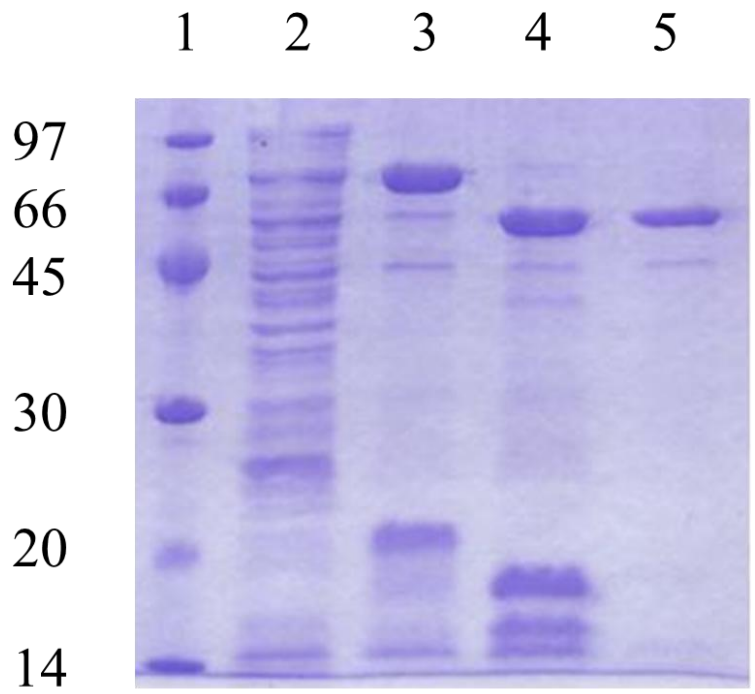
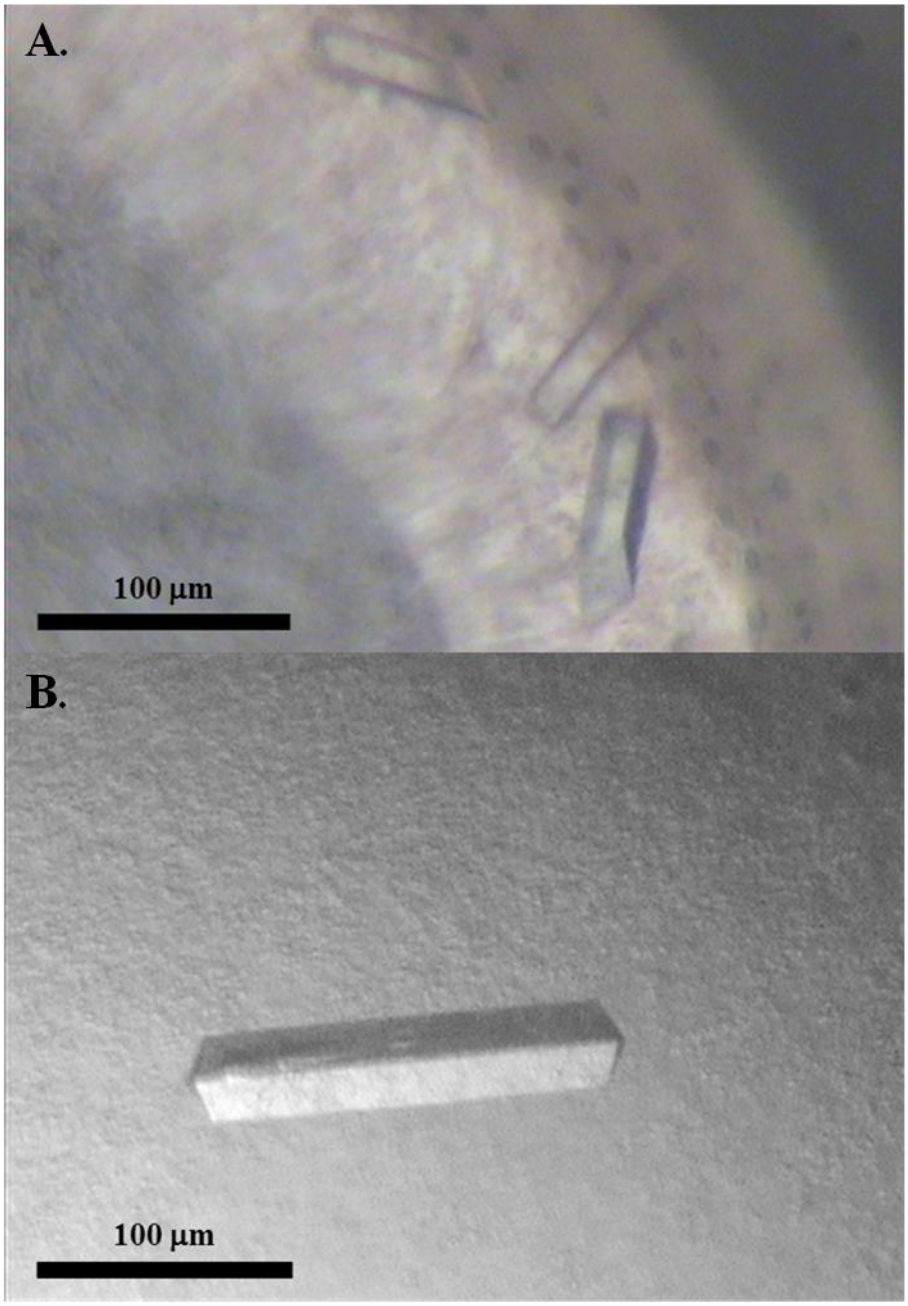
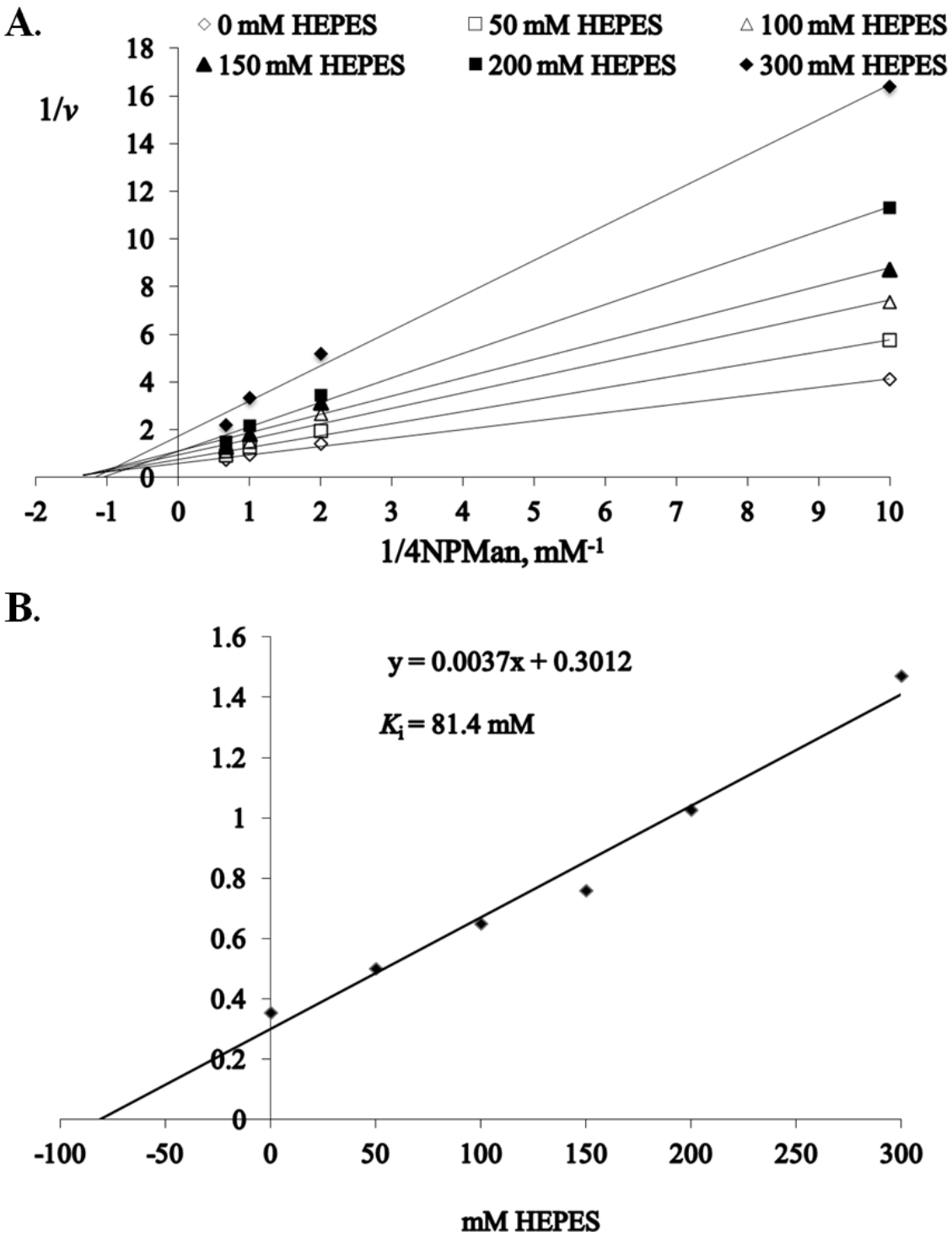


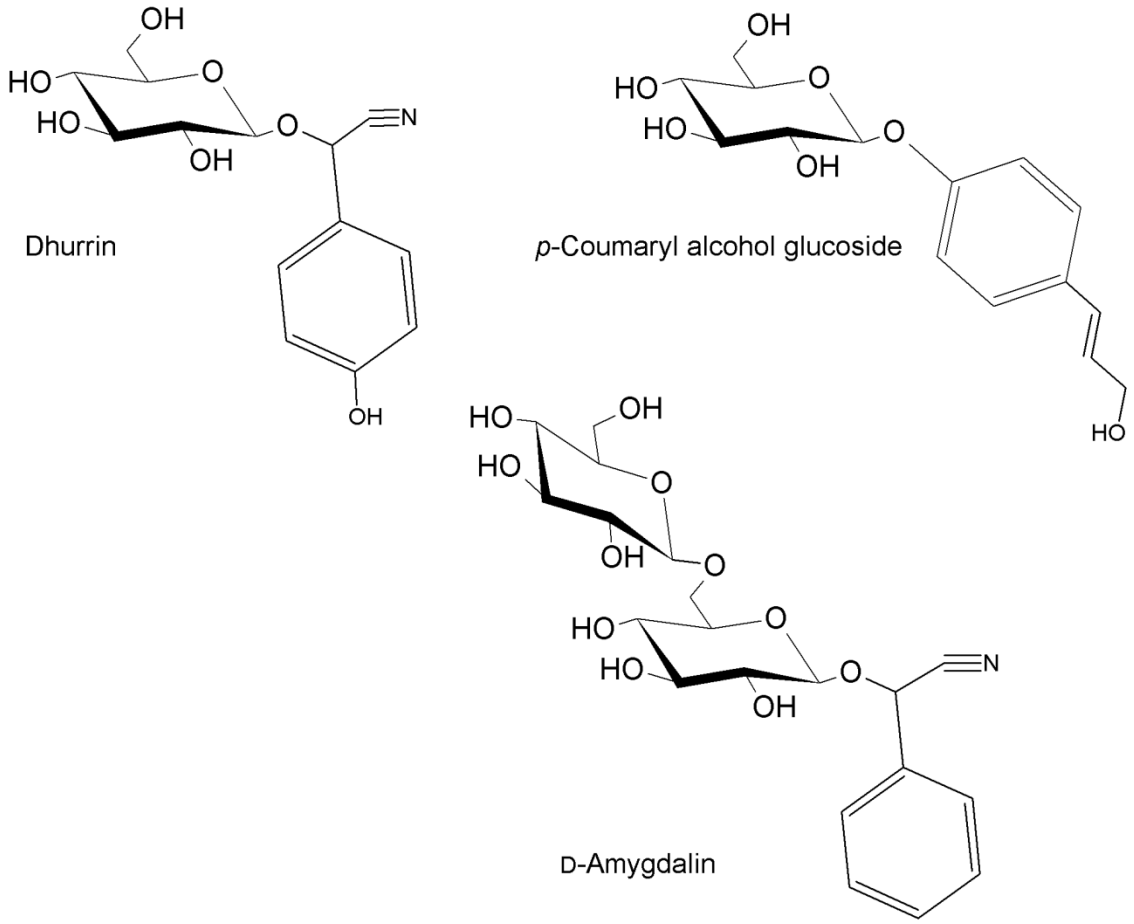
Supplementary Figure S1. SDS-PAGE of Os7BGlu26 throughout purification. Lane 1, Bio-Rad low molecular-mass markers (masses shown at left in kDa); Lane 2, crude extract of soluble proteins from *E. coli* cells; Lane 3, the N-terminal thioredoxin/His_6-tagged Os7BGlu26 fusion protein after the first IMAC step; Lane 4, the products of digestion of the thioredoxin/His_6-tagged Os7BGlu26 protein by enterokinase; Lane 5, purified Os7BGlu26 after the second IMAC step.



Supplementary Figure S2. The Os7BGlu26 crystals. (A), Crystals in 0.1 M sodium HEPES, pH 7.5, containing 0.8 M Na,K tartrate grown in microbatch.under oil. (B), A crystal grown after optimization in a hanging-drop with 0.1 M sodium HEPES, pH 7.25 containing 0.58 M Na,K tartrate.



Supplementary Figure S3. Noncompetitive inhibition of Os7BGlu26 by HEPES. (A) The 1/S vs 1/*v* plot (Lineweaver-Burk plots). (B) To determine K_i values, the slopes of inhibitions obtained from Lineweaver-Burk plots were plotted against the HEPES concentration and the data were subjected to linear regression (r^2=0.979).



Supplementary Figure S4. Chemical structures of natural substrates hydrolyzed by Os7BGlu26.