ColorQC 2 颜色检测软件

使用说明书

简介

本公司专业生产和销售 颜色、光泽、雾度检测仪器和色彩管理以及电脑调色软件。

本公司生产的设备：

- 色差仪、分光测色仪
- 光泽度计
- 雾度计

本公司生产的软件：

- 涂料调色软件
- 油漆调色软件
- 电脑调色软件
- 印刷配色软件
- 纺织配色软件
- 塑胶配色软件

目录

1 软件安装

1.1 安装环境要求

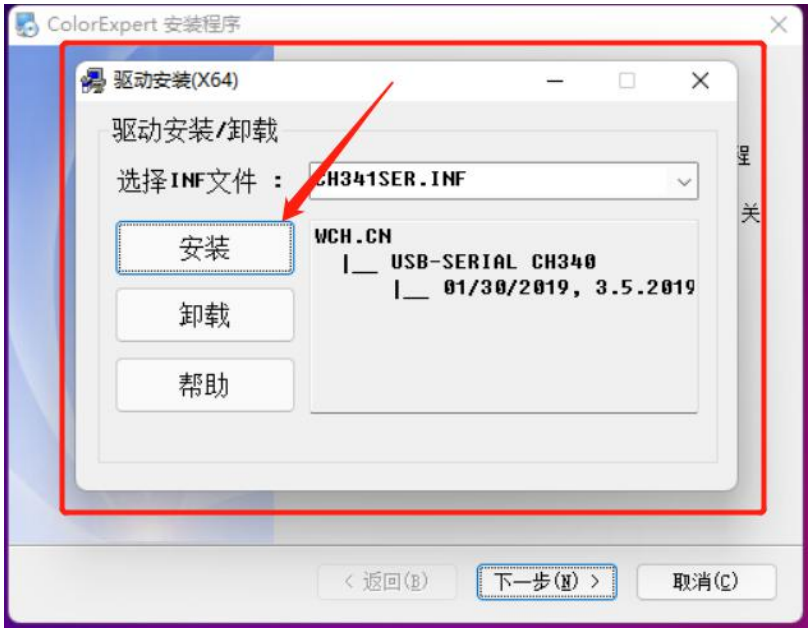
- 电脑系统：Windows7(SP1),Windows8,Windows10,Windosws11
- 运行内存：2GB 以上
- 磁盘空间：1GB 以上

1.2 安装软件

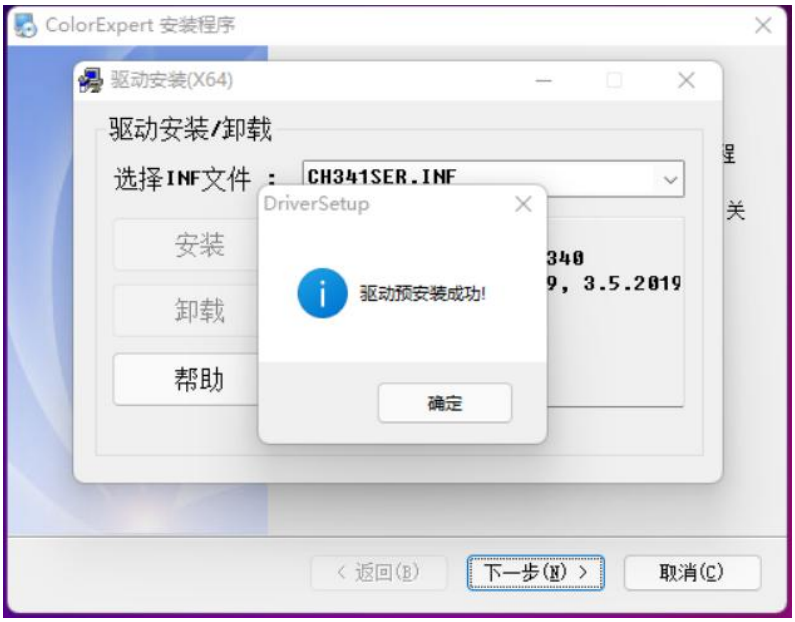
下载软件安装程序（下载地址：https://www.hzcaipu.com/xiazai/page135.html）

使用鼠标双击软件安装程序

加载中…



选择“安装”

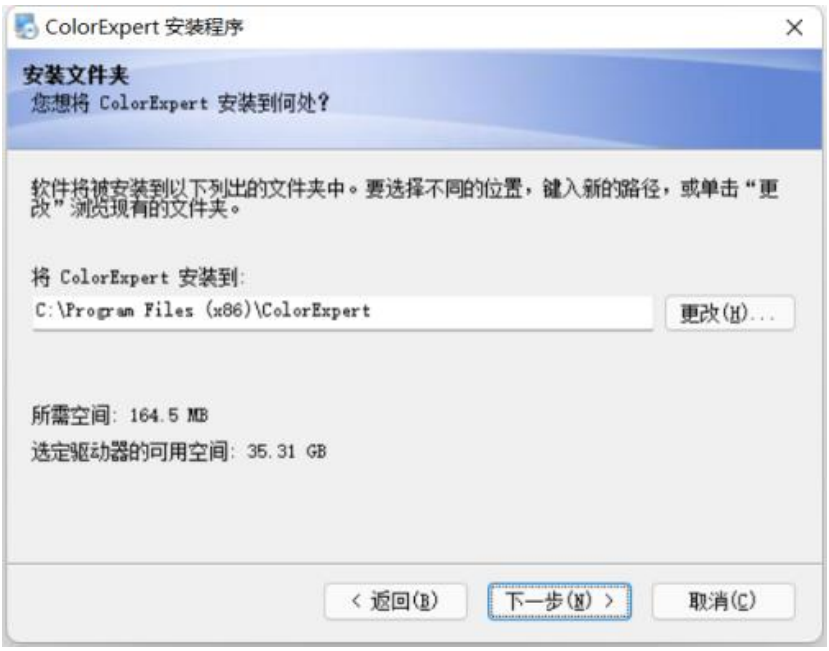


等待驱动安装完成，点击“确定”-关闭“驱动安装（X64）”

欢迎窗口，鼠标点击 下一步

请仔细阅读软件授权协议，如果同意协议内容，选择窗口左下角“我同意该许可协议的条款”

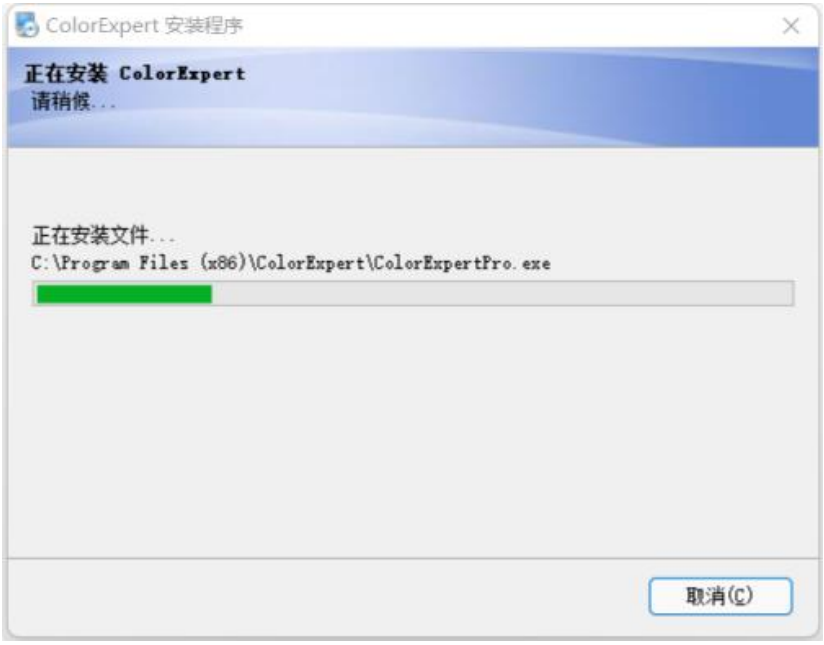
选择 下一步



选择软件安装的文件夹，然后选择 下一步

选择 下一步

选择 下一步



等待安装完成

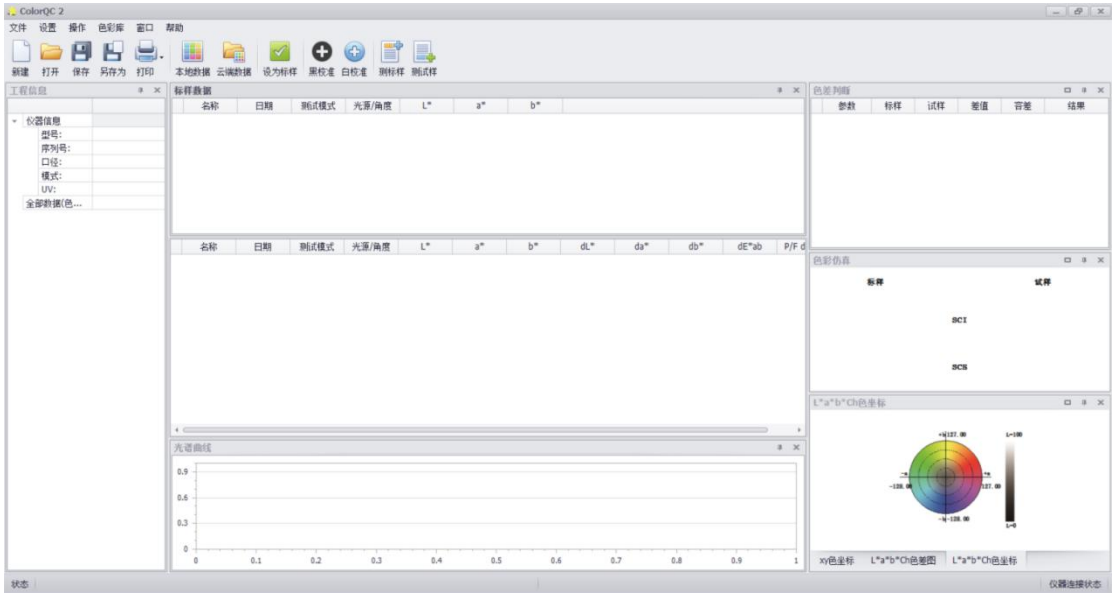

ColorExpert 安装程序
安装成功
ColorExpert 2.1 安装已完成。
感谢您选择 ColorExpert!
请单击“完成”退出该安装程序。
< 返回(B)
完成(F)
取消(C)

安装成功，点击 完成

电脑桌面上增加这三个快捷图标

- 图标 1：ColorExpert 集合了颜色管理，颜色检测，电脑配色和个人中心模块
- 图标 2：ColorQC 2　用于颜色检测（本文档仅介绍这个软件的使用方法）
- 图标 3：ColorMatch 用于电脑调色（欢迎申请试用）

