

## NIR Spectroscopy Analysis Modeling Software System

## IRMA

### Features

- The software supports modeling and various algorithm processing.
- The software can directly measure the concentration of samples and supports multiple concentration units.
- High compatibility, compatible with all of the company's near-infrared quantitative instruments.
- Compatible with near-infrared spectra from other brands.
- Works with the company's online near-infrared instruments to detect substances.
- The software supports customized design.
- Simple operation and convenient measurement.

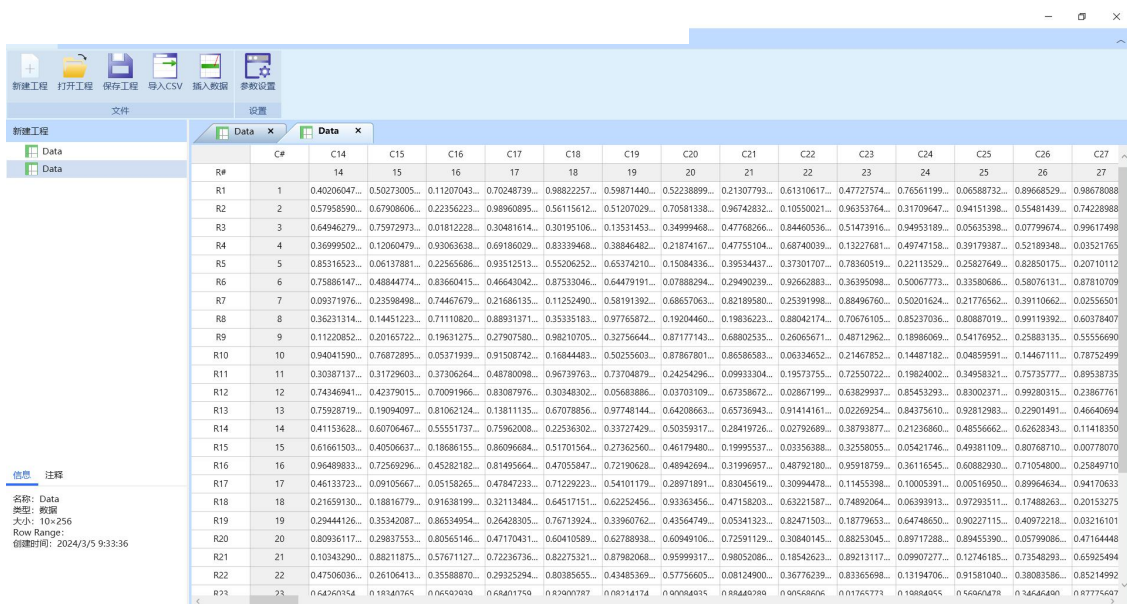
### Application

- Food industry: Food Safety; food analysis; food quality; beverage
- Chemical industry
- Biomedical field : biopharma
- Life Science: Agriculture sector
- Environmental science : Environmental Monitoring
- Material science : Textile industry
- Energy: Organic chemical industry
- Biochemical industry
- Petrochemical industry : Oil, Mining
- Industrial Analysis : Polymer chemical industry

### Description

IRMAS is a near-infrared modeling and analysis system designed to facilitate quantitative testing and analysis according to customers' specific needs. The software supports both multivariable and univariable modeling, and offers simple and convenient operation. It is compatible with online near-infrared instruments and all quantitative near-infrared instruments produced by the company, and it also supports customized design.

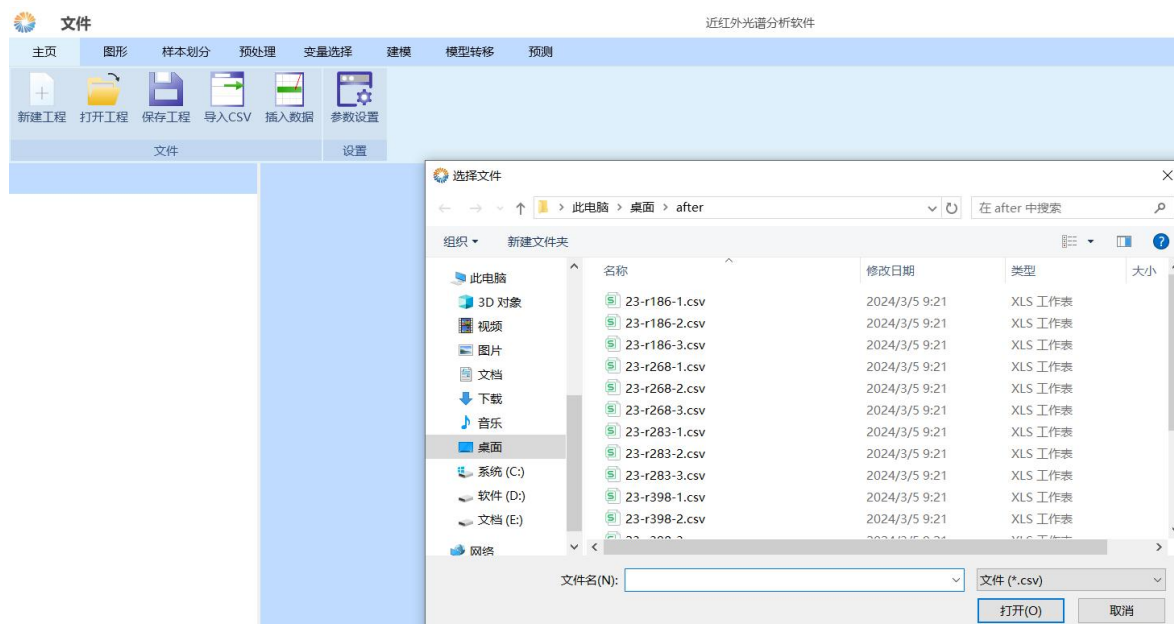
IRMAS features a user-friendly interface and provides measurement results along with various functions such as data storage and export. These capabilities further enhance the range of applications and scenarios for the instruments.



