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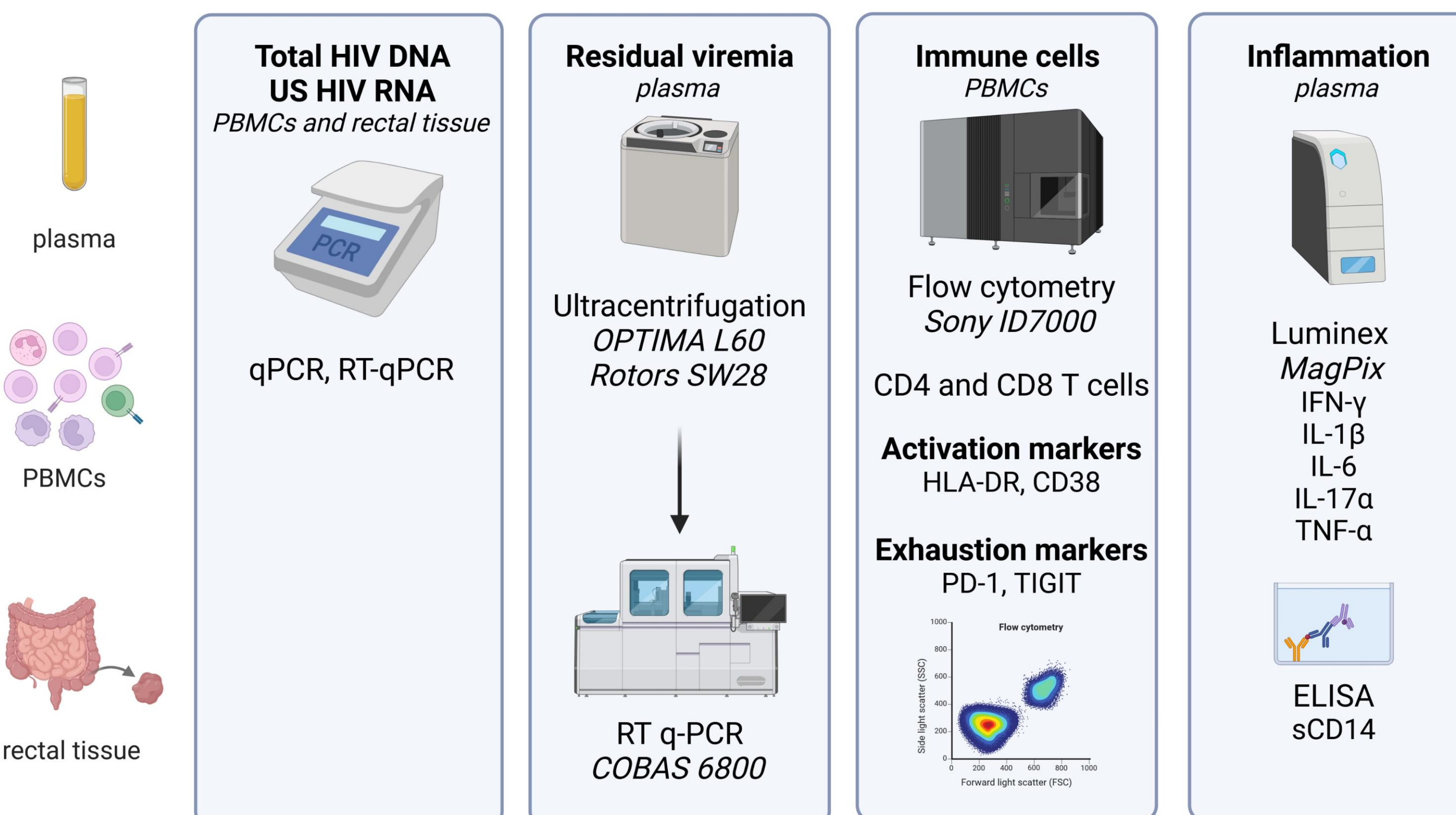