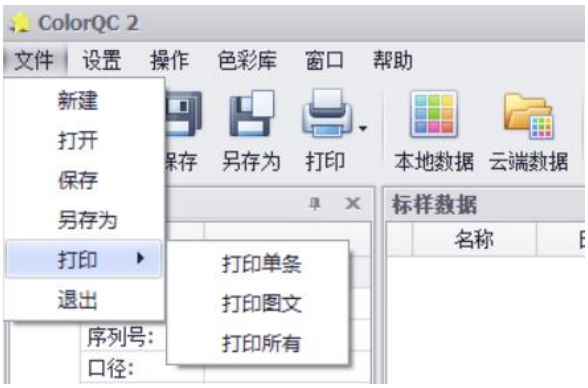
鼠标双击打开 ColorQC 2 快捷图标



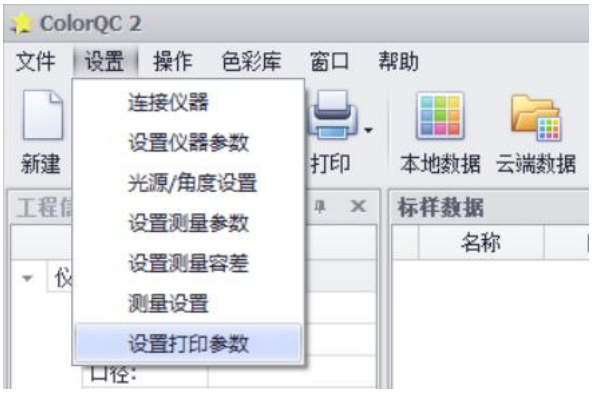
2 软件介绍

2.1 菜单（包含软件全部功能）

2.1.1 文件（新建、打开、保存、打印等功能）



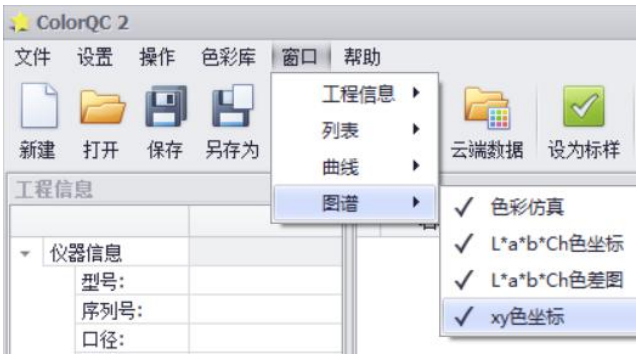
2.1.2 设置（连接仪器、测量设置、显示参数、打印参数设置等功能）



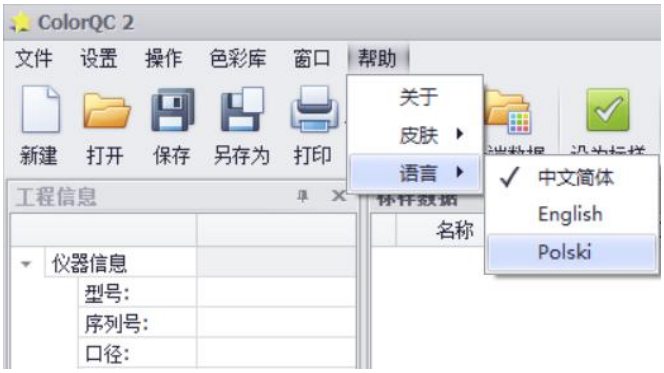
2.1.3 操作（黑白校准、测量、手动输入数据、获取仪器数据等操作）

2.1.4 色彩库（保存颜色、查找接近色等操作）

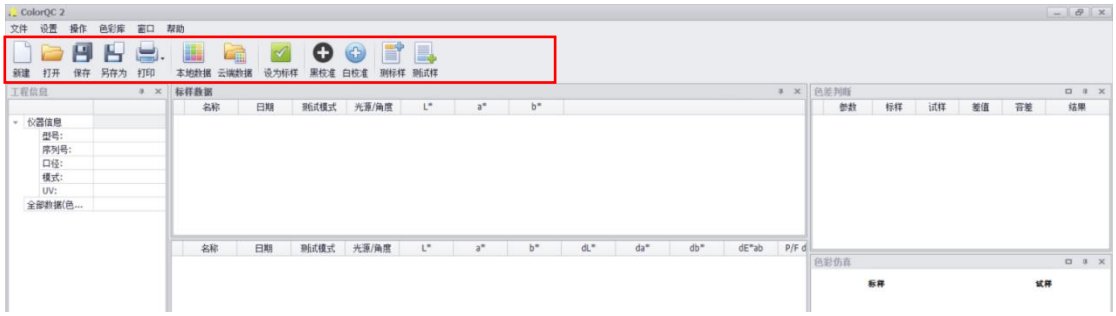
2.1.5 窗口（显示或隐藏显示模块）



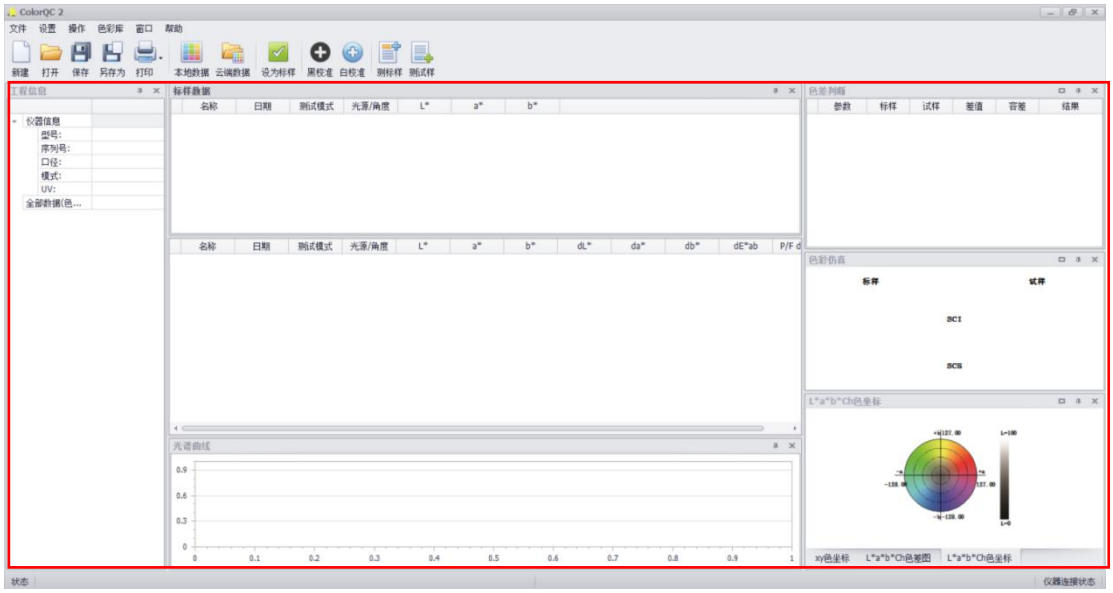
2.1.6 帮助（帮助、皮肤设置和多语言）



2.2 工具栏（包含部分常用功能）



2.3 显示部分（显示测试数据、图表等）



2.4 状态栏（显示仪器连接状态）

3 常用功能介绍

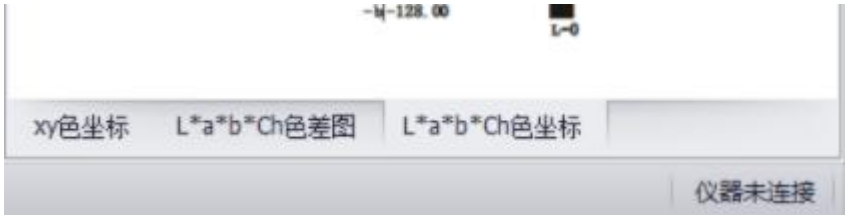
3.1 连接设备

3.1.1 使用 USB 数据线连接设备

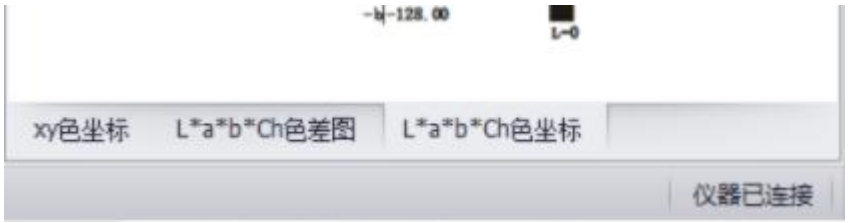
开启 ColorQC 2 软件并将设备使用数据线连接上电脑，软件会自动检测到设备，并自动与设备连接。

查看 ColorQC 2 软件右下角是否连接成功。

下方两张图，代表软件与设备未连接



下方图片，代表软件与设备已经连接成功



如果软件与设备未连接，请检查下方事项：

- 设备是否开机
- USB 数据线是否连接正常（检查是否存在接触不良问题）
- 部分设备需要将设备设置为“USB 连接模式”
- 检查电脑上是否同时打开了两个 ColorQC 2 软件（或其他检测软件），将所有软件关闭，然后重新打开 ColorQC 2 软件。

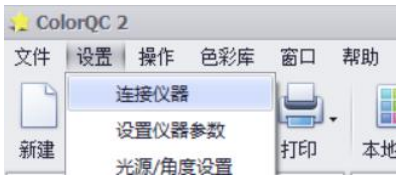
如果仍然无法解决，请与业务员联系。

3.1.2 使用蓝牙连接设备

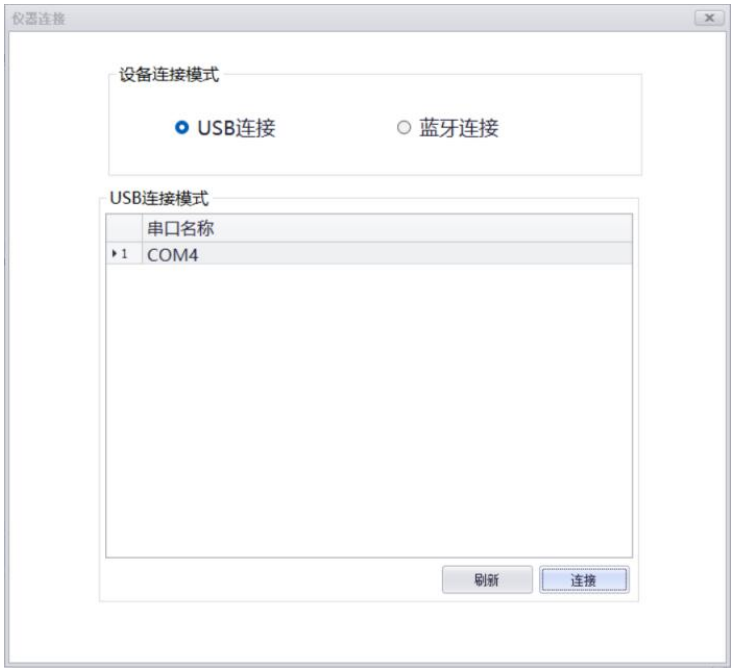
使用蓝牙连接设备的前提条件：

- 设备是否拥有蓝牙连接功能，并且确定设备蓝牙功能已经开启（查看设备说明书）
- 电脑是否有低功耗蓝牙模块，并且电脑操作系统为 Windows7、Windows8、Windows10 或 Windows11

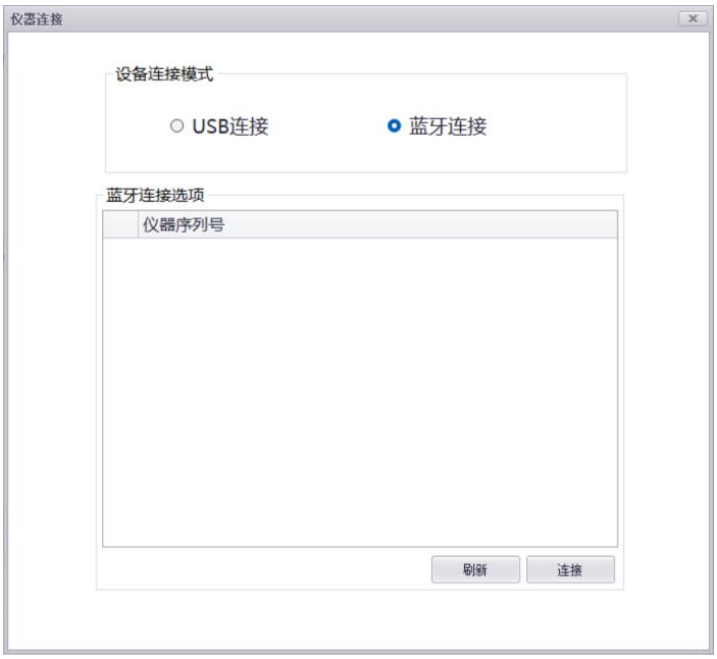
确定前提条件都具备后



选择菜单中 “设置”-“连接仪器”

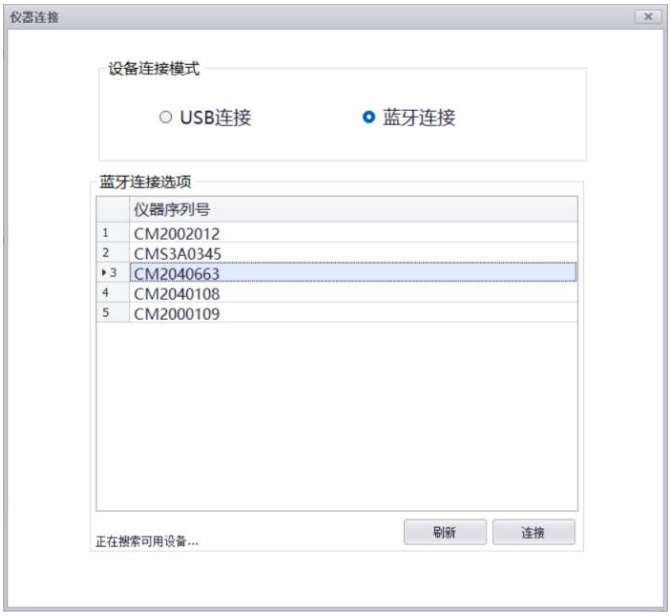


选择“蓝牙连接”



一般情况下，软件会自动连接上设备。

如果没有自动连接，点击“刷新”按钮



查看设备校正座上的设备序列号，然后选择正确的序列号，点击“连接”

