Development of Portable, Application Specific Electronic Nose for Agriculture

by

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LIST OF ABBREVIATIONS

2D	2 Dimensions
3D	3 Dimensions
AC	Alternating Current
ADC	Analog to Digital Converter
ANN	Artificial Neural Network
ASEN	Application Specific Electronic Nose
BP	Back-Propagation
BSR	Basal Stem Rot
CFD	Computational Fluid Dynamic
CP	Conducting Polymer
CCD	Charge Coupled Device
CCW	Counter clockwise
Da	Dalton
DC	Direct Current
DF	Discriminate Function
DOE	Department of Environment
DNA	Deoxyribonucleic Acid
EI	Electron Ionization
e-nose	Electronic Nose
ELISA	Enzyme-Linked Immunosorbent Assay
FFT	Fast Fourier Transform
FTIR	Fourier Transform Infrared

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FELDA	Federal Land development Authority
FPGA	Field-Programmable Gate Array
GA	Genetic Algorithm
GUI	Graphic User Interface
GC-MS	Gas Chromatography Mass Spectrum
GC	Gas Chromatograph
GIS	Geographical Information System
GABA	Gamma Amino Butyric Acid
HPLC	High Pressure Liquid Chromatography
INDEX	Inside-Needle Dynamic Extraction
ICs	Integrated Circuits
IDE	Integrated Development Environment
Insniff	The developed e-nose
KNN	*k*-Nearest Neighbours
LDA	Linear Discriminate Analysis
LOO	Leave-One-Out
LiPo	Lithium-Ion Polymer
LPF	Low Pass Filters
LM	Levenberg-Marquardt
MLP	Multilayer Feed-Forward Perceptron
MOS	Metal-Oxide Semiconductor
MSE	Mean Squared Error
MEA	Malt Extract Agar
MARDI	Malaysian Agricultural Research and Development Institute

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