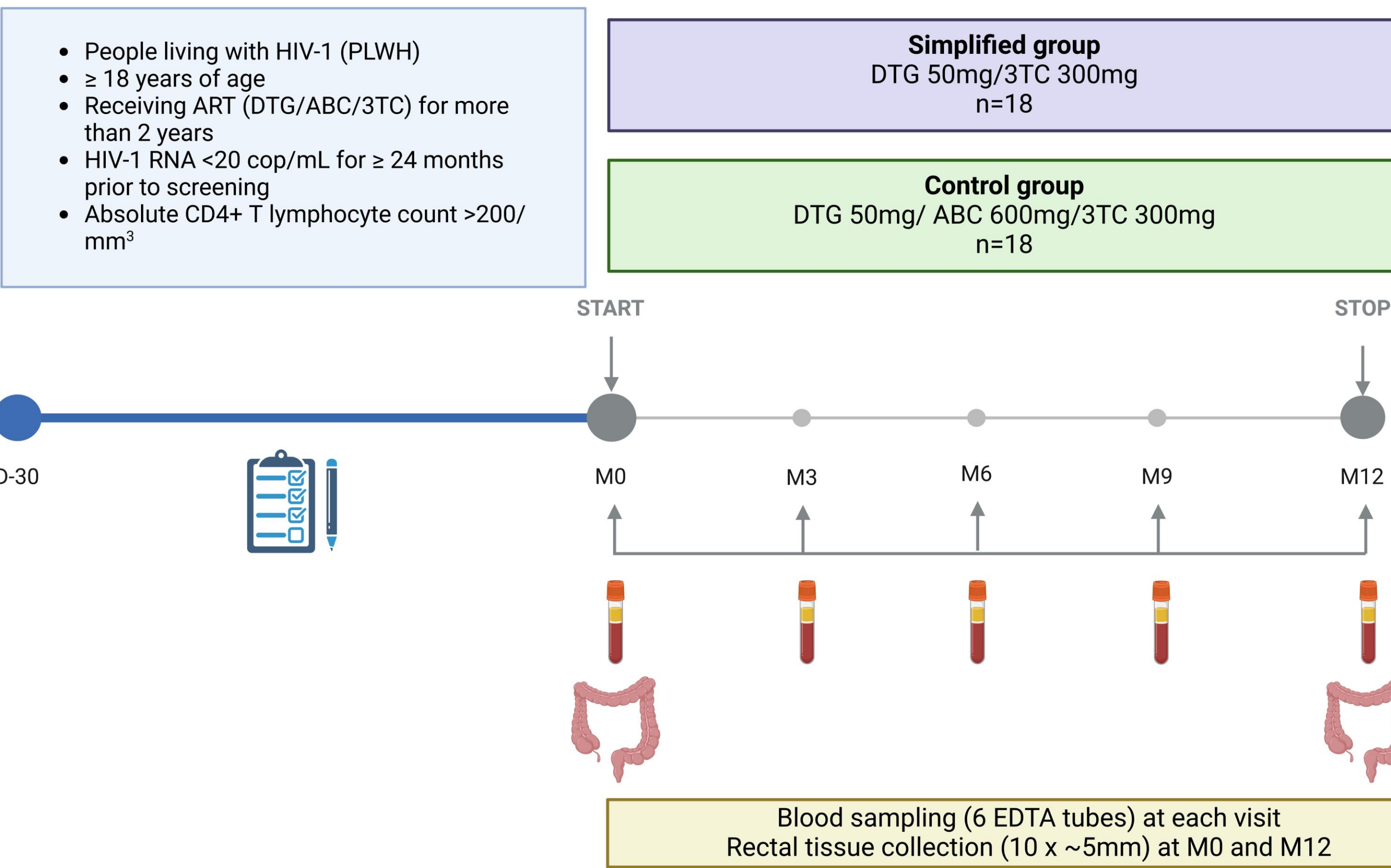
1. BACKGROUND

