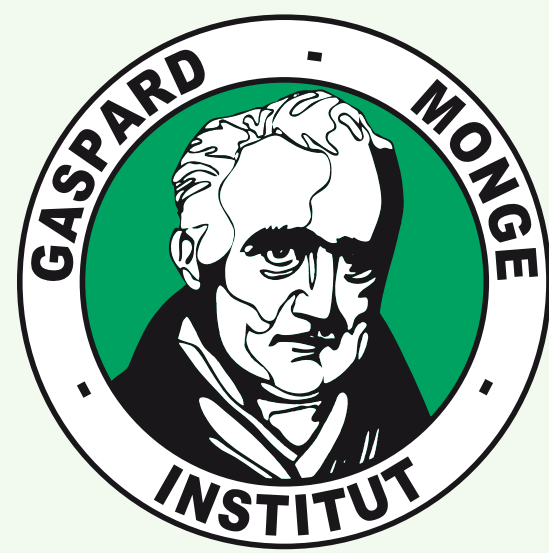
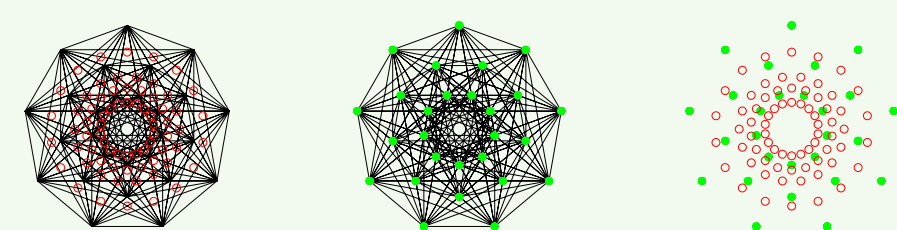
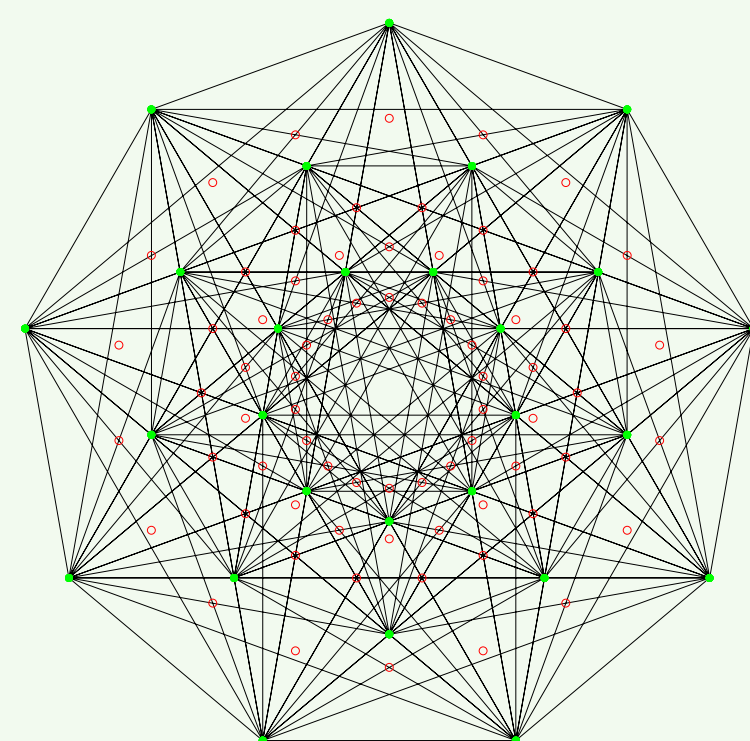


