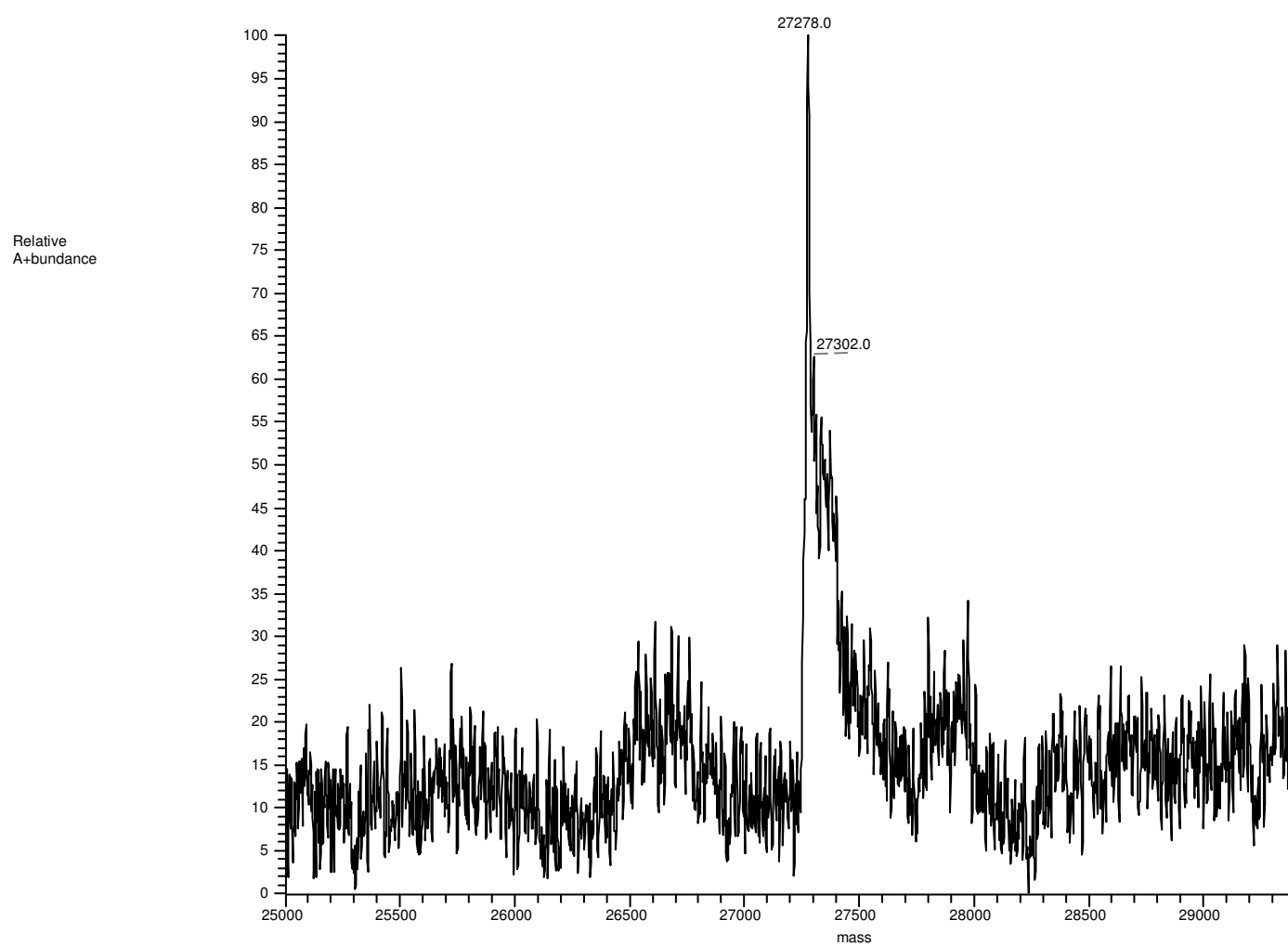
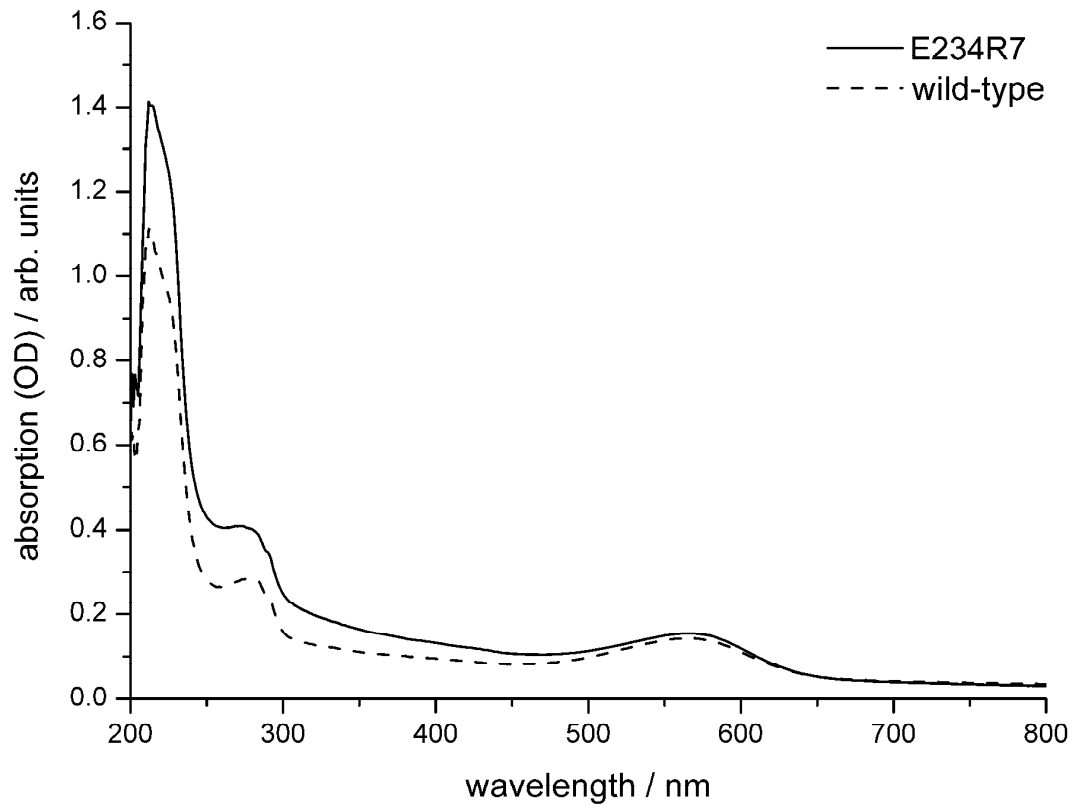


