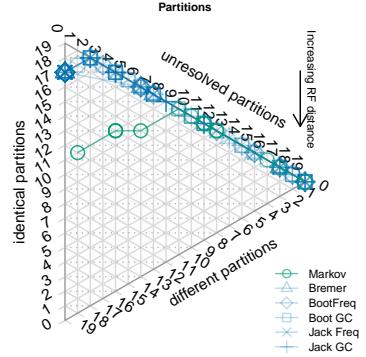
Implied weights ($k = 3$)



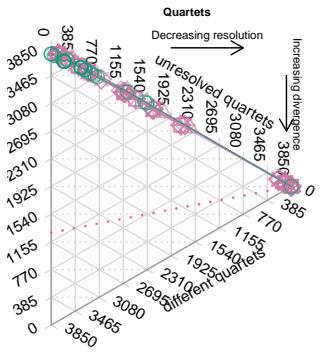
Dataset 20: CI=0.25. Equal weights



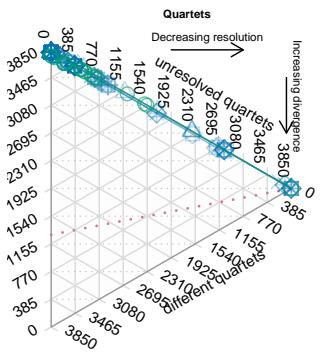
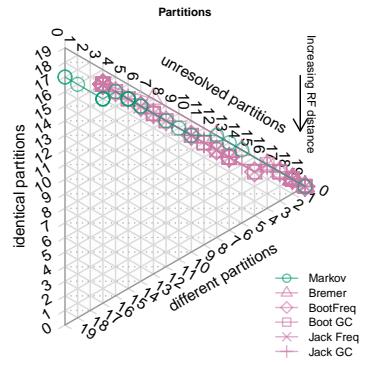
Implied weights ($k = 3$)



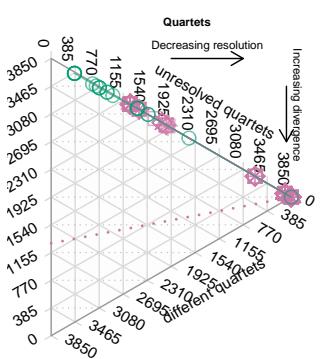
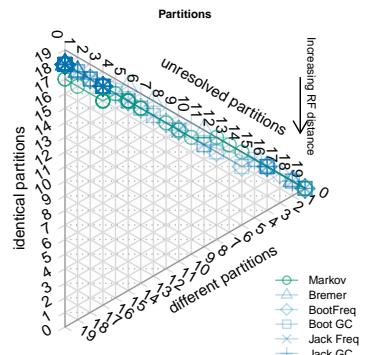
0.4 Trees 21–30



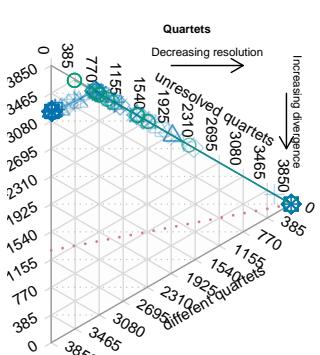
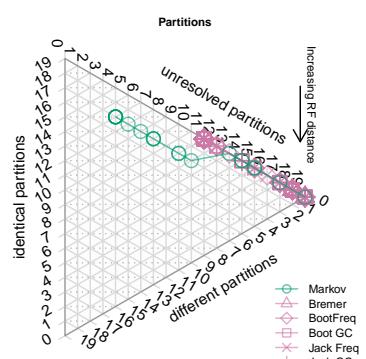
Dataset 21: CI=0.26. Equal weights



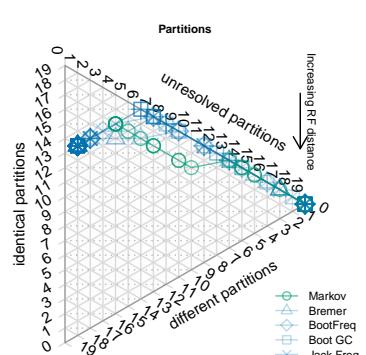
Implied weights (k = 3)

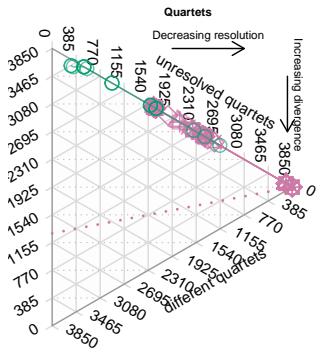


Dataset 22: CI=0.26. Equal weights

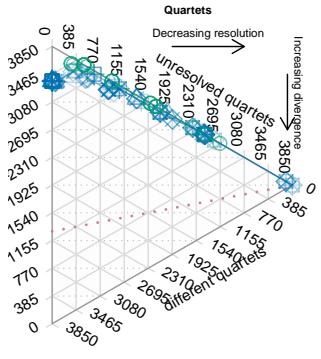
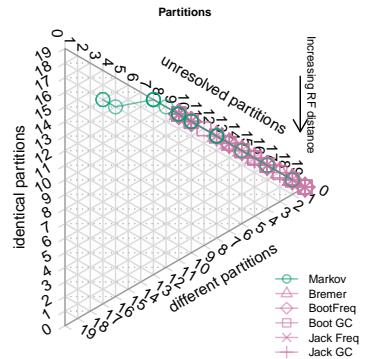


Implied weights (k = 3)

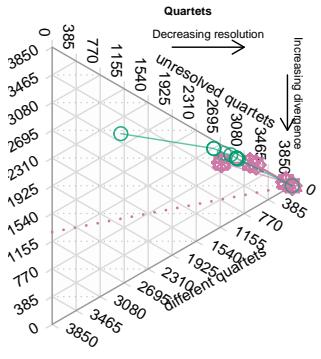
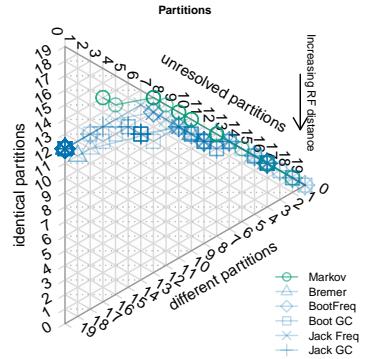




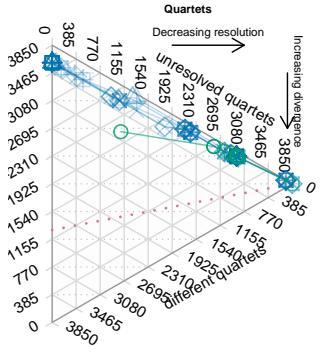
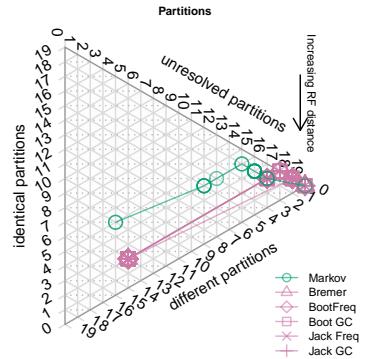
Dataset 23: CI=0.25. Equal weights



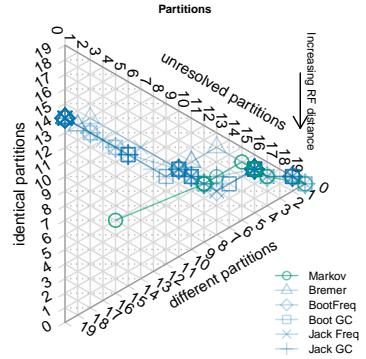
Implied weights ($k = 3$)

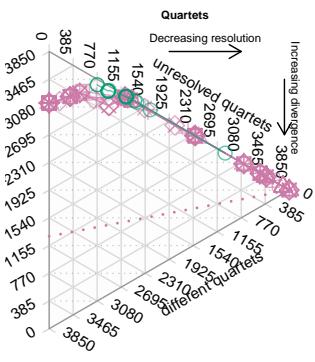


Dataset 24: CI=0.23. Equal weights

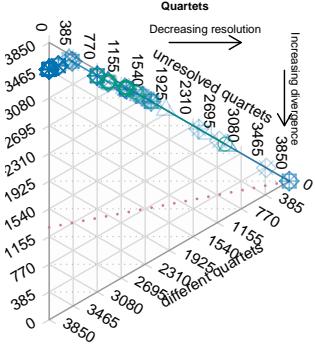
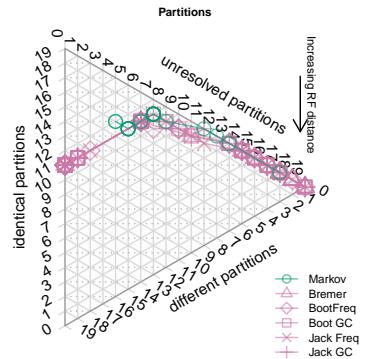


Implied weights ($k = 3$)

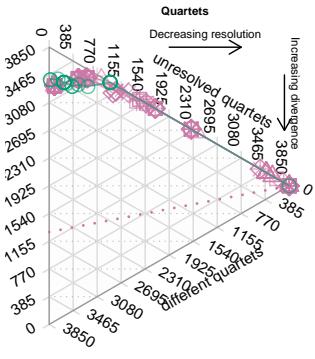
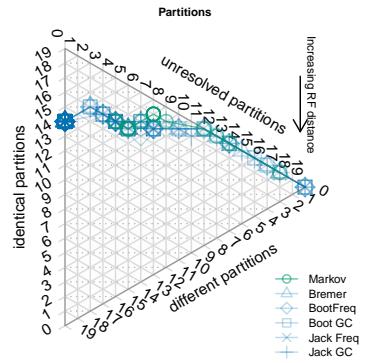




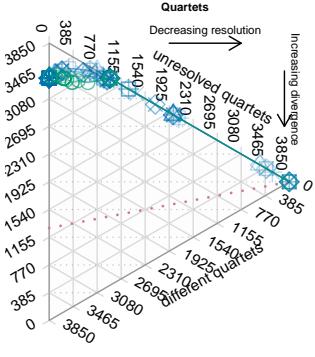
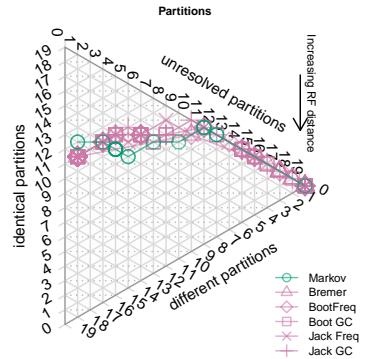
Dataset 25: CI=0.28. Equal weights



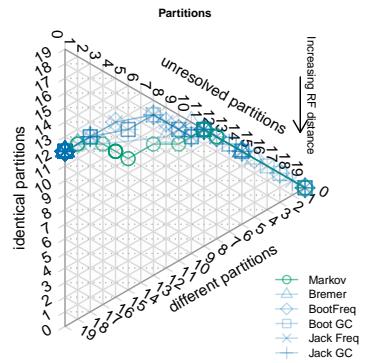
Implied weights ($k = 3$)

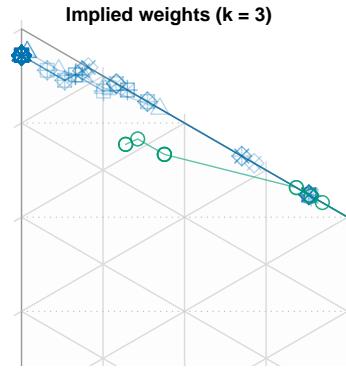
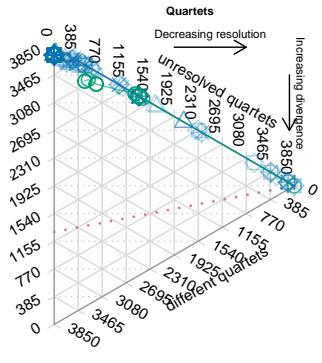
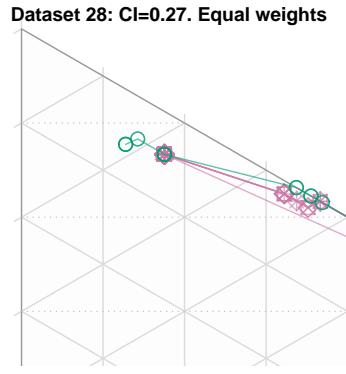
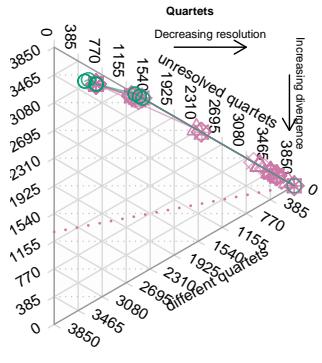
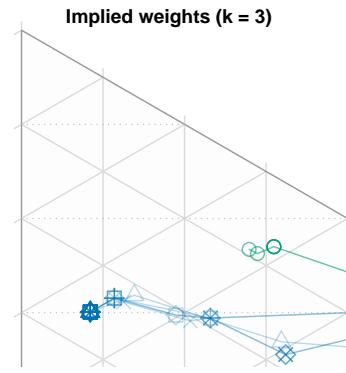
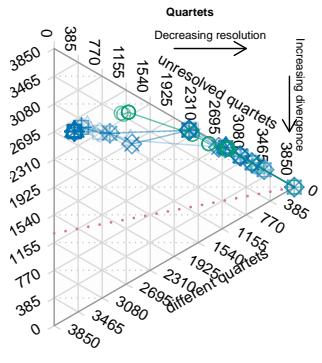
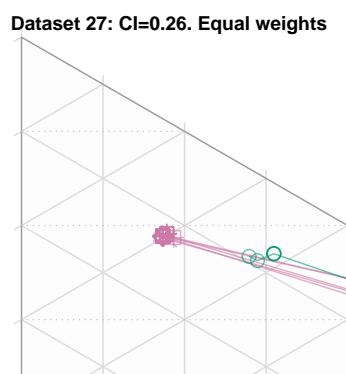
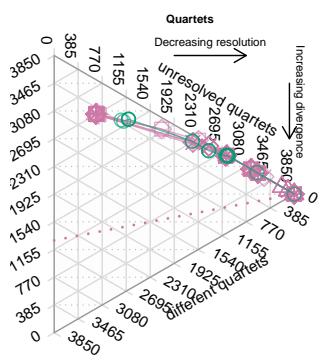


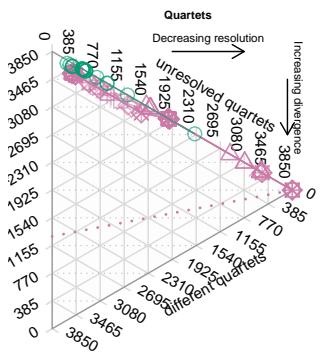
Dataset 26: CI=0.27. Equal weights



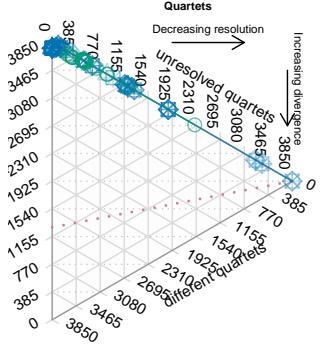
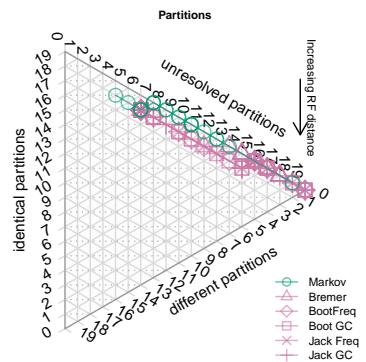
Implied weights ($k = 3$)



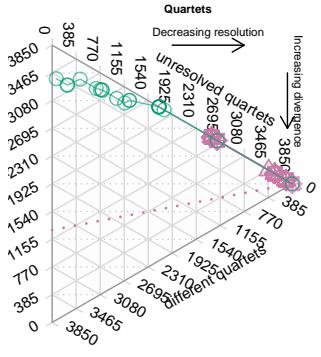
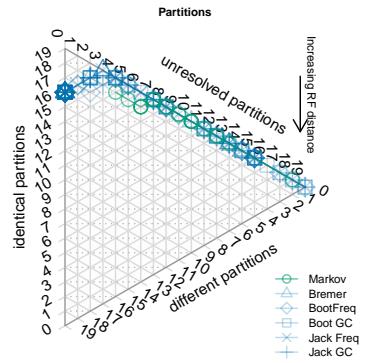




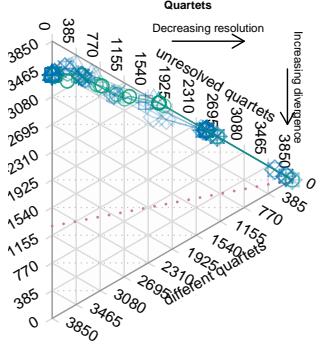
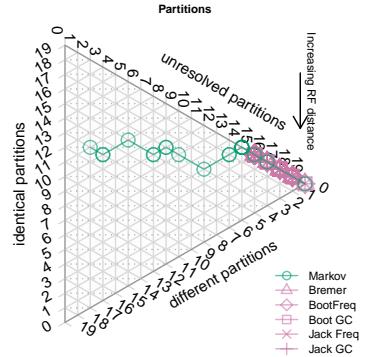
Dataset 29: CI=0.29. Equal weights



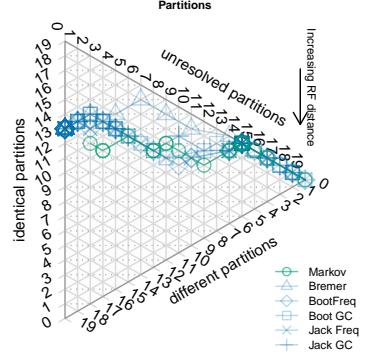
Implied weights ($k = 3$)