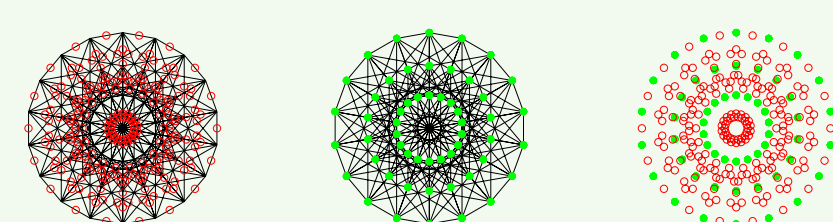
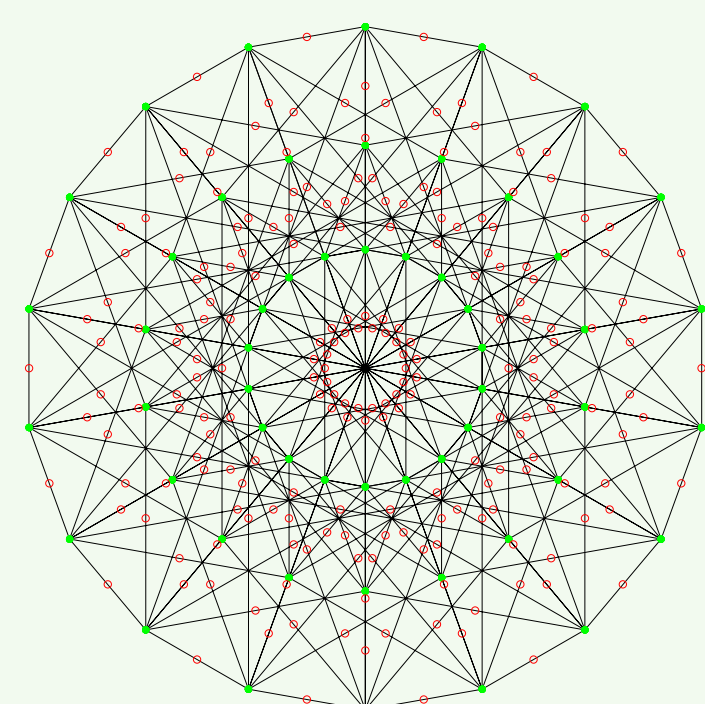


Algebraic combinatorics and symbolic computation

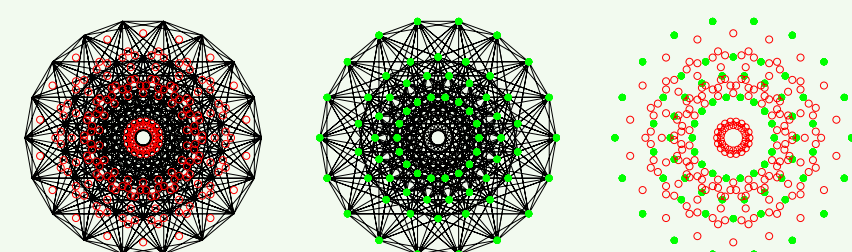
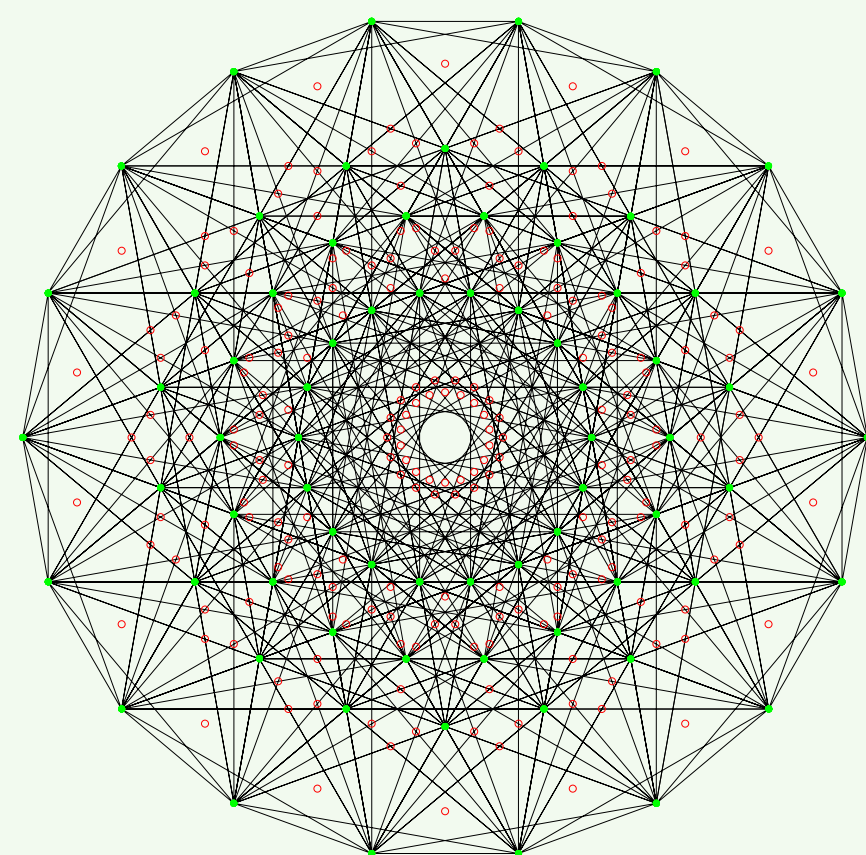
Hessen polyhedron



