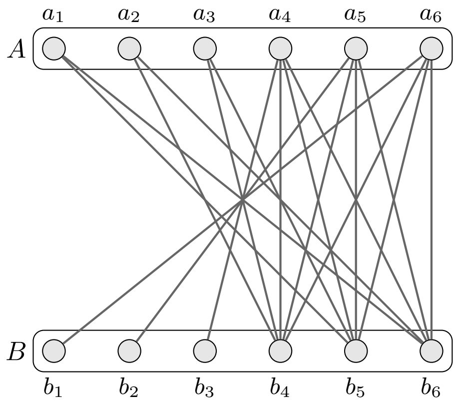
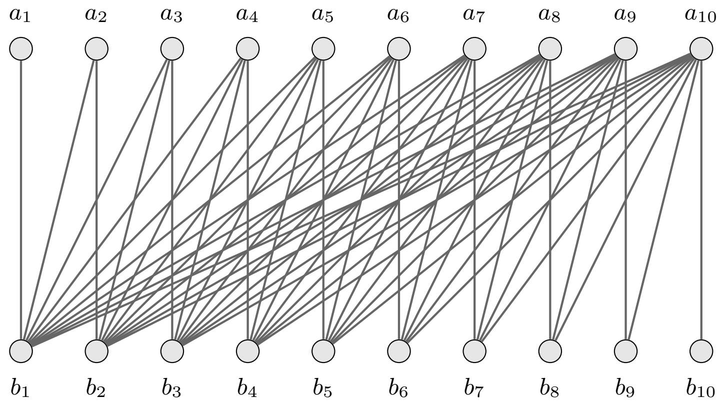


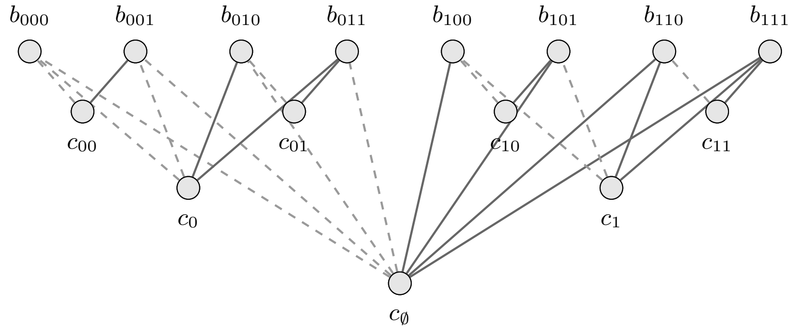
	b_1	b_2	b_3	b_4	b_5	b_6
a_1	0	0	0	0	1	1
a_2	0	0	0	1	0	1
a_3	0	0	0	1	1	0
a_4	0	0	1	1	1	1
a_5	0	1	0	1	1	1
a_6	1	0	0	1	1	1

Figure 1: Example of the ϵ-excellence property not being monotonic. *On the left*, a bipartite graph with two independent sets A and B. A simple exhaustive check shows that A is $\frac{1}{5}$-excellent. On the other hand, raising the value of ϵ up to $\frac{2}{5}$ introduces a new $\frac{2}{5}$-good set B witnessing that A is not $\frac{2}{5}$-excellent, as half of the vertices of A have one truth value, and half the other. *On the right* is the corresponding bi-adjacency matrix.



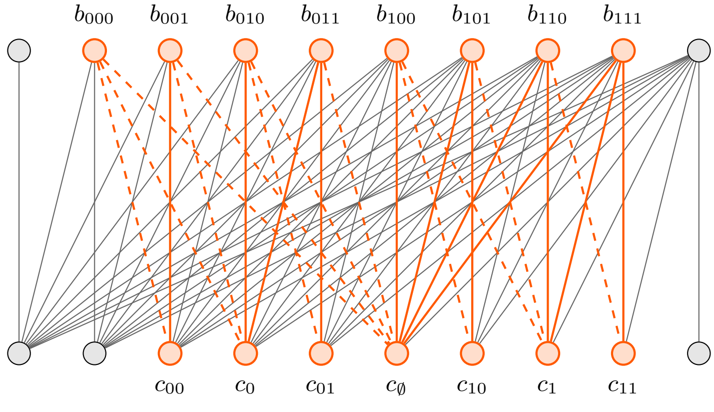
	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9	b_{10}
a_1	1	0	0	0	0	0	0	0	0	0
a_2	1	1	0	0	0	0	0	0	0	0
a_3	1	1	1	0	0	0	0	0	0	0
a_4	1	1	1	1	0	0	0	0	0	0
a_5	1	1	1	1	1	0	0	0	0	0
a_6	1	1	1	1	1	1	0	0	0	0
a_7	1	1	1	1	1	1	1	0	0	0
a_8	1	1	1	1	1	1	1	1	0	0
a_9	1	1	1	1	1	1	1	1	1	0
a_{10}	1	1	1	1	1	1	1	1	1	1

Figure 2: *On the left*, a half-graph with 2×10 vertices. *On the right*, the corresponding bi-adjacency matrix.



	c_{00}	c_0	c_{01}	$c_\emptyset$	c_{10}	c_1	c_{11}
b_{000}	0	0	-	0	-	-	-
b_{001}	1	0	-	0	-	-	-
b_{010}	-	1	0	0	-	-	-
b_{011}	-	1	1	0	-	-	-
b_{100}	-	-	-	1	0	0	-
b_{101}	-	-	-	1	1	0	-
b_{110}	-	-	-	1	-	1	0
b_{111}	-	-	-	1	-	1	1

Figure 3: *On the left*, example of a 3-tree. Solid lines show adjacent vertices, and dashed lines show non-adjacent vertices. Pairs of vertices without a line may or may not be connected. In particular, notice that connections between disjoint sub-trees are not defined, and may be edges or non-edges in any combination (e.g. the pair (c_1, c_{01})). *On the right*, the corresponding bi-adjacency matrix.



			c_{00}	c_0	c_{01}	$c_\emptyset$	c_{10}	c_1	c_{11}	
	1	0	0	0	0	0	0	0	0	0
b_{000}	1	1	0	0	0	0	0	0	0	0
b_{001}	1	1	1	0	0	0	0	0	0	0
b_{010}	1	1	1	1	0	0	0	0	0	0
b_{011}	1	1	1	1	1	0	0	0	0	0
b_{100}	1	1	1	1	1	1	0	0	0	0
b_{101}	1	1	1	1	1	1	1	0	0	0
b_{110}	1	1	1	1	1	1	1	1	0	0
b_{111}	1	1	1	1	1	1	1	1	1	0
	1	1	1	1	1	1	1	1	1	1

Figure 4: *On the left*, example of a 3-tree in a half-graph with 2×10 vertices. Orange lines and nodes highlight the 3-tree structure, with dashed orange lines remarking the relevant non-edges. *On the right* is the corresponding bi-adjacency matrix. Again, orange cells highlight edges relative to the 3-tree structure.