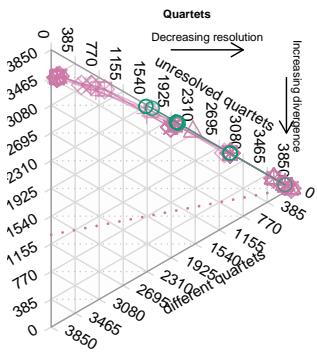
Dataset 30: CI=0.25. Equal weights



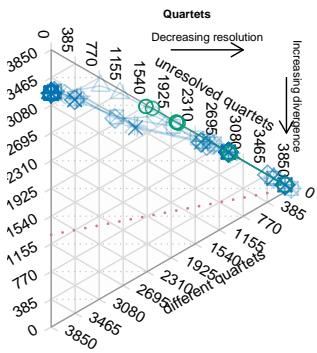
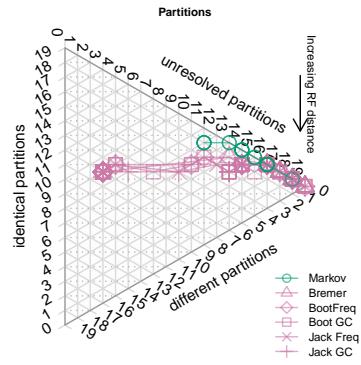
Implied weights ($k = 3$)



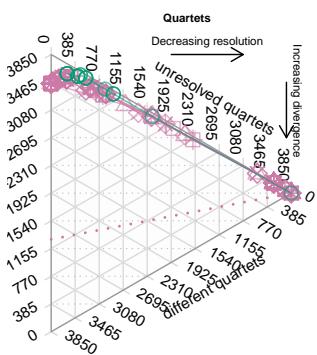
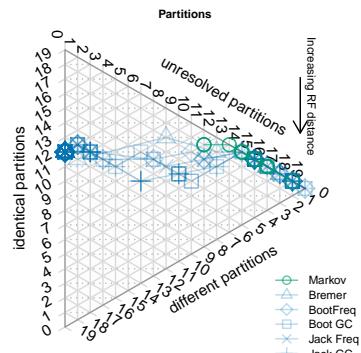
0.5 Trees 31–40



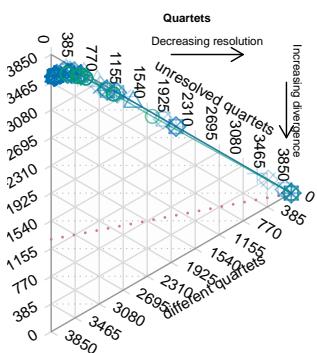
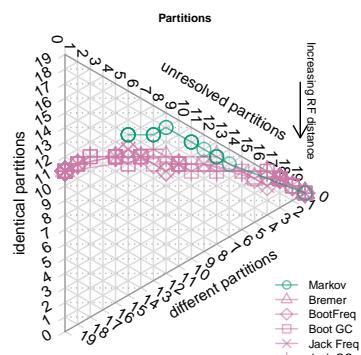
Dataset 31: CI=0.26. Equal weights



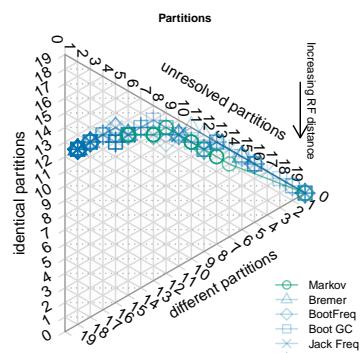
Implied weights ($k = 3$)

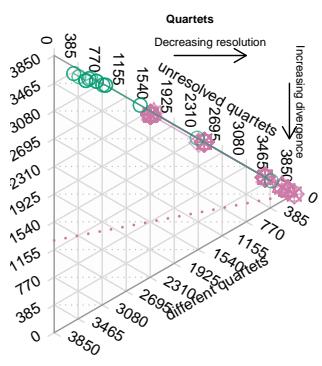


Dataset 32: CI=0.25. Equal weights

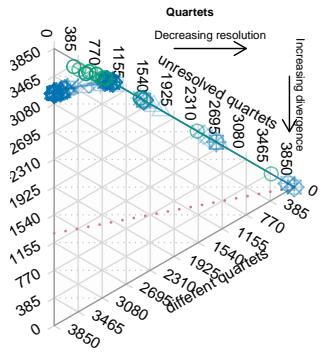
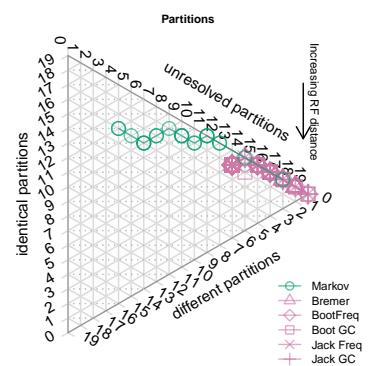


Implied weights ($k = 3$)

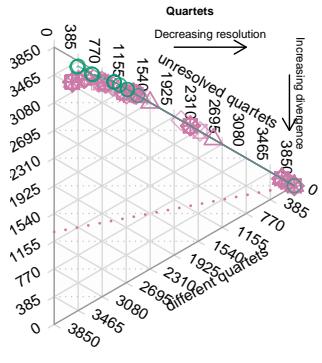
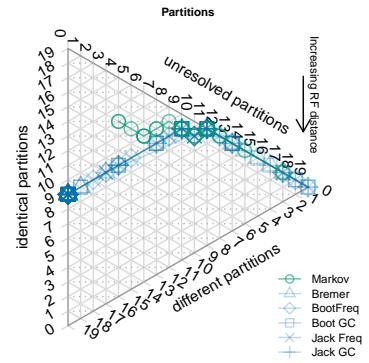




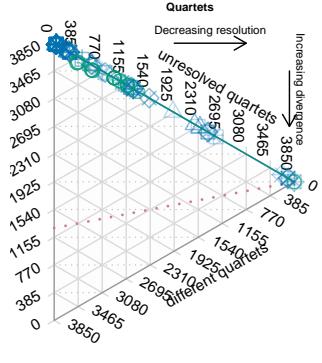
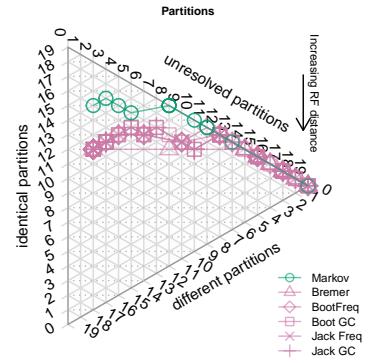
Dataset 33: CI=0.27. Equal weights



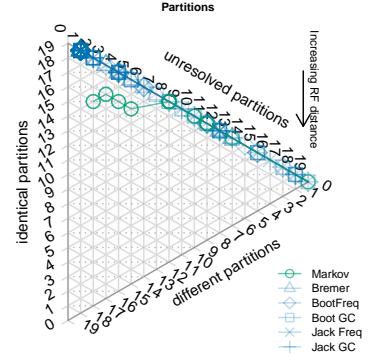
Implied weights ($k = 3$)

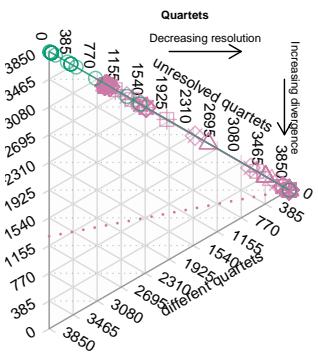


Dataset 34: CI=0.29. Equal weights

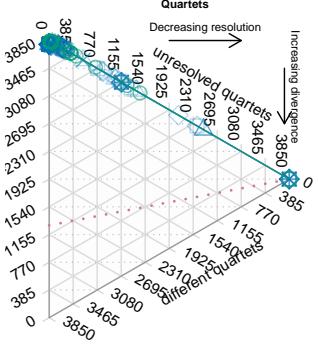
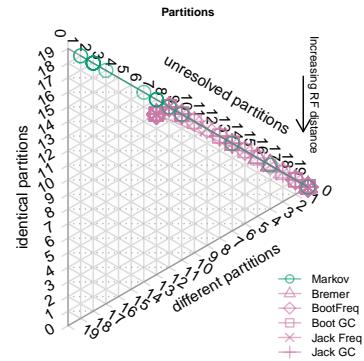


Implied weights ($k = 3$)

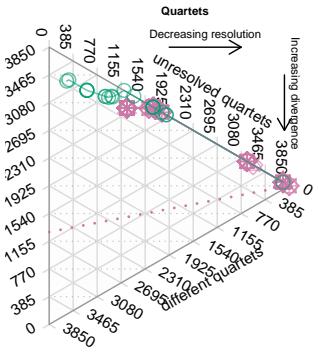
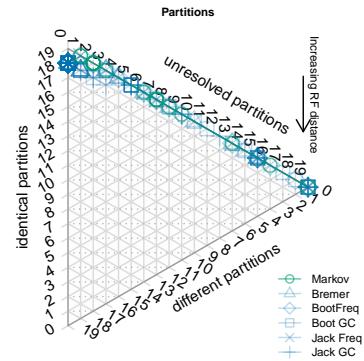




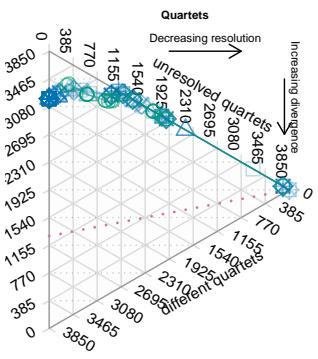
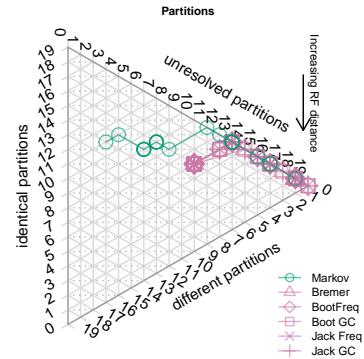
Dataset 35: CI=0.25. Equal weights



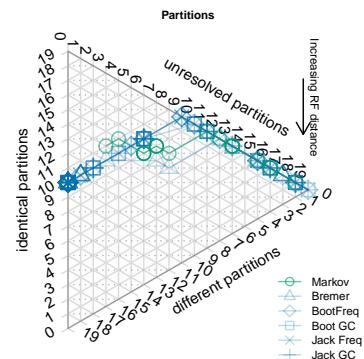
Implied weights ($k = 3$)

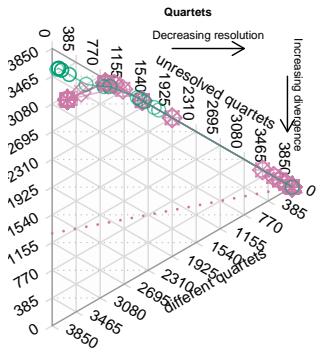


Dataset 36: CI=0.24. Equal weights

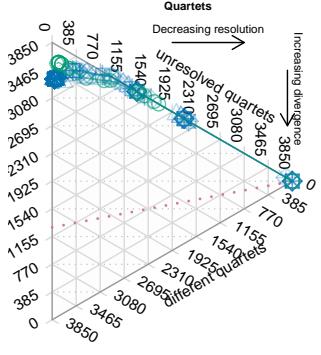
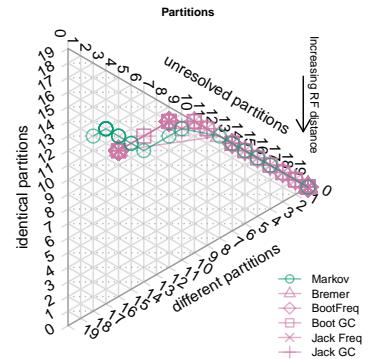


Implied weights ($k = 3$)

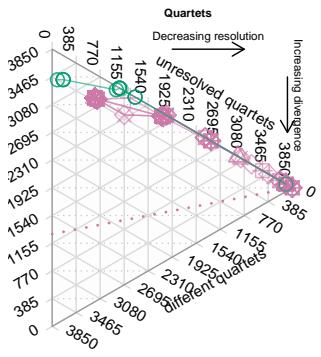
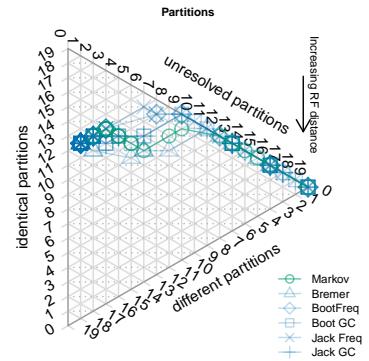




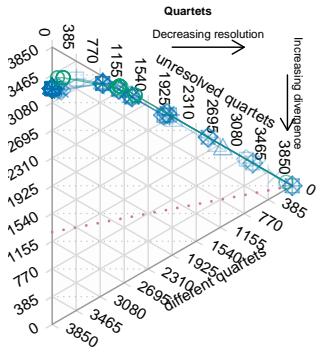
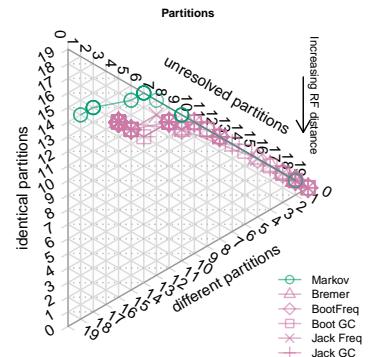
Dataset 37: CI=0.26. Equal weights



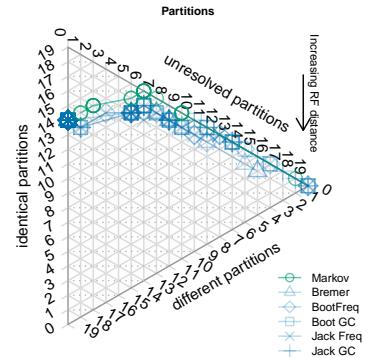
Implied weights ($k = 3$)

