?> docker run -it --name shenglab -v /:/tmp ubuntu bash

>> mkdir /tmp/data2/shenglab1/hills\_q

>> mkdir /tmp/data2/shenglab1/hills\_q/greengenes

>> mv /tmp/home/shenglab1/Downloads/fastq\_files /tmp/data2/shenglab1/hills\_q/fastq\_files

>> mv /tmp/home/shenglab1/Downloads/gg\_13\_5.fasta /tmp/data2/shenglab1/hills\_q/greengenes/gg\_13\_5.fasta

?> docker stop $(docker ps -a -q --filter="name=shenglab")

?> docker rm $(docker ps -a -q --filter="name=shenglab")

?> docker run -it --name luis -v /:/tmp ubuntu bash

?> docker stop $(docker ps -a -q --filter="name=luis")

?> docker rm $(docker ps -a -q --filter="name=luis")

?> docker run -it --name shenglab -v /data2/shenglab1/hills\_q:/tmp ubuntu bash

>> chmod 1777 /tmp

>> apt-get update

>> apt-get install bc

>> apt-get install -y sortmerna

>> cd /tmp/greengenes

>> indexdb\_rna --ref gg\_13\_5.fasta,gg\_13\_5

>> ln -s /tmp/greengenes/gg\_13\_5.fasta.dat /tmp/greengenes/gg\_13\_5.idx

Decompress fastq files

>> cd /tmp

>> mkdir /tmp/fastq

>> for file in /tmp/fastq\_files/\*.fastq.gz; do

filename=$(basename "$file" .fastq.gz)

echo "Decompressing $file"

gunzip -c "$file" > "/tmp/fastq/$filename.fastq"

done

>> rm -rf fastq\_files

#Aligning

>> mkdir -p /tmp/aligned

>> for file in /tmp/fastq/\*.fastq; do

filename=$(basename "$file")

echo "Processing $filename"

sortmerna --ref /tmp/greengenes/gg\_13\_5.fasta,/tmp/greengenes/gg\_13\_5 --reads "$file" --aligned /tmp/aligned/"$filename"\_aligned.fastq --other /tmp/aligned/"$filename"\_unaligned.fastq --fastx --log -a 4 --blast 1 --best 1 --sam

done

NEW FASTQ FILES

>>mkdir -p /tmp/filtered\_fastq

>>for file in /tmp/aligned/\*\_aligned.fastq.fastq; do

filename=$(basename "$file" \_aligned.fastq.fastq)

cp "$file" "/tmp/filtered\_fastq/$filename"

done

MINIMUM OF 1000

>> cd /tmp/filtered\_fastq

>> for file in \*; do

if [ ! -s "$file" ] || [ $(grep -c "^@" "$file") -lt 1000 ]; then

rm "$file"

fi

done

GET LIST

>> for file in \*.fastq; do

filename=$(basename "$file" .fastq)

echo "${filename%.\*}" >> /tmp/filtered\_files.txt

done