- Antiretroviral therapy (ART) is not curative, and the persistence of viral reservoirs forms the major obstacle to an HIV cure.
- Replenishment by residual virus replication despite ART has been proposed as a potential mechanism of HIV persistence.
- In recent years, there has been a clear trend towards ART regimens that include fewer drugs (e.g., dual instead of triple therapy).
- In this study, we evaluated the possible increase in viral replication and reservoir replenishment in blood and tissue upon ART simplification with DTG/3TC and the impact of this simplification on chronic immune activation/exhaustion and inflammation.

2. METHODS

Screening phase

Phase 3 randomized and controlled clinical trial n=36



3. RESULTS

Objective 1: Does DTG/3TC impact HIV reservoir or residual viremia ?

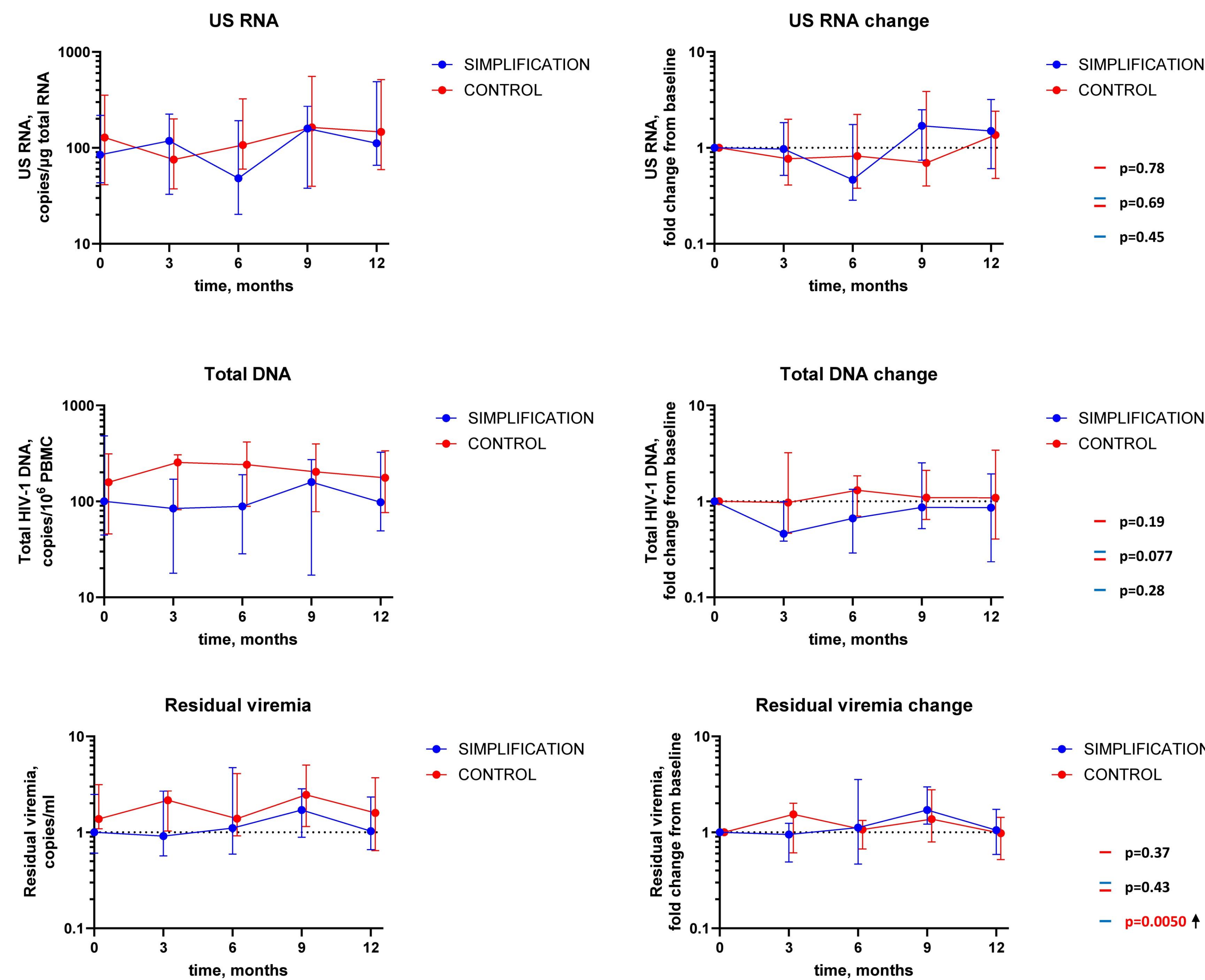


Figure 1. Virological markers during ART simplification.