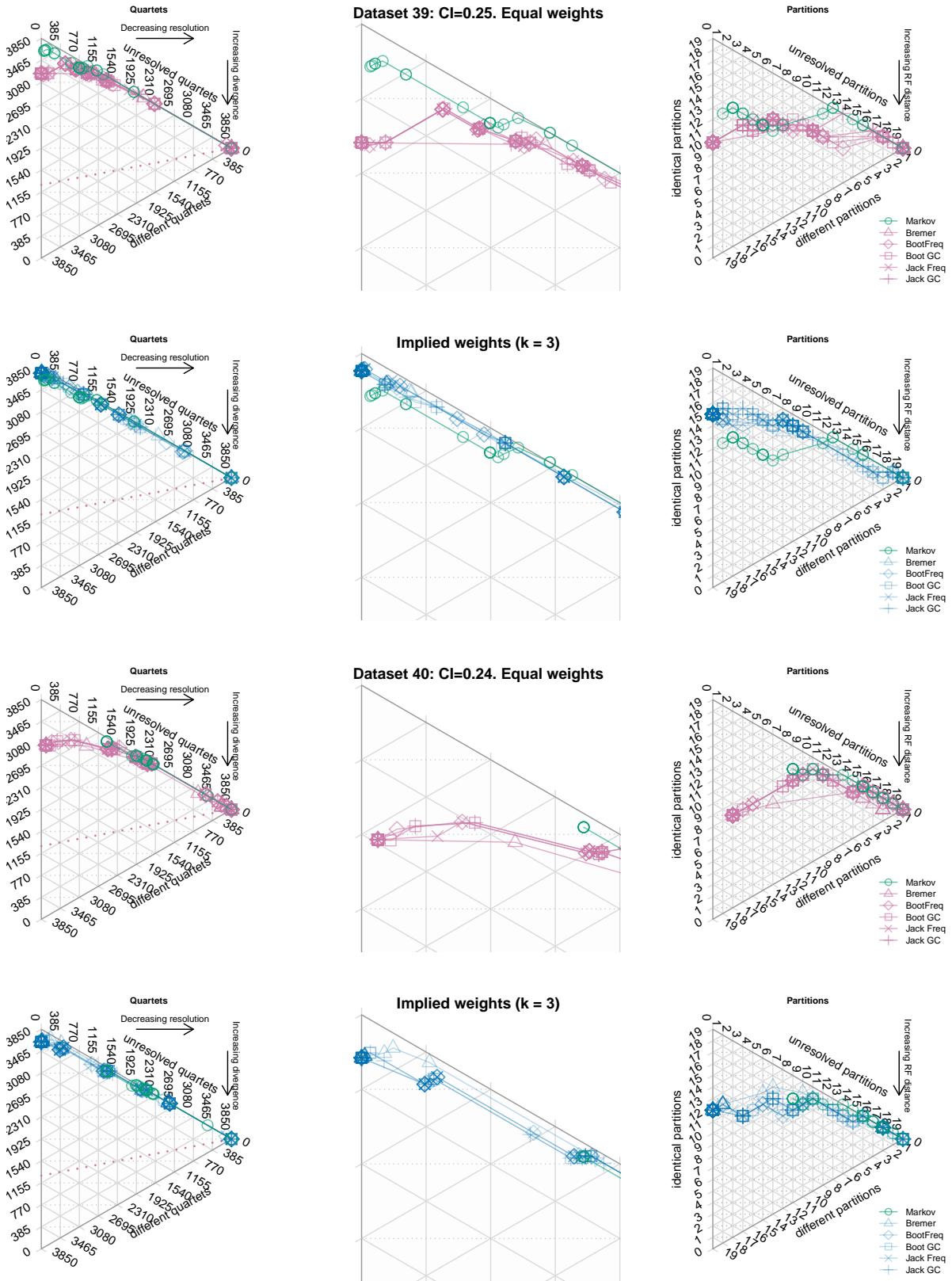


Dataset 38: CI=0.29. Equal weights

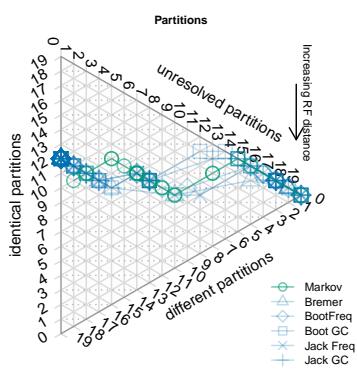
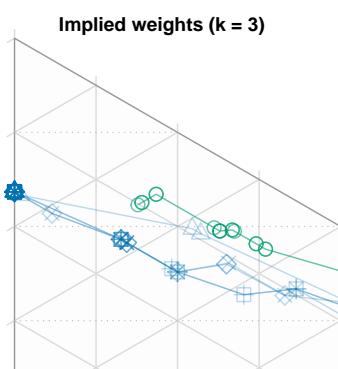
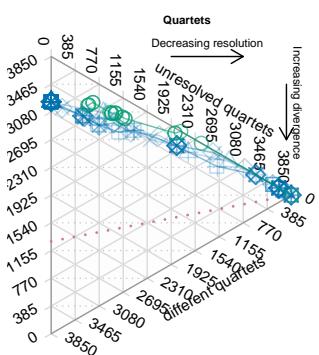
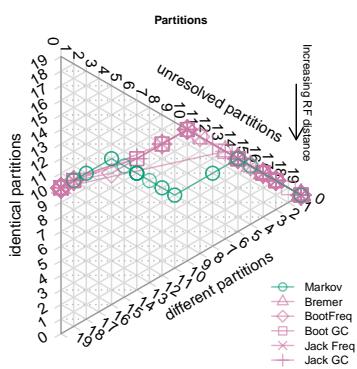
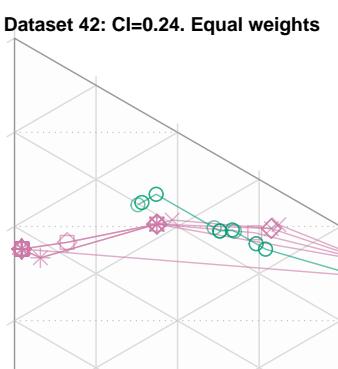
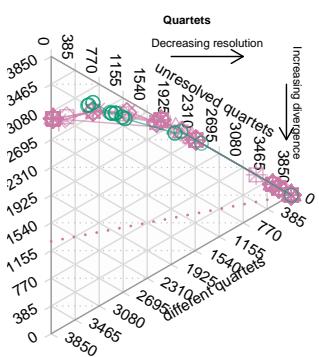
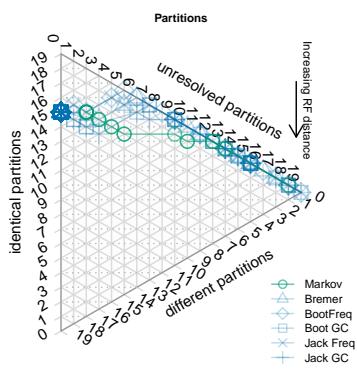
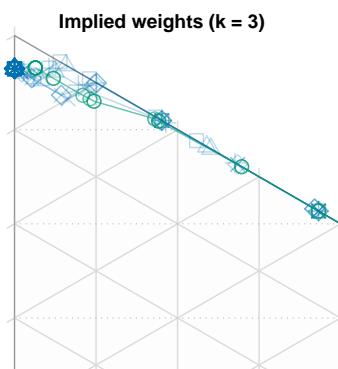
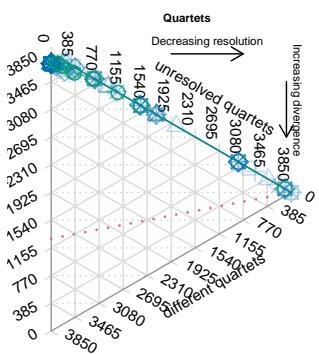
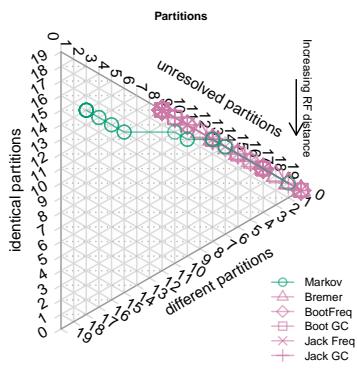
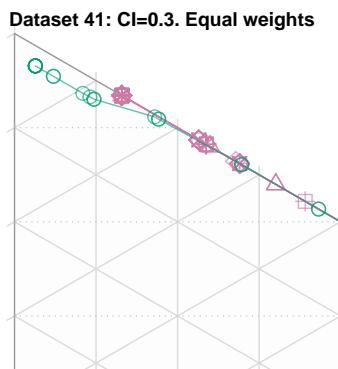
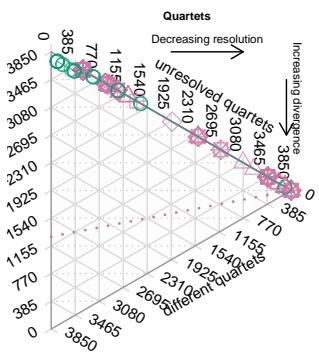


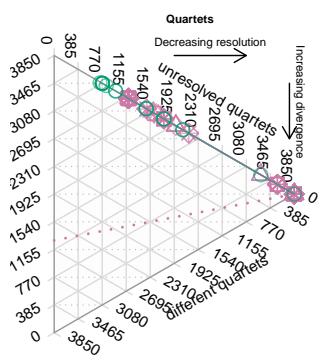
Implied weights ($k = 3$)



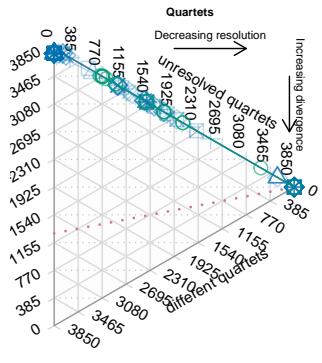
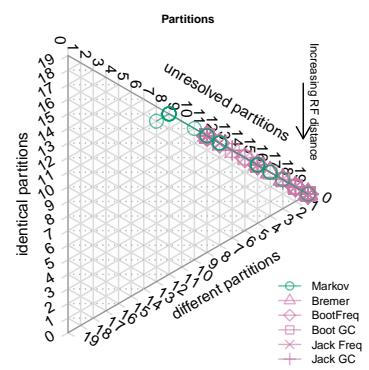


0.6 Trees 41–50

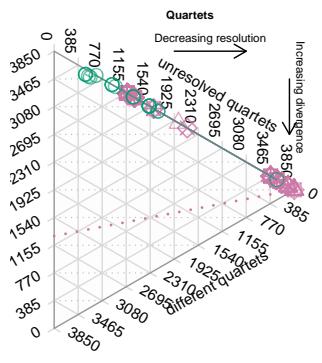
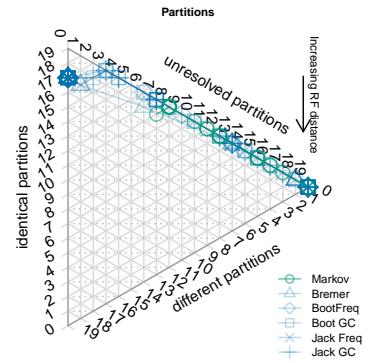




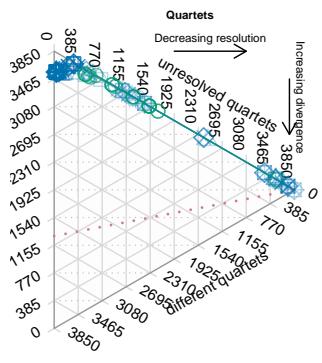
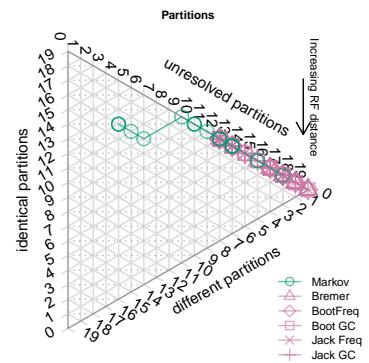
Dataset 43: CI=0.27. Equal weights



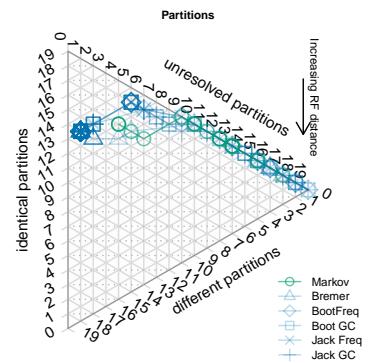
Implied weights ($k = 3$)

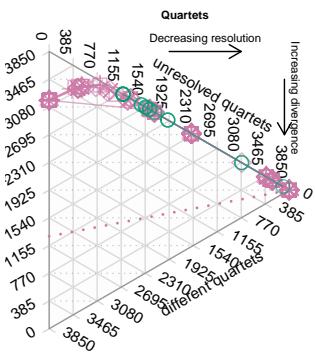


Dataset 44: CI=0.27. Equal weights

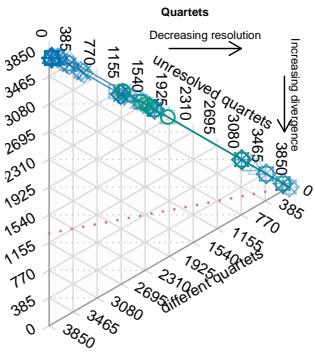
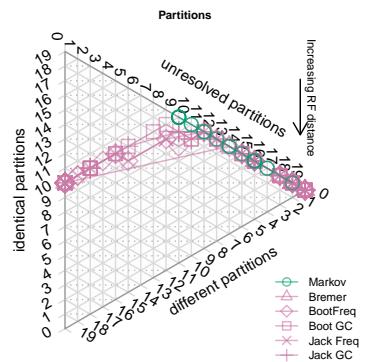


Implied weights ($k = 3$)

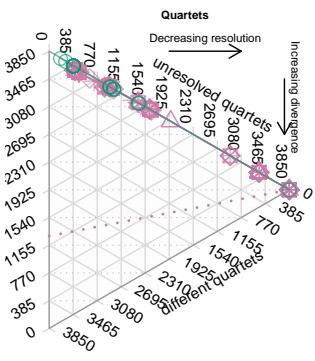
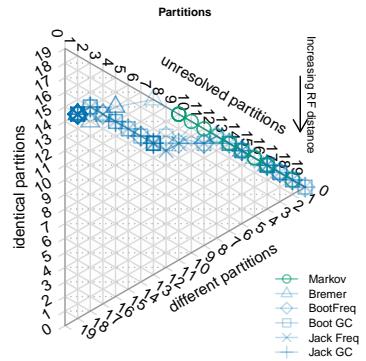




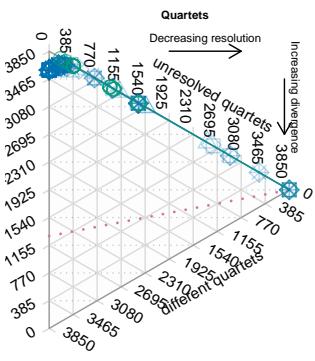
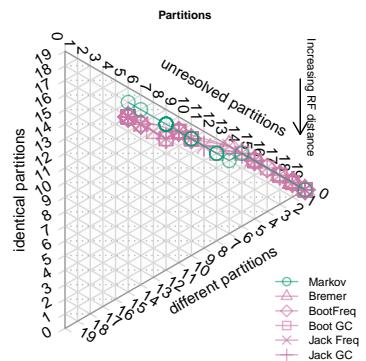
Dataset 45: CI=0.27. Equal weights



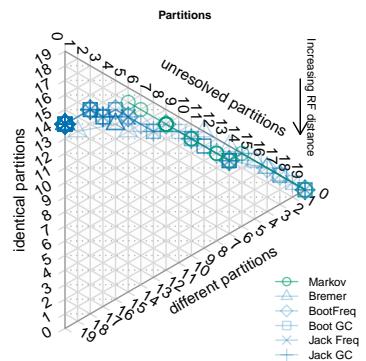
Implied weights ($k = 3$)

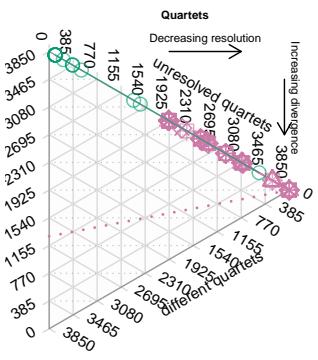


Dataset 46: CI=0.24. Equal weights

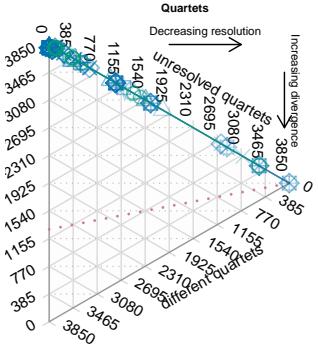
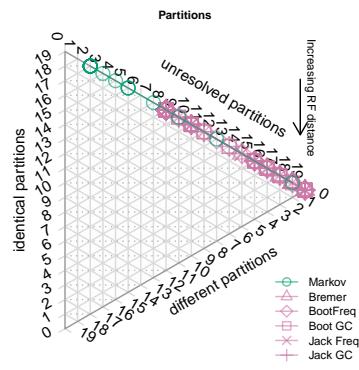
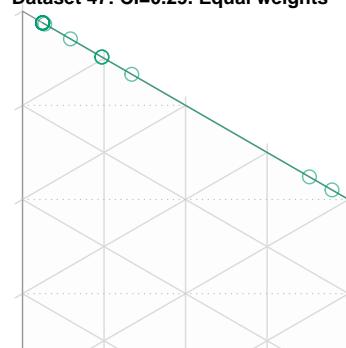


Implied weights ($k = 3$)

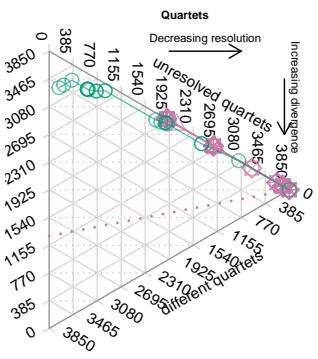
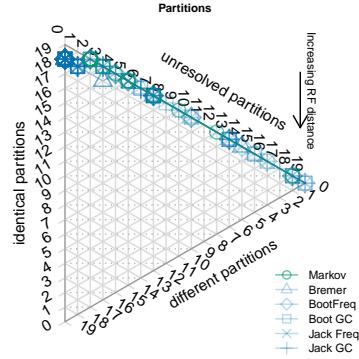
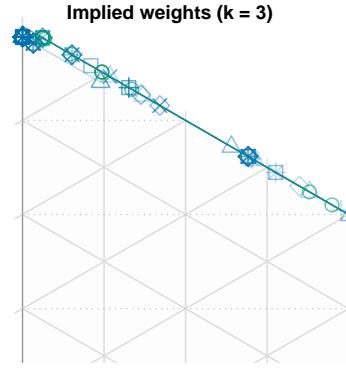




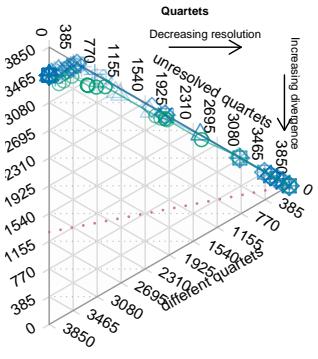
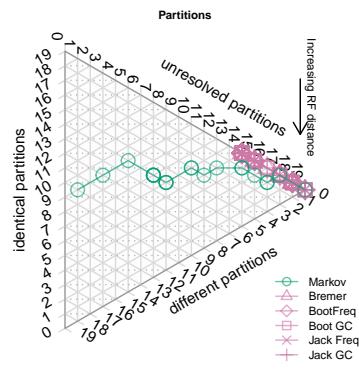
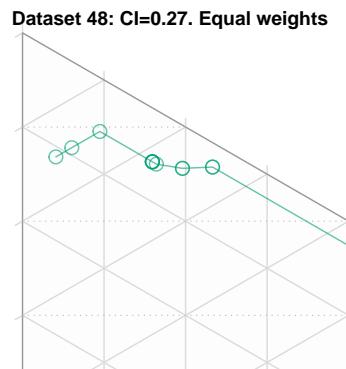
Dataset 47: CI=0.29. Equal weights



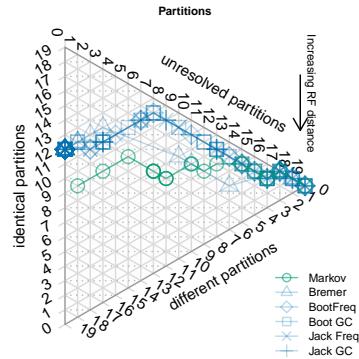
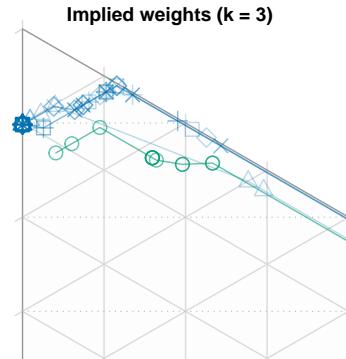
Implied weights ($k = 3$)

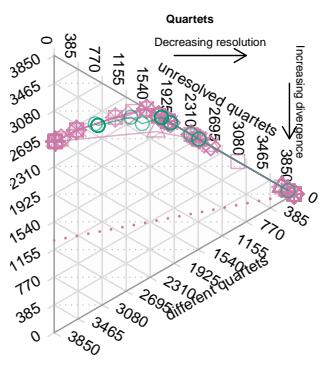


Dataset 48: CI=0.27. Equal weights

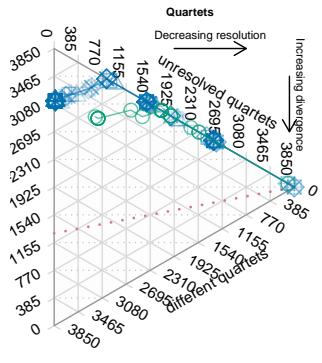
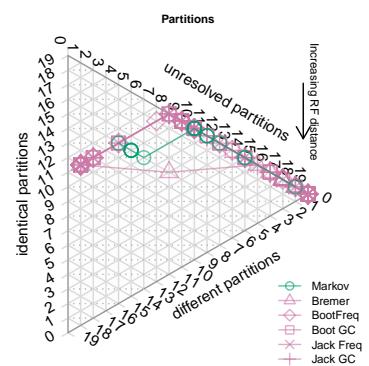


