Reviewer’s report

**Title:** The 1H NMR Serum Metabolomics Response to a Two Meal Challenge: a Cross-Over Dietary Intervention Study in Healthy Human Volunteers.

**Version:** 0  **Date:** 22 May 2018

**Reviewer:** Iolanda cioffi

**Reviewer’s report:**

This study explores a different approach to assess the postprandial metabolic response following two different meals. Overall, the manuscript is well written and easy to follow. The discussion is well focused on results, comparing them with the current literature and supporting the use of metabolomics as a key tool in the search for new biomarkers of dietary intake. However, I would suggest further information on study design and macronutrient characteristics of the two breakfasts, even though they were previously described.

I have included some questions and comments below.

**Major comments:**

1. Time for test breakfast was from 7.30 up to 9.30 (Figure 1), but did participants have a specific range of time for completing their breakfast? If yes, how much time? Please add some information in the text

2. They are instructed to follow some instruction for standardizing all procedures (lines 52-56; lines 1-4 of study design), did you check their compliance on the day before and then during the intervention? If yes, How?

3. Did you instruct participants for specific restriction at lunch? Please add

**Minor points and comments:**

**Background:**

Please change "equicaloric" with "isocaloric" through the text

Lines 45-46: This sentence is repetitive, please revise the paragraph

**Materials and methods**

Lines 18-19: please add a reference or a description for the lifestyle questionnaire
Line 47: Could be useful to add at least the amount of energy and macronutrients for the two breakfasts.

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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