



**Figure S1.** Average NIR raw spectra (a) and preprocessed spectra (first derivative) (b) of living mealworm larvae from all samples ( $n = 10$ ) of all groups ( $n = 12$ ). A: 75% rh, no water; B: 75% rh, 2.6 g water per day; C: 50% rh, no water; D: 50% rh, 2.6 g water per day; E: 50% rh, 3.0 g carrots per week; F: 75% rh, 2.6 g water every two days; G: 75% rh, 3.0 g carrots per week; H: 75% rh, 3.0 g carrots every two days; I: 75% rh, 3.0 g carrots per day; J: 75% rh, 10.0 g carrots per week; K: 2.6 g water per week and 3.0 g carrots per day; L: 75% rh, 2.6 g water per week and 10.0 g carrots per day.