

Node support efficacy in Congreve & Lamsdell matrices

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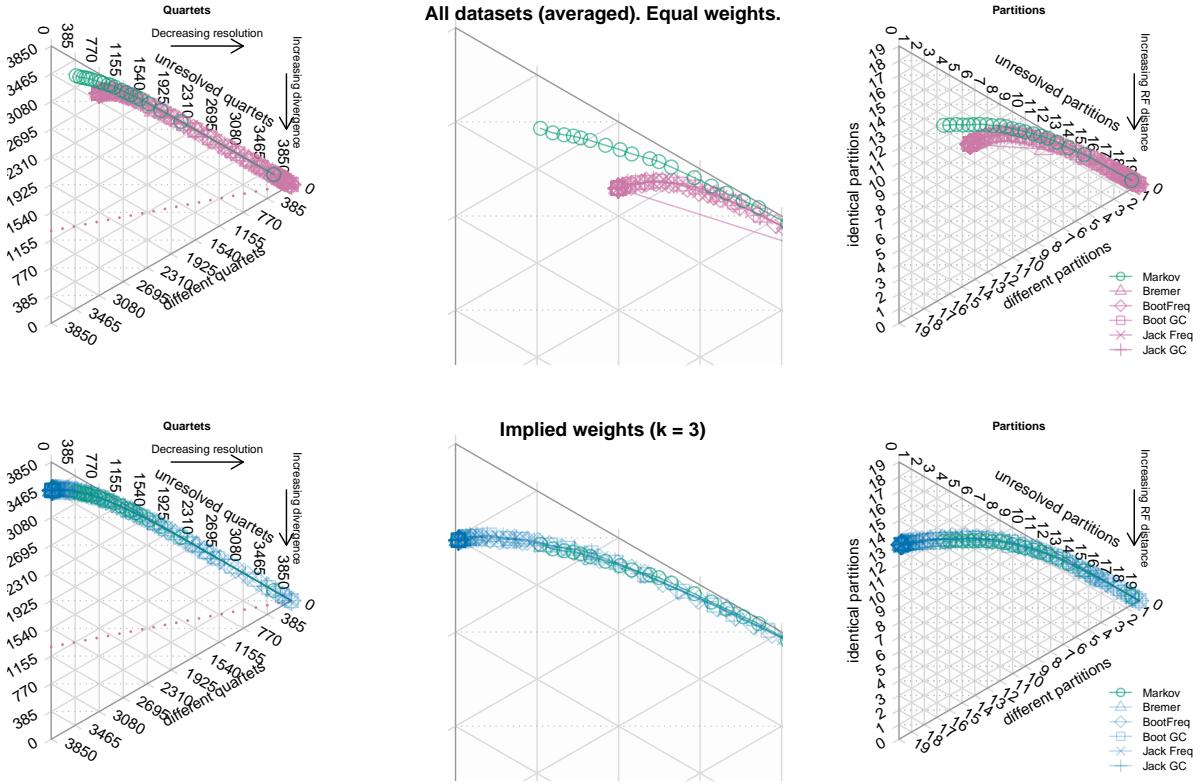
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This page depicts the analytical results of all 100 matrices generated by Congreve & Lamsdell [1] using a ternary plotting approach [2], with quartets and partitions used as distance metrics.

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

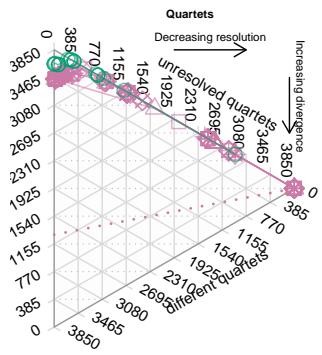
0.1 Summary



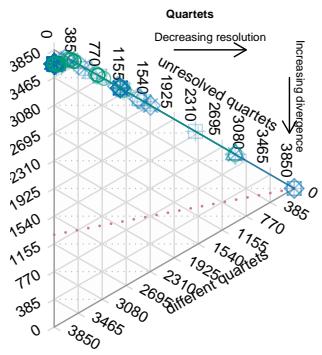
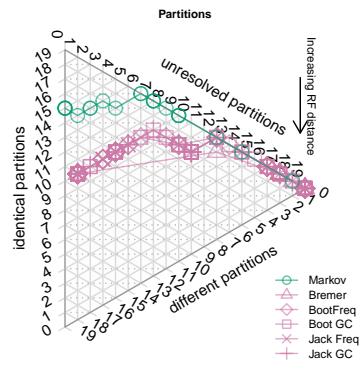
Though the Bootstrap GC metric systematically produces the lowest normalized tree distances ($SD/MaxI$), it is not significantly better than other methods. The following table reports P values that fail to reject the null hypothesis that the specified node support metric is equally good at ascribing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

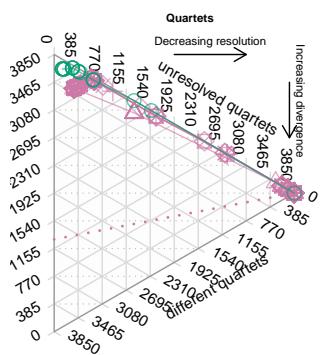
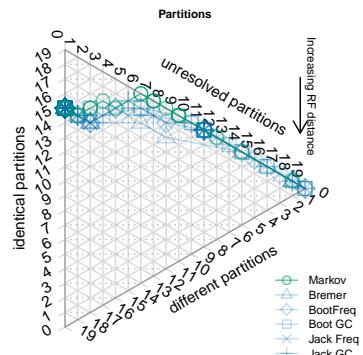
0.2 Trees 1–10



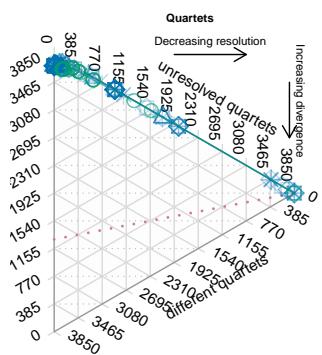
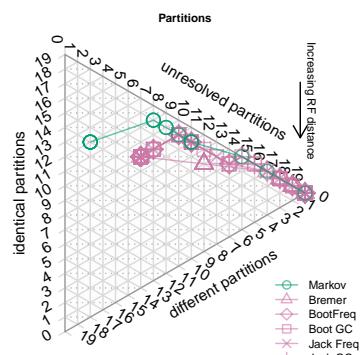
Dataset 1: CI=0.28. Equal weights



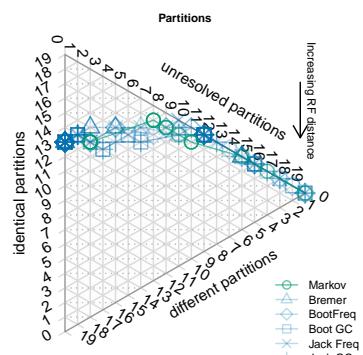
Implied weights (k = 3)

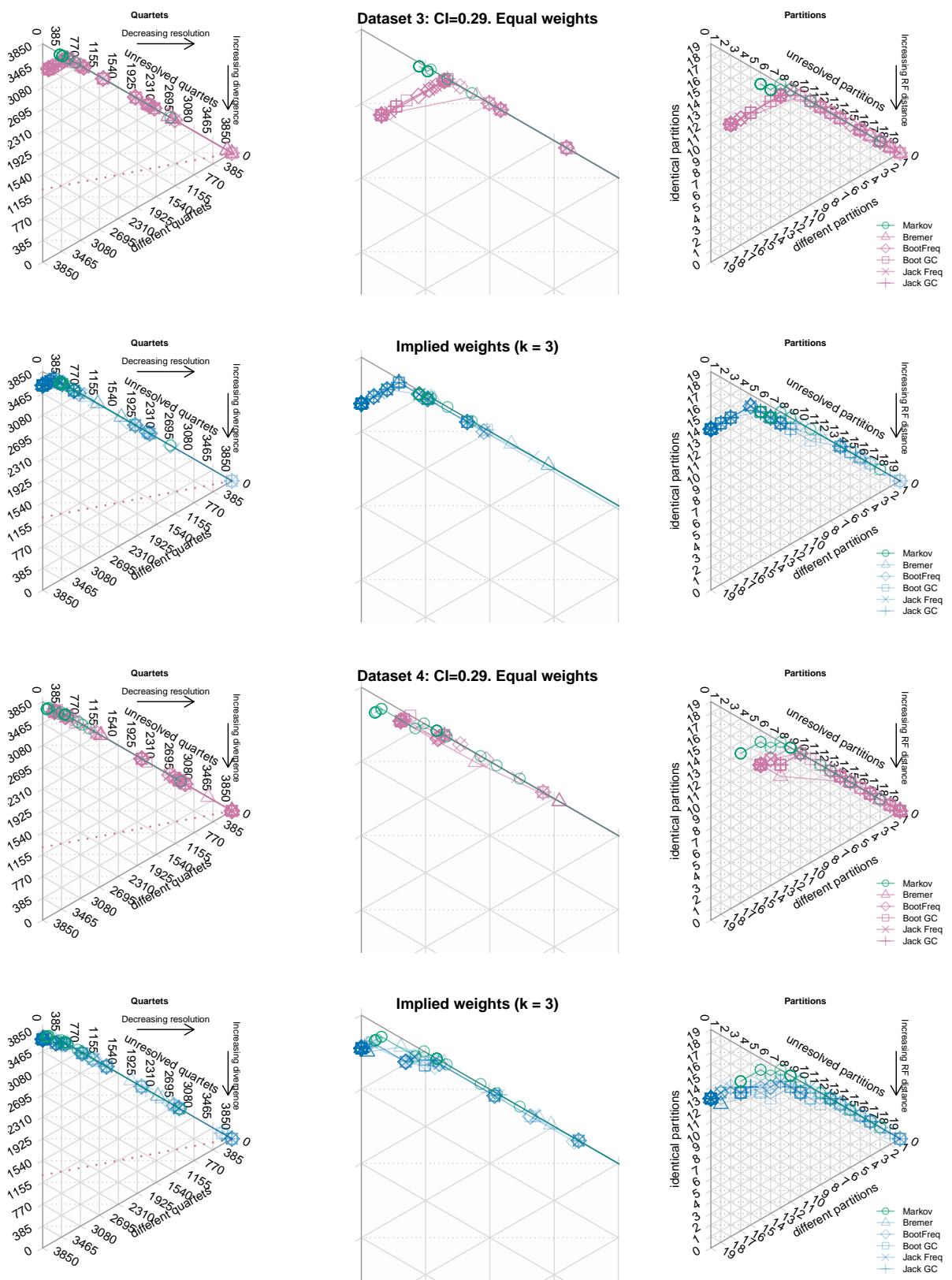


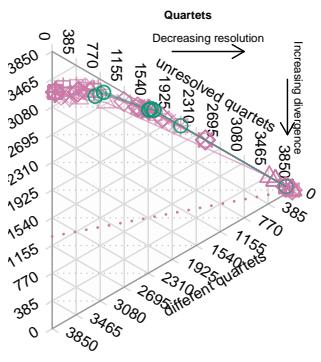
Dataset 2: CI=0.25. Equal weights



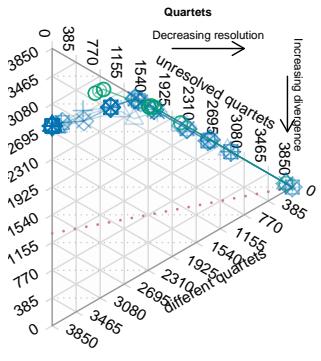
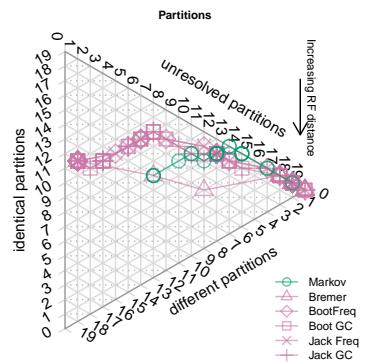
Implied weights (k = 3)



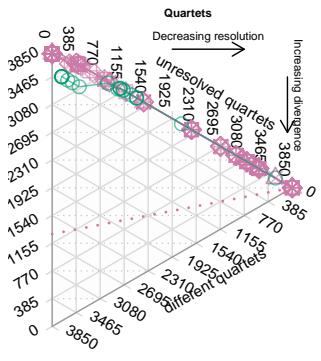
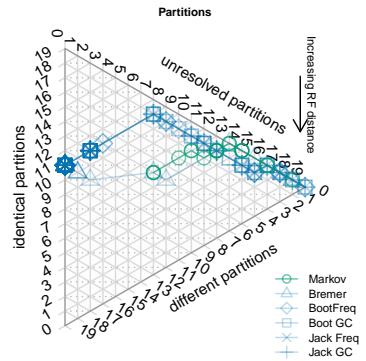




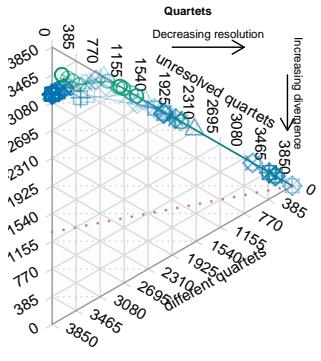
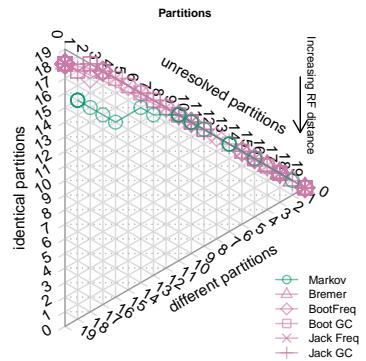
Dataset 5: CI=0.26. Equal weights



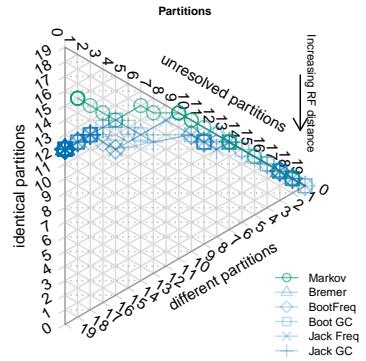
Implied weights ($k = 3$)

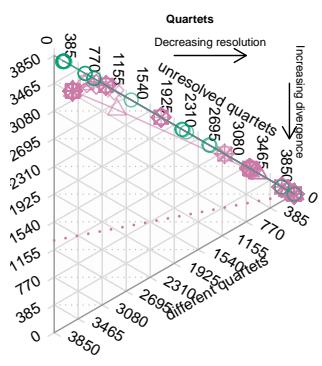


Dataset 6: CI=0.26. Equal weights

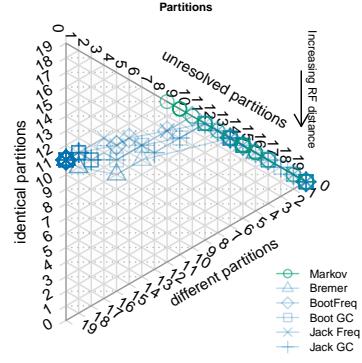
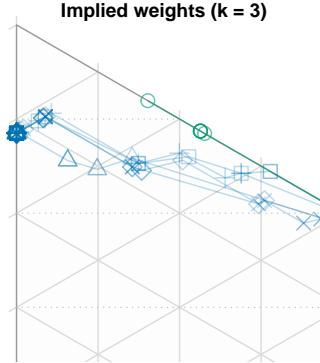
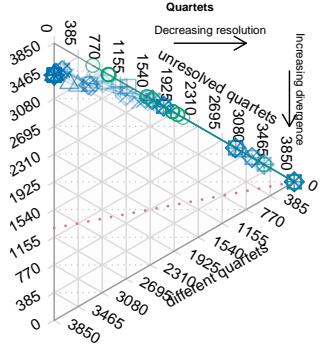
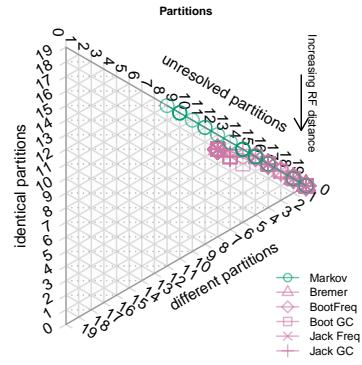
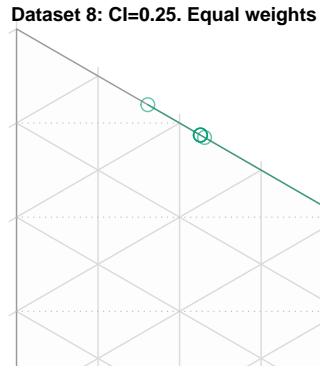
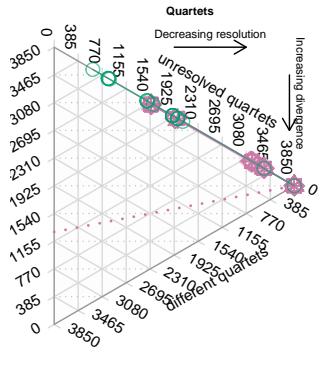
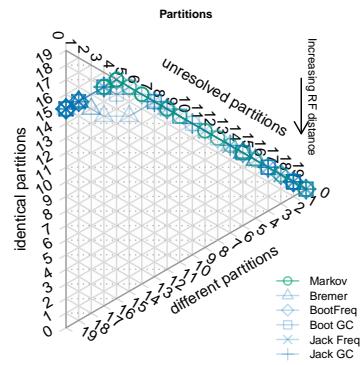
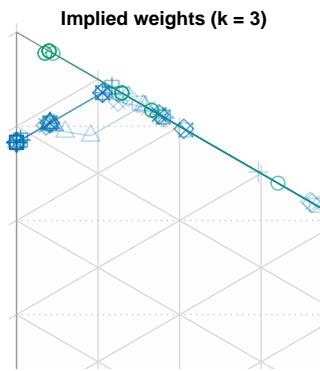
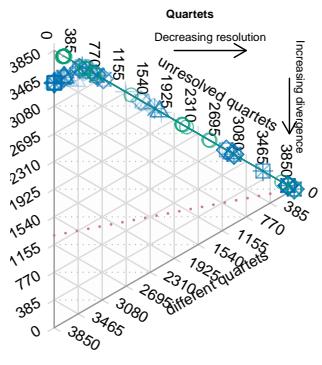
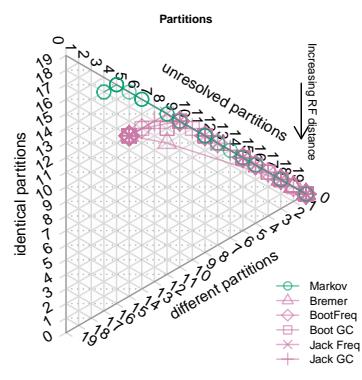
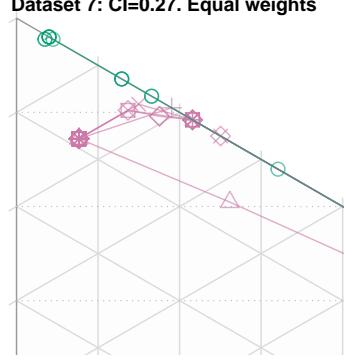


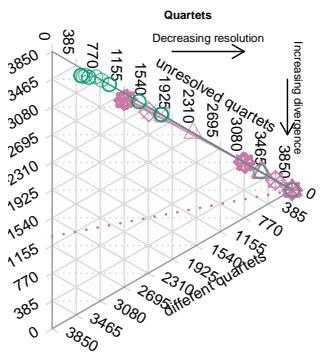
Implied weights ($k = 3$)



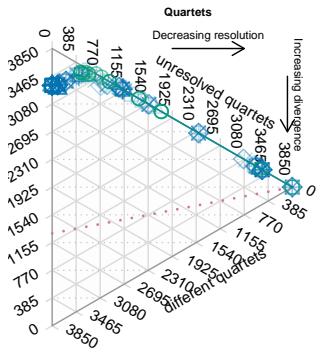
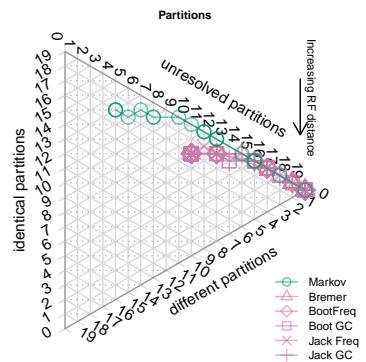


Dataset 7: CI=0.27. Equal weights

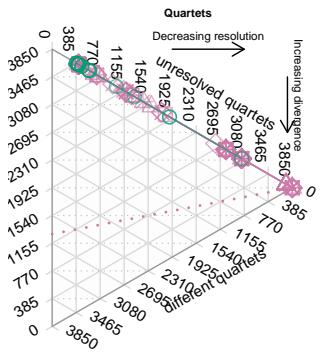
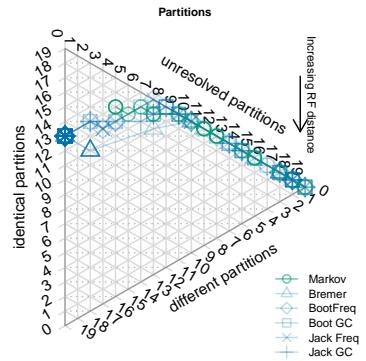




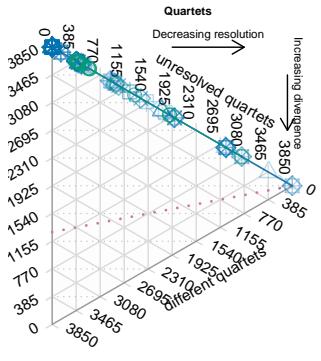
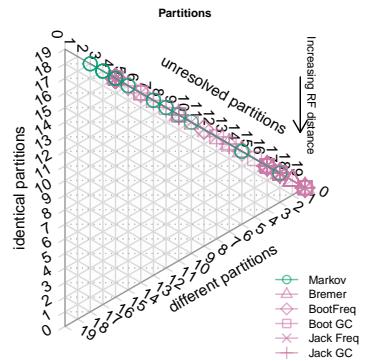
Dataset 9: CI=0.24. Equal weights



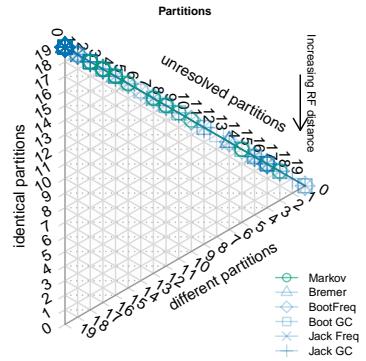
Implied weights ($k = 3$)



