

# EFFECTS OF *ALOE BARBADENSIS* MILL. ON SYMPTOMS, FECAL MICROBIOTA AND METABOLITE PROFILES IN PATIENTS WITH IRRITABLE BOWEL SYNDROME

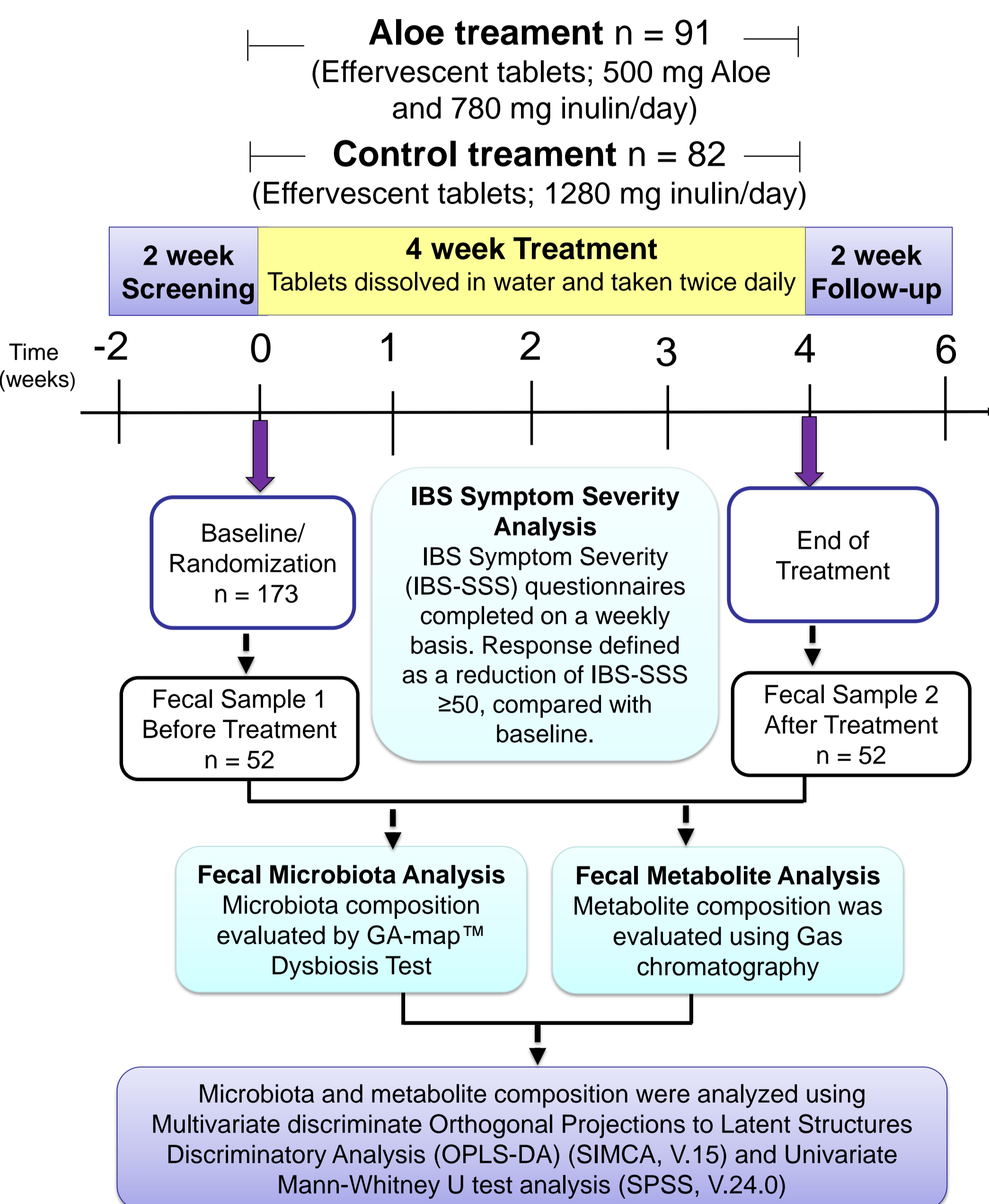
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## BACKGROUND & AIM

*Aloe barbadensis* Mill. (Aloe) with potential prebiotic effects has been suggested to reduce symptoms in patients with irritable bowel syndrome (IBS). We therefore aimed to determine the effects of an Aloe extract, on symptoms, fecal microbiota and metabolite profiles in patients with IBS, in a randomized, double-blind, controlled study.

