

Description of Additional Supplementary Files

File name: Supplementary Video 1

Description: Live Calcium Imaging in Stable Chambered Cardioids on Day 50. This video demonstrates live calcium imaging in stable chambered cardioids on day 50 of development, highlighting the calcium dynamics within these cardiac structures and their functional behavior.

File name: Supplementary Video 2

Description: Bright-Field Microscopy Video of Live Stable Chambered Cardioids Beating on Day 16.5. This video showcases the beating activity of live stable chambered cardiac organoids captured on day 16.5 of development using bright-field microscopy.

File name: Supplementary Video 3

Description: Displacement Heatmaps of Cardiac Organoids at 0 min ISO. This video presents the displacement heatmaps of cardiac organoids prior to ISO treatment, offering a dynamic visualization captured on day 20.5.

File name: Supplementary Video 4

Description: Displacement Heatmaps of Cardiac Organoids at 30 min ISO. This video presents the displacement heatmaps of cardiac organoids after 30 minutes of ISO treatment, providing a dynamic visualization captured on day 20.5.

File name: Supplementary Video 5

Description: Bright-Field Microscopy Video of Cardiac Organoids at 0 min. This video presents the beating activity of cardiac organoids prior to ISO treatment, offering a dynamic visualization captured on day 20.5.

File name: Supplementary Video 6

Description: Bright-Field Microscopy Video of Cardiac Organoids at 30 min ISO. This video presents the beating activity of cardiac organoids after 30 minutes of ISO treatment, providing a dynamic visualization captured on day 20.5.