The Ranked Nearest Neighbour Interchange space of phylogenetic trees

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University of Otago

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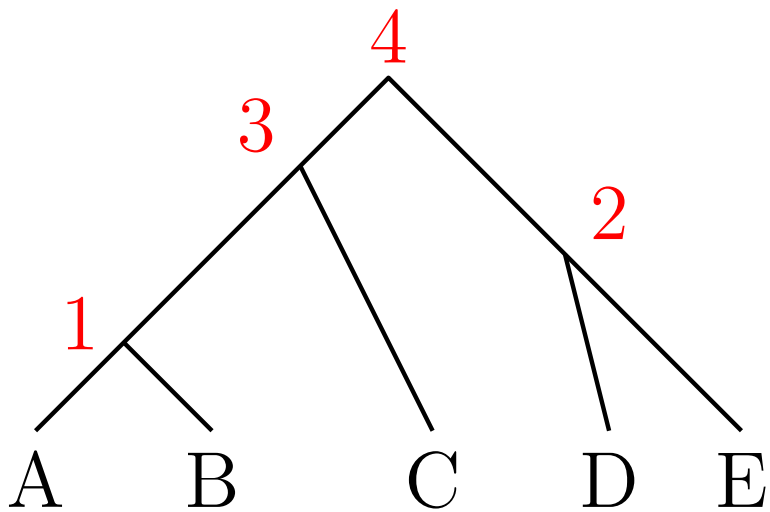
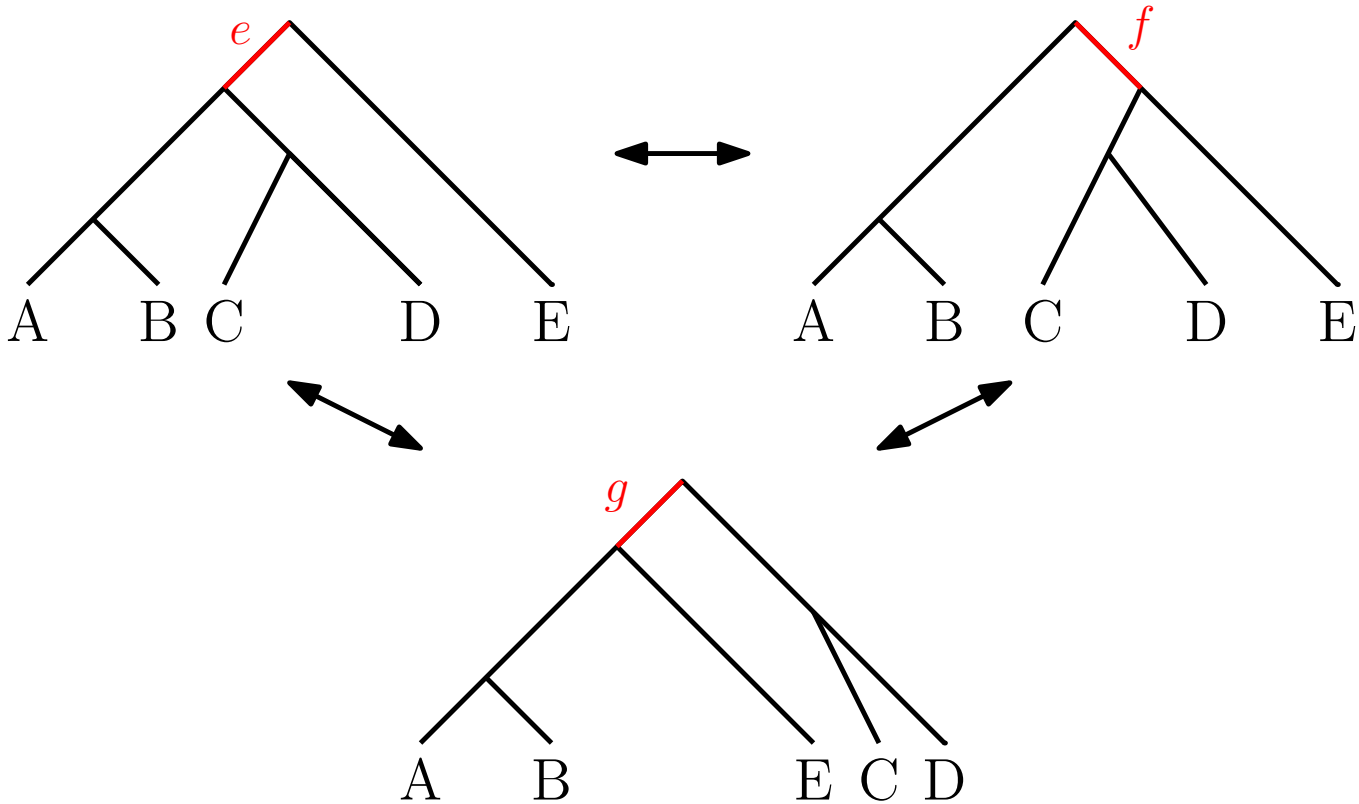
Ranked trees



