

Dear Dr./Prof. Ze-Mao Gong,

Thank you very much for your decision letter and advice on our manuscript (Manuscript 37474) entitled “GC-MS-based metabolomic study in a murine model of irritable bowel syndrome”. We would also like to thank the reviewers for their constructive and positive comments and suggestions. Accordingly, we have revised the manuscript. All amendments are highlighted in red in the revised manuscript. In addition, point-by-point responses to the comments are listed below this letter. This revised manuscript has been edited and proofread by *Medjaden Bioscience Limited*. We hope that the revision is acceptable for publication in your journal. We look forward to hearing from you soon. Yours sincerely,

Lei-min Yu

Point-to-point responses

First of all, we would like to express our sincere gratitude to the reviewers for their constructive and positive comments.

Replies to Reviewer 1

Specific Comments

1.A very nice study demonstrated the potential of metabolomic studies to provide new insights into the etiology of IBS. Supplementation with probiotics may provide great future prospects for the treatment of IBS

Response: Thank you very much for your positive comments.

Replies to Reviewer 2

Specific Comments

1.The present study addresses a relevant theme - the possible influence of microbiota composition - on the pathophysiological mechanisms of functional digestive diseases, such as

IBS. The study presents an adequate methodology through a well-designed experimental model. However, I suggest that the discussion underscore the complexity of the pathophysiological mechanisms of IBS including the biopsychosocial model, strongly present in human disease

Responses: Thank you very much for your insightful suggestions. Accordingly, several statements have been included in the Discussion section (Page 16, Lines 8-14) of the revised manuscript.