**S3 Text**  Figure 1 shows how minimum depuration time (MDT) follows a concave quadratic form with respect to variability ($\sigma_0$), as described in the main text by

$$T(\sigma_0) = b^{-1} \left[ -\frac{1}{2} \sigma_0^2 + \sqrt{2} \text{erf}^{-1} (2\varphi - 1) \sigma_0 + \ln \left( \frac{x_0}{\Psi} \right) \right].$$  \hspace{1cm} (1)

The maximum MDT (or $MDT_{WCV}$) occurs when $\sigma_0 = \sqrt{2} \text{erf}^{-1} (2\varphi - 1)$, which is described as the worst case variability (WCV) with regards to MDT.

![Graph showing MDT versus variability](image)

**Fig 1.** Plot of pathogen variability ($\sigma_0$) versus minimum depuration time ($T(\sigma_0)$). Threshold limit $\Psi = 200$ NoV cpg, NoV assurance level $\varphi = 95\%$, and initial mean NoV load $x_0 = 1064$ cpg