

Verifying Hex Strategies

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Thankyou . . .

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overview

- Hex proofs
- strategy trees
- excision
- combinatorial sum

Hex strategies

48 Nash $n \times n$ 1pw

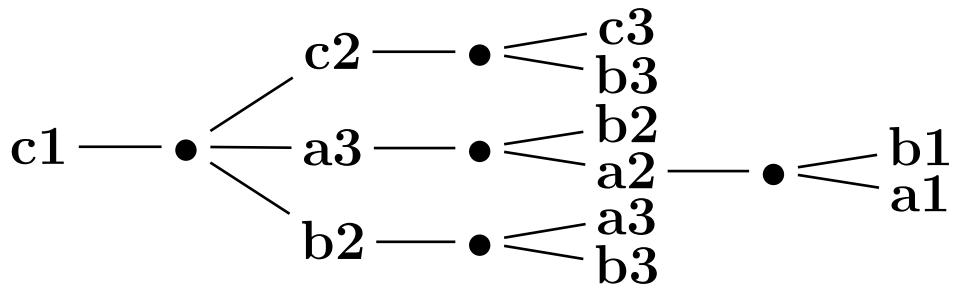
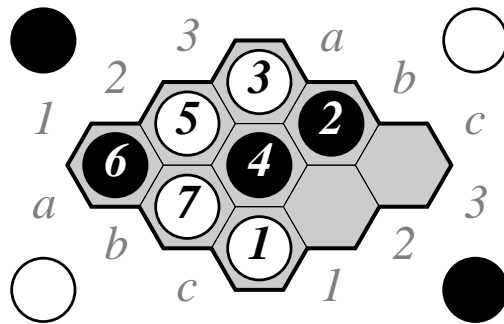
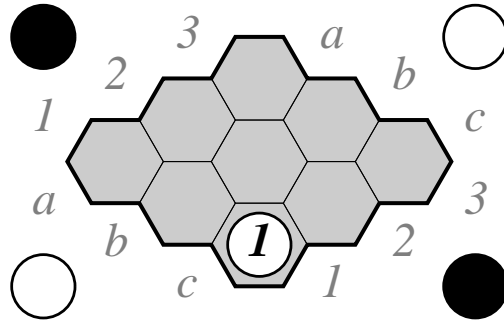
57 Gardner/Shannon $n \times (n - 1)$ 2pw

