### Metabolism
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Enzyme Families
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Transcriptome
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Translation
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Folding, Sorting and Degradation
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Replication and Repair
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Membrane Transport
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Signal Transduction
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Signaling Molecules and Interactions
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Cell Motility
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Cell Growth and Death
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Cell Communication
- Carbohydrate Metabolism
- Energy Metabolism
- Lipid Metabolism
- Nucleotide Metabolism
- Amino Acid Metabolism
- Metabolism of Other Amino Acids
- Glycan Biosynthesis and Metabolism
- Biosynthesis of Polyketides and Nonribosomal Peptides
- Metabolism of Cofactors and Vitamins
- Biosynthesis of Secondary Metabolites
- Xenobiotics Biodegradation and Metabolism

### Statistical analysis of functional associations.
We performed a statistical analysis of Figure 5. We estimated the relevance of observed values compared to expected values from the marginal distributions. The expected value within each box was simply the product of the row total and column total (in marginal distributions) divided by the overall sample number. The relevance of the box was the squared difference between the observed and expected values divided by the expected value (as in a chi-squared test). This value becomes high, when the observed value is greatly different from the expected. In this figure, each box represents such significant value with red color. To compare difference among OPs, SOPs and NOPs, the values were divided by the total number of them in each groups.