**Supplementary Figure S1.** Sarcomeric tropomyosin immunofluorescence in non-infected cardiac microtissues (A). Quantification of sarcomeric tropomyosin positive cells (B). A mean of 68% of cardiomyocytes (tropomyosin positive cells) were observed in 3 independent experiments using 3 spheroids per experiment.

**Supplementary Figure S2.** 3D confocal reconstruction of *T. cruzi* infected spheroid after 144h post infection shows *T. cruzi* distributed in distinct depth levels.

**Supplementary Figure S3.** Cell quantification of slides from not treated and POS treated microtissues. The total host cell number was not different between the groups.