**Enhanced fermentable sugar production from** ***Enteromorpha* polysaccharides by the crude enzymes of *Vibrio* sp. H11**

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Table S1. The main identified monosaccharide composition of EP.

|  |  |  |
| --- | --- | --- |
| Number | Time | Name |
| 1 | 24.01 | arabinose |
| 2 | 24.86 | rhamnose |
| 3 | 25.99 | lyxose |
| 4 | 26.25 | mannopyranose |
| 5 | 26.47 | rhamnose |
| 6 | 26.77 | lyxose |
| 7 | 32.28 | xylose |
| 8  9 | 35.32  35.54 | glucose  glucose |

Table S2. The biochemical characterization of *Vibrio* sp. H11

|  |  |  |  |
| --- | --- | --- | --- |
| Characterization | Property | Characterization | Property |
| Starch | + | H2S | - |
| Pullulan | + | Indol test | - |
| [Gelatin](file:///C:/Users/Administrator/AppData/Local/Yodao/DeskDict/frame/20160307093235/javascript:void(0);) liquefaction | - | V.P. test | + |
| [Citric](file:///C:/Users/Administrator/AppData/Local/Yodao/DeskDict/frame/20160307093235/javascript:void(0);) [acid](file:///C:/Users/Administrator/AppData/Local/Yodao/DeskDict/frame/20160307093235/javascript:void(0);) | + | D-Glucose | + |
| [Mannitol](file:///C:/Users/Administrator/AppData/Local/Yodao/DeskDict/frame/20160307093235/javascript:void(0);) | + | D-Galactose | + |
| Sucrose | + | D-Xylose | + |
| Lactose | - | D-Fructose | + |
| [Melibiose](file:///C:/Users/Administrator/AppData/Local/Yodao/DeskDict/frame/20160307093235/javascript:void(0);) | - | [Rhamnose](file:///C:/Users/Administrator/AppData/Local/Yodao/DeskDict/frame/20160307093235/javascript:void(0);) | + |
| [Amygdalin](file:///C:/Users/Administrator/AppData/Local/Yodao/DeskDict/frame/20160307093235/javascript:void(0);) | - | [Sorbitol](file:///C:/Users/Administrator/AppData/Local/Yodao/DeskDict/frame/20160307093235/javascript:void(0);) | - |



Fig. S1 GC–MS results of the monosaccharide of derivatized EP.

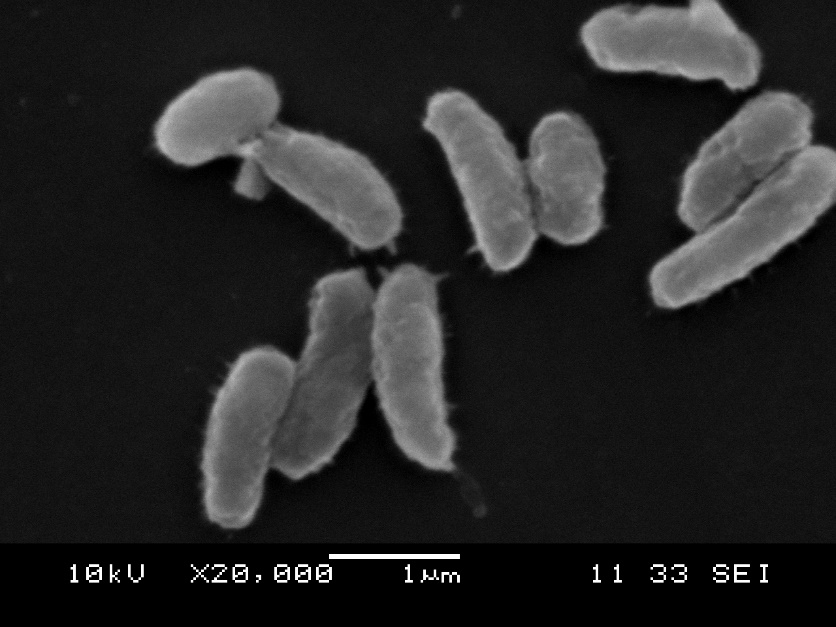


Fig. S2. Scanning electron micrograph of strain H11 grown on the basic mineral medium with EP as sole carbon source at 25 oC for 12 h.

