

1 **β-Thalassemia Patients Revealed a Significant Change of Untargeted**
2 **Metabolites in Comparison to Healthy Individuals**

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4 Syed Ghulam Musharraf,^{a,b,*} Ayesha Iqbal,^b Saqib Hussain Ansari,^c Sadia Parveen,^c Ishtiaq
5 Ahmad Khan,^b and Amna Jabbar Siddiqui^a

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7 *^a H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological*
8 *Sciences, University of Karachi, Karachi-75270, Pakistan*

9 *^b Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for*
10 *Chemical and Biological Sciences, University of Karachi, Karachi-75270, Pakistan*

11 *^c Department of Pediatric Hematology & Molecular Medicine, National Institute of Blood*
12 *Diseases and Bone Marrow Transplantation, Karachi-75300, Pakistan*

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38 * Corresponding author. Tel.: +92 21 34824924-5; 34819010; fax: + 92 21 34819018-9.
39 *E-mail address:* musharraf1977@yahoo.com
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41 **Table S1:** Age, gender and weight of healthy normal subjects and β -thalassemia patients
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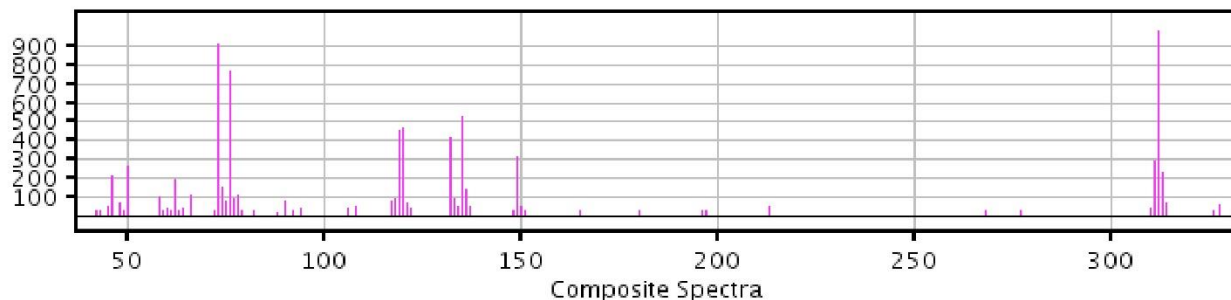
S. No.	Parameter	β-Thalassemia Patients (n=100)	Healthy (n=61)
1.	Gender (Male/Female)	51/49	29/33
2.	Age (years)	9.13 \pm 6.91	18.73 \pm 7.93
3.	Weight (kgs)	22.41 \pm 12.91	47.375 \pm 16.34

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46 **Figure S1:** The EI/MS spectra of unidentified compounds that are statistically differentially expressed
47 between controls and β -thalassemia patients.

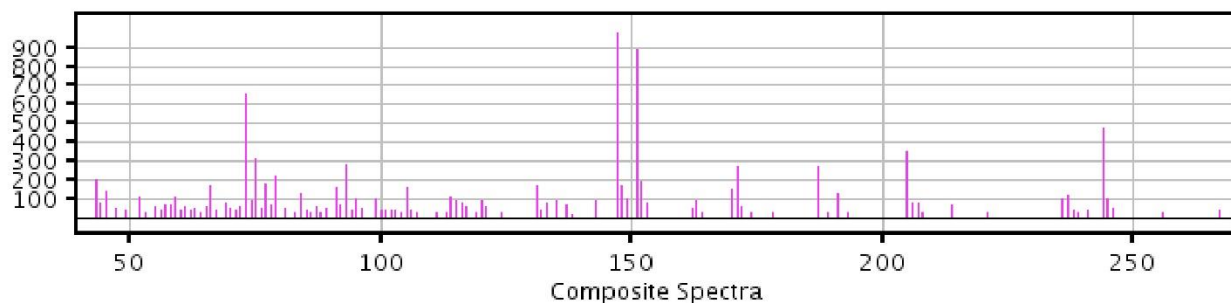
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312.0@21.099983



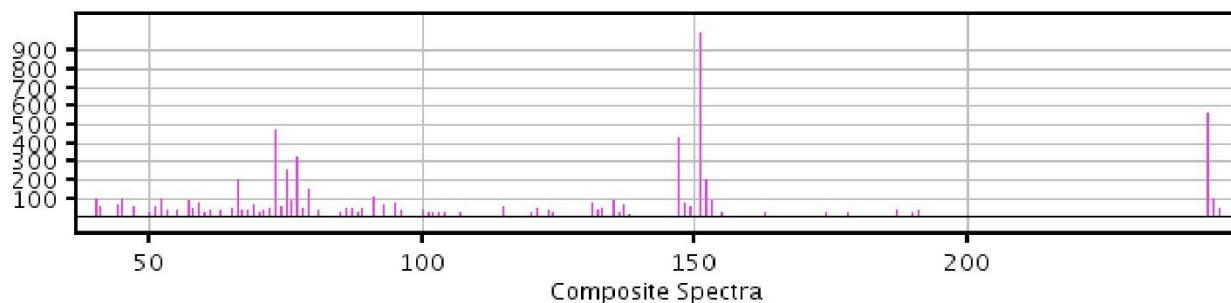
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147.0@6.300002



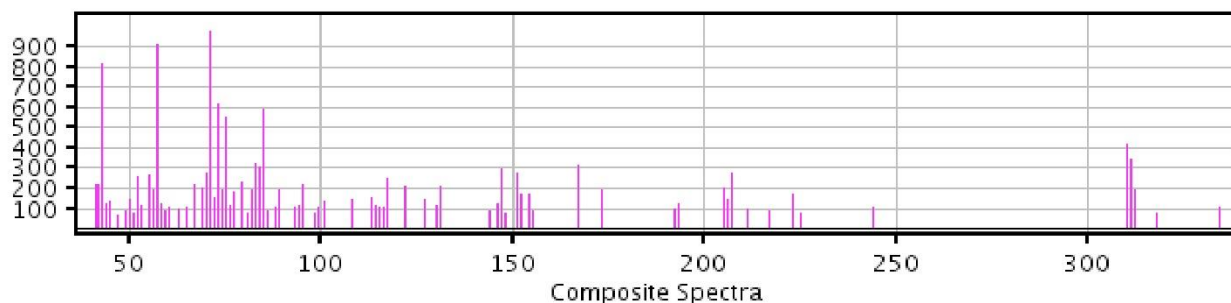
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151.0@6.0



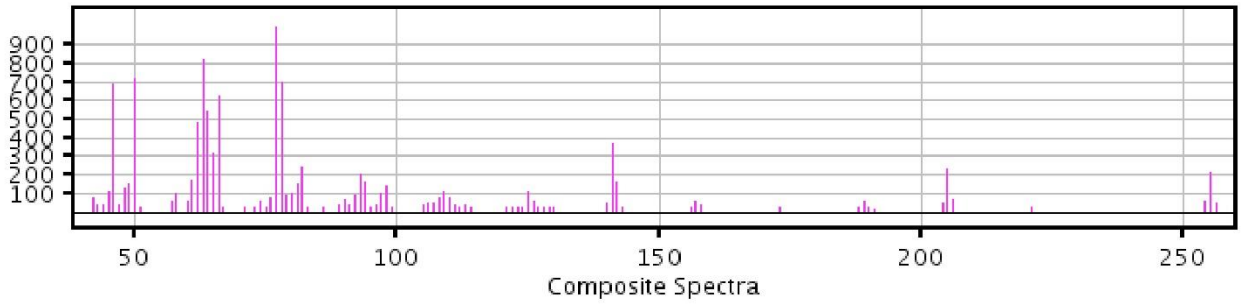
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71.0@9.700005

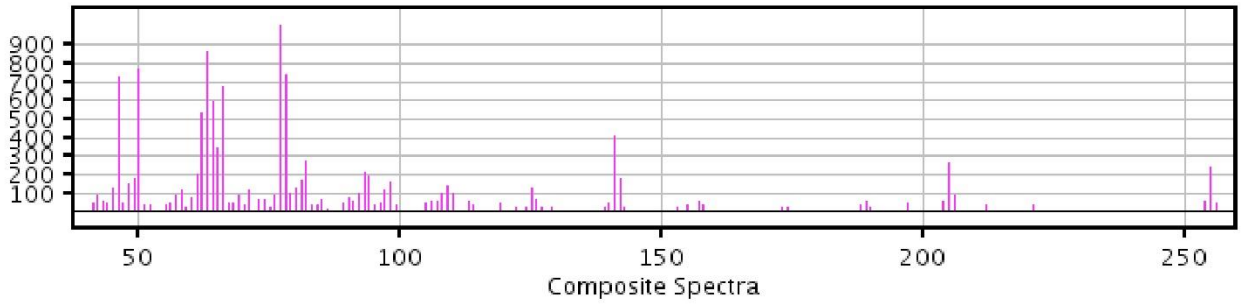


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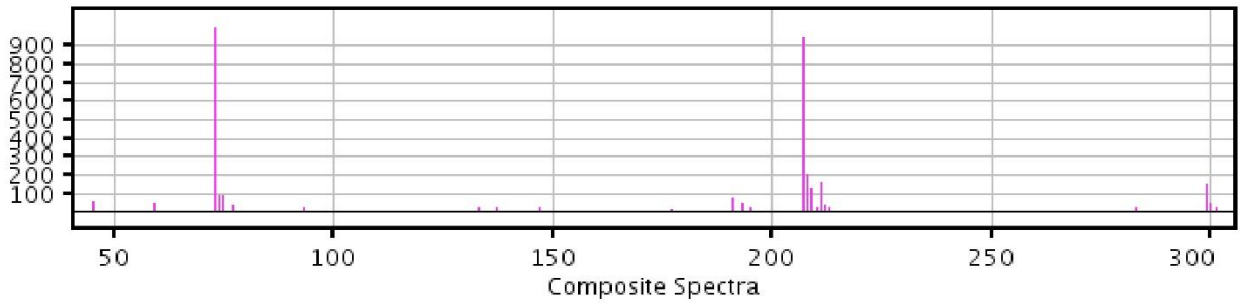
58 **77.0@19.5**