Implied weights ($k = 3$)

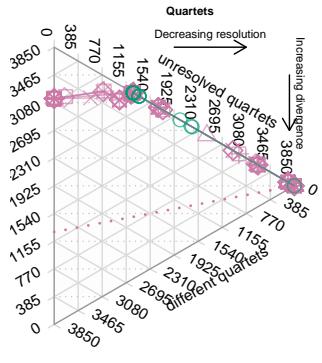
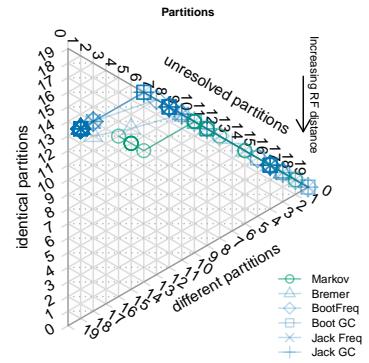




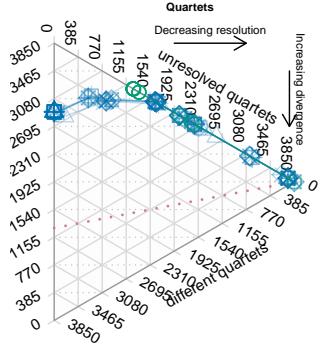
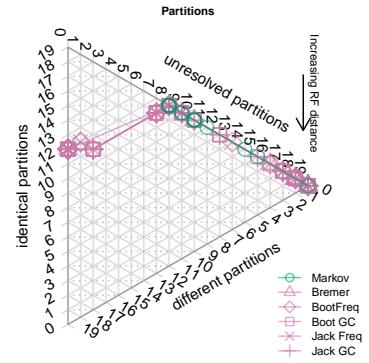
Dataset 49: CI=0.28. Equal weights



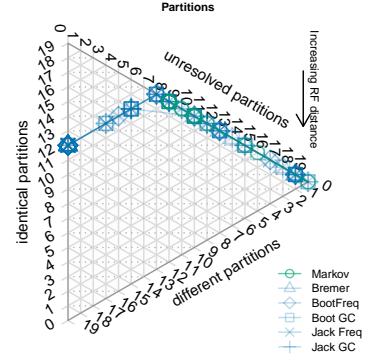
Implied weights (k = 3)



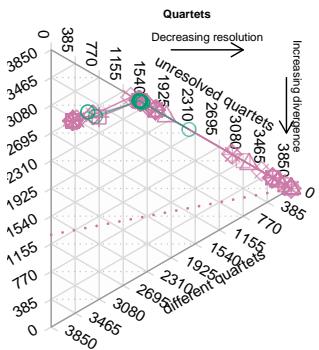
Dataset 50: CI=0.25. Equal weights



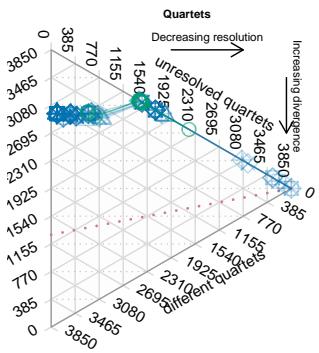
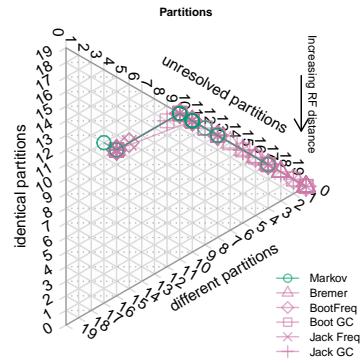
Implied weights (k = 3)



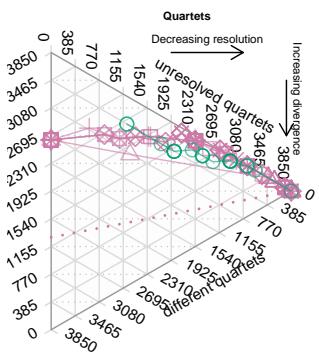
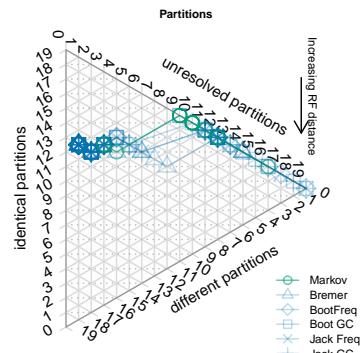
0.7 Trees 51–60



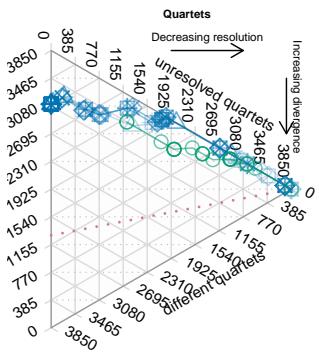
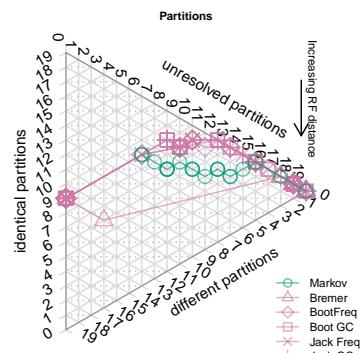
Dataset 51: CI=0.3. Equal weights



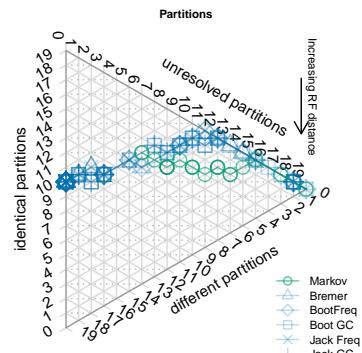
Implied weights ($k = 3$)

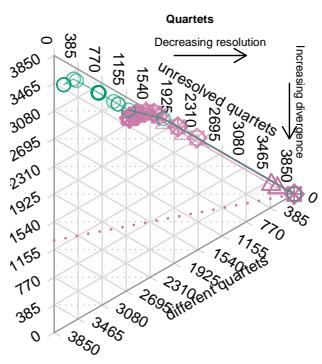


Dataset 52: CI=0.25. Equal weights

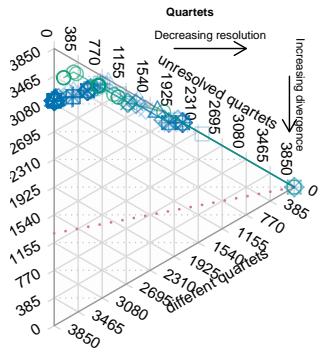
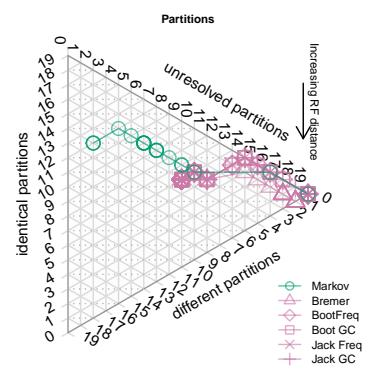


Implied weights ($k = 3$)

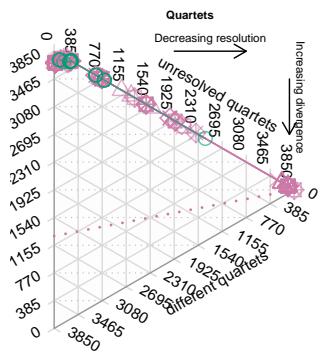
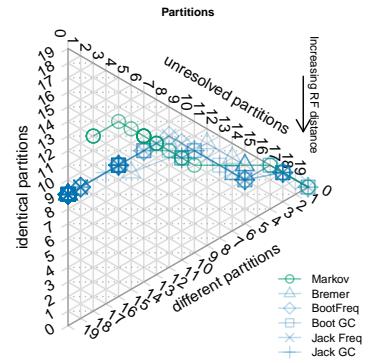




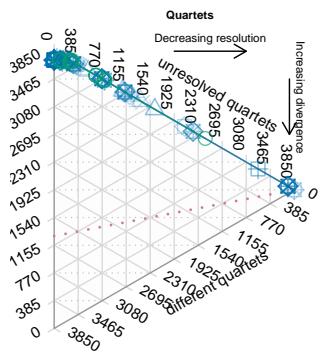
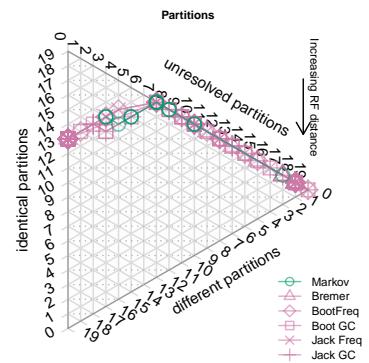
Dataset 53: CI=0.25. Equal weights



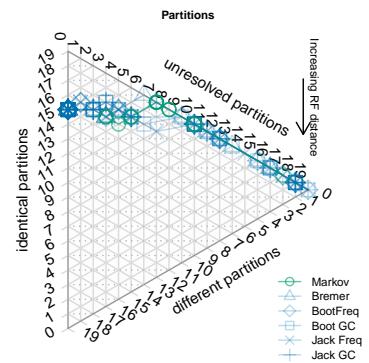
Implied weights ($k = 3$)

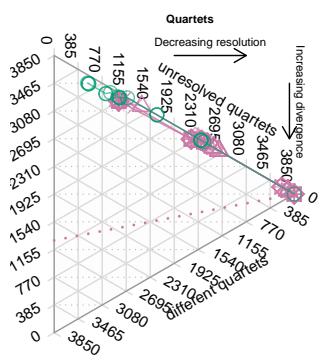


Dataset 54: CI=0.28. Equal weights

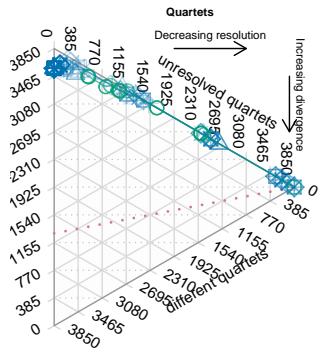
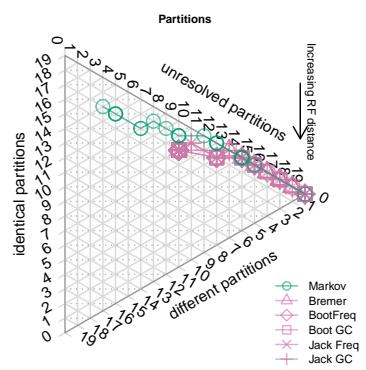


Implied weights ($k = 3$)

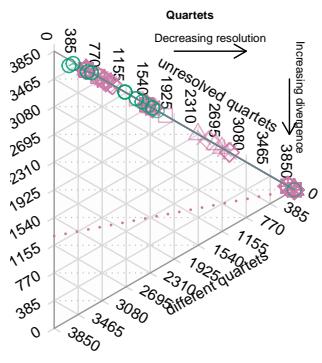
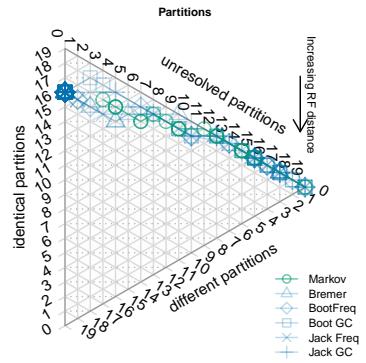




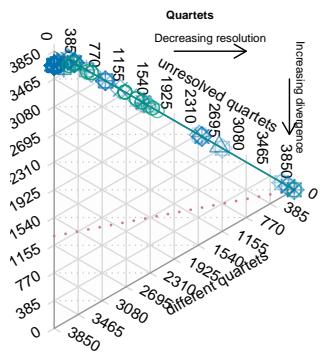
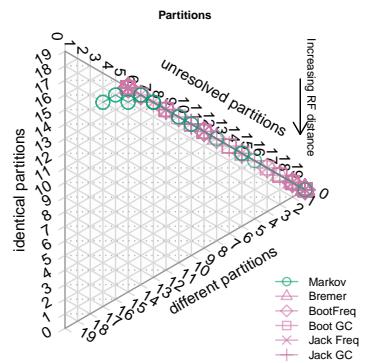
Dataset 55: CI=0.28. Equal weights



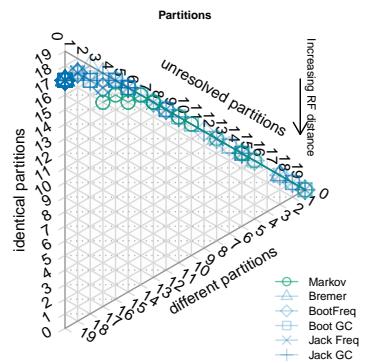
Implied weights (k = 3)

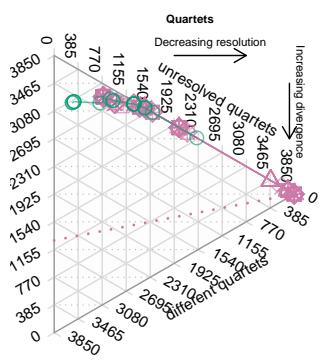


Dataset 56: CI=0.31. Equal weights

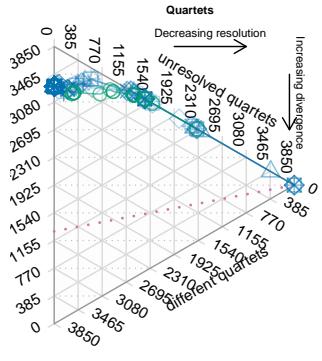
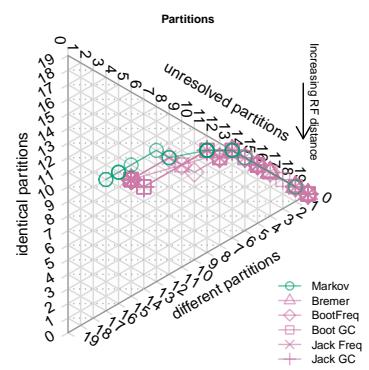


Implied weights (k = 3)

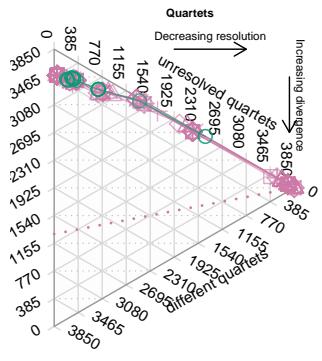
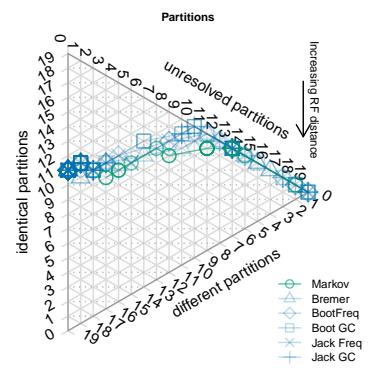




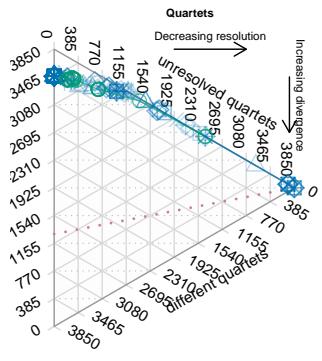
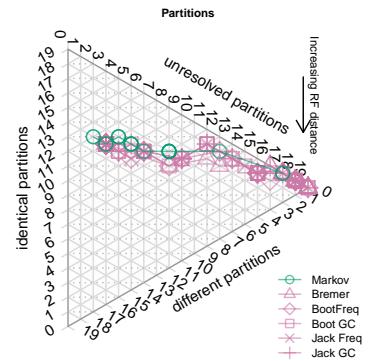
Dataset 57: CI=0.25. Equal weights



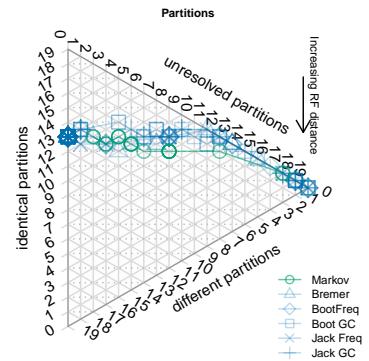
Implied weights (k = 3)

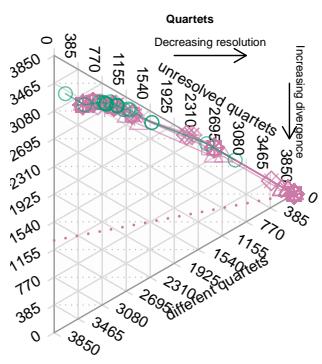


Dataset 58: CI=0.25. Equal weights

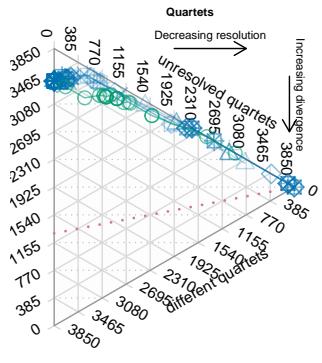
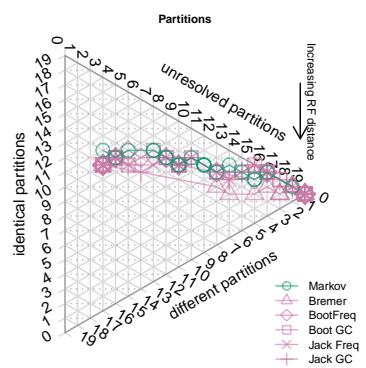


Implied weights (k = 3)