Left panels: median (IQR) concentrations of US HIV RNA, total HIV DNA in PBMCs and residual viremia. Right panels: fold change of US HIV RNA, total HIV DNA in PBMCs and residual viremia from baseline to months 3, 6, 9 and 12 of the study in the simplified (blue) and control (red) groups.

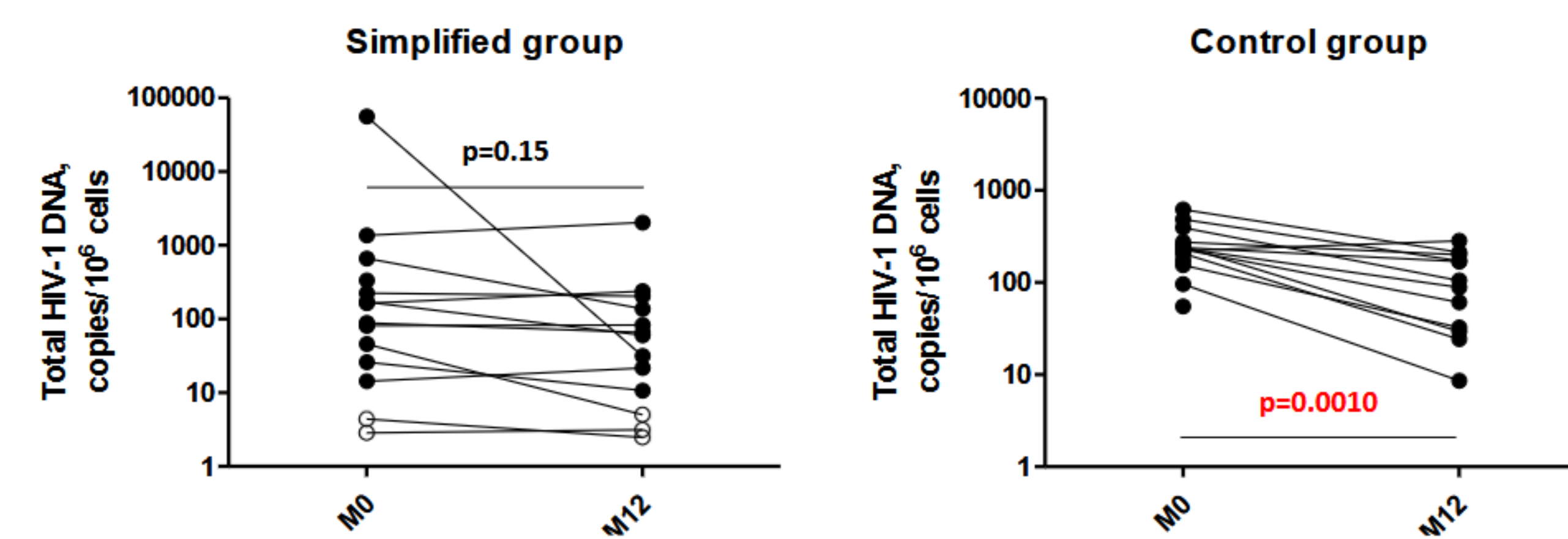


Figure 2. Change of total HIV DNA in rectal tissue during ART simplification.

Change of total HIV DNA in rectal tissue in the simplified group and in the control group between month 0 and month 12.

Objective 2: Does DTG/3TC impact immune activation or inflammation ?

