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Effect of Anti-Juvenile Hormone Analogue (AJH) Treatments on the Silk Filament Properties of the Silkworm, *Bombyx mori* L.

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This study was carried out to define the effects of anti-juvenile hormone analogue(AJH) treatment at different silkworm larval stages on some silk filament properties. It was revealed that the treatments at the 1st and 2nd days of the 3rd instar as well as the 1st day of the 4th instar resulted to trimolters induction without lethal effect. The trimolters induced by treatment at the 1st day of the 4th instar showed the shortest larval duration and the lowest single cocoon weight, cocoon shell ratio, cocoon size, single filament length and denier of filament compared with those of the control, while the trimolters induced by the 3rd-instar-treatment showed intermediate values. All treatments showed no significant differences from the aspect of degumming ratio, elongation rate and crystallinity index of fibroin. However the silk filament obtained from the treatment at the 1st day of the 4th instar showed the highest tenacity which was revealed to be related to the better uniformity of filament by the means of microscopic photographing. FT-IR spectroscopy of the silk fibroin showed a sharp and strong peak at the position of 794.72cm^{-1} in all AJH-treated samples regardless of trimolters induction, which was absent in control.