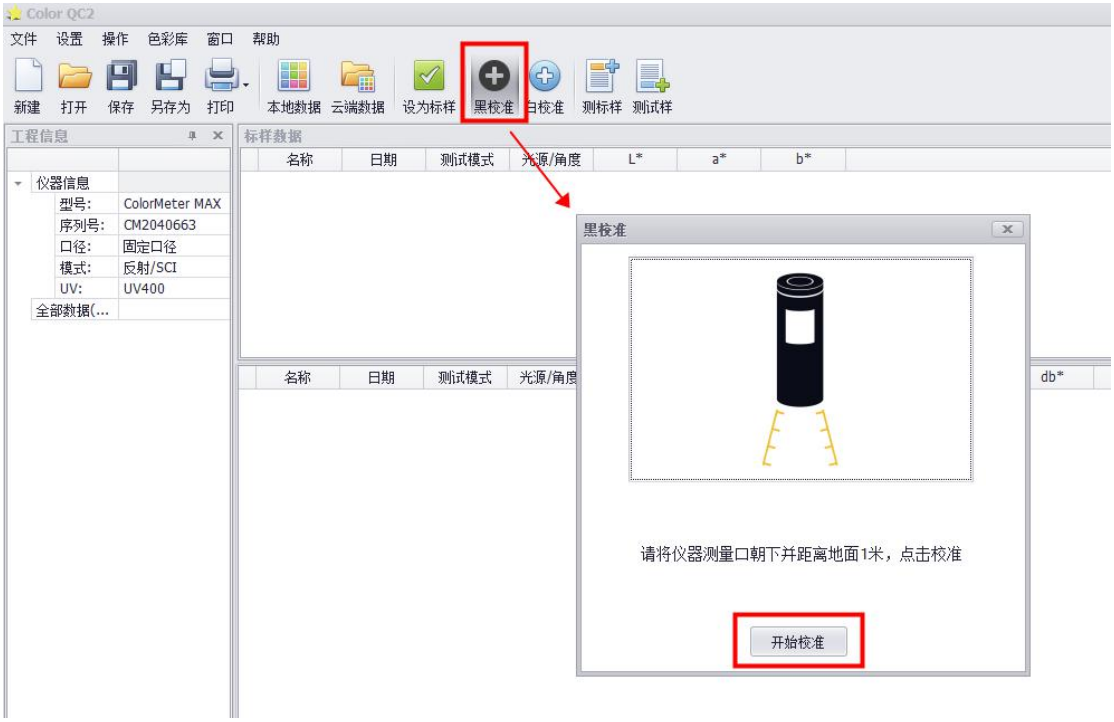
连接成功

如果仍然无法解决，请与业务员联系。

3.2 设备黑白校准

3.2.1 黑校准

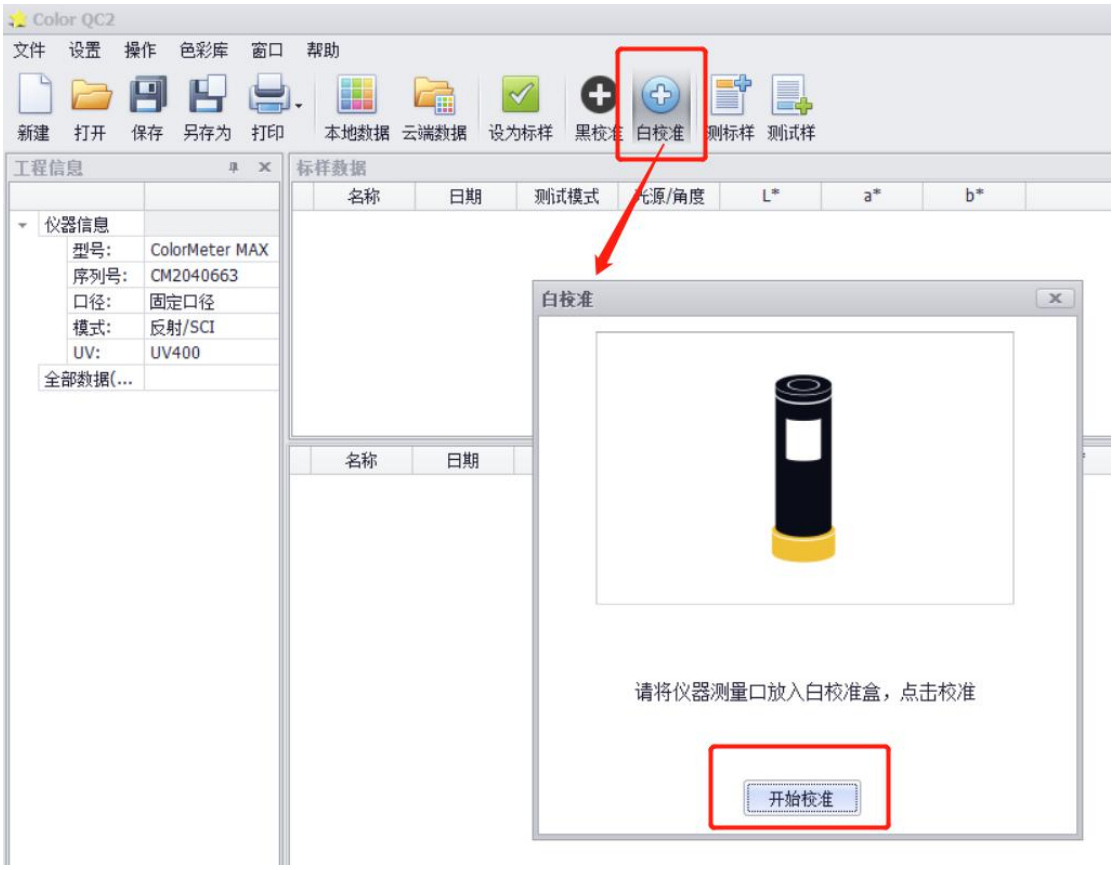
鼠标点击工具栏 “黑校准”选择



按照窗口上的提示进行黑校准

3.2.2 白校准

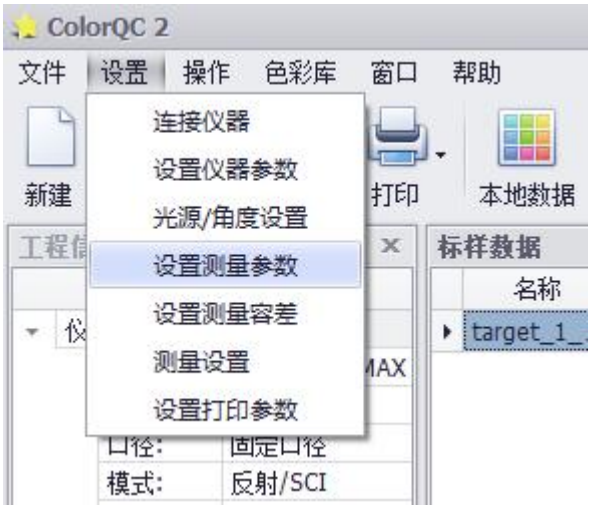
鼠标点击工具栏 “白校准”选择

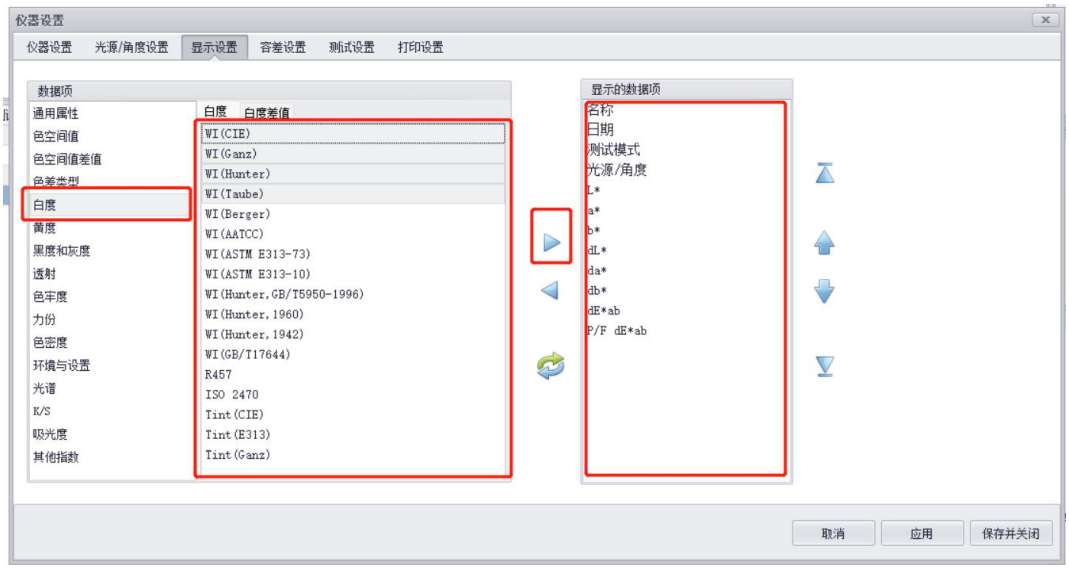


按照窗口上的提示进行白校准

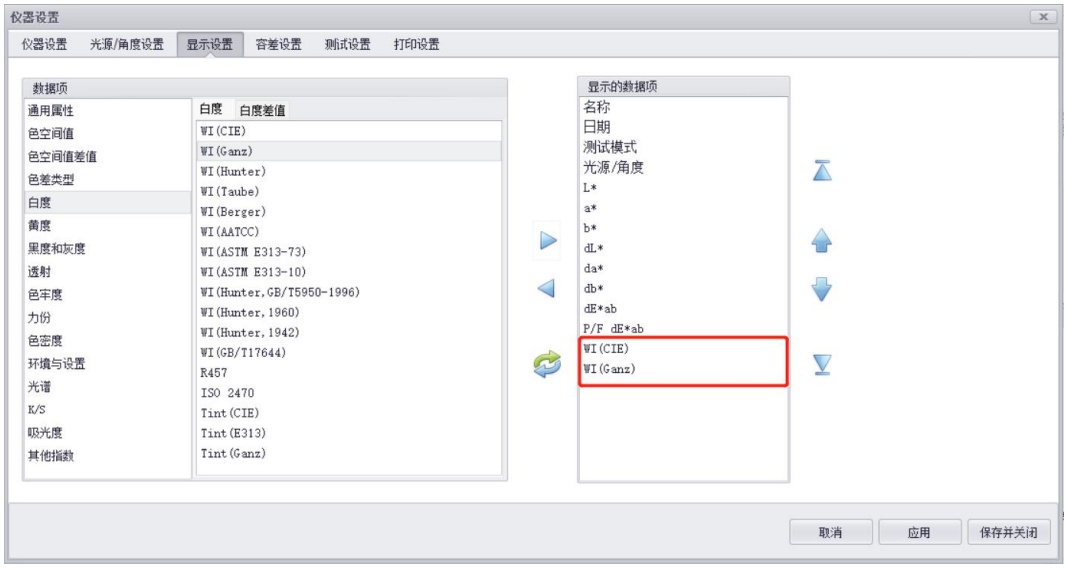
3.3 测量参数设置（测量白度）

选择菜单栏“设置”-“设置测量参数”

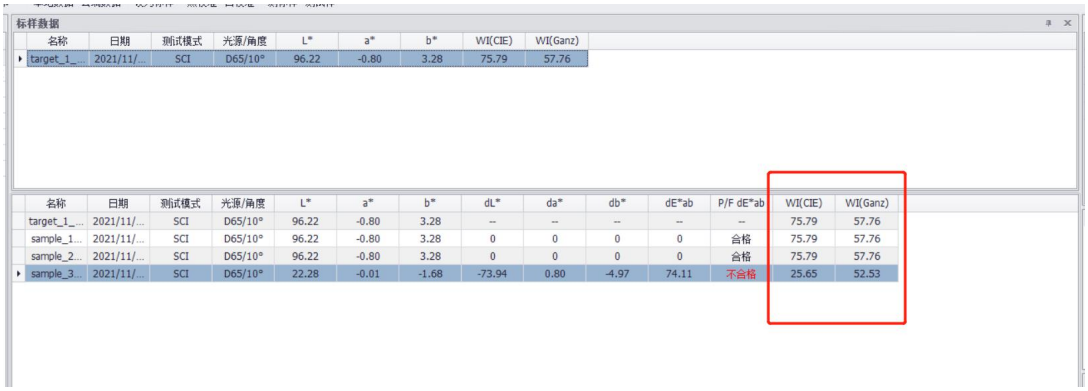




选择窗口左侧的“白度”，会看到不同标准的白度参数，选择需要测量的参数，鼠标点击向右的箭头



白度参数选择好后，点击右下角“保存并关闭”

