

## Supplementary Information

### Proteomic and metabolic profiling reveals molecular phenotype associated with chemotrophic growth of *Rubrivivax benzoatilyticus* JA2 on L-tryptophan

**Ahmad Shabbir<sup>a,1</sup>, Mujahid Mohammed <sup>a,2</sup>, Lakshmi Prasuna Mekala<sup>a,3</sup> Chintalapati Sasikala<sup>b</sup>, Chintalapati Venkata Ramana<sup>a\*</sup>**

<sup>a</sup>Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad 500046

<sup>b</sup>Smart Microbiological Services (SMS), Rashtrapathi Road, Secunderabad 500 003

<sup>1</sup>Current address: DBT- The Institute for Stem Cell Science and Regenerative Medicine (DBT-InStem), Bangalore 560065, Karnataka, India

<sup>2</sup>Department of Botany, Bharathidasan Government College for Women, Puducherry U.T. – 605003.

<sup>3</sup>Department of Plant Science, Avvaiyar Government College for Women, Karaikal, Puducherry- U.T 609 602

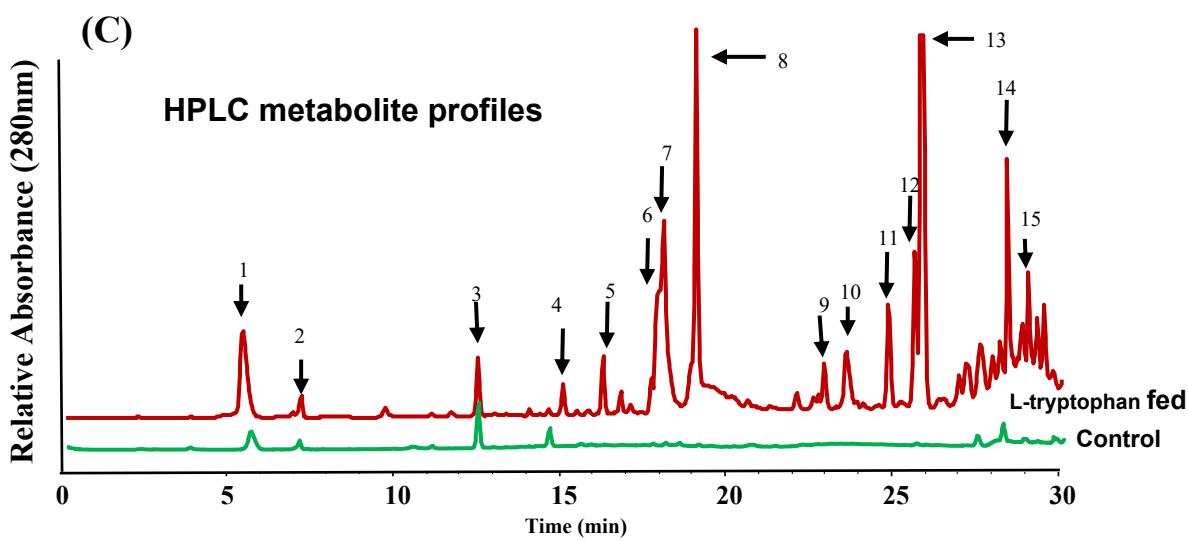
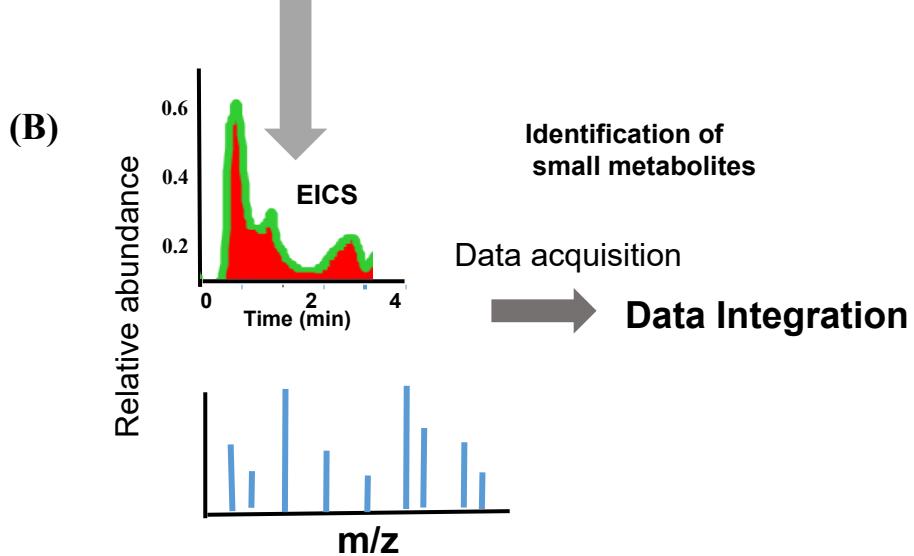
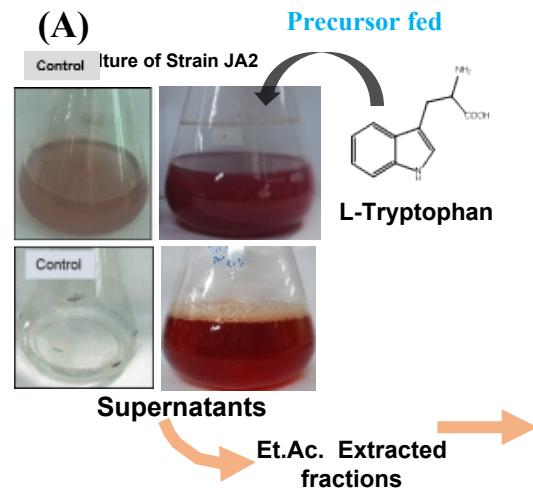
#### \*Corresponding author:

Prof. Ch.V. Ramana, Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad-500 046, Telangana, India. E-mail: [cramana449@gmail.com](mailto:cramana449@gmail.com);

Tel phone: +91 040 23134502 Fax: +91 040 23010120 & 23010145

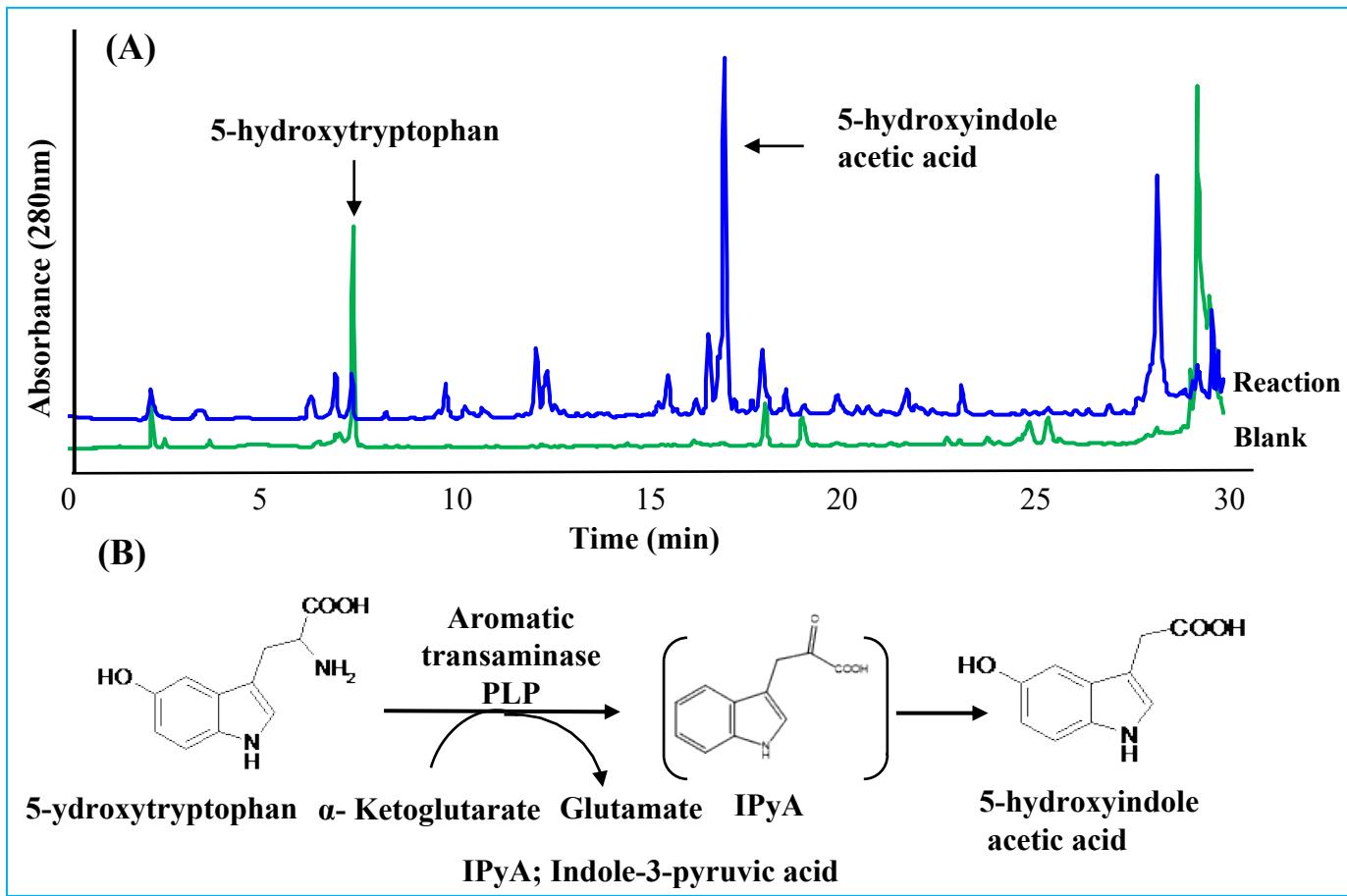
## **Supplementary Information**

**Supporting Information