Polyhedron $2\{4\}3\{3\}3$



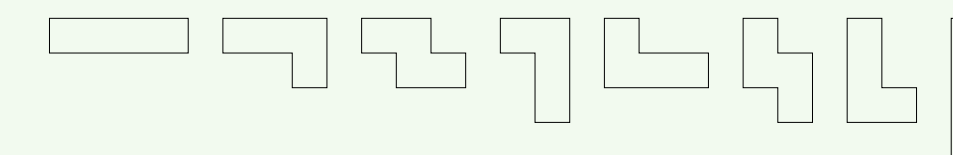
Polyhedron $3\{3\}3\{4\}2$



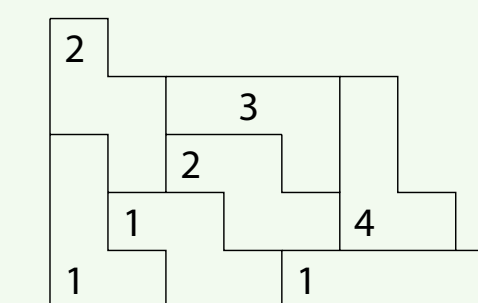
- *Interface between discrete mathematics and computer science (solving mathematical problems by computing research $\leftrightarrow$ finding new algorithms).*
- *Symbolic computation software : Maple/ACE, MuPAD/Combinat.*
- *Permutations, partitions, tableaux, symmetric functions : combinatorics of classical groups, representation theory, invariant theory, quantum groups, Hecke algebras, Schubert polynomials.*
- *Applications : statistical physics, quantum information, communications, ...*

