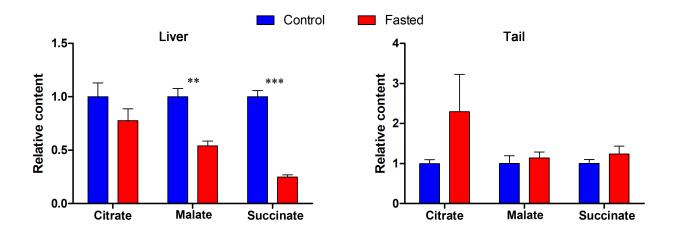


**Figure S1** Metabolic profile of tail of *R. omeimontis* tadpoles (Stage 30-31). (A) Metabolites with abundance higher than 1% of total abundance of all identified metabolites. (B) Profile of identified soluble carbohydrates. (C) Profile of identified FFAs. (D) Profile of identified amino acids. (E) Proportion of free amino acids and dipeptides in total amino acid pool. Each column in these two figures represents the mean  $\pm$  SE of 7 samples.



**Figure S2** Variation of intermediates in TCA cycle after 10 days of starvation in liver (A) and tail (B). Each column represents a mean  $\pm$  SE (n = 5-7), \*\*\*: p < 0.001, \*\*: p < 0.01, \*: p < 0.05.

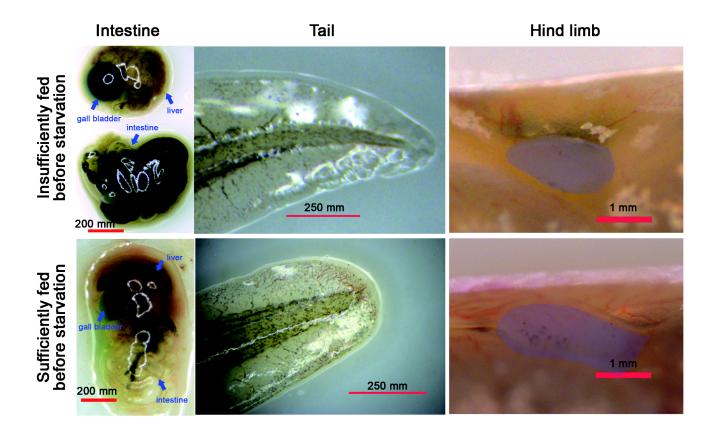


Figure S3 Sufficiently fed tadpoles showed traits of accelerated metamorphosis after starvation. Major morphological traits of accelerated metamorphosis included evacuated and shortened intestine, tail apoptosis (rounded tail) and accelerated development of hind limb (toe development). These three traits did not appear in any tadpoles before starvation treatment (either sufficiently fed or insufficiently fed ones), as well as in insufficiently fed tadpoles after starvation.