Response Letter

The authors would like to thank the reviewers for their helpful comments. We have carefully considered each review and our responses are given below. We highlighted the changes we made to the manuscript in blue for the reviewers' convenience.

Reviewer 1:

- **Missing references**

  The authors have addressed this issue by providing corresponding references.

- **If space permits, maybe the authors could also provide a bit more details about what the false positives and false negatives mean in this context.**

  On page 7 we added an example to describe a case where false-positives can occur.

- **The paper would benefit if the authors could add a short conclusion section to recapitulate the main achievements and benefits of the proposed framework.**

  We totally agree. Therefore we added a short conclusion section in the end.

- **Grammar issues**

  The authors have addressed these issues by correcting them.

Reviewer 2:

- **Sections 5 and 6 lack in sufficient details and the presentation of Section 7 could be improved.**

  We expanded the abstraction tree discussion with a specific example of a rule (rule R4) and its effect on the heart models.

  We expanded the UPP2SF discussion by explaining the mapping from timed automata to StateFlow models and summarizing the guarantees provided by this translation.

  Section 7 was made more concise.

- **Minor comments**

  The authors have addressed these issues by correcting them. In particular, we added a Conclusion.