



**FIG S2** Controls of Van-FL staining. AFS-I-*sjcF1* or *Anabaena* wild-type cells grown in BG11 medium were incubated with uncoupled vancomycin and analyzed by CLSM. The fluorescence of Van-FL (FL), the cyanobacterial autofluorescence (AUF) and the overlay (OL) are shown. This analysis serves as control that the fluorescence channel chosen is specific to activated vancomycin and does not detect the autofluorescence of *Anabaena* cells.