Figures ..... No S1 – S5**

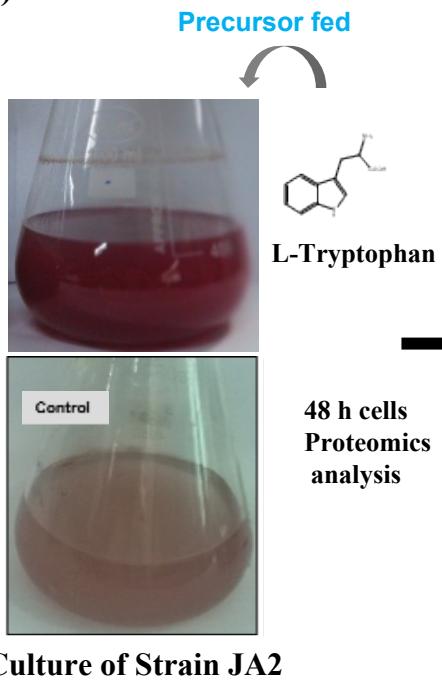
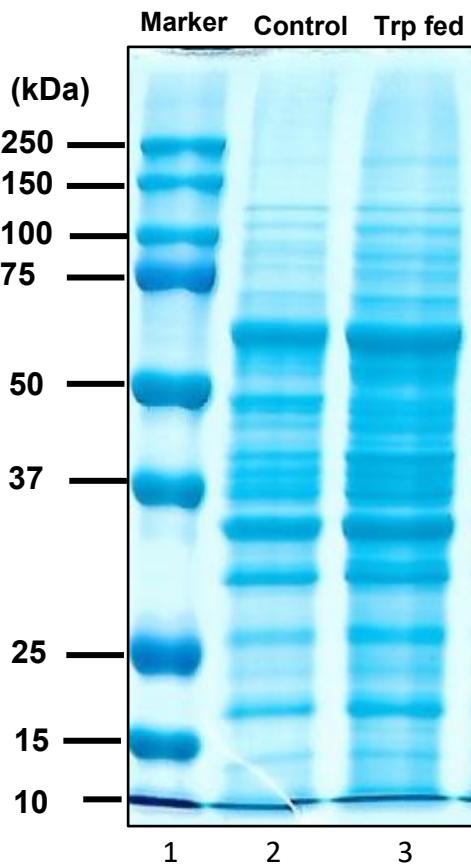
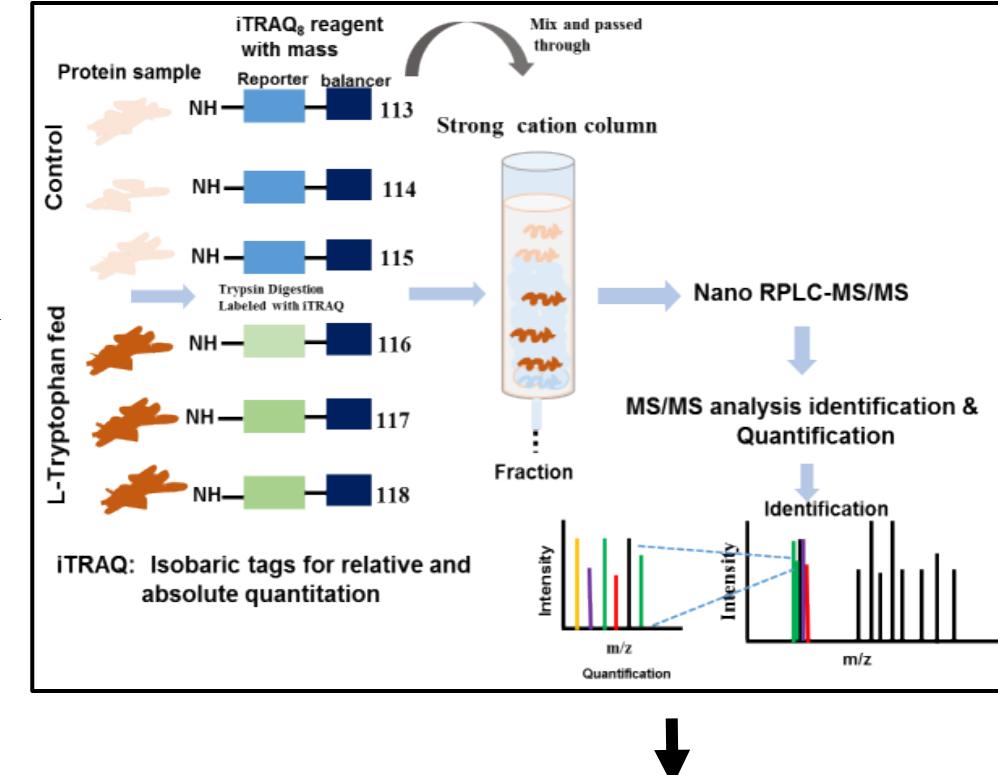
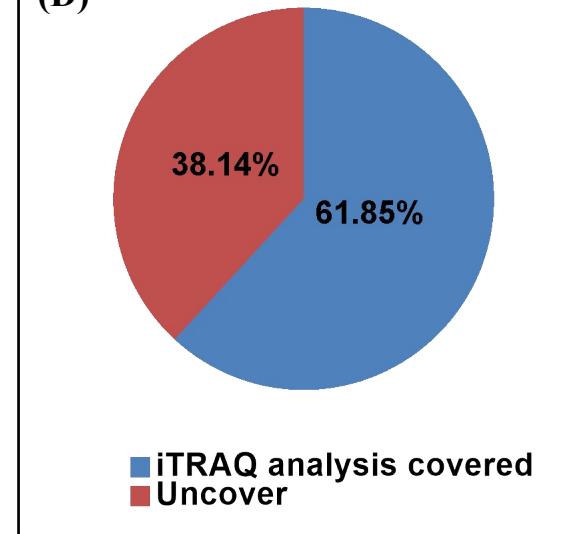


1. 205, 250 nm
2. 190, 240 nm
3. 205, 250, 350 nm
4. 205, 240, 260 nm
5. 210, 278, 290 nm
6. 210, 272, 278 nm
7. 205, 270, 278 nm
8. 210, 272, 278, 290 nm
9. 203, 260, 280 nm
10. 205, 272, 290 nm
11. 210, 270, 278, 290 nm
12. 205, 280, 320 nm
13. 203, 265, 290 nm
14. 210, 270, 280 nm
15. 205, 278, 320 nm

**Fig. S1:** Workflow of metabolic profiling of L-tryptophan fed culture supernatant and identification of small indole derivatives metabolites.