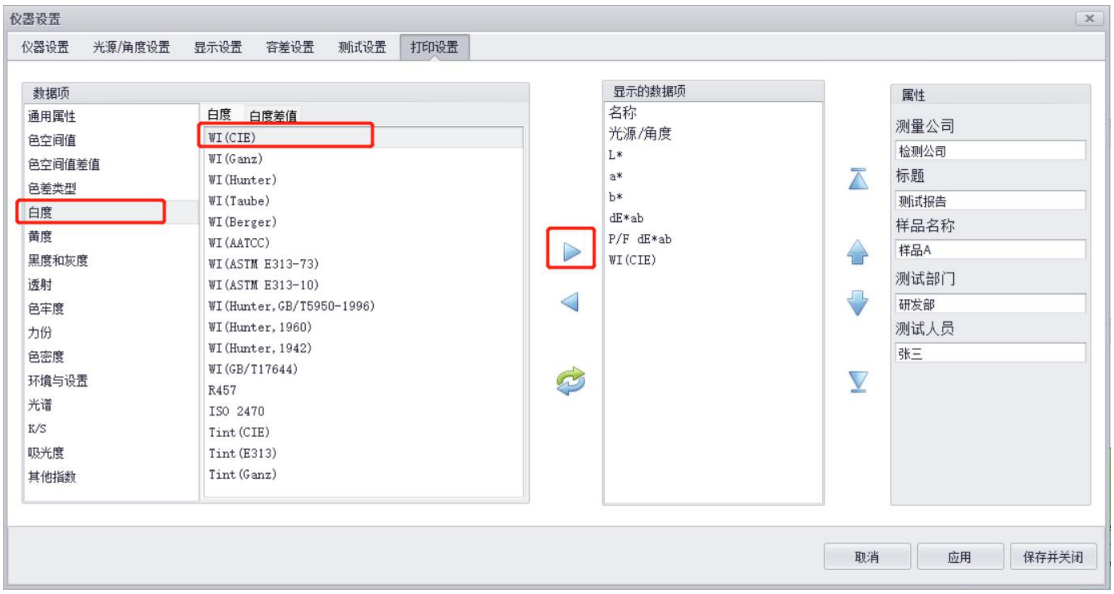


就能够在数据列表中看到需要的数据。

3.4 打印参数设置（打印白度）

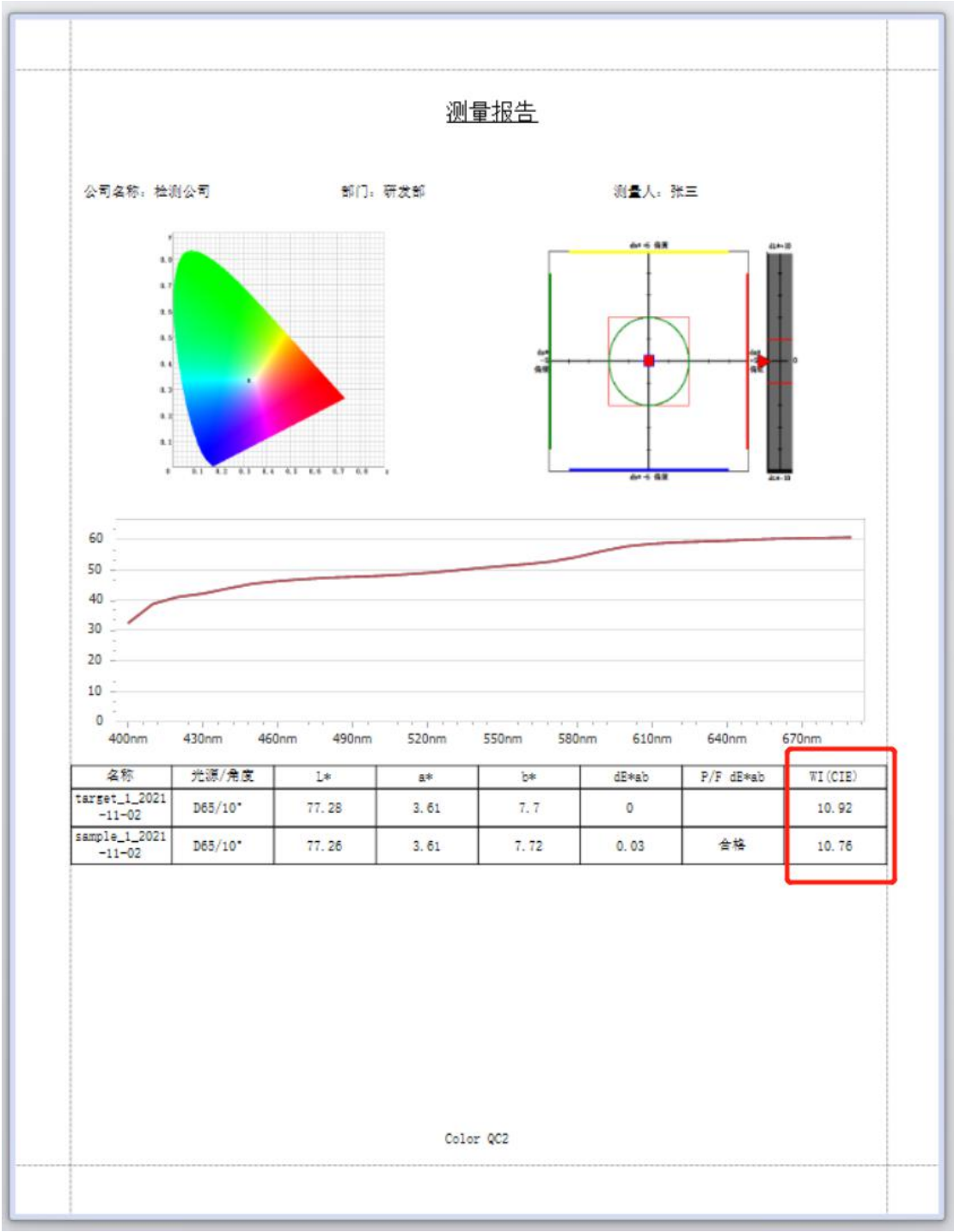
选择菜单栏 “设置”-“设置打印参数”

依次选择“白度”-“WI(CIE)”- 向右的箭头



然后，点击右下角“保存并关闭”按钮

选择工具栏“打印”-“打印图文”



测量报告

公司名称：检测公司　　部门：研发部　　测量人：张三

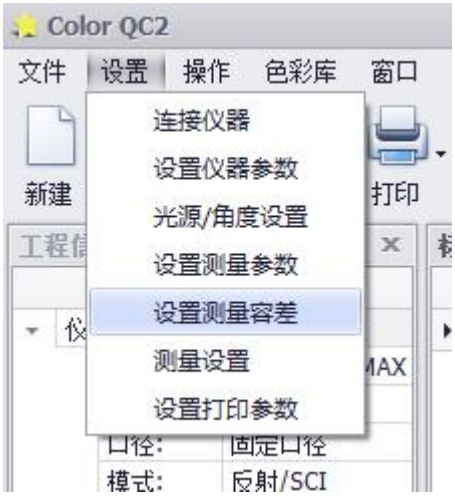
名称	光源/角度	L*	a*	b*	dE*ab	P/F dE*ab	WI(CIE)
target_1_2021-11-02	D65/10°	77.28	3.61	7.7	0		10.92
sample_1_2021-11-02	D65/10°	77.26	3.61	7.72	0.03	合格	10.76

Color QC2

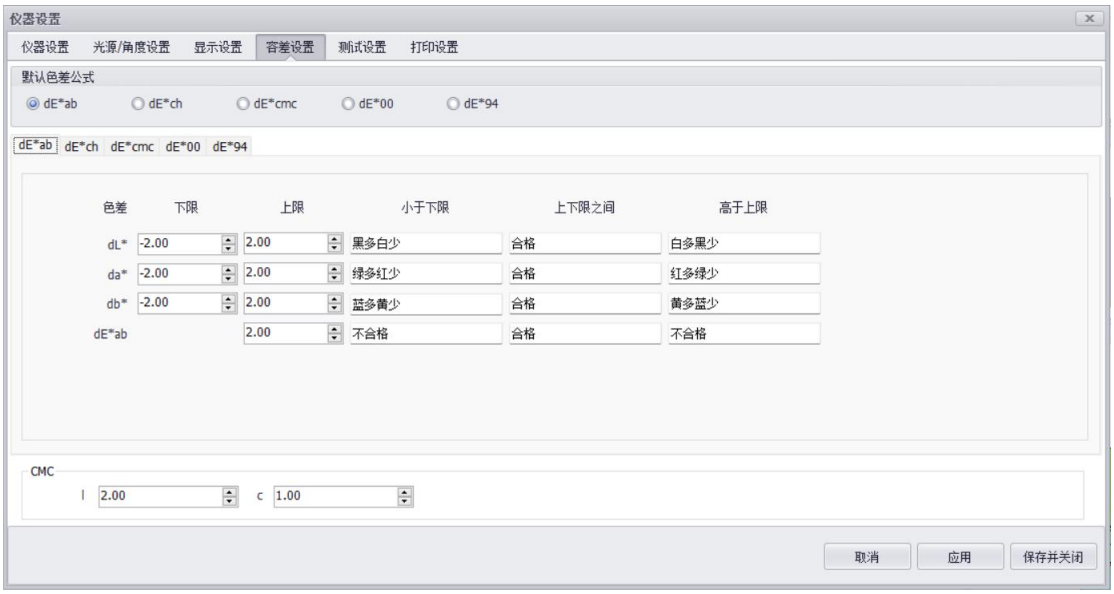
可以看到打印预览中的白度数据

3.5 测量容差设置

选择菜单栏 “设置”-“设置测量容差”



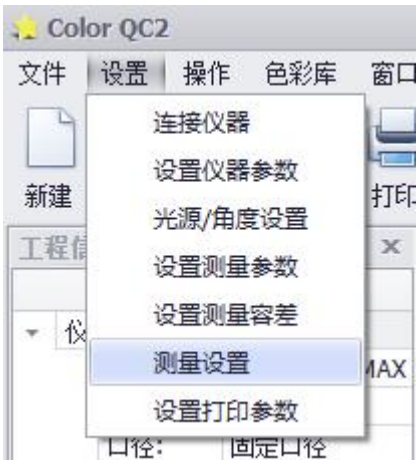
选择色差公式，然后设置色差判断的上限和下限



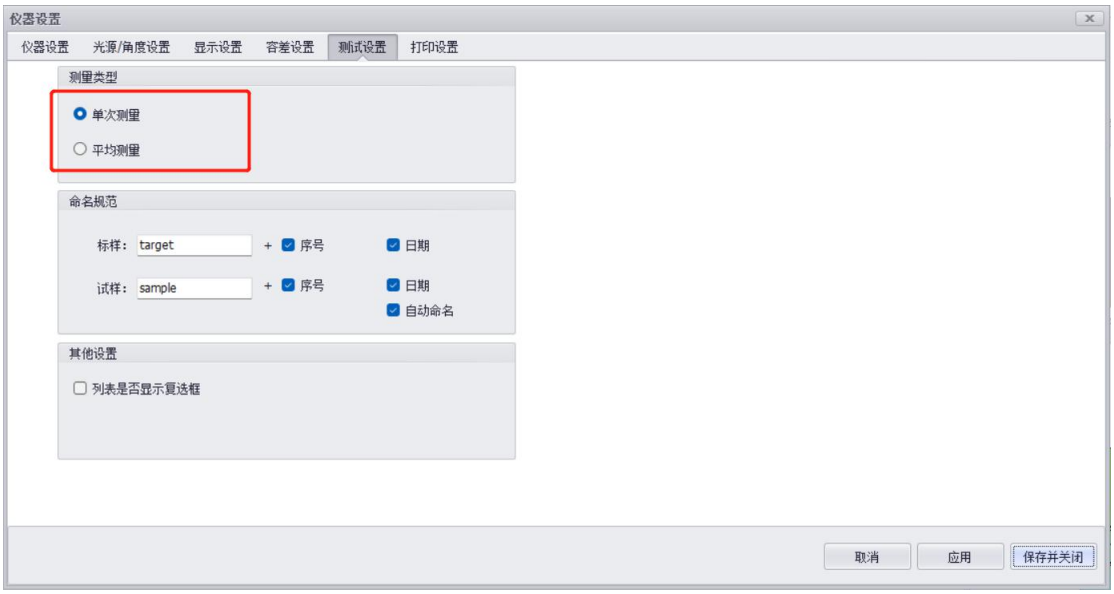
设置好后，点击右下角“保存并关闭”

3.6 平均测量设置

选择菜单栏 “设置”-“测量设置”



选择测量类型

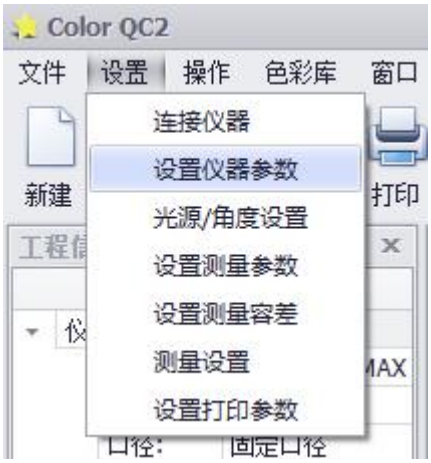


设置好后，点击右下角“保存并关闭”