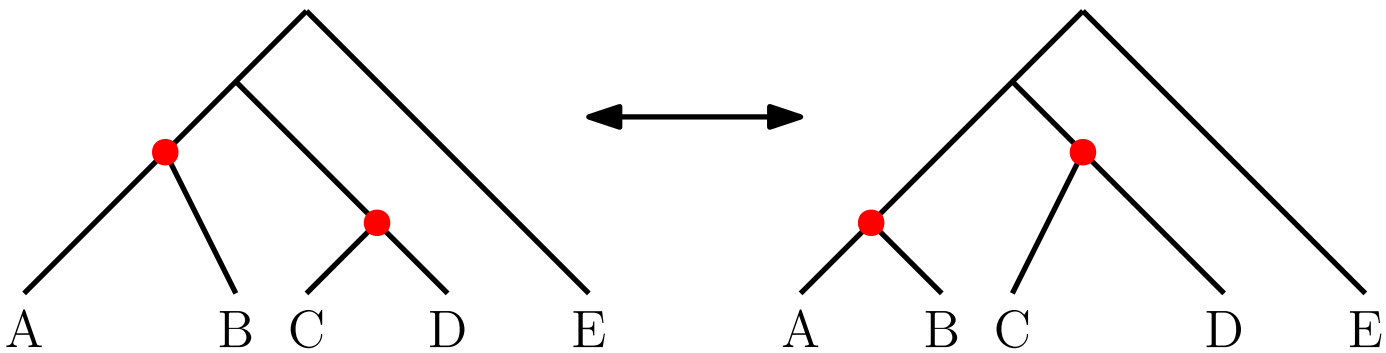
Ranked trees

NNI move

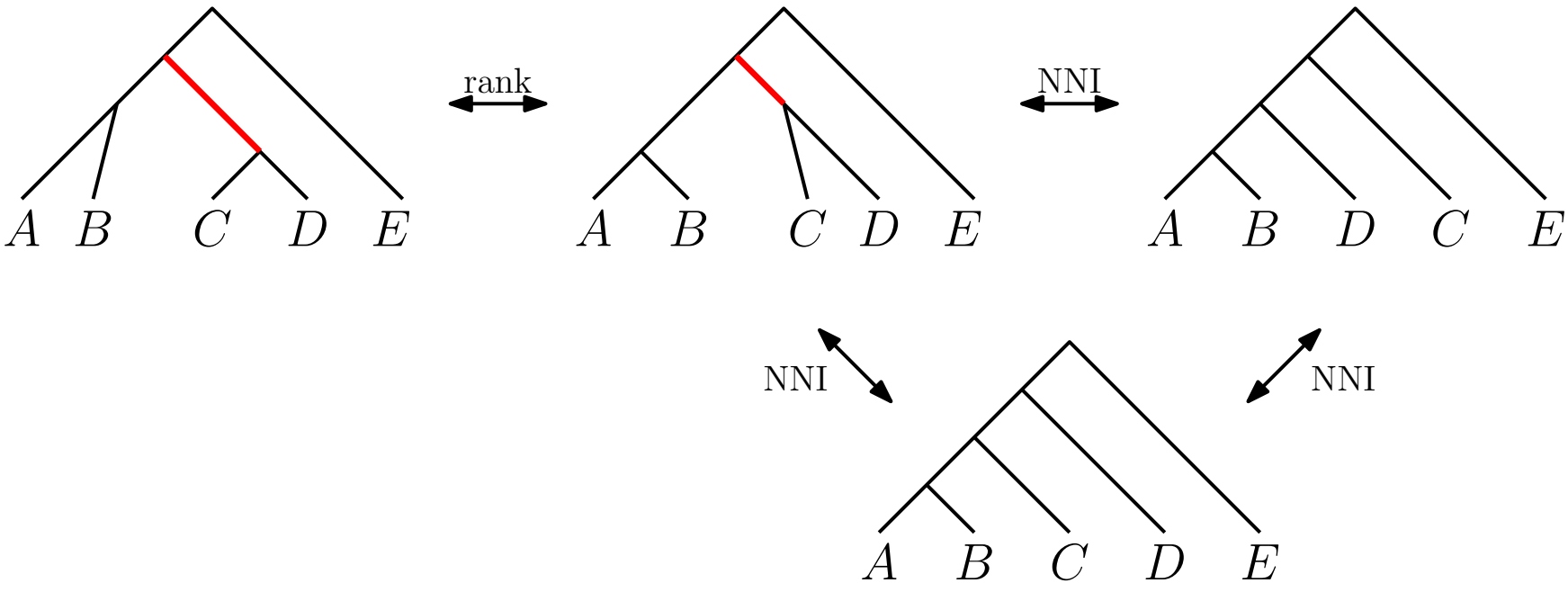


Ranked trees

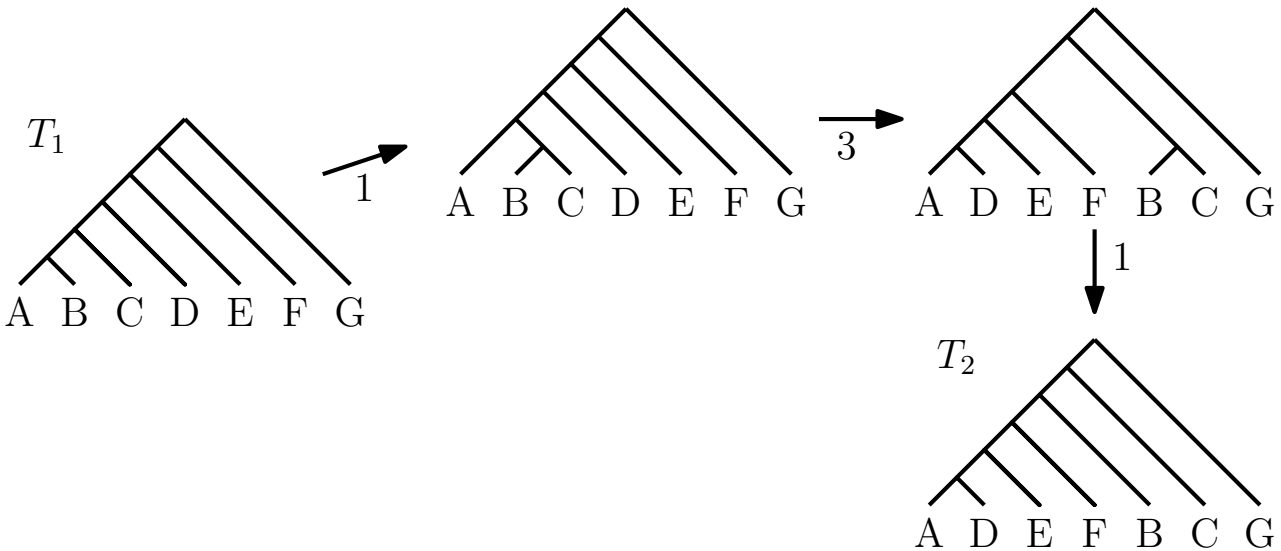
Rank move



RNNI graph



Caterpillar trees



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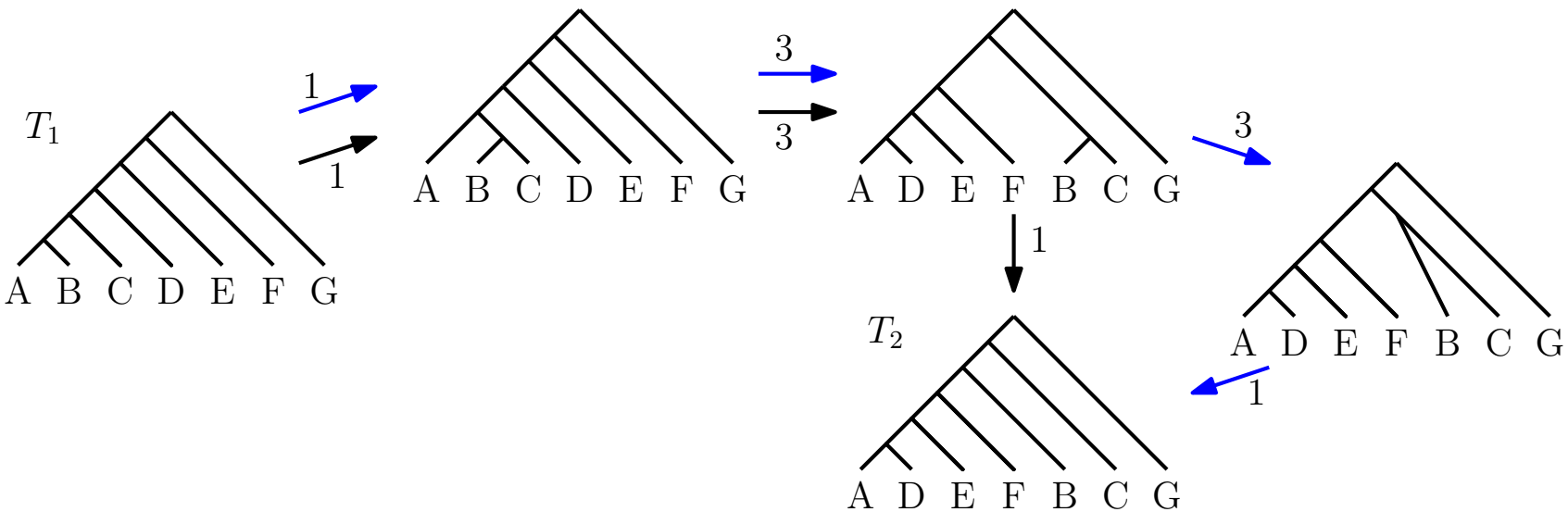
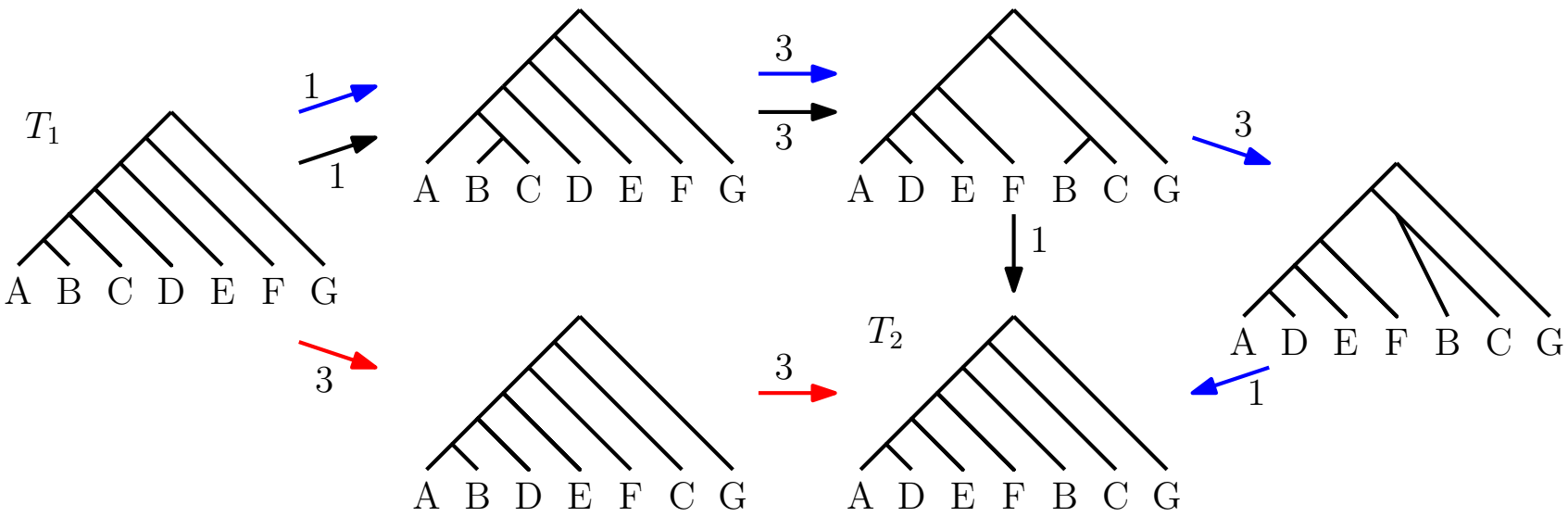


