

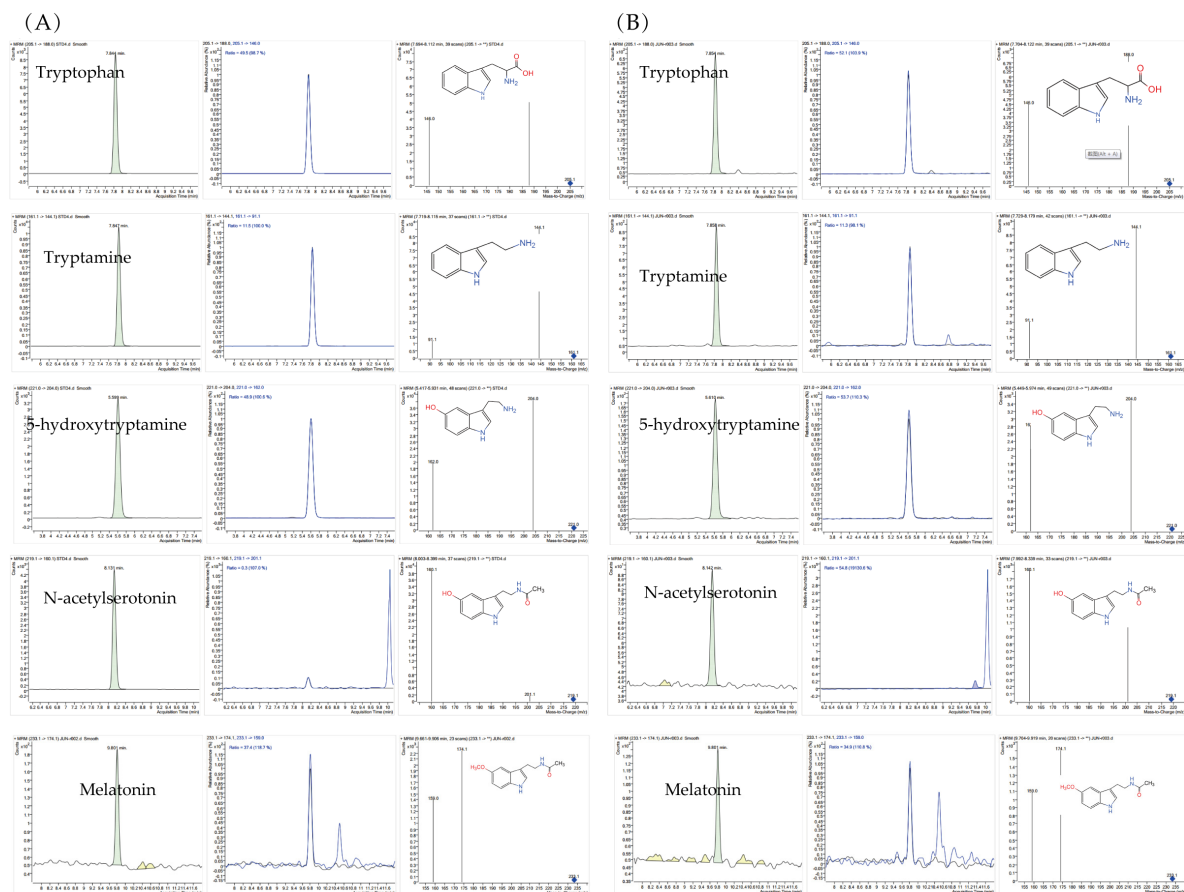


Figure S1: Detection of MT biosynthetic intermediates in *Xoo*. (A) Chemical structures and chromatograms of tryptophan, tryptamine, 5-hydroxytryptophan, 5-hydroxytryptamine, N-acetylserotonin and MT standards. (B) Chromatograms of tryptophan, tryptamine, 5-hydroxytryptamine, N-acetylserotonin and MT in *Xoo* cells.

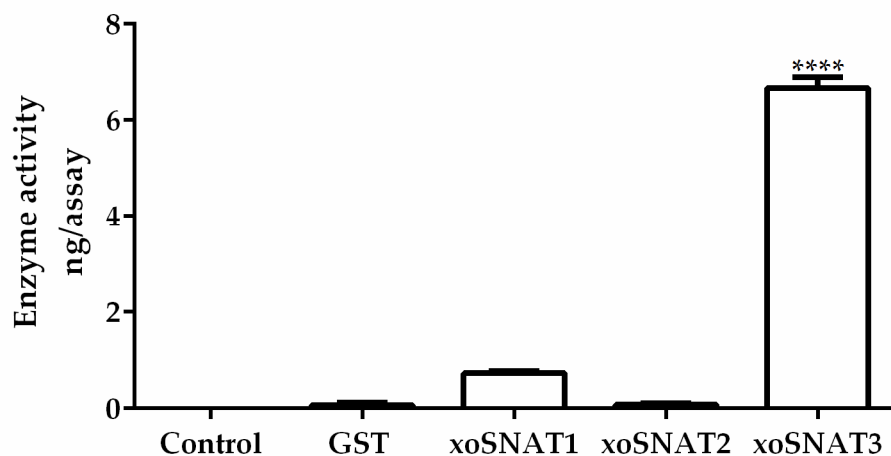


Figure S2. Enzymatic activity of GST, xoSNAT1, xoSNAT2 and xoSNAT3. The expression of GST, xoSNAT1, xoSNAT2 and xoSNAT3 in *E. coli* was induced by the addition of IPTG (0.4 mM) at 16 °C for 16 h, respectively. These proteins were purified by using affinity chromatography column. Next, 1 µg of purified protein was incubated with serotonin (0.5 mM) at 35 °C, the serotonin and product were both determined by LC-MS/MS. Control means enzymatic activity of 100 µL reaction buffer (0.5 mM serotonin, 0.5 mM acetyl-CoA and 100 mM potassium phosphate, pH = 8.8) in the absent of GST-

xoSNAT3. Asterisks indicate statistically significant differences determined using Student's t-test (*** $p < 0.0001$).