شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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HANAA ALY

Ain Shams University
Faculty of Pharmacy
Microbiology & Immunology dept.

Studies on the Production of Bacterial Cellulases

A Thesis

Submitted in Partial Fulfillment of the Requirements for

Master's degree

In Pharmaceutical Sciences
(Microbiology and Immunology)

By

Mery Sameh Waheeb Gabrah Morgan
Bachelor of Pharmaceutical sciences,
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2021

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Mery Sameh Waheeb

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List of Abbreviations

Abbreviation	Definition
CAGR	Compound Annual Growth Rate
CMC	Carboxy methyl cellulose
RSM	Response Surface Methodology
OFAT	One-factor-at-a-time
BBD	Box-Behnken design
Gy	Gray
SDS-PAGE	Sodium Dodecyl Sulfate – Polyacrylamide Gel Electrophoresis
XCA	Cross-linked cellulase aggregates
Sp.	Species
DNS	Dinitrosalicyclic acid
DOE	Design of experiments
PBD	Plakett Burman Design
CDE	Cross-linked dissolve enzymes
CLEC	Cross-linked crystalline enzymes
CLSD	Cross-linked sprayed dried enzymes
CLEA	Cross-linked enzyme aggregates
DTT	Dithiothreitol
APS	Ammonium Persulfate
H	Hour (s)
DCW	Dry Cell Weight
CFCS	Cell free culture supernatant
CFU	Colony forming unit
DNA	Deoxyribonucleic acid
PCR	Polymerase chain reaction
ANOVA	Analysis of variance
BLAST	Basic Logic Alignment Search Tool
CV	Coefficient of variation
v/v	Volume/Volume
w/v	Weight/Volume
Rpm	Round per minute
UV	Ultraviolet
DF	Degrees of Freedom