Responses to the comments

We are grateful to the reviewers for their critical and constructive comments, which are essential for us to improve the clearness and quality. We tried our best to address all the reviewers' concerns. The reviewers' original comments are in black while our responses are highlighted in blue.

Reviewer #1:

1. Was the primary objective only for early stage?

Our primary objective was to not only focus on early pancreatic cancer but also to gather additional molecular information by analyzing the differential expression of sugar chains, aiming to enhance the accuracy of staging diagnosis. The experimental findings further validated the superior diagnostic performance of our model in detecting early pancreatic cancer.

2. Was the study adequately powered to evaluate the early stage PDAC, given that it included only 51 out of 88 subjects?

The sample size of our study is relatively larger. The study cohort comprised 93 patients with PDAC, 64 benign pancreatic disease patients, and 88 healthy subjects as control.

3. Why other stages were included?

Firstly, the present study aims to ascertain the suitability of the employed model for early pancreatic cancer diagnosis by conducting a comprehensive analysis of the variations in sugar chain expression between early-stage and more advanced pancreatic cancer. Secondly, the inclusion of other stages in the investigation serves to validate the precision and reliability of the aforementioned diagnostic model.

4. What were the faetures of false negative cases?

The present study involved an examination of tumor marker expression in a subset of false negative cases, revealing that 42.8% of patients exhibited elevated CA19-9 expression, while 21.4% displayed heightened CEA

expression and an additional 21.4% demonstrated increased CA242 expression. Consequently, our model serves as a valuable adjunct to the current array of tumor markers.