R#	C#	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27
R1	1	0.40206047...	0.50273005...	0.11207043...	0.70248739...	0.98822257...	0.59871440...	0.52238899...	0.21307793...	0.61310617...	0.47727574...	0.16561199...	0.06508732...	0.09660529...	0.98670088
R2	2	0.57958590...	0.67908606...	0.22356223...	0.98900895...	0.56115612...	0.51207029...	0.70581338...	0.96742832...	0.10550021...	0.96353764...	0.31709647...	0.94151398...	0.55481439...	0.74228988
R3	3	0.64946279...	0.75972973...	0.01812228...	0.30481614...	0.30195106...	0.13531453...	0.34999468...	0.47768266...	0.84460536...	0.51473916...	0.94953189...	0.05635398...	0.07799674...	0.99617498
R4	4	0.69999502...	0.12606479...	0.93063638...	0.69186029...	0.83339468...	0.38846482...	0.21874167...	0.47755104...	0.68740039...	0.13227681...	0.49747158...	0.39179387...	0.52189348...	0.03521765
R5	5	0.85316523...	0.06137881...	0.22565686...	0.93512513...	0.55206252...	0.65374210...	0.15084336...	0.39534437...	0.37301707...	0.78360519...	0.22113529...	0.25827649...	0.82850175...	0.20710112
R6	6	0.75886147...	0.48844774...	0.83660415...	0.46643042...	0.87533046...	0.64479191...	0.07888294...	0.29490239...	0.92662883...	0.36395098...	0.50067773...	0.33580686...	0.58076131...	0.87810709
R7	7	0.09371976...	0.23599498...	0.74467679...	0.21686135...	0.11252490...	0.58191392...	0.68657063...	0.82189580...	0.25391998...	0.88496760...	0.50201624...	0.21776562...	0.39110662...	0.02556501
R8	8	0.36231314...	0.14451223...	0.71110820...	0.88913171...	0.35335183...	0.97765872...	0.19204460...	0.19836223...	0.88042174...	0.70676105...	0.85237036...	0.80887019...	0.99119392...	0.60378407
R9	9	0.11220852...	0.20165722...	0.19631275...	0.27907580...	0.98210705...	0.32756644...	0.87177143...	0.68802535...	0.26065671...	0.48712962...	0.18986069...	0.54176952...	0.25883135...	0.55556690
R10	10	0.94041590...	0.76872895...	0.05371939...	0.91508742...	0.16844483...	0.50255603...	0.87867801...	0.86586583...	0.06334652...	0.21467852...	0.14487182...	0.04859591...	0.14467111...	0.78752499
R11	11	0.30387137...	0.31729603...	0.37306264...	0.48780098...	0.96739763...	0.73704879...	0.24254296...	0.09933304...	0.19573755...	0.72550722...	0.19824002...	0.34958321...	0.75735777...	0.89538735
R12	12	0.74346941...	0.42379015...	0.70091966...	0.83087976...	0.30348302...	0.05683886...	0.03703109...	0.67358672...	0.02867199...	0.63829937...	0.85453293...	0.83002371...	0.99280315...	0.23867761
R13	13	0.75928719...	0.19094097...	0.81062124...	0.13811135...	0.67078856...	0.97748144...	0.64208663...	0.65736943...	0.91441461...	0.02269254...	0.84375610...	0.92812983...	0.22901491...	0.46640694
R14	14	0.41153628...	0.60706467...	0.55551737...	0.75962008...	0.22536302...	0.33727429...	0.50359317...	0.28419726...	0.02792689...	0.38793877...	0.21236860...	0.48556662...	0.62628343...	0.11418350
R15	15	0.61661503...	0.40506637...	0.18686155...	0.86096604...	0.51701564...	0.27362560...	0.46179480...	0.19995537...	0.03356388...	0.32558055...	0.05421746...	0.49381109...	0.80768710...	0.00778070
R16	16	0.96489833...	0.72569296...	0.45282182...	0.81495664...	0.47055847...	0.72190628...	0.48942694...	0.31996957...	0.48792180...	0.95918759...	0.36116545...	0.60882930...	0.71054800...	0.25849710
R17	17	0.46133723...	0.09105667...	0.05158265...	0.47847233...	0.71229223...	0.54101179...	0.28971891...	0.83045619...	0.30994478...	0.11455398...	0.10005391...	0.00516950...	0.89964634...	0.94170633
R18	18	0.21659130...	0.18816779...	0.91638199...	0.32113484...	0.64517151...	0.62252456...	0.93363456...	0.47158203...	0.63221587...	0.74892064...	0.06393913...	0.97293511...	0.17488263...	0.20153275
R19	19	0.29444126...	0.35342087...	0.86534954...	0.26428305...	0.76713924...	0.33960762...	0.43564749...	0.05341323...	0.82471503...	0.18779653...	0.64748650...	0.90227115...	0.40972218...	0.03216101
R20	20	0.80936117...	0.29837553...	0.80565146...	0.47170451...	0.62410589...	0.62788938...	0.60949106...	0.72591129...	0.30840145...	0.88253045...	0.89717288...	0.89455390...	0.05799086...	0.47144484
R21	21	0.10343290...	0.88271875...	0.57671127...	0.72236736...	0.82275321...	0.87982068...	0.95999317...	0.98052086...	0.18542623...	0.89213117...	0.09907277...	0.12746185...	0.73548293...	0.65925494
R22	22	0.47586036...	0.26106413...	0.35588870...	0.29325294...	0.80386655...	0.43485369...	0.57756605...	0.08124900...	0.36776239...	0.83365698...	0.13194706...	0.91581040...	0.38803586...	0.65214952
R23	23	0.62493134...	0.13818765...	0.160002030...	0.68811793...	0.829019787...	0.08214174...	0.90068495...	0.88440298...	0.90568206...	0.11765773...	0.19888495...	0.56026078...	0.34584480...	0.87775607