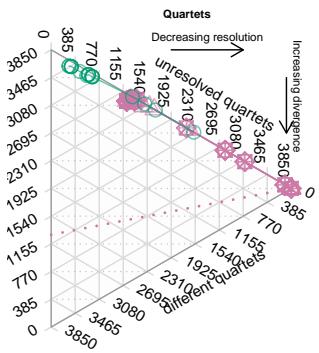
Dataset 10: CI=0.29. Equal weights



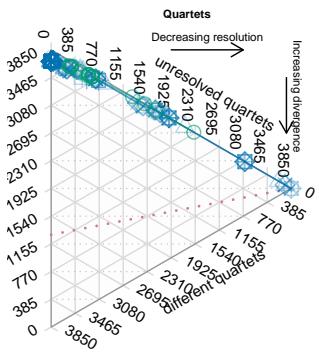
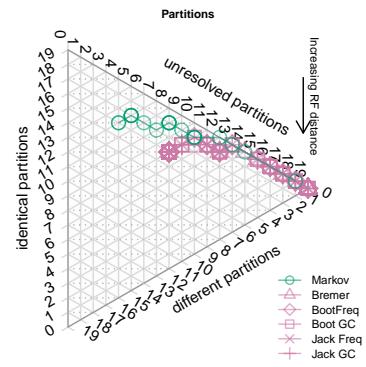
Implied weights ($k = 3$)



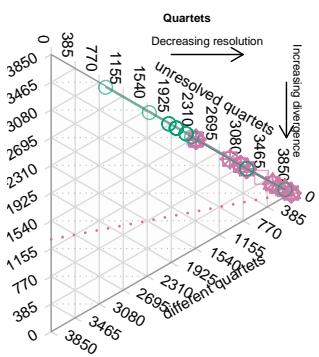
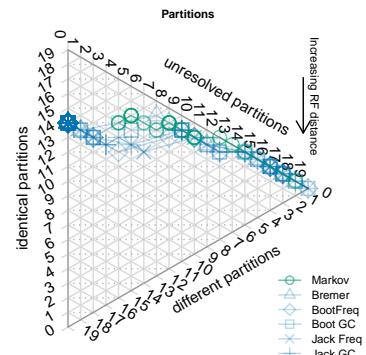
0.3 Trees 11–20



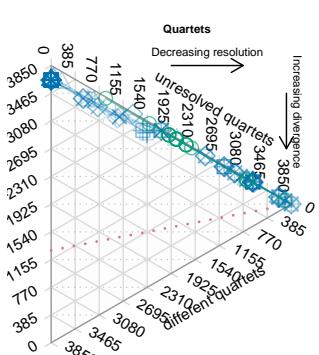
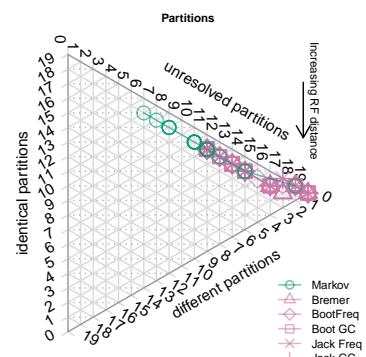
Dataset 11: CI=0.25. Equal weights



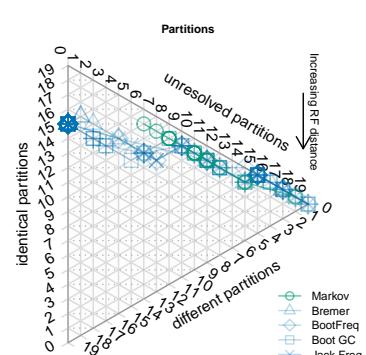
Implied weights ($k = 3$)

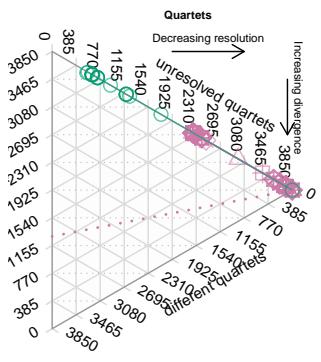


Dataset 12: CI=0.29. Equal weights

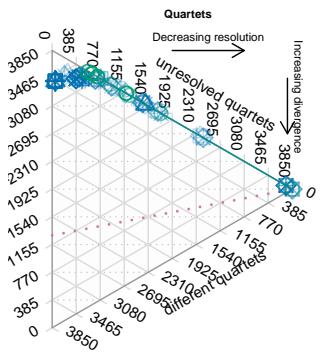
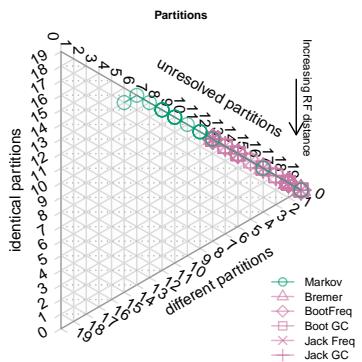


Implied weights ($k = 3$)

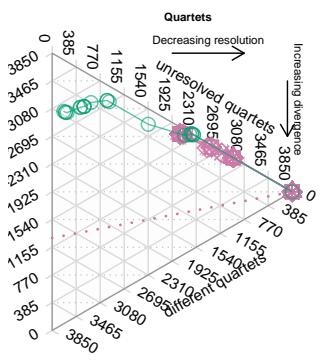
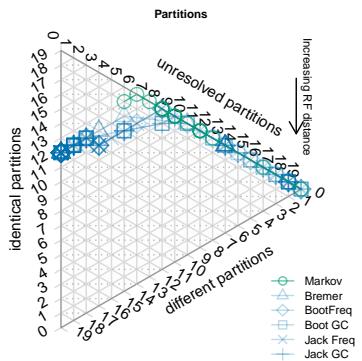




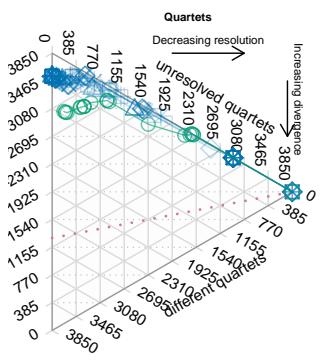
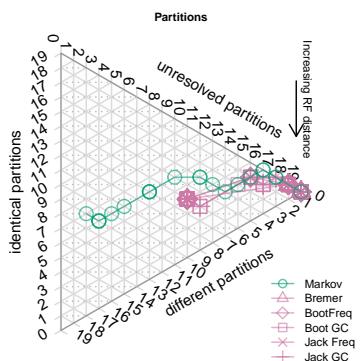
Dataset 13: CI=0.25. Equal weights



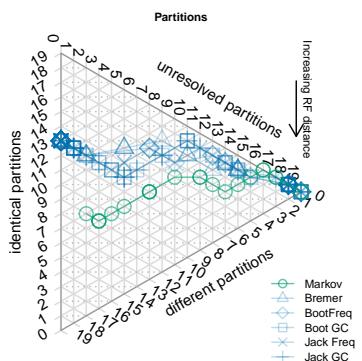
Implied weights (k = 3)

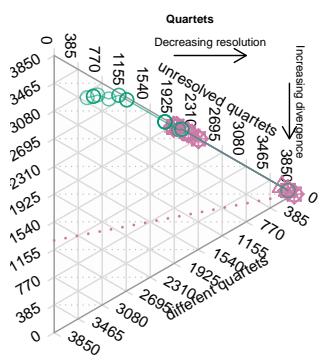


Dataset 14: CI=0.25. Equal weights

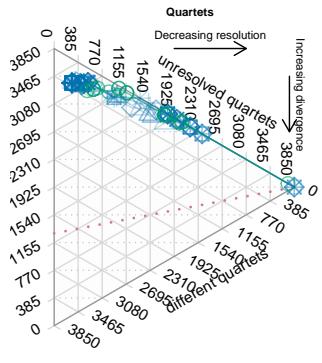
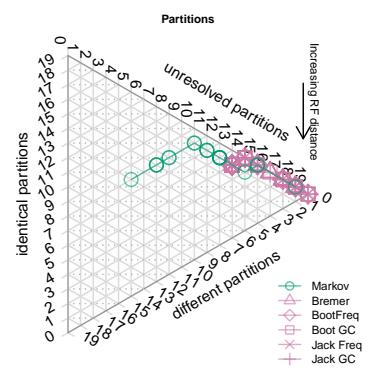


Implied weights (k = 3)

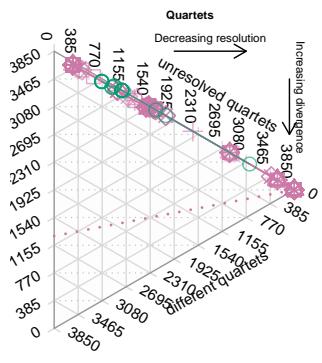
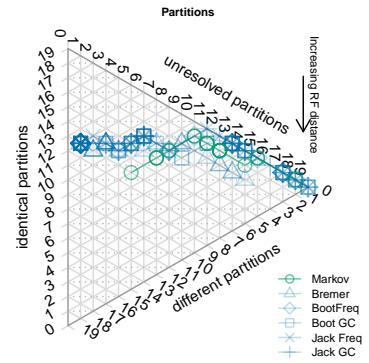




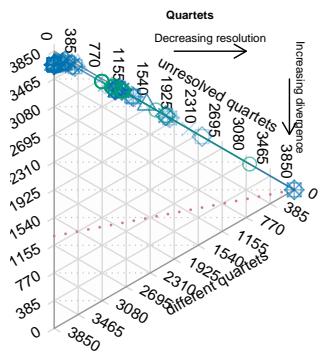
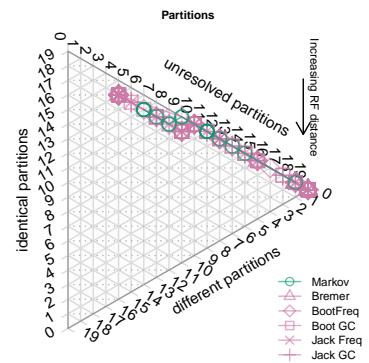
Dataset 15: $Cl=0.25$. Equal weights



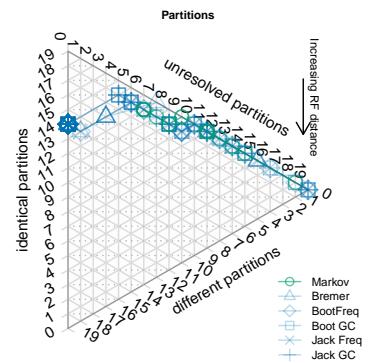
Implied weights ($k = 3$)

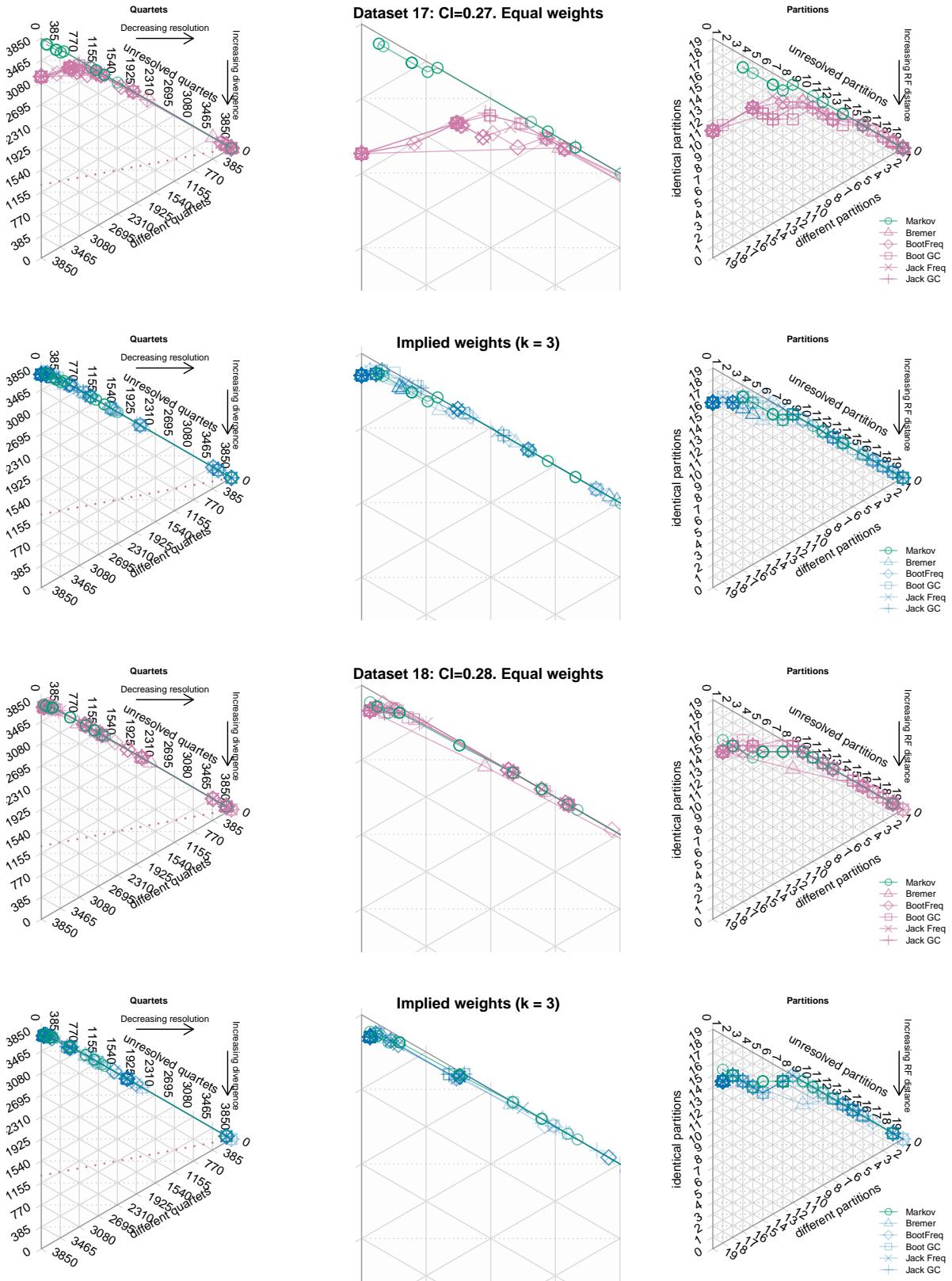


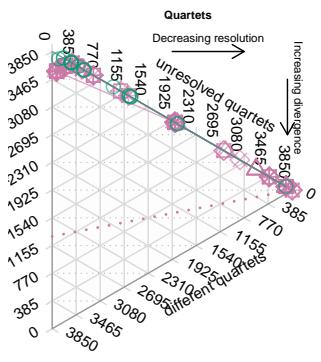
Dataset 16: $Cl=0.25$. Equal weights



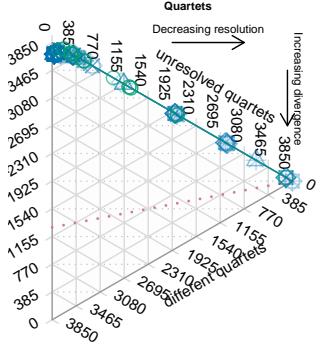
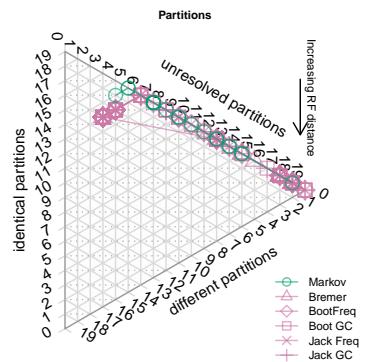
Implied weights ($k = 3$)



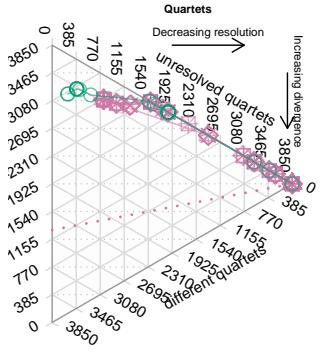
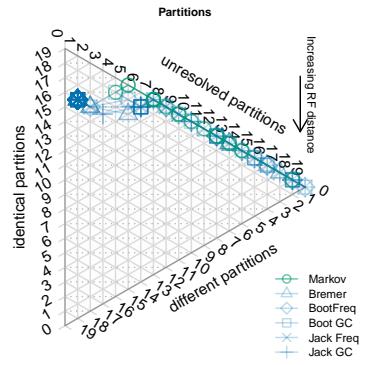




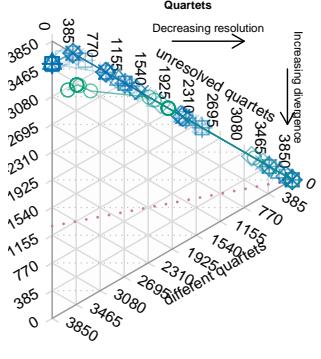
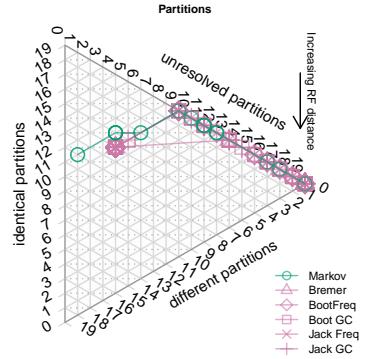
Dataset 19: $CI=0.3$. Equal weights



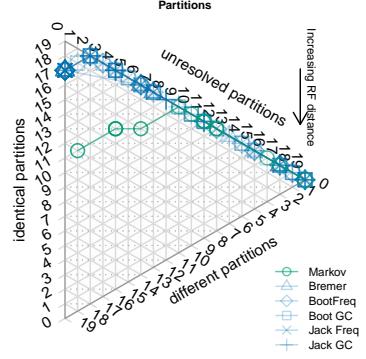
Implied weights ($k = 3$)



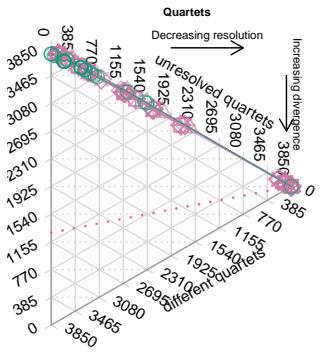
Dataset 20: $CI=0.25$. Equal weights



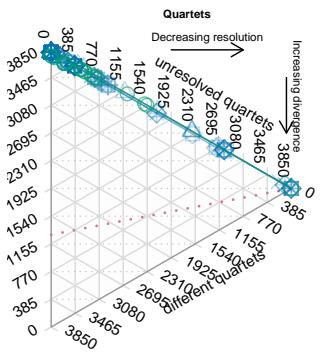
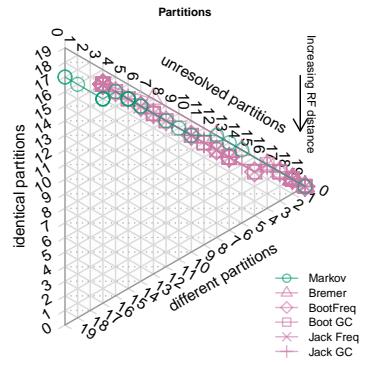
Implied weights ($k = 3$)



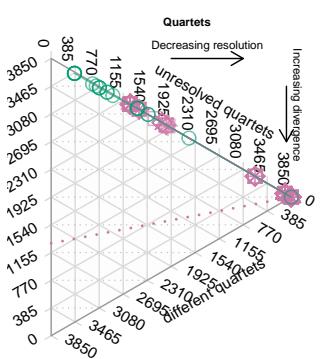
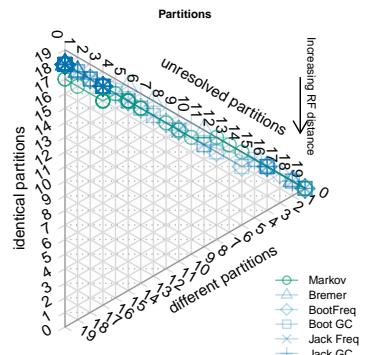
0.4 Trees 21–30



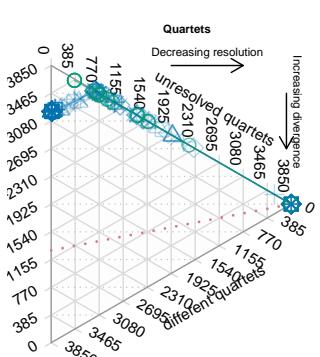
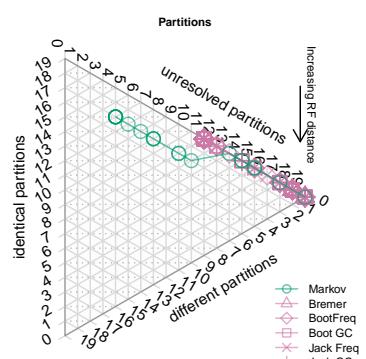
Dataset 21: CI=0.26. Equal weights



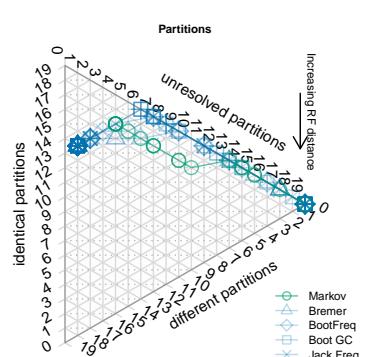
Implied weights (k = 3)

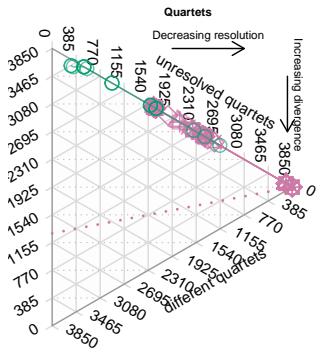


Dataset 22: CI=0.26. Equal weights

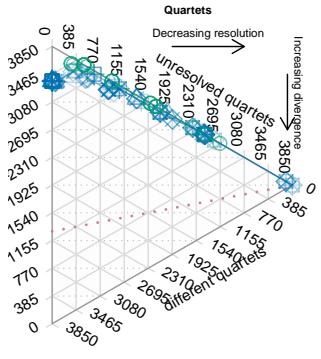
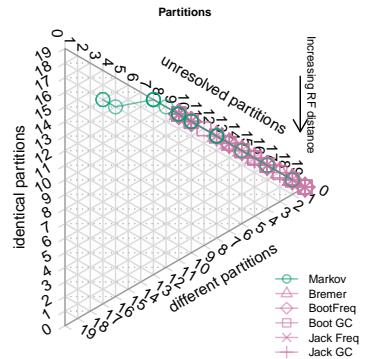


Implied weights (k = 3)

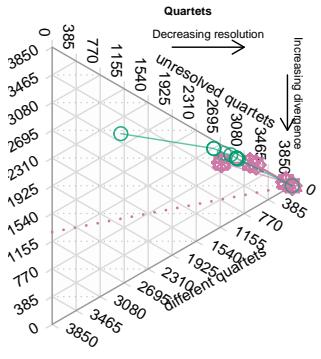
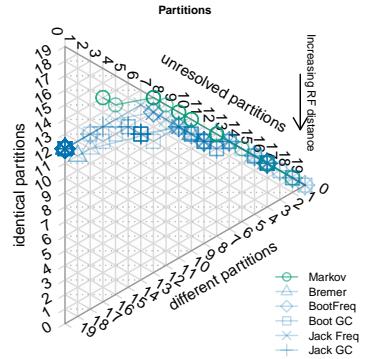