**Fig. S2:** HPLC chromatogram showing the aromatic aminotransferase enzyme activity (A) Transamination mediated catabolism of hydroxytryptophan in strain JA2 (B).

**(A)****(B)****(C)****(D)**

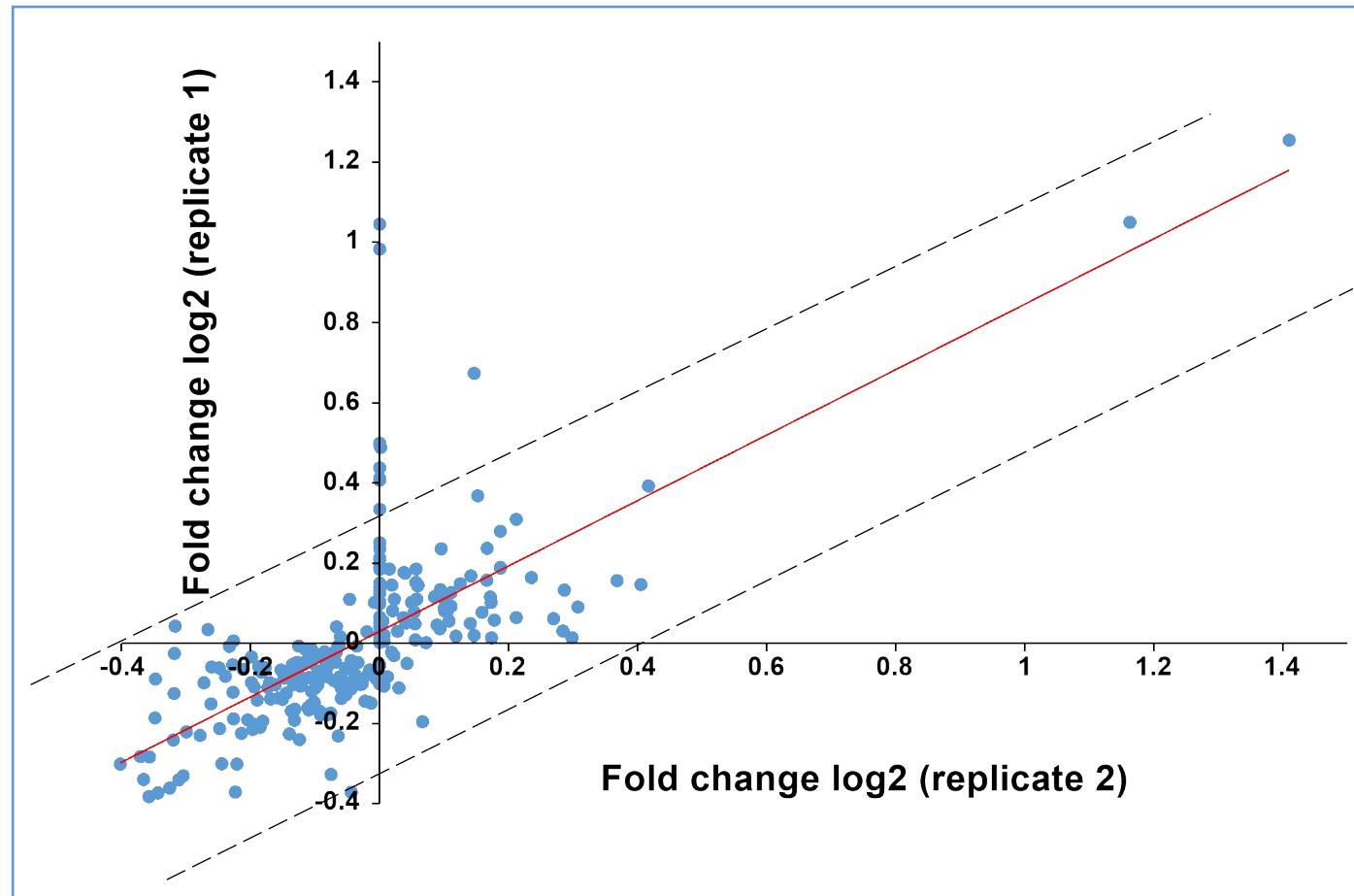
**Fig. S3:** Workflow of iTRAQ based global proteomic profiling of control and L-tryptophan fed cells