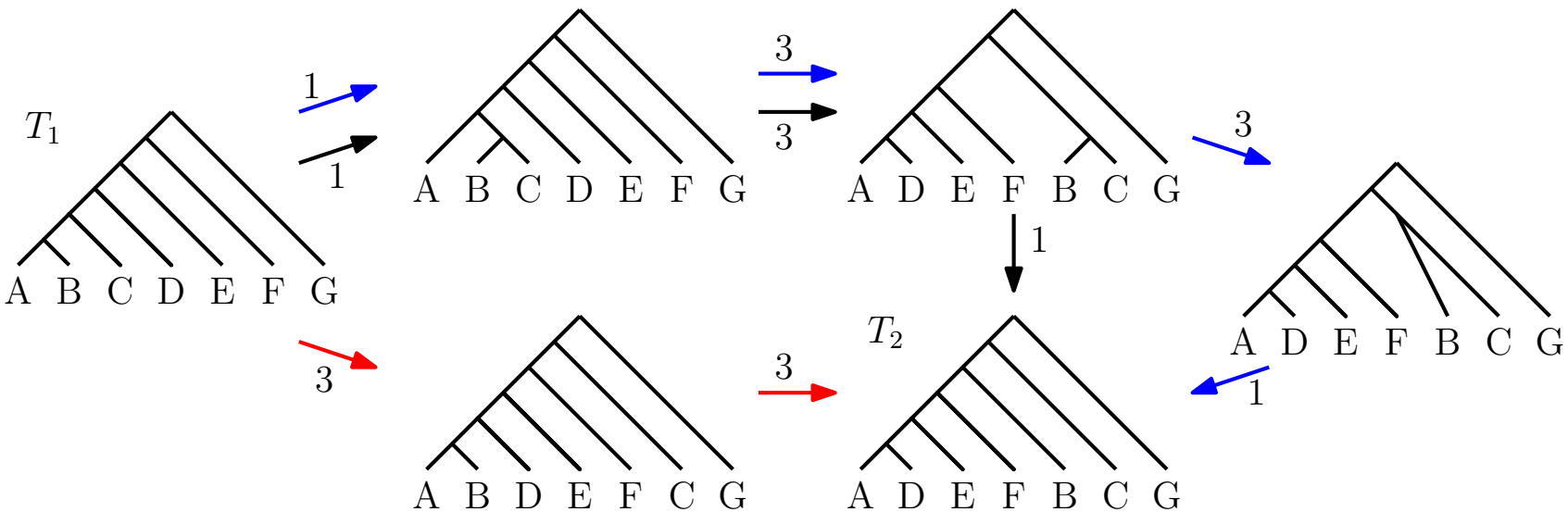
- NNI
- RNNI

Caterpillar trees



- NNI
- RNNI

Caterpillar trees

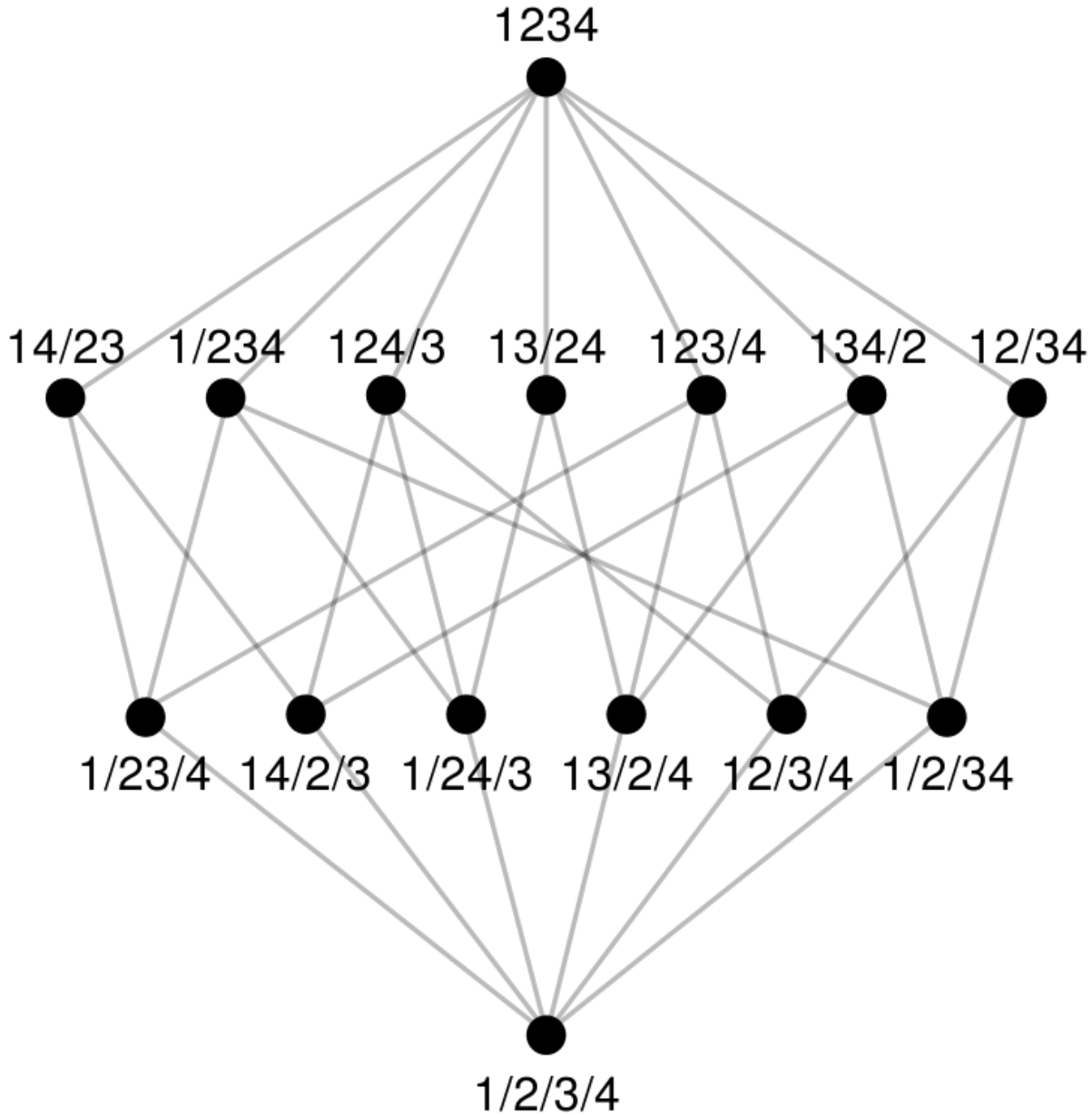


- NNI
- RNNI

Theorem

The set of caterpillar trees is convex in RNNI.

Partition lattice



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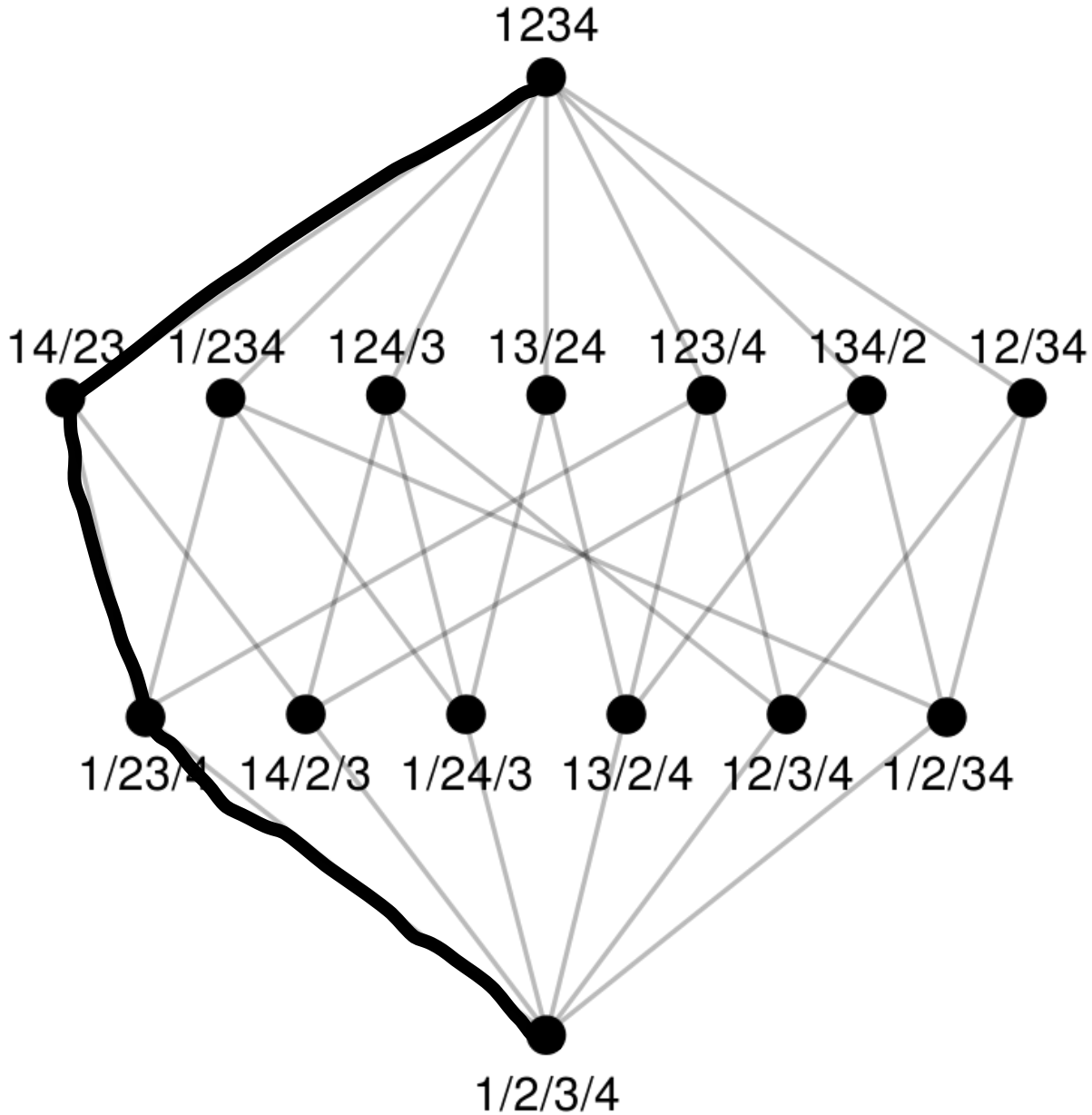

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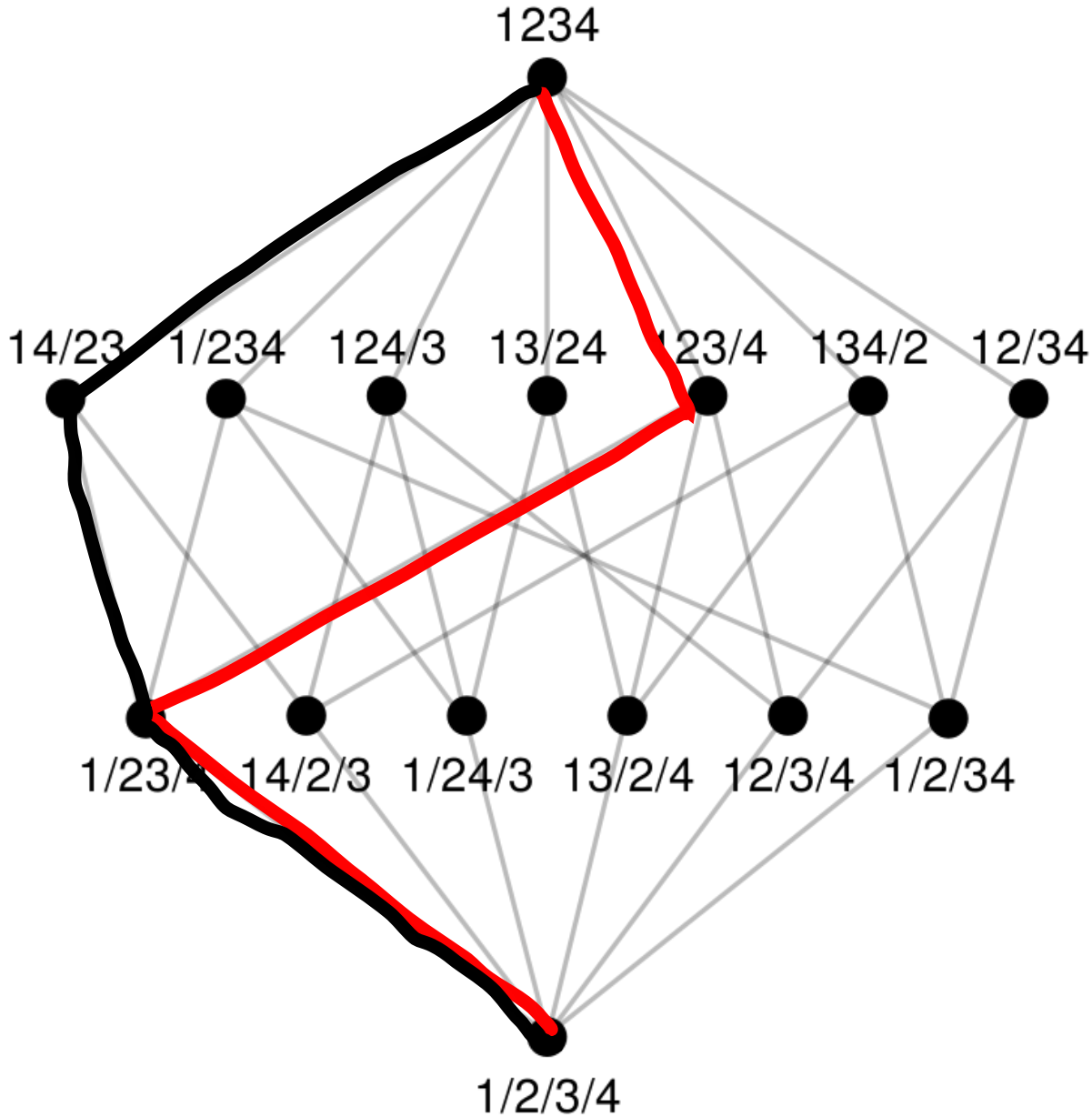

