To make the base tree:

grep -v "t\_\_" /Users/anju/Desktop/all\_metaphlan/merged\_abundance\_table.txt | sed 's/k\_\_//g' | sed 's/|c\_\_/./g' |sed 's/|o\_\_/./g' | sed 's/|f\_\_/./g' | sed 's/|g\_\_/./g'| sed 's/|s\_\_/./g' | sed 's/|p\_\_/./g'> alltaxagraphlantrial.txt

export2graphlan.py -i alltaxagraphlantrial.txt --skip\_rows 1,2 --tree tree\_base.txt --annotation annot\_base.txt --annotations 2 --external\_annotations 6 --abundance\_threshold 0.0001 --annotation\_legend\_font\_size 1 --most\_abundant 500

grep 'annotation' annot\_base.txt | grep -v 'annotation\_font\_size' | grep -v 'annotation\_background\_color' > base\_annotation

cut -f 1,2 base\_annotation | sed 's/annotation/annotation\_rotation/g' | awk '{print $0, 90}' | tr ' ' '\t' > base\_annotation1.txt

sed '1d' base\_annotation1.txt > base\_annotation2.txt

cat annot\_base.txt base\_annotation2.txt > annot\_base\_2.txt

graphlan\_annotate.py --annot annot\_base\_2.txt tree\_base.txt graphlan\_base.txt

graphlan.py graphlan\_base.txt graphlan\_base.png --size 18 --dpi 700

To add the rings:

Pvalues\_rings\_colors.txt is file generated using r script: *pvalues\_rings.R*

sed 's/"//g' pvalues\_rings\_colors.txt| sed '1d' > pvalues1\_rings\_colors.txt

cat annot\_base\_2.txt pvalues1\_rings\_colors.txt > annot\_base\_rings.txt

Manually add the following lines of text to annot\_base\_rings.txt

title Alltaxa\_allpvalues(source,location,timepoint)\_annotations(5,6)\_mostbundant\_200

title\_font\_size 30

total\_plotted\_degrees 350

start\_rotation 270

ring\_internal\_separator\_thickness 1 0.5

ring\_separator\_color 1 #888888

ring\_label 1 InfPce

ring\_label\_color 1 #0000FF

ring\_internal\_separator\_thickness 2 0.5

ring\_separator\_color 2 #888888

ring\_label 2 PceAte

ring\_label\_color 2 #FFA500

ring\_internal\_separator\_thickness 3 0.5

ring\_separator\_color 3 #888888

ring\_label 3 AteFce

ring\_label\_color 3 #FF0000

ring\_internal\_separator\_thickness 4 0.5

ring\_separator\_color 4 #888888

ring\_label 4 InfFce

ring\_label\_color 4 #800000

ring\_internal\_separator\_thickness 5 0.5

ring\_separator\_color 5 #888888

ring\_label 5 FceDsA

ring\_label\_color 5 #006400

ring\_internal\_separator\_thickness 6 0.5

ring\_separator\_color 6 #888888

ring\_label 6 FceDsB

ring\_label\_color 6 #800080

ring\_internal\_separator\_thickness 7 0.5

ring\_separator\_color 7 #888888

ring\_label 7 DsaDsb

ring\_label\_color 7 #696969

ring\_internal\_separator\_thickness 8 0.5

ring\_separator\_color 8 #888888

ring\_label 8 FceDs

ring\_label\_color 8 #DDA6FF

ring\_internal\_separator\_thickness 9 0.5

ring\_separator\_color 9 #888888

ring\_label 9 UpDown

ring\_label\_color 9 #6ADB48

ring\_internal\_separator\_thickness 10 0.5

ring\_separator\_color 10 #888888

ring\_label 10 HospRes

ring\_label\_color 10 #203E5F

ring\_height 1 0.4

ring\_height 2 0.4

ring\_height 3 0.4

ring\_height 4 0.4

ring\_height 5 0.4

ring\_height 6 0.4

ring\_height 7 0.4

ring\_height 8 0.4

ring\_height 9 0.4

ring\_height 10 0.4

graphlan\_annotate.py --annot annot\_base\_rings.txt tree\_base.txt graphlan\_base\_rings.txt

graphlan\_base\_rings.txt graphlan\_base\_rings.png --size 18 --dpi 700

new tree with annotations for levels 5,6 and most abundant 200.

export2graphlan.py -i alltaxagraphlantrial.txt --skip\_rows 1,2 --tree tree\_base.txt --annotation annot\_base.txt --external\_annotations 5,6 --abundance\_threshold 0.0001 --annotation\_legend\_font\_size 1 --most\_abundant 200

grep 'annotation' annot\_base.txt | grep -v 'annotation\_font\_size' | grep -v 'annotation\_background\_color' > base\_annotation

cut -f 1,2 base\_annotation | sed 's/annotation/annotation\_rotation/g' | awk '{print $0, 90}' | tr ' ' '\t' > base\_annotation1.txt

sed '1d' base\_annotation1.txt > base\_annotation2.txt

cat annot\_base.txt base\_annotation2.txt > annot\_base\_2.txt

Anjus-MacBook-Pro:final graphlan anju$ cat annot\_base.txt base\_annotation2.txt > annot\_base\_2.txt

Anjus-MacBook-Pro:final graphlan anju$ graphlan\_annotate.py --annot annot\_base\_2.txt tree\_base.txt graphlan\_base.txt

Anjus-MacBook-Pro:final graphlan anju$ graphlan.py graphlan\_base.txt graphlan\_base\_56.png --size 18 --dpi 500

Anjus-MacBook-Pro:final graphlan anju$ cat annot\_base\_2.txt pvalues1\_rings\_colors.txt > annot\_base\_rings.txt

Same text as above was manually added:

Anjus-MacBook-Pro:final graphlan anju$ graphlan\_annotate.py --annot annot\_base\_rings.txt tree\_base.txt graphlan\_base\_rings.txt

Anjus-MacBook-Pro:final graphlan anju$ graphlan.py graphlan\_base\_rings.txt graphlan\_base\_rings.png --size 20 --dpi 500

new tree with annotations for levels 5,6 and most abundant 200 only with source pvalues.

Anjus-MacBook-Pro:final graphlan anju$ cat annot\_base\_2.txt pvalues2\_source\_rings\_colors.txt > annot\_base\_source\_rings.txt

Anjus-MacBook-Pro:final graphlan anju$ cat ring\_labels.txt annot\_base\_source\_rings.txt > annot\_base\_source\_rings2.txt

Anjus-MacBook-Pro:final graphlan anju$ graphlan\_annotate.py --annot annot\_base\_source\_rings2.txt tree\_base.txt graphlan\_base\_source\_rings.txt

Anjus-MacBook-Pro:final graphlan anju$ graphlan.py graphlan\_base\_source\_rings.txt graphlan\_base\_source\_rings.png --size 20 --dpi 500

new tree with annotations for levels 5,6 and most abundant 200 only with location pvalues:

location p values were computed in R using pvalues\_rings\_location.R

sed 's/"//g' pvalues\_location\_rings\_colors.txt | sed '1d' > pvalues\_location\_rings\_colors1.txt