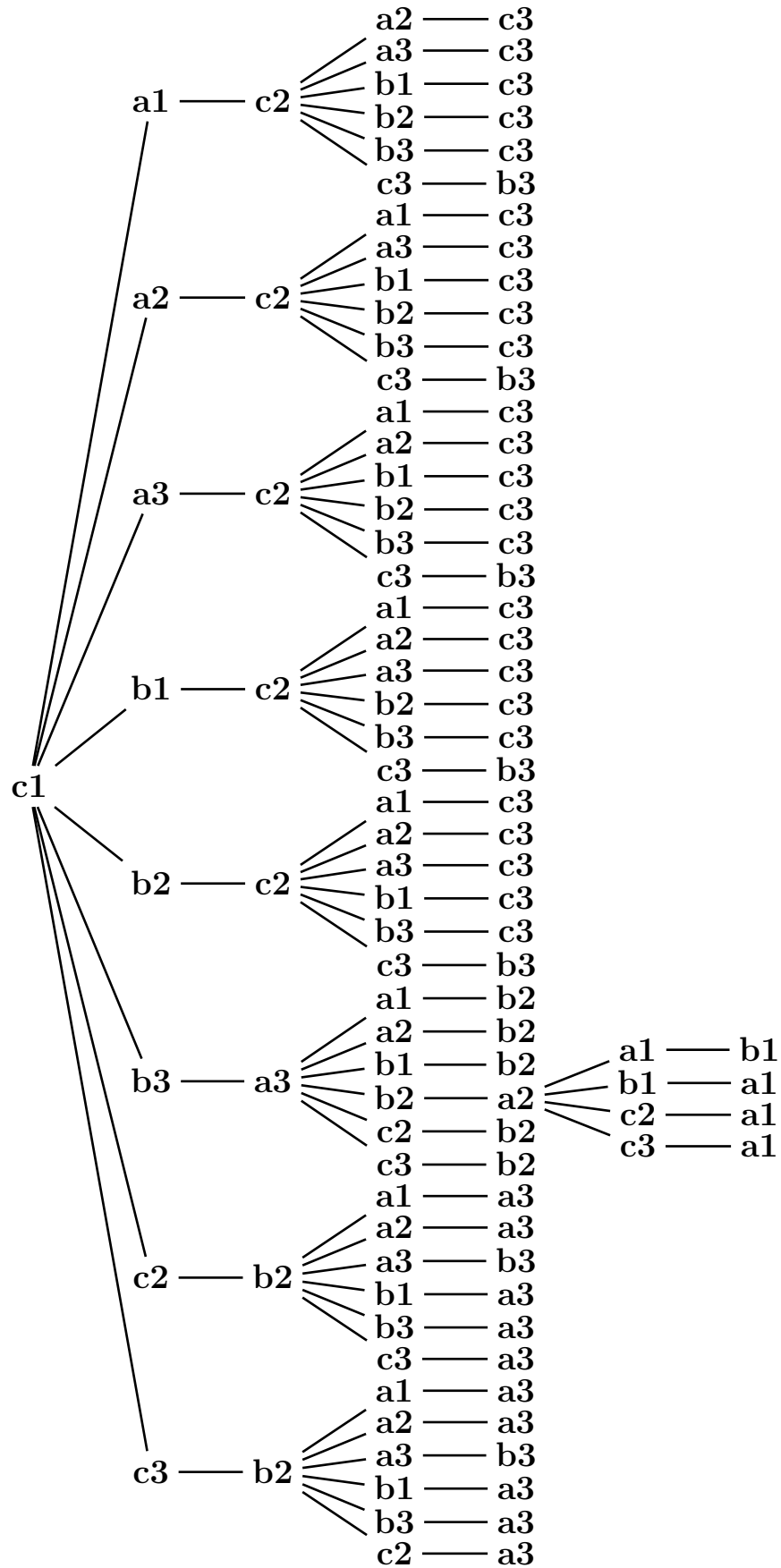
95/00 Enderton/Van Rijswijck 6×6

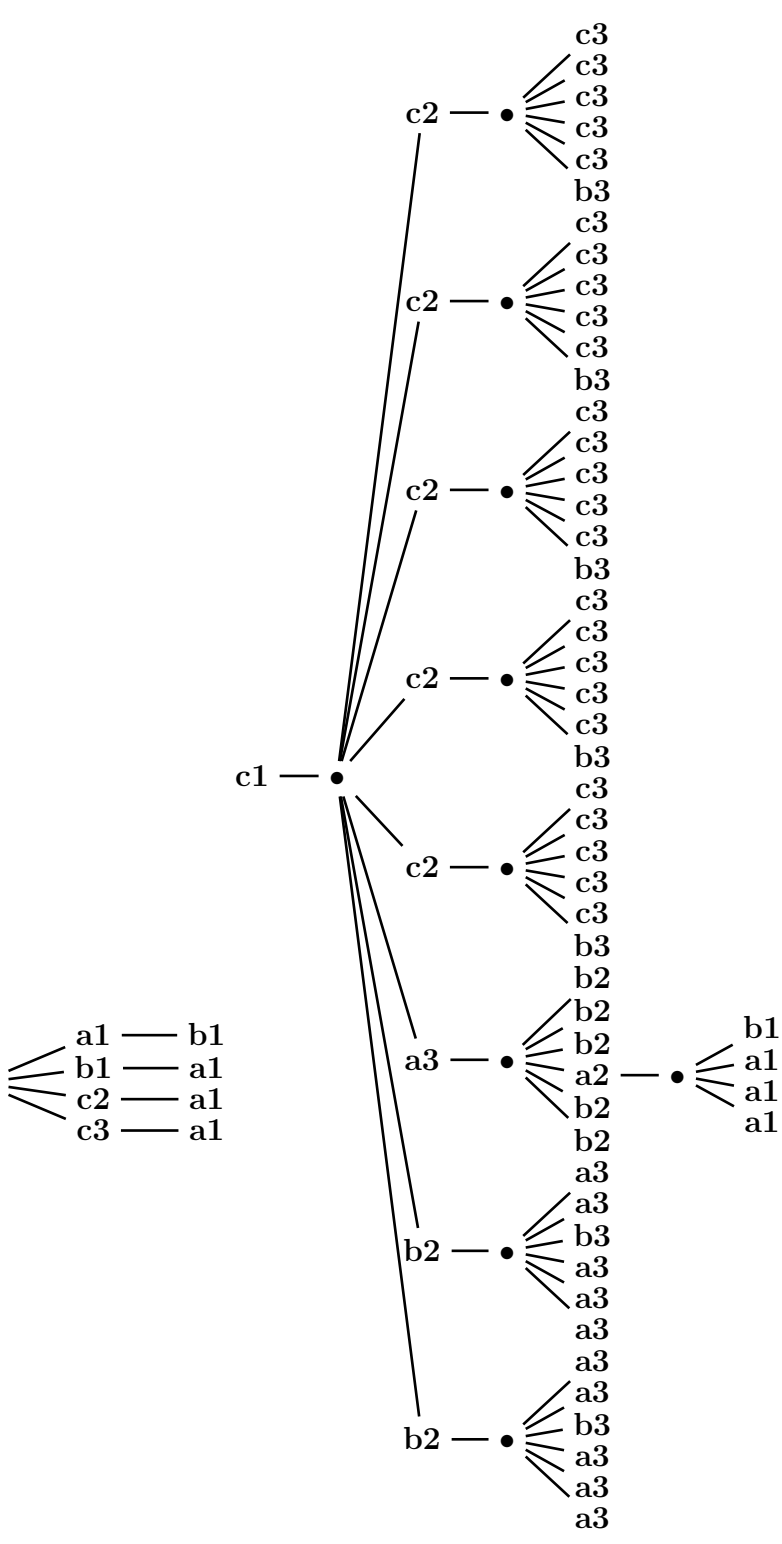