## METHODS



## RESULTS

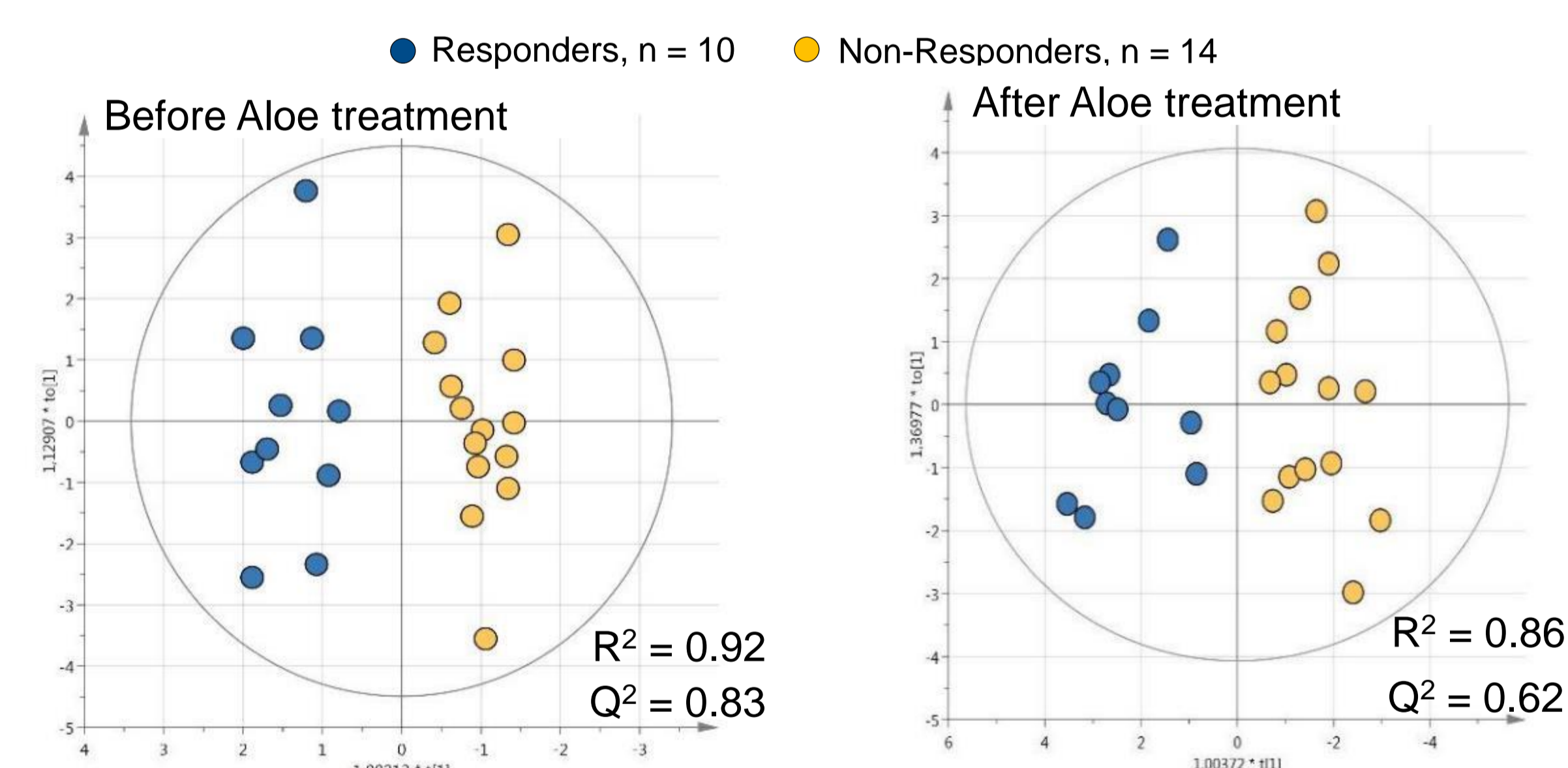
**Table 1. Effect of the Aloe and Control treatment on IBS-SSS and Bowel Habit in 160 patients who completed the study**

