

**Table S1.** Proportion (%) of the total recovered <sup>14</sup>C-lysine (Lys), <sup>14</sup>C-tryptophan (Trp) and <sup>14</sup>C-methionine (Met) that was evacuated, retained in the gut, liver and muscle, or catabolised in gilthead seabream juveniles fed 44P21L, 44P18L, 40P21L or 40P18L diets.

%	Dietary Treatment												Two-way ANOVA ( $P < 0.05$ )		
	44P21L			44P18L			40P21L			40P18L			AA	Diet	AA × Diet
	LYS	TRP	MET	LYS	TRP	MET	LYS	TRP	MET	LYS	TRP	MET			
<b>Evacuation</b>	20.9 ± 6.7 <sup>b</sup>	66.7 ± 17.5 <sup>a</sup>	41.6 ± 10.9 <sup>b</sup>	32.9 ± 11.9 <sup>b</sup>	58.0 ± 10.8 <sup>a</sup>	26.9 ± 6.0 <sup>b</sup>	26.8 ± 9.0 <sup>b</sup>	59.6 ± 3.2 <sup>a</sup>	31.3 ± 5.0 <sup>b</sup>	22.0 ± 15.5 <sup>b</sup>	57.2 ± 8.6 <sup>a</sup>	29.1 ± 6.5 <sup>b</sup>	***	NS	NS
<b>Gut</b>	14.1 ± 3.9 <sup>a</sup>	11.3 ± 7.7 <sup>ab</sup>	8.9 ± 3.6 <sup>b</sup>	10.7 ± 5.0 <sup>a</sup>	12.7 ± 4.0 <sup>ab</sup>	11.5 ± 3.6 <sup>b</sup>	18.6 ± 5.4 <sup>a</sup>	13.5 ± 1.9 <sup>ab</sup>	12.0 ± 2.3 <sup>b</sup>	18.6 ± 6.4 <sup>a</sup>	13.7 ± 5.4 <sup>ab</sup>	12.3 ± 2.7 <sup>b</sup>	*	*	NS
<b>Liver</b>	8.7 ± 2.7 <sup>ay</sup>	4.3 ± 2.1 <sup>b,y</sup>	4.5 ± 1.0 <sup>ab,y</sup>	5.4 ± 1.5 <sup>ay</sup>	5.9 ± 2.4 <sup>b,y</sup>	6.1 ± 1.4 <sup>ab,y</sup>	7.6 ± 2.9 <sup>ax,y</sup>	6.4 ± 0.8 <sup>b,xy</sup>	6.9 ± 1.1 <sup>ab,xy</sup>	10.6 ± 5.1 <sup>ay</sup>	7.6 ± 2.1 <sup>b,y</sup>	7.6 ± 2.9 <sup>ab,y</sup>	*	**	NS
<b>Muscle</b>	24.9 ± 6.4 <sup>b</sup>	6.5 ± 3.7 <sup>c</sup>	30.5 ± 7.6 <sup>a</sup>	26.8 ± 10.7 <sup>b</sup>	9.4 ± 3.6 <sup>c</sup>	37.6 ± 14.3 <sup>a</sup>	24.4 ± 8.9 <sup>b</sup>	10.2 ± 1.5 <sup>c</sup>	38.6 ± 5.8 <sup>a</sup>	28.0 ± 8.0 <sup>b</sup>	7.4 ± 1.2 <sup>c</sup>	40.1 ± 8.7 <sup>a</sup>	***	NS	NS
<b>Catabolism</b>	31.3 ± 6.4 <sup>a</sup>	11.3 ± 5.0 <sup>b</sup>	14.5 ± 2.8 <sup>b</sup>	24.3 ± 6.5 <sup>a</sup>	14.0 ± 4.8 <sup>b</sup>	17.9 ± 16.4 <sup>b</sup>	22.6 ± 10.0 <sup>a</sup>	10.3 ± 3.4 <sup>b</sup>	11.1 ± 4.5 <sup>b</sup>	20.8 ± 7.9 <sup>a</sup>	14.1 ± 2.9 <sup>b</sup>	10.9 ± 7.4 <sup>b</sup>	***	NS	NS

Values are presented as mean ± standard deviation ( $n = 6$  fish for each diet and amino acid). Within a row, superscript letters *a,b,c* represent significant differences in the metabolic fate of the distinct amino acids at each dietary treatment; *x,y* denote significant differences between dietary treatments (\* $P < 0.05$ ; \*\* $P < 0.01$ ; \*\*\* $P < 0.001$ ); NS: non-significant ( $P > 0.05$ ).