Supplemental Digital Content 1.TIF
HIV viral kinetic model: CD4+ lymphocytes are produced at a constant rate $S_0$. These cells die at rate $T_d$ and are infected according infection rate constant $\beta$. Infected cells are eliminated at a rate $\delta$. Viral particles (virions) are produced at rate $p$ per infected cell and cleared at rate $c$. CIS represents the combined effect of the 3 reverse transcriptase inhibitors.
**Supplemental Digital Content 2.TIF**

Visual predictive checks of the model: the observed viral loads (left) and CD4 counts (right) are displayed with points, the predicted median with a dashed line. Areas represent the 90% prediction interval and `+` symbols are the censored data displayed as model-predicted observations.

**Supplemental Digital Content 3.TIF**

Effect of efavirenz as a function of the concentration (left). Effect of didanosine and lamivudine as a function of the area under the curve (AUC\_0-24) (right). When drugs exposures tend towards infinity, the effects of EFV, ddi and 3TC tend towards 0.65, 0.23 and 0.12 respectively. These values correspond to the maximum effect estimated from the model for each drug.