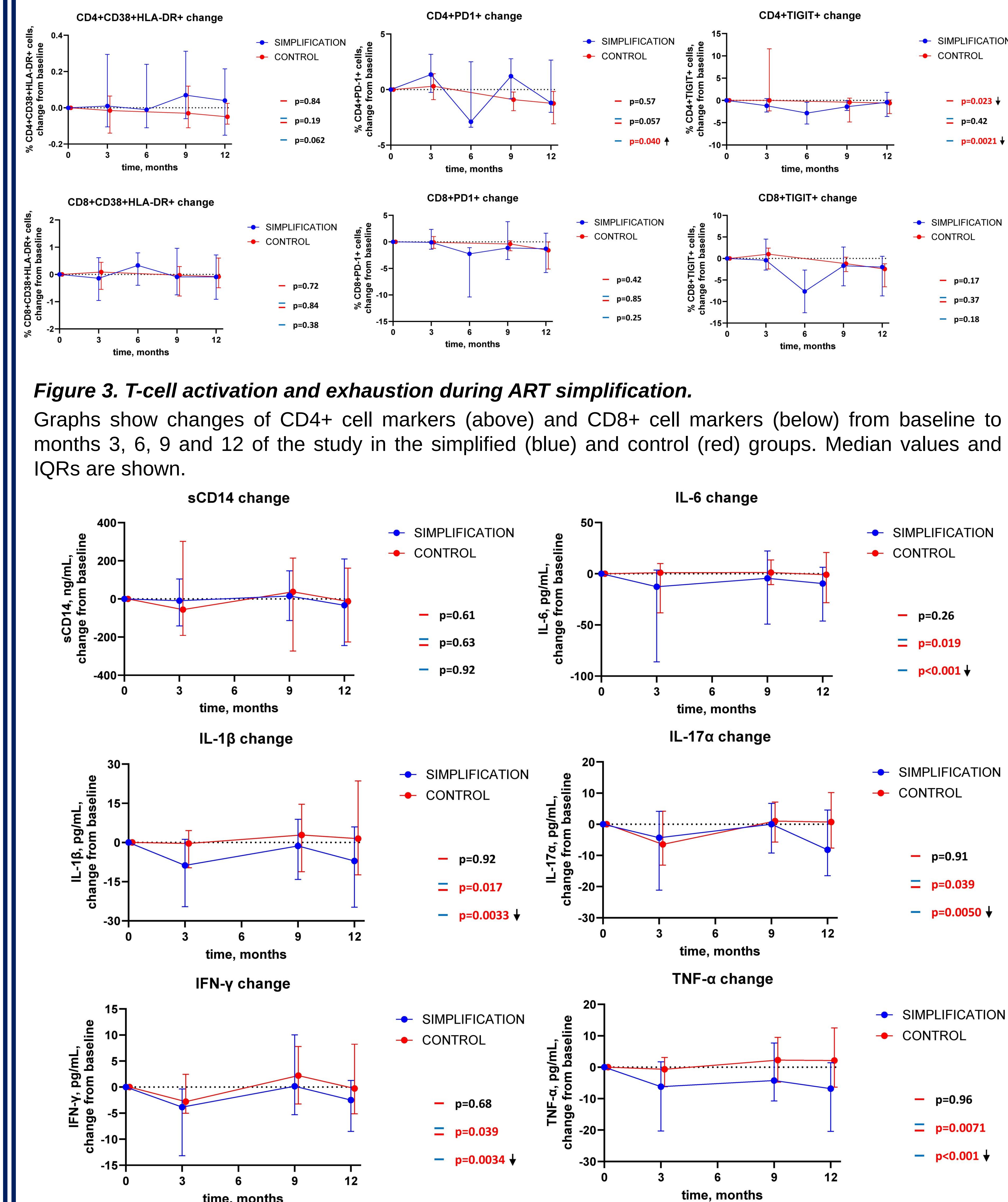


Figure 3. T-cell activation and exhaustion during ART simplification.

Graphs show changes of CD4+ cell markers (above) and CD8+ cell markers (below) from baseline to months 3, 6, 9 and 12 of the study in the simplified (blue) and control (red) groups. Median values and IQRs are shown.

Figure 4. Biomarkers of inflammation during ART simplification.

Changes of concentrations of sCD14, IL-6, IL-1β, IL-17α, IFN-γ and TNF-α from baseline to months 3, 6, 9 and 12 of the study in the simplified (blue) and control (red) groups. Median values and IQRs are shown.

Switching to DTG/3TC maintained plasma viral load suppression, didn't measurably impact HIV persistence markers in blood or tissue, and reduced systemic inflammation. These findings support the use of DTG/3TC in PLWH.