

**Ain Shams University
Faculty of Science
Chemistry Department**



**The assessment of some enzymes
in human body by new optical sensors**

A Thesis

**Submitted for the Degree of Master of Science
As Partial Fulfillment for Requirements of Master of Science
"Chemistry Department"**

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**B.Sc. in Biochemistry and Chemistry, Faculty of
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Ain Shams University

1988

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2015

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Approval Sheet

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Note

Beside the work done in this thesis the candidate has attended post-graduate courses for one year in advanced inorganic and analytical chemistry including the following topics.

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2. Advanced chromatographic and separation.
3. Advanced electro- and electroanalytical chemistry.
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9. English language.

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List of abbreviation

| | |
|--------------|--|
| % RE | Percent relative error |
| % RSD | percent relative standard deviation |
| [Q] | The concentration of the quencher |
| A | The acceptor |
| a | Intercept |
| ^a | The average value for three readings |
| b | Slope |
| CFP | The cyan fluorescent protein |
| CL | Confidence limits |
| Cy3 | Cyanine3 |
| D | The donor |
| Da | Atomic mass or dalton |
| dba | Dibenzylideneacetone |
| DMF | Dimethyl Formamide |
| DMSO | Dimethyl sulfoxide |
| DNA | Deoxyribonucleic acid |
| DOI | 2-(2,2-dichloro-3-oxoindolin-1-yl)-3H-indol-3-one |
| E | The efficiency of energy transfer |
| F | The fluorescence intensities in the absence quencher |