

S4. Appendix. Comparison of mouse and human host tissue oxygenation and blood flow.

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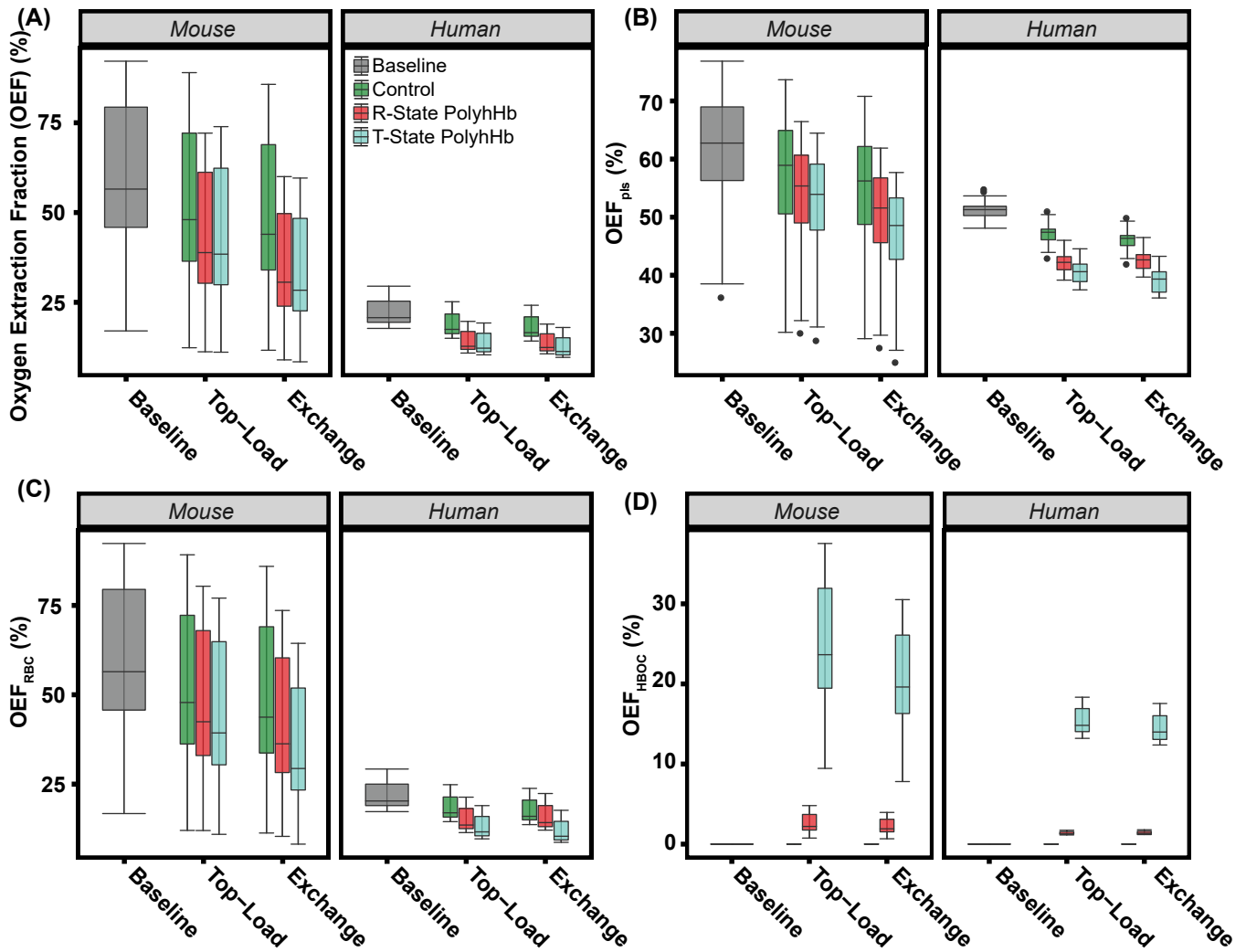


Fig A. Changes in oxygen (O_2) extraction fraction (OEF) for the simulated polymerized human hemoglobin (hHb) (PolyhHb) enhanced transfusion model in host tissue. Variations in (A) OEF, (B) O_2 extraction fraction from plasma (OEF_{plas}), (C) O_2 extraction fraction from hemoglobin (Hb) in red blood cells (RBCs) (OEF_{Hb}) O_2 saturation in RBC, and (D) O_2 extraction fraction from Hb-based O_2 carriers (HBOCs) (OEF_{HBOC}) (HBOC) concentration transfusion of the control, 30:1 relaxed quaternary state (R-State) PolyhHb, and the tense quaternary state (T-State) PolyhHb.