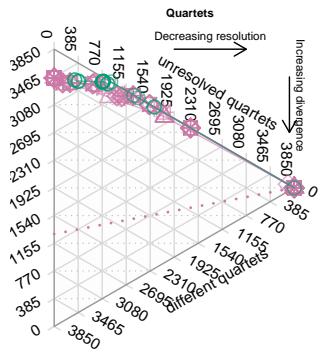
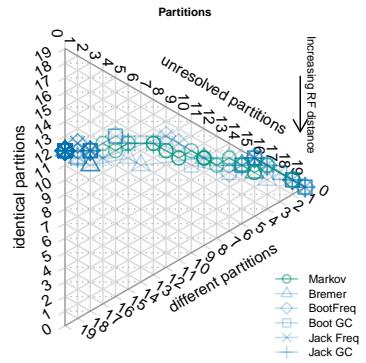




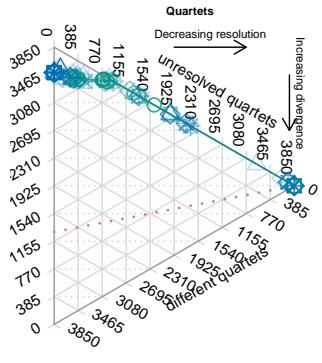
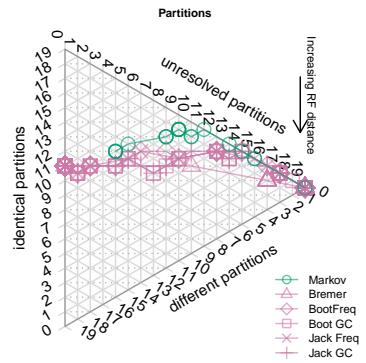
Dataset 59: CI=0.26. Equal weights



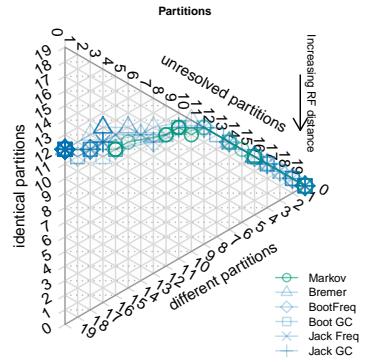
Implied weights ($k=3$)



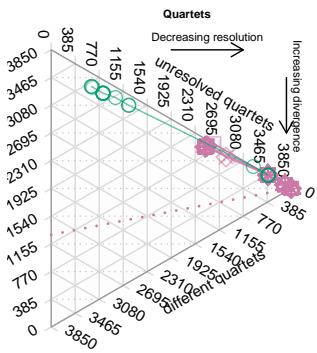
Dataset 60: CI=0.24. Equal weights



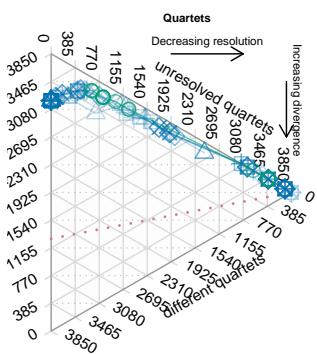
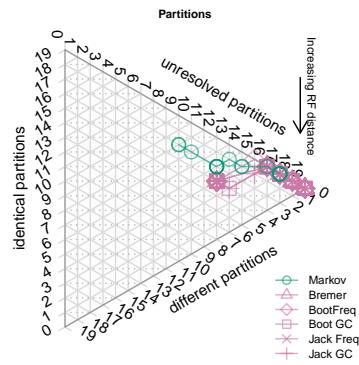
Implied weights ($k=3$)



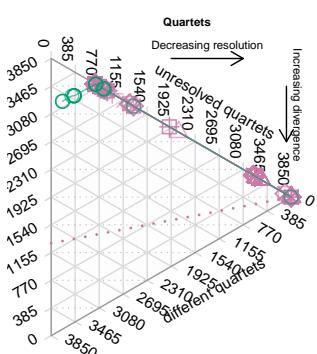
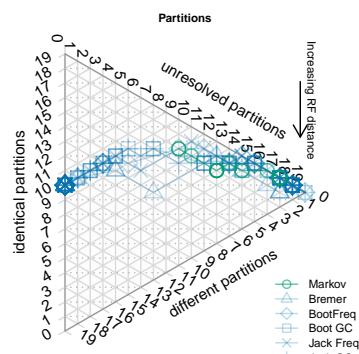
0.8 Trees 61–70



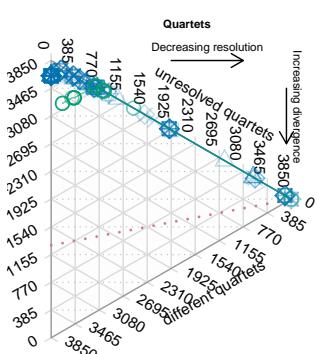
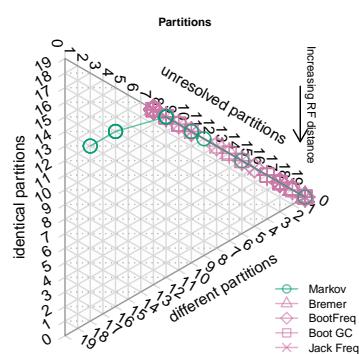
Dataset 61: CI=0.26. Equal weights



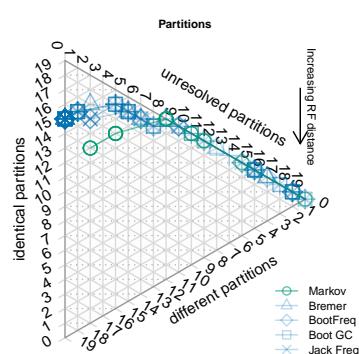
Implied weights ($k = 3$)

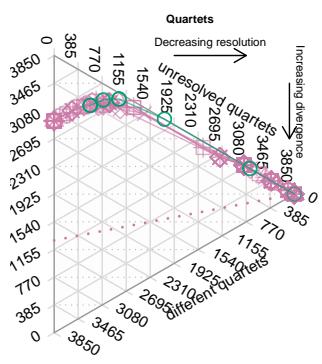


Dataset 62: CI=0.26, Equal weights

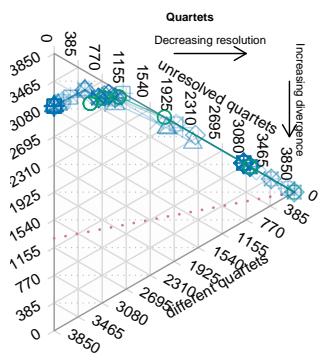
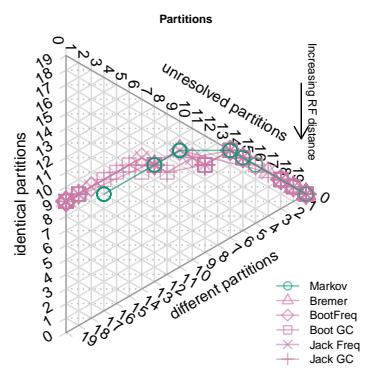


Implied weights ($k = 3$)

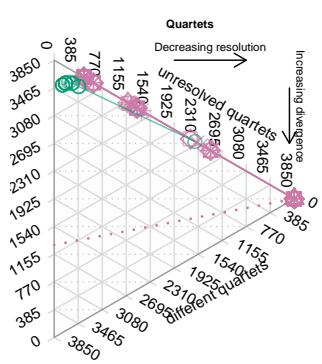
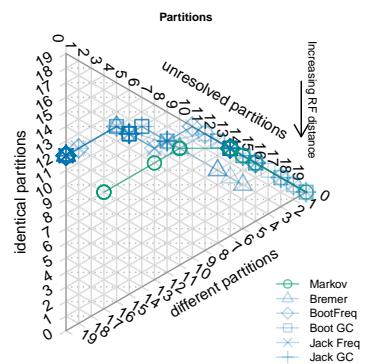




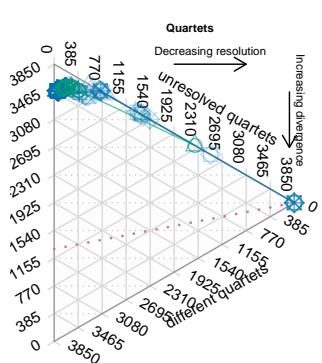
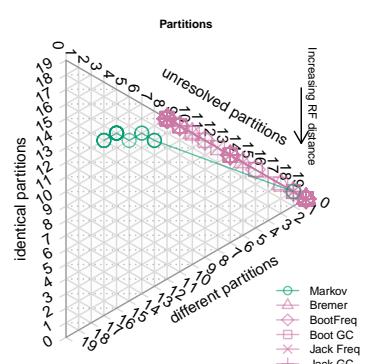
Dataset 63: CI=0.24. Equal weights



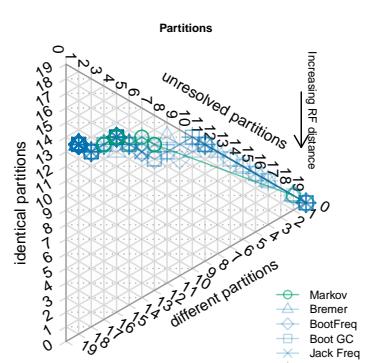
Implied weights (k = 3)

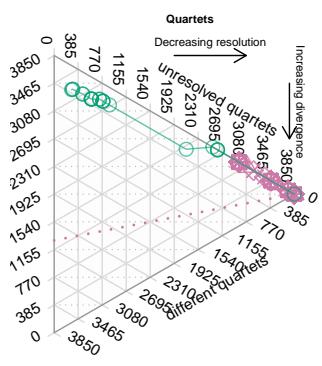


Dataset 64: CI=0.29. Equal weights

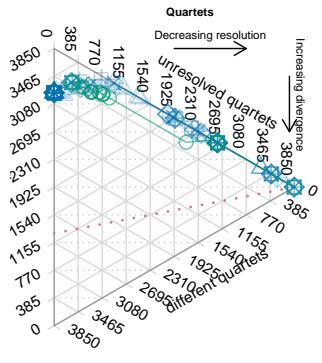
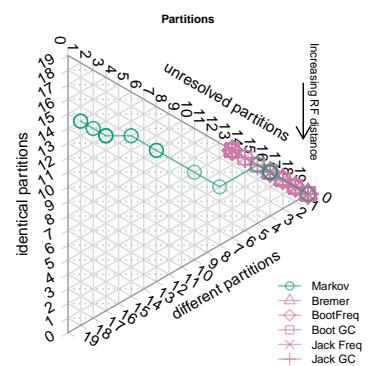


Implied weights (k = 3)

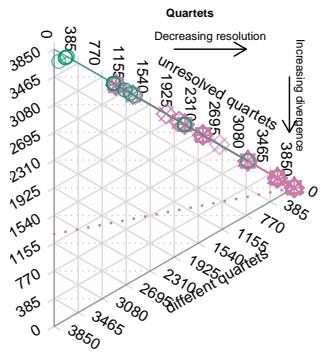
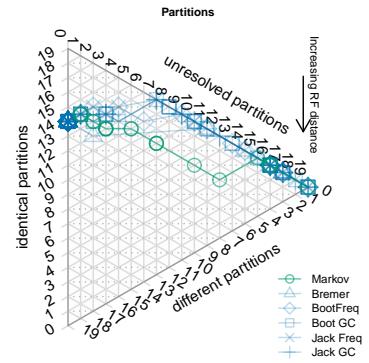




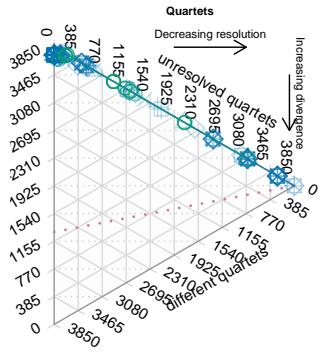
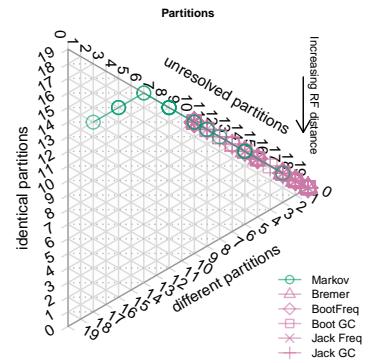
Dataset 65: $CI=0.25$. Equal weights



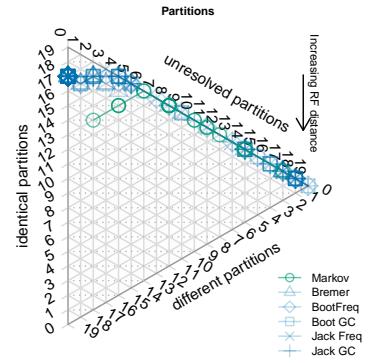
Implied weights ($k = 3$)

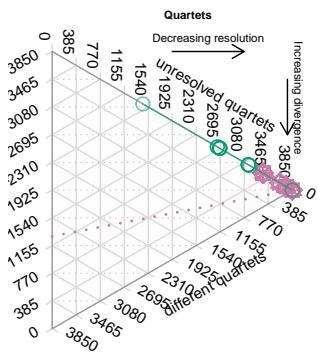


Dataset 66: $CI=0.27$. Equal weights

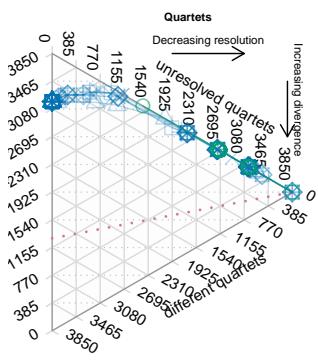
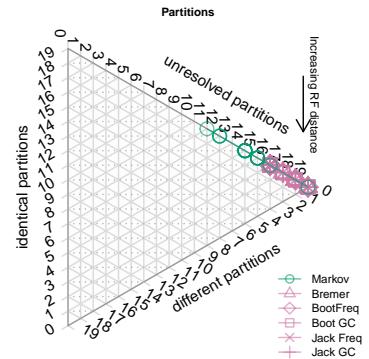


Implied weights ($k = 3$)

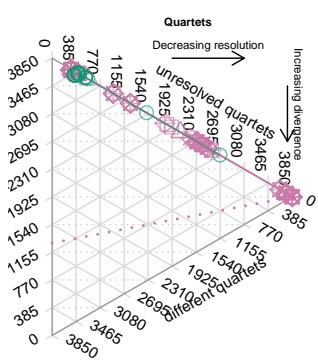
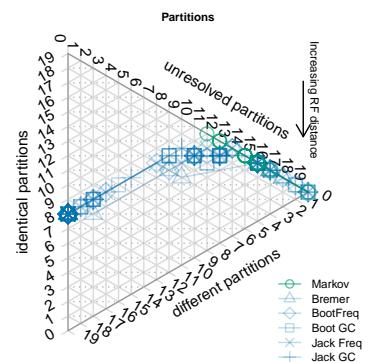




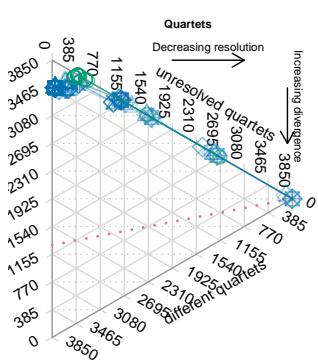
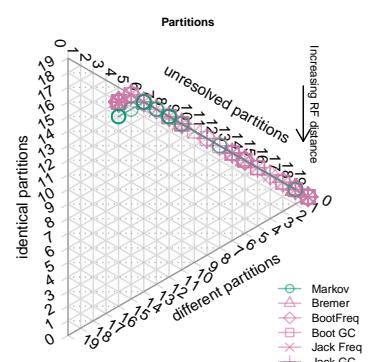
Dataset 67: CI=0.26. Equal weights



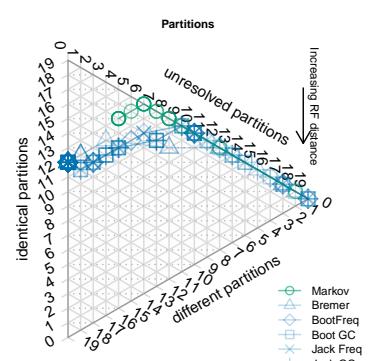
Implied weights ($k = 3$)

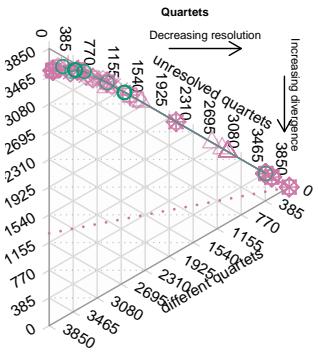


Dataset 68: CI=0.31. Equal weights

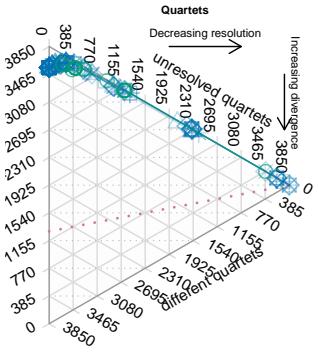
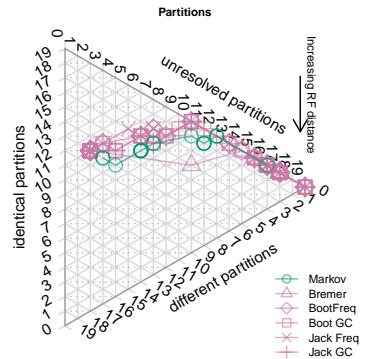


Implied weights ($k = 3$)

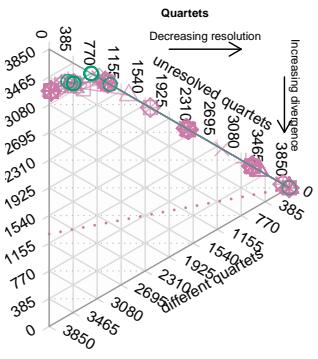
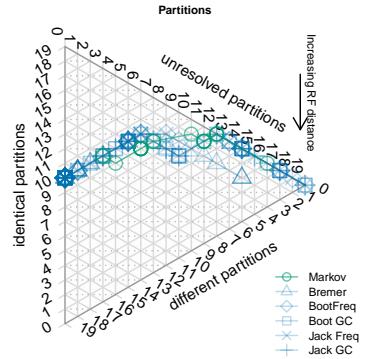




