B1111

Analytical Study on Some Skeletal Muscle Relaxants and Anti-spastic Drugs

Thesis
Presented for partial fulfillment of the requirements of master degree

In
Pharmaceutical Sciences
" Analytical Chemistry"

By

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B.Pharm. Sci., 1997

Under Supervision of

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2002

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

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2002

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List of Abbreviations

SMR	Skeletal muscle relaxants
NSAIDs	Non-steroidal anti-inflammatory drugs
Mol.Wt	Molecular weight
HPLC	High performance liquid chromatography
RP-HPLC	Reversed phase high performance liquid chromatography
UV	Ultraviolet
nm	Nanometer = 10^{-9} meter
DMF	Dimethylformamide
GC	Gas chromatography
GC-MS	Gas chromatography mass spectrometry
TLC	Thin layer chromatography
HP-TLC	High performance thin layer chromatography
SD	Standard deviation
S^2	Variance ($S^2 = (SD)^2$
RSD	Relative standard deviation (RSD = 100 × SD / mean)
MLR	Multiple linear regression
CLS	Classical least squares
ILS	Inverse least squares
PCR	Principal component regression
PLS	Partial least squares
DD^1	First derivative of difference spectrophotometry
DD^2	Second derivative of difference spectrophotometry
K-Matrix	Calibration matrix in CLS
P-Matrix	Calibration matrix in ILS
r	Correlation coefficient
PC	Principal component
PCA	Principal component analysis

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Note

Besides the work carried out in this thesis, the candidate has attended and successfully passed the postgraduate courses examination with the grades mentioned in the following:

Subject	Grade
Quality Control	*Excellent*
Stability Indicating Methods	*Excellent*
Bioavailability	*Excellent*
Instrumental Analysis	*V. Good*
Computer and Its Applications	*Excellent*
Searching Literature	*Excellent*
Statistics	*Pass*
Higher Mathematics	*Excellent*
General Grade	***Excellent***

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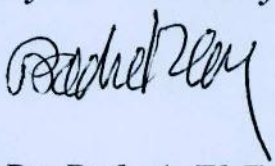

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PRESS	Prediction residual error sum of squares
SEP	Standard error of prediction
RMSECV	Root mean square error of cross validation
RMSEC	Root mean square error of calibration
CV-LOO	Cross validation leave out one method
ANOVA	Analysis of variance
SS	Sum of squares
MS	Mean square
n	Number of samples
df	Degree of freedom (df = n-1)
$\Delta\lambda$	Difference in wavelengths across which derivative is calculated
F	Scaling factor
K	Reaction rate constant
T	Absolute temperature (T = t °C + 273)
Ea	Activation energy
A	Frequency factor
DR^1	First derivative of ratio spectra
$t_{0.5}$	Half life (The time required for the drug to decrease to 50% of its original concentration)
IR	Infrared
µg	Microgram = 10^{-6} gram

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PART II: Determination of (Chlorzoxazone - Paracetamol) and (Chlorzoxazone – Ketoprofen) Using Chemometric Methods