



SUPPLEMENTARY FIG. S5. Enclosure procedures of the biaxial bioreactor. **(A)** Bioreactor cap is placed on *top* of the bioreactor. Teflon bushing of the cap was rotated clockwise to enclose the bioreactor. Static tissue-engineered vessel (TEV) is located near the *bottom* of the bioreactor. Uni-axial and biaxial TEVs are aligned in parallel and are located on *top* of the static TEV. **(B)** Air filters (0.22 μm) are inserted into the tubing on the silicone stopper to allow for gas exchange between the inside of the bioreactor and the incubator.