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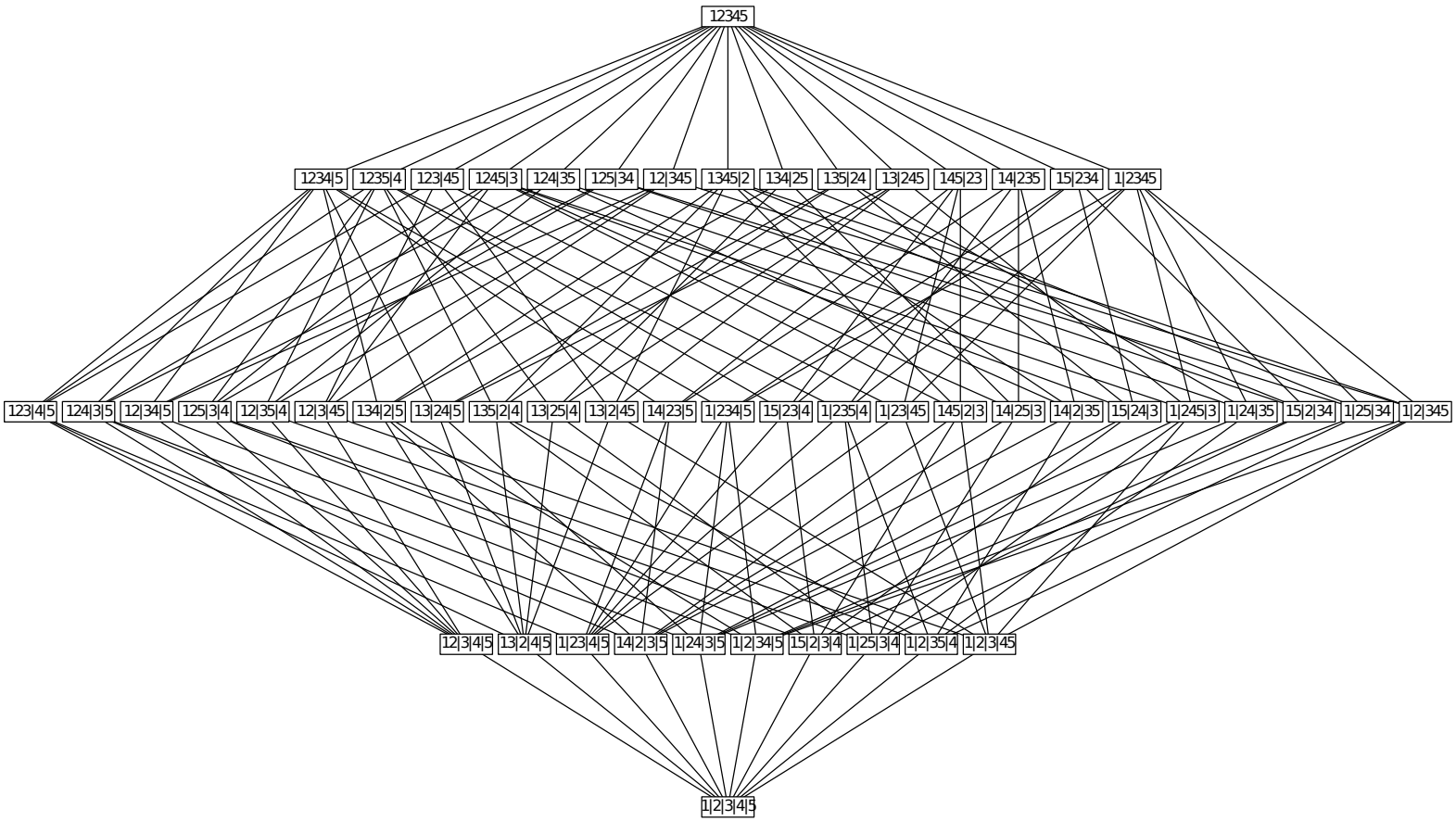