3.7 测量条件设置（SCI/SCE、光源角度）

3.7.1 SCI/SCE 设置（需要确定设备可以设置此项）

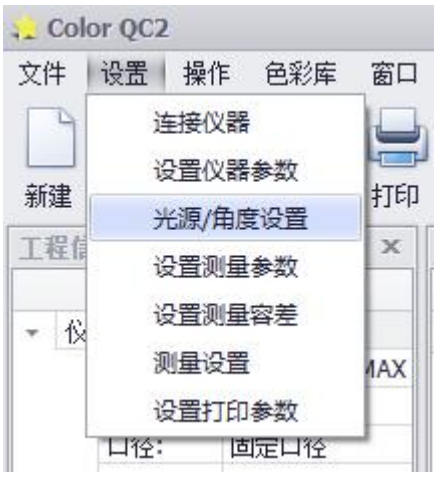
选择菜单栏 “设置”-“设置测量参数”



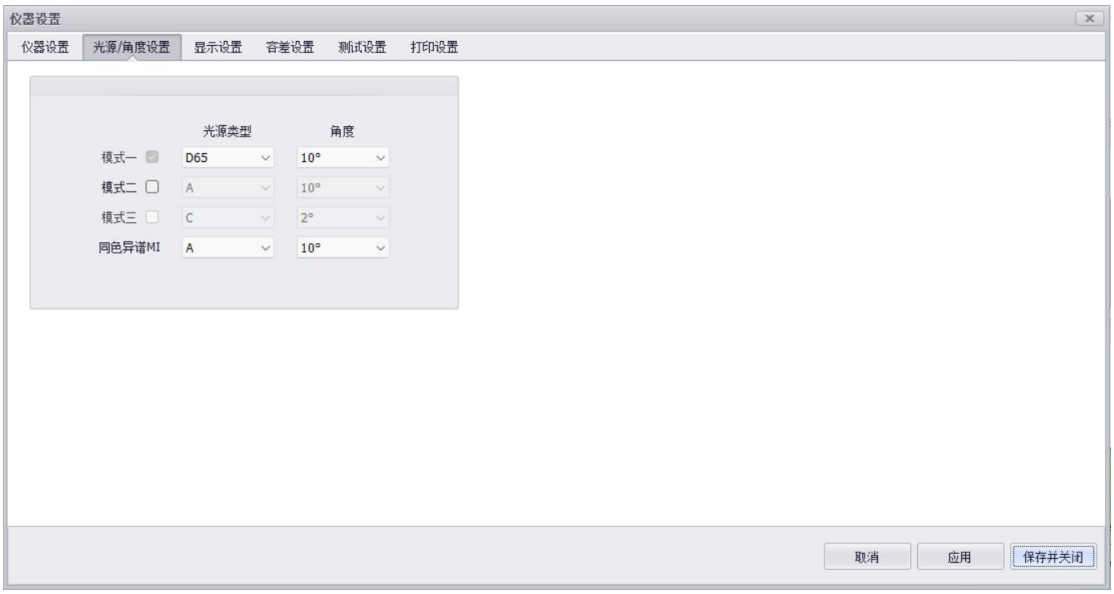
设置“测量模式”（SCI/SCE）等其他设置

3.7.2 光源角度设置

选择菜单栏 “设置”-“光源/角度设置”

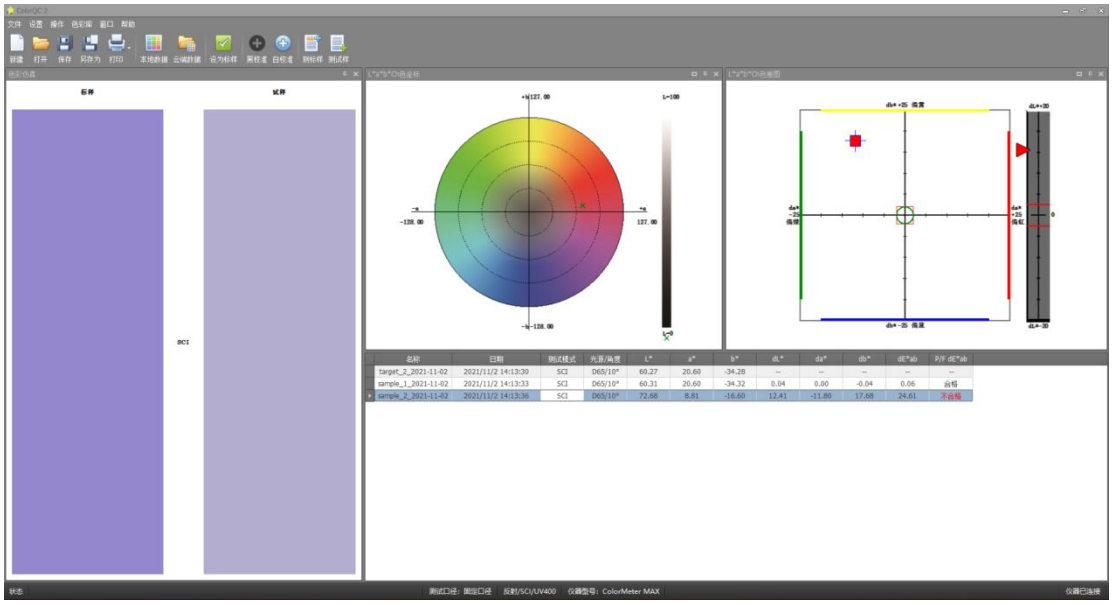


设置“光源类型”和“角度”