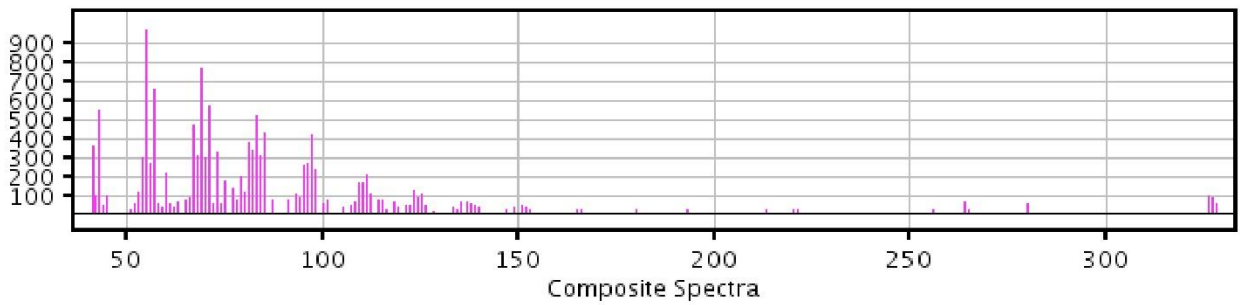
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60 **77.0@19.200005**



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62 **73.0@8.100001**

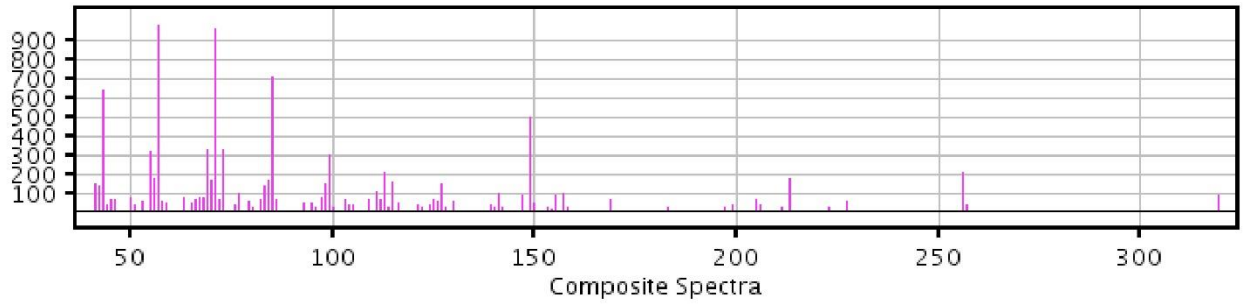


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64 **55.0@24.399998**

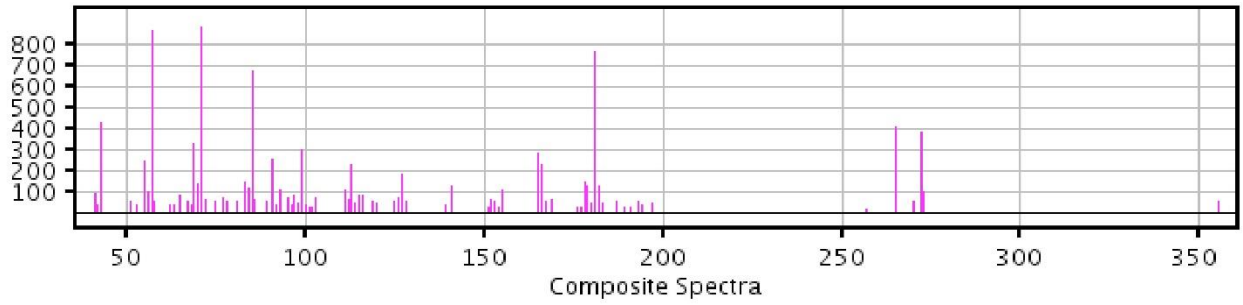


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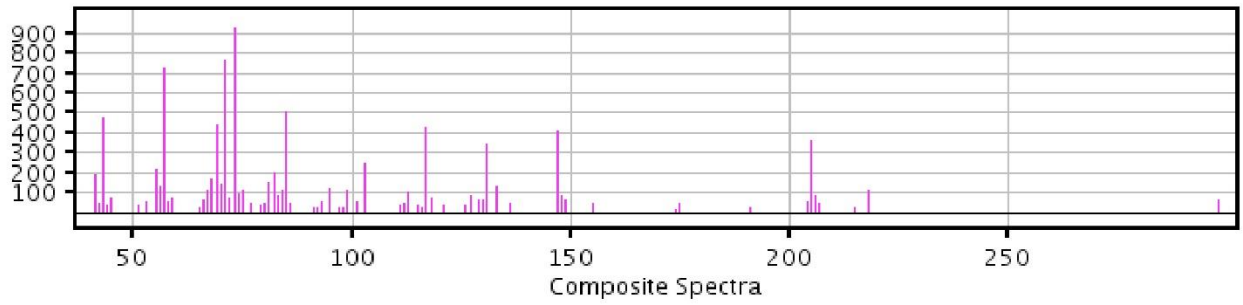
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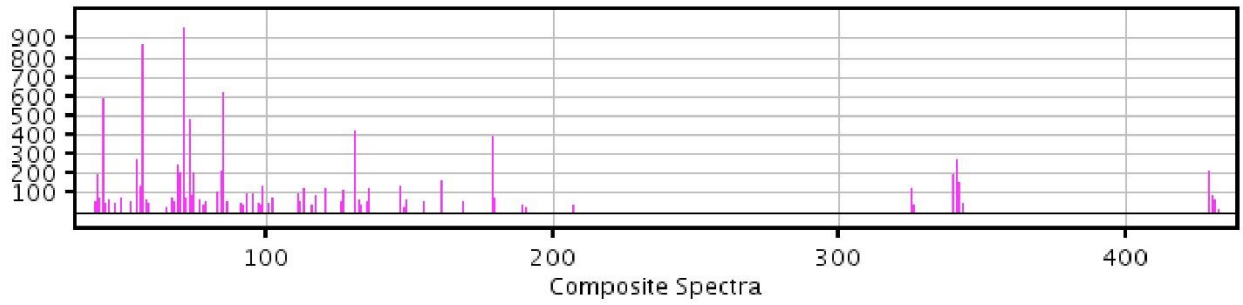
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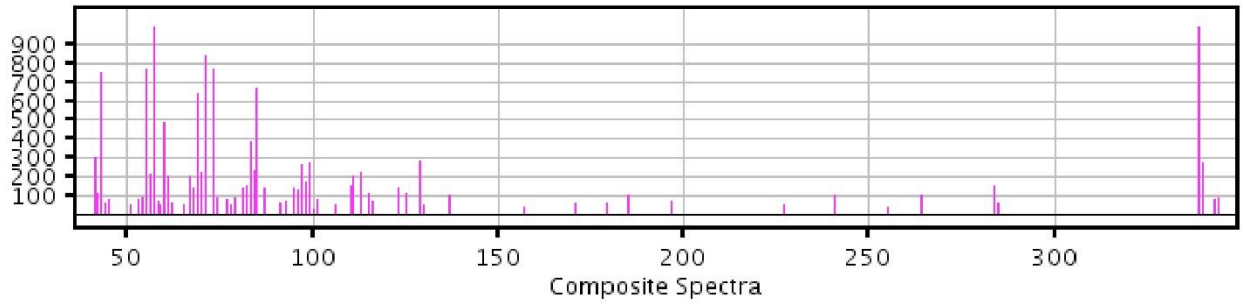