Figure 4.1.: Partition lattice Π_5

Partition lattice

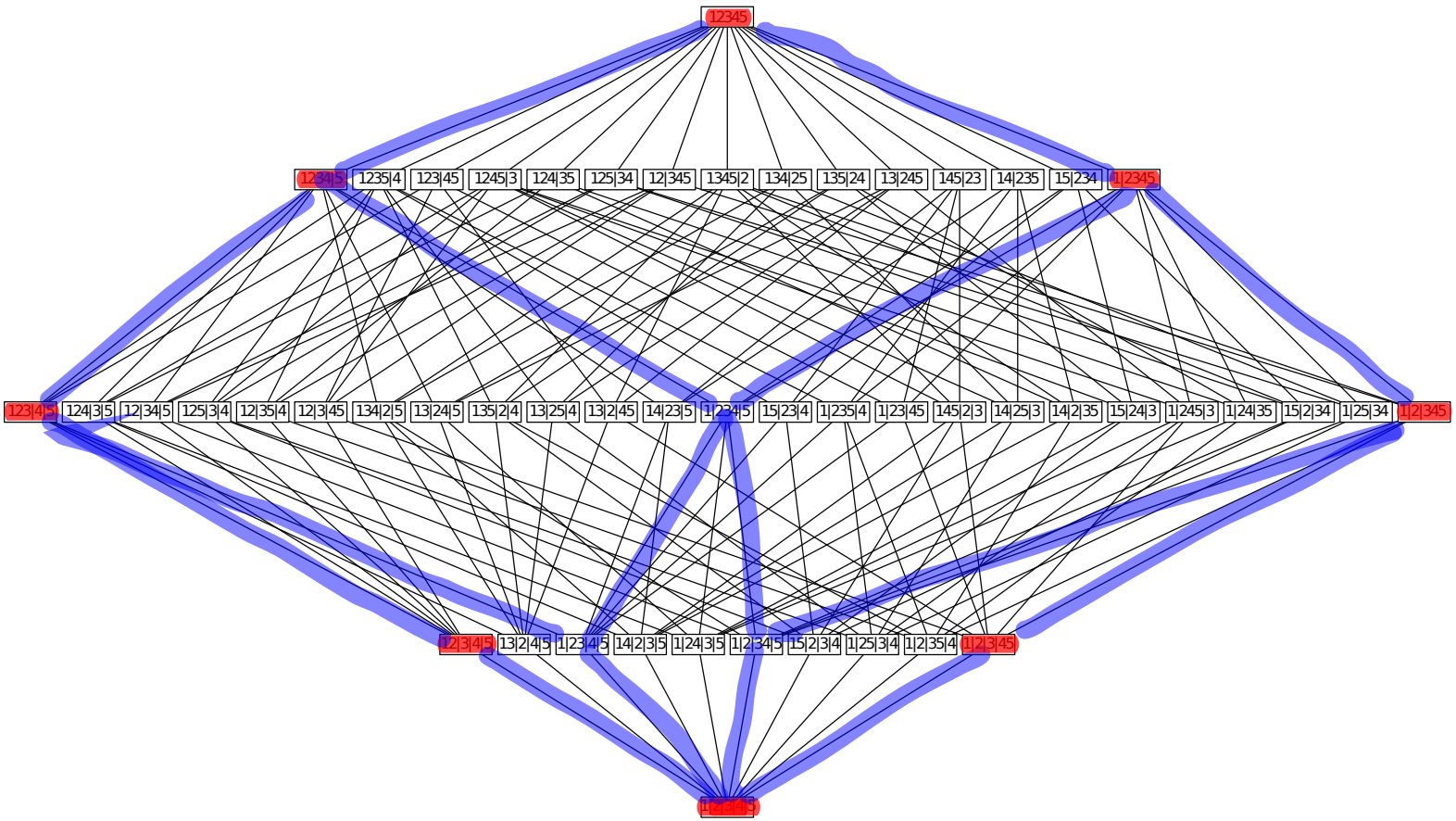


Figure 4.1.: Partition lattice Π_5

Partition lattice

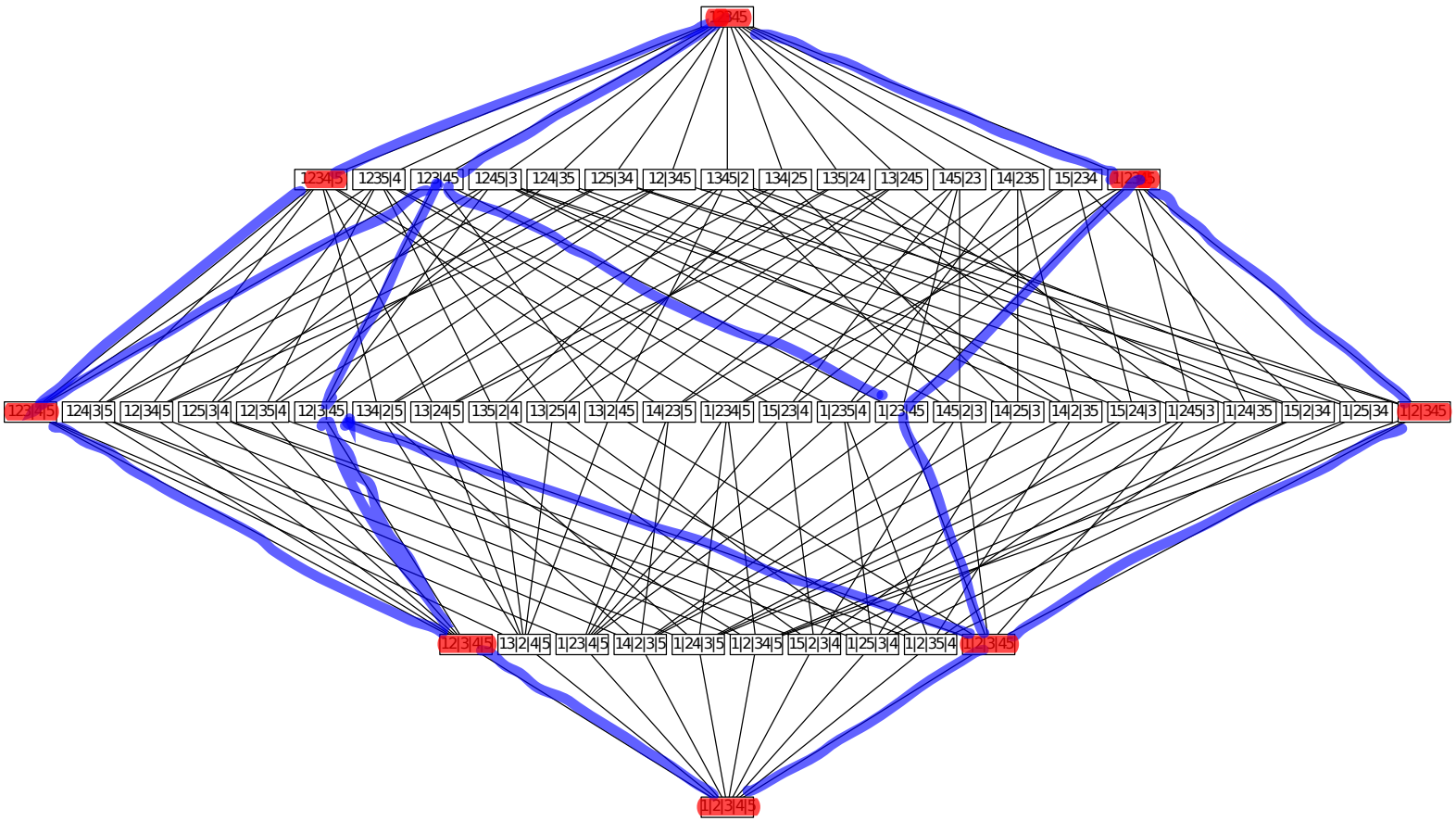
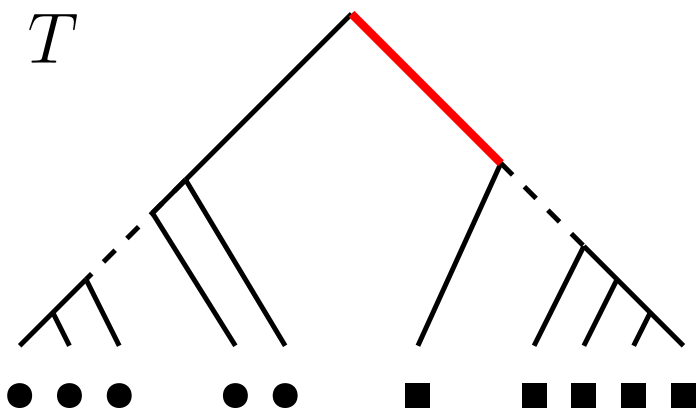
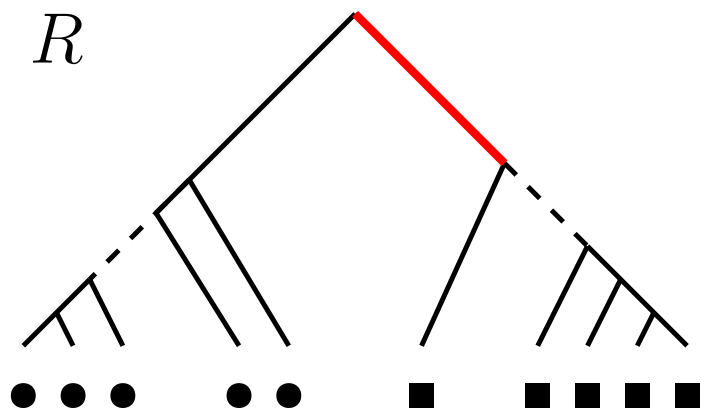


