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18.08.2021

Corrigendum of the manuscript Bioinformatics, btab277, https://doi.org/10.1093/bioinformatics/btab277 (Manuscript ID: BIOINF-2020-1640)

Capturing dynamic relevance in Boolean networks using graph theoretical measures

While working on a further project, we recognized a bug in the calculation of the number of network motifs that we would like to report.
As a consequence, the corresponding numbers stated in the main article and two supplementary figures changed. However, the recalculated number of motifs did not affect any conclusion in the article.

In the following, we list the affected parts and their correction. The bug fix has already been uploaded in the repository connected to the manuscript (https://github.com/sysbio-bioinf/BNStatic).

Corrections in the main article

Section 3.2, page 4:
"Therefore, we investigated the frequency of participation of nodes in coherent and incoherent feedforward loops (C1FFL and I1FFL), as well as the bifan motif. Among our investigated BNs we found a total of 1086 C1FFLs, 112 I1FFLs and 1197 bifans. Around 80% of nodes that participate in each of these motifs fall also in the selected $VB_T \cap DP_T$ (Supplementary Fig. S7)."

Correction:
“Therefore, we investigated the frequency of participation of nodes in coherent and incoherent feedforward loops (C-FFL and I-FFL), as well as the bifan motif. Among our investigated BNs we found a total of 729 C-FFLs, 357 I-FFLs and 4788 bifans. Around 72% of nodes that participate in each of these motifs fall also in the selected $VB_T \cap DP_T$ (Supplementary Fig. S7).”

Corrections in the supplement

Supplement section 10.2, page 18:
“Given their relevance and stability as mentioned by (Albergante et al., 2014), we investigated feedforward loops (both the coherent C1FFL and the incoherent I1FFL) as well as the bifan. We counted the number of motifs of a given type a node participates in and plotted the distribution of these occurrences depending on their classification as shown in Figure S7. Across networks, there were a total of 1086 C1FFLs, 112 I1FFLs and 1197 bifans.”

Correction:
“Given their relevance and stability as mentioned by (Albergante et al., 2014), we investigated feedforward loops (both the coherent C-FFL and the incoherent I-FFL) as well as the bifan. We counted the number of motifs of a given type a node participates in and plotted the distribution of these occurrences depending on their classification as shown in Figure S7. Across networks, there were a total of 729 C-FFLs, 357 I-FFLs and 4788 bifans.”

Supplement Figure S7, page 19:

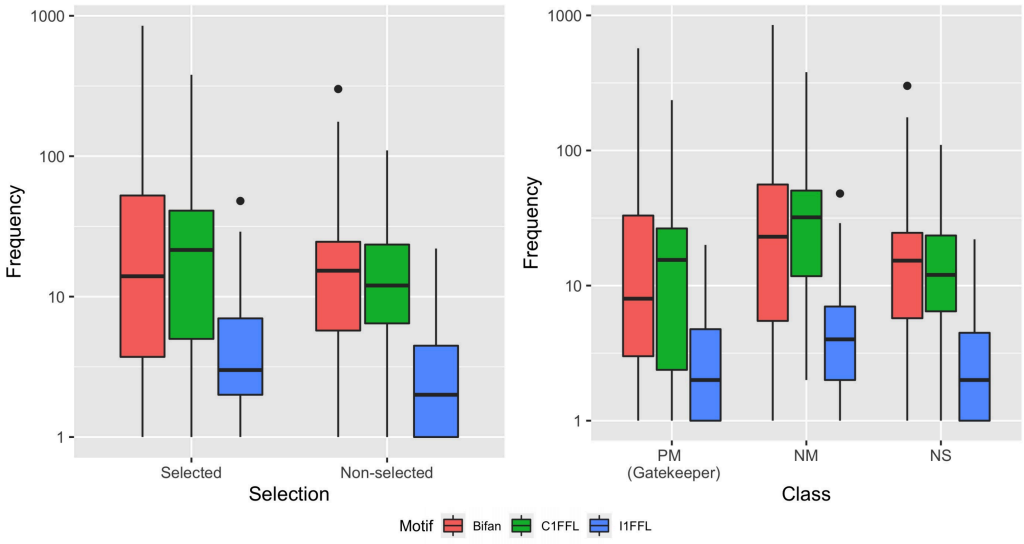

Figure S7: Number of motifs by network which selected (PM or NM) or non-selected (NS) nodes participate in, across all 35 networks (top). The number of motifs is further separated by class (bottom). Frequency is plotted on a logarithmic scale.

Correction:

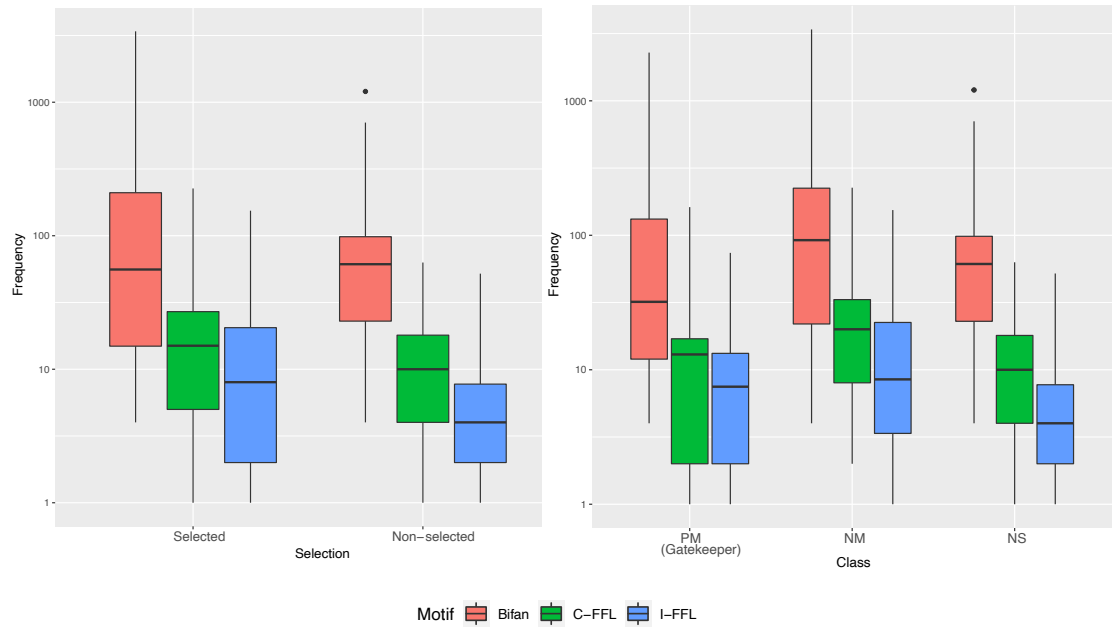

Figure S7: Number of motifs by network which selected (PM or NM) or non-selected (NS) nodes participate in, across all 35 networks (left). The number of motifs is further separated by class (right). Frequency is plotted on a logarithmic scale.

Supplement Figure S9, page 20:

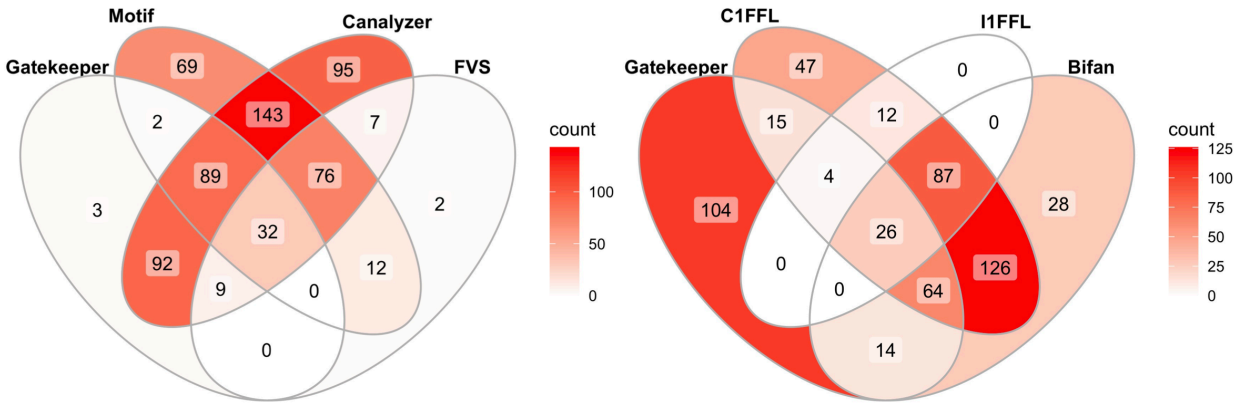

Figure S9: Venn diagrams showing the overlap between gatekeepers (227 in total), FVS nodes (138 in total), nodes which canalyse at least one Boolean function in their network (543 in total) and nodes which participate in at least one motif (423 in total) (left). The participation in motifs is further visualised as follows: 381 nodes participate in at least one C1FFL motif, 129 in at least one I1FFL and 345 in at least one Bifan (right).

Correction:

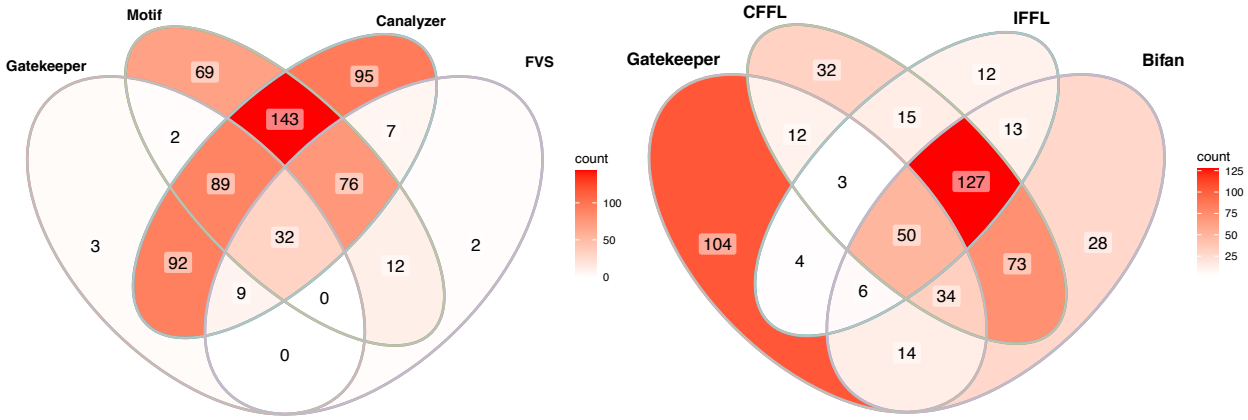

Figure S9: Venn diagrams showing the overlap between gatekeepers (227 in total), FVS nodes (138 in total), nodes which canalyse at least one Boolean function in their network (543 in total) and nodes which participate in at least one motif (423 in total) (left). The participation in motifs is further visualised as follows: 346 nodes participate in at least one C-FFL motif, 230 in at least one I-FFL and 345 in at least one Bifan (right).