

## Supplemental Material

### **Low-cost photodynamic therapy devices for global health settings: Characterization of battery-powered LED performance and smartphone imaging in 3D tumor models**

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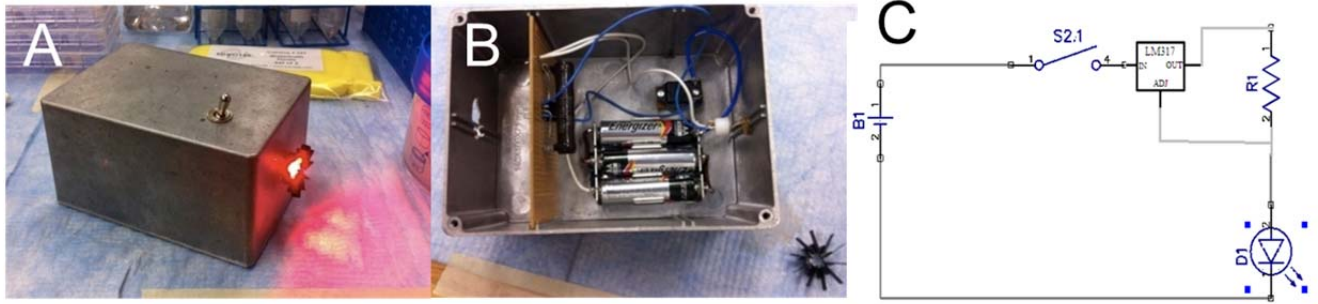
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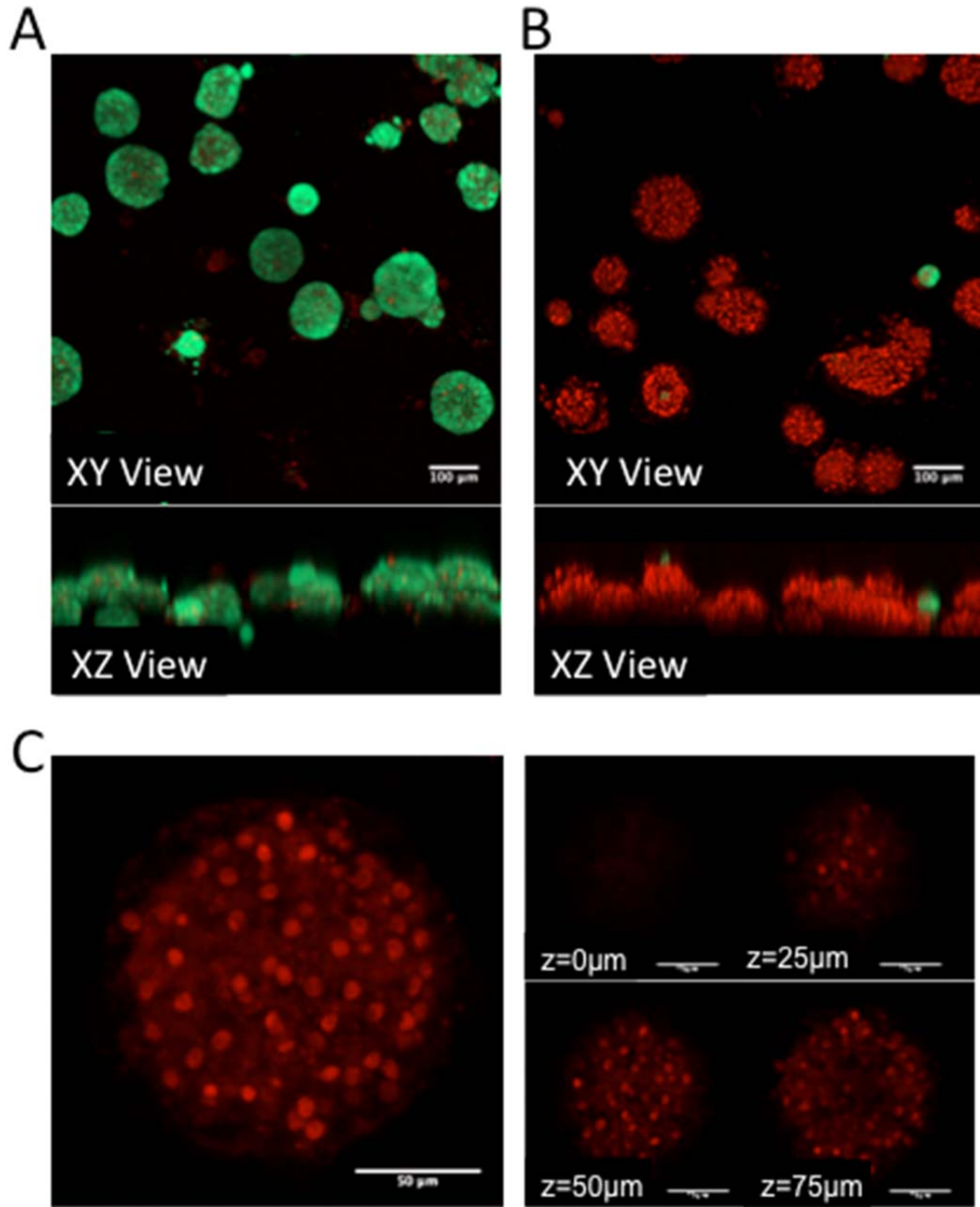
## Supplemental Figure 1



### Supplemental Figure 1: LED irradiation device photographs and schematic.

Photographs of the exterior **(A)** and interior **(B)** of the device used. The battery-powered circuit showing the battery source (B1), LED (D1), power resistor (R1), voltage regulator (LM317) and switch (S2.1) is depicted in **(C)**.

## Supplemental Figure 2



Supplemental Figure 2: Depth resolved cytotoxic response in 3D tumour models stained with calcein AM (green) and ethidium bromide (red) imaged via confocal microscopy. Large spatial fields showing XY (max intensity Z projection) and XZ views

of untreated cultures (A) and cultures treated with  $80\text{J}/\text{cm}^2$  ALA-PDT with light delivered via battery-powered device (B). 3D nodules are approximately spherical as previously characterized in other cell lines and have mean diameter (and equivalent depth) of  $101 \pm 27$   $\mu\text{m}$  with nearly complete cytotoxic destruction throughout. A zoomed in view of a representative 3D nodule in (C) shows depth resolved cytotoxic response in each optical section.