Box 1. Reproducibility scorecard

1. Are the mathematical expressions described in the manuscript/supplementary material?

2. Are the parameters and entity initial levels listed (as a table) in the manuscript/supplementary material?

3. Are simulation conditions including software/programming environment, algorithm, changes in parameters/concentration/states and any data normalization described under each simulation figure or attached as a supplementary material?

4. Are the model code(s) for the mathematical expression and simulation shared publicly?

5. Are the model codes available in standard formats such as SBML, COMBINE archive, SED-ML and are syntactically validated?

6. Are the model codes deposited in a relevant open model database?

7. Are the model codes well documented to unambiguously identify model entities/variables? (with additional annotation of reactions, mathematical expressions, events, conditions, etc. when relevant.)

   Are the models in standard formats such as SBML and COMBINE Archive are semantically enriched, i.e. annotated with controlled vocabularies such as Gene Ontology and ChEBI and database resources such as Gene Ontologies?

8. Are the numerical results shared publicly along with the model codes?

   Total Score (out of 8)

Table 2: Reproducibility scorecard proposed by Tiwari et al. (2021).