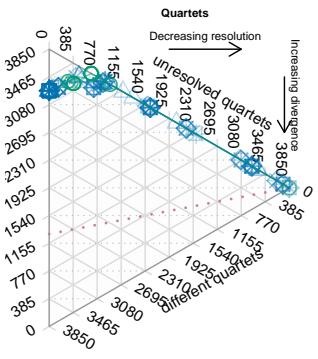
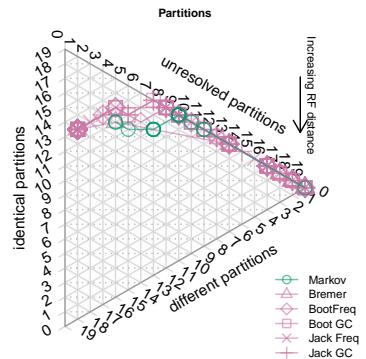
Dataset 69: CI=0.27. Equal weights



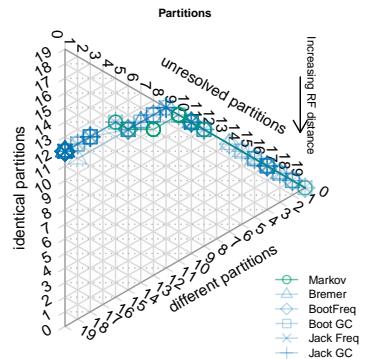
Implied weights ($k = 3$)



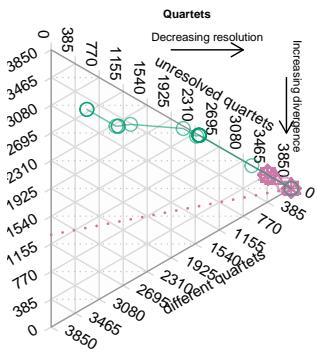
Dataset 70: CI=0.27. Equal weights



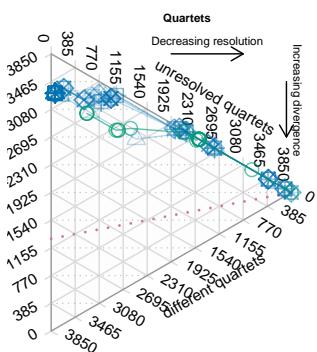
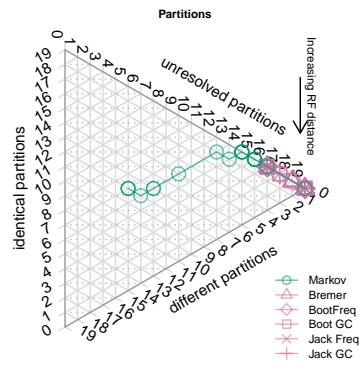
Implied weights ($k = 3$)



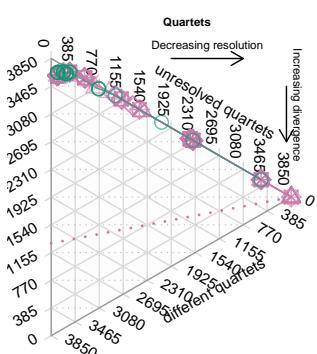
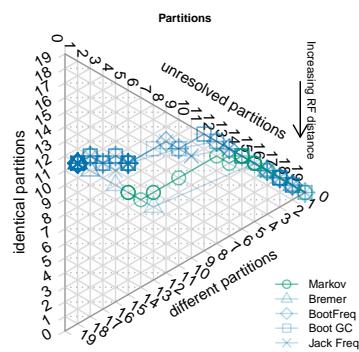
0.9 Trees 71–80



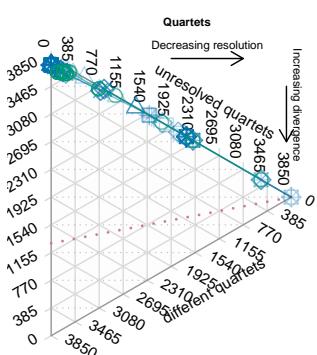
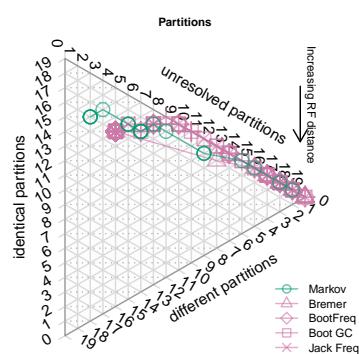
Dataset 71: CI=0.27. Equal weights



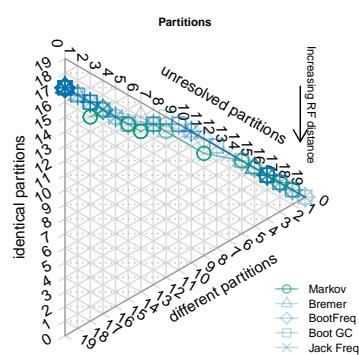
Implied weights ($k = 3$)

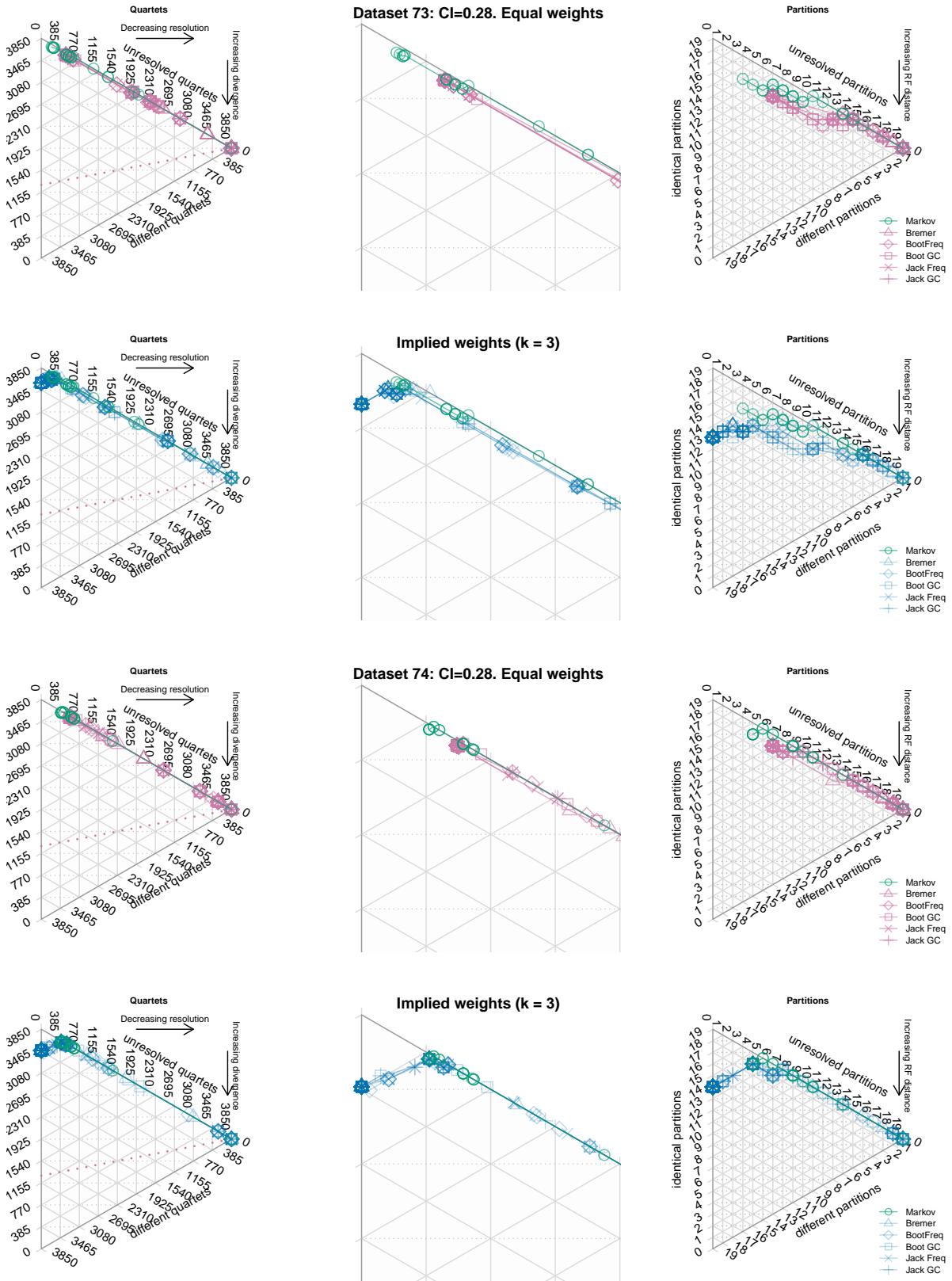


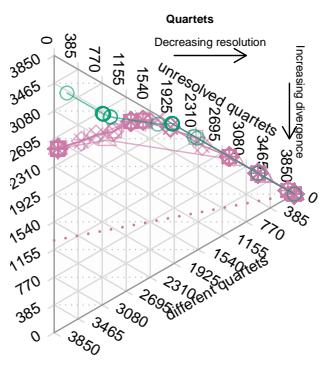
Dataset 72: CI=0.29, Equal weights



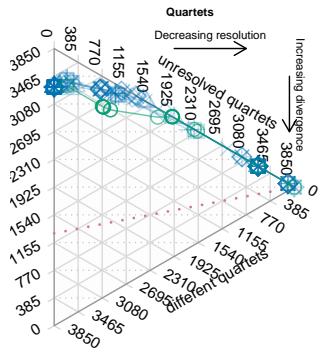
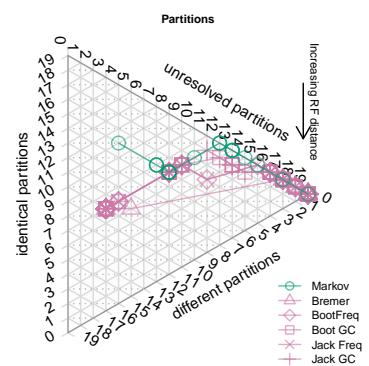
Implied weights ($k = 3$)



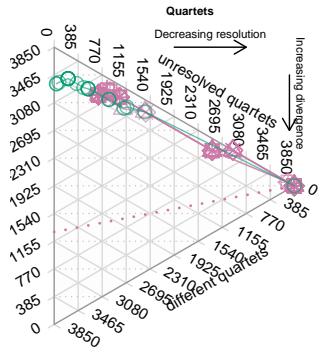
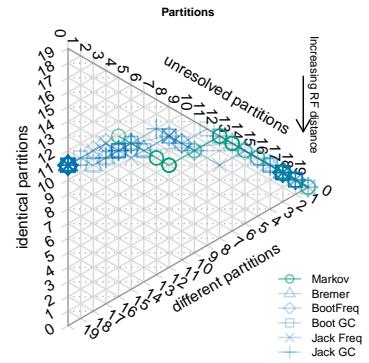




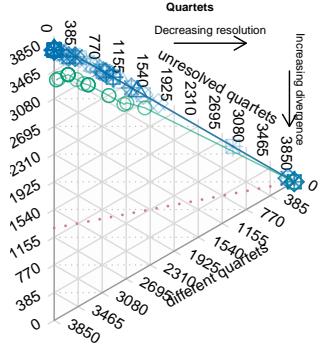
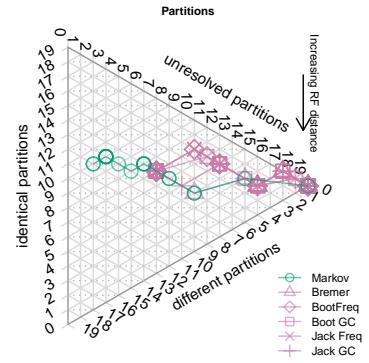
Dataset 75: CI=0.24. Equal weights



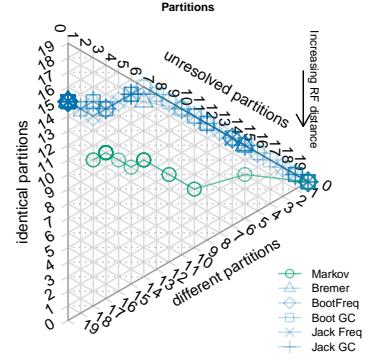
Implied weights ($k = 3$)

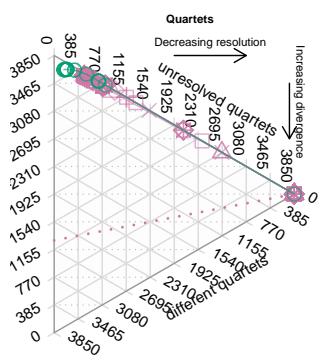


Dataset 76: CI=0.26. Equal weights

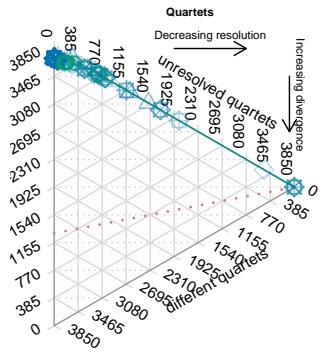
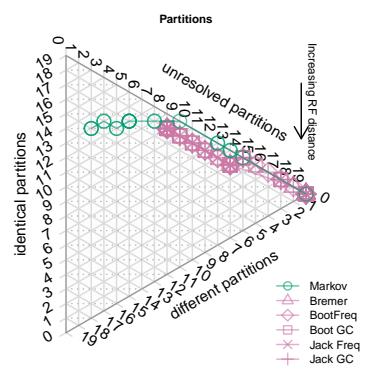


Implied weights ($k = 3$)

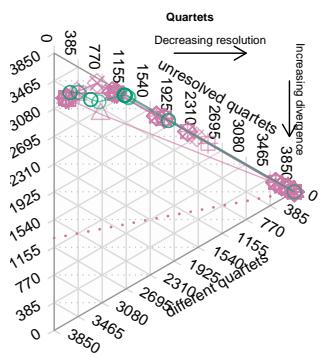
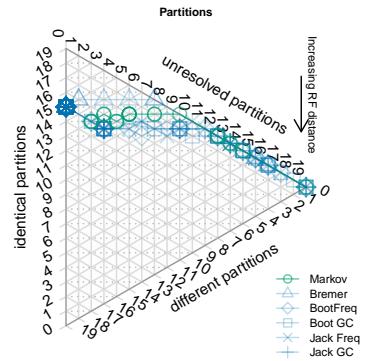




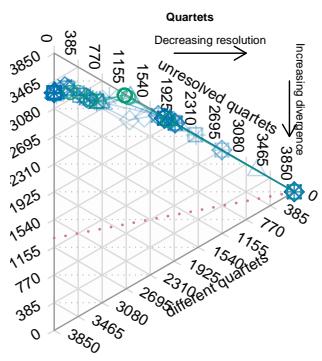
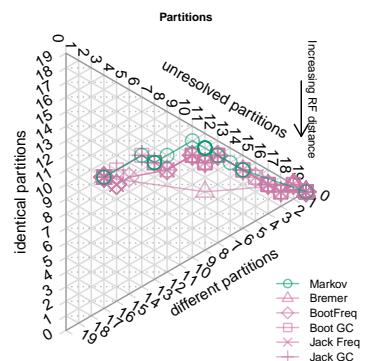
Dataset 77: CI=0.28. Equal weights



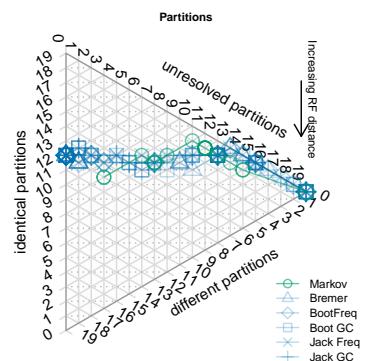
Implied weights ($k = 3$)

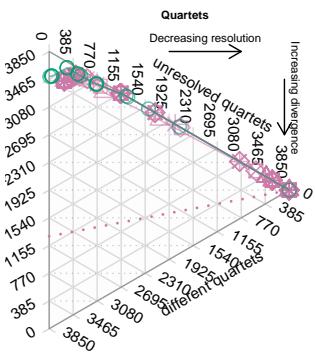


Dataset 78: CI=0.24. Equal weights

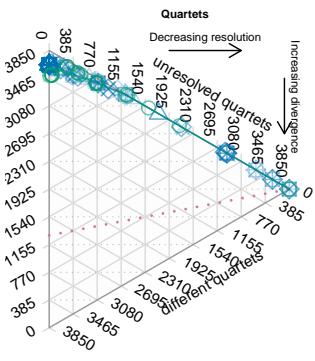
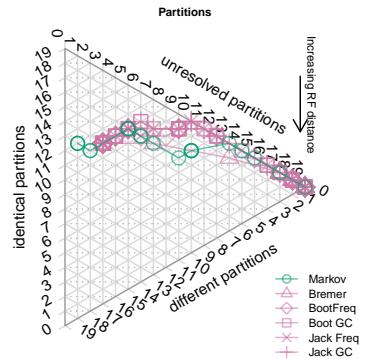


Implied weights ($k = 3$)

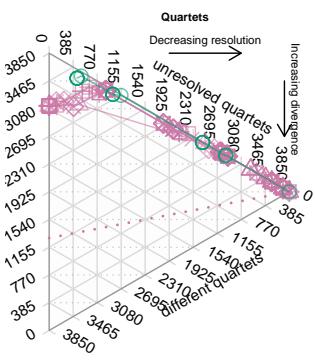
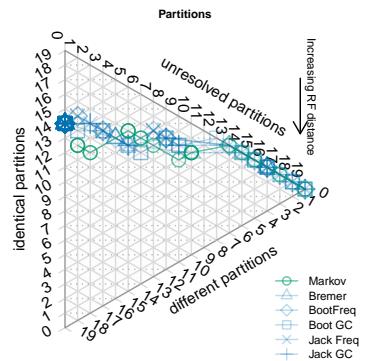