Ribbons tableaux

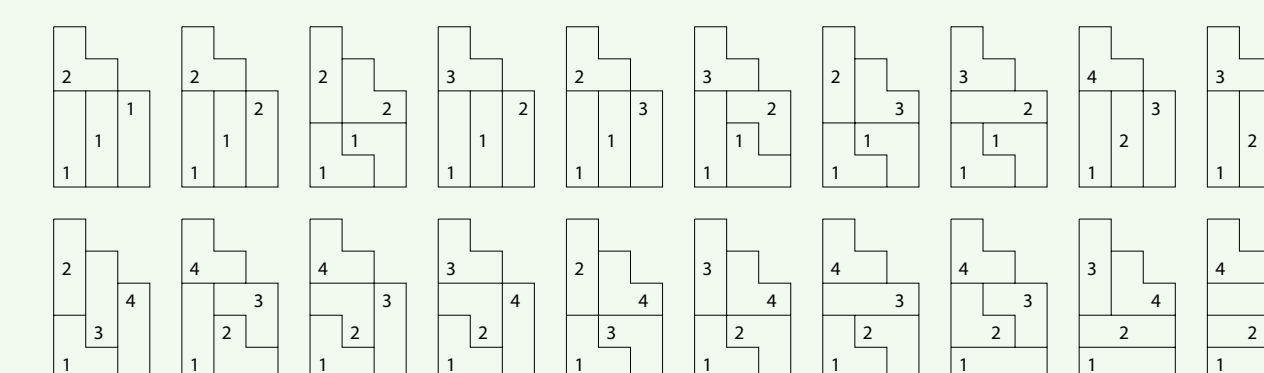
All ($2^3 = 8$) 4-ribbons



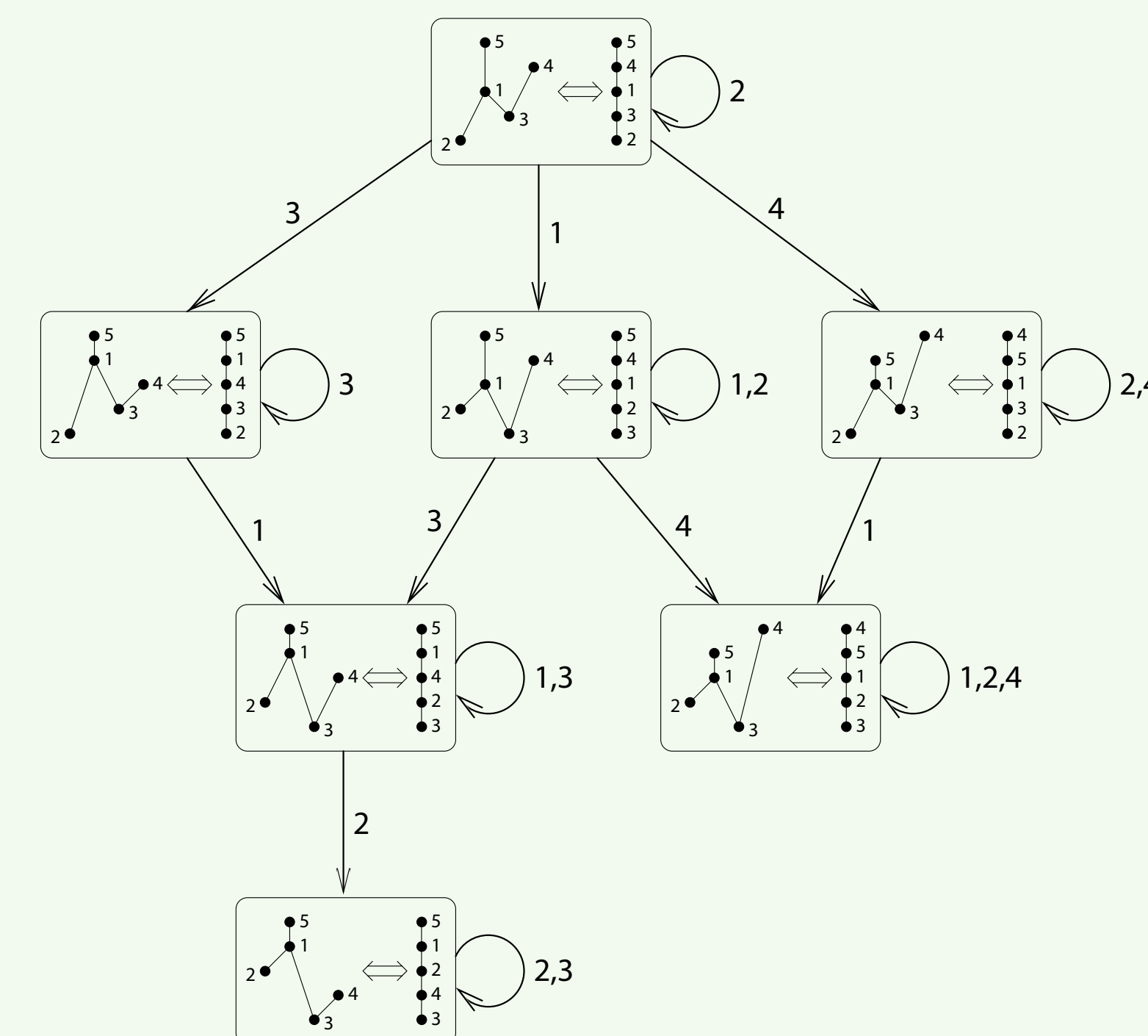
A ribbon tableau of shape (87661) and weight (3211)



