

## Dyeing Properties of Natural Dyes on Silk Treated with $\beta$ -Cyclodextrin

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**Abstract :** In this work, silk yarns were treated using  $\beta$ -cyclodextrin ( $\beta$ -CD) and cross-linked with citric acid (CA) via pad-dry-cure method. Elemental and FESEM analyses confirmed the presence of  $\beta$ -CD on the treated silk samples even after five washing cycles. Then, the treated samples were dyed using natural dyes (carrot, orange and tomato). Results showed that the color strength ( $K/S$ ) of the treated samples had been markedly enhanced compared with the control sample (after treatment with metal mordant). Finally, the color strength ( $K/S$  value) and color fastness (fading, staining and light fastness) of the treated samples with  $\beta$ -CD were investigated and compared.

**Keywords :**  $\beta$ -cyclodextrin, dyeing, natural dyes, silk yarn

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