

Table S9: Clusters of the metabolites of 45 experiments originating of 15 elder individuals.

**Metabolite name**

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**CLUSTER 1**

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1-Methyladenosine  
1-Methylguanosine  
1-Methylhistidine  
4-Guanidinobutanoic acid  
4-Trimethylammoniobutanoic acid  
6-Phosphogluconic acid  
7a-Hydroxy-5b-cholanic acid  
Acetylcarnosine  
Adenine  
Argininosuccinic acid  
Beta-Glycerophosphoric acid  
Butyrylcarnitine  
Carnosine  
CDP-Ethanolamine  
Chenodeoxycholic acid  
cis-Aconitic acid  
Citicoline  
Citramalic acid  
Citric acid  
Cytidine  
Cytidine triphosphate  
D-Glyceraldehyde 3-phosphate  
D-Sedoheptulose 7-phosphate  
Dimethyl-L-arginine  
Dodecanoylcarnitine  
Fructose 6-phosphate  
GDP-glucose  
Gluconic acid  
Glucosamine  
Glucose 6-phosphate  
Glutaric acid  
Glyceric acid  
Guanosine diphosphate  
Guanosine monophosphate  
Hexanoylcarnitine  
Hippuric acid  
Hypoxanthine  
Isovalerylcarnitine  
L-Asparagine

**Metabolite name**

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L-Aspartic acid  
L-Histidine  
L-Isoleucine  
L-Kynurenine  
L-Leucine  
L-Lysine  
L-Octanoylcarnitine  
L-Proline  
L-Threonine  
L-Tyrosine  
Malic acid  
N(6)-Methyllysine  
N- $\alpha$ -Acetyl-L-arginine  
N-Acetyl-D-glucosamine  
N-Acetyl-L-aspartic acid  
N-Acetylglutamic acid  
N-Acetylornithine  
N<sub>2</sub>N<sub>2</sub>-Dimethylguanosine  
N<sub>6</sub>-Acetyl-L-lysine  
N<sub>ε</sub>N<sub>ε</sub> dimethyllysine  
Niacinamide  
Ophthalmic acid  
Ornithine  
Oxoglutaric acid  
Pantothenic acid  
Phosphocreatine  
Quinolinic acid  
S-Adenosylhomocysteine  
S-Adenosylmethionine  
Succinic acid  
Tetradecanoylcarnitine  
Uridine  
Uridine 5'-monophosphate  
Uridine diphosphate glucuronic acid  
Uridine diphosphate-N-acetylglucosamine  
Uridine triphosphate  
Xanthine

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**CLUSTER 2**

2,3-Diphosphoglyceric acid

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**CLUSTER 3**

Adenosine triphosphate

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**CLUSTER 4**

L-Carnitine

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**Metabolite name**

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**CLUSTER 5**

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ADP

NAD

**CLUSTER 6**

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D-Glucose

L-Arginine

L-Glutamine

Myoinositol

**CLUSTER 7**

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Ergothioneine

**CLUSTER 8**

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Decanoylcarnitine

**CLUSTER 9**

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Adenosine

Adenosine monophosphate

Betaine

Caffeine

Citrulline

Creatine

Creatinine

Glycerophosphocholine

Indoxyl sulfate

L-Glutamic acid

L-Methionine

L-Phenylalanine

L-Serine

L-Tryptophan

L-Valine

N6\_N6\_N6-Trimethyl-L-lysine

Propionylcarnitine

Taurine

Uric acid

**CLUSTER 10**

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2-Phosphoglyceric acid

3-Phosphoglyceric acid

Guanosine triphosphate

L-Acetylcarnitine

NADP

Uridine diphosphate glucose