Antibacterial Functionalization and Pigment Coloration of Wool-containing fabrics in One Step

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Abstract:
In this work, Choline Chloride, Aloe vera and Chitosan, an ecofriendly bioactive agents, were individually included in pigment printing formulation [pigment color (20 g/kg); synthetic thickening agent (20 g/kg); binder (100 g/kg); crosslinking agent (10 g/kg); ammonium persulfate (NH₄)₂S₂O₈ (2 g/kg)] followed by printing and microwave fixation at 1300W/4 min to investigate their impacts on simultaneous functionalization and coloration of wool-containing fabrics. The obtained results signify that the antibacterial efficacy as well as the depth of the obtained functionalized pigment prints are affected by nature of bioactive agent as well as kind of substrate and follow the decreasing orders: Choline Chloride (5g/Kg) > Chitosan (2.5g/Kg) > Aloe vera (10g/Kg) >> none and polyester/wool > wool respectively.

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