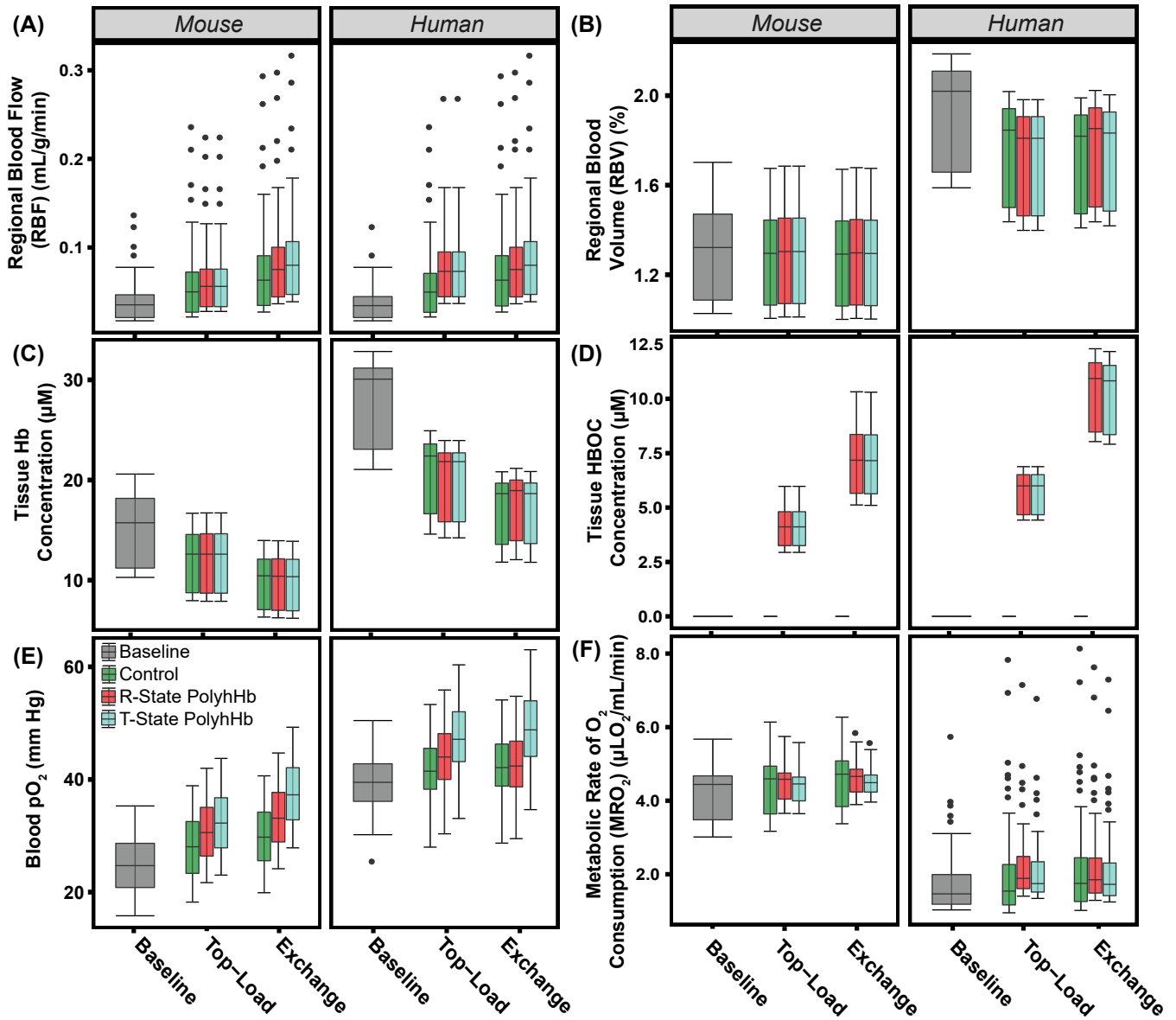


Fig B. Changes in the tumor vascular architecture and Hb/PolyhHb concentrations for the simulated PolyhHb enhanced transfusion model in host tissue. Variations in host tissue (A) regional blood flow (RBF), (B) regional blood volume (RBV), (C) Hb concentration in the tissue ($C_{Hb,tis}$), (D) PolyhHb (HbOC) concentration, (E) blood partial pressure of dissolved O_2 ($p\text{O}_2$), and (F) metabolic rate of O_2 consumption (MRO_2) for the baseline, top-load, and exchange transfusion of the control, 30:1 R-State PolyhHb, and the T-State PolyhHb.