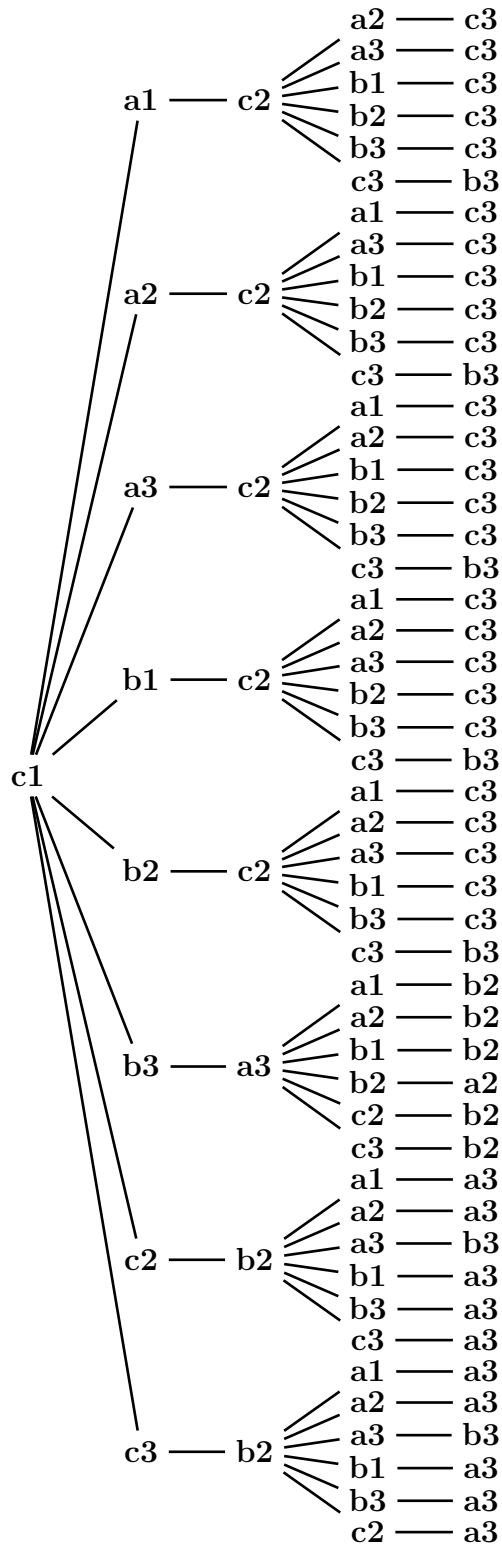
01-03 Yang/Liao/Pawlak $7 \times 7, 8 \times 8, 9 \times 9$