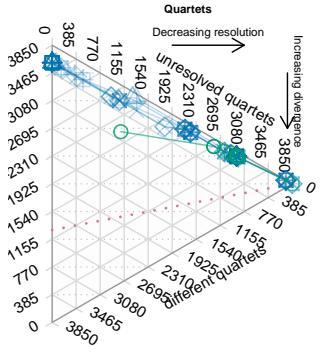
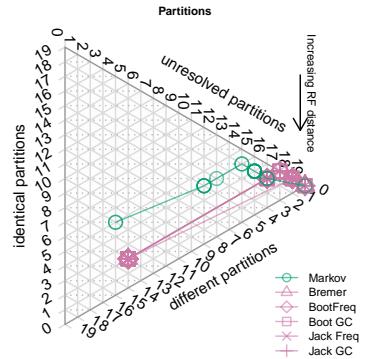
Dataset 23: CI=0.25. Equal weights



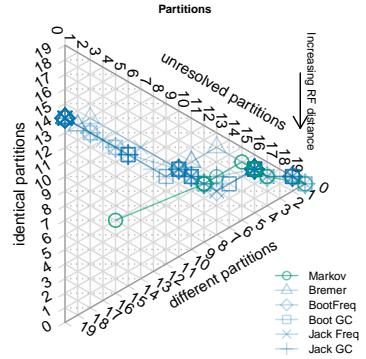
Implied weights ($k = 3$)

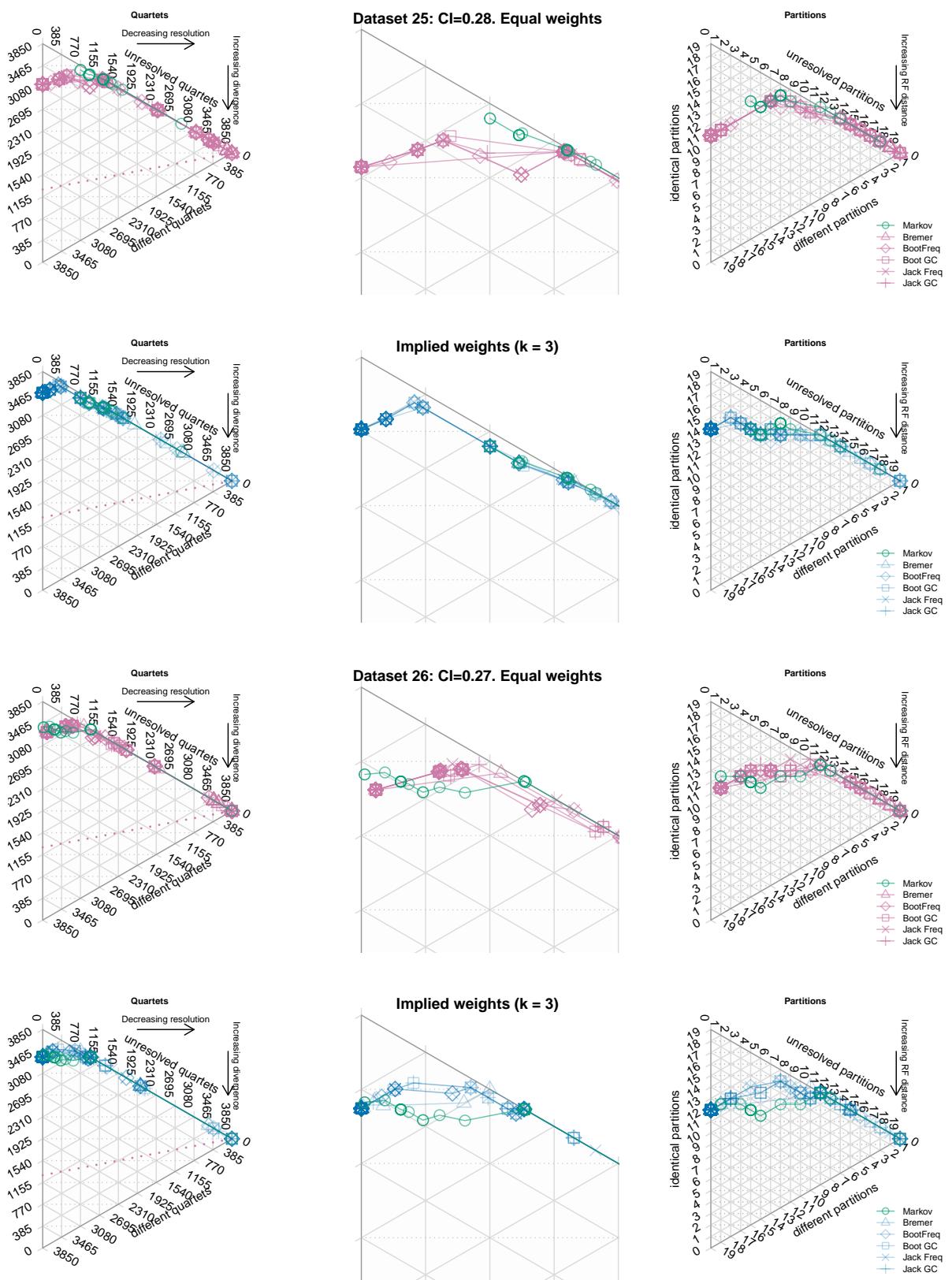


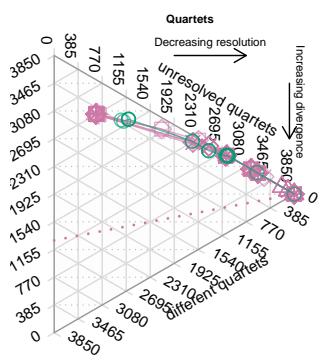
Dataset 24: CI=0.23. Equal weights



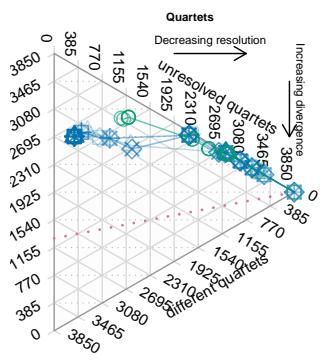
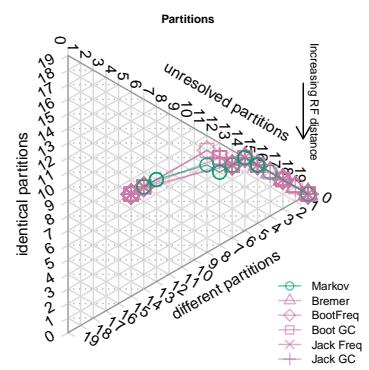
Implied weights ($k = 3$)



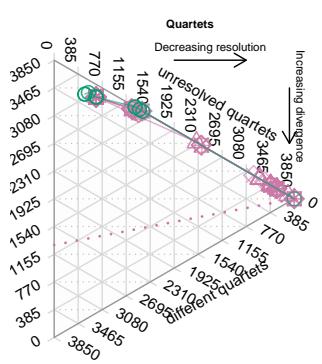
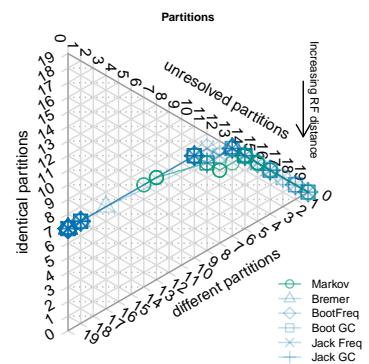




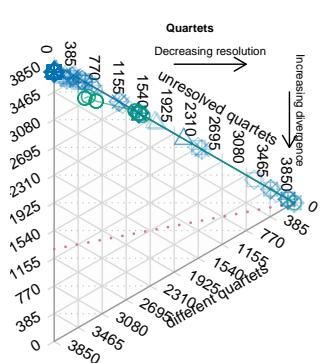
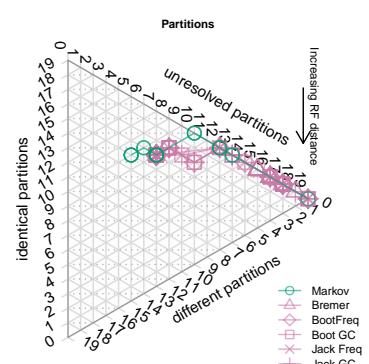
Dataset 27: CI=0.26. Equal weights



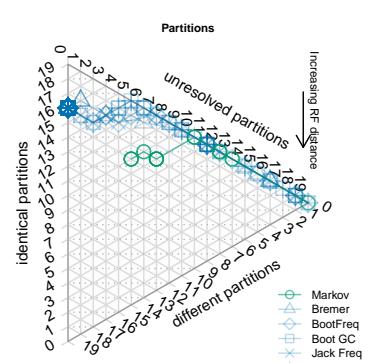
Implied weights (k = 3)

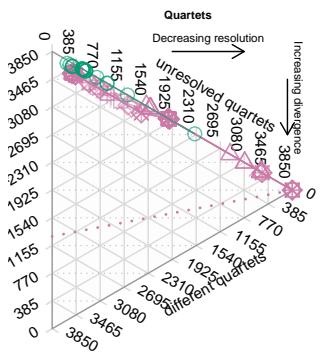


Dataset 28: CI=0.27. Equal weights

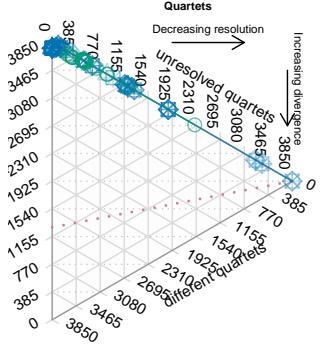
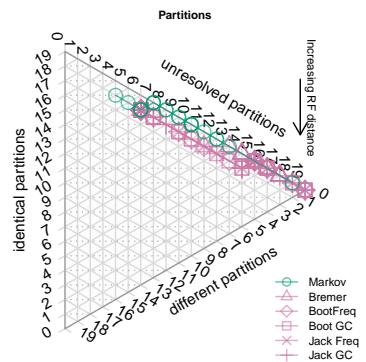


Implied weights (k = 3)

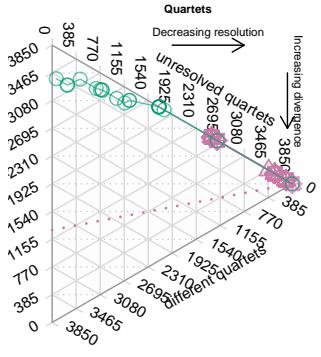
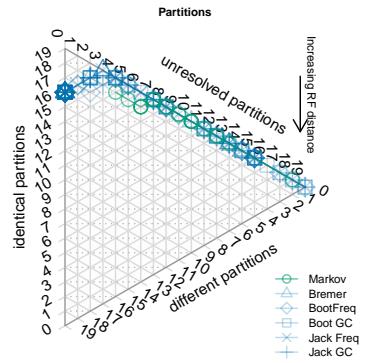




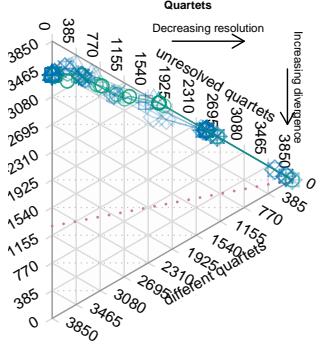
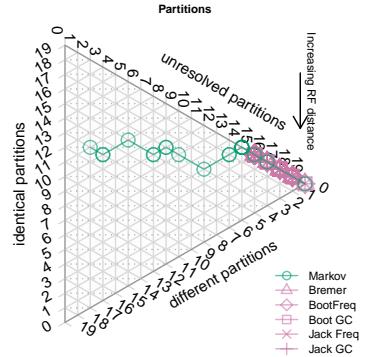
Dataset 29: CI=0.29. Equal weights



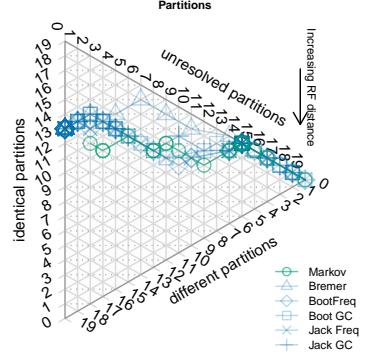
Implied weights ($k = 3$)



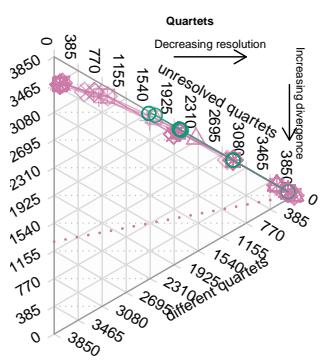
Dataset 30: CI=0.25. Equal weights



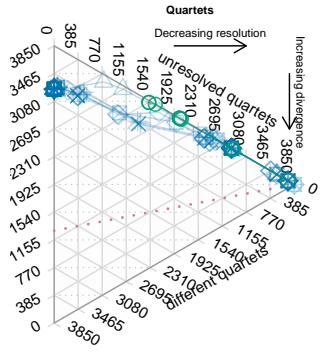
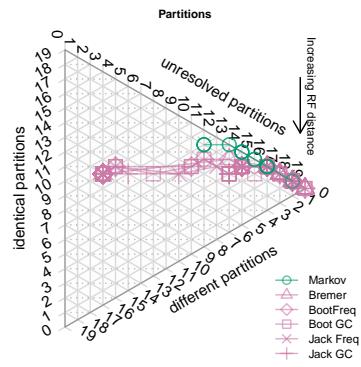
Implied weights ($k = 3$)



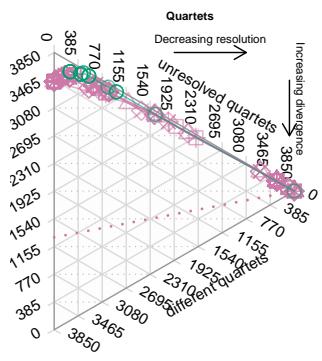
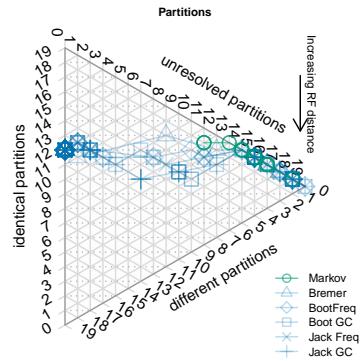
0.5 Trees 31–40



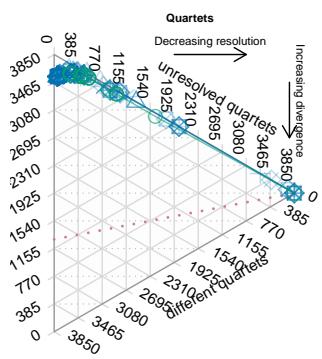
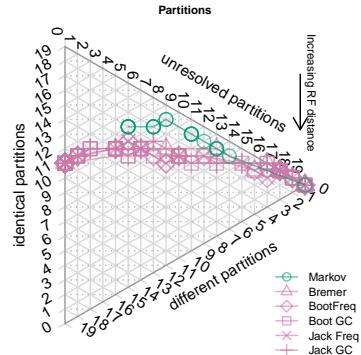
Dataset 31: CI=0.26. Equal weights



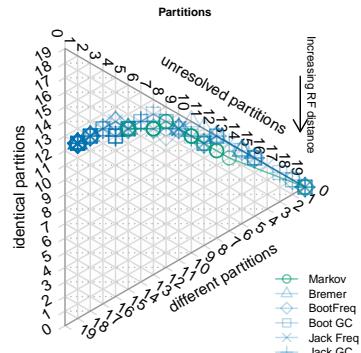
Implied weights ($k = 3$)

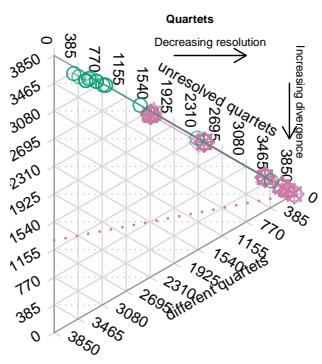


Dataset 32: CI=0.25. Equal weights

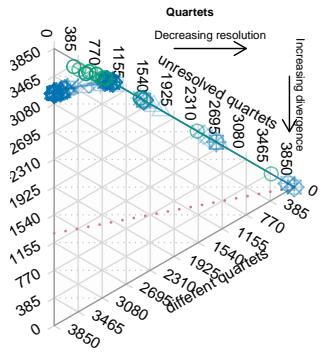
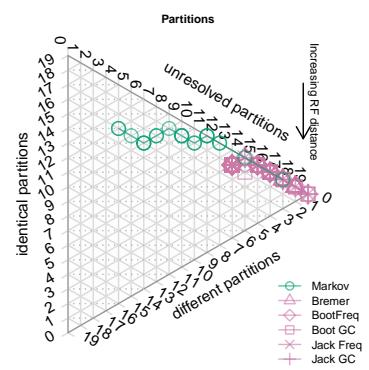


Implied weights ($k = 3$)

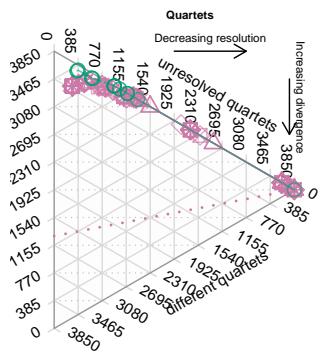
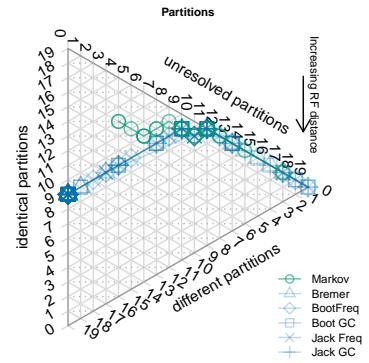




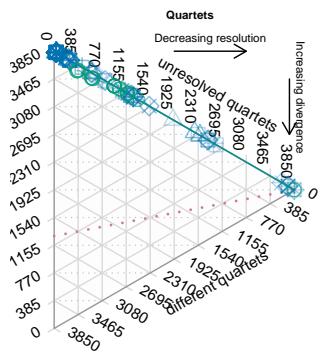
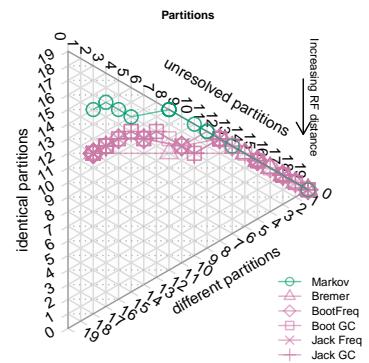
Dataset 33: CI=0.27. Equal weights



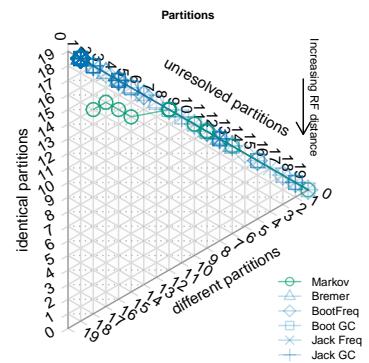
Implied weights ($k = 3$)

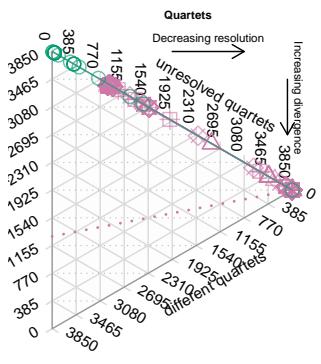


Dataset 34: CI=0.29. Equal weights

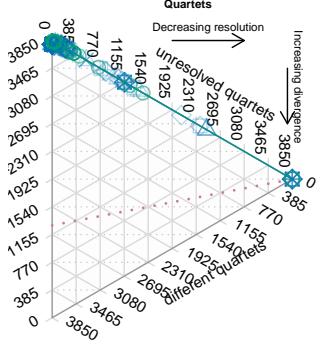
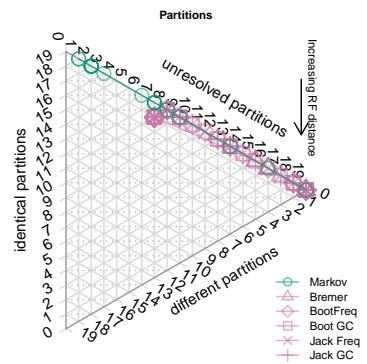


Implied weights ($k = 3$)

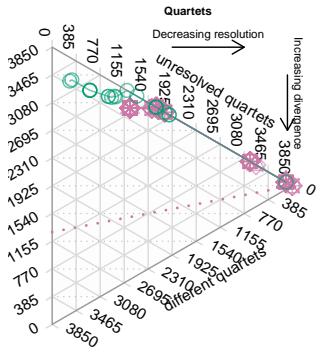
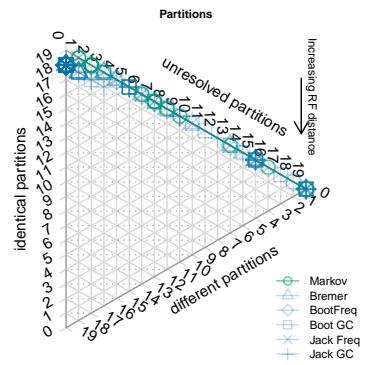




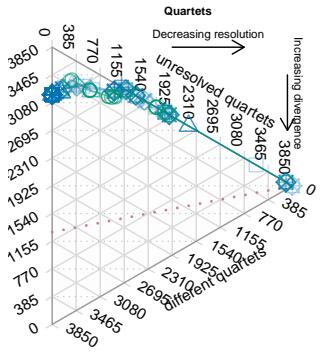
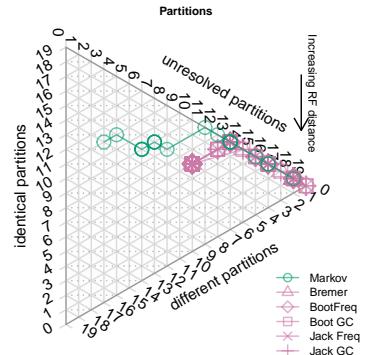
Dataset 35: CI=0.25. Equal weights



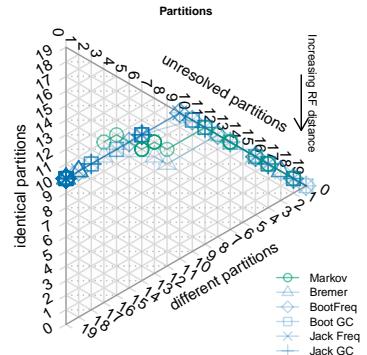
Implied weights ($k = 3$)

