

*Sonicating & Dying Natural Fibers: A Sonochemistry Experiment Based in the Chemistry of Textiles*

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Cotton and silk are both natural fibers, however, due to their physical properties, they may not meet all the needs encountered in the textile industry, such as lightfastness once dyed. For instance, heavy metals may be used as mordants to aid in the dyeing process. This project focuses on studying the effects of ultrasounds, both from a sonication probe and a sonication bath, on the structure of these two types of fibers before dyeing. Also, attempts will be made to enhance the dyeing process in a more environmentally safe way using ultrasounds and little or no mordant. Damage to the fiber structure will be monitored by light microscopy as a function of the sonication duration.