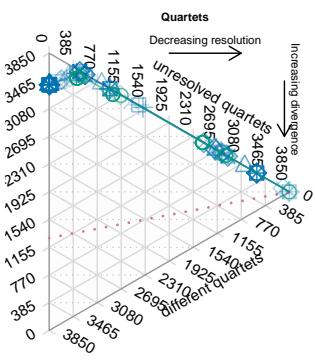
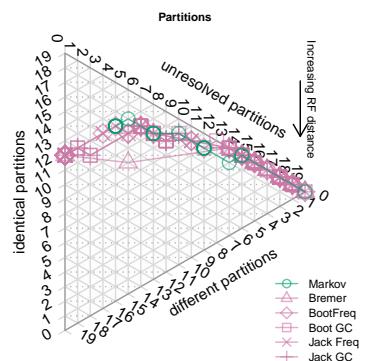
Dataset 79: CI=0.24. Equal weights



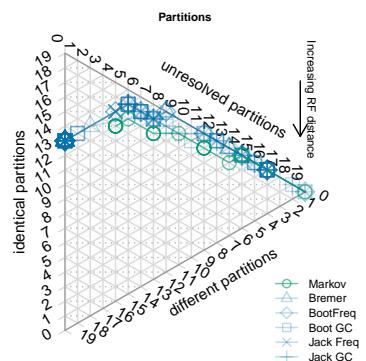
Implied weights ($k = 3$)



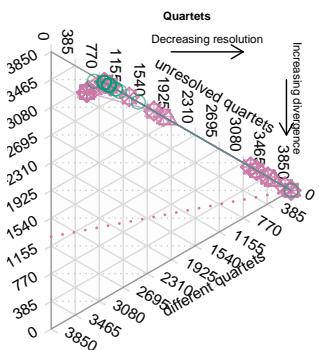
Dataset 80: CI=0.27. Equal weights



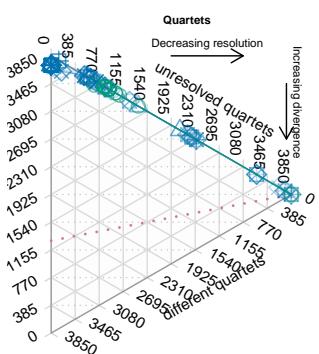
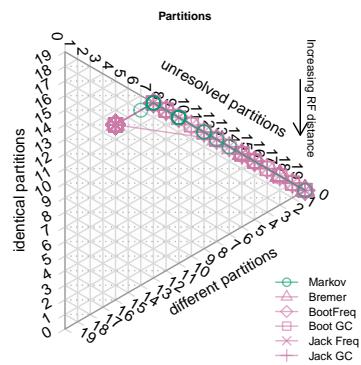
Implied weights ($k = 3$)



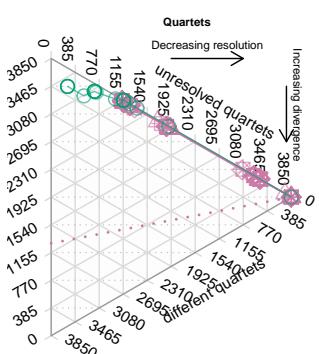
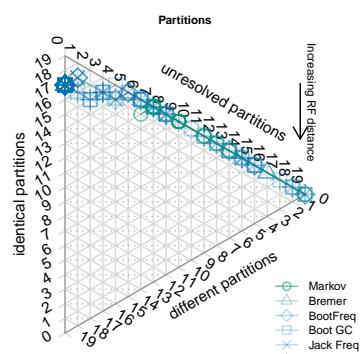
0.10 Trees 81–90



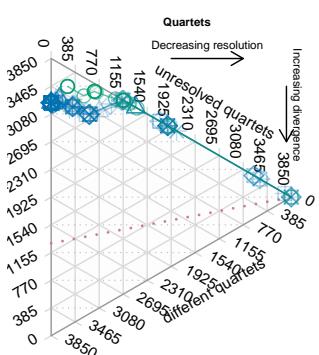
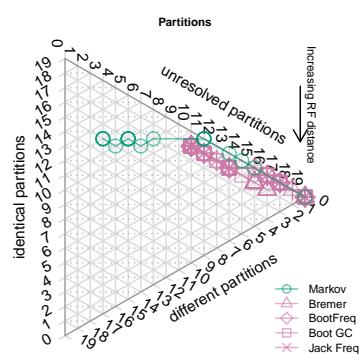
Dataset 81: CI=0.27. Equal weights



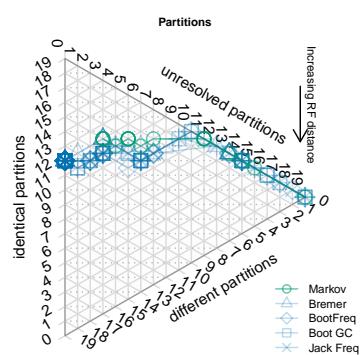
Implied weights ($k = 3$)

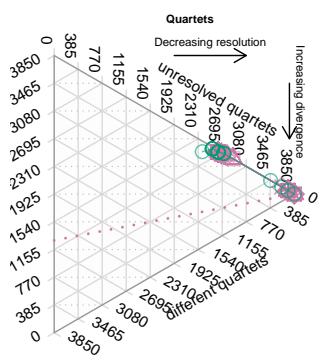


Dataset 82: CI=0.28, Equal weights

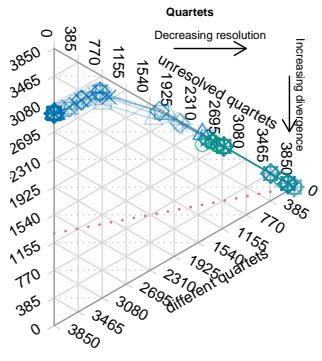
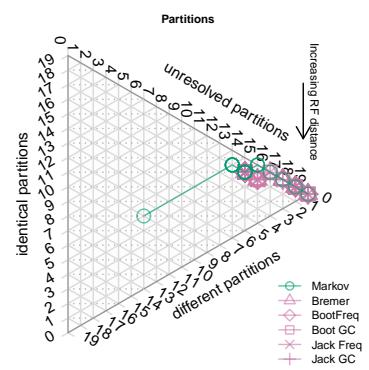


Implied weights ($k = 3$)

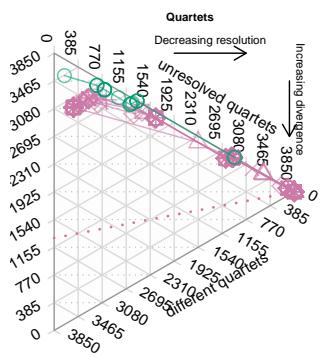
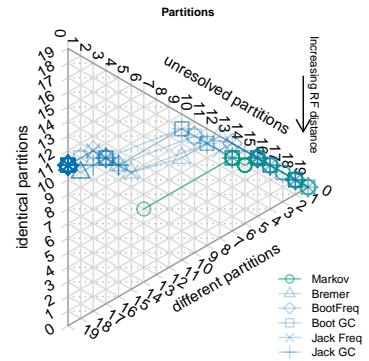




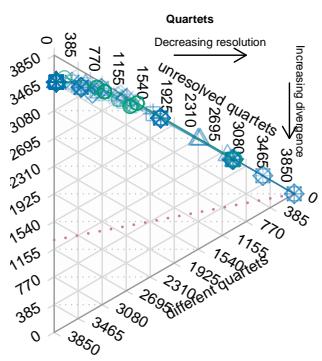
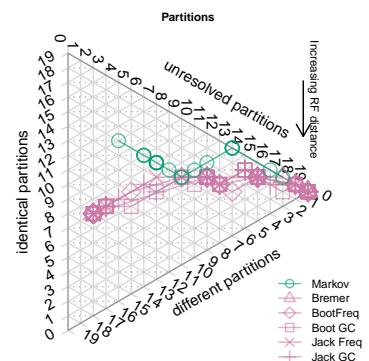
Dataset 83: CI=0.25. Equal weights



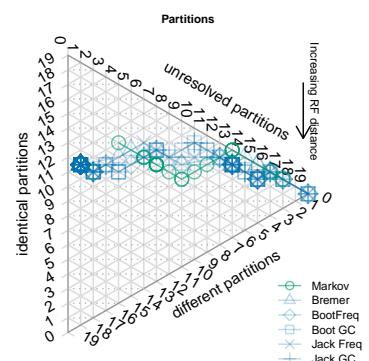
Implied weights ($k = 3$)

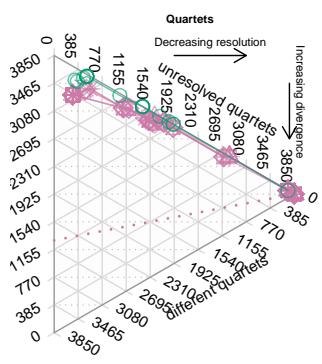


Dataset 84: CI=0.24. Equal weights

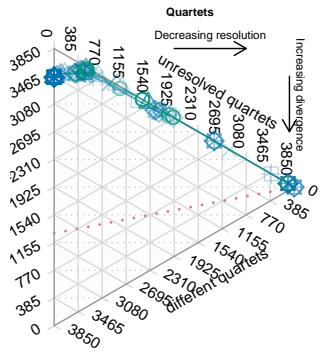
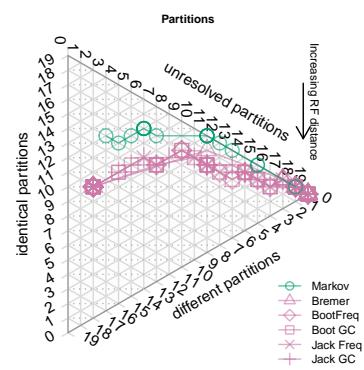


Implied weights ($k = 3$)

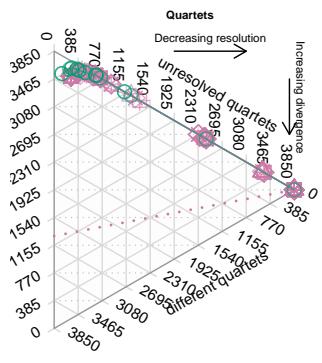
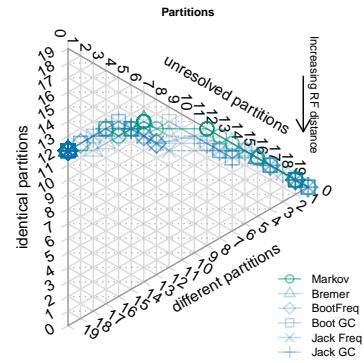




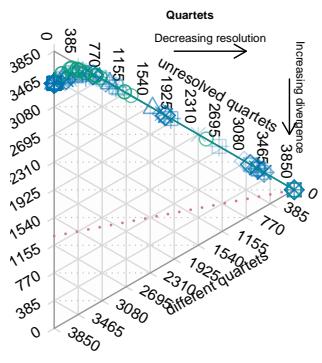
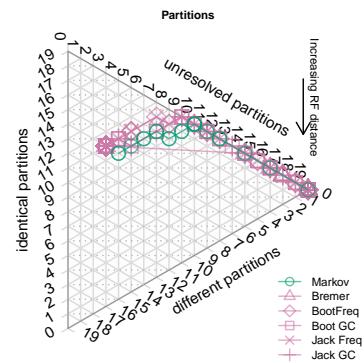
Dataset 85: CI=0.27. Equal weights



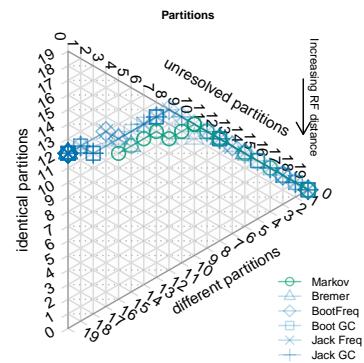
Implied weights ($k = 3$)

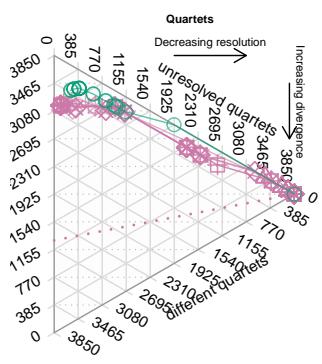


Dataset 86: CI=0.27. Equal weights

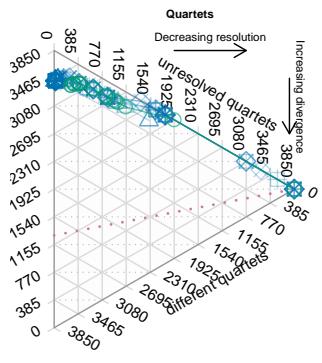
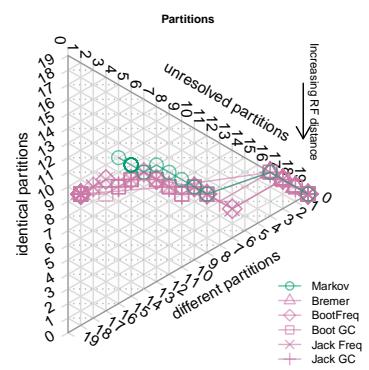


Implied weights ($k = 3$)

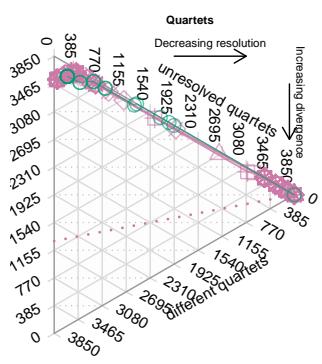
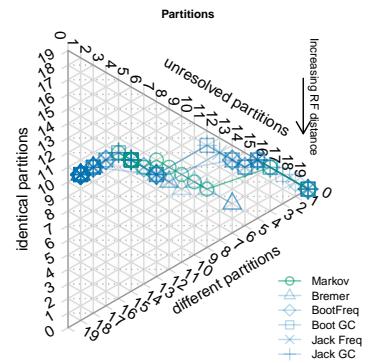




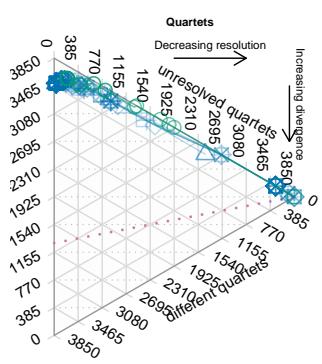
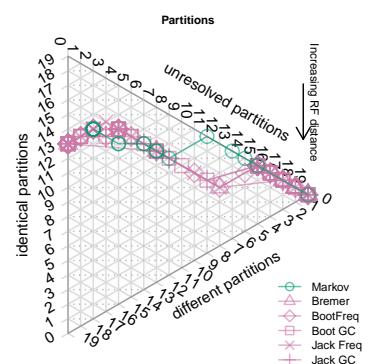
Dataset 87: CI=0.23. Equal weights



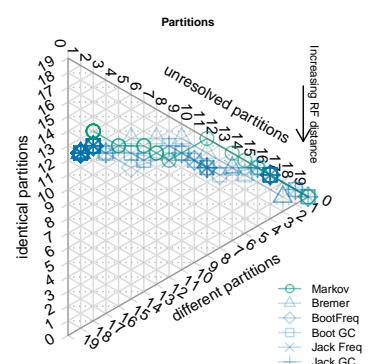
Implied weights ($k = 3$)

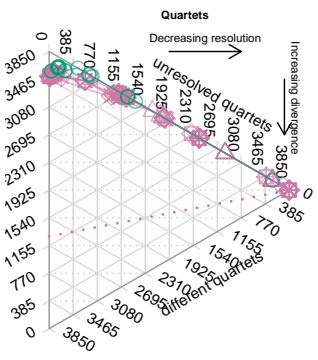


Dataset 88: CI=0.25. Equal weights

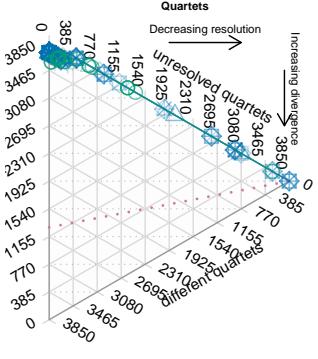
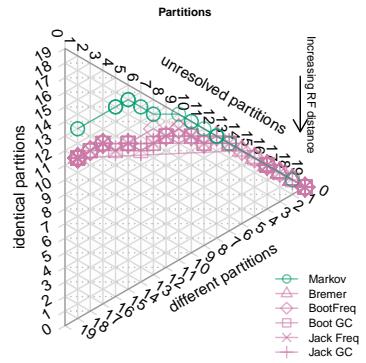


Implied weights ($k = 3$)

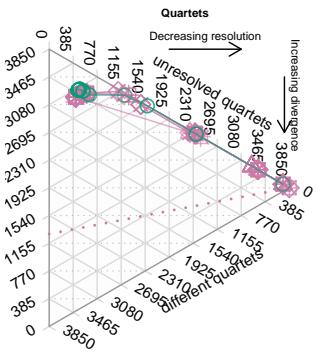
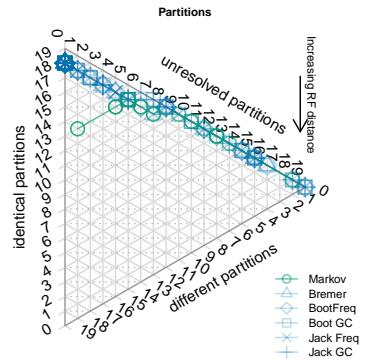




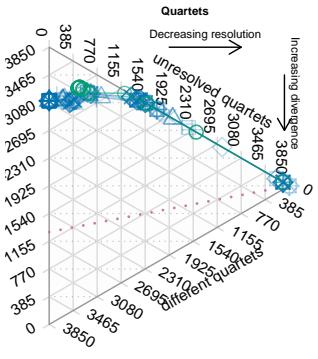
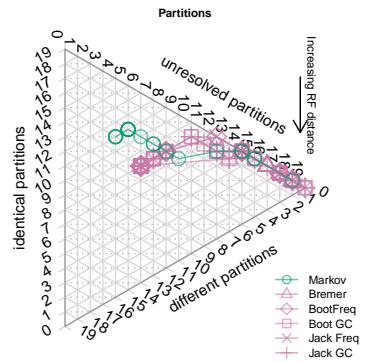
Dataset 89: CI=0.27. Equal weights