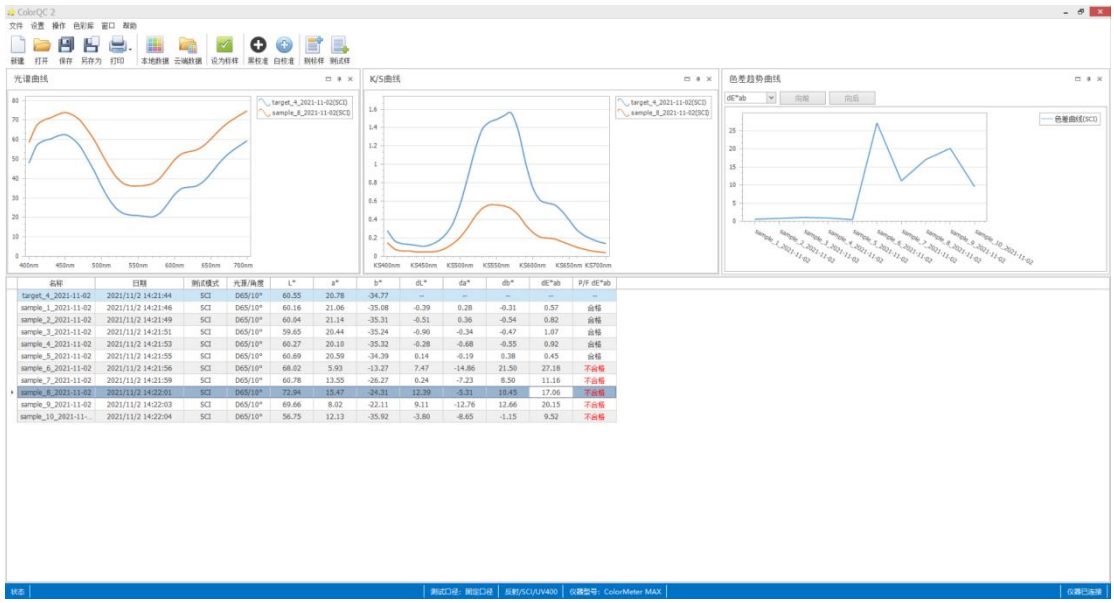


3.8 自定义测试界面

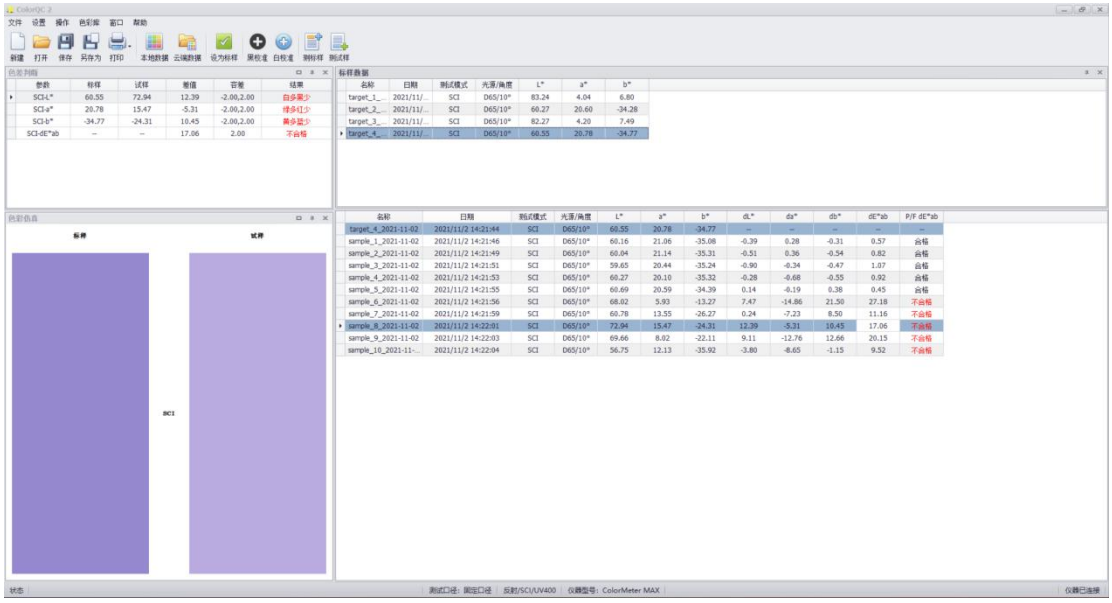
- 张三的测试窗口（张三比较需要查看颜色的图谱）



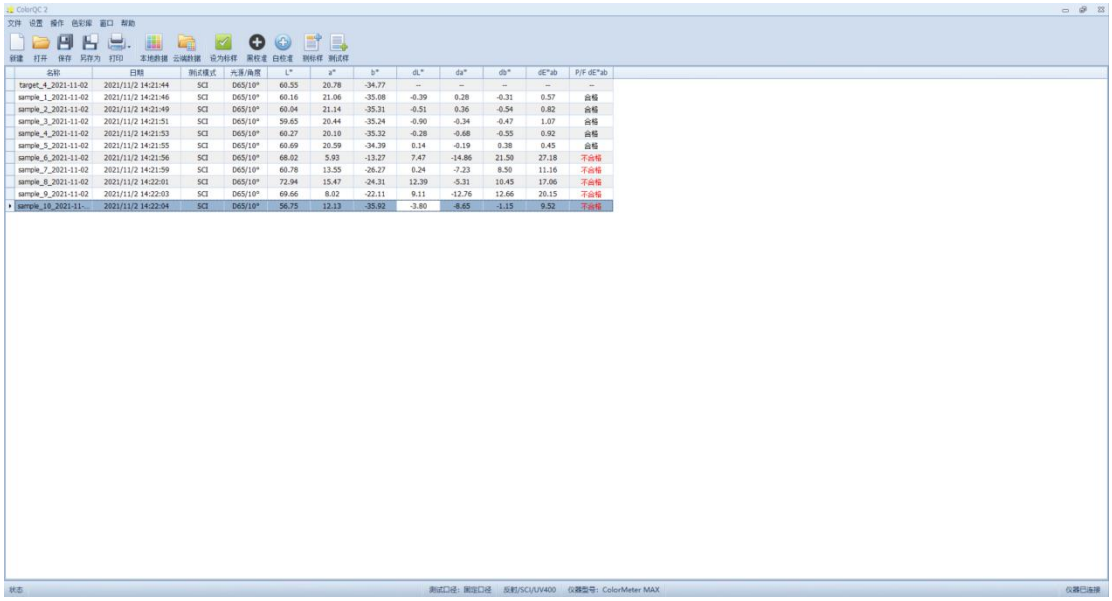
- 李四的测试窗口（李四比较需要查看颜色的曲线）



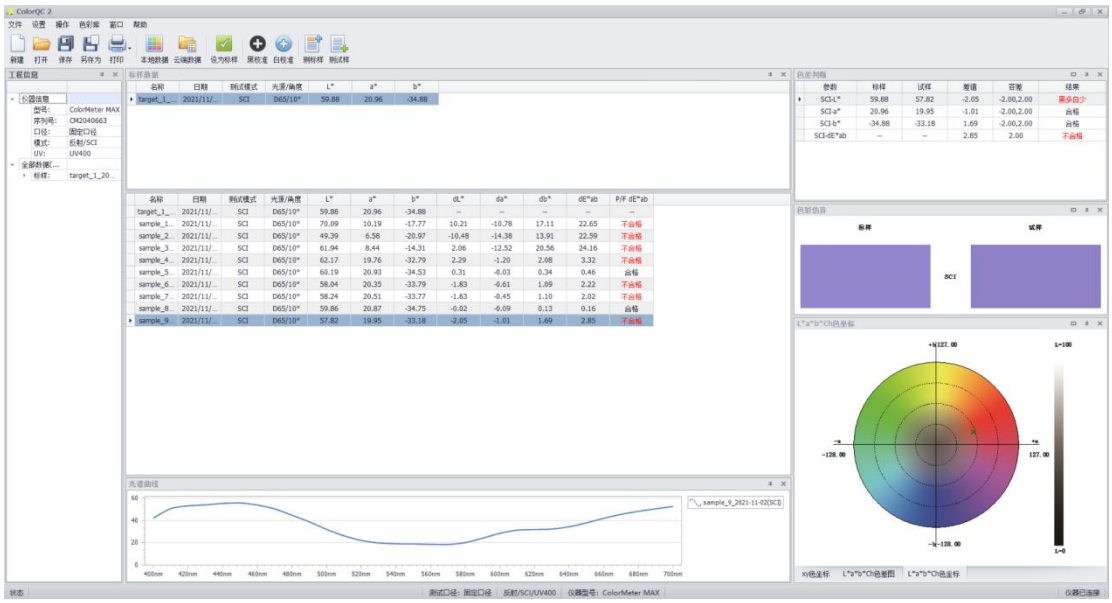
➢ 王五的测试窗口（王五比较需要查看颜色的具体数据，并需要测试多条标样）



➢ 质检员的测试窗口（资深质检员，看个色差，仅此而已）



➢ 我的测试窗口（我很懒，默认窗口，就挺好）



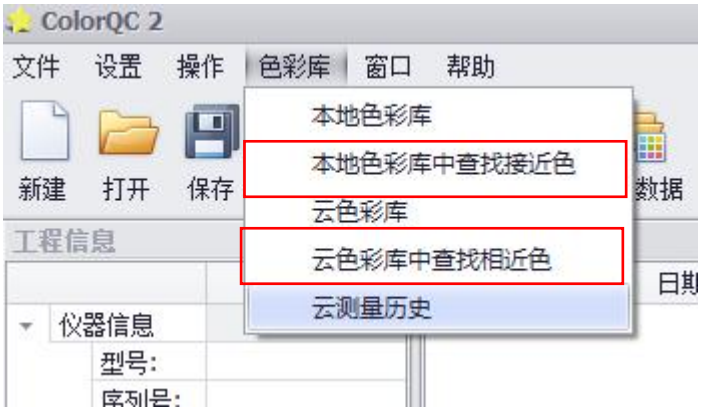
复杂的软件，简单的呈现！

复杂，满足你我他的需求。

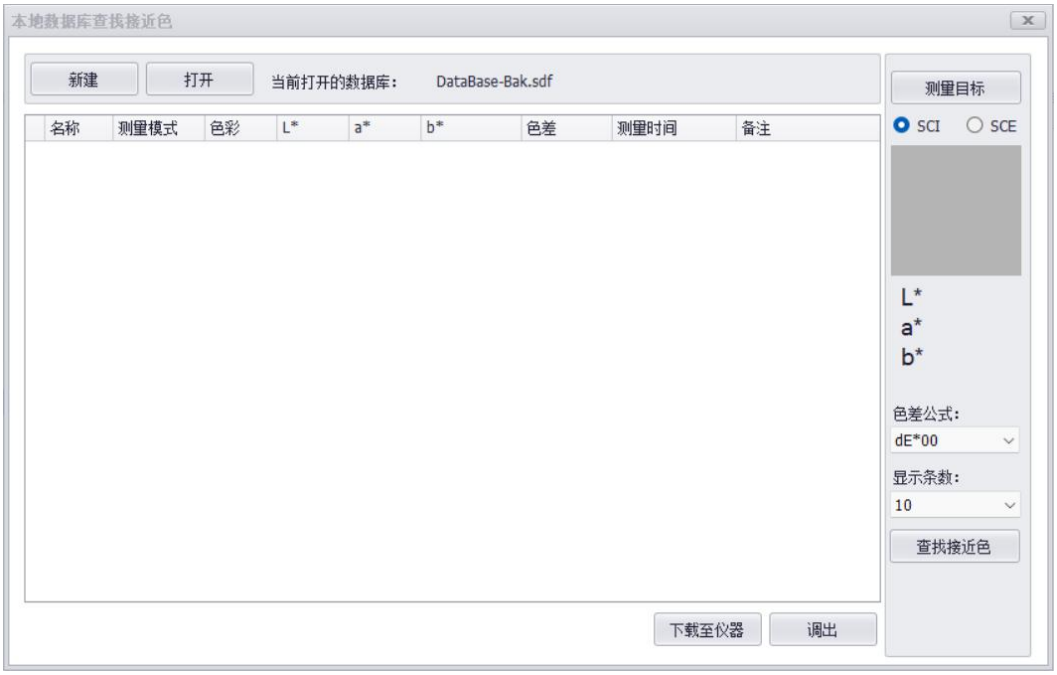
简单，简化你我他的工作。

3.9 查找接近色

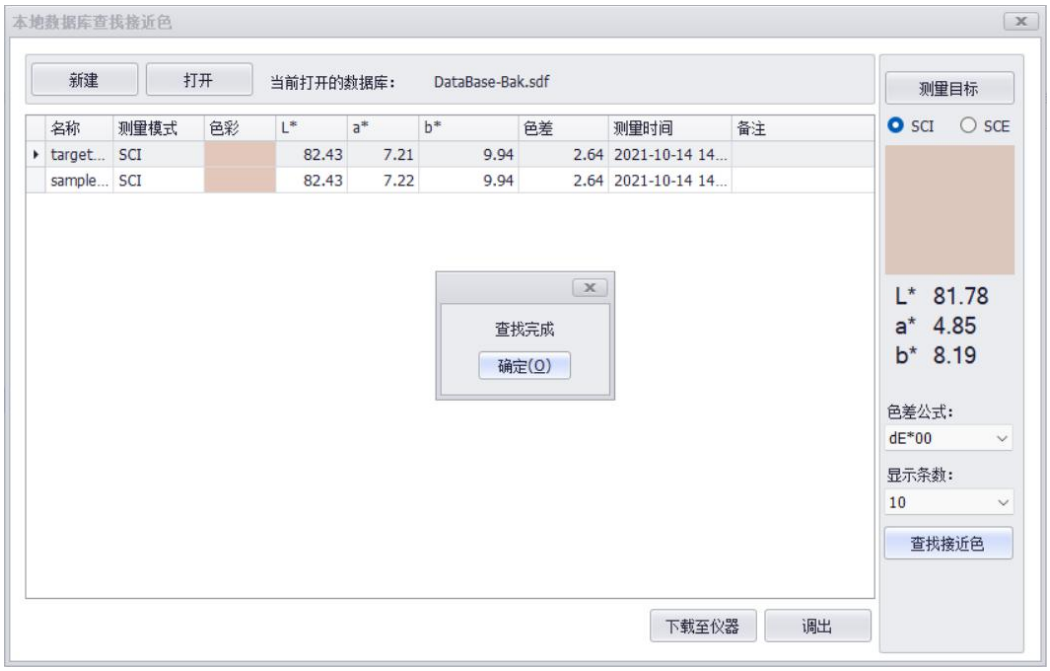
选择菜单栏“色彩库”-“本地色彩库中查找接近色”或“云色彩库中查找接近色”



- 选择“本地色彩库中查找接近色”



点击右侧“测量目标”，然后点击“查找接近色”



列表中显示找到的颜色，并提示查找完成。如果需要将找到的颜色做为目标样调出，可以点击右下角“调出”。

- 选择“云色彩库中查找接近色”