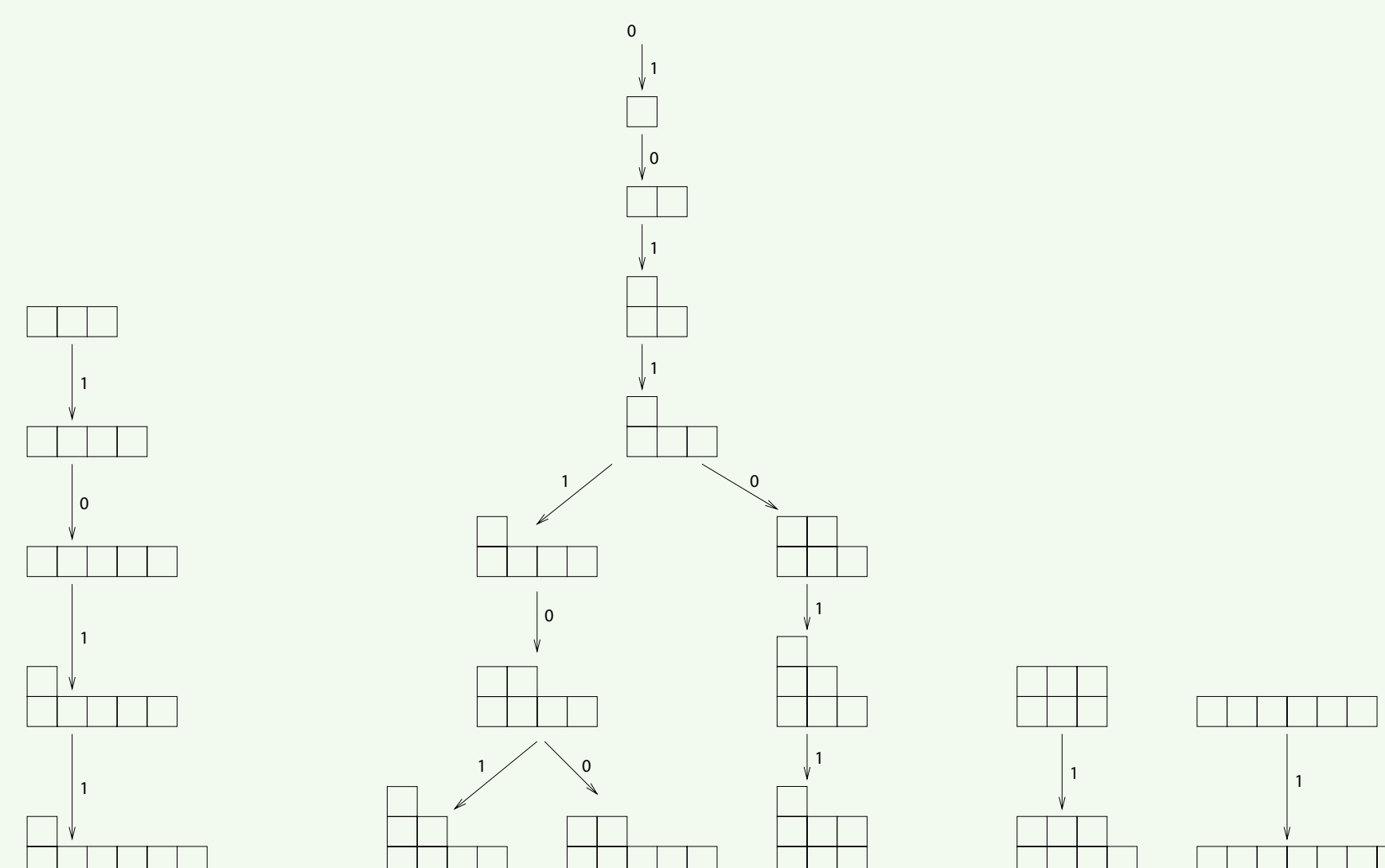
All 3-ribbon tableaux of shape (33321) and dominant weight



A representation of $H_5(0)$



Cristal graph of $\mathcal{F}_q$ of $A_2^{(2)}$



Contact : Jean-Yves.Thibon@univ-mlv.fr