

ABSTRACT

Chemical modification is a promising path to address the limitations of a natural dye, such as limited shades and inadequate fastness properties. This study investigated the modification of embelin (2, 5-dihydroxy-3-undecyl-1, 4-benzoquinone) a plant-based benzoquinone compound from *Embelia schimperi* (Myrsinaceae family) with ninhydrin to get a semi-synthetic dye. The modified dye was applied to cotton fabric along with mordants to provide different shades. Optimum dyeing conditions were determined using Central Composite Design which showed optimum conditions of pH at 9, time of 60 min and temp of 80°C. The color fastness ratings were in the range of 4–5 evaluated on the Gray scale.