**Supplemental Figure S3**: Predicted changes in naive CD4$^+$ and CD8$^+$ T-cell numbers and TREC contents if HIV also reduces thymic output. The predicted effect of a reduction in thymic output on naive T-cell numbers (black curves) and their average TREC contents (red curves) if T-cell division and loss rates are increased as described in Figs. 3a and 3b. The solid lines represent the dynamics when thymic output was not affected by HIV (i.e. $k_t=1$), the dashed and dotted lines represent simulations in which thymic output was reduced to 50% and 25% of that in age-matched healthy controls (i.e. $k_t=0.50$ and 0.25), respectively, while the dotted-dashed line represents simulations in which thymic output was totally lost upon HIV infection (i.e. $k_t=0$). Left panels show the short-term dynamics while right panels show the long-term dynamics. **Panel a**: before infection $\sigma_0=1.09\times10^{10}$ cells/year, $h=1.5\times10^{11}$, $c=0.25$, $v=0.05$/year and $d=0.109$/year. After infection: $d=1.314$/year and $p=1.304$/year, $p=1.306$/year and $p=1.308$/year for $k_t=0.50$, 0.25 and 0 respectively. **Panel b**: before infection $\sigma_0=3.65\times10^{10}$ cells/year, $h=3.2\times10^{11}$, $c=0.25$, $v=0.05$/year and $d=0.183$/year. After infection: $d=0.548$/year and $p=0.498$/year (assuming the lowest possible increase of division rate, see Supplemental Methods).