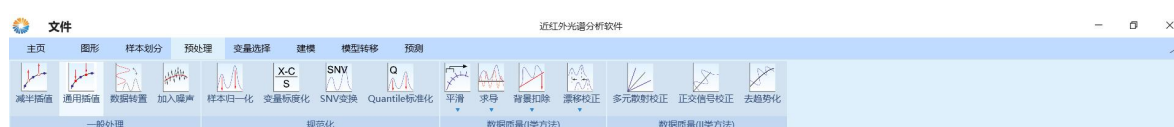
# 1. IRMAS Application Methods

## 1.1 Importing Data



The instrument supports importing data in various formats, such as CSV. After importing, the data can be processed with sample division, preprocessing, variable selection, and other treatments.

## 1.2 Preprocessing



Preprocessing includes various treatments such as halving interpolation, general interpolation, and data transposition. Different sample data require different sample processing methods.

## 1.3 Variable Selection



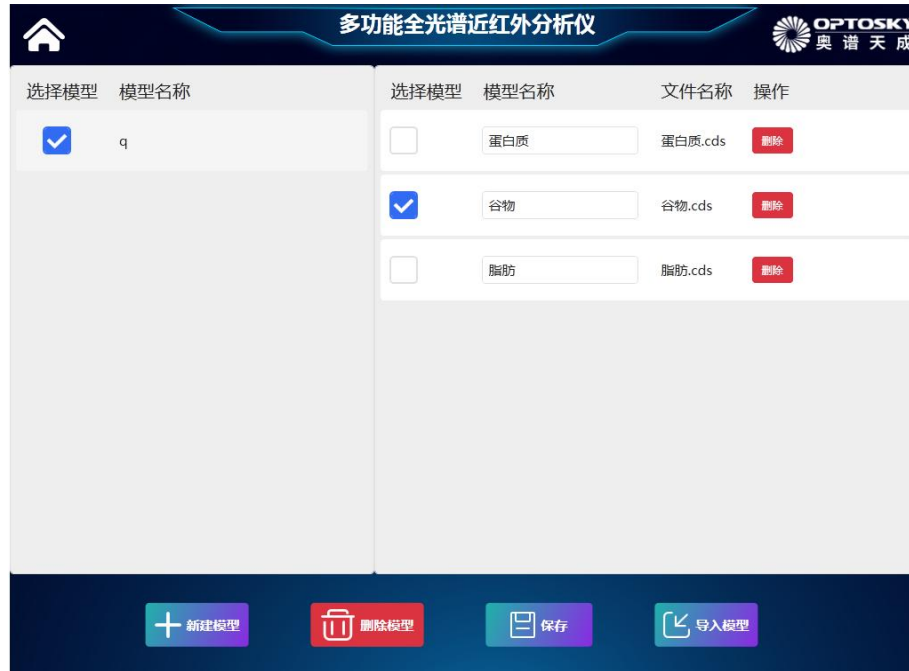
Perform variable adjustments on the sample data, such as weighted processing and stepwise regression.

## 1.4 Modeling



The instrument supports various modeling methods, such as principal component analysis and least squares method.

## 1.5 Importing Models



Models built with our modeling software can be imported into our multifunctional full-spectrum near-infrared analyzer for sample measurement.



After importing the model, the composition of the sample can be predicted.

## 2.IRMAS Specifications

Detection Probe		
1	Operating System	Windows10、 11
2	Modes	Modeling
3	Compatible Instruments	Optosky NIR spectrometer, other company NIR products
4	Others	Supports user customization