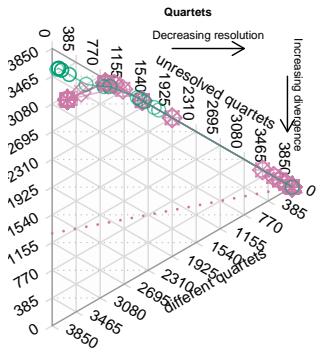


Dataset 36: CI=0.24. Equal weights

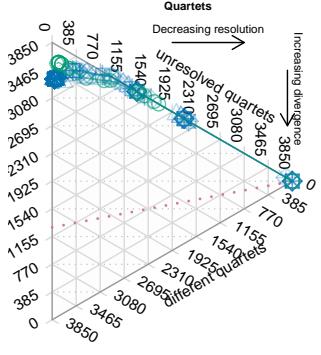
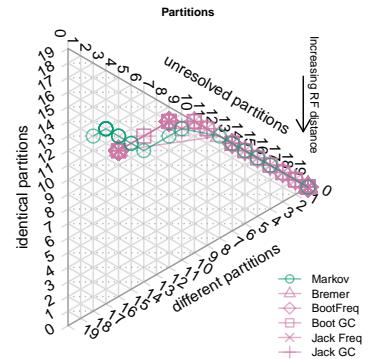


Implied weights ($k = 3$)

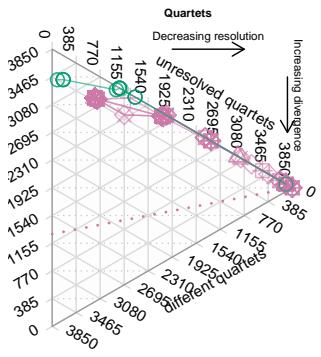
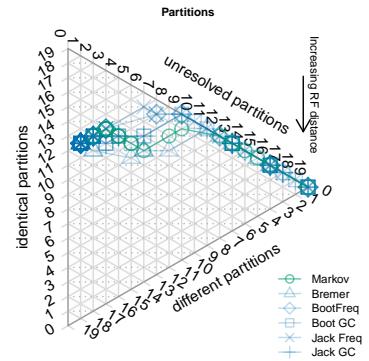




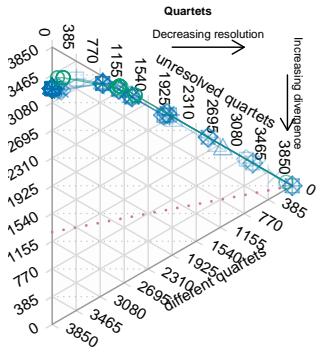
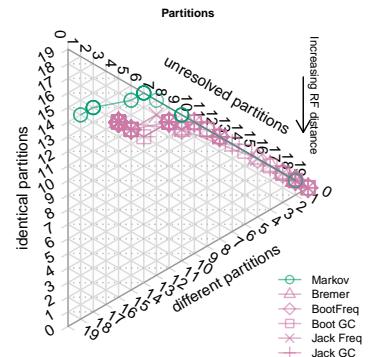
Dataset 37: CI=0.26. Equal weights



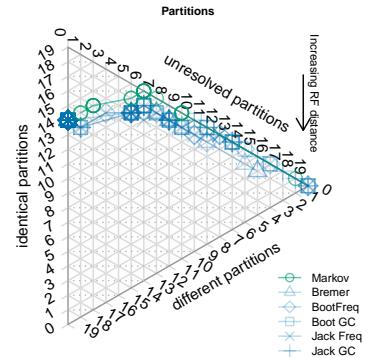
Implied weights ($k = 3$)

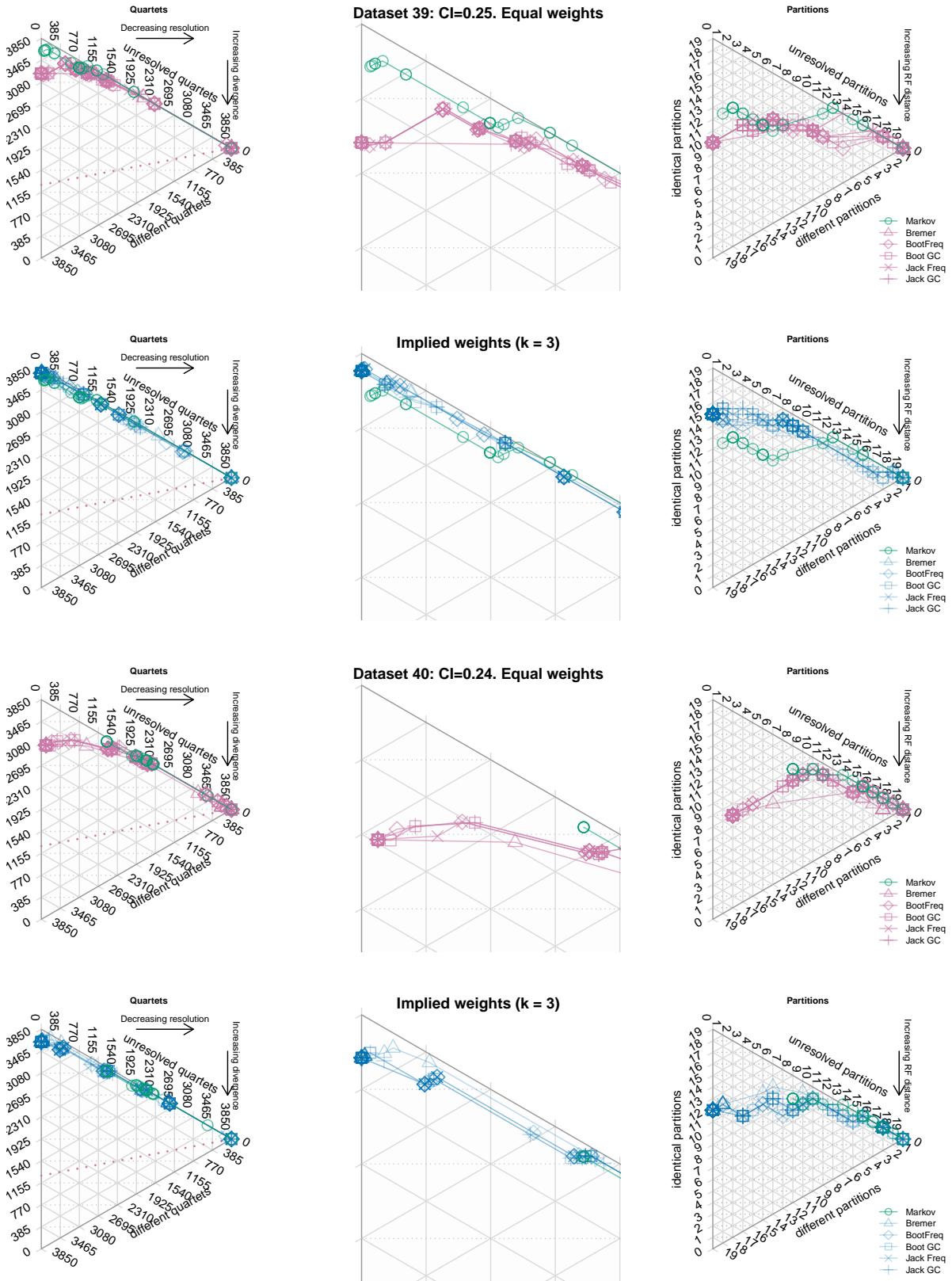


Dataset 38: CI=0.29. Equal weights

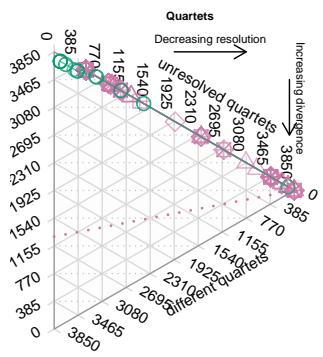


Implied weights ($k = 3$)

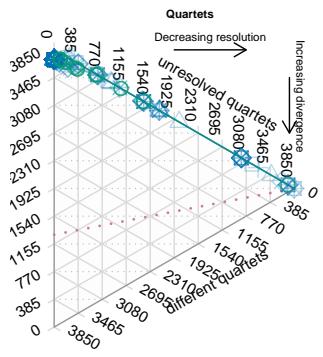
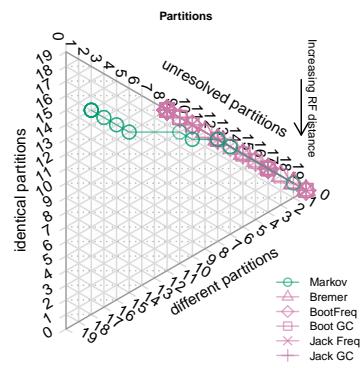




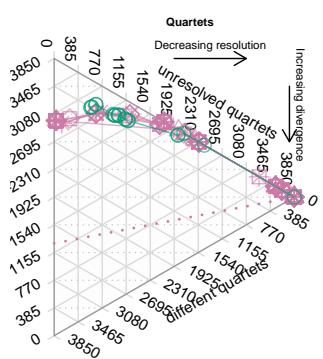
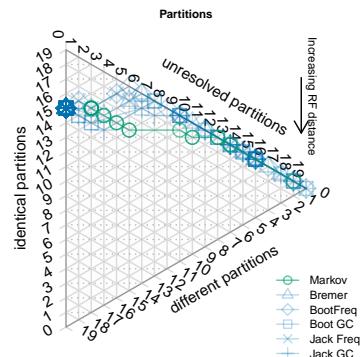
0.6 Trees 41–50



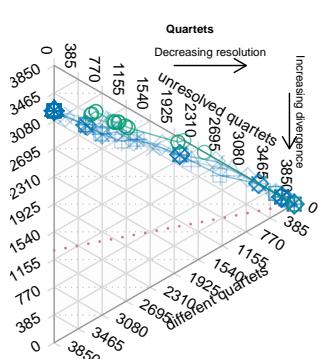
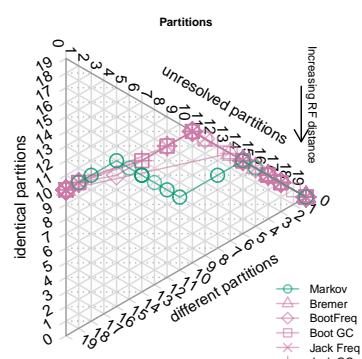
Dataset 41: CI=0.3. Equal weights



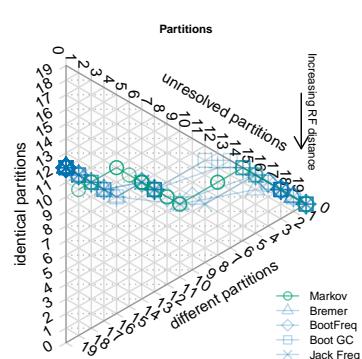
Implied weights ($k = 3$)

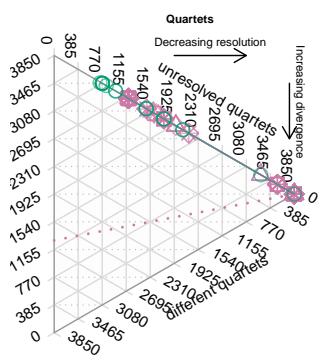


Dataset 42: CI=0.24. Equal weights

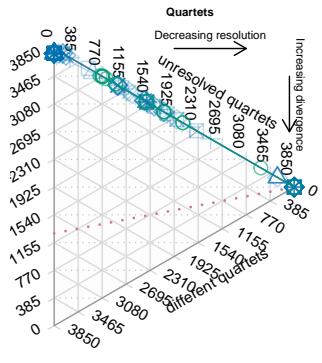
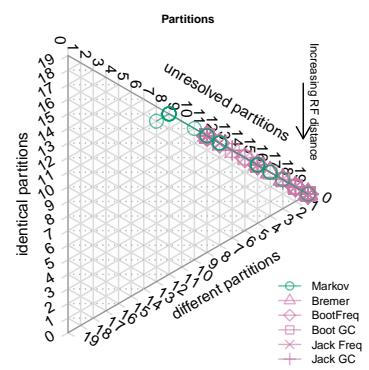


Implied weights ($k = 3$)

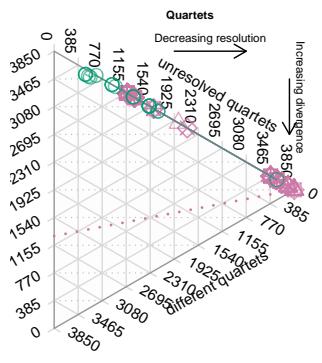
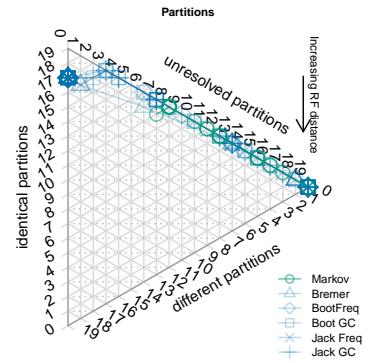




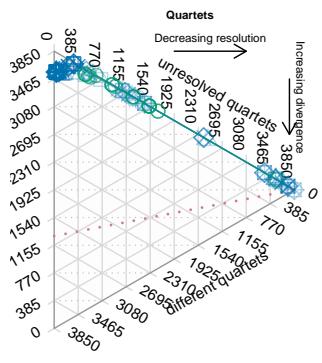
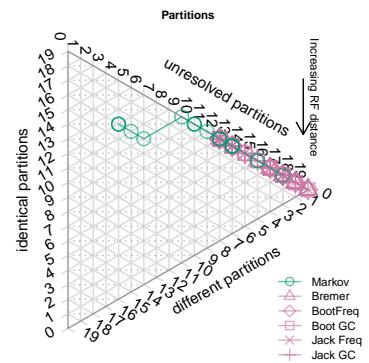
Dataset 43: CI=0.27. Equal weights



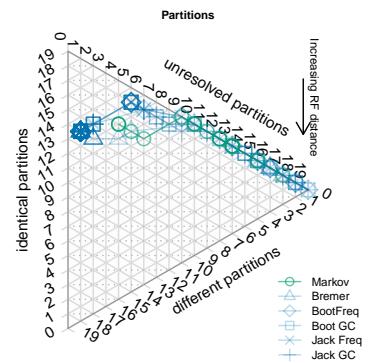
Implied weights ($k = 3$)

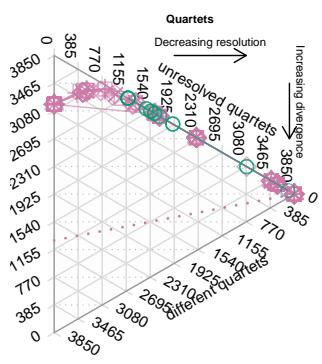


Dataset 44: CI=0.27. Equal weights

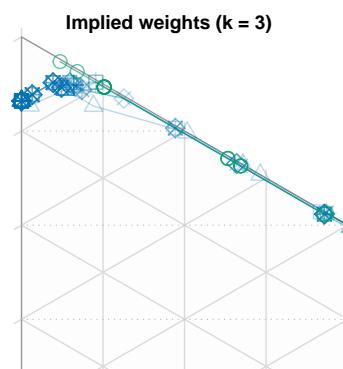
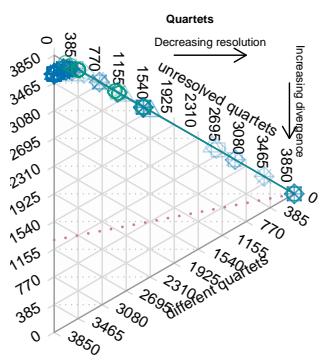
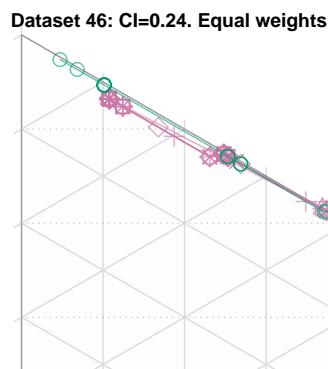
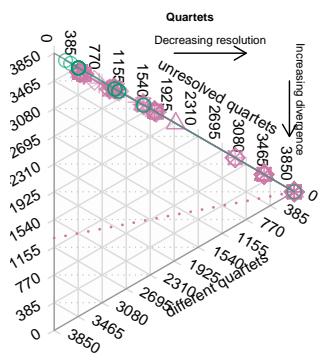
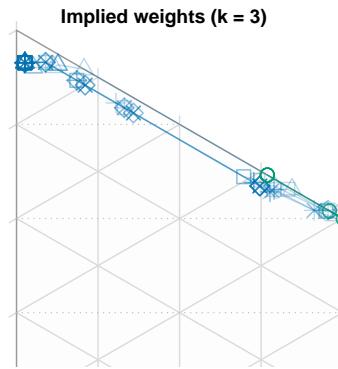
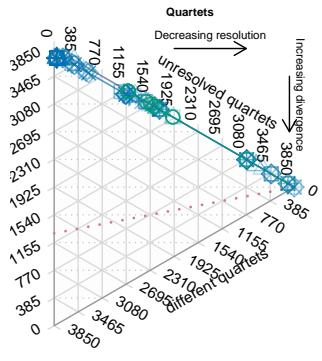
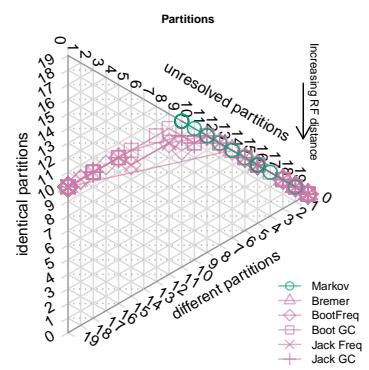


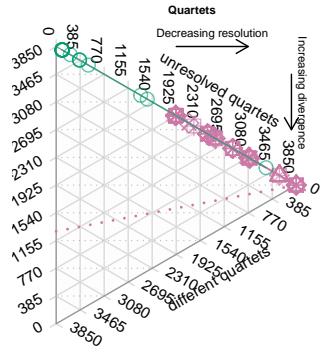
Implied weights ($k = 3$)



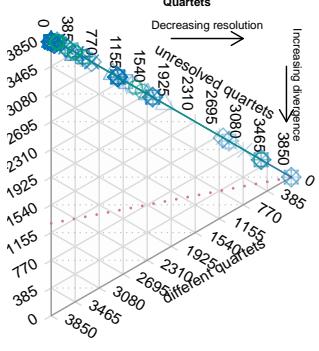
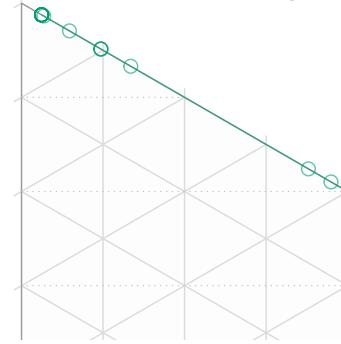


Dataset 45: CI=0.27. Equal weights

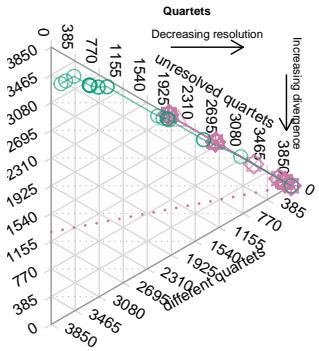
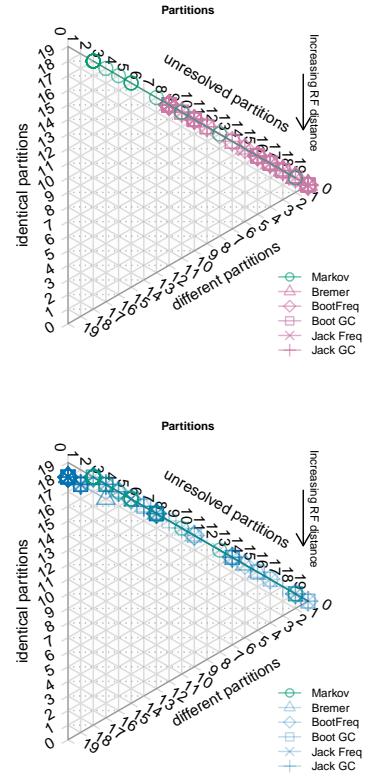




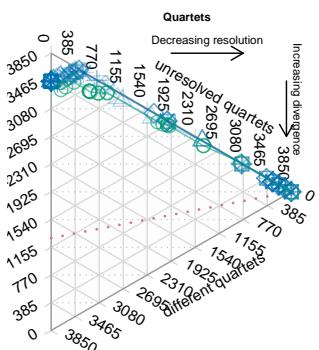
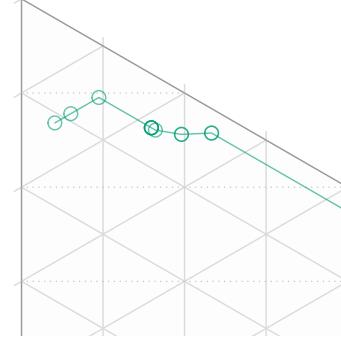
Dataset 47: CI=0.29. Equal weights



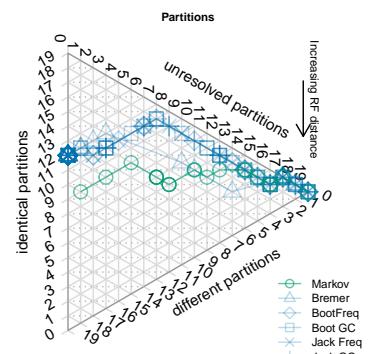
Implied weights ($k = 3$)

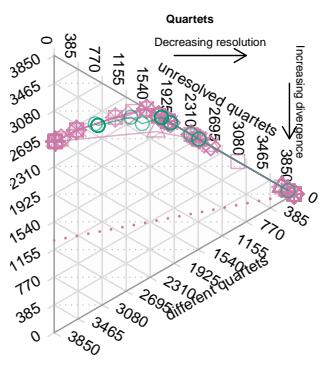


Dataset 48: CI=0.27. Equal weights

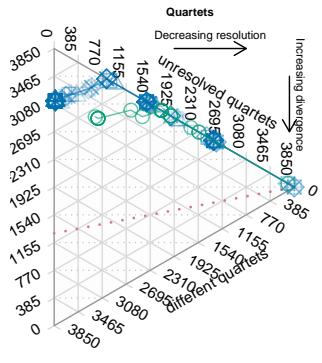
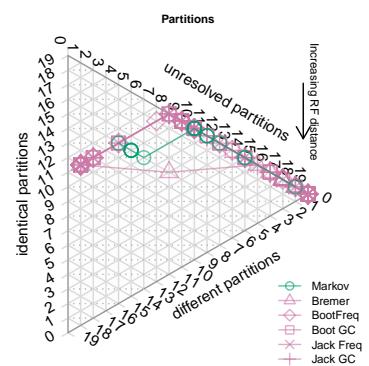


Implied weights ($k = 3$)

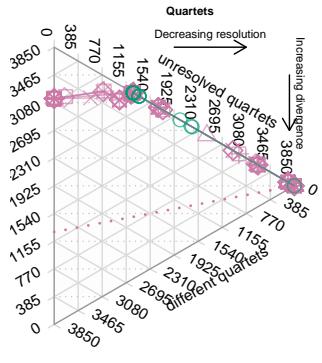
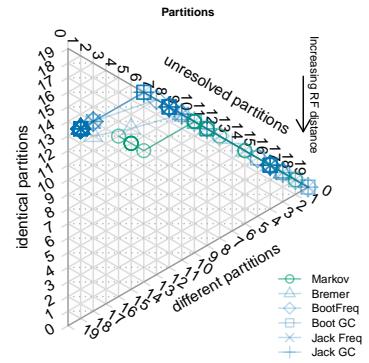