使用“云色彩库中查找接近色”功能需要先登录

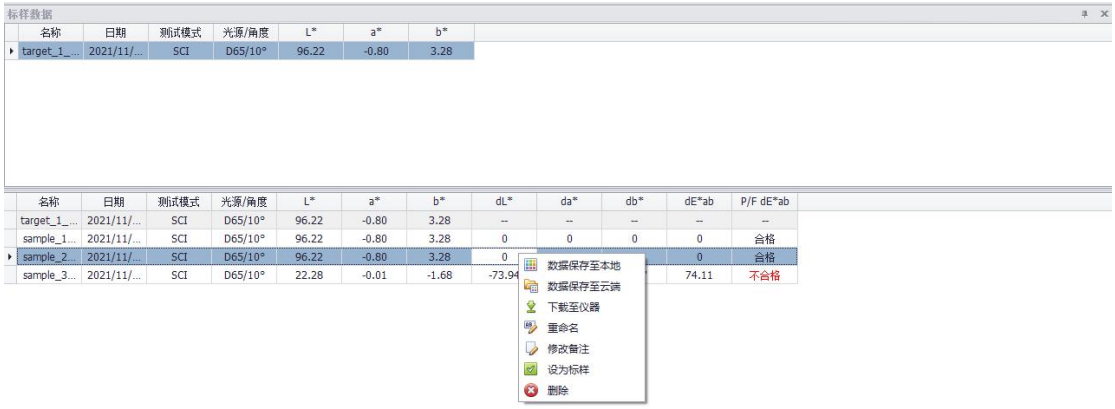
输入账号密码，点击“登录”，如下

在上方列表中勾选用于查找接近色的色彩库，点击“测量目标”，“查找接近色”。

列表中显示找到的颜色，并提示查找完成。如果需要将找到大的颜色，做为目标样调出，可以点击右下角“调出”。

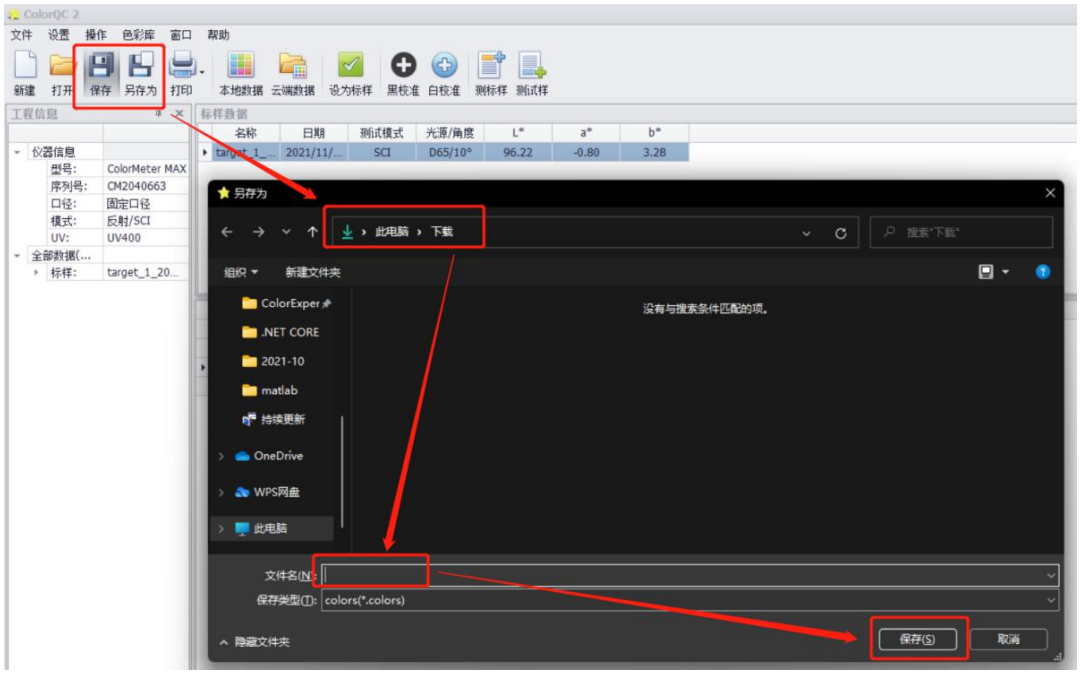
3. 10保存颜色

- 保存颜色数据到数据库



鼠标右键选择需要保存的颜色，可以将颜色数据保存到本地或云端数据库。

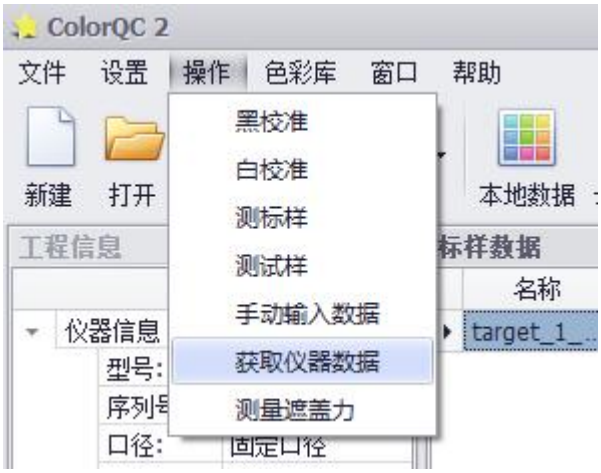
- 保存颜色数据到文件



选择“保存”或“另存为”，选择保存路径，数据文件名称，然后点击保存。

3.11获取仪器数据

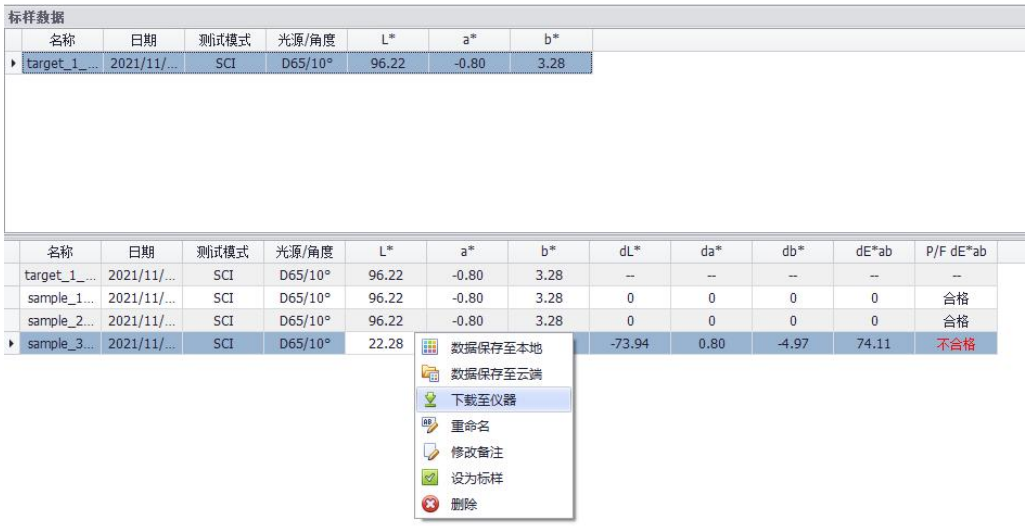
选择菜单栏“操作”-“获取仪器数据”



使用窗口右下角功能按钮，使用获取到的仪器数据。

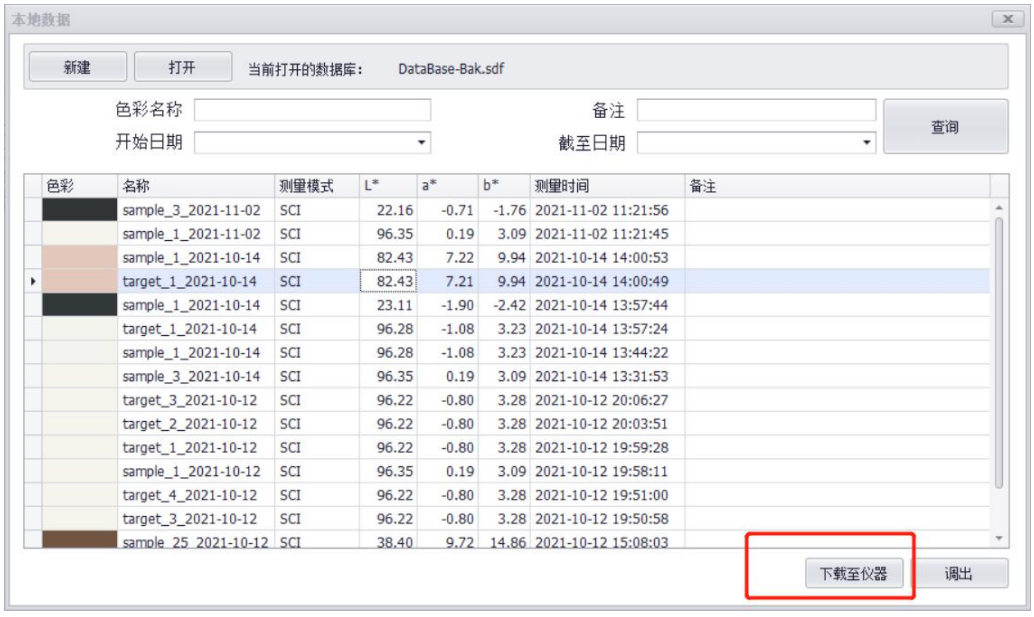
3. 12下载数据到仪器

途径 1：



鼠标右键点击需要下载到设备的数据，选择“下载到仪器”

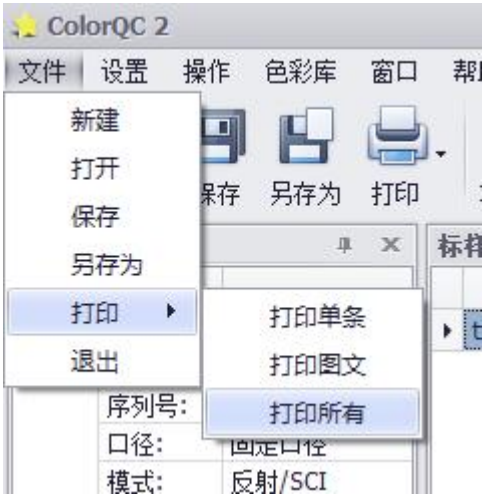
途径 2：



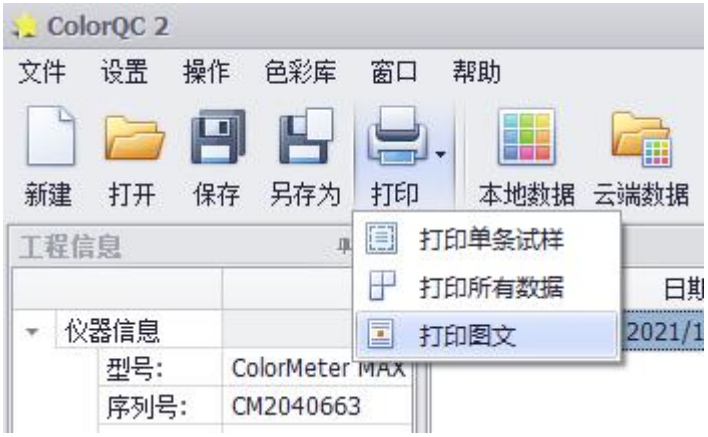
下载本地色彩库中的数据到仪器

3.13打印报告

选择菜单栏“文件”-“打印”



或 工具栏“打印”



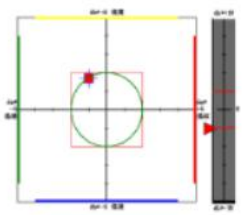
三种打印模板：

- 打印单条

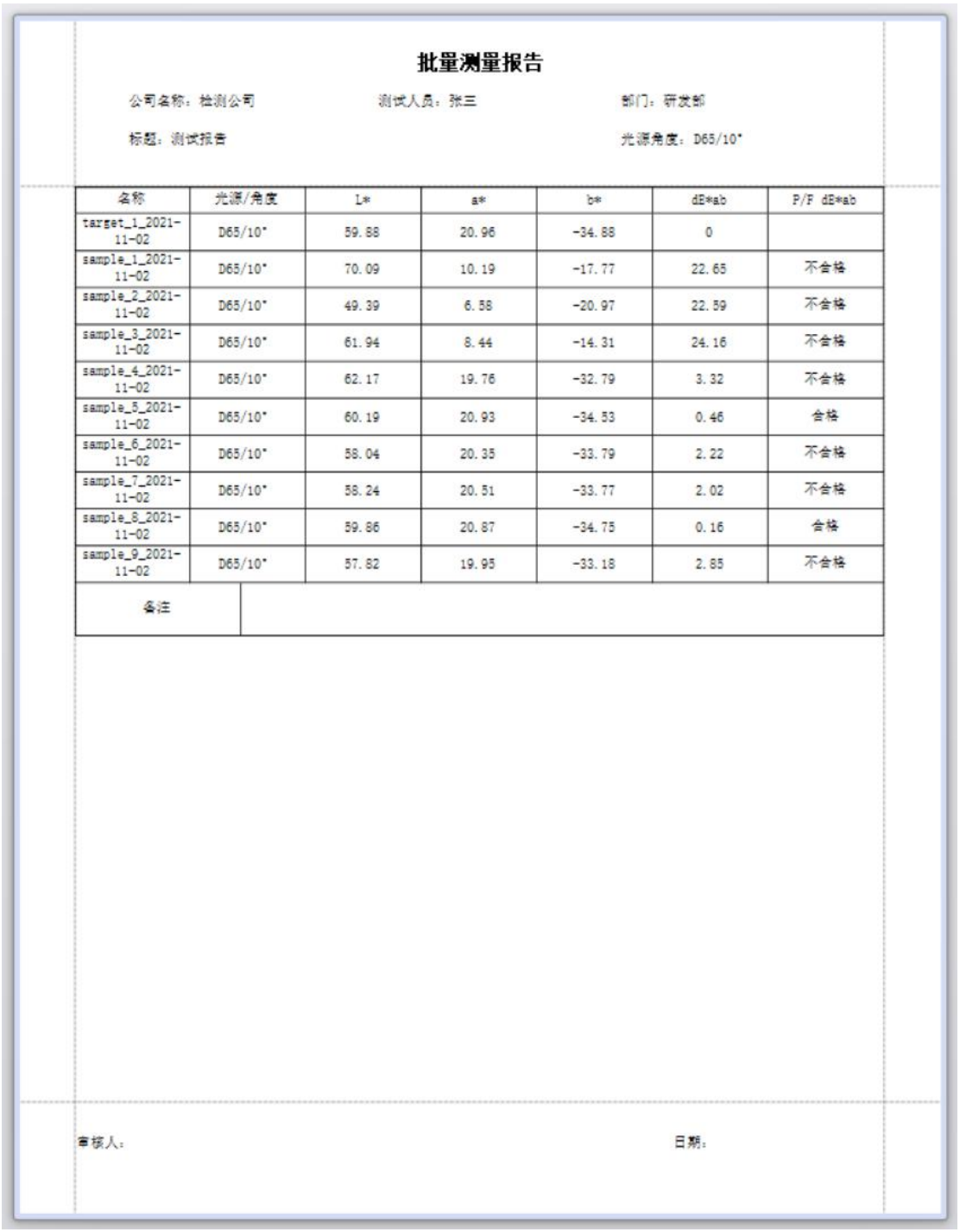
单次测量报告

公司名称：检测公司　　部门：研发部　　测试人员：张三

样品名称：sample_9_2021-11-02　　标题：测试报告　　光源角度：D65/10°

Target					
SCI	名称	光源/角度	L*	a*	b*
	target_1_2021-11-02	D65/10°	59.88	20.96	-34.88
	dE*ab	P/F dE*ab			
SCE	名称	光源/角度	L*	a*	b*
	dE*ab	P/F dE*ab			
Sample					
SCI	名称	光源/角度	L*	a*	b*
	sample_9_2021-11-02	D65/10°	57.82	19.95	-33.18
	dE*ab	P/F dE*ab			
	2.85	不合格			
SCE	名称	光源/角度	L*	a*	b*
	dE*ab	P/F dE*ab			
备注		色差图			

