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.
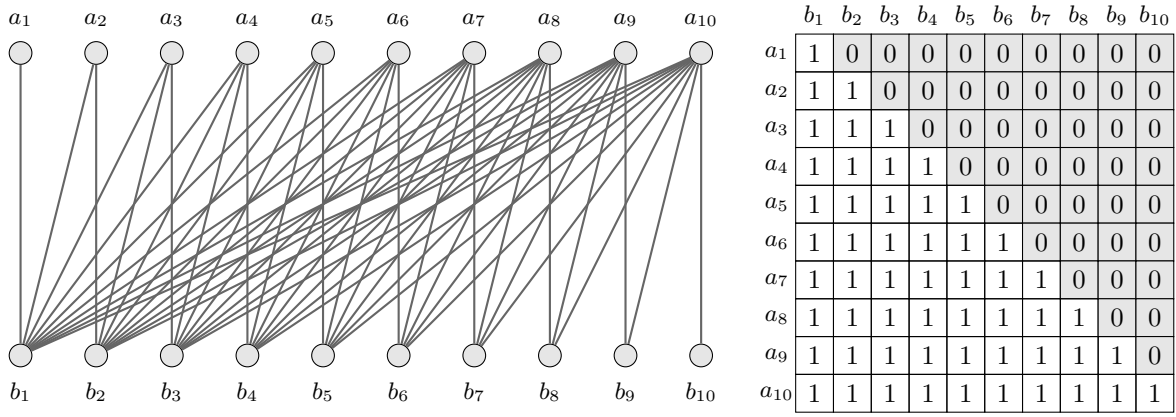

Figure 2: *On the left*, a half-graph with 2×10 vertices. *On the right*, the corresponding bi-adjacency matrix.

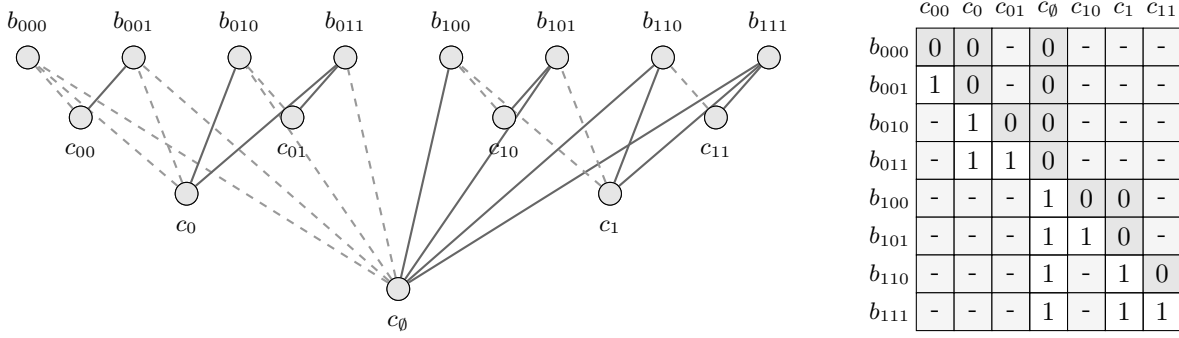|	c_{00}	c_0	c_{01}	$c_\emptyset$	c_{10}	c_1	c_{11}
b_{000}	0	0	-	0	-	-	-
b_{001}	1	0	-	0	-	-	-
b_{010}	-	1	0	0	-	-	-
b_{011}	-	1	1	0	-	-	-
b_{100}	-	-	-	1	0	0	-
b_{101}	-	-	-	1	1	0	-
b_{110}	-	-	-	1	-	1	0
b_{111}	-	-	-	1	-	1	1

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.
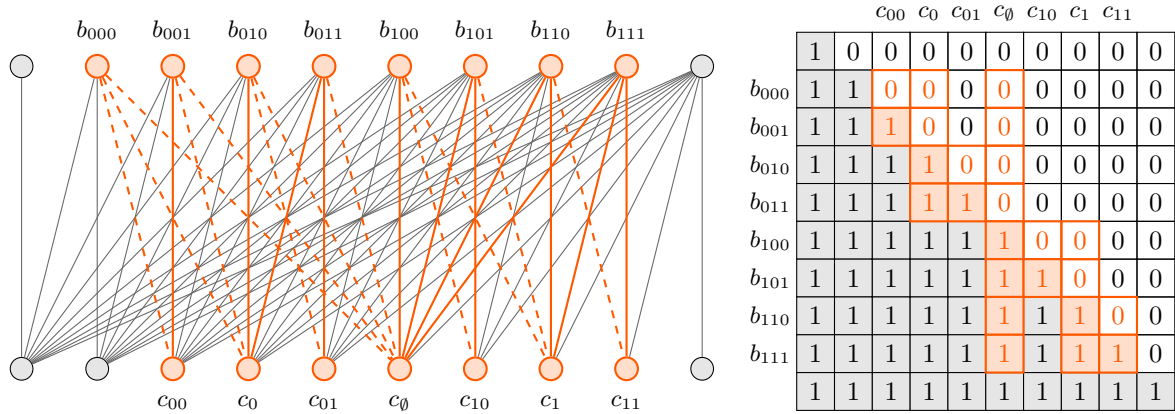

	c_{00}	c_0	c_{01}	$c_\emptyset$	c_{10}	c_1	c_{11}			
	1	0	0	0	0	0	0	0	0	0
b_{000}	1	1	0	0	0	0	0	0	0	0
b_{001}	1	1	1	0	0	0	0	0	0	0
b_{010}	1	1	1	1	0	0	0	0	0	0
b_{011}	1	1	1	1	1	0	0	0	0	0
b_{100}	1	1	1	1	1	1	0	0	0	0
b_{101}	1	1	1	1	1	1	1	0	0	0
b_{110}	1	1	1	1	1	1	1	1	0	0
b_{111}	1	1	1	1	1	1	1	1	1	0
	1	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.
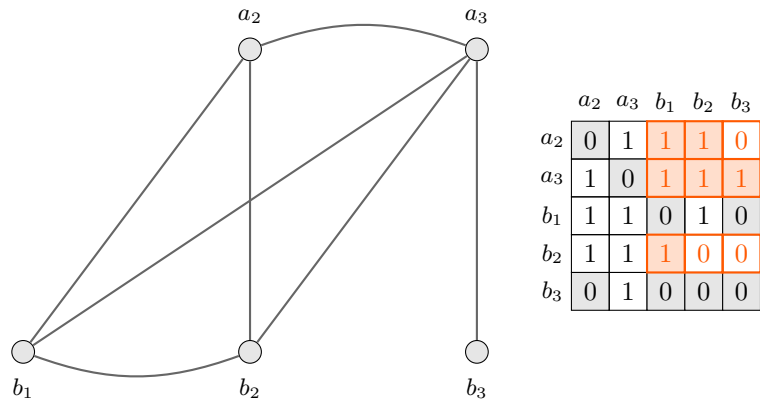
Figure 5: *On the left*, an example of a graph smaller than a 3×3 half-graph that for which no induced copies can be found in a 3-stable graph. It is basically a 3×3 half-graph in which a_1 and b_2 are the same vertex, and an edge is added between a_2 and a_3. *On the right*, the corresponding adjacency matrix. Orange cells highlight edges relative to the 3-order structure