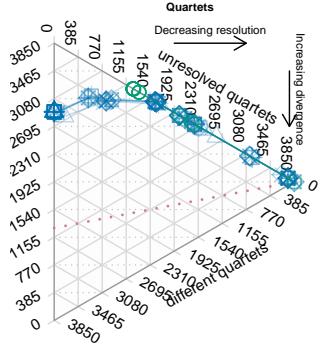
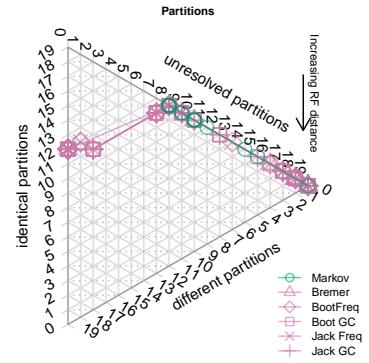
Dataset 49: CI=0.28. Equal weights



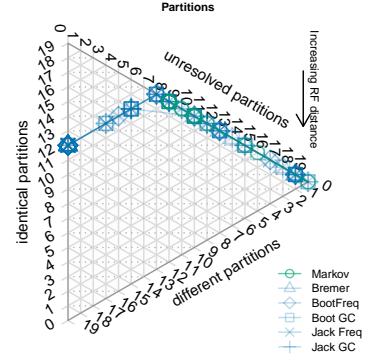
Implied weights ($k = 3$)



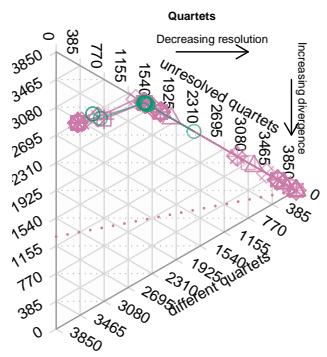
Dataset 50: CI=0.25. Equal weights



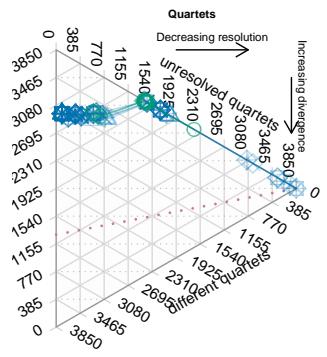
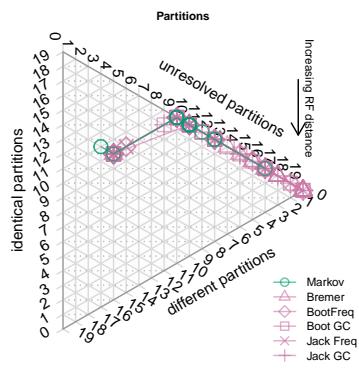
Implied weights ($k = 3$)



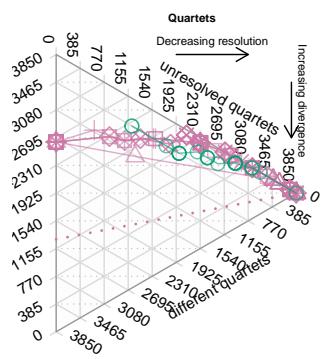
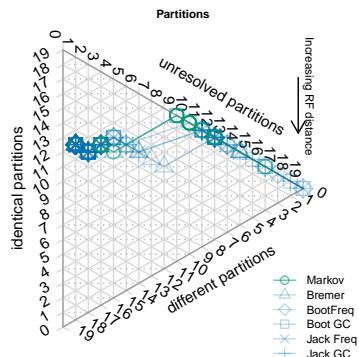
0.7 Trees 51–60



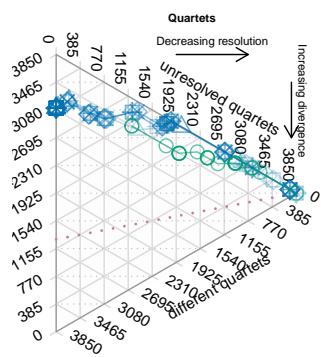
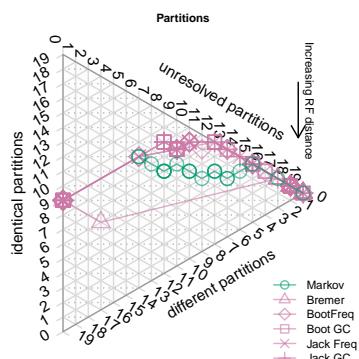
Dataset 51: Cl=0.3. Equal weights



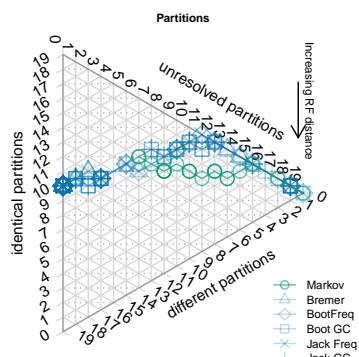
Implied weights ($k = 3$)

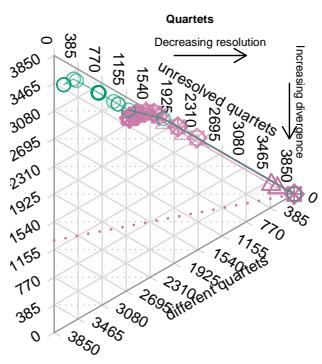


Dataset 52: Cl=0.25. Equal weights

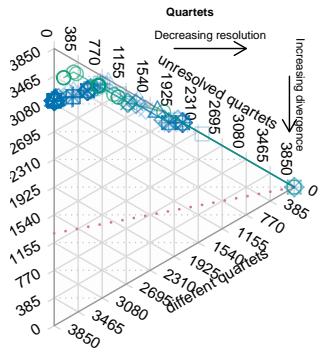
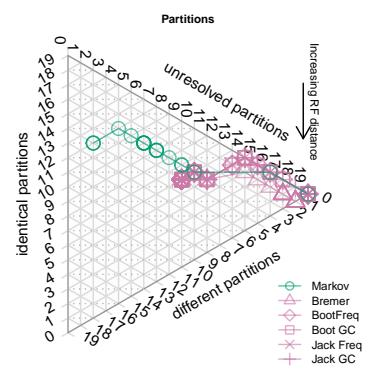


Implied weights ($k = 3$)

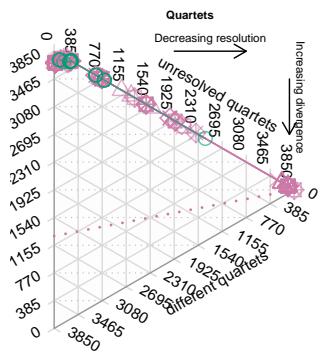
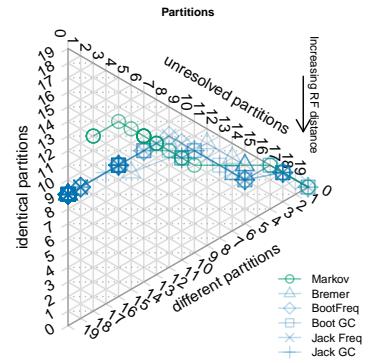




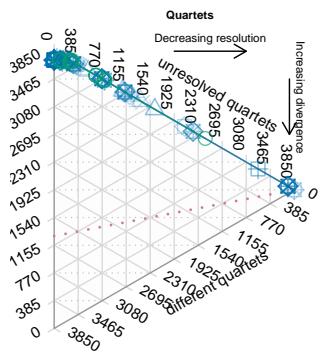
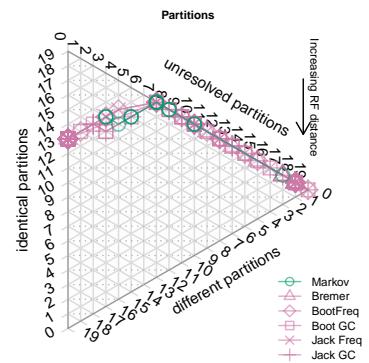
Dataset 53: CI=0.25. Equal weights



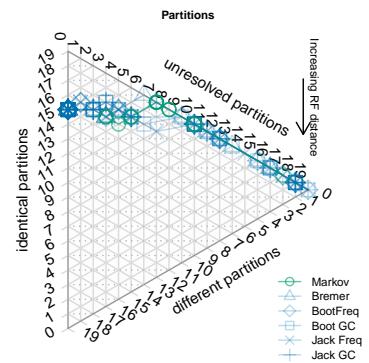
Implied weights ($k = 3$)

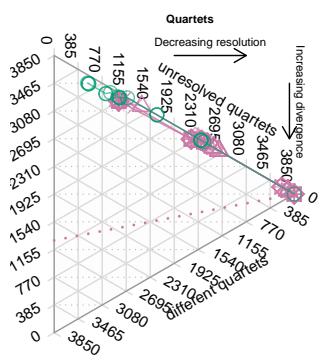


Dataset 54: CI=0.28. Equal weights

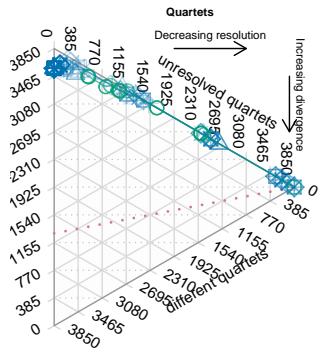
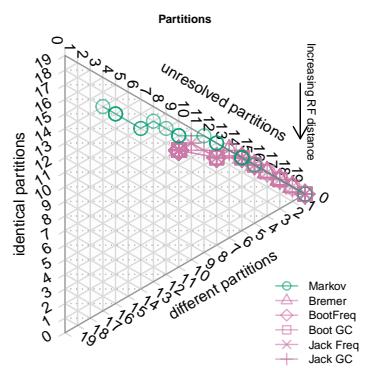


Implied weights ($k = 3$)

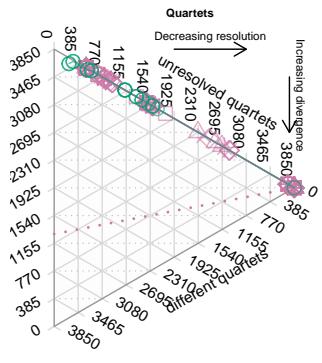
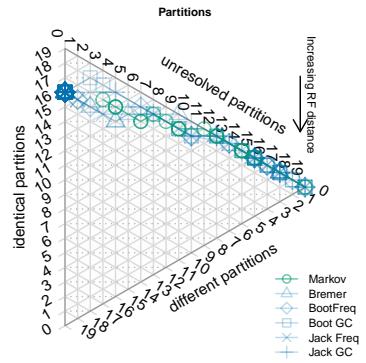




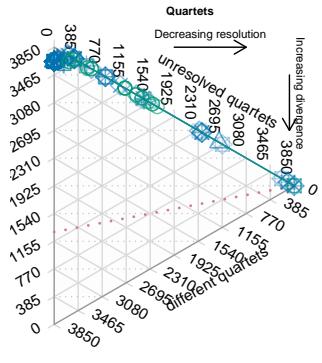
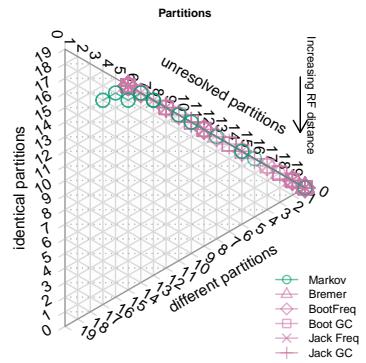
Dataset 55: CI=0.28. Equal weights



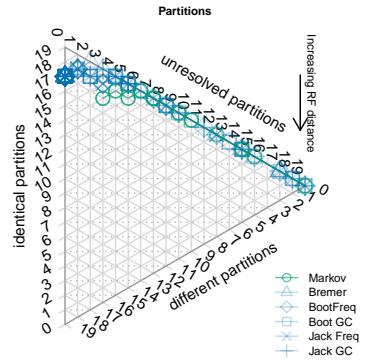
Implied weights ($k = 3$)

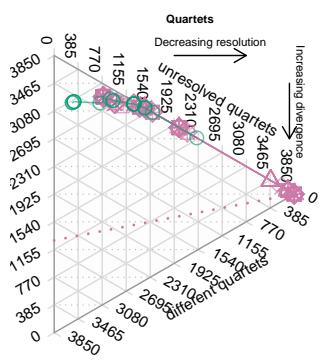


Dataset 56: CI=0.31. Equal weights

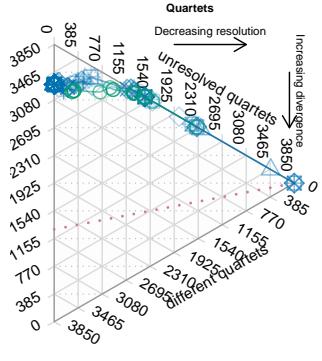
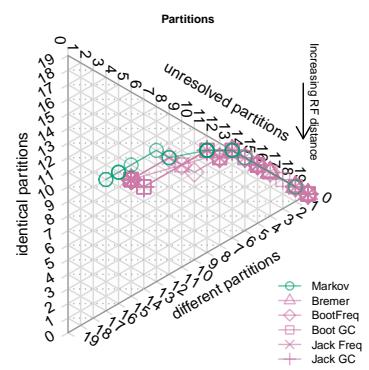


Implied weights ($k = 3$)

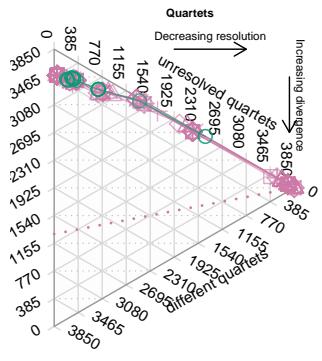
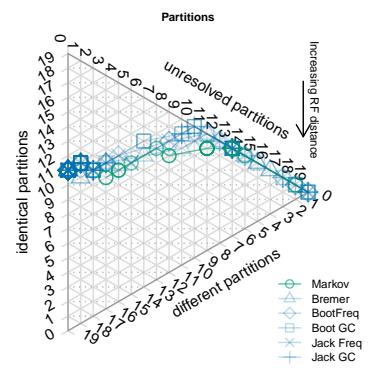




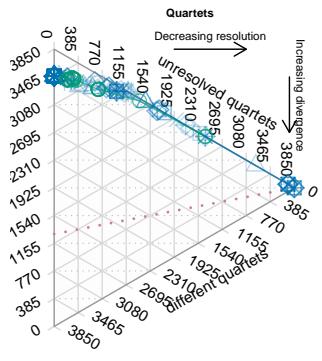
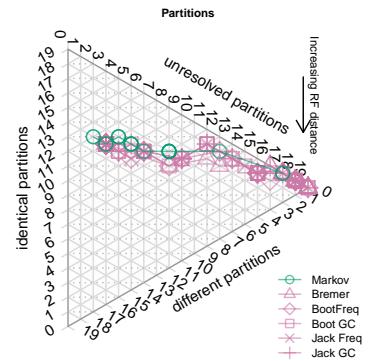
Dataset 57: CI=0.25. Equal weights



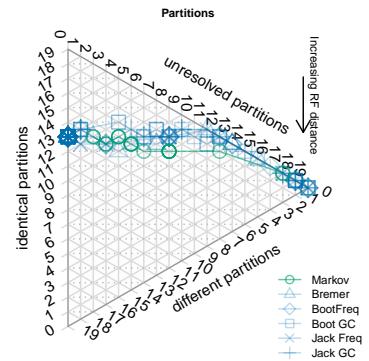
Implied weights (k = 3)

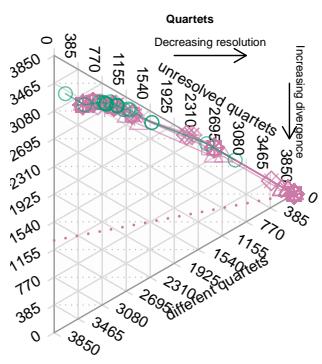


Dataset 58: CI=0.25. Equal weights

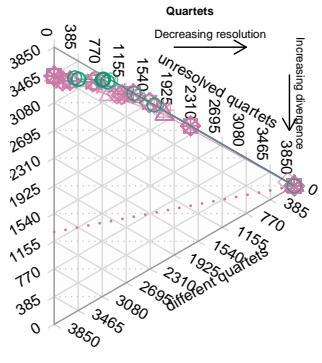
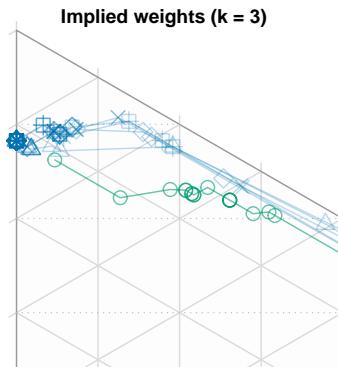
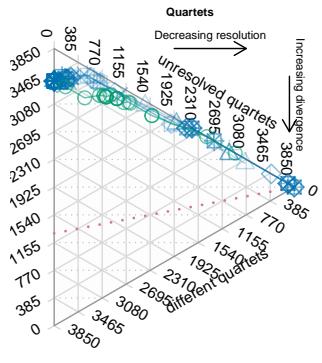
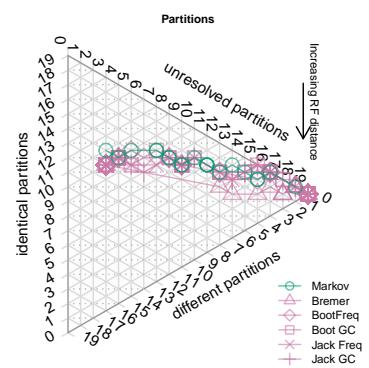


Implied weights (k = 3)

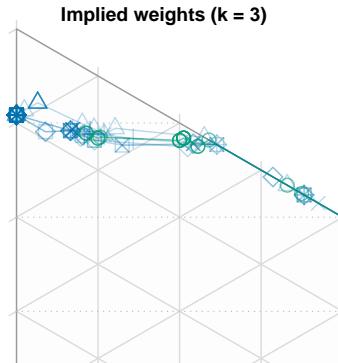
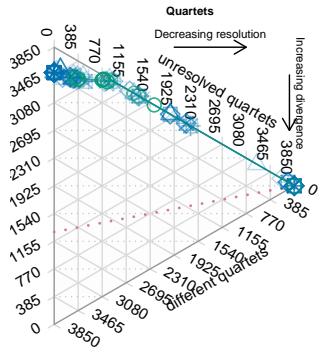
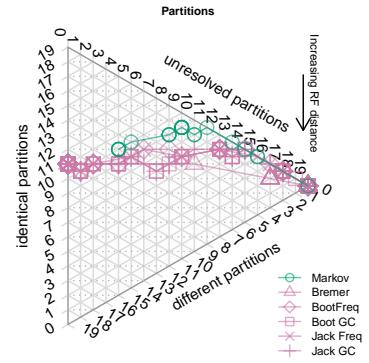




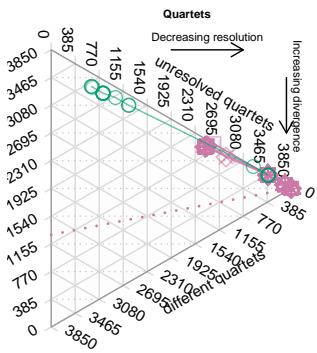
Dataset 59: CI=0.26. Equal weights



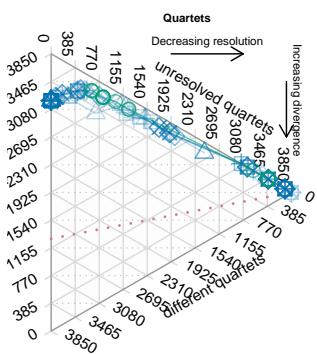
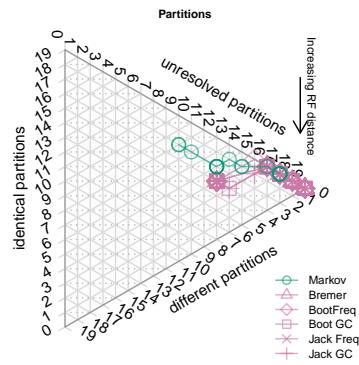
Dataset 60: CI=0.24. Equal weights



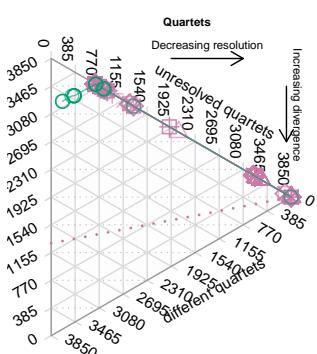
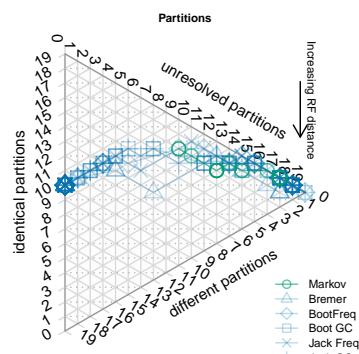
0.8 Trees 61–70



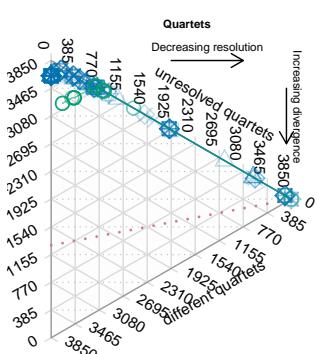
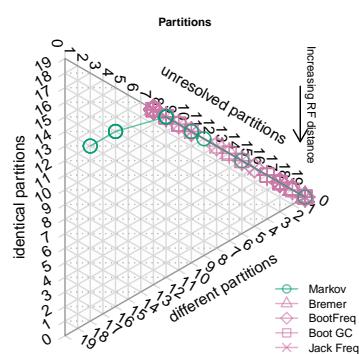
Dataset 61: CI=0.26. Equal weights



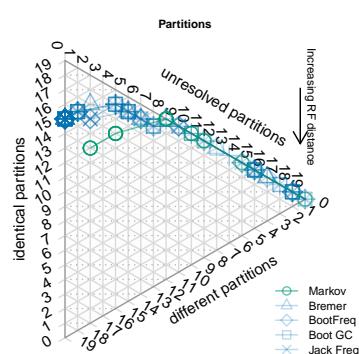
Implied weights ($k = 3$)

