Ain Shams University
Faculty of Science
Chemistry Department

Preparation and Characterization of Some Group 8B Salen Complexes and Their Application in Chemical Sensors

Thesis submitted for the degree of master
In
Inorganic and analytical chemistry

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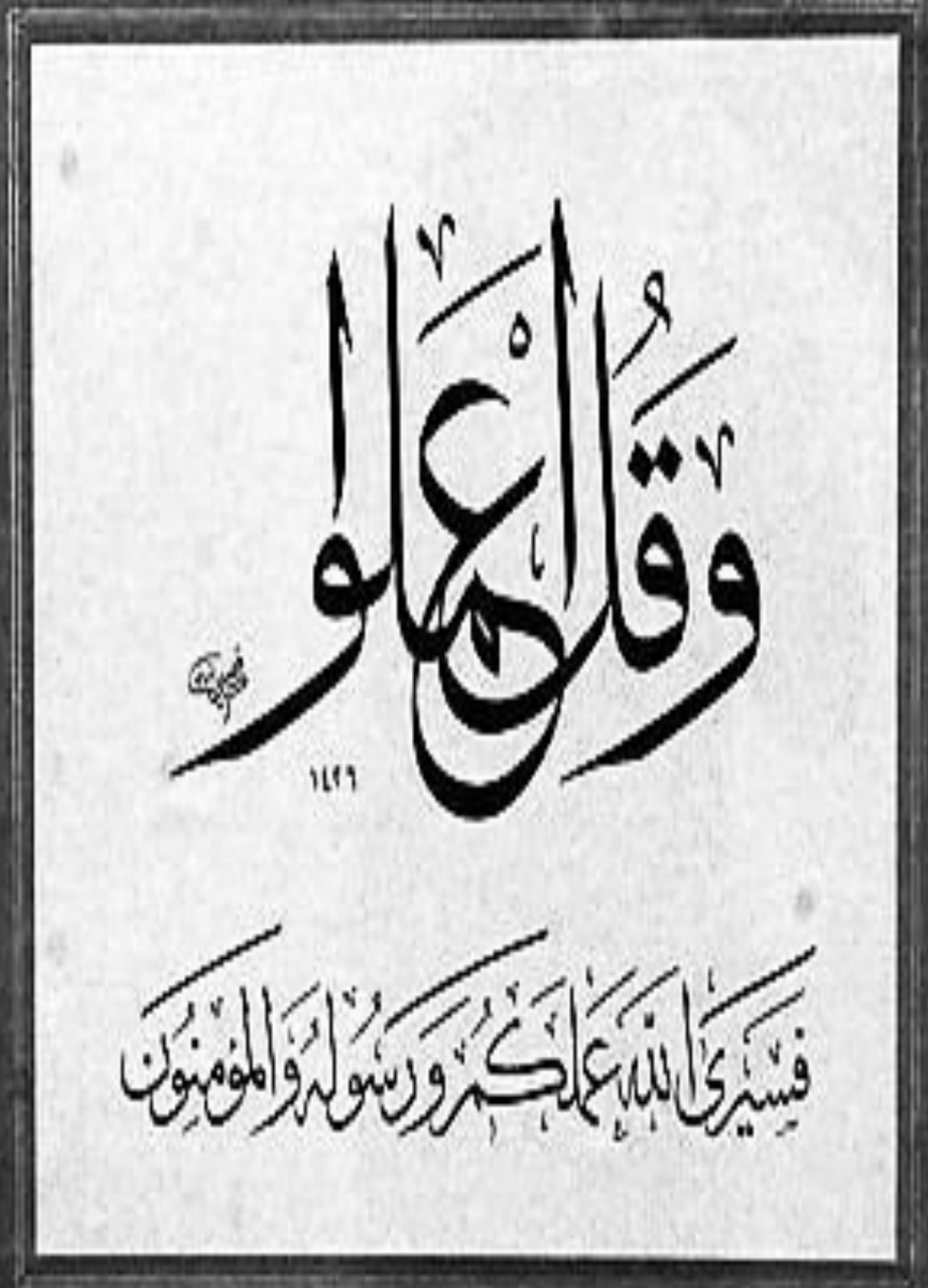
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فسيرى الله عملكم ورسوله والمؤمنون

Dedication

To my first tutor ever, to my Mom, my inspiration and my continuous support

To the one who taught me to be whom I am, my late Grandmother, may Allah bless her soul

To my biggest support system ever, my Dad

To my late aunt, who was always a guide and a support, may Allah bless your kind soul

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Mohammed Hammam Mohammed

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List of abbreviations

K_{ij}^{Pot}	*Potentiometric selectivity coefficient*
Λ_m	*molar conductivity*
CHN	*elemental analyses*
DL	*Detection limit*
DMF	*Dimethyl formamide*
DMSO	*Dimethyl sulphoxide*
DOS	*Dioctyl sebacate*
$E_{ext.ref}$	*The potential of external reference electrode*
$E_{int.ref}$	*The potential of internal reference electrode*
E_j	*The liquid junction potential*
E_M	*The membrane potential*
EMF	*Electromotive force*
ESR	*Electron Spin Resonance*
FIM	*Fixed interference method*
FT-IR	*Fourier transform infrared spectroscopy*
ISE	*Ion selective electrode*
ISFET	*Ion selective field effect transistor*

IUPAC	*International Union of Pure and Applied Chemistry*
KTFPB	*potassium tetrakis[bis(3,5-trifluoromethyl)phenyl] borate*
LMCT	*Ligand Metal charge transfer*
M	*Molarity or metal ion*
MLCT	*Metal ligand charge transfer*
MPM	*Matched potential method*
nm	*nanometer*
NMR	*Nuclear Magnetic Resonance*
ºC	*degree Celsius*
***o*-NPOE**	*2-nitrophenyl octyl ether*
PU	*Polyurethane*
PVC	*Poly vinyl Chloride*
SB	*Schiff base*
SSM	*Separate solution method*
TDMAC	*Tridodecyl methyl ammonium chloride*
TGA	*Thermogravimetric analysis*
THF	*Tetrahydrofuran*
TLC	*Thin layer chromatography*
UV-VIS	*Ultra violet-Visible spectroscopy*

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