76 **71.0@13.60004**

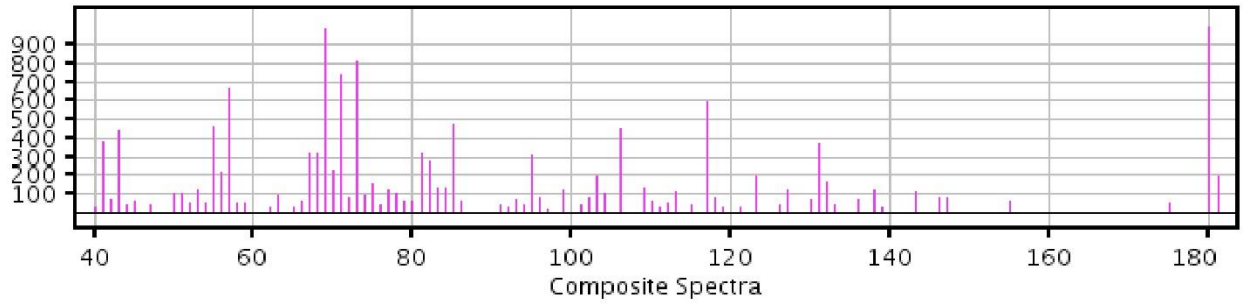


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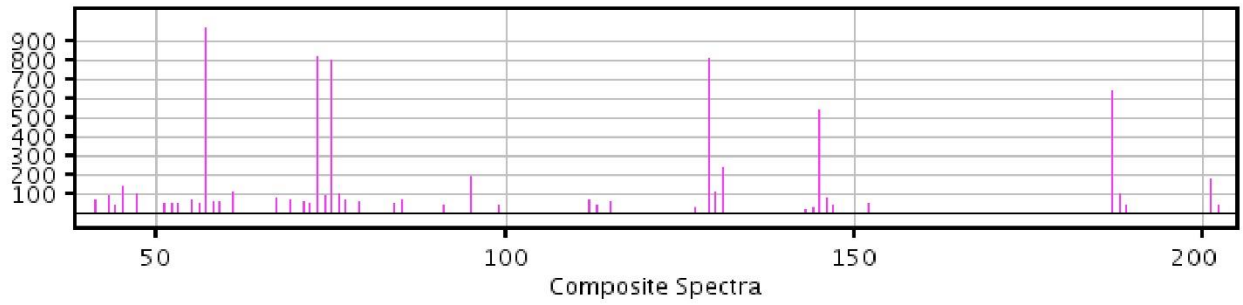
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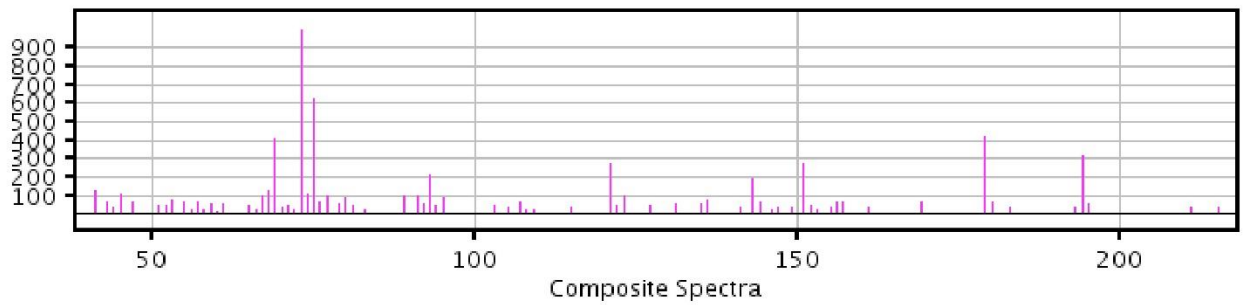
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87 **57.0@11.699998**
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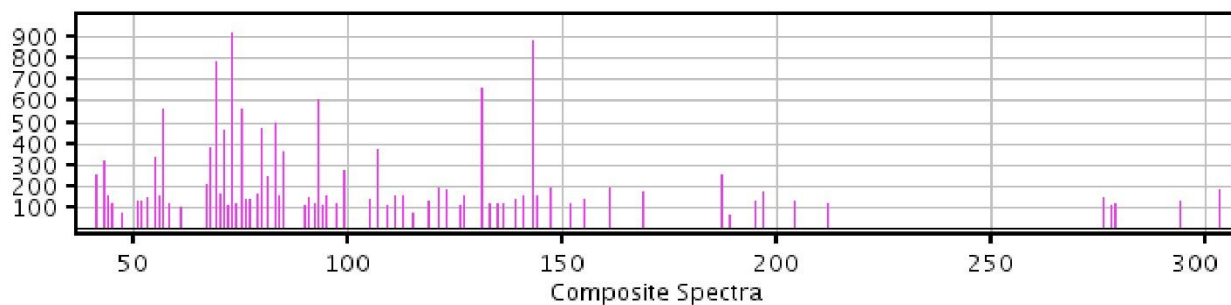


89 **73.0@14.199998**
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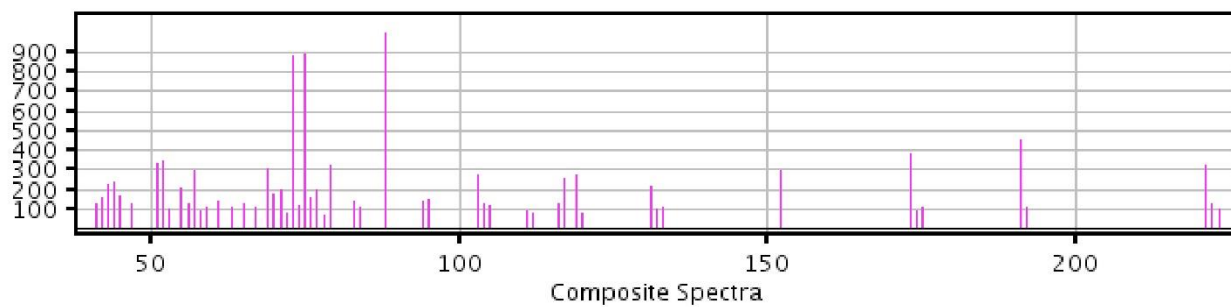


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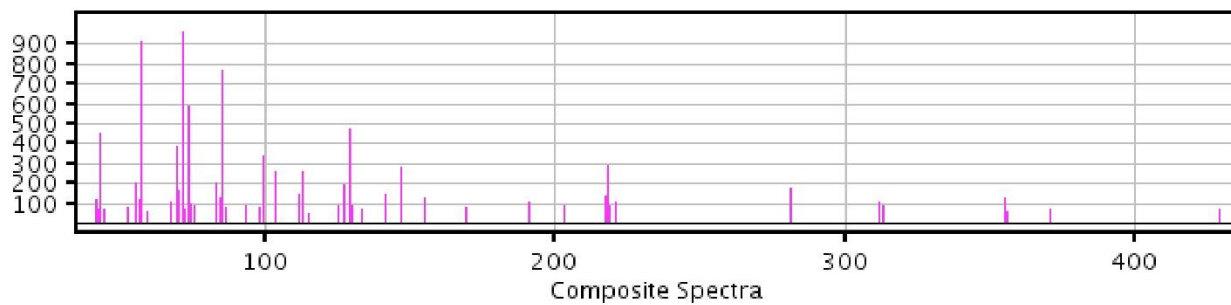
97 **73.0@18.5:1**



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99 **73.0@9.199999**



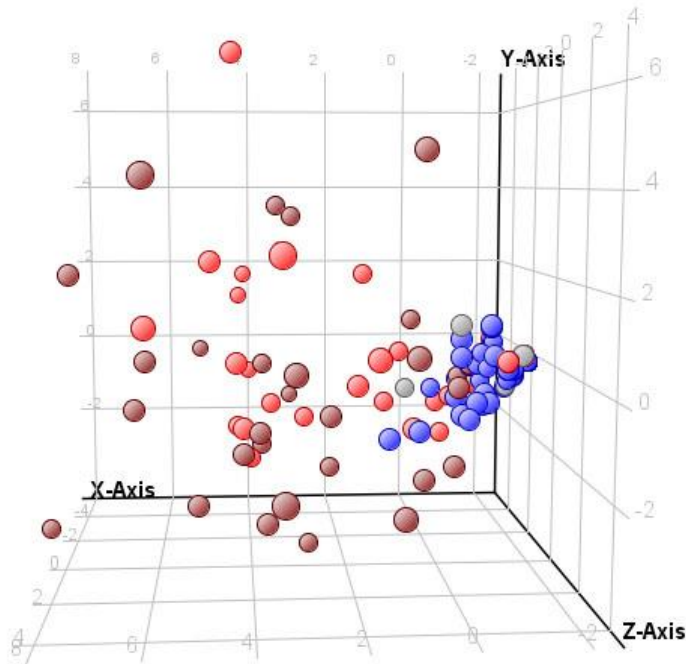
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101 **57.0@27.100002**



