

# **CHARACTERISTICS OF MILK PROTEINS AS AFFECTED BY SOME TECHNOLOGICAL PROCESSING PARAMETERS**

By

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## **Approval Sheet**

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# خواص بروتينات اللبن وتأثرها ببعض المعاملات التكنولوجية

رسالة مقدمة من

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للحصول على

**درجة دكتور الفلسفة في العلوم الزراعية  
(علوم وتكنولوجيا الألبان)**

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## LIST OF ABBREVIATION

AOAC	Association of Official analytical Chemists
BSA	Bovine Serum Albumin
$\alpha$ -La	Alpha lactalbumin
$\beta$ -Lg	Beta lactoglobulin
$\kappa$ -CN	Kappa casein
$\gamma$ -CN	Gamma casein
$\text{Ca}_3(\text{PO}_4)_2$	Tri-calcium phosphate
cm	Centimeter
CP	CentiPoise
$^{\circ}\text{C}$	Centigrade degree
g	Gram
K	Consistency value
m Pa.s	Milli Pascal per second
min	Minute
ml	Milliliter
mm	Millimeter
nmol	Nano mole
$\mu\text{g}$	Micro gram
mg	Milligram
HMF	Hydroxymethylfurfural
mN/m	Milli Newton per meter
n	flow behaviour index
NPN	Non Protein Nitrogen
RCT	Rennet Coagulation Time
Sec.	Second
SN	Soluble Nitrogen
ST	Surface Tension
TEM	Transmission Electron Microscopy
TN	Total Nitrogen

TS	Total Solids
$\mu$	Dynamic viscosity value
$\gamma$	shear rate
$\tau$	Shear stress
NCN	Non casein nitrogen
CN	Casein nitrogen
N	Normality
WPC	Whey protein concentrate
MPC	Milk protein concentrate
PBS	Phosphate buffer saline
MFGM	Milk fat globule membrane
UHT	Ultra high temperature
MCC	Micellar casein concentrates
R-MCC	Reconstituted micellar casein concentrates
MCN	Micellar casein
SCN	Sodium caseinates
UHPH	Ultra-high pressure homogenization
BI	Browning index
U	Heat transfer coefficient
$\Delta E$	Total Colour Index
Cp	Specific heat value
A	Surface area (m <sup>2</sup> )
PC	Protein carbonyl content



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