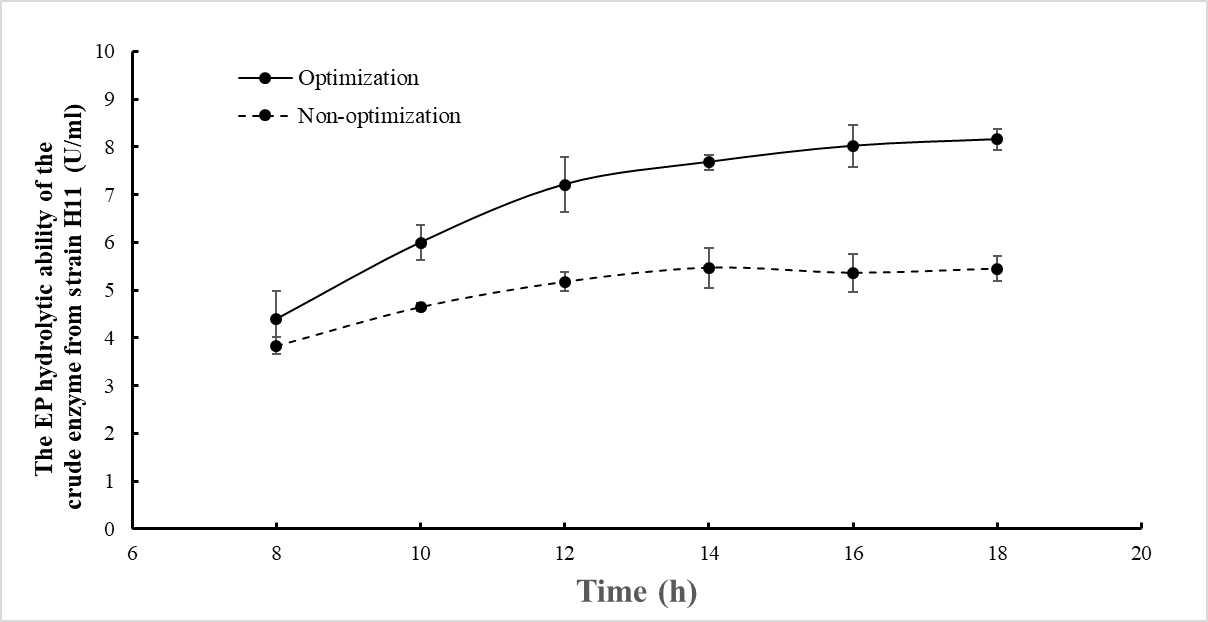


Fig. S3 The comparative analysis of optimized and non-optimized crude enzyme activity.

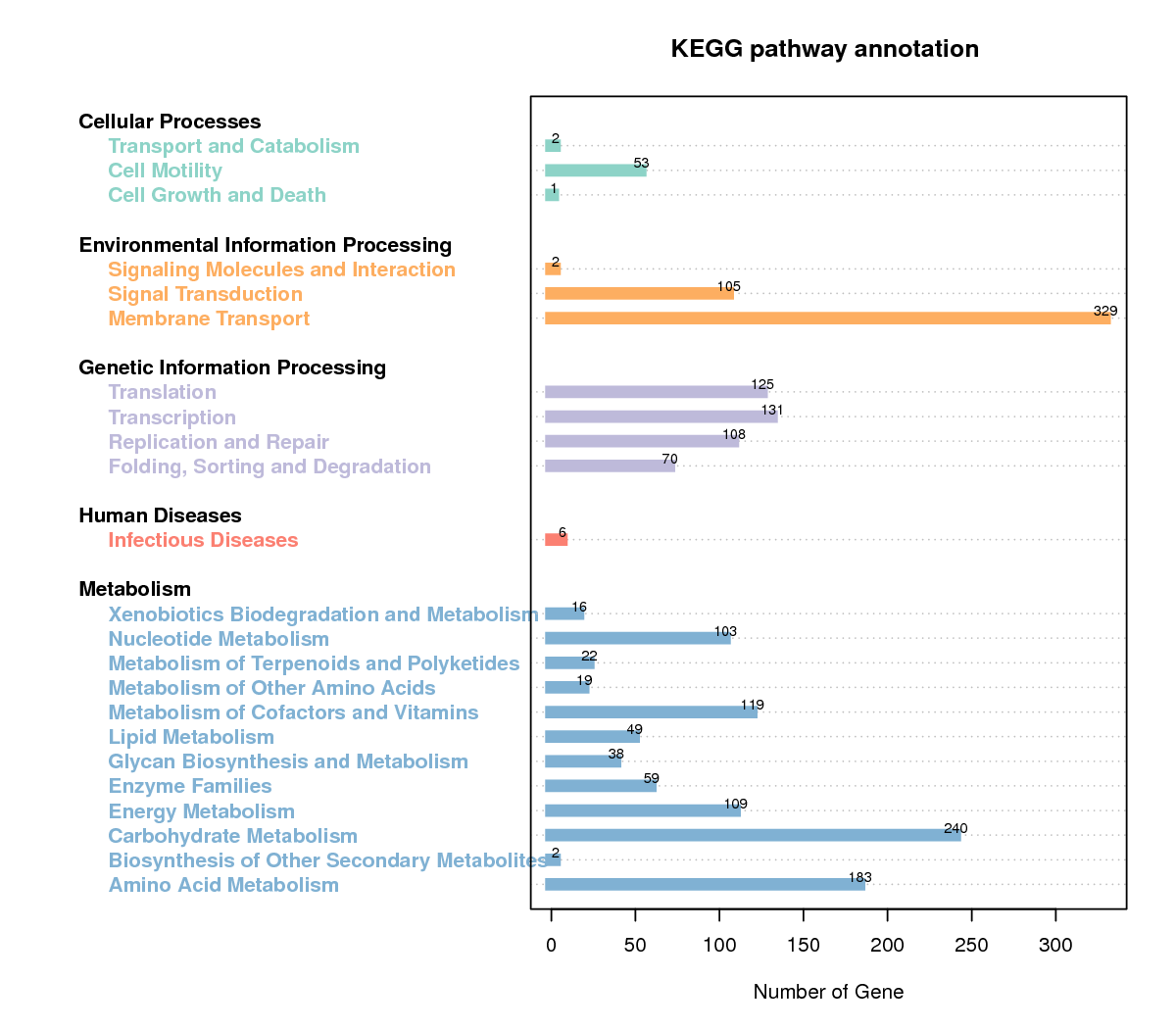


Fig. S4 The secondary classification of KEGG metabolic pathway of strain H11.