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105 **Figure S2:** PCA plot showing that samples are not discriminating on the basis of age groups but due to
106 health status (Group-0 = 0-20 years, Group-1 = 20-30 years). A) Down-regulated metabolites B) Up-
107 regulated metabolites.
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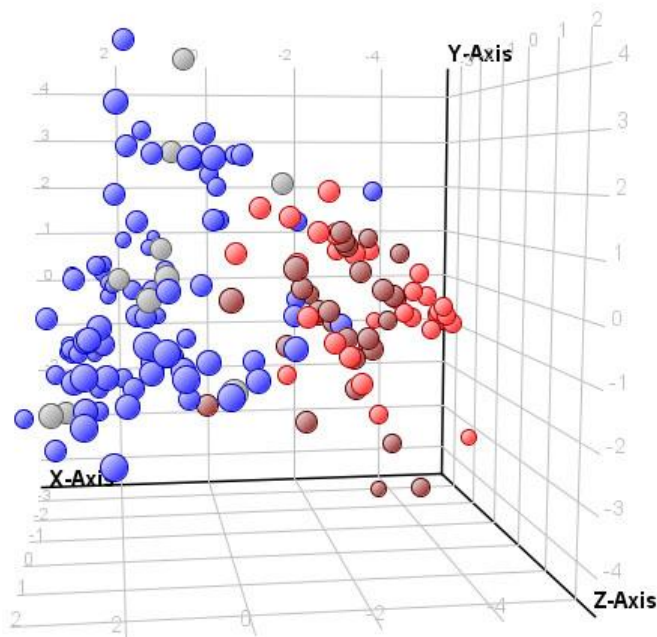
A) Down-regulated Metabolites



X-axis (Comp 1) = 27.09
Y-axis (Comp 2) = 7.55
Z-axis (Comp 3) = 6.96

- Group-0 Healthy
- Group-0 Disease
- Group-1 Healthy
- Group-1 Disease

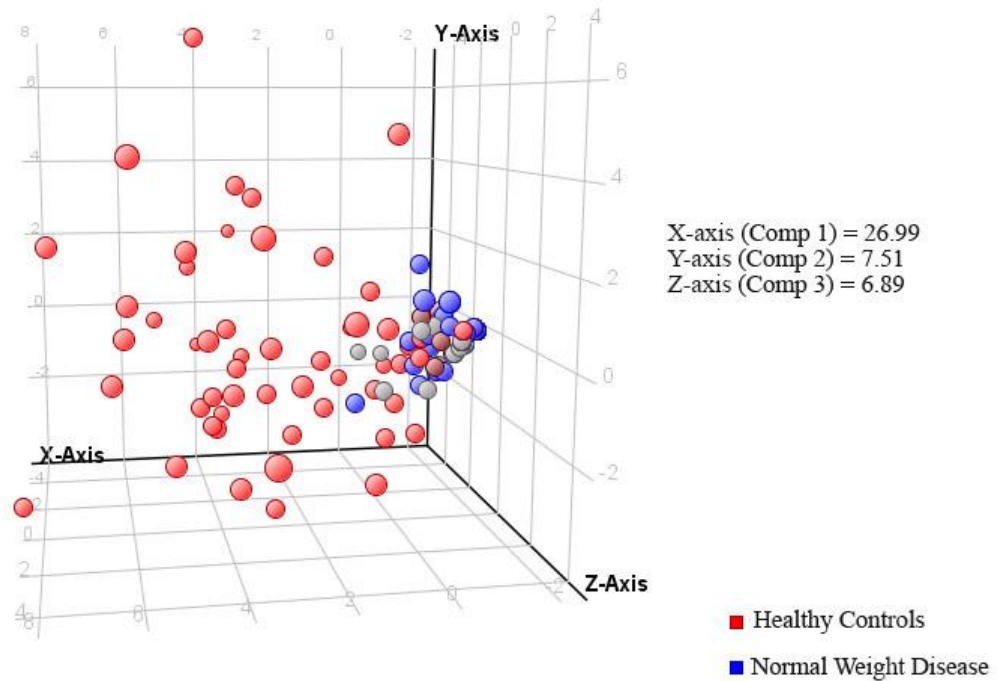
B) Up-regulated Metabolites



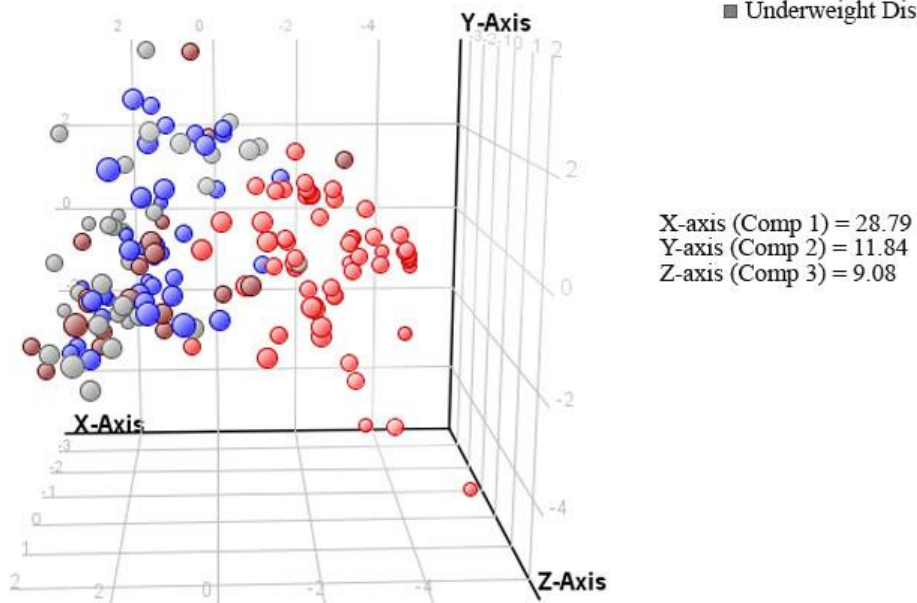
X-axis (Comp 1) = 29.95
Y-axis (Comp 2) = 12.42
Z-axis (Comp 3) = 9.15

110 **Figure S3:** PCA plot showing that samples are not discriminating on the basis of body mass but due to
111 health status. A) Down-regulated metabolites B) Up-regulated metabolites.
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A) Down-regulated Metabolites



B) Up-regulated Metabolites



114 **Figure S4:** Model generated PCA scores scatter plots discriminating between healthy controls and β -thalassemia patients.

115 \blacktriangle Healthy Sample \blacksquare Beta Thalassemia Sample

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Legend - PCA Score Plot

Color by Samples

\blacksquare InputSample

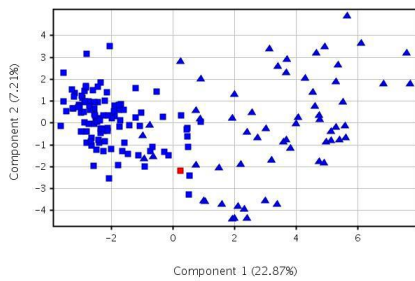
\blacktriangle ModelSample

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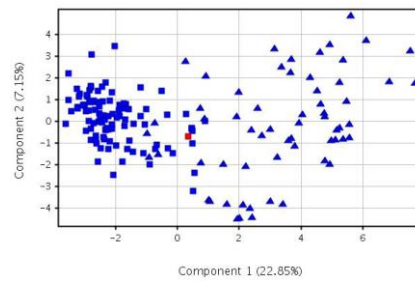
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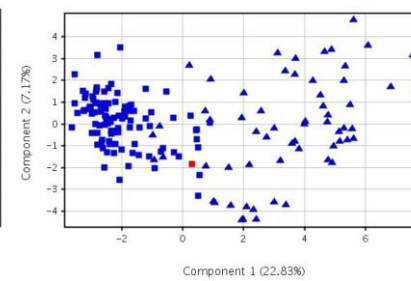
Disease



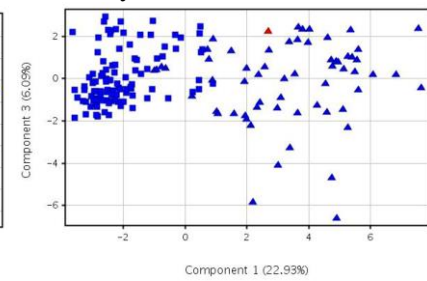
Disease



Disease



Healthy



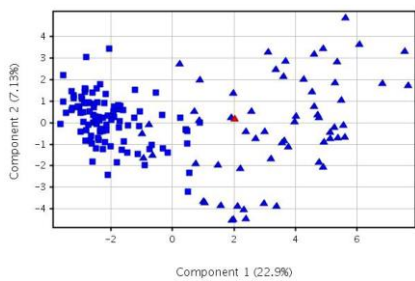
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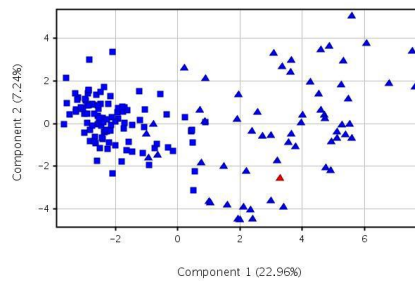
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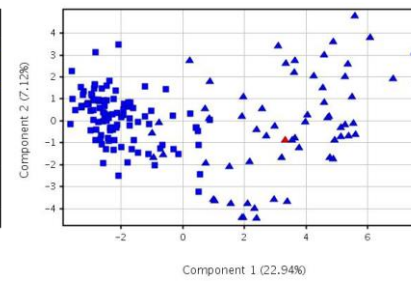
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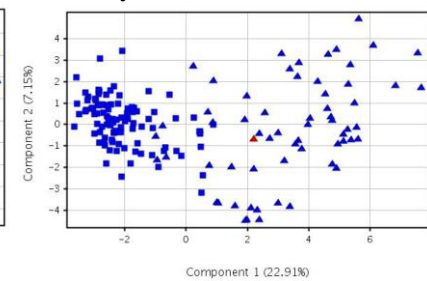
Disease



