A normal distribution would produce a probability plot with a straight line. The probability plots for those two data sets produce something a long way from a straight line

ii) There are both positive and negative values for the differences, but negative numbers do not return square roots or logarithms. A constant could be added to each value of the difference to make them all positive, but then taking a log or square root would make it difficult to compare with the untransformed data, and it would be difficult to form any results.

iii) The Mann Whitney Wilcoxon test does not assume normality. Unlike the Wilcoxon test, both samples need not have the same number of values.

```
mww_(halo,placebo)
Normal approximation:
  uA = 350      [ μ = 484 , σ = 41.16 ]
  z = -3.256
  SP (obtained direction) = 0.0005655
  SP (opposite direction) = 0.0005655
  SP (total) = 0.001131
```

The vectors both have more than twenty members. The normal approximation for the Mann-Whitney-Wilcoxon test may be used if both vectors have more than eight members each, hence we can use the normal approximation.

The null hypothesis is that there is no difference between the two samples, that they come from the same population. The significance probability is very small. The null hypothesis can be rejected.