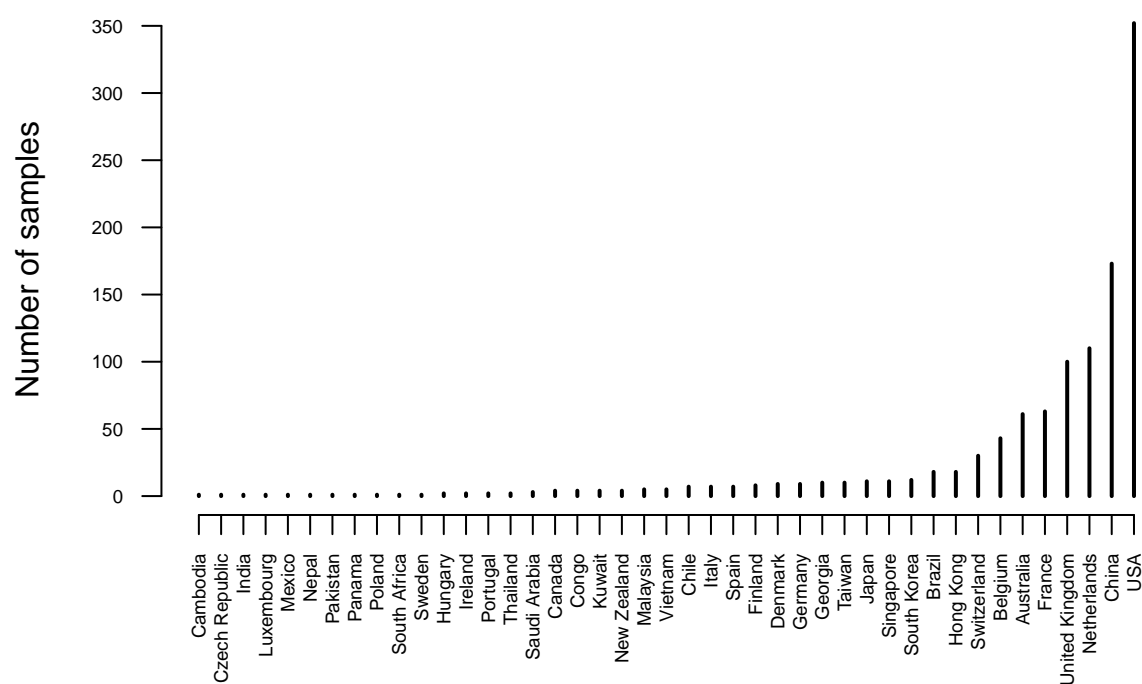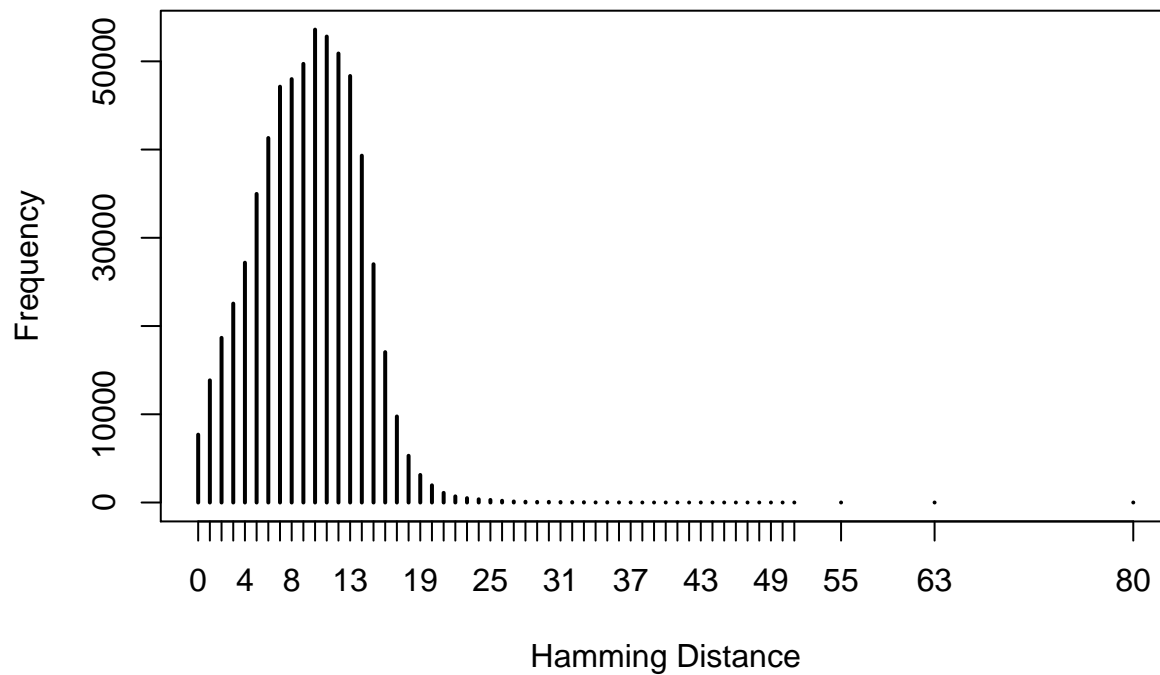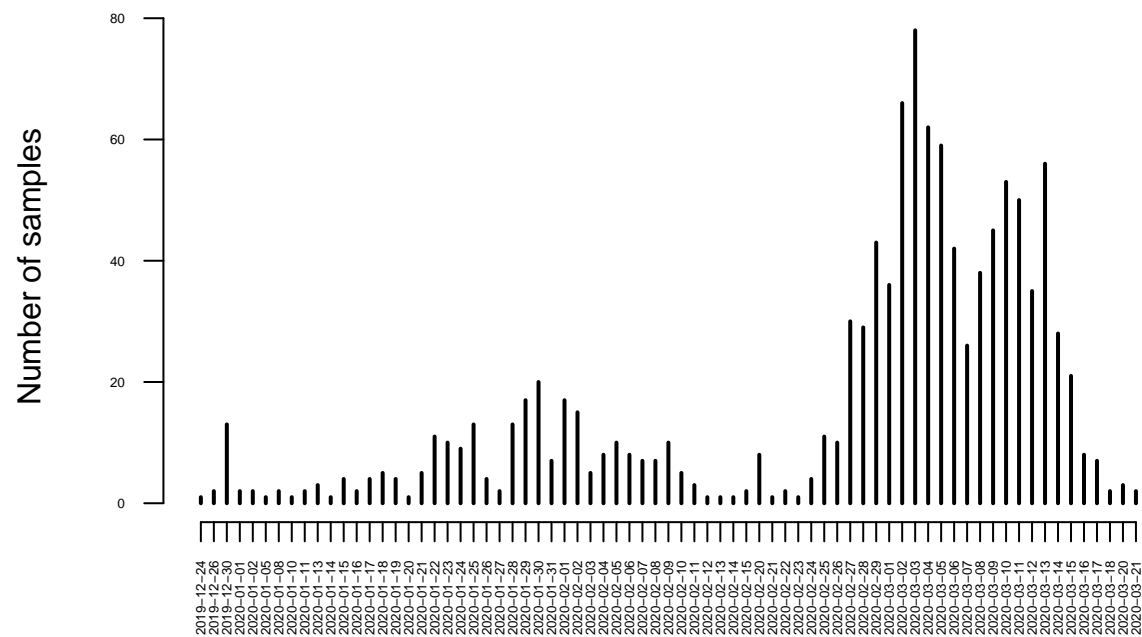# Preliminary Molecular Clock Check and Summary Statistics
