

## Supplementary materials for

### **An alternative solution for $\alpha$ -linolenic acid supplements: *In vitro* digestive properties of silkworm pupae oil in a pH-stat system**

Cheng-Hai Yan <sup>a</sup>, Xiao-Meng Xun <sup>a</sup>, Jiao Wang <sup>a</sup>, Jin-Zheng Wang <sup>a</sup>, Shuai You <sup>a,b</sup>, Fu-An Wu <sup>a</sup>,  
<sup>b</sup>, Jun Wang <sup>a,b,\*</sup>

<sup>a</sup> *Jiangsu Key Laboratory of Sericultural Biology and Biotechnology, School of Biotechnology, Jiangsu University of Science and Technology, Zhenjiang, Jiangsu 212018, China;*

<sup>b</sup> *Key Laboratory of Silkworm and Mulberry Genetic Improvement, Ministry of Agricultural and Rural Affairs, Sericultural Research Institute, Chinese Academy of Agricultural Sciences, Zhenjiang, Jiangsu 212018, China.*

To whom all correspondence should be addressed.

\* Corresponding author. *Phone:* +86-511-85635867, *Fax:* +86-511-85620901.

*E-mail:* [wangjun@just.edu.cn](mailto:wangjun@just.edu.cn) (Prof. Dr. Jun Wang)

**Table S1. Composition of saliva juice, gastric juice, duodenal juice and bile juice for simulated *in vitro* digestion model.**

Simulated solution	Saliva juice (pH 6.8±0.2)	Gastric juice (pH 1.30±0.02)	Duodenal juice (pH 8.1±0.2)	Bile juice (pH 8.2±0.2)
Inorganic solution	10 mL 89.6g/L KCl	15.7 mL 175.3g/L NaCl	40 mL 175.3g/L NaCl	30 mL 175.3g/L NaCl
	10 mL 20g/L KSCN	3 mL 88.8g/L NaH <sub>2</sub> PO <sub>4</sub>	40 mL 84.7g/L NaHCO <sub>3</sub>	68.3 mL 84.7g/L NaHCO <sub>3</sub>
	10 mL 88.8g/L NaH <sub>2</sub> PO <sub>4</sub>	9.2 mL 89.6g/L KCl	10 mL 8g/L KH <sub>2</sub> PO <sub>4</sub>	4.2 mL 89.6g/L KCl
	1.7 mL 175.3g/L NaCl	18 mL 22.2g/L CaCl <sub>2</sub>	6.3 mL 89.6g/L KCl	150 µL 37%g/g HCl
	57g/L Na <sub>2</sub> SO <sub>4</sub>	10 mL 30.6g/L NH <sub>4</sub> Cl	10 mL 5g/L MgCl <sub>2</sub>	
	10 mL 84.7g/L NaHCO <sub>3</sub>	6.5 mL 37%g/g HCl	180 µL 37%g/g HCl	
Organic solution	8mL 25g/L Urea	10 mL 65g/L Glucose	4mL 25g/L Urea	10 mL 25g/L Urea
		10 mL 2g/L Glucuronic acid		
		3.4 mL 25g/L Urea		
		1 mL 33g/L Glucosamine Hydrochloride		
Add to mixture	290 mg α-amylase	1 g BSA	9 mL 22.2g/L CaCl <sub>2</sub>	10 mL 22.2g/L CaCl <sub>2</sub>
inorganic and organic solutions	15 mg Uric acid	2.5 g Pepsin	1 g BSA	1.8 g BSA
	25mg Mucin	3g Mucin		30 g Bile extract

The inorganic and organic solutions were mixed and filled up to 500 mL with distilled water and then other compounds were dissolved. Finally, pH value of each juice was adjusted to their own each value.