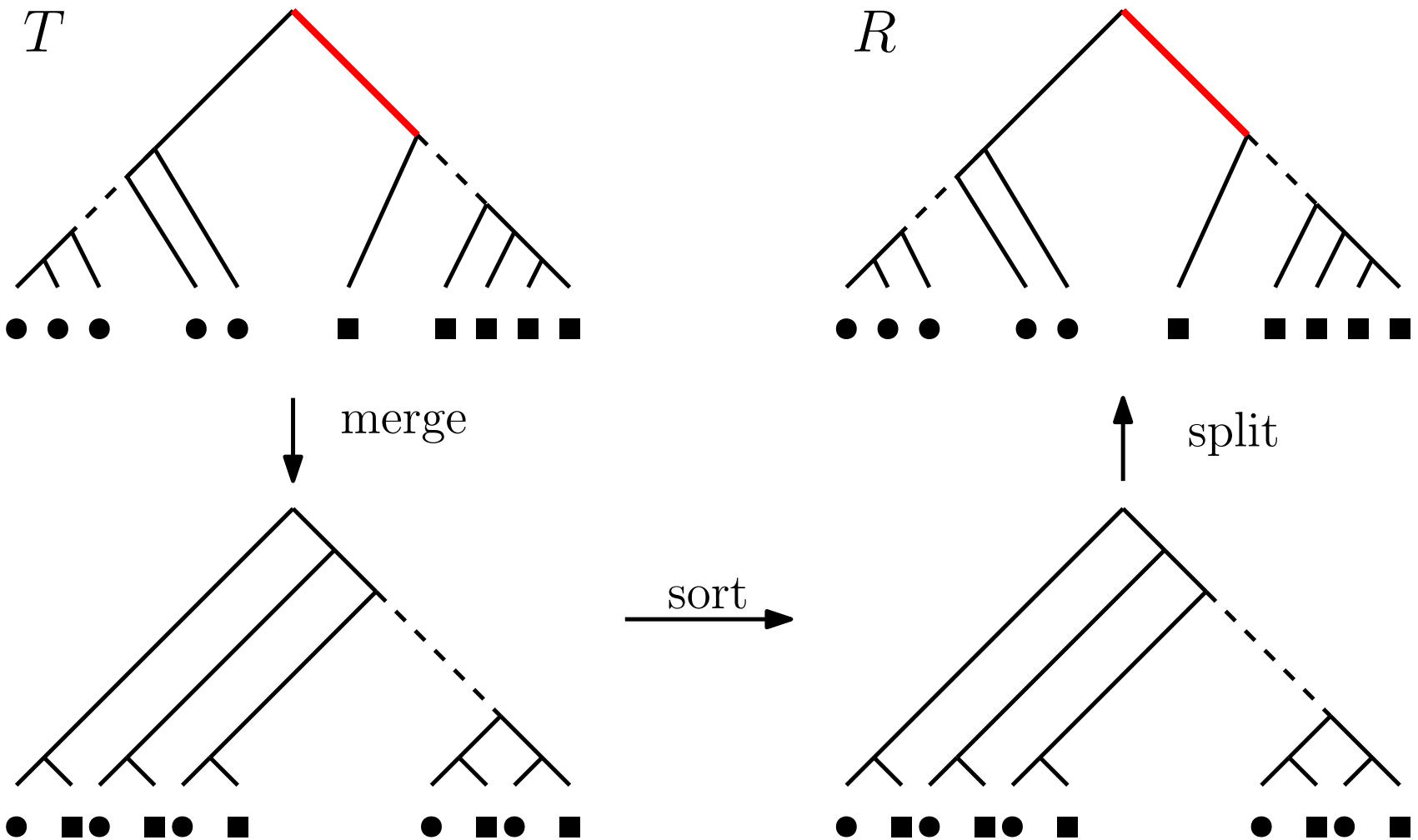
Figure 4.1.: Partition lattice Π_5

Cluster Theorem





Cluster Theorem



Cluster Theorem

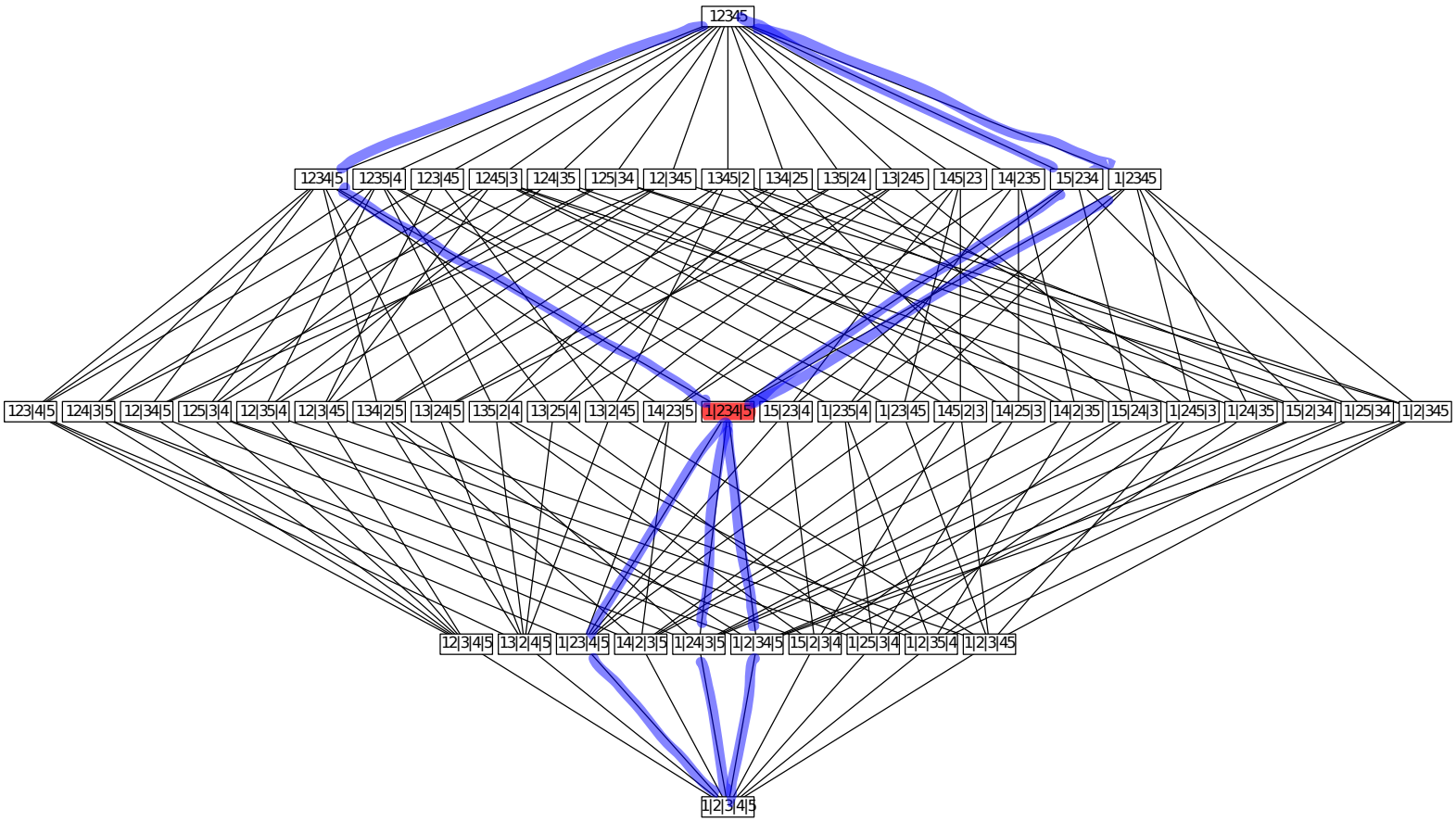


Figure 4.1.: Partition lattice Π_5

Caterpillar Sublattice

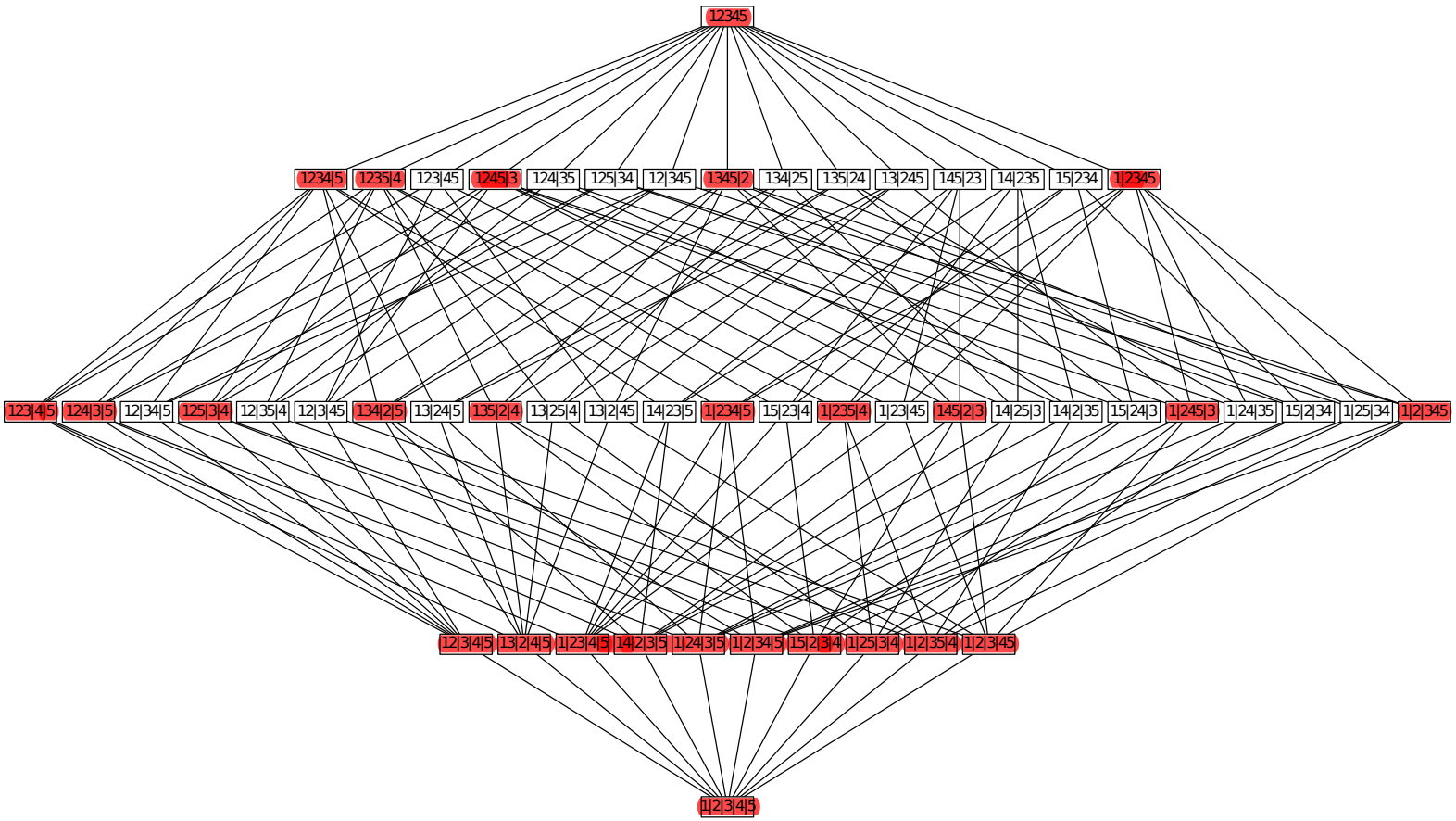
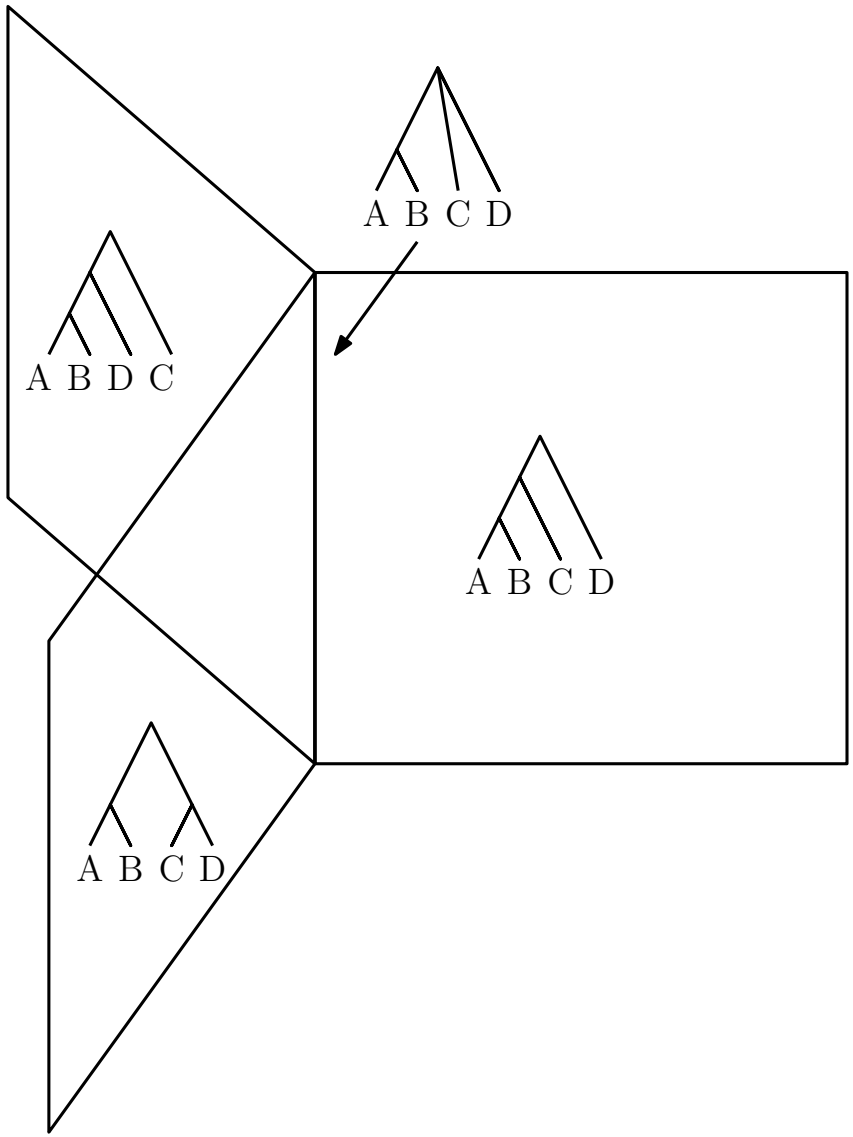


