Amplicon result supplementary instruction (05)

2023 / 8 / 28

05.BetaDiversity【beta diversity】

1. beta_distance【distance matrix of beta diversity】

1.1 sample/group1/ 【sample/group】

1.1.1 *.{sample，group}.txt【distance matrix of binary_jaccard,bray_curtis,(un)weighted_unifrac)】

1.1.2 *.{sample，group}.pc.txt【PCoA principal component base on

(binary_jaccard,bray_curtis,(un)weighted_unifrac distance)】

2. beta_upgam【beta upgam result】

2.1 sample/group1/ 【sample/group】

2.1.1 (un)weighted_unifrac 【upgam result based on (un)weighted_unifrac distance】

2.1.2 (un)weighted_unifrac.{sample,group}_upgma.tre【tree file of upgam analysis, can open with MEGA software】

2.1.3 (un)weighted_unifrac.{sample,group}.{pdf,png} 【cluster result based on (un)weighted_unifrac distance】

2.1.4 upgam.(un)weighted_unifrac.{sample,group}.tree.{svg,png} 【upgma cluster tree based on (un)weighted_unifrac distance】

3. beta_pca【pca result】

3.1 sample/group1/ 【pca result of sample or group】

3.1.1 PCA.{xls,pdf,png} 【PCA result】

Column number	Column name	Instruction
1	Sample name	Sample name
2	Axis1	One-dimensional coordinate
3	Axis2	Two-dimensional coordinate
4	Axis3	Three-dimensional coordinate
5	Axis4	Four-dimensional coordinate
6	Axis5	Five-dimensional coordinate

Reminder: confident circle would be drawn only when sample number in group bigger than 3

3.1.2 PCA_lable.{pdf,png} 【PCA graph with sample name】

3.1.3 PCA_circle.{pdf,png} 【PCA graph with confident circle but without sample name】

3.1.4 PCA_circleLable.{pdf,png} 【PCA graph with confident circle and sample name】

4. beta_pcoa【beta pcoa result】

4.1 sample/group1/ 【Beta PCoA result of sample or group 】

4.1.1 PCoA_display.{pdf,png}【PCoA result based on (un)weighted_unifrac distance 】

4.1.2 * 【PCoA analysis result based on binary_jaccard,bray_curtis,(un)weighted_unifrac distance)】

4.1.2.1 PCoA.{xls,pdf,png}【coordinate of primary and secondary principal component, PCoA result without sample name】

Column number	Column name	Instruction
1	Sample name	Sample name
2	PCA1	Coordinate of primary principal component
3	PCA2	Coordinate of secondary principal component

Reminder: confident circle would be drawn only when sample number in group bigger than 3

4.1.2.2 PCoA_label.{pdf,png} 【PCoA plot with sample name】

4.1.2.3 PCoA_circle.{pdf,png} 【PCoA plot with confident circle but without sample name】

4.1.2.4 PCoA_circleLabel.{pdf,png} 【PCoA plot with confident circle and sample name】

4.1.2.5 emperor_pcoa_plots 【3D PCoA plot】

5. beta_nmds【beta nmds analysis result】

5.1 sample/group1/ 【Beta NMDS result of sample or group 】

5.1.1 NMDS_display.{pdf,png} 【NMDS result based on (un)weighted_unifrac distance】

5.1.2 * 【NMDS result based on (un)weighted_unifrac,binary_jaccard, bray_curtis distance】

5.1.2.1 *.NMDS.{xls,pdf,png} 【coordinate of primary and secondary principal component, NMDS result without sample name】

Column number	Column name	Instruction
1	Sample name	Sample name
2	NMDS1	Coordinate of primary principal component
3	NMDS2	Coordinate of secondary principal component

Reminder: confident circle would be drawn only when sample number in group bigger than 3

5.1.2.2 *.NMDS_lable.{pdf,png}【NMDS plot with sample name】

5.1.2.3 *.NMDS_circle.{pdf,png} 【NMDS plot with confident circle but without sample name】

5.1.2.4 *.NMDS_circleLable.{pdf,png}【NMDS plot with sample name and confident circle】

6. beta_dca【beta dca analysis result】

6.1 sample/group1/【beta dca analysis result of sample or group】

6.2 DCA.{xls,pdf,png} 【data for DCA and DCA plot】

Column number	Column name	Instruction
1	Sample name	Sample name
2	Axis1	One-dimensional coordinate
3	Axis2	Two-dimensional coordinate

7. beta_unifracHeatmap【heatmap based on (un)weighted unifrac distance】

7.1 sample/group1/【sample/group】

7.1.1 beta_diversity.heatmap.{svg,png} 【heatmap including weighted unifrac distance and unweighted unifrac distance】

7.1.2 beta_diversity.heatmap.(un)Weighted.{svg,png} 【heatmap based on (un)weighted unifrac distance】

8. beta_div【boxplot of beta diversity】

8.1 group1【boxplot of beta diversity of group】

8.1.1 (un)weighted_unifrac【boxplot of beta diversity based on unweighted unifrac distance】

8.1.1.1 (un)weighted_unifrac.{pdf,png} 【boxplot of beta diversity based on unweighted unifrac distance】

8.1.1.2 (un)weighted_unifrac_kruskalWallis_all.txt 【nonparameteric kruskalWallis test（sample number in group > 2，group number > 2）】

Column number	Column name	Instruction
1	Difference	Mean difference
2	P value	P value
3	Sig	Significant, if p < 0.05, mark *, if p <0.01, mark ***
4	LCL	Lower confidence limit

5	UCL	Upper confidence limit

8.1.1.3 8.1.1.3 (un)weighted_unifrac_kruskalWallis.{pdf,png} 【nonparametric kruskalWallis test (sample number in group > 2, group number >2)】

Column number	Column name	Instruction
1	diff	Mean difference
2	lwr	Lower confidence limit
3	upr	Upper confidence limit
4	p adj	p value

8.1.1.4 (un)weighted_unifrac_TukeyHSD_all.txt【TukeyHSD test (sample number in group > 2, group number >2)】

8.1.1.5 (un)weighted_unifrac_TukeyHSD.{pdf,png} 【TukeyHSD test visual display (sample number in group > 2, group number >2)】

8.1.1.6 (un)weighted_unifrac_tTest_all.txt【T-test (sample number in group > 2, group number =2)】

Column number	Column name	Instruction
1	Group-pair	group
2	p_value	P value

8.1.1.7 (un)weighted_unifrac_tTest.{pdf,png} 【T-test visual disply (sample number in group > 2, group number =2)】

8.1.1.8 (un)weighted_unifrac_twoWilcox_all.txt【two wilcox test (sample number in group > 2, group number =2)】

Column number	**Column name**	**Instruction**
1	Group-pair	Group

2	p_value	P value

8.1.1.9 (un)weighted_unifrac_twoWilcox.{pdf,png} 【two wilcox test (sample number in group > 2, group number =2)】