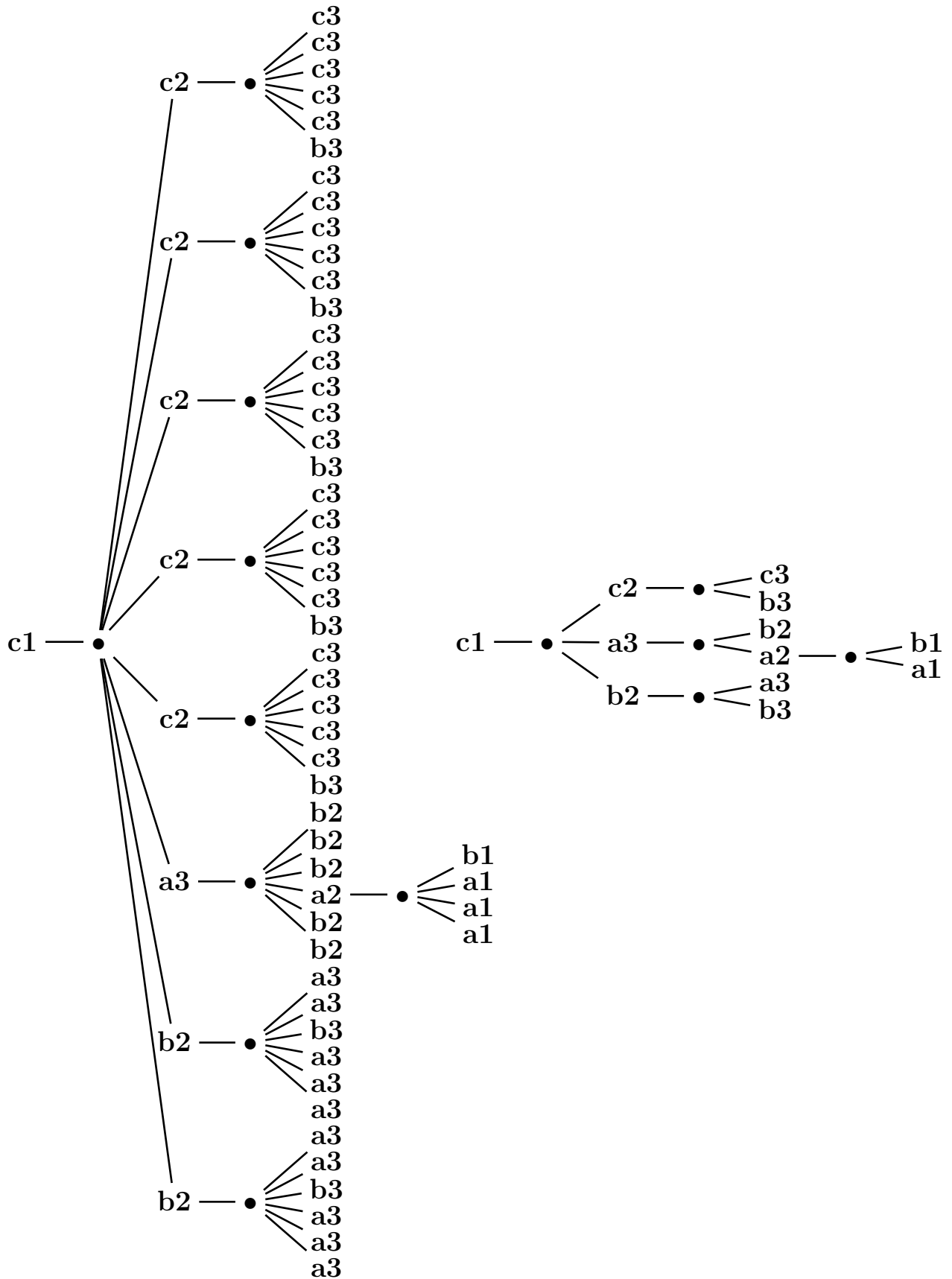
03 H/Björnsson/Johanson/Kan/
Po/VanRijswijck 7×7

04 Noshita $7 \times 7, 8 \times 8$









excised trees and winning strategies

- **valid tree**

- *each node is board cell*
- *no repeated cell on path to root*

- **satisfying tree**

- *valid*
- *each leaf satisfies win condition*

- **elusive subtree**

combined intersection of children's subtree cell sets is empty

- **elusive tree**

all induced subtrees elusive

- **winning strategy**

if and only if associated excised tree is elusive and satisfying