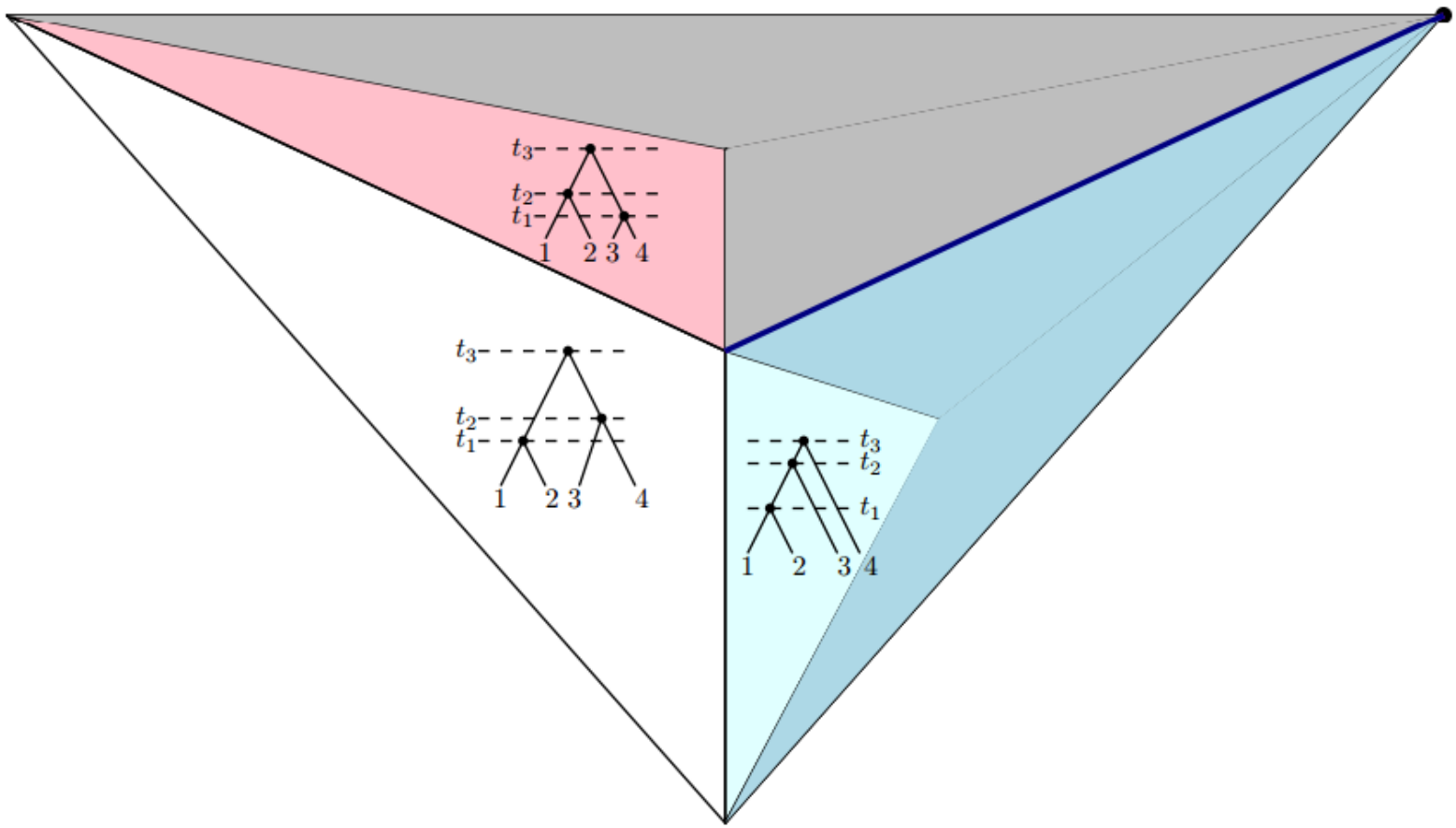
Figure 4.1.: Partition lattice Π_5

BHV-space



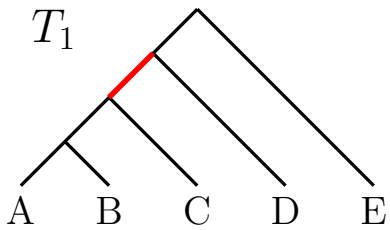
after Billera, Holmes, and Vogtmann, 2001

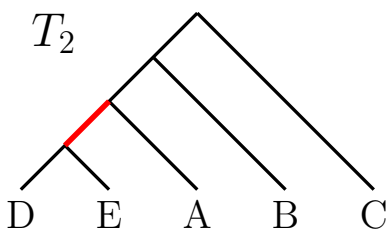
t-space



Gavryushkin and Drummond, 2016

Split Theorem





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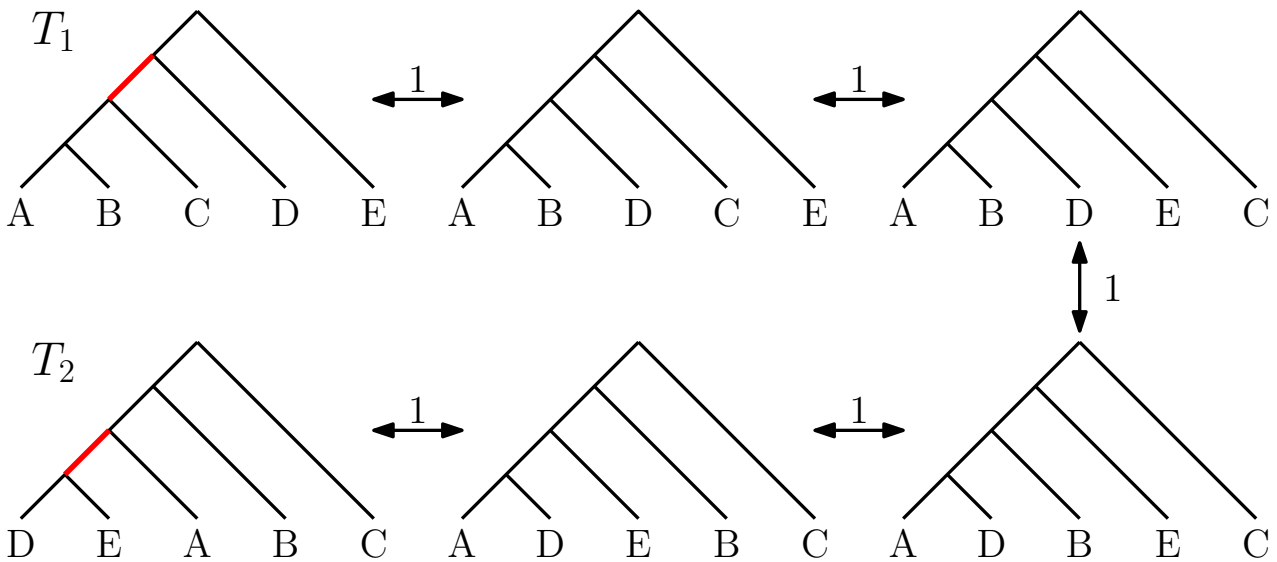

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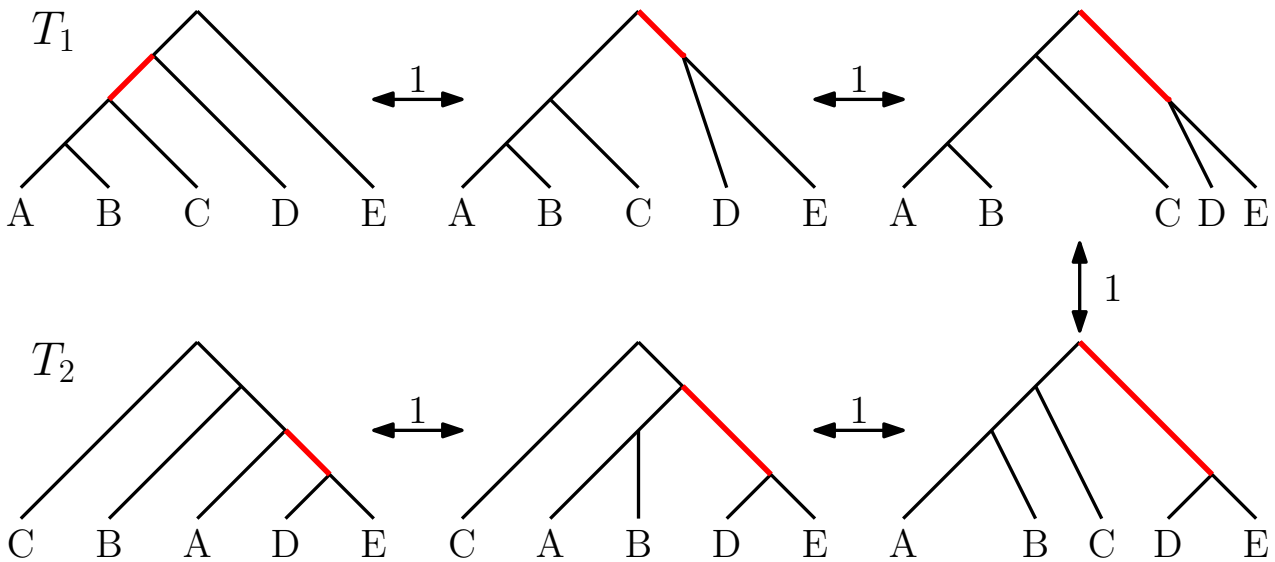
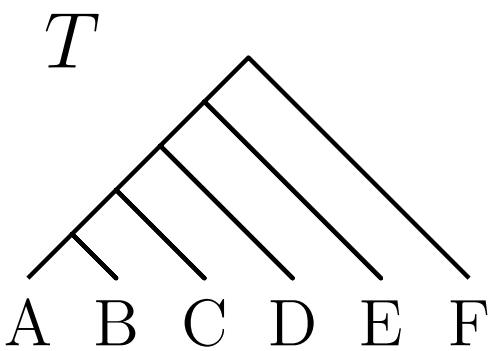
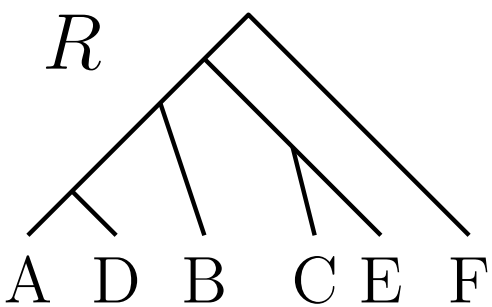