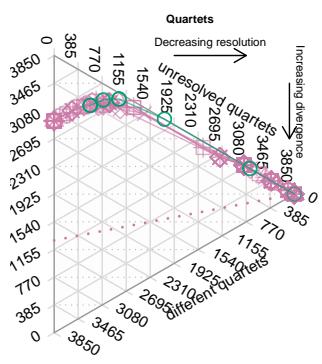


Dataset 62: CI=0.26, Equal weights

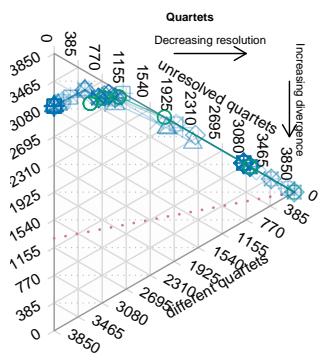
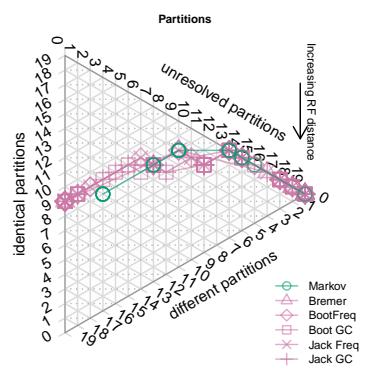


Implied weights ($k = 3$)

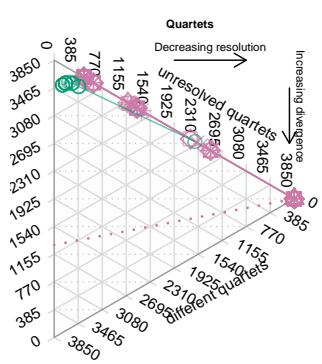
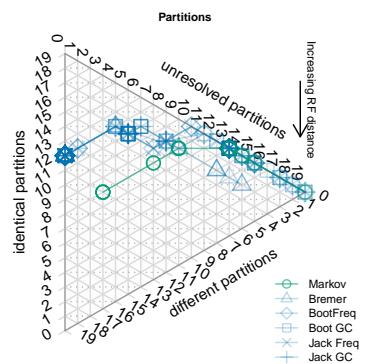




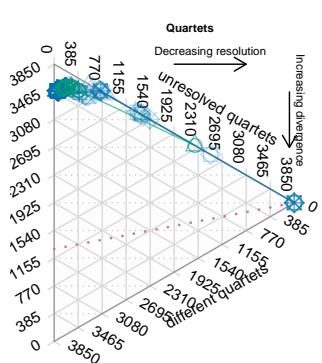
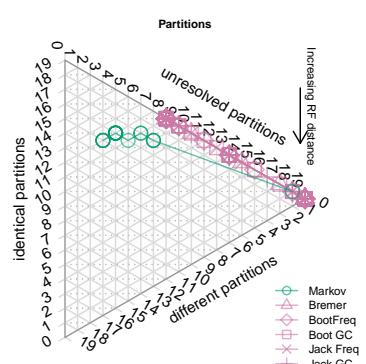
Dataset 63: CI=0.24. Equal weights



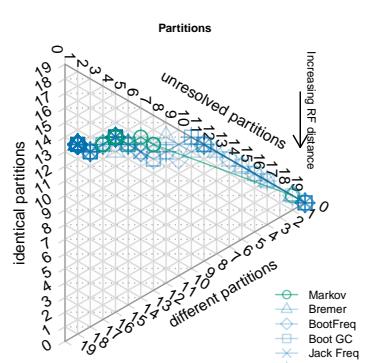
Implied weights ($k = 3$)

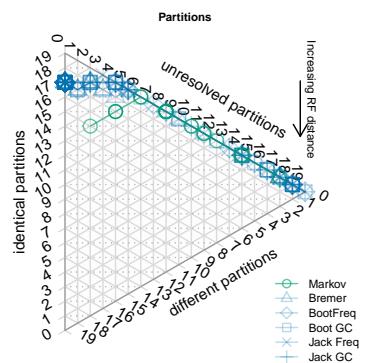
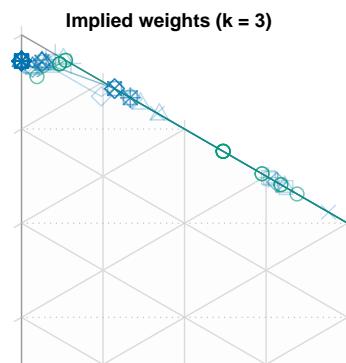
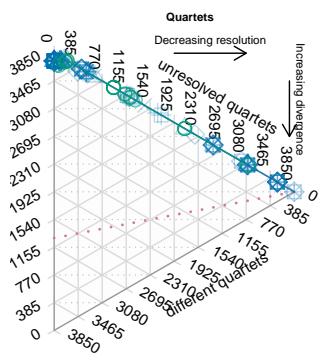
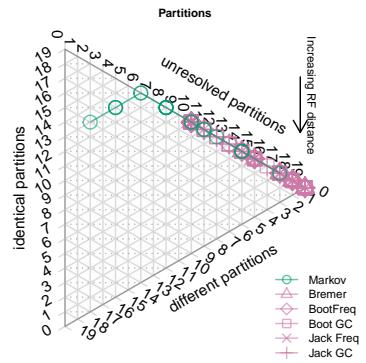
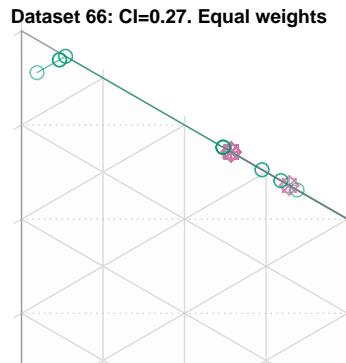
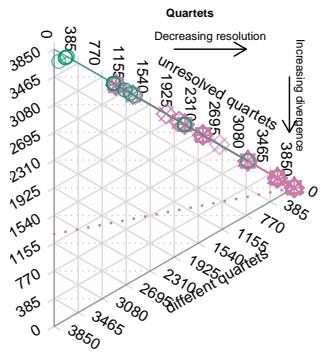
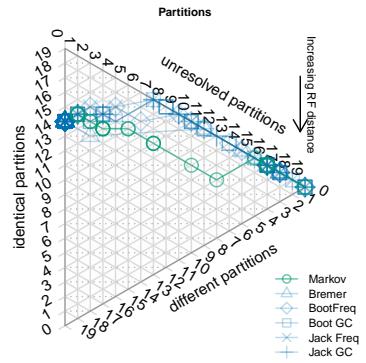
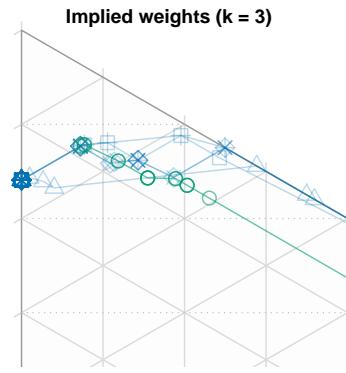
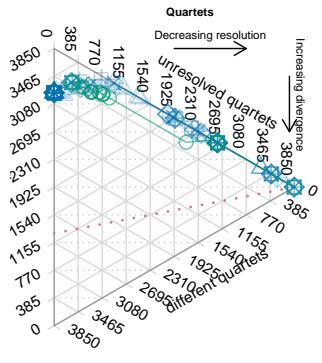
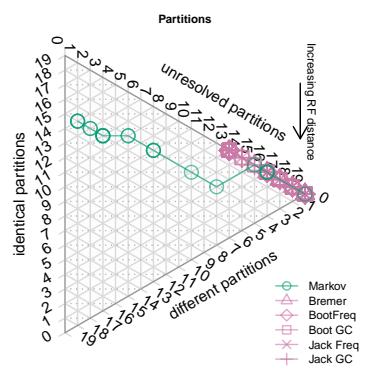
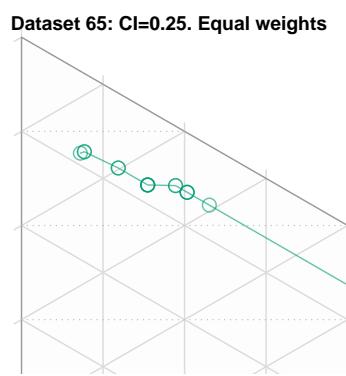
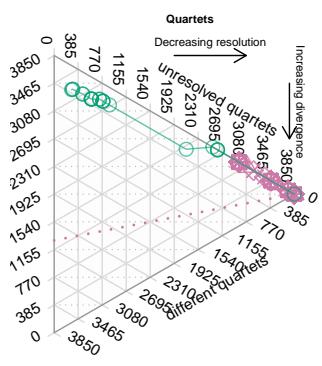


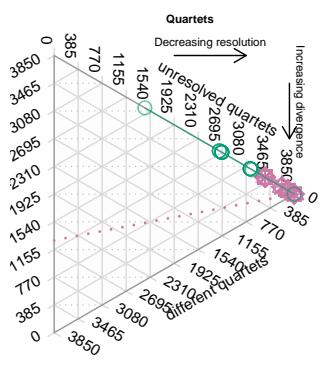
Dataset 64: CI=0.29. Equal weights



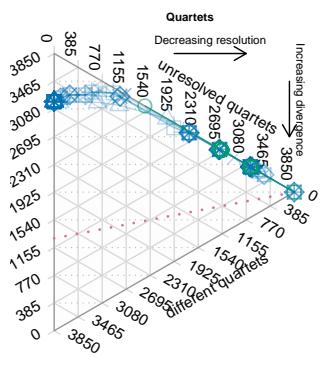
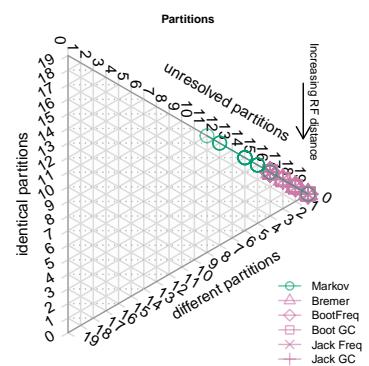
Implied weights ($k = 3$)



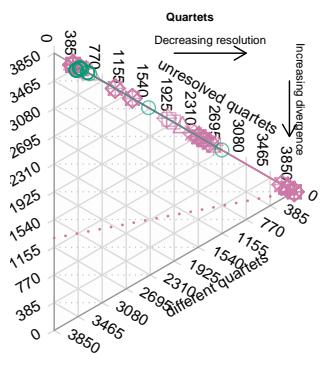
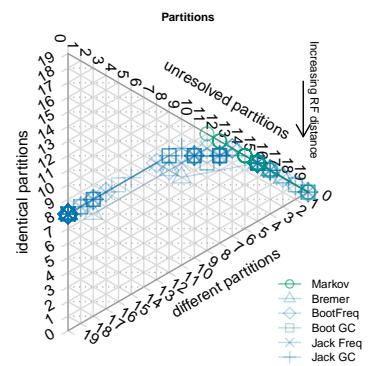




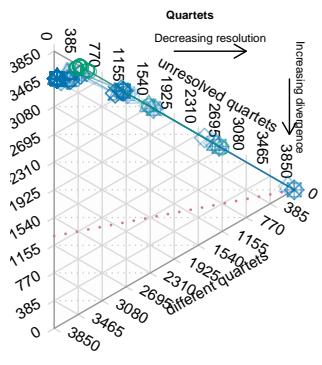
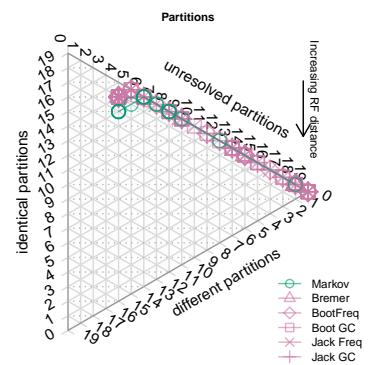
Dataset 67: CI=0.26. Equal weights



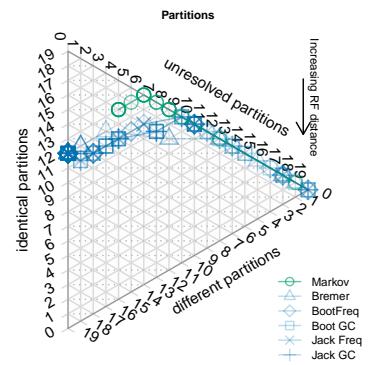
Implied weights ($k = 3$)

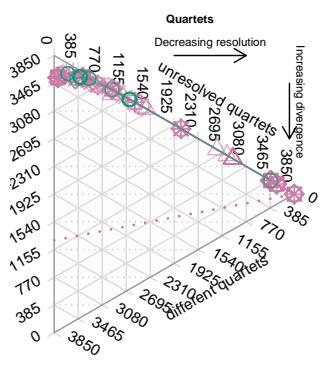


Dataset 68: CI=0.31. Equal weights

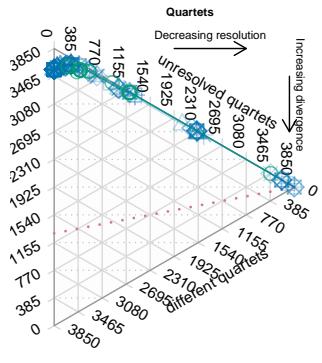
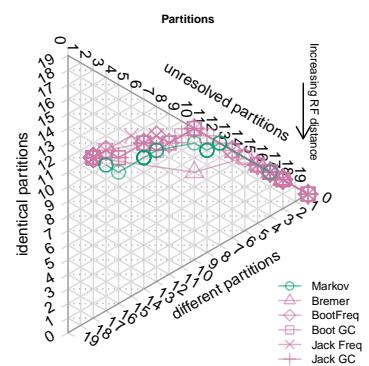


Implied weights ($k = 3$)

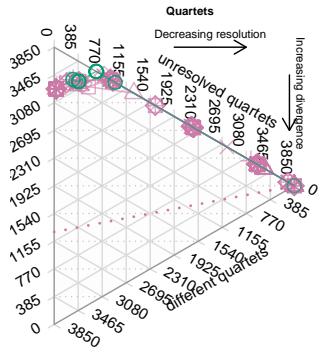
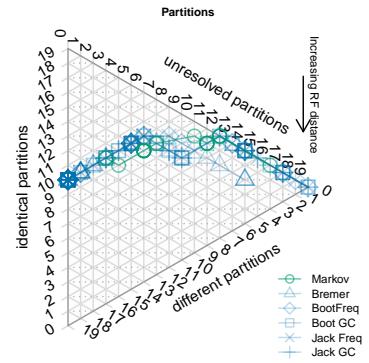




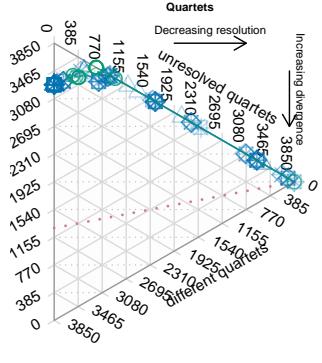
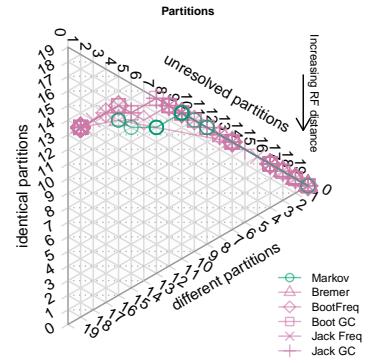
Dataset 69: CI=0.27. Equal weights



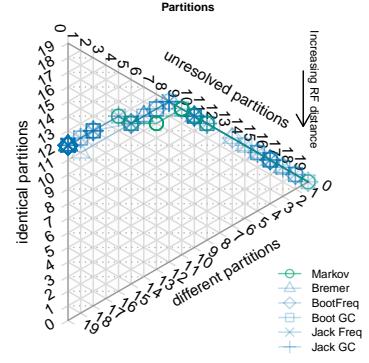
Implied weights (k = 3)



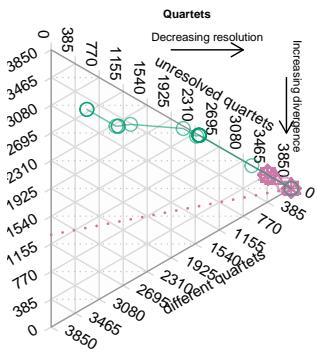
Dataset 70: CI=0.27. Equal weights



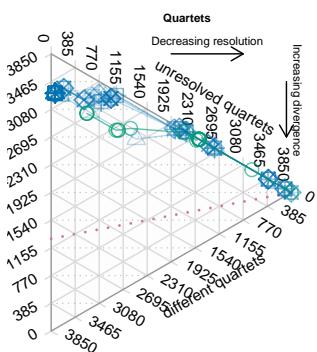
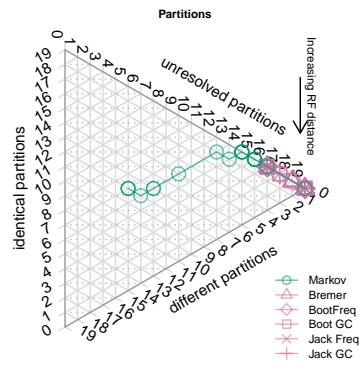
Implied weights (k = 3)



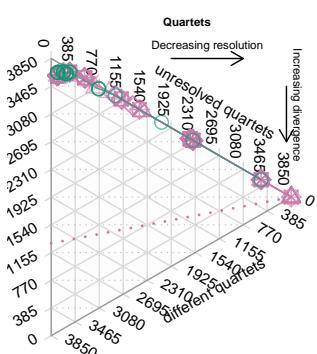
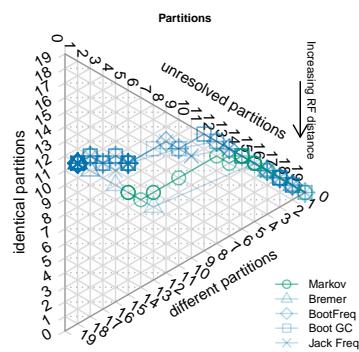
0.9 Trees 71–80



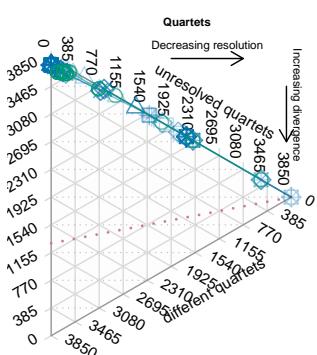
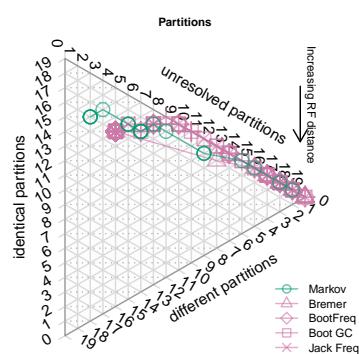
Dataset 71: CI=0.27. Equal weights



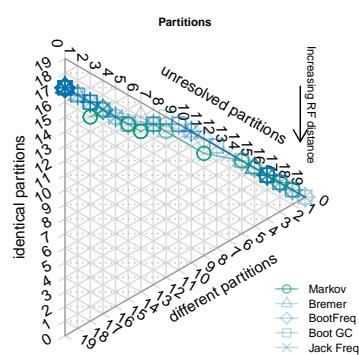
Implied weights ($k = 3$)

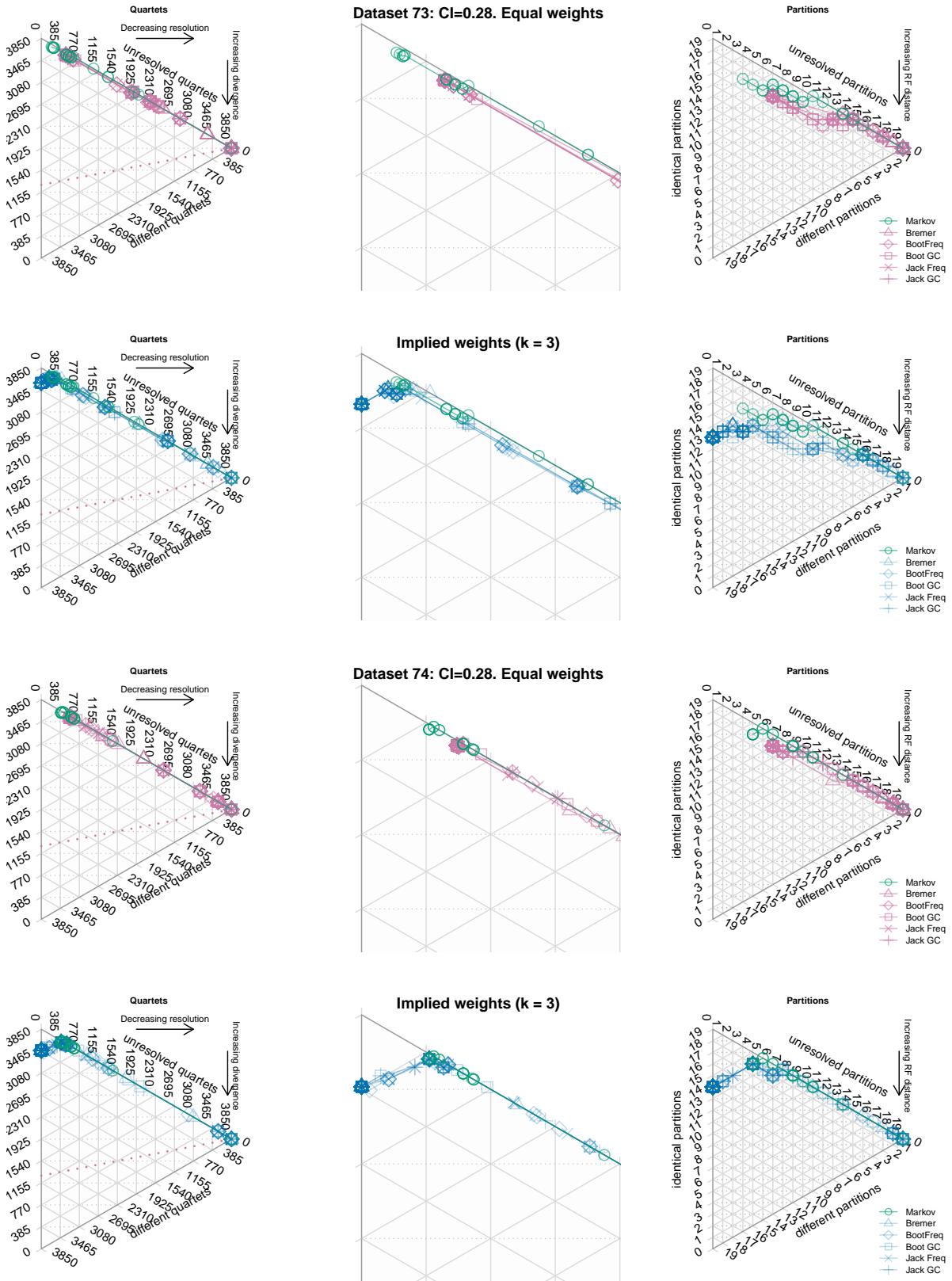


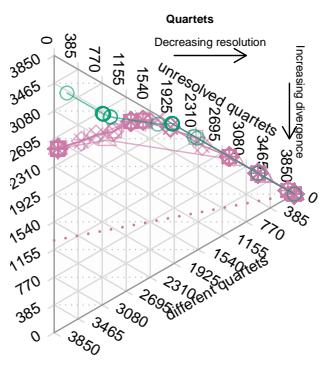
Dataset 72: CI=0.29, Equal weights



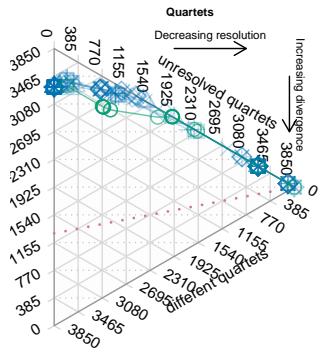
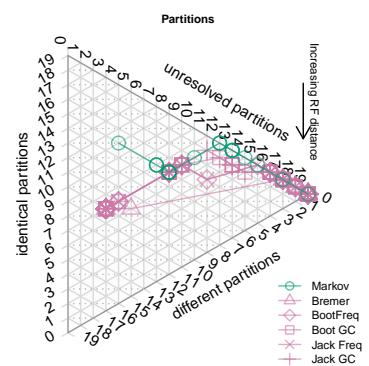
Implied weights ($k = 3$)