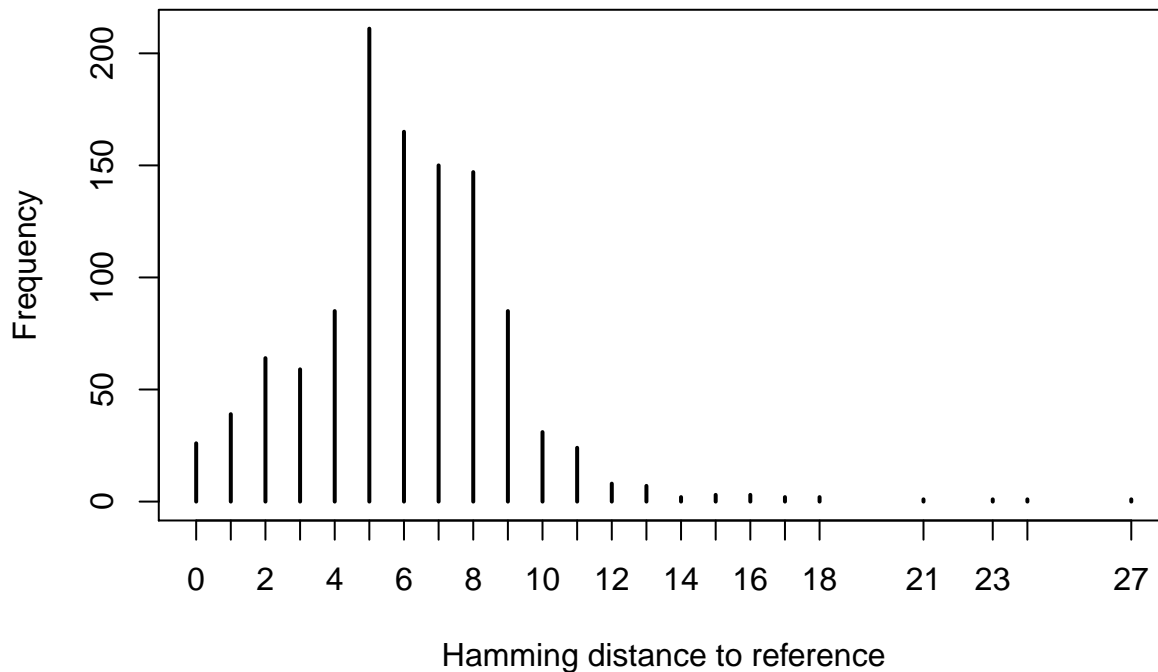
```
##
## Attaching package: 'lubridate'

## The following object is masked from 'package:base':
##
##     date
```