Disease



Healthy



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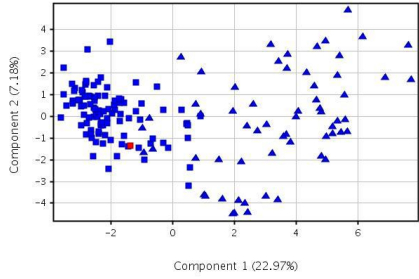
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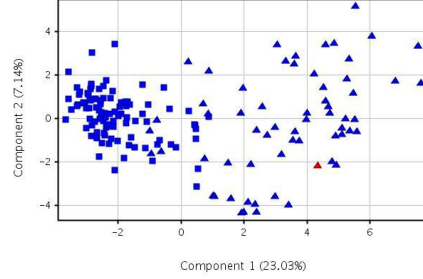
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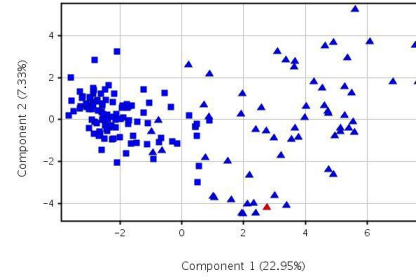
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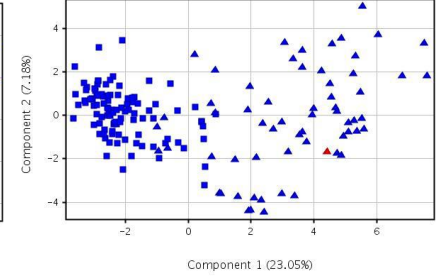
Healthy



Healthy



Healthy



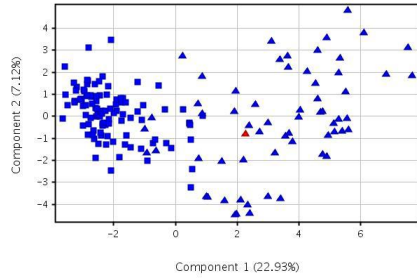
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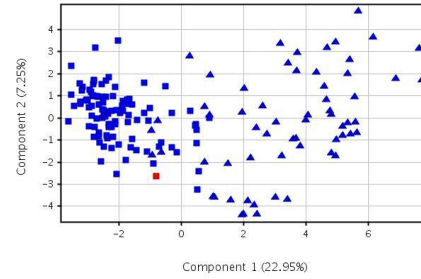
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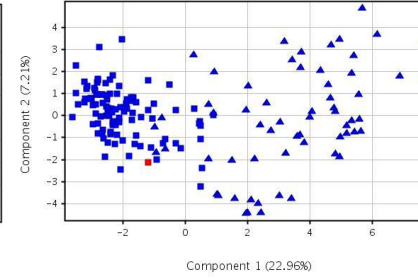
Healthy



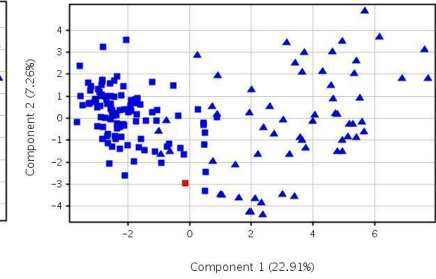
Disease



Disease



Disease



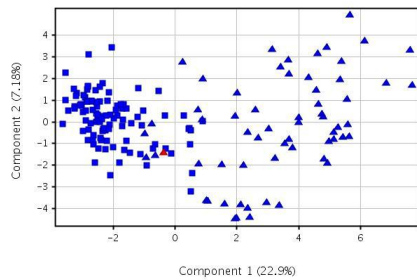
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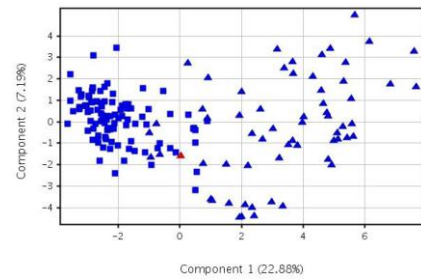
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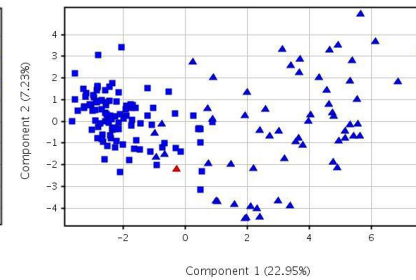
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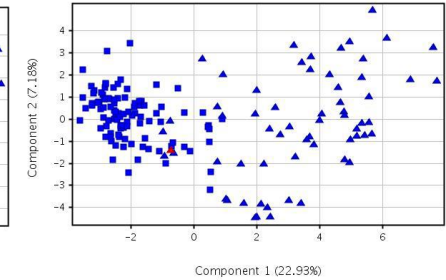
Healthy