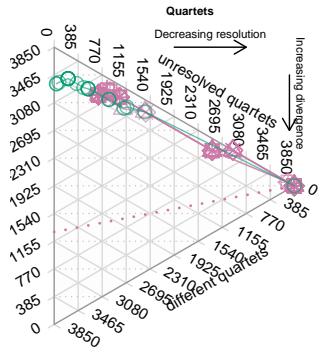
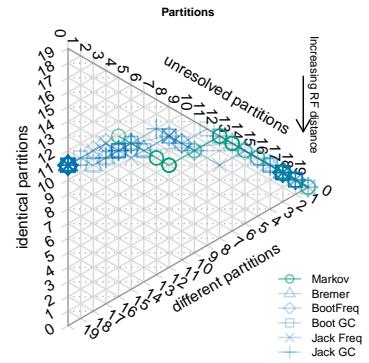




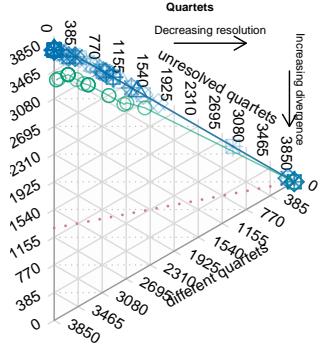
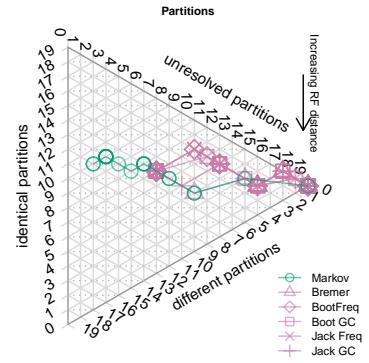
Dataset 75: CI=0.24. Equal weights



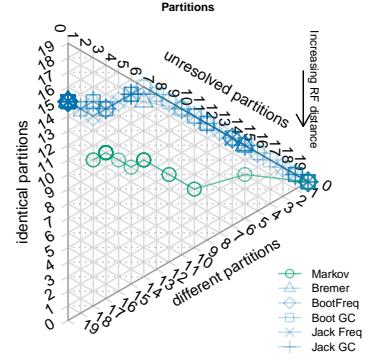
Implied weights ($k = 3$)

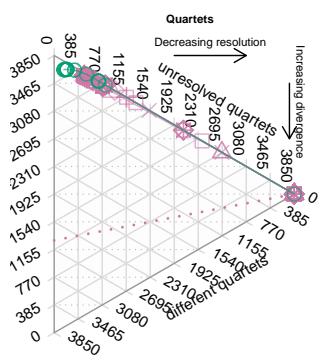


Dataset 76: CI=0.26. Equal weights

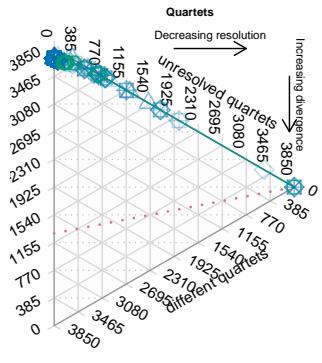
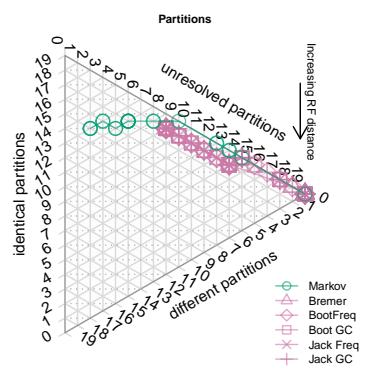


Implied weights ($k = 3$)

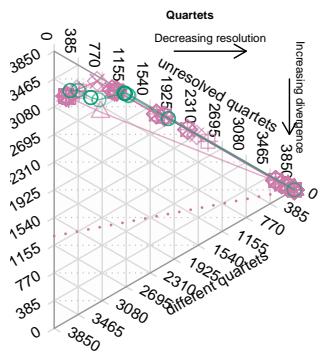
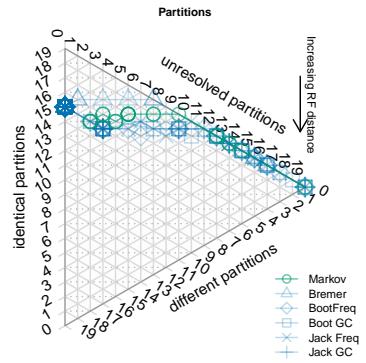




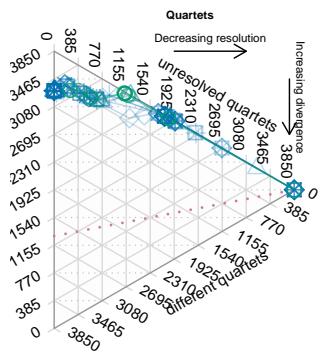
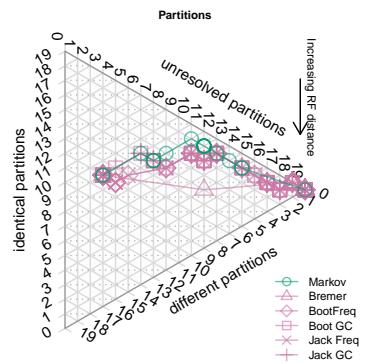
Dataset 77: CI=0.28. Equal weights



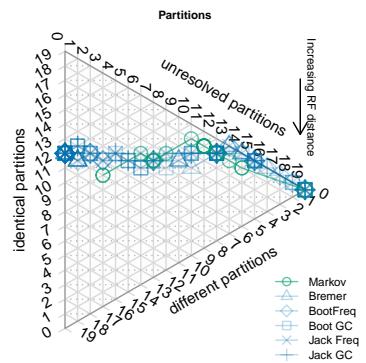
Implied weights ($k = 3$)

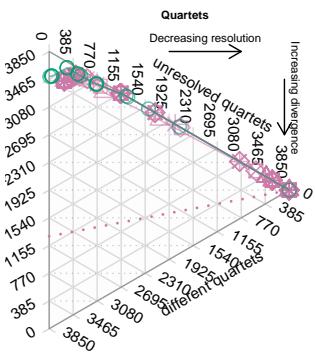


Dataset 78: CI=0.24. Equal weights

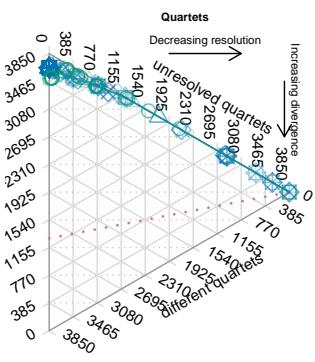
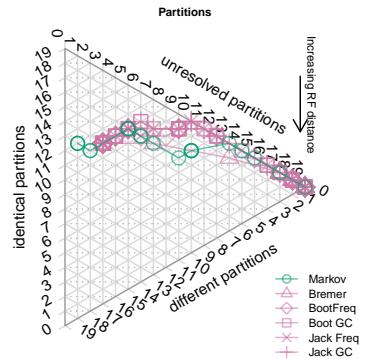


Implied weights ($k = 3$)

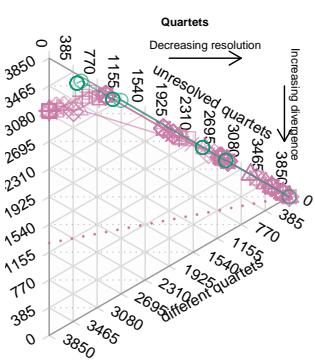
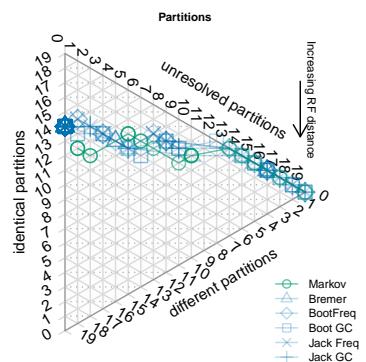




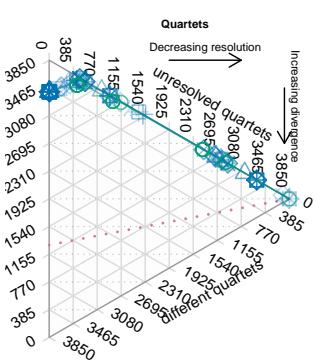
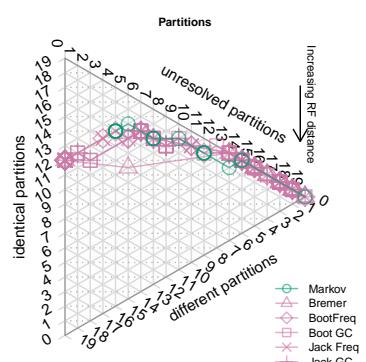
Dataset 79: CI=0.24. Equal weights



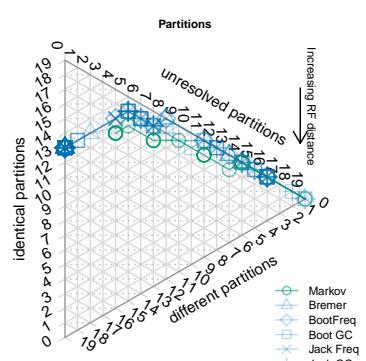
Implied weights ($k = 3$)



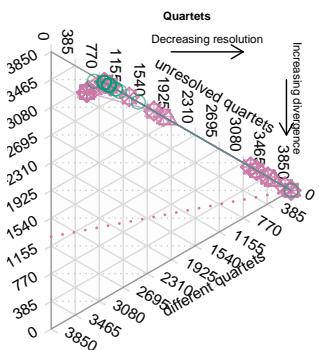
Dataset 80: CI=0.27. Equal weights



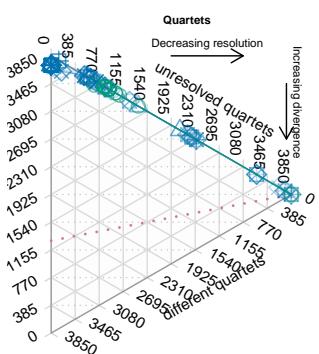
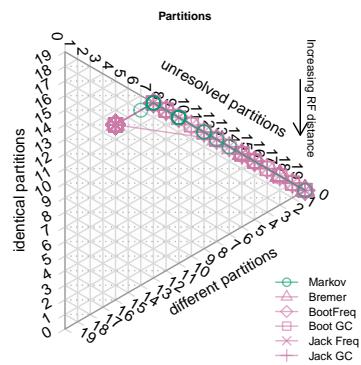
Implied weights ($k = 3$)



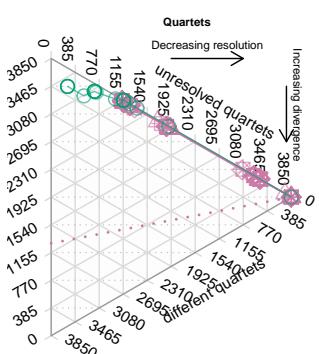
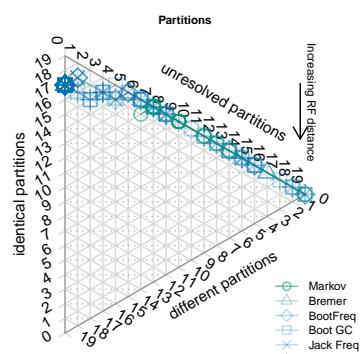
0.10 Trees 81–90



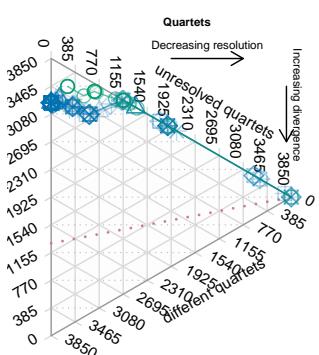
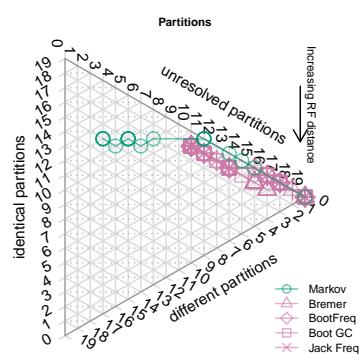
Dataset 81: CI=0.27. Equal weights



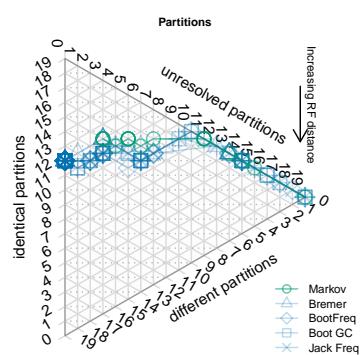
Implied weights ($k = 3$)

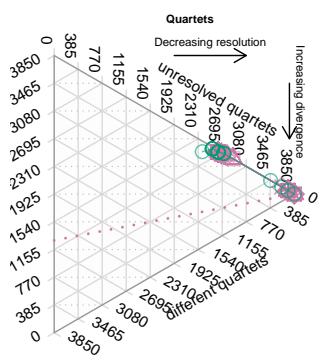


Dataset 82: CI=0.28, Equal weights

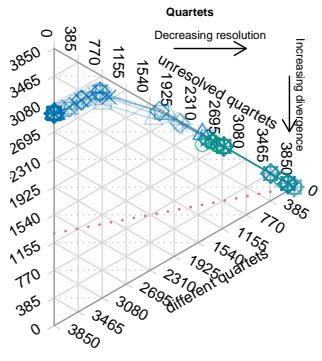
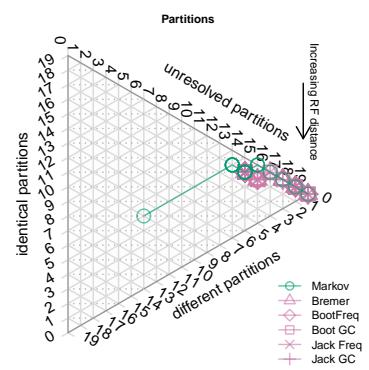


Implied weights ($k = 3$)

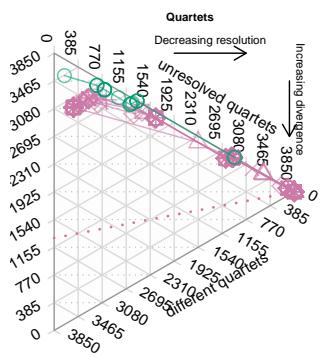
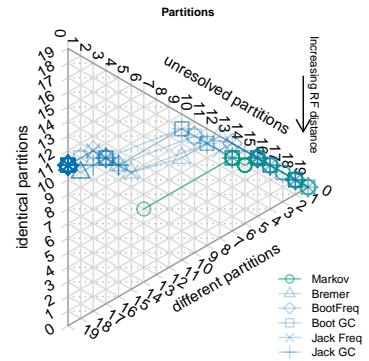




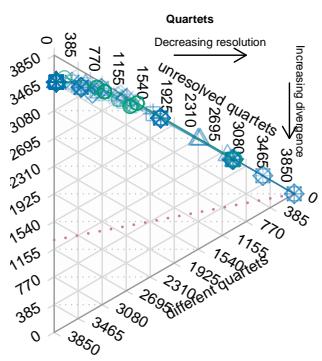
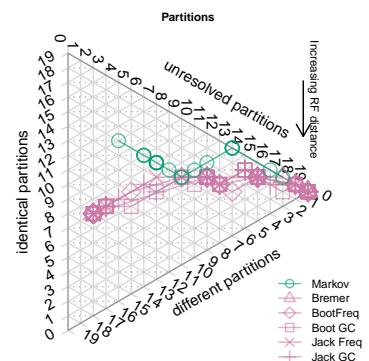
Dataset 83: CI=0.25. Equal weights



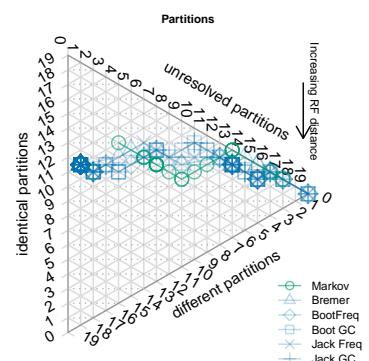
Implied weights ($k = 3$)

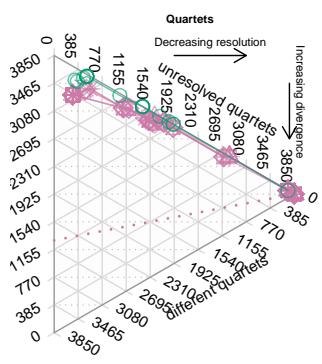


Dataset 84: CI=0.24. Equal weights

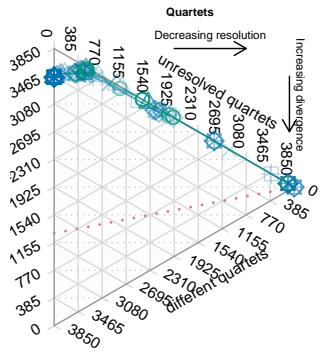
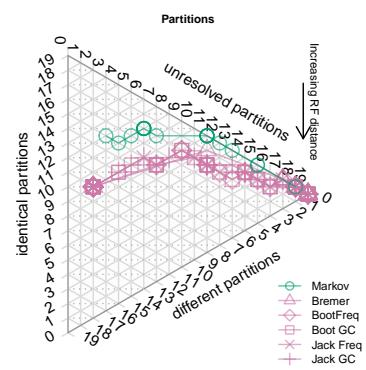


Implied weights ($k = 3$)

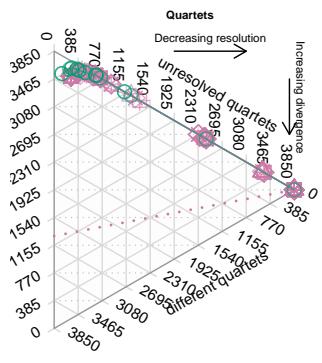
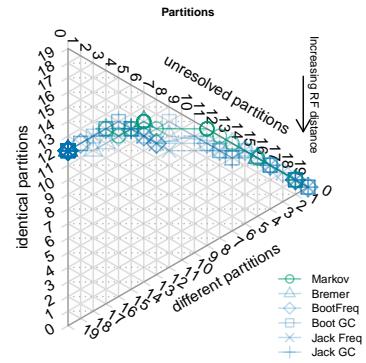




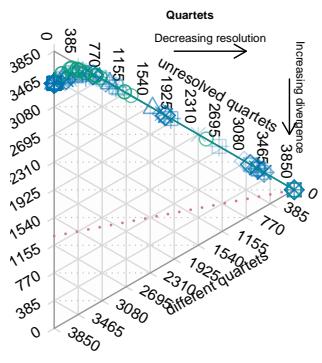
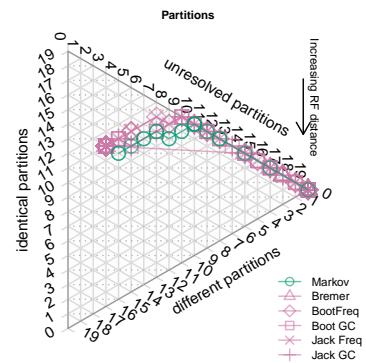
Dataset 85: CI=0.27. Equal weights



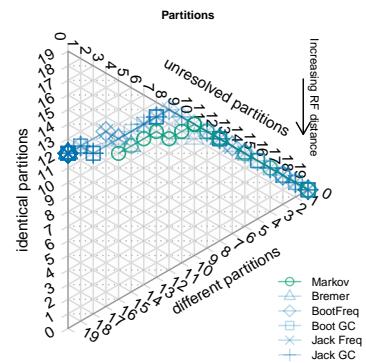
Implied weights (k = 3)

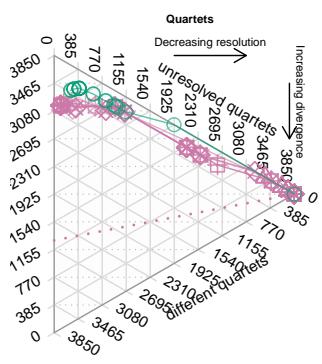


Dataset 86: CI=0.27. Equal weights

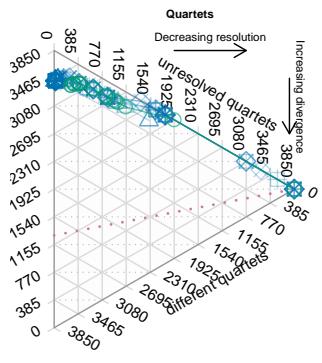
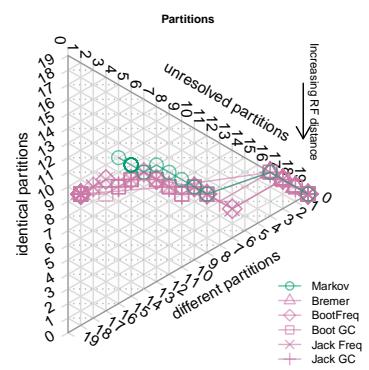


Implied weights (k = 3)

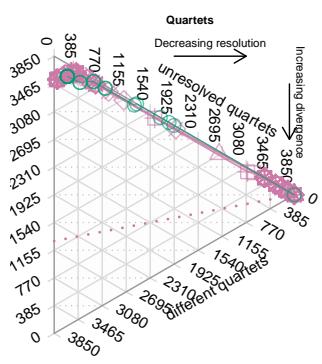
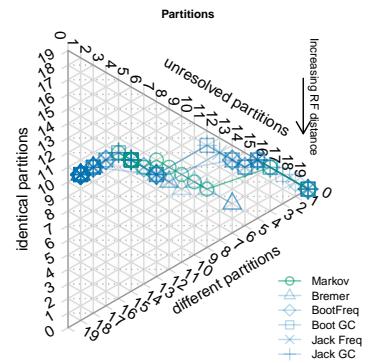




