

## Additional File 2

A)

| Divergence | Damage | C-T<br>observed /<br>expected,<br>all 5' elevated | C-T<br>observed /<br>expected,<br>5'-most position | G-A<br>observed /<br>expected,<br>all 3' elevated | G-A<br>observed /<br>expected,<br>3'-most position | 5' C-T / 3'G-A,<br>all elevated<br>positions | 5' C-T / 3'G-A,<br>5'- and 3'-most<br>positions |
|------------|--------|---------------------------------------------------|----------------------------------------------------|---------------------------------------------------|----------------------------------------------------|----------------------------------------------|-------------------------------------------------|
| low        | low    | 1.065***                                          | 0.877***                                           | 1.298***                                          | 0.948***                                           | 0.844***                                     | 0.922***                                        |
|            | high   | 0.920***                                          | 0.850***                                           | 1.049**                                           | 0.855***                                           | 0.899***                                     | 0.993**                                         |
| high       | low    | 1.038                                             | 0.791***                                           | 1.239***                                          | 0.868***                                           | 0.853***                                     | 0.907***                                        |
|            | high   | 0.875***                                          | 0.764***                                           | 0.990                                             | 0.783***                                           | 0.903***                                     | 0.976***                                        |

B)

| Divergence | Read end | Position     | %GC                        | read length                | damage                                                            | coverage depth         |
|------------|----------|--------------|----------------------------|----------------------------|-------------------------------------------------------------------|------------------------|
| low        | 5'       | all elevated | $-1.02 \times 10^{-4}$     | $-3.31 \times 10^{-4} ***$ | $0.003e^{1.036(\text{damage})***}$<br>$/ 5.93 \times 10^{-2} ***$ | $-4.74 \times 10^{-6}$ |
|            |          | 5'-most      | $-3.06 \times 10^{-4} ***$ | $-1.10 \times 10^{-3} ***$ | $2.19 \times 10^{-1} ***$                                         | $-3.60 \times 10^{-5}$ |
|            | 3'       | all elevated | $-1.09 \times 10^{-4}$     | $-3.76 \times 10^{-5}$     | $0.007e^{0.769(\text{damage})***}$<br>$/ 5.81 \times 10^{-2} ***$ | $-1.08 \times 10^{-6}$ |
|            |          | 3'-most      | $-3.06 \times 10^{-4} ***$ | $-8.76 \times 10^{-4} ***$ | $2.13 \times 10^{-1} ***$                                         | $2.88 \times 10^{-7}$  |
| high       | 5'       | all elevated | $-1.52 \times 10^{-4*}$    | $-3.40 \times 10^{-4} ***$ | $0.005e^{0.864(\text{damage})***}$<br>$/ 5.21 \times 10^{-2} ***$ | $-8.76 \times 10^{-6}$ |
|            |          | 5'-most      | $-3.03 \times 10^{-4} ***$ | $-1.11 \times 10^{-3} ***$ | $1.97 \times 10^{-1} ***$                                         | $-8.57 \times 10^{-6}$ |
|            | 3'       | all elevated | $-1.61 \times 10^{-4*}$    | $-8.61 \times 10^{-5}$     | $0.009e^{0.678(\text{damage})***}$<br>$/ 5.16 \times 10^{-2} ***$ | $-1.22 \times 10^{-5}$ |
|            |          | 3'-most      | $-3.63 \times 10^{-4} ***$ | $-9.04 \times 10^{-4} ***$ | $1.95 \times 10^{-1} ***$                                         | $-4.33 \times 10^{-5}$ |