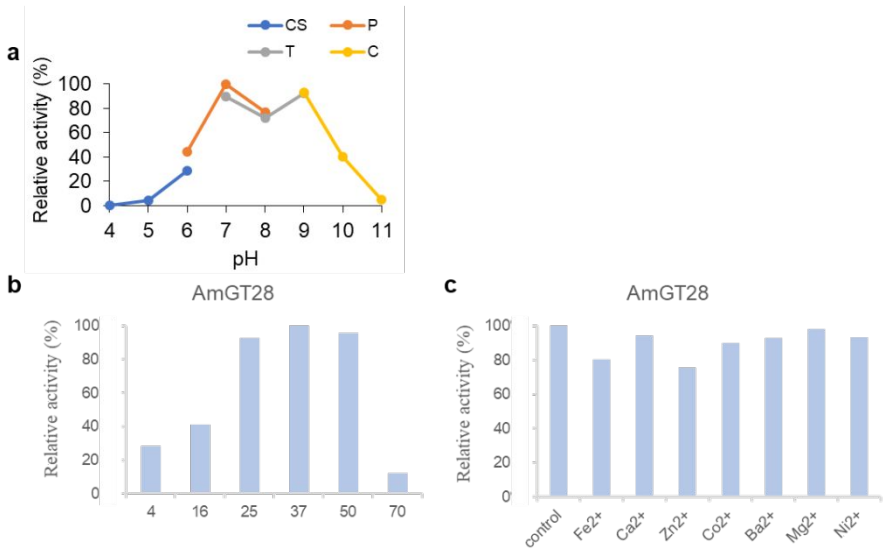

Figure S22. Effects of reaction buffer (a), reaction temperature (b), and divalent metal ions (c) on the activities of AmGT28. Maackiain (**2**) was used as the acceptor and UDP-Glc was used as the sugar donor. An optimized reaction time of 4 hour was used. AmGT28 exhibited its maximum activity at pH 7.0 (50 mM Na_2HPO_4-NaH_2PO_4) and 37°C.

To investigate the enzymatic properties of AmGT28, the pH, temperature and divalent metal ions were studied. All enzymatic reactions were carried out using UDP-Glc as the donor and maackiain (**2**) as the acceptor. The purified enzyme was added separately to the reaction solution and incubated at 37°C for 4 hours. To optimize the reaction pH, various buffers were utilized within different pH ranges: from 4.0-6.0 (citric acid-sodium citrate buffer), 6.0-8.0 (Na_2HPO_4-NaH_2PO_4 buffer), 7.0-9.0 (Tris-HCl buffer), and 9.0-11.0 (Na_2CO_3-$NaHCO_3$ buffer). To determine the optimal reaction temperature, the reactions were carried out at different temperatures (4-70°C). For testing the influence of various divalent cations (Fe^{2+}, Ca^{2+}, Zn^{2+}, Co^{2+}, Ba^{2+}, Mg^{2+}, Ni^{2+}), each cation was individually added to the reaction solution at a final concentration of 1 mM. The resulting mixtures were vacuum-dried, and the residue was dissolved in 150 μL methanol. Subsequently, the samples were centrifuged at 15,000 rpm for 30 minutes for UHPLC analysis.