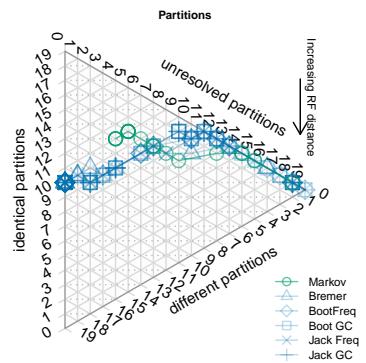
Implied weights ($k = 3$)



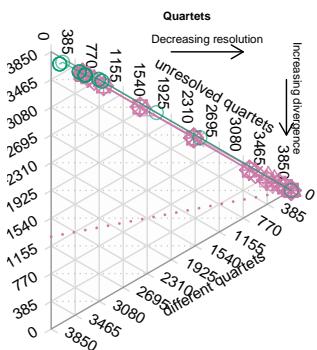
Dataset 90: CI=0.26. Equal weights



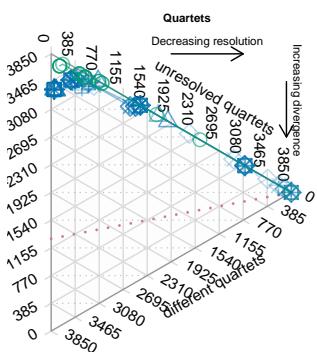
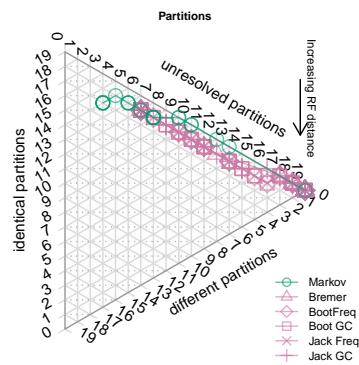
Implied weights ($k = 3$)



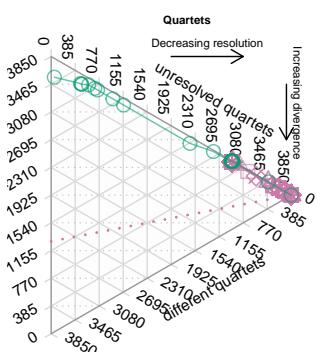
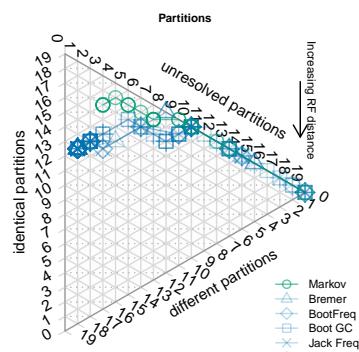
0.11 Trees 91–100



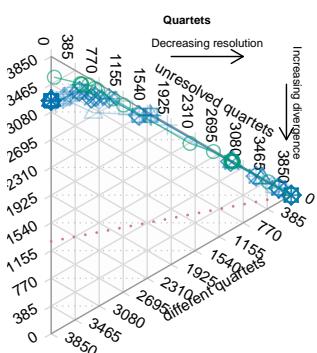
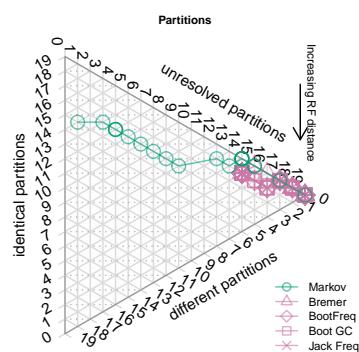
Dataset 91: CI=0.26. Equal weights



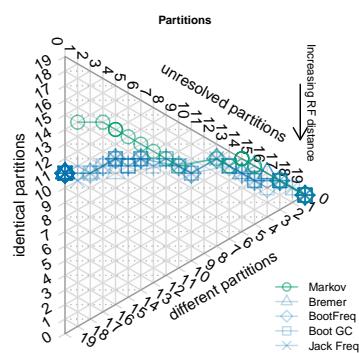
Implied weights ($k = 3$)

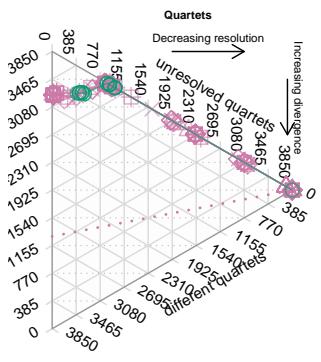


Dataset 92: CI=0.25, Equal weights

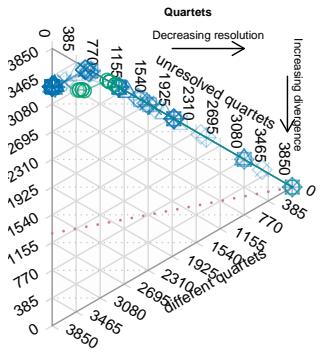
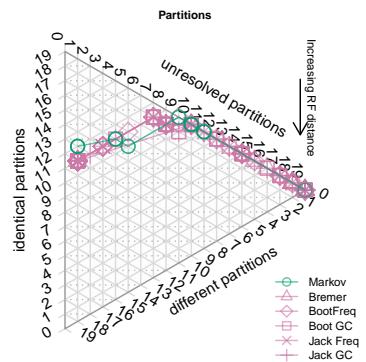


Implied weights ($k = 3$)

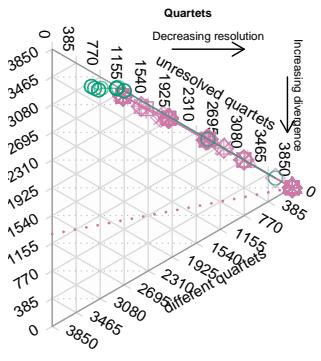
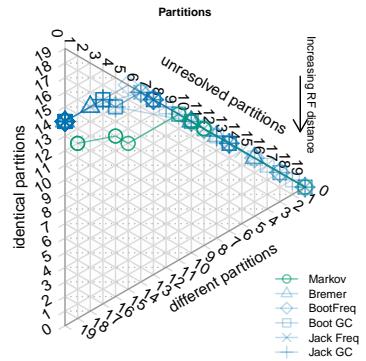




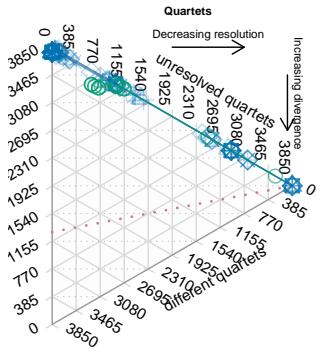
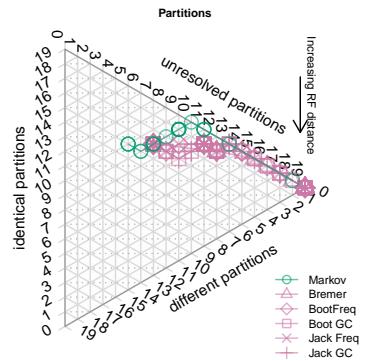
Dataset 93: CI=0.28. Equal weights



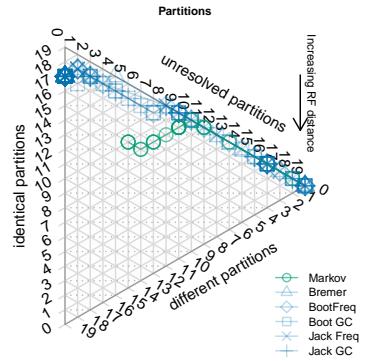
Implied weights ($k = 3$)

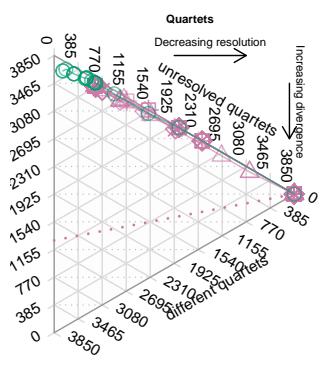


Dataset 94: CI=0.24. Equal weights

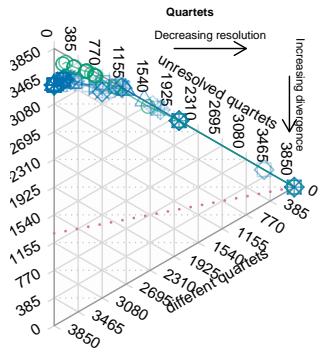
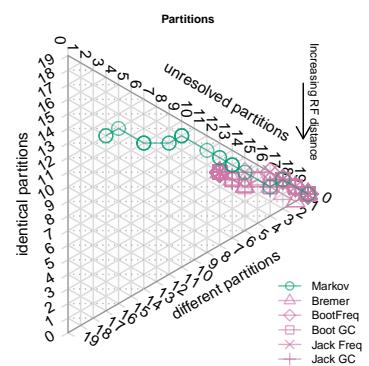


Implied weights ($k = 3$)

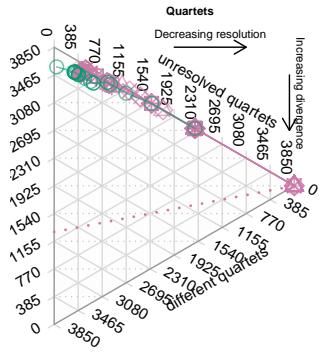
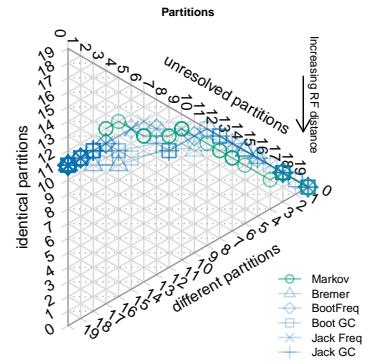




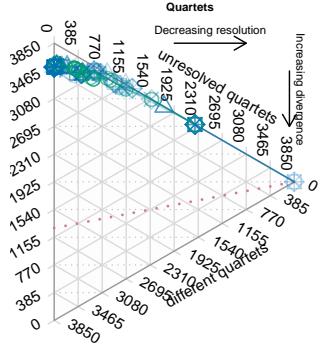
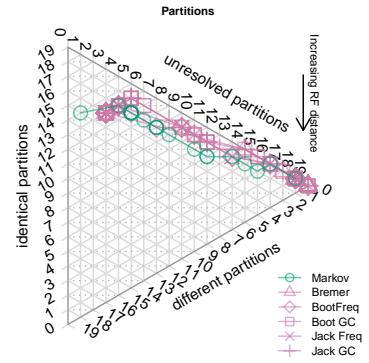
Dataset 95: CI=0.24. Equal weights



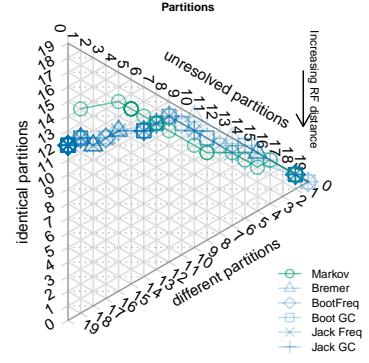
Implied weights ($k = 3$)

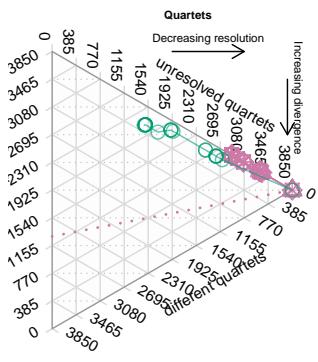


Dataset 96: CI=0.26. Equal weights

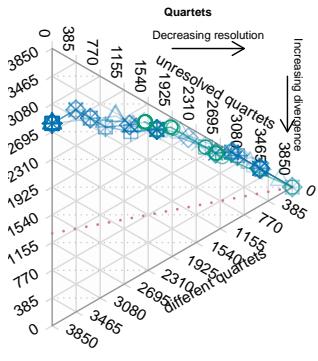
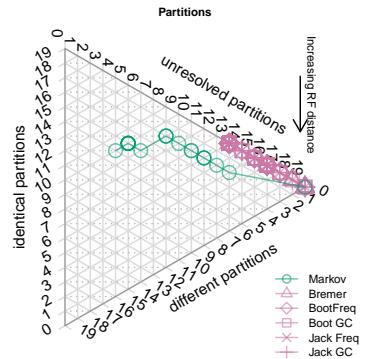


Implied weights ($k = 3$)

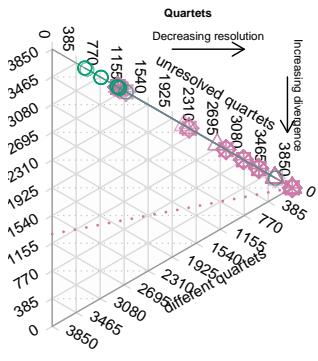
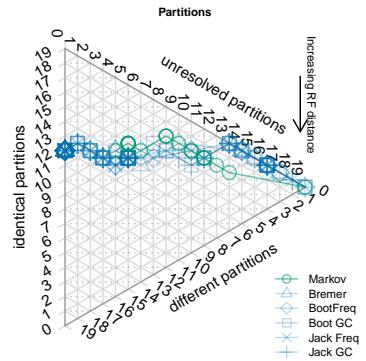




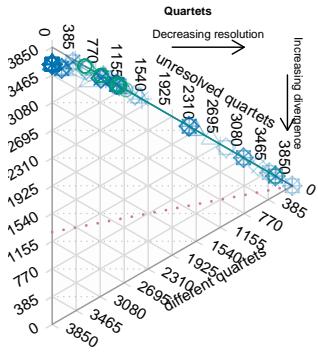
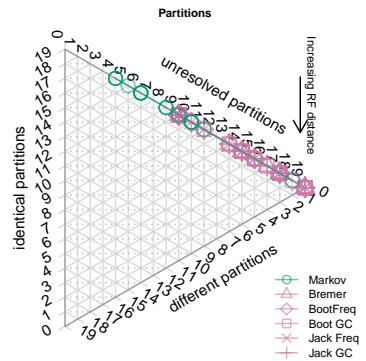
Dataset 97: CI=0.27. Equal weights



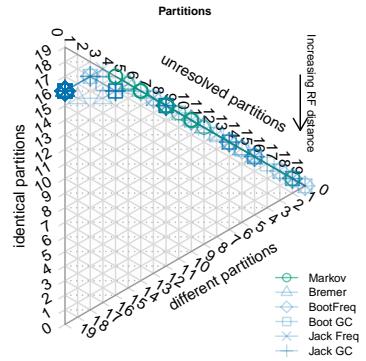
Implied weights ($k = 3$)

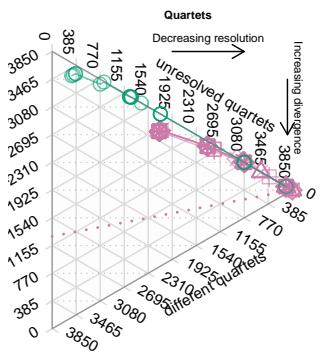


Dataset 98: CI=0.26. Equal weights

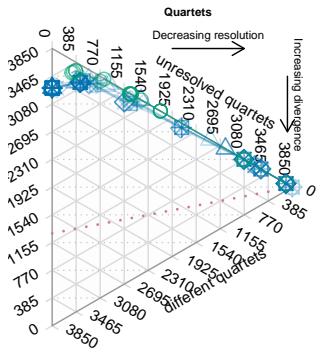
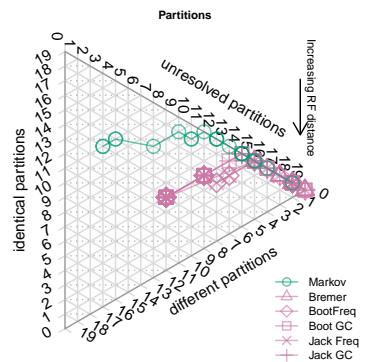


Implied weights ($k = 3$)

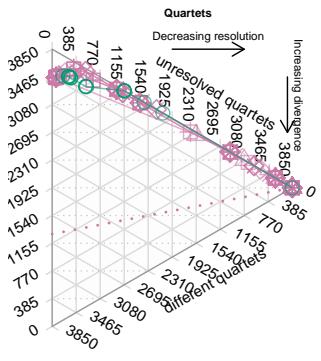
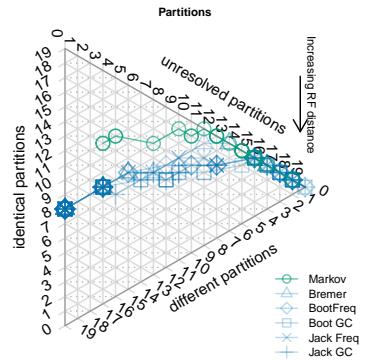




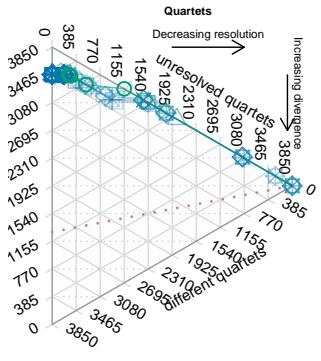
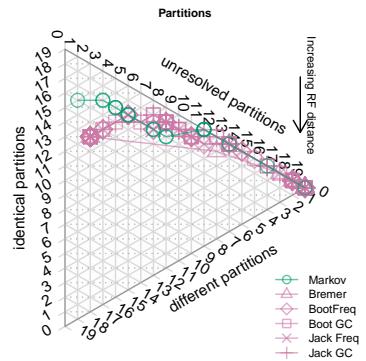
Dataset 99: CI=0.24. Equal weights



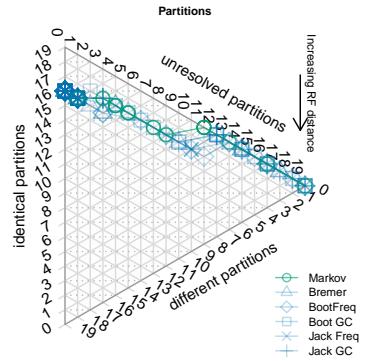
Implied weights (k = 3)



Dataset 100: CI=0.27. Equal weights



Implied weights (k = 3)



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)