Healthy



Healthy

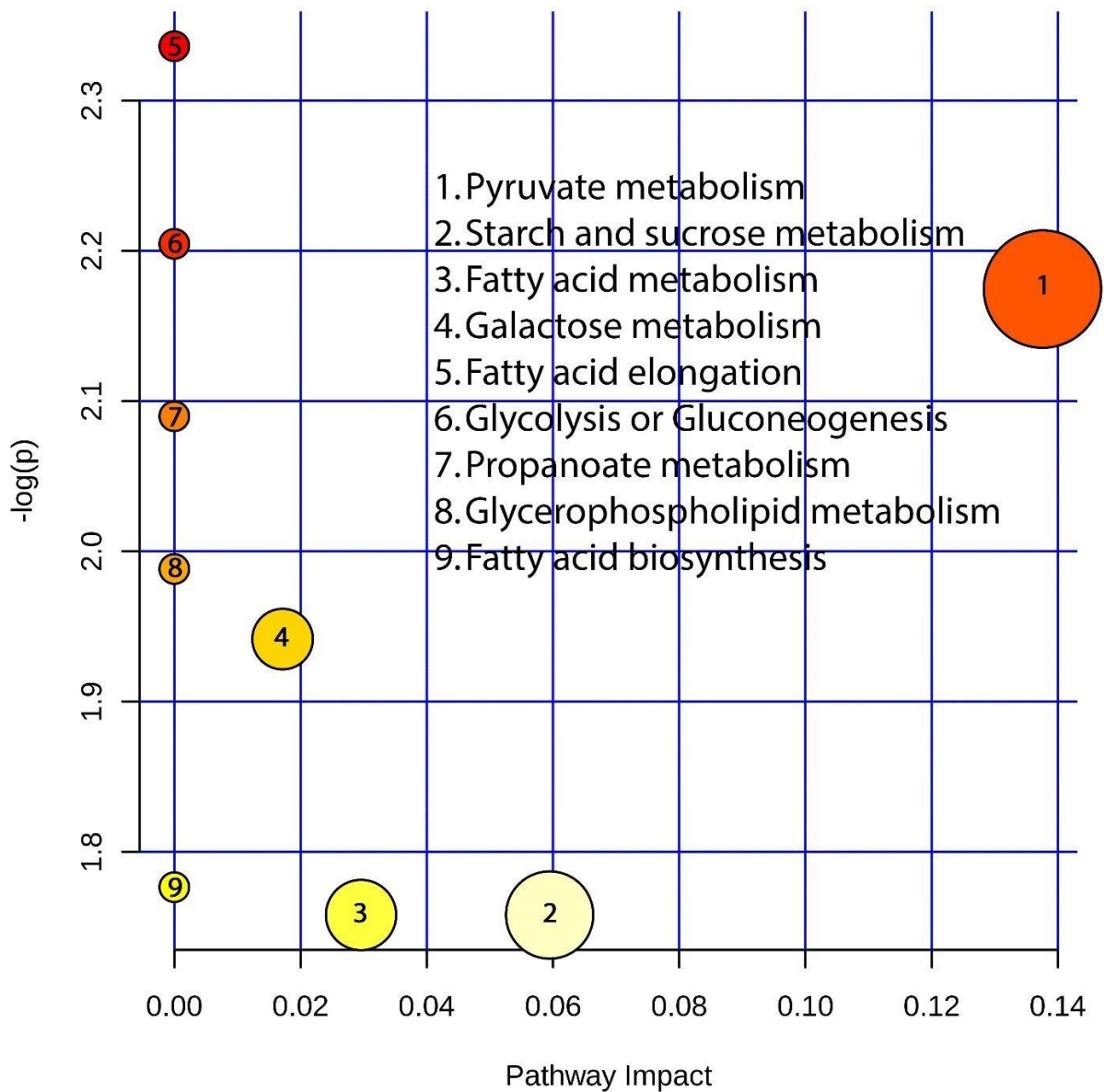


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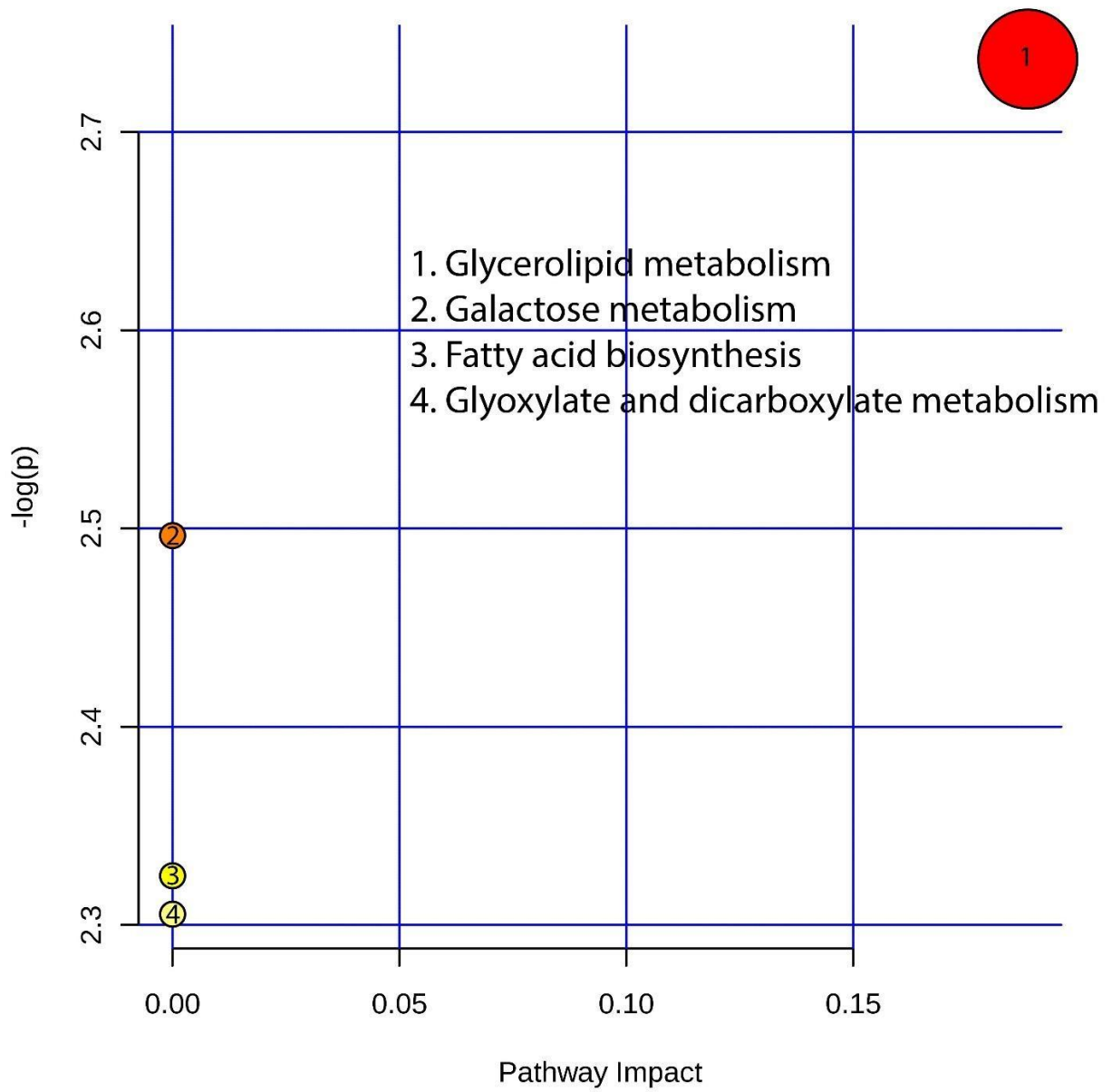
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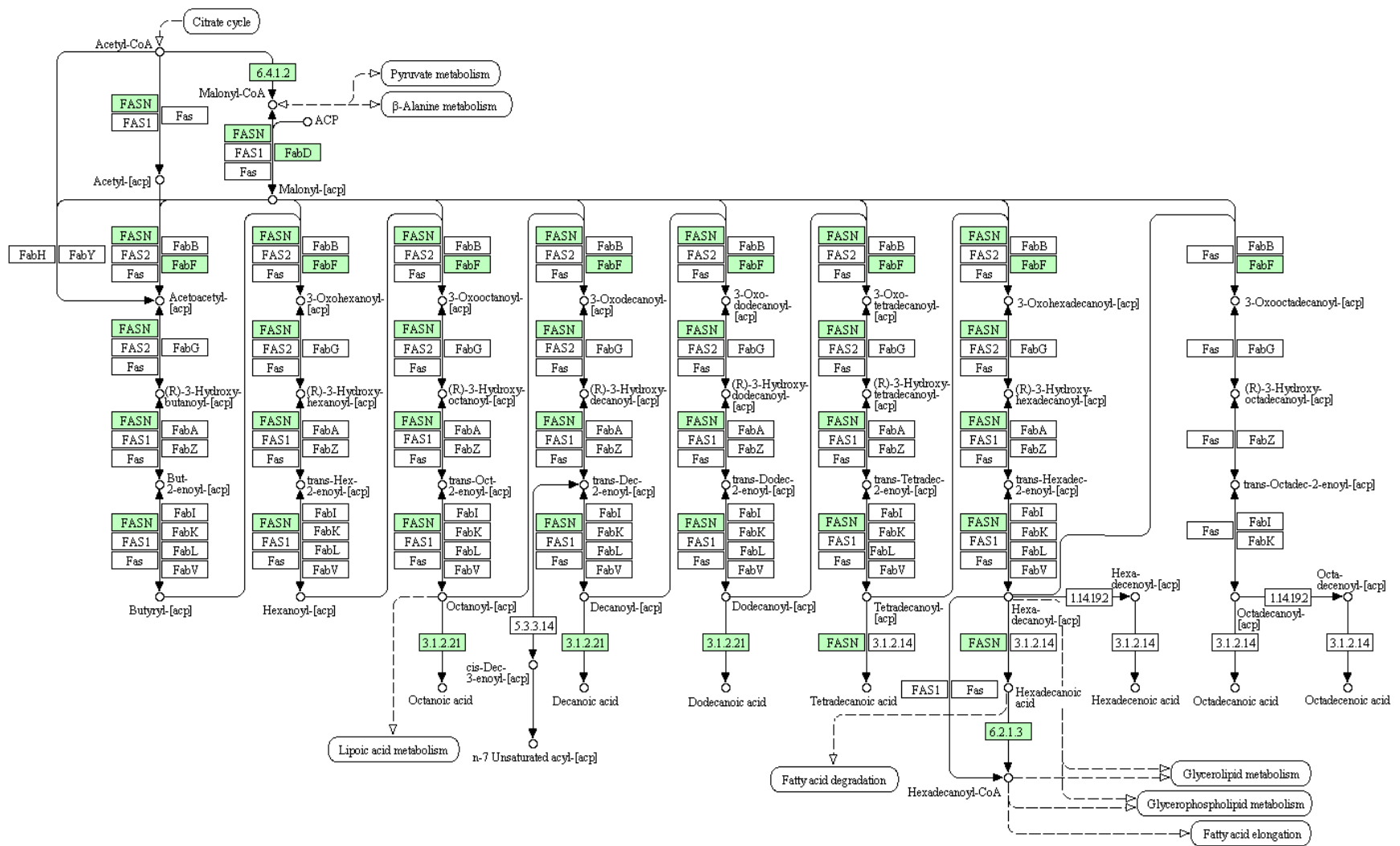
144 **Figure S5:** Summary of pathway analysis of metabolites that were up-regulated in β -thalassemia patients
145 as compared to healthy controls.



