STUDIES ON THE PHYSICO-CHEMICAL PROPERTIES OF SESAME (*Sesamum Indicum*) SEED PROTEINS

A THESIS SUBMITTED TO THE UNIVERSITY OF MYSORE
FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

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D_E_C_L_A_R_A_T_I_O_N

I hereby declare that this thesis on "Studies on the Physico-Chemical Properties of Sesame (*Sesamum indicum*) Seed Proteins" which is submitted herewith for the degree of DOCTOR OF PHILOSOPHY of the UNIVERSITY OF MYSORE is the result of the work done by me in the Protein Technology Discipline, Central Food Technological Research Institute, Mysore under the guidance of Dr. P.K. Nandi during the period 1973-1976.

I further declare that the results of this work have not been previously submitted for any degree or fellowship.

V. Prakash

(V. PRAKASH)

C_E_R_T_I_F_I_C_A_T_E

I hereby certify that the thesis on "Studies on the Physico-Chemical Properties of Sesame (*Sesamum indicum*) Seed Proteins" submitted by Sri V. Prakash for the degree of DOCTOR OF PHILOSOPHY of the UNIVERSITY OF MYSORE is the result of research work carried out by him in the Protein Technology Discipline, Central Food Technological Research Institute, Mysore under my guidance during the period 1973-1976.

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A_C_K_N_O_W_L_E_D_G_E_M_E_N_T_S

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ABBREVIATIONS

CM:	Carboxymethyl
DEAE:	Diethylaminoethyl
et al.	and co-workers
Fig.	Figure
GuHCl	Guanidine hydrochloride
NBS:	N-Bromosuccinimide
QAE:	Quarternaryaminoethyl
SDS:	Sodium dodecyl sulfate
SP:	Sulphopropyl
TEA:	Triethanolamine
TMEED:	N,N,N^{1}, N^{1}-Tetramethylethylene-diamine
Tris:	2-amino-2 hydroxymethyl propane-1, 3-diol.

S_Y_M_B_O_L_S

V_o:	Void volume of the gel column used in gel filtration.
V_t:	Total volume of the gel column used in gel filtration.
V_e:	Elution volume of the peak in gel filtration.
K:	Apparent association constant
k:	Binding constant
$[\eta]$:	Intrinsic viscosity
η_{sp}:	Specific viscosity
η_{red}:	Reduced viscosity
$[\alpha]$:	Specific rotation
ε:	Molar extinction coefficient
E:	Absorption coefficient
$\bar{\nu}$:	Moles of ligand bound per mole of protein
$\backsim$:	Approximately
Δ:	Difference
α:	Alpha
β:	Beta
γ:	Gamma
δ:	Delta
t^o:	t^oC
f_u:	Fraction of the total change observed in various measurements.