Figure S1. Comparison of the β-gal amino acid sequences in GH42 family. The result of ClustalO multiple sequence alignments of β-gals from different sources is shown. Included in the alignments are β-gals from *Rahnella* sp. R3 (R3, psychrophile), *Carnobacterium maltaromaticum* (CM, psychrophile), *Arthrobacter* sp. 32c (32C, psychrophile), *Bacillus circulans* sp. Alkalophilus (Bca, mesophile), *Bifidobacterium animalis* subsp. *lactis* Bl-04 (BlGal42A, mesophile), *Thermus thermophiles* A4 (A4, thermophiles) and *Geobacillus stearothermophilus* (Gan42B, thermophiles). The catalytic residues, metal binding residues, and residues involve in substrate binding are marked by green triangles, blue triangles, and yellow dots, respectively.
Figure S2. Product vs time plot of R-β-Gal.