Approximating shortest paths





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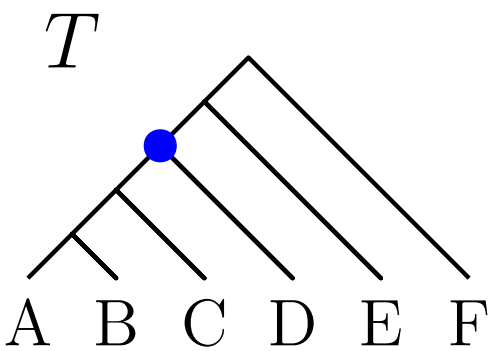

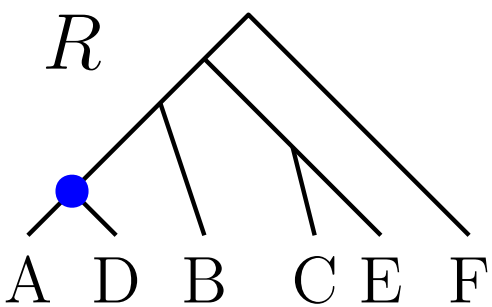

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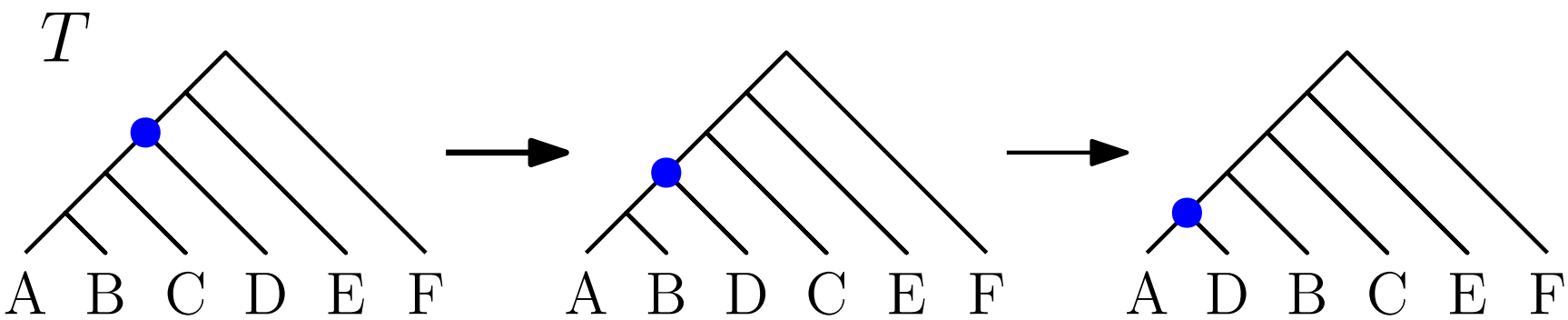

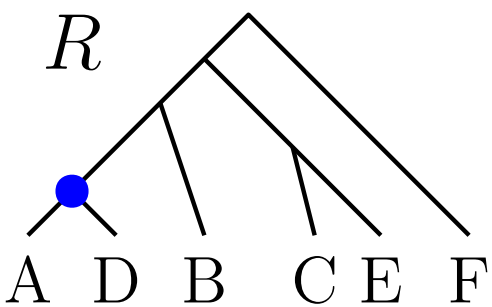

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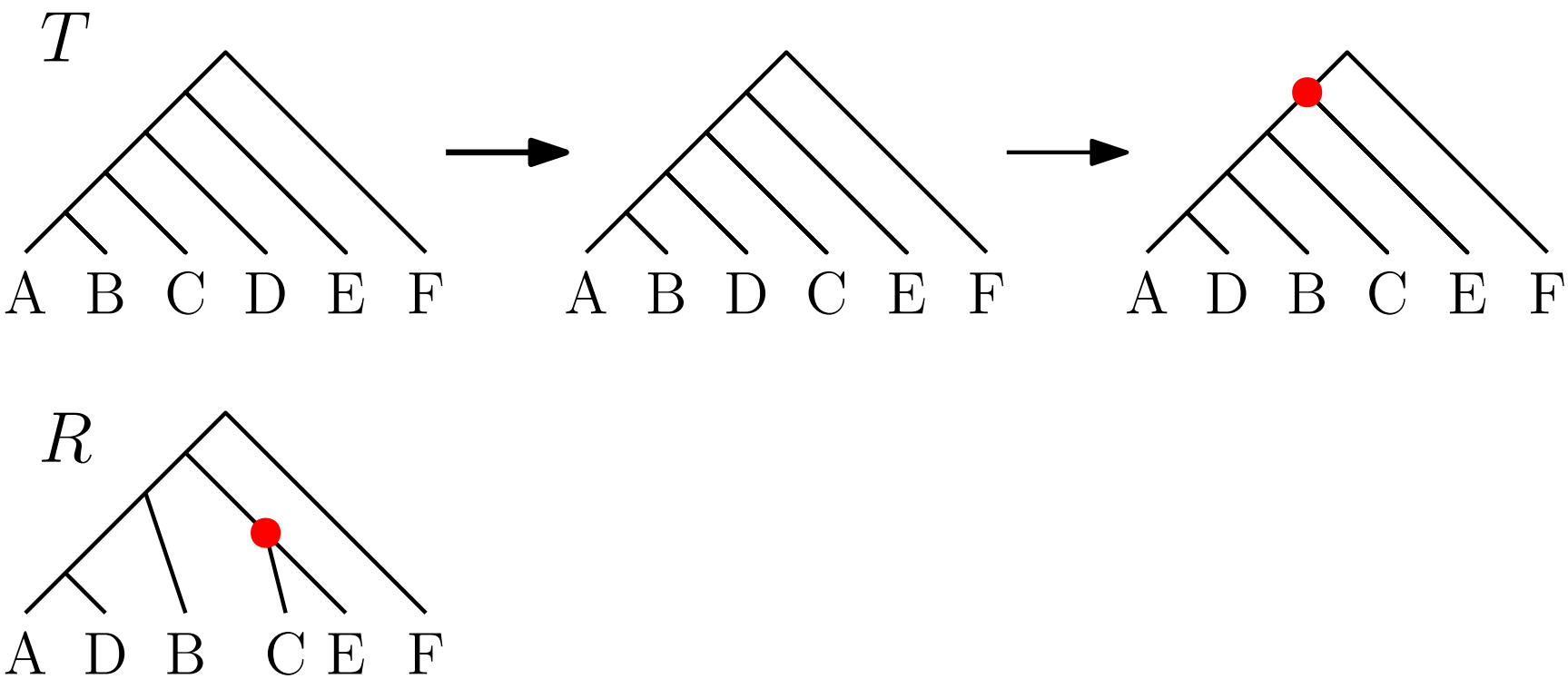
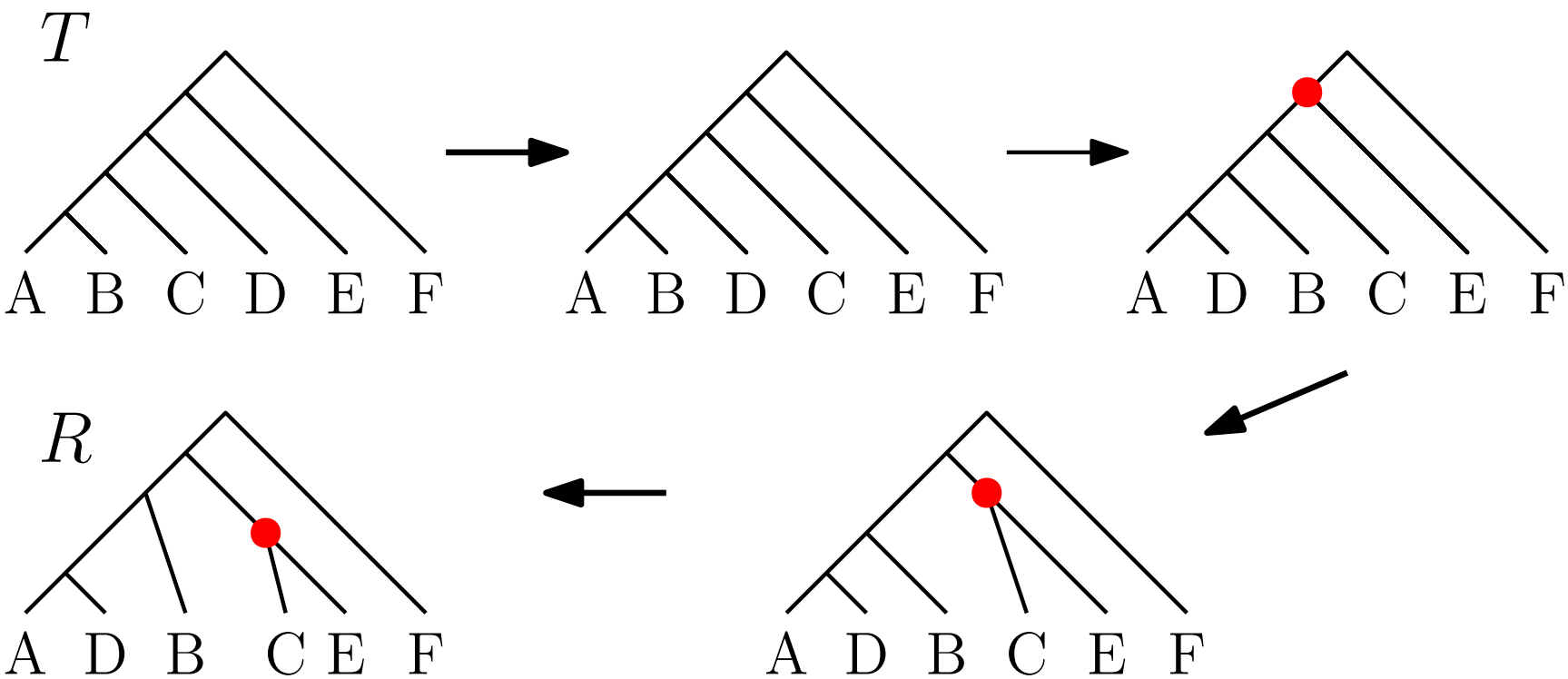
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