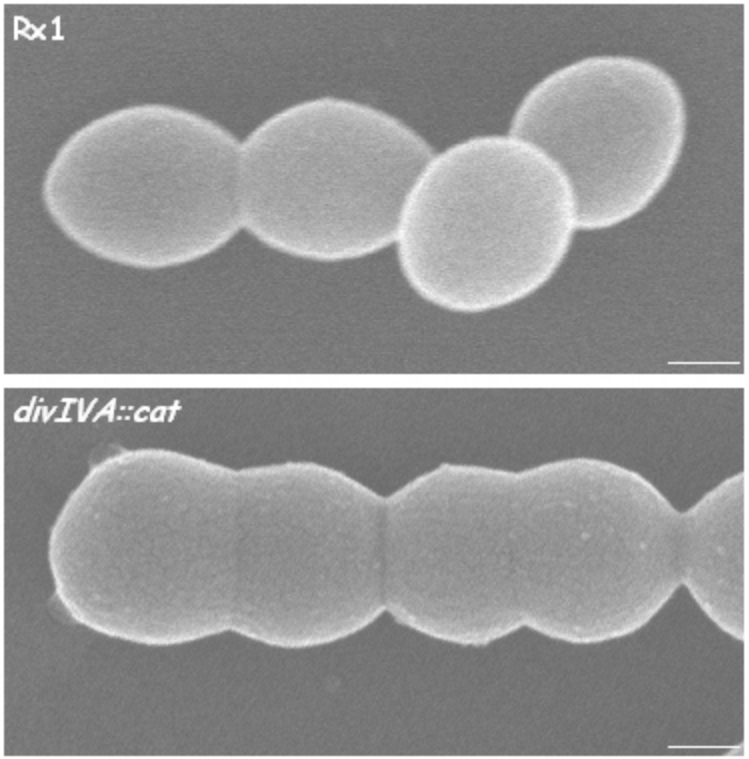

Figure S3. Scanning electron micrographs showing the morphological differences between the Rx1 wild-type and the Rx1 *divIVA::cat* cells. Note that the poles of the *divIVA* null mutant have an oblate rather than prolate shape, correlating with the approximately 20% difference in the cell diameter previously reported (Fadda *et al.*, 2003). For scanning electron microscopy *S. pneumoniae* cells were cultured in TSB medium and monitored turbidimetrically at 650 nm until they reached an OD of 0.45. Cultures were rapidly chilled in an ice bath, centrifuged (10,000 x *g*, 15 min, 4 °C), washed in 10 mM phosphate (pH 7.0) and fixed in paraformaldehyde 1% and glutaraldehyde 1.25% in 0.15 M sodium cacodilate buffer for 4 h at room temperature. Fixed cells were washed with PBS and transferred onto a circular cover glass, deydrated in ascending concentrations of acetone, followed by critical-point drying using CO_2. Samples were then coated with platinum in a Emitech 575 turbo sputtering apparatus and examined in a FE Hitachi S4000 scanning electron microscope operating at 15-20 kV. The scale bar represents to 0.25 μm.