A) Tryptophan-fed and control cultures after 48h

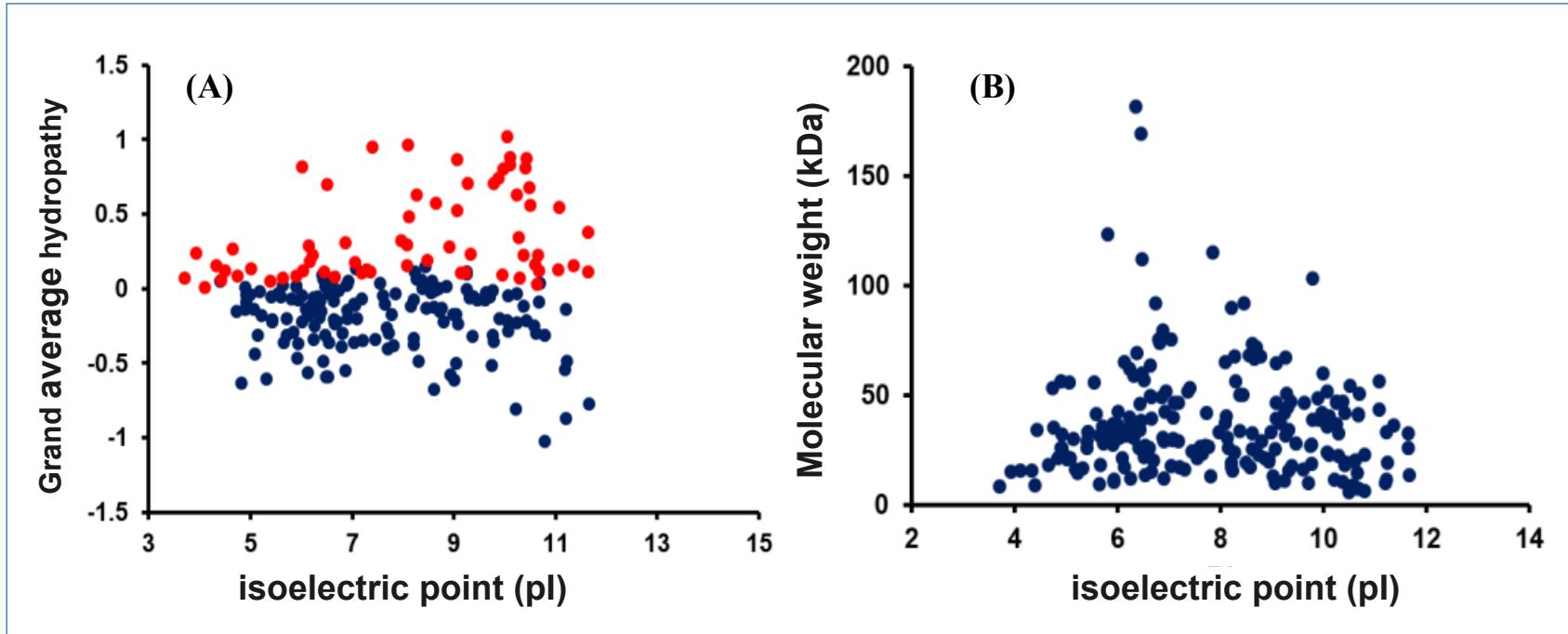
B) SDS-PAGE analysis proteins isolated from control and tryptophan –fed cultures

C) iTRAQ proteomic scheme

D) Pie chart showing proteome covered by iTRAQ analysis



**Fig. S4:** Linear regression analysis differential regulated proteins of two replicates



**Fig. S5:** *In-silico* characterization of differential regulated proteins of L-tryptophan fed chemotrophic conditions by proteomic Expasy tool.

(A) Hydropathy of proteins, (B) Molecular weight *vs* pI plot