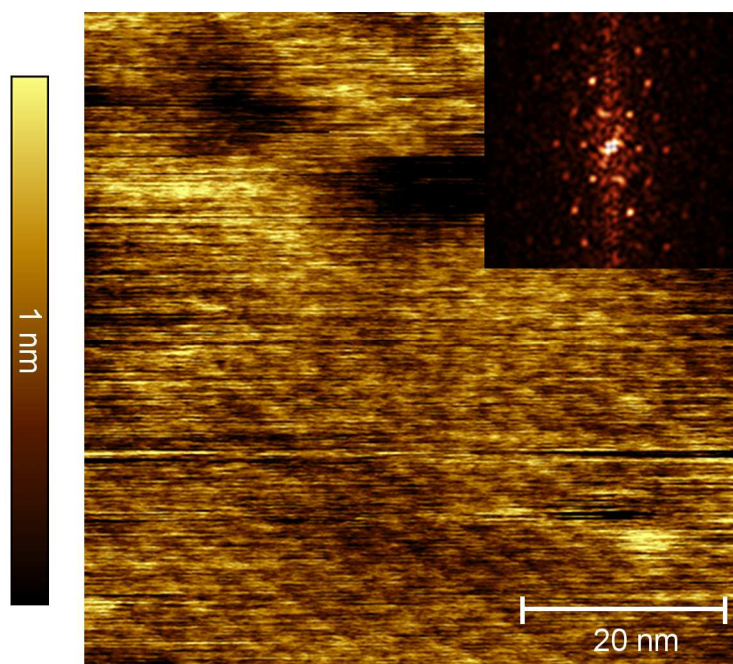
**Figure 1.** Left: Ultra centrifugation sucrose density gradients comparing PM-E234R7 and wild-type BR. Right: SDS page plot of BR-E234R7 in comparison to BR-WT.



**Figure 2.** Mass spectrum of BR-E234R7 verifying the successful genetic modification by revealing a main mass peak at 27280 Dalton.



**Figure 3.** Absorption characteristics of BR variant E234R7 in comparison to the wild-type from 200-800 nm. The introduced genetic modification on the cytoplasmic side has no effect on the photo properties of BR.



**Figure 4.** TM-AFM height image of highly oriented PM-E234R7 on mica featuring the extracellular side.