**A total of  1117  from  43 countries –– Fri Mar 27 06:05:27 2020**

# Sequences by date

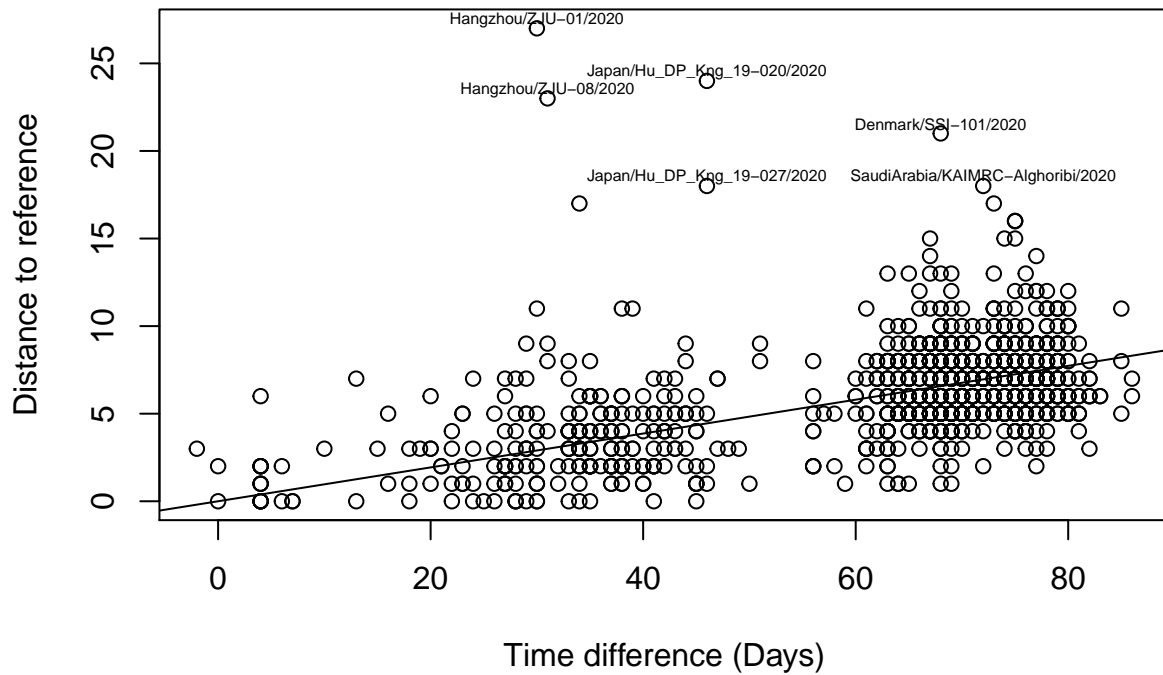Hamming distance to reference

```
## 
## Call:
## lm(formula = hamming[ref, ] ~ -1 + x)
## 
## Residuals:
##     Min      1Q  Median      3Q     Max 
## -5.6678 -1.5419 -0.3443  1.4245 24.1009 
## 
## Coefficients:
##   Estimate Std. Error t value Pr(>|t|)    
## x 0.096635   0.001197    80.7   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 
## Residual standard error: 2.578 on 1116 degrees of freedom
## Multiple R-squared:  0.8537, Adjusted R-squared:  0.8536 
## F-statistic:  6513 on 1 and 1116 DF,  p-value: < 2.2e-16


##             Denmark/SSI-101/2020|2020-03-03
##                                         158
##            Hangzhou/ZJU-01/2020|2020-01-25
##                                         371
##            Hangzhou/ZJU-08/2020|2020-01-26
##                                         378
##      Japan/Hu_DP_Kng_19-020/2020|2020-02-10
##                                         410
##      Japan/Hu_DP_Kng_19-027/2020|2020-02-10
##                                         411
## SaudiArabia/KAIMRC-Alghoribi/2020|2020-03-07
##                                         560
```

## A total of 2.71 of mutations per month



## Reference:

Rambaut, Andrew, Tommy T. Lam, Luiz Max Carvalho, and Oliver G. Pybus. "Exploring the temporal structure of heterochronous sequences using TempEst (formerly Path-O-Gen)." Virus evolution 2, no. 1 (2016).