



Faculty of Women for
Arts, Science & Education
Ain Shams University

Preparation, Characterization and Utilization of Keratinous and Nano-Keratinous Materials as a Binder in Pigment Printing of Man-Made Fibres and Their Blends

Thesis submitted

For

*The degree of doctor philosophy of science in
chemistry*

By

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To

**Chemistry Department, Faculty of Women for
Arts, Science & Education**

Ain Shams University

2017



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**A thesis submitted to
Chemistry department Faculty of Women for Arts,
Science & Education, Ain Shams University**

**For the award of Ph.D
in Organic Chemistry**

By

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Binder in Pigment Printing of Man-Made Fibres and
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Dedication

To my beloved

husband

Osama

*Thanks for your
love, support and
unconditional help*

Marwa