	Aloe group				Control group				P value between intervention groups
	n	Baseline	End of Treatment	P value within group	n	Baseline	End of Treatment	P value within group	
IBS-SSS Total Score <sup>#</sup>	84	244 ± 69.2	213.1 ± 85.8	< 0.001	76	232.3 ± 80.3	193.2 ± 86.1	< 0.001	0.45
IBS-SSS IBS-D group <sup>#</sup>	21	260.2 ± 82.5	222.3 ± 104.4	0.003	22	212 ± 86.1	184.8 ± 88.7	0.12	0.37
Bowel Habit <sup>#</sup>	84	70 (52 – 87.8)	60.5 (41.3 – 81)	0.001	76	69.5 (46.5 – 85)	66 (46 – 79.8)	0.17	0.43

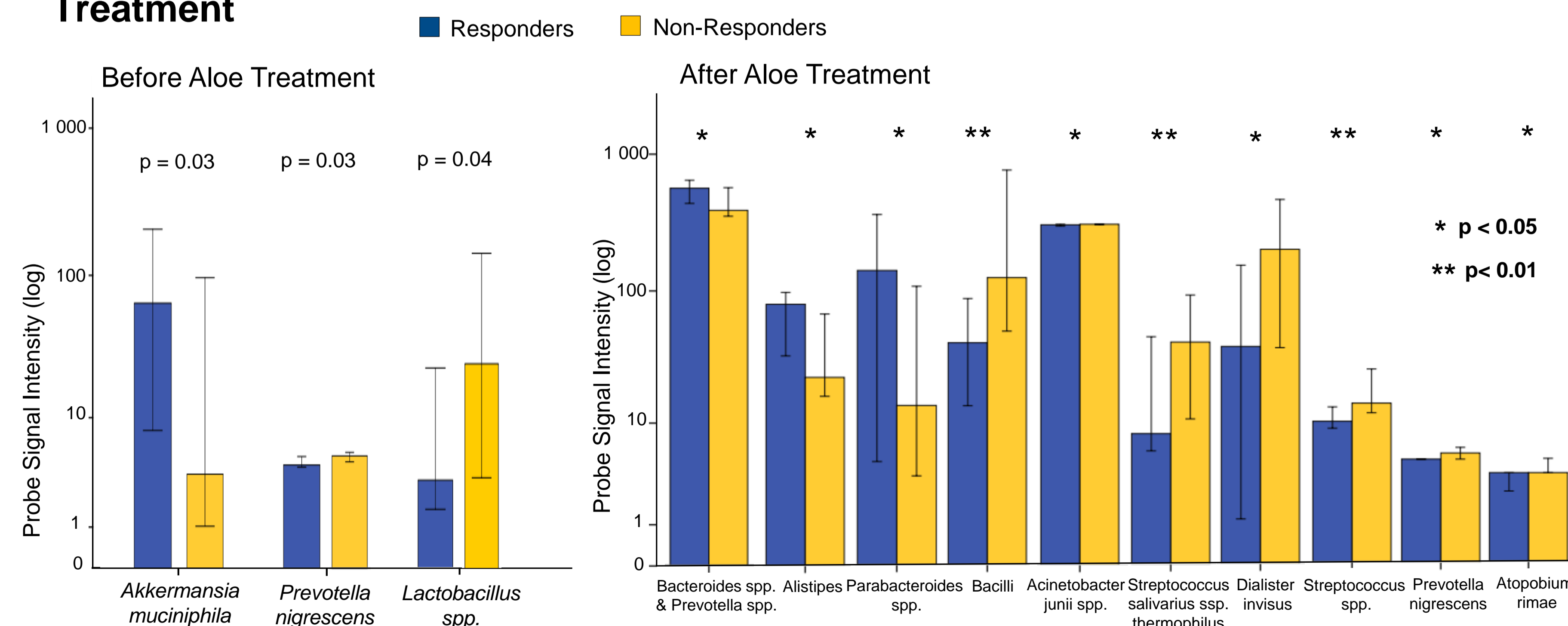
<sup>#</sup>Analyzed using t test analysis (mean ± SD). <sup>#</sup>Analyzed using non-parametric statistical analysis (median (25-75<sup>th</sup> percentile); Based on normality distribution.

The overall severity of IBS symptoms was reduced in patients receiving both treatments. The frequency of responders (IBS-SSS reduction  $\geq 50$ ) did not differ between the two treatment groups (p = 0.26).

## Fecal microbiota profile differed between Responders and Non-Responders both before and after the Aloe Treatment

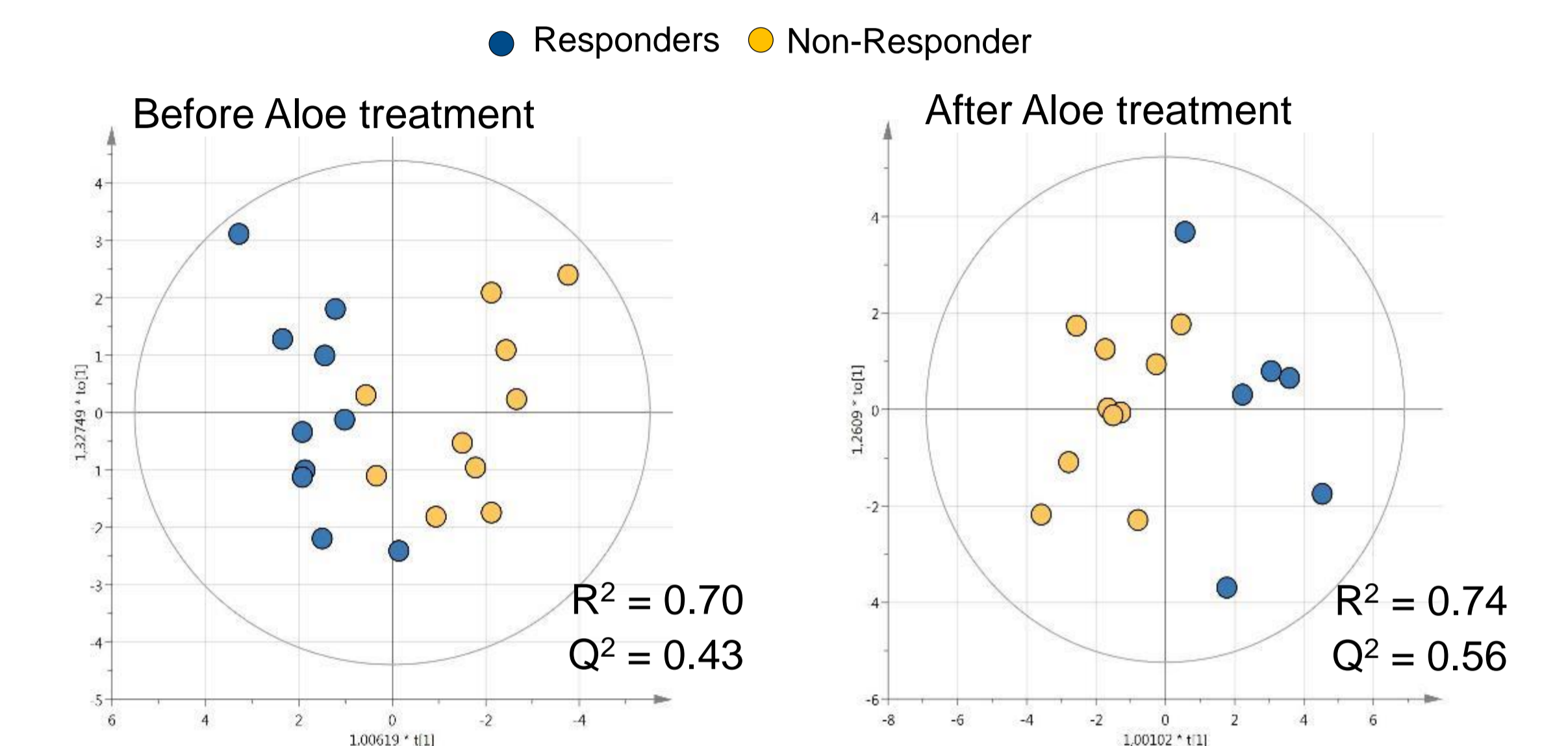


## Bacterial targets differing between Responders and Non-Responders to the Aloe Treatment

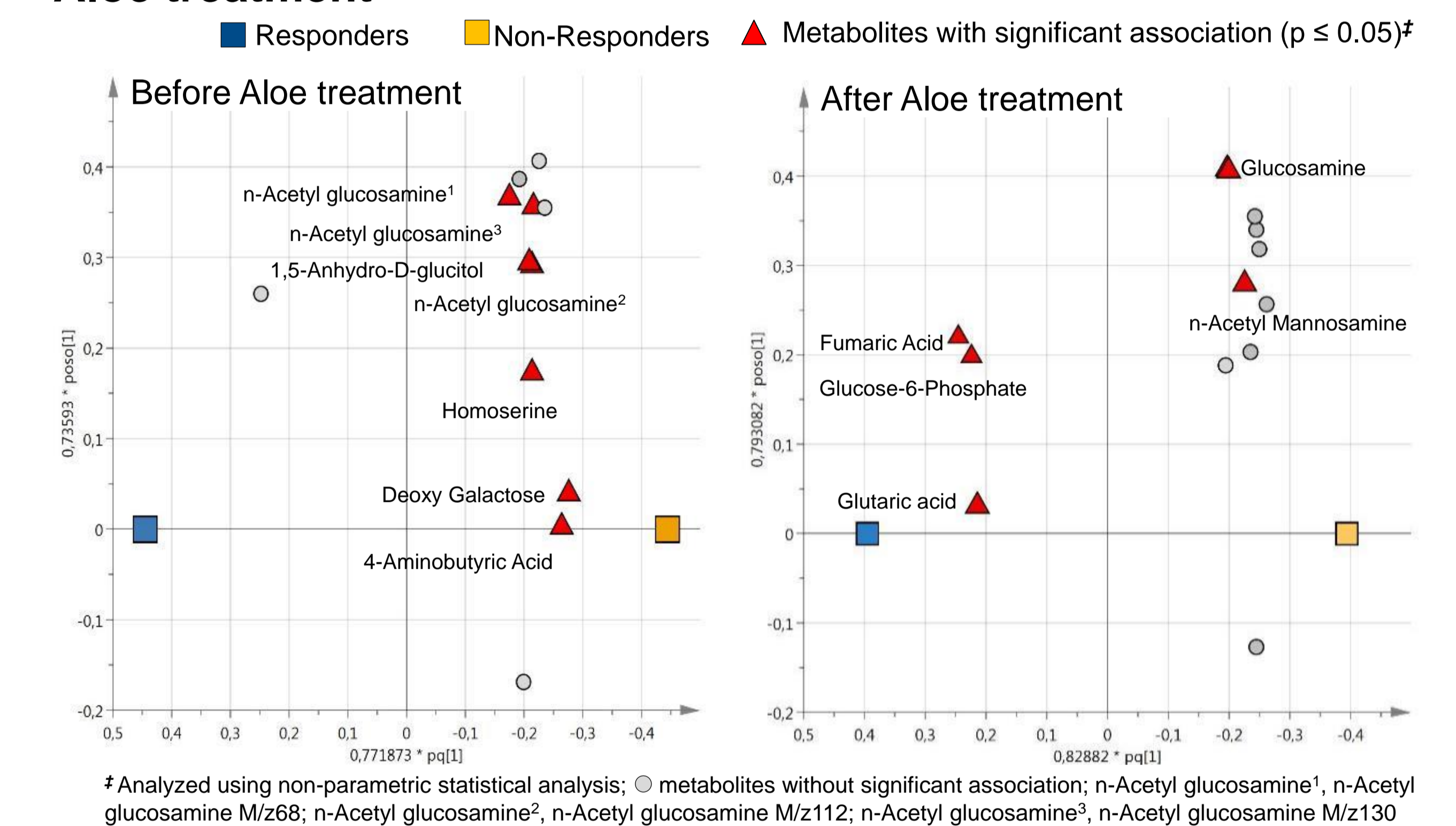


## RESULTS

### Fecal metabolite profile differed between Responders and Non-Responders both before and after the Aloe Treatment



### Metabolites differing between responders and non responders to the Aloe treatment



In the control group, the fecal microbiota (n = 28) and metabolite (n = 20) profiles did not differ between responders and non-responders, neither before or after the treatment.

**CONCLUSION: Aloe extract has potential symptom reducing effects in IBS-D patients. Further, fecal microbiota and metabolite profiles may help predict IBS patients' responsiveness to aloe extract.**