- 打印所有



批量测量报告

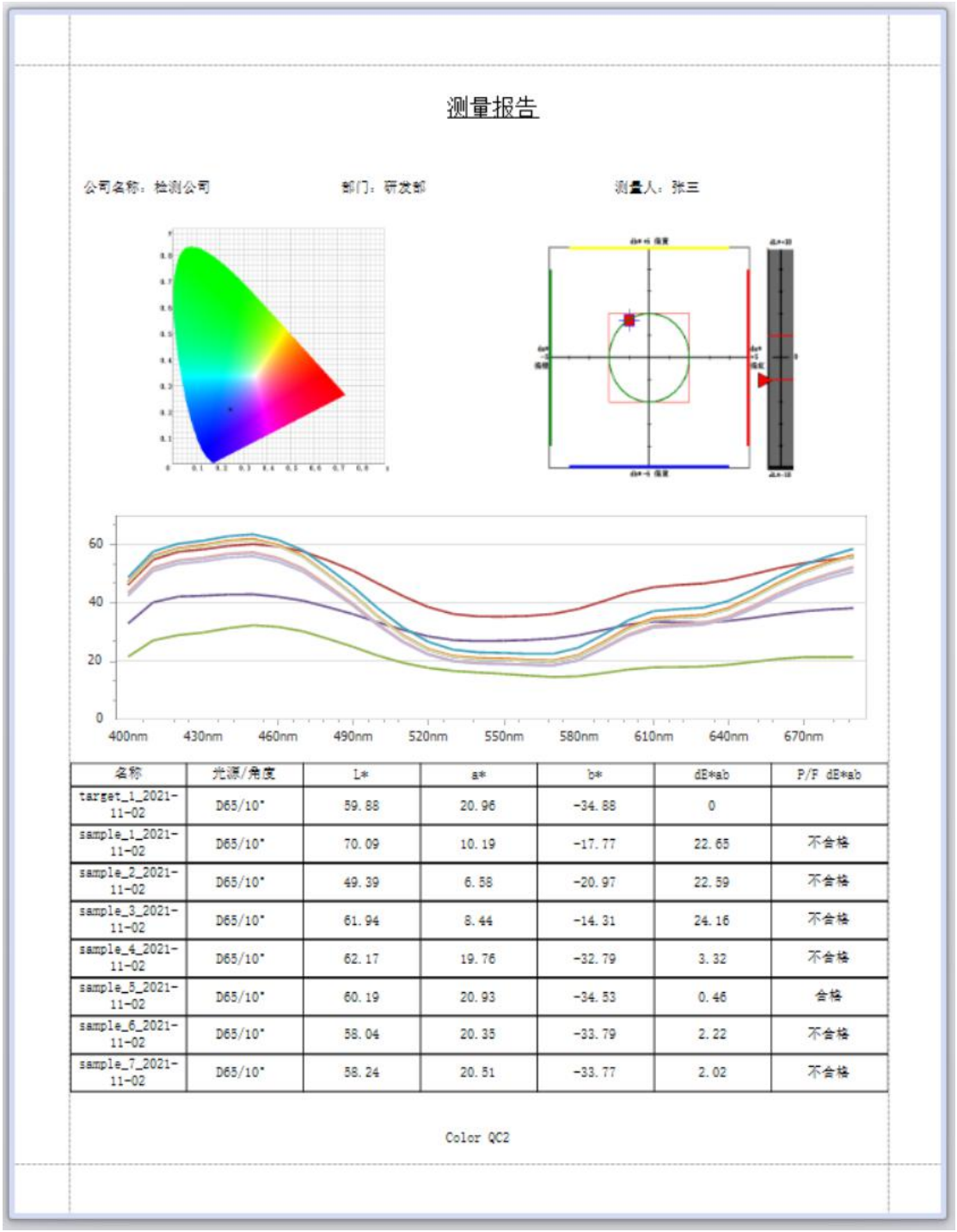
公司名称：检测公司　　测试人员：张三　　部门：研发部

标题：测试报告　　光源角度：D65/10°

名称	光源/角度	L*	a*	b*	dE*ab	P/F dE*ab
target_1_2021-11-02	D65/10°	59.88	20.96	-34.88	0	
sample_1_2021-11-02	D65/10°	70.09	10.19	-17.77	22.65	不合格
sample_2_2021-11-02	D65/10°	49.39	6.58	-20.97	22.59	不合格
sample_3_2021-11-02	D65/10°	61.94	8.44	-14.31	24.16	不合格
sample_4_2021-11-02	D65/10°	62.17	19.76	-32.79	3.32	不合格
sample_5_2021-11-02	D65/10°	60.19	20.93	-34.53	0.46	合格
sample_6_2021-11-02	D65/10°	58.04	20.35	-33.79	2.22	不合格
sample_7_2021-11-02	D65/10°	58.24	20.51	-33.77	2.02	不合格
sample_8_2021-11-02	D65/10°	59.86	20.87	-34.75	0.16	合格
sample_9_2021-11-02	D65/10°	57.82	19.95	-33.18	2.85	不合格
备注						

审核人：　　日期：

- 打印图文



测量报告

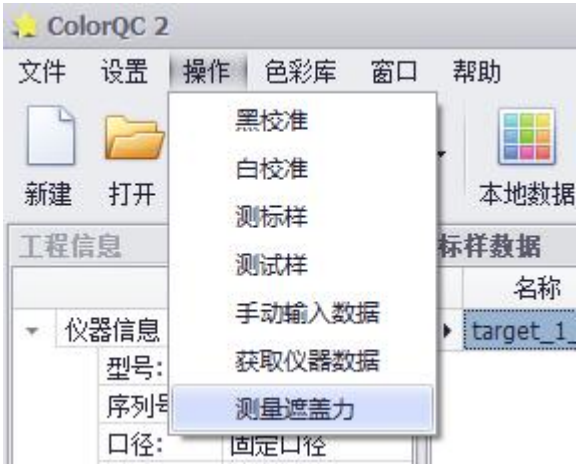
公司名称：检测公司　　部门：研发部　　测量人：张三

名称	光源/角度	L*	a*	b*	dE*ab	P/F dE*ab
target_1_2021-11-02	D65/10°	59.88	20.96	-34.88	0	
sample_1_2021-11-02	D65/10°	70.09	10.19	-17.77	22.65	不合格
sample_2_2021-11-02	D65/10°	49.39	6.58	-20.97	22.59	不合格
sample_3_2021-11-02	D65/10°	61.94	8.44	-14.31	24.16	不合格
sample_4_2021-11-02	D65/10°	62.17	19.76	-32.79	3.32	不合格
sample_5_2021-11-02	D65/10°	60.19	20.93	-34.53	0.46	合格
sample_6_2021-11-02	D65/10°	58.04	20.35	-33.79	2.22	不合格
sample_7_2021-11-02	D65/10°	58.24	20.51	-33.77	2.02	不合格

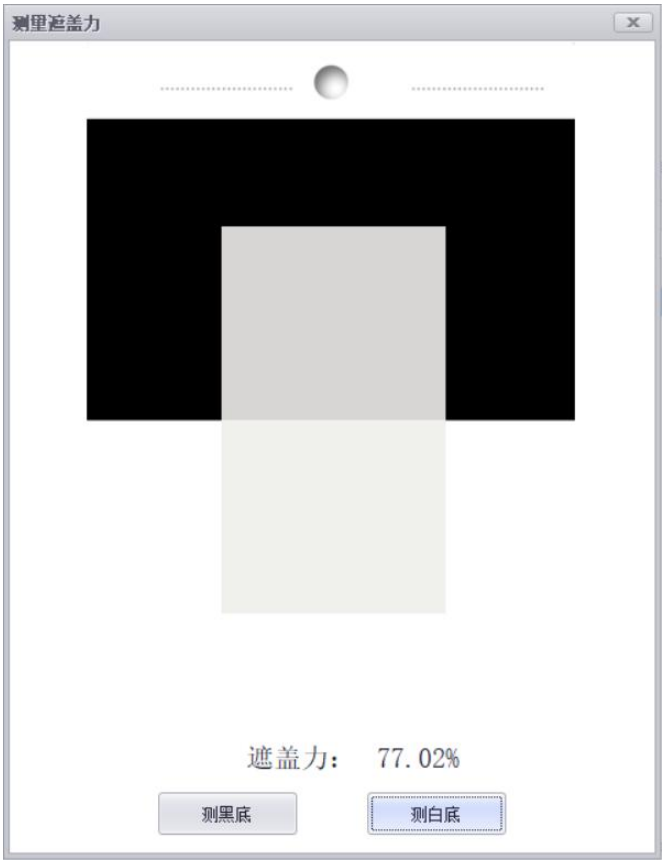
Color QC2

3. 14遮盖力测量

选择菜单栏“操作”-“测量遮盖力”



使用窗口下方的“测黑底”与“测白底”按钮，测量样品。



得到样品的遮盖力：77.02%

ColorQC 2
Color detection software

Operating instruction

Directory

1 Software installation

1.1 Installation Environment Requirements

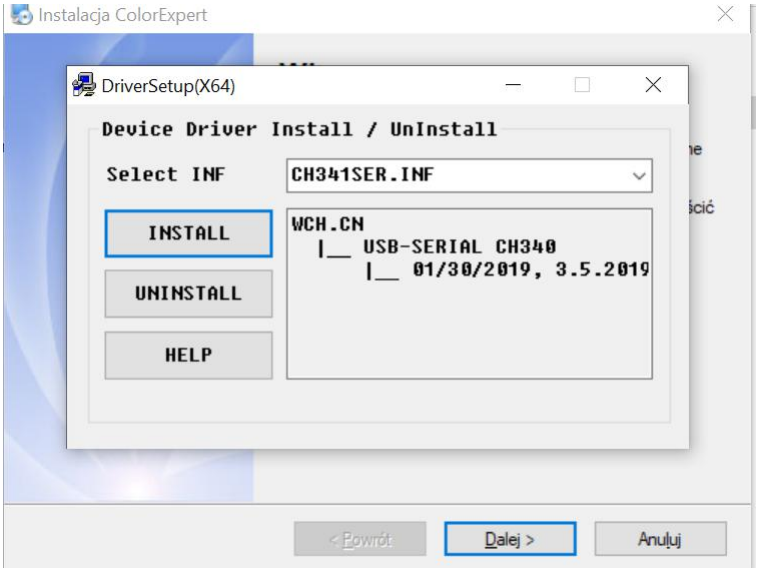
- The computer system：Windows7(SP1),Windows8,Windows10,Windosws11
- Operating memory: more than 2GB
- Disk space: more than 1GB

1.2 Install the software

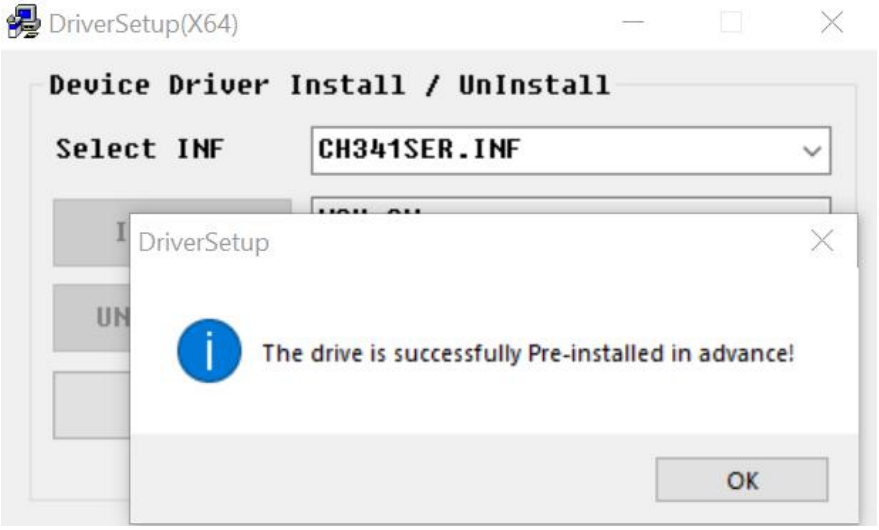
Find file ColorExpert delivered with instrument on USB disk drive or DVD rom.

Double-click the software installer

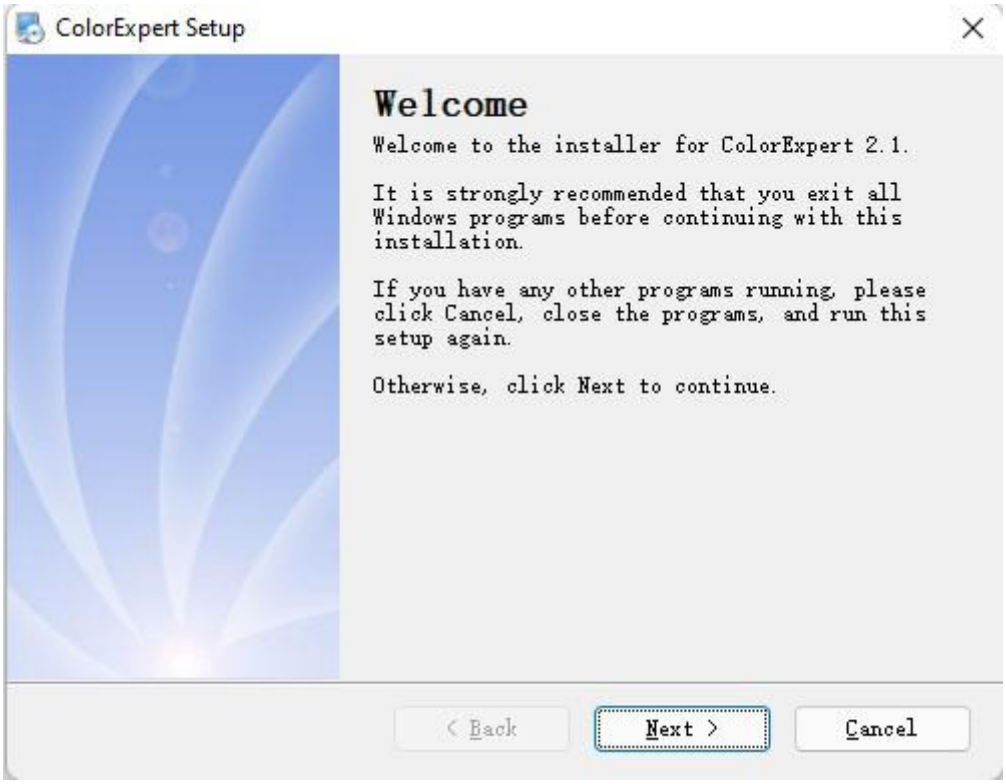
Loading in...



Select Install

