

```
#This is the base file to manipulate the Guide tree. In order to use this
as the input tree for INDELible
```

```
#Now at the PIPJava Trees
```

```
#####
```

```
setwd("~/Documents/PIPJava/AAData/
```

```
Eldhose_8taxa_100replica_int0.5_el200_tr8_newick/")
```

```
library(phytools)
```

```
library(gtools) #Use this to use mixed sort to order strings in order 0 1 2
3 instead of [0 1 10 11 20 21]
```

```
library(readtext)
```

```
treenames = list.files(pattern="*.newick")
```

```
treenames= mixedsort(treenames,decreasing = TRUE)
```

```
c= 0
```

```
for(i in treenames){
```

```
  GuideTree= read.tree(file=i)
```

```
  #to remove round the edge.length to 9 decimal points, for INDELible
```

```
  GuideTree$edge.length= round(GuideTree$edge.length,9)
```

```
  #to remove root label, for INDELible
```

```
  GuideTree$node.label= GuideTree$node.label[-1]
```

```
  #Writing the tree back to the same file the file extension can be
manipulated
```

```
  write.tree(GuideTree,file= paste0("sim-",c,sep= ".tree")) #protect
original newick file
```

```
  #New empty control files are created here
```

```
  sapply(paste0("control-",c, ".txt"), file.create)
```

```
  c= c+1
```

```
}
```

```
#####
```

```
#Moving to Control files now
```

```
controlnames = list.files(pattern="*.txt")
```

```
controlnames= mixedsort(controlnames,decreasing = TRUE)
```

```
shorttrees = list.files(pattern="*.tree")
```

```
shorttrees= mixedsort(shorttrees,decreasing = TRUE)
```

```
#Content (fixed)
```

```
#Content (dynamic) Tree block with the data from above
```

```
#l= length(controlnames)
```

```
#append 1:100
```

```
#naming 0:99
```

```
for(j in 1:100){
```

```
  sink(controlnames[j])
```

```
  cat("[TYPE] AMINOACID 1")
```

```
  cat("\n")
```

```
  cat("\n")
```

```
  cat("[SETTINGS]")
```

```

cat("\n")
cat("    [ancestralprint]          NEW")
cat("\n")
cat("    [output]                  FASTA")
cat("\n")
cat("    [phylipextension]         phy")
cat("\n")
cat("    [nexusextension]          new")
cat("\n")
cat("    [fastaextension]          fasta")
cat("\n")
cat("    [randomseed]              1234567")
cat("\n")
cat("    [printrates]              TRUE")
cat("\n")
cat("    [insertaslowercase]       FALSE")
cat("\n")
cat("    [markdeletedinsertion]    TRUE")
cat("\n")
cat("    [printcodonsasaminoacids] FALSE")
cat("\n")
cat("    [fileperrep]              TRUE")
cat("\n")
cat("\n")

cat("[MODEL] WAGModel")
cat("\n")
cat("    [submodel]      WAG")
cat("\n")
cat("    [indelmodel]    POW 1.7")
cat("\n")
cat("    [indelrate]     0.05")
cat("\n")
cat("\n")

#here we need to add tree from shorttrees[j] which is a tree file
treeastext= readtext(shorttrees[j],verbosity = 0)
cat(paste0("[TREE] Tree8    ",treeastext$text))
cat("\n")
cat("\n")

cat("[PARTITIONS] Tree8 [tree8 WAGModel 200]")
cat("\n")
cat("\n")

# cat("[EVOLVE] Tree8 1 out1")
cat(paste0("[EVOLVE] Tree8 1 out_",j-1))

sink()
#file.show(controlnames[1])
}

```

