

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: **Imaging of UvrA-YPet cells.** Movie showing UvrA-YPet cells immobilized in a flow cell and exposed to 514 nm laser light. Acquisition is collected in two phases. Phase I consists of 50 frames of 100 ms each. Phase II consists of 100 frames of 100 ms each. Frames in phase II are collected by introduction of a dark interval. Here, example video shows continuous acquisition in both phases. Scale bar represents 5 μm .