

## **Supplementary Materials**

### **Exploring the Strategy of Fusing Sucrose Synthase to Glycosyltransferase UGT76G1 in Enzymatic Biotransformation**

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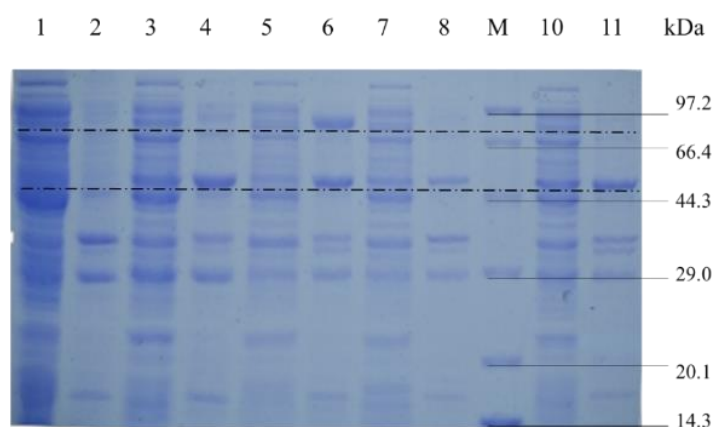
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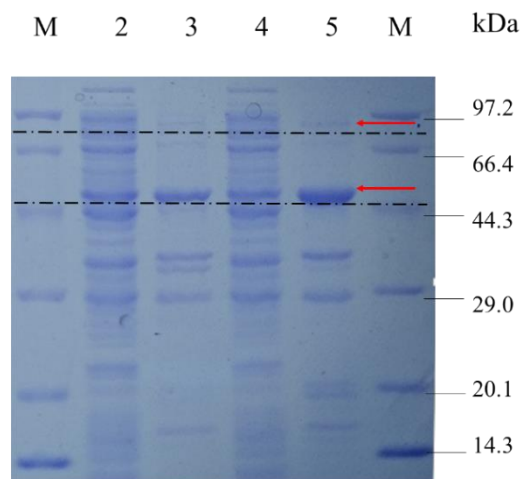
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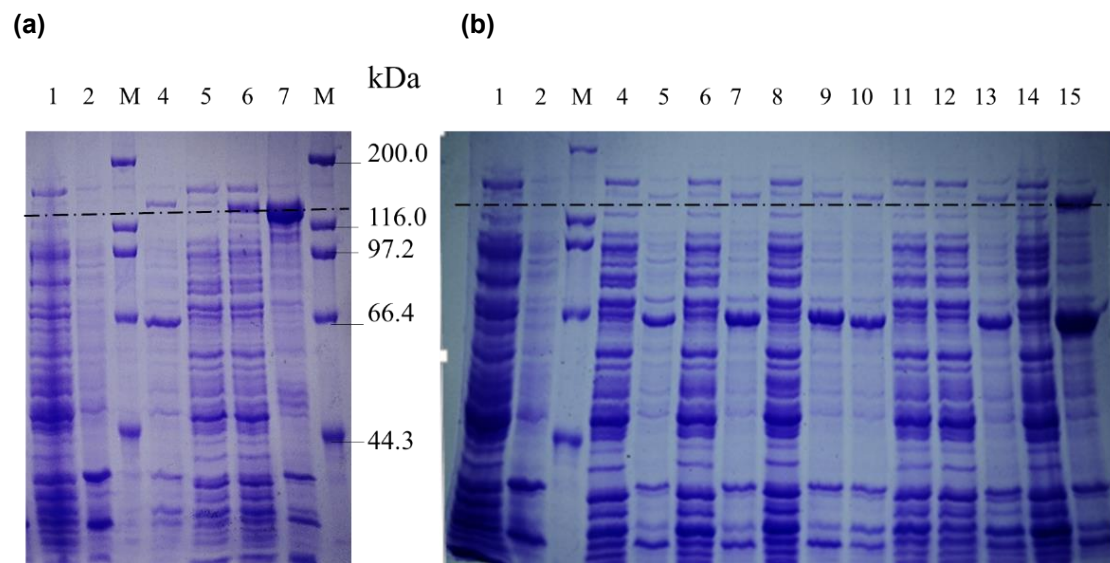
### Supplemental figures



**Figure S1** SDS-PAGE analysis of enzyme expression in different recombinant strains. Lane 1, 3, 5, 7, 10: crude enzyme extracts prepared from *E. coli* with pRSFDuet-1 (control), At3-76G1, St1-76G1, Ac-76G1 and At1-76G1; Lane 2, 4, 6, 8, 11: precipitation fractions of the cell lysate from *E. coli* with pRSFDuet-1, At3-76G1, St1-76G1, Ac-76G1 and At1-76G1; M, Protein marker.