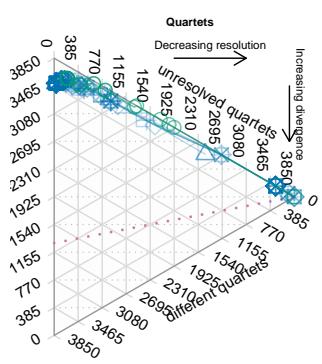
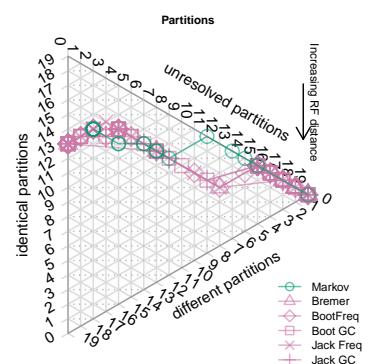
Dataset 87: CI=0.23. Equal weights



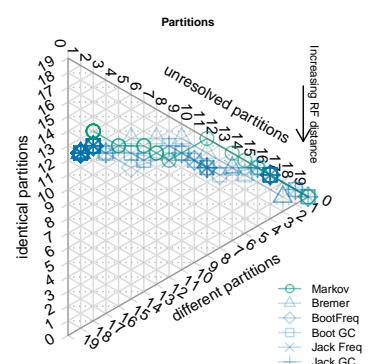
Implied weights ($k = 3$)

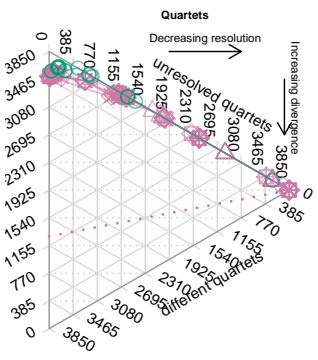


Dataset 88: CI=0.25. Equal weights

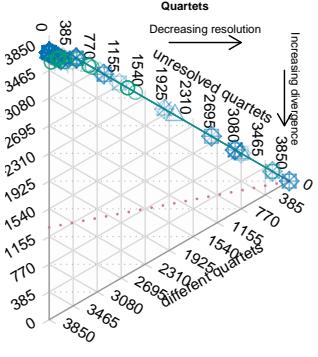
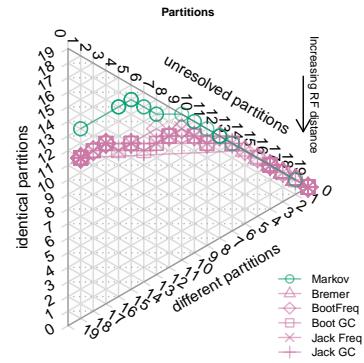


Implied weights ($k = 3$)

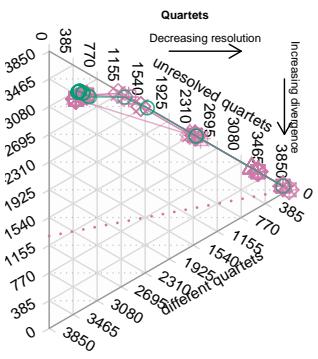
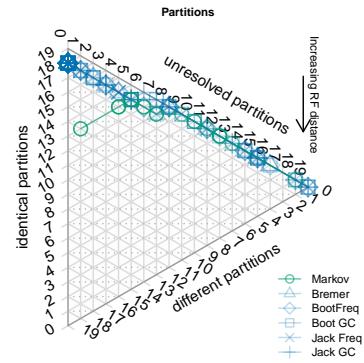




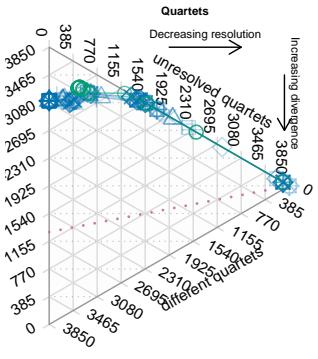
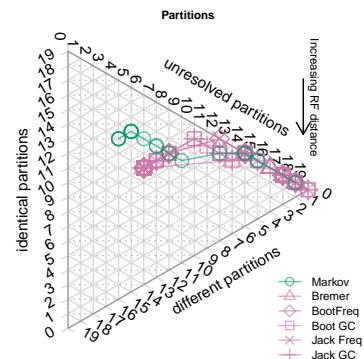
Dataset 89: CI=0.27. Equal weights



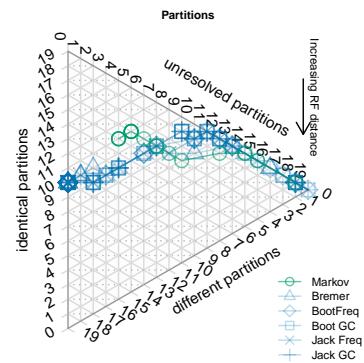
Implied weights ($k = 3$)



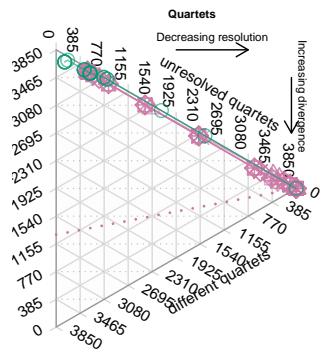
Dataset 90: CI=0.26. Equal weights



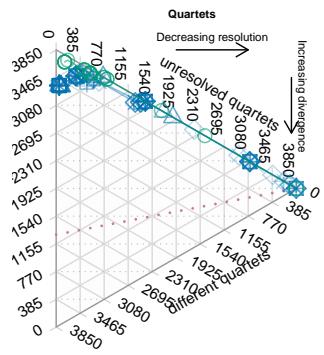
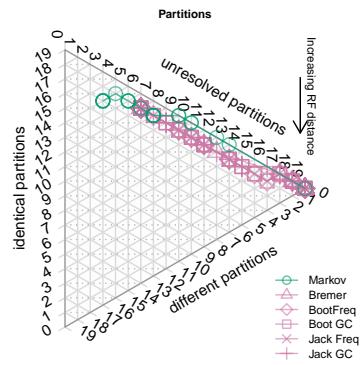
Implied weights ($k = 3$)



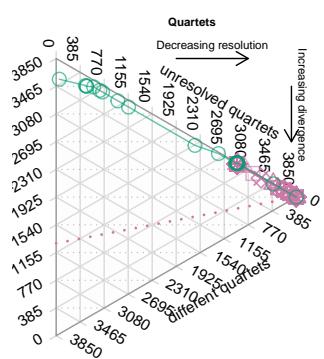
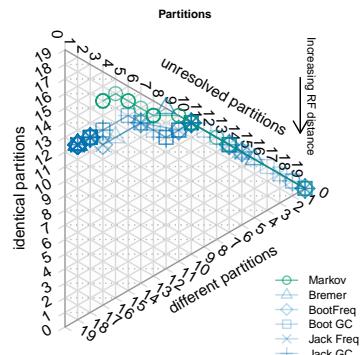
0.11 Trees 91–100



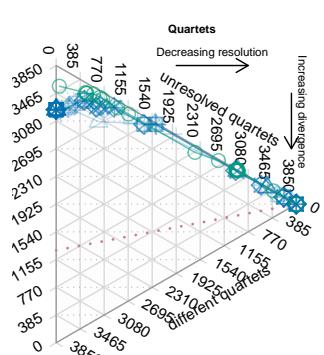
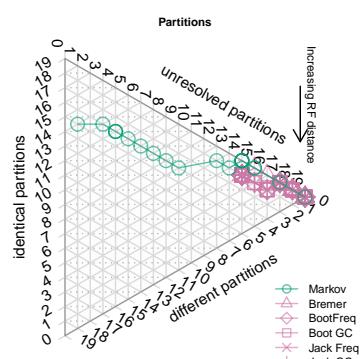
Dataset 91: CI=0.26. Equal weights



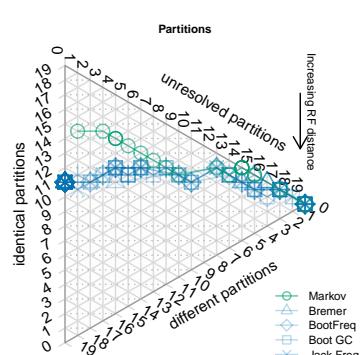
Implied weights (k = 3)

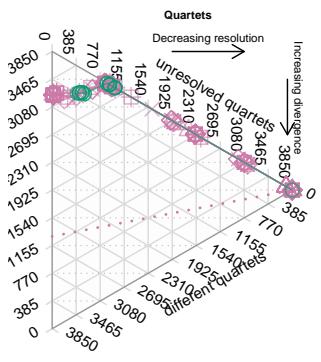


Dataset 92: CI=0.25. Equal weights

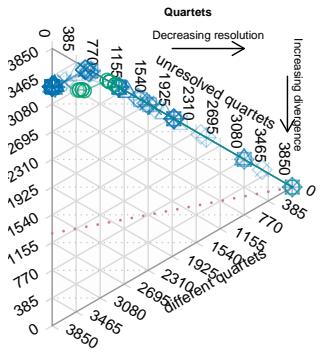
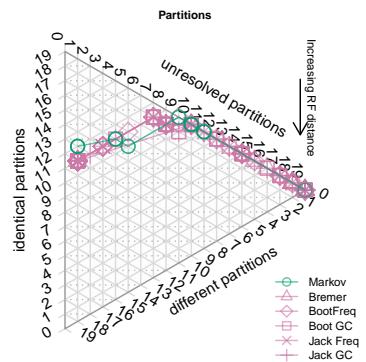


Implied weights (k = 3)

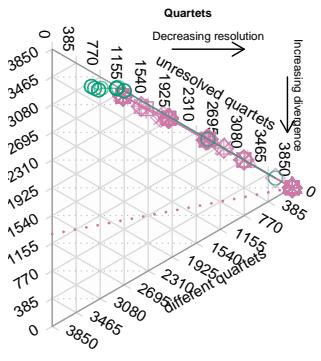
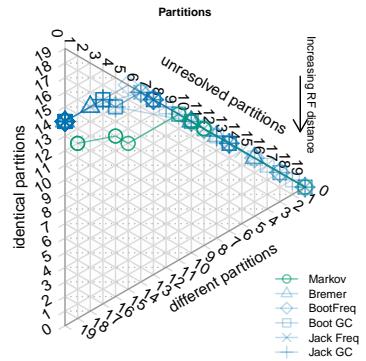




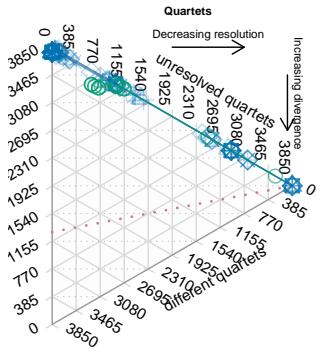
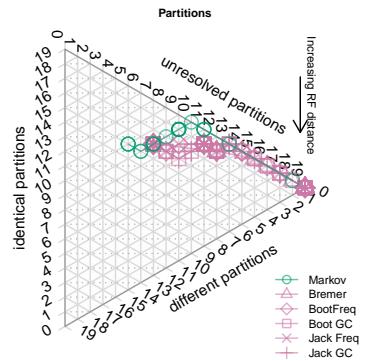
Dataset 93: CI=0.28. Equal weights



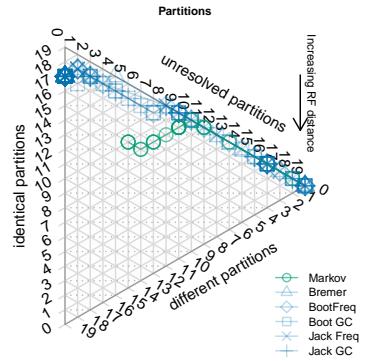
Implied weights ($k = 3$)

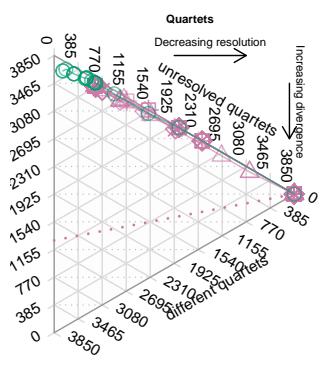


Dataset 94: CI=0.24. Equal weights

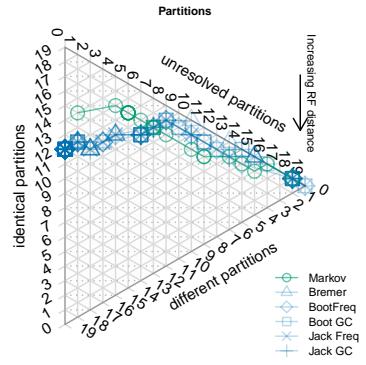
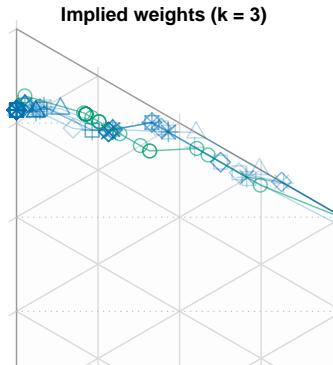
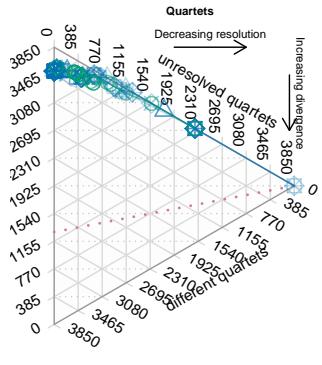
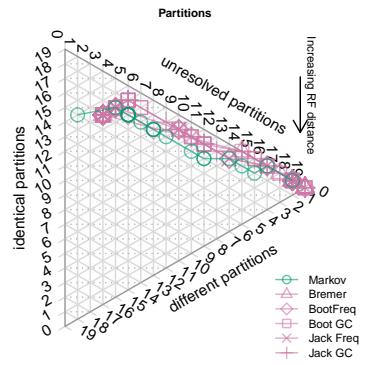
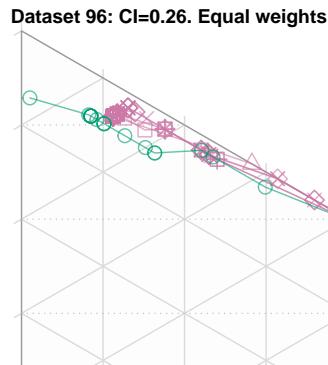
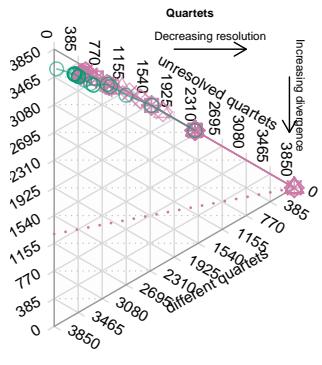
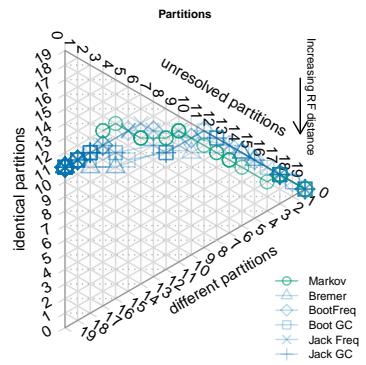
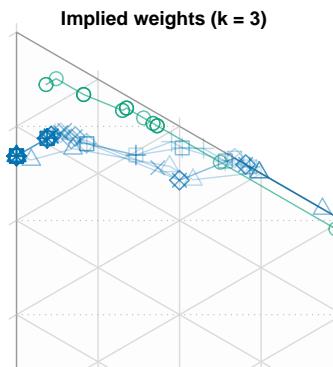
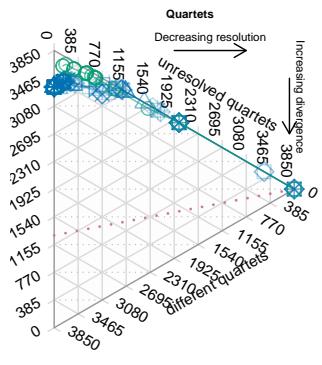
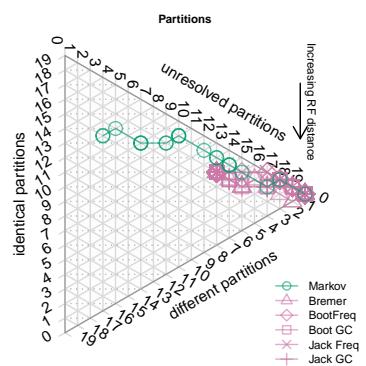


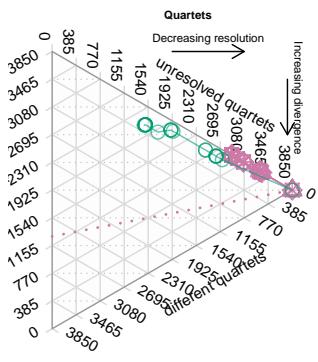
Implied weights ($k = 3$)



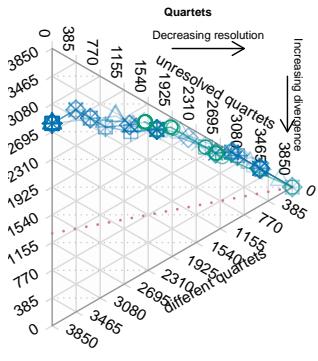
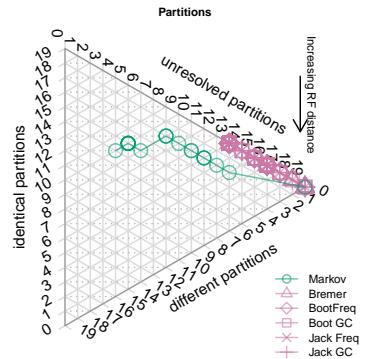


Dataset 95: CI=0.24. Equal weights

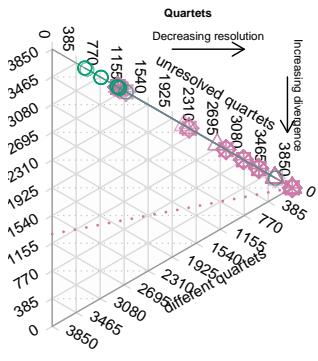
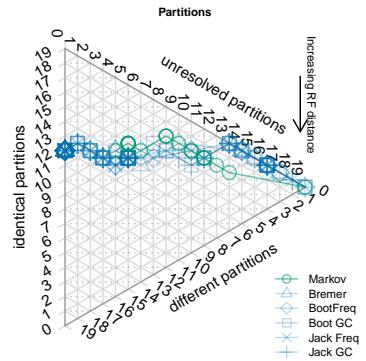




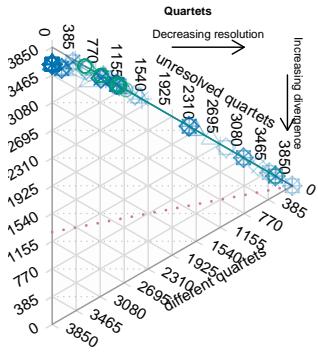
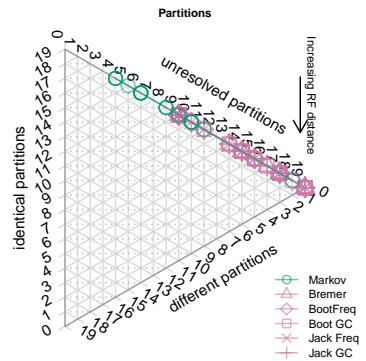
Dataset 97: CI=0.27. Equal weights



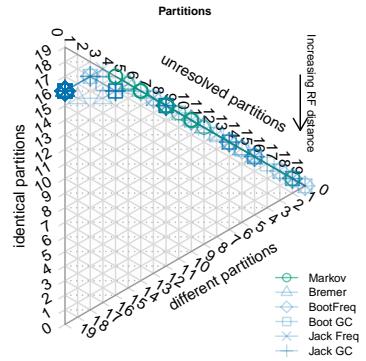
Implied weights ($k = 3$)

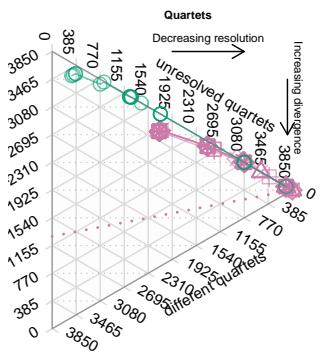


Dataset 98: CI=0.26. Equal weights

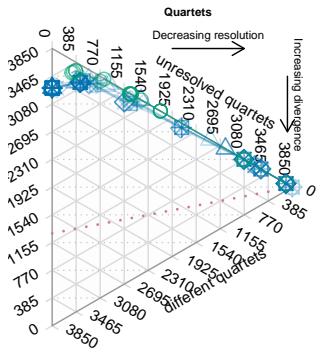
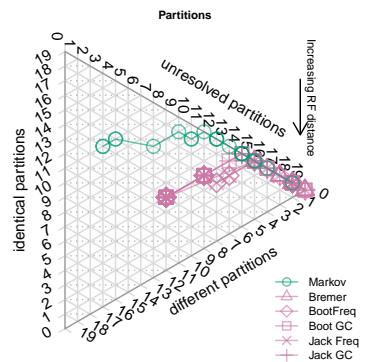


Implied weights ($k = 3$)

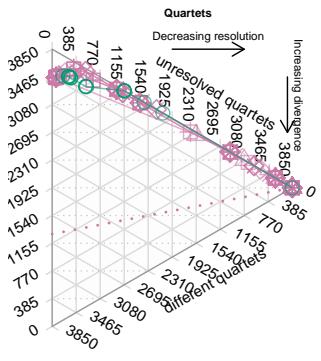
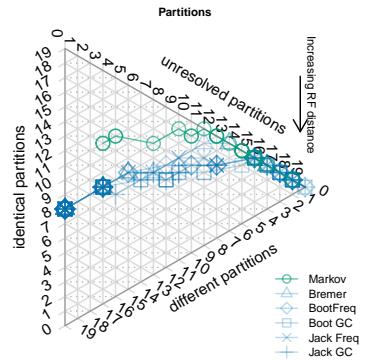




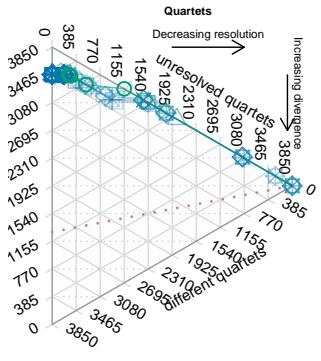
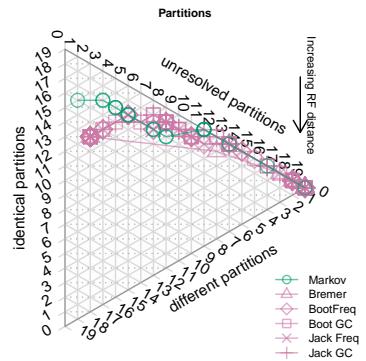
Dataset 99: CI=0.24. Equal weights



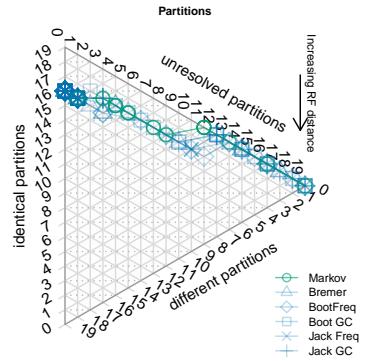
Implied weights (k = 3)



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)