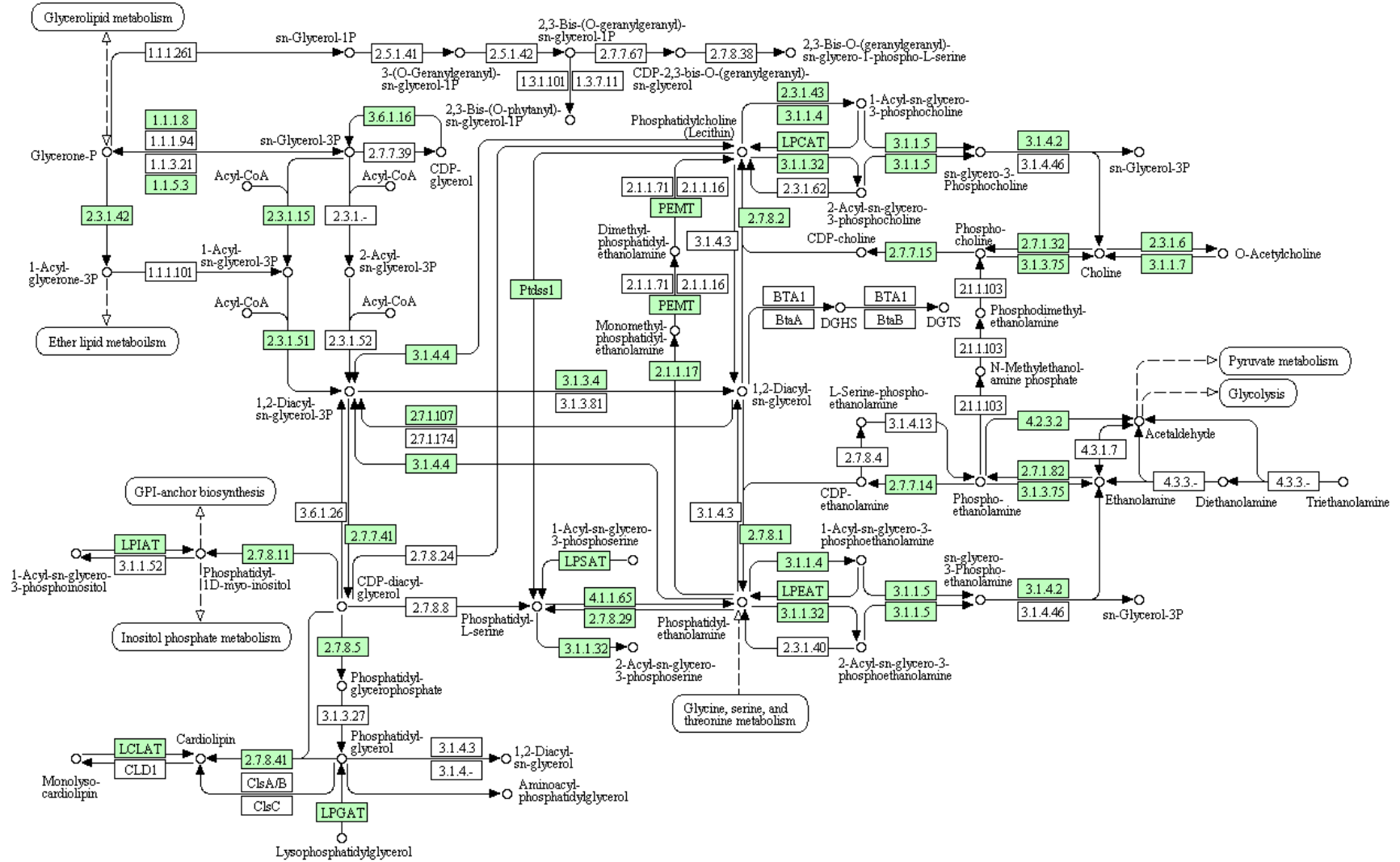
148 **Figure S6:** Summary of pathway analysis of metabolites that were down-regulated in β -thalassemia
149 patients as compared to healthy controls



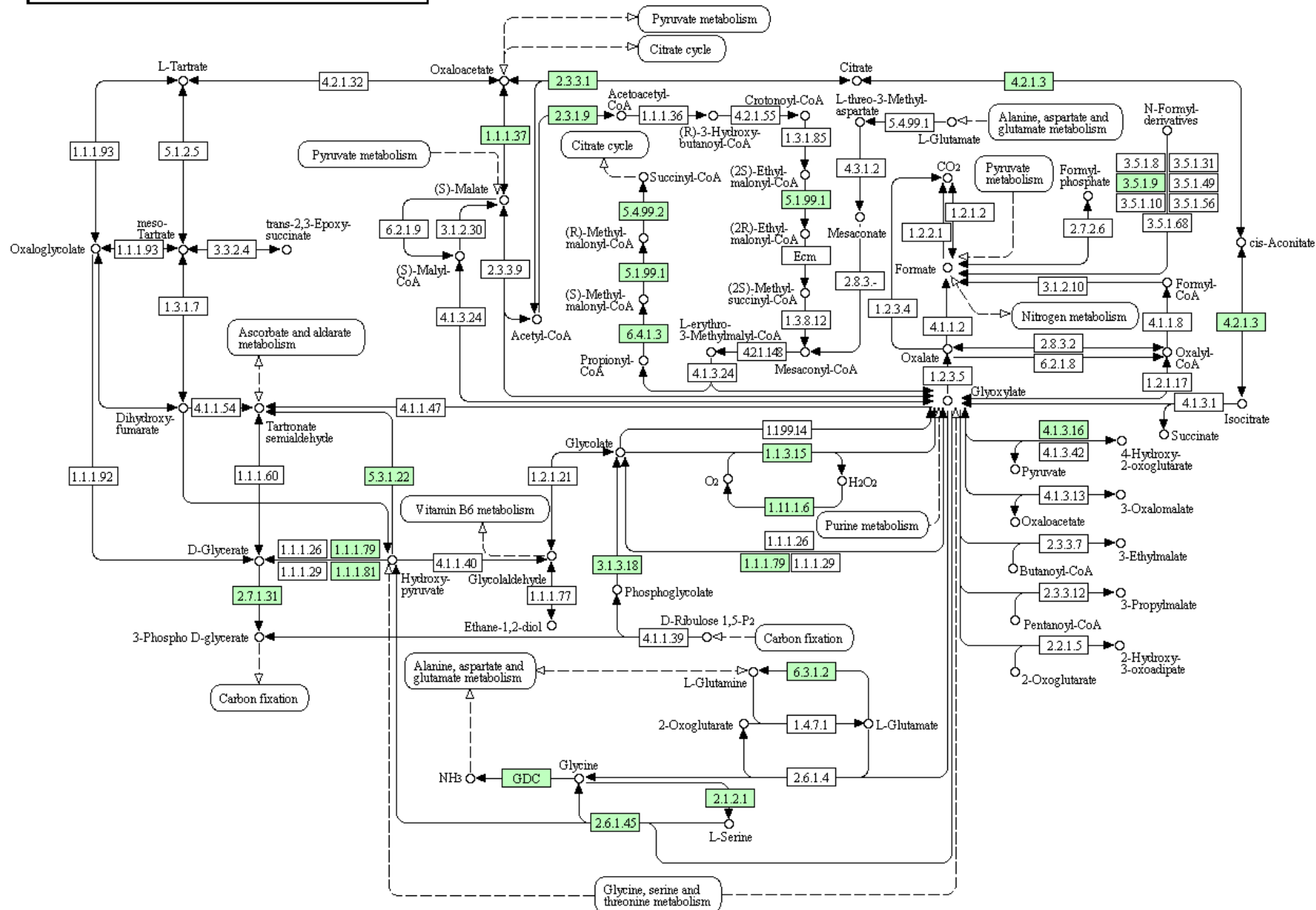
FATTY ACID BIOSYNTHESIS



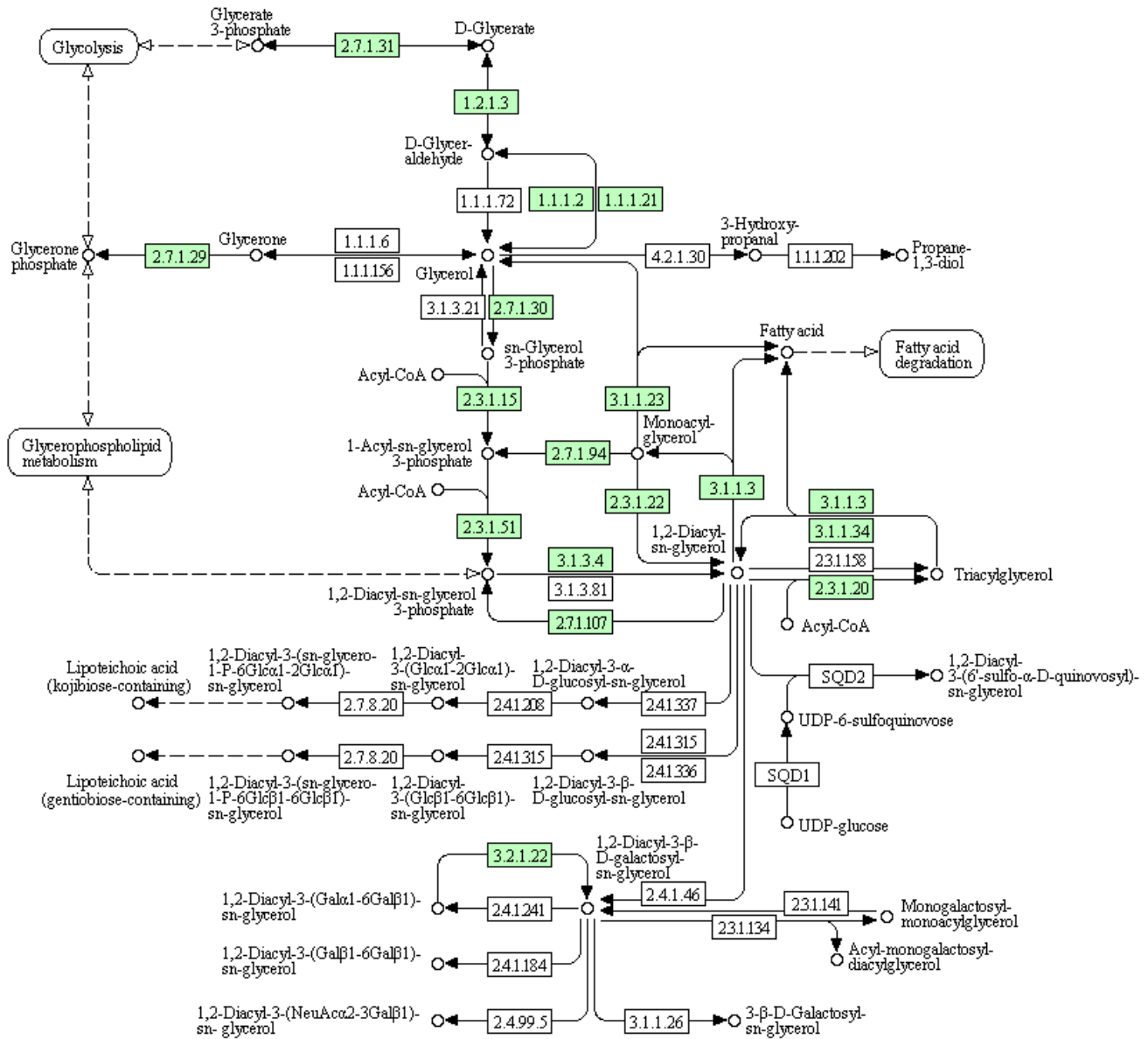
GLYCEROPHOSPHOLIPID METABOLISM



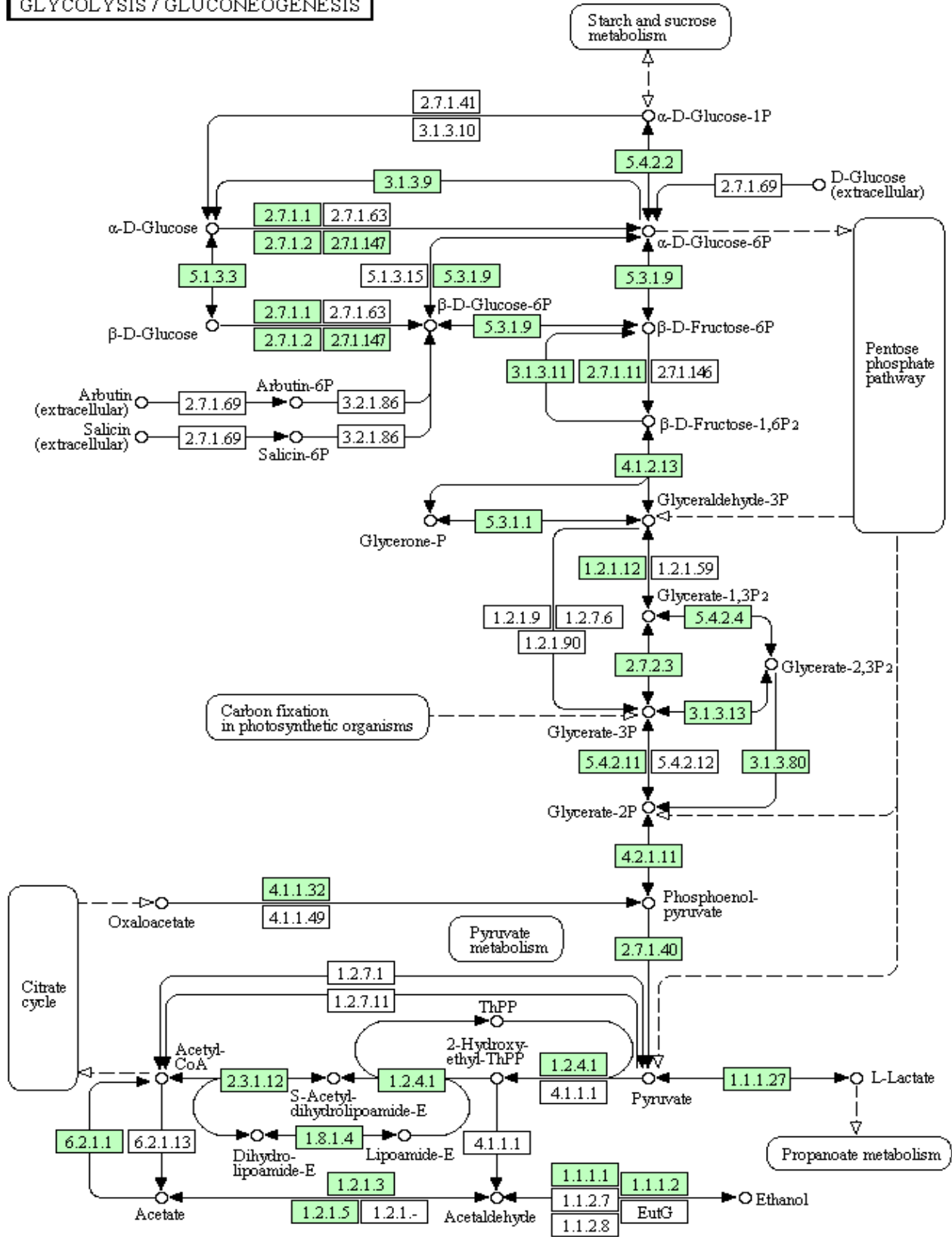
GLYOXYLATE AND DICARBOXYLATE METABOLISM



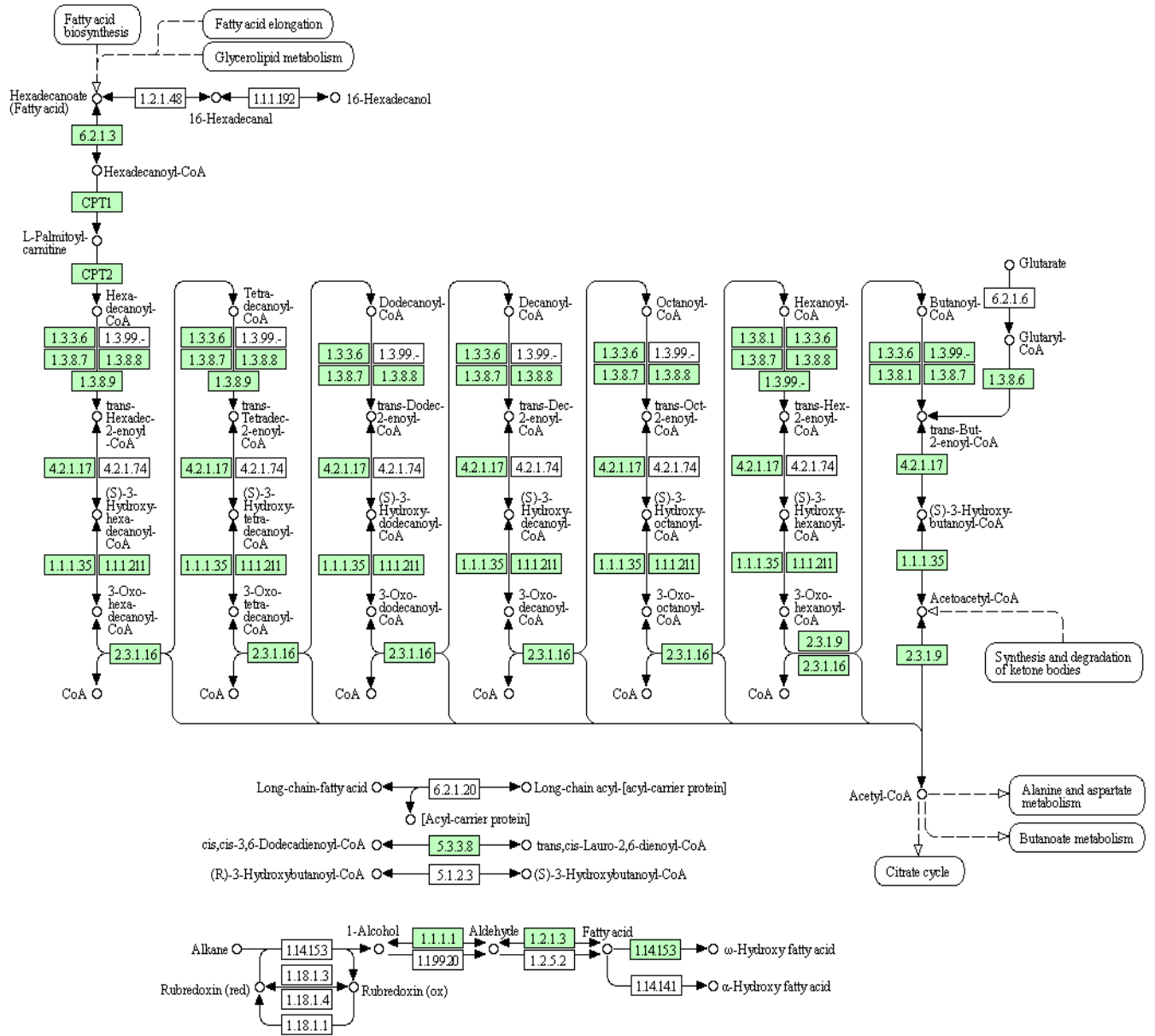
GLYCEROLIPID METABOLISM



GLYCOLYSIS / GLUCONEOGENESIS



FATTY ACID DEGRADATION



FATTY ACID ELONGATION