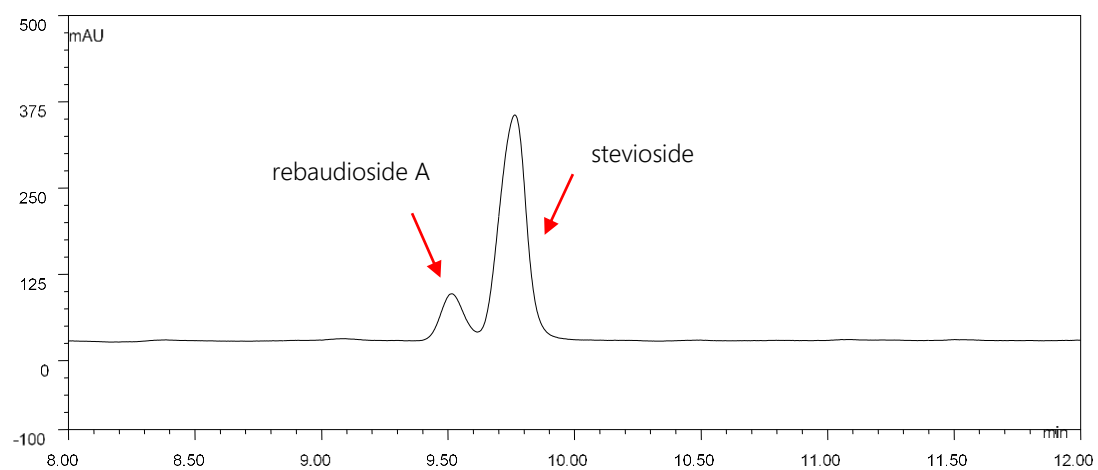


**Figure S2** SDS-PAGE analysis of enzyme expression in At1-76G1 and 76G1-At1. M, Protein marker; Lane 2, 4: crude enzyme extracts prepared from At1-76G1 and 76G1- At1; Land 3, 5: precipitation fractions of the cell lysate from At1-76G1 and 76G1- At1.

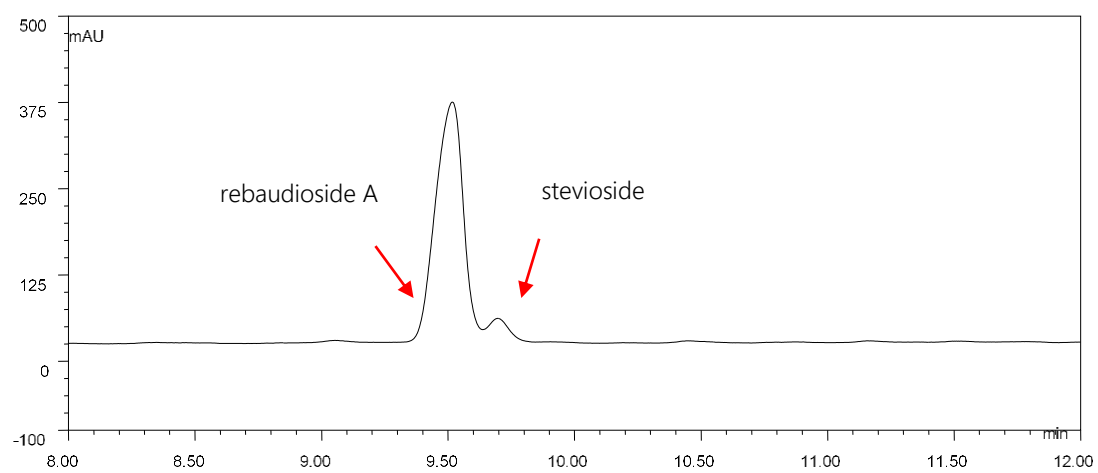


**Figure S3** SDS-PAGE analysis of the expressed fusion proteins. (a) M, Protein marker; Lane 1, 4, 6: crude enzyme extracts prepared from the control, At1-P3-76G1 and 76G1-P3-At1; Lane 2, 5, 7: precipitation fractions of the cell lysate from the control, At1-P3-76G1 and 76G1-P3-At1. (b) M, Protein marker; Lane 1, 4, 6, 8, 11, 12, 14: crude enzyme extracts prepared from the control, R1, R2, R3, F1, F2, and F3; Lane 2, 5, 7, 9, 10, 13, 15: precipitation fractions of the cell lysate from the control, R1, R2, R3, F1, F2, and F3.

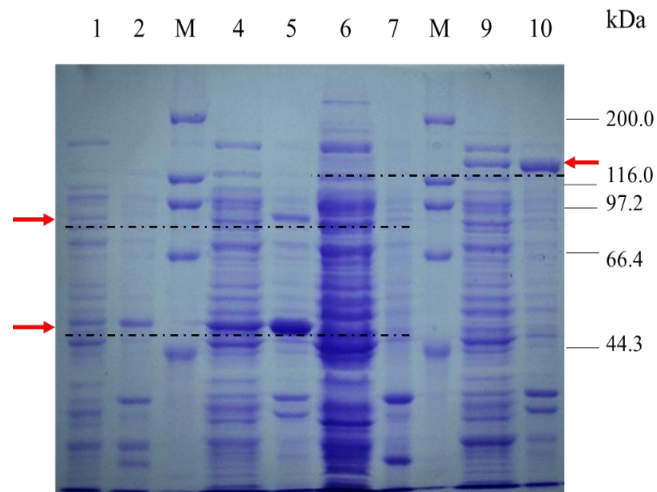
**(a)**



**(b)**



**Figure S4** HPLC analysis of the 12-h reaction mixtures catalyzed by Ac-76G1 (a) and Acm-76G1 (b) at 30 °C.



**Figure S5** SDS-PAGE analysis of enzyme expression in Ac-76G1, Acm-76G1 and Acm-R3-76G1. M, Protein marker; Lane 1, 4, 6, 9: crude enzyme extracts prepared from Ac-76G1, Acm-76G1, the control, and Acm-R3-76G1; Lane 2, 5, 7, 10: precipitation fractions of the cell lysate from Ac-76G1, Acm-76G1, the control, and Acm-R3-76G1.