Non-extractive uv-vis spectroscopic method for determination of iron metal in blood samples

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SCHOOL OF SCIENCE

UNIVERSITY OF MANAGEMENT AND TECHNOLOGY,

LAHORE, PAKISTAN.

2017

Non-extractive UV-VIS spectroscopic method for determination of iron metal in blood samples

Submitted to University of Management and Technology

Lahore

In partial fulfillment of the requirements

For the award of degree of

BS

IN

CHEMISTRY

BY

TAYYABA ARSHAD

ID

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SESSION: 2013-2017

DEPARTMENT OF CHEMISTRY

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UNIVERSITY OF MANAGEMENT AND TECHNOLOGY,

LAHORE, PAKISTAN.

In the Name of Allah, the Most Beneficent, the Most Merciful. All the praises and thanks be to Allah

"Read in the name of your Lord who created"
"Created man, out of a (mere) clot of congealed blood"
"Read, and your Lord is the most Generous"
"Who taught by the pen"
"Taught man that which he knew not."
(Holy Qur'an 96:1-5)

"O my Lord! Increase me in knowledge."
(Quran 20:114)

DECLARATION

I **TAYYABA ARSHAD**D/O **MUHAMMAD ARSHAD**

ID: 13004067006

Session 2013-2017 hereby declare that the matter printed in the thesis titled "Non-extractive UV-VIS spectroscopic method for determination of iron metal in blood samples." is my own work and has not been printed, published and submitted as research work, thesis or publication in any form in any University, Research institution etc. in Pakistan or Abroad.

Dated: _____ _____

(TAYYABA ARSHAD)

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Dated: _____ _____

(TAYYABA ARSHAD)

RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled, "Non-extractive UV-VIS spectroscopic method for determination of iron metal in blood samples."has been carried out and completed by **TAYYABA ARSHAD, ID: 13004067006**. The quantum and the quality of the work contained in this thesis is adequate for the award of Degree of BS (honors) in Chemistry.

_____

Supervisor
Shah Muhammad Haroon

_____

Dr. Sammia Shahid
Chairperson,
Department of Chemistry,
UMT, Lahore.

Dedication

I DEDICATE THIS EFFORT TO MY FAMILY AND TEACHERS WHOSE COURAGE, SUPPORT AND PRAYERS ENABLE ME TO COMPLETE THIS WORK.

ACKNOWLEDGEMENT

Firstly I want to thank Allah Almighty who blessed me with such a wonderful life and familywho supported me through thick and thin. I am grateful to HIM for the health and well being that were necessary to complete my work.

I would like to express my profound gratitude to my supervisor **Shah Muhammad Haroon**, Assistant Professor in Department of Chemistry, University of Management and Technology Lahore, whose expertise, understanding, and patience, added considerably to my graduate experience. I really appreciate his devoted, loveable behavior for me during my work.

I wish to express my sincere thanks to **Dr. Sammia Shahid**, Chairperson of Chemistry department, University of Management and Technology, for providing me with all the necessary facilities for the research.

I place on record, my sincere thanks to **Dr. Azhar Iqbal,** Dean of School of Science University of Management and Technology, for their continuous encouragement.

I take this opportunity to express gratitude to all of the Department faculty members for their help and support.

I am very thankful to my parents for the unceasing encouragement, support and attention.

Abstract

A validated, precised, accurate and simple spectrophotometric method has been worked out for the determination of Fe in human blood. Determination of Fe method is based on the reaction of iron with ammonium thiocyanate after the wet digestion of blood samples of HCV patients with HNO_3 and H_2O_2. The absorption maxima occurred at 475nm.This method is are alternative method for the amount of Fein blood other than test methods applied in medical lab.

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Introduction

1.1 Blood's Role in Human Body

Blood contains plasma (liquid portion) and cells. It is key body's fluid that supplynecessary nutrients like oxygen, hormonesand sugar to cells of our body, and substances and also carries deplete of cells which ambush of in sweat, urine, lungs (CO_2).and feaces.Clotting agents are also present in blood.

In humans, blood fluid contains 55% of blood plasma and in addition to water; plasma also consists of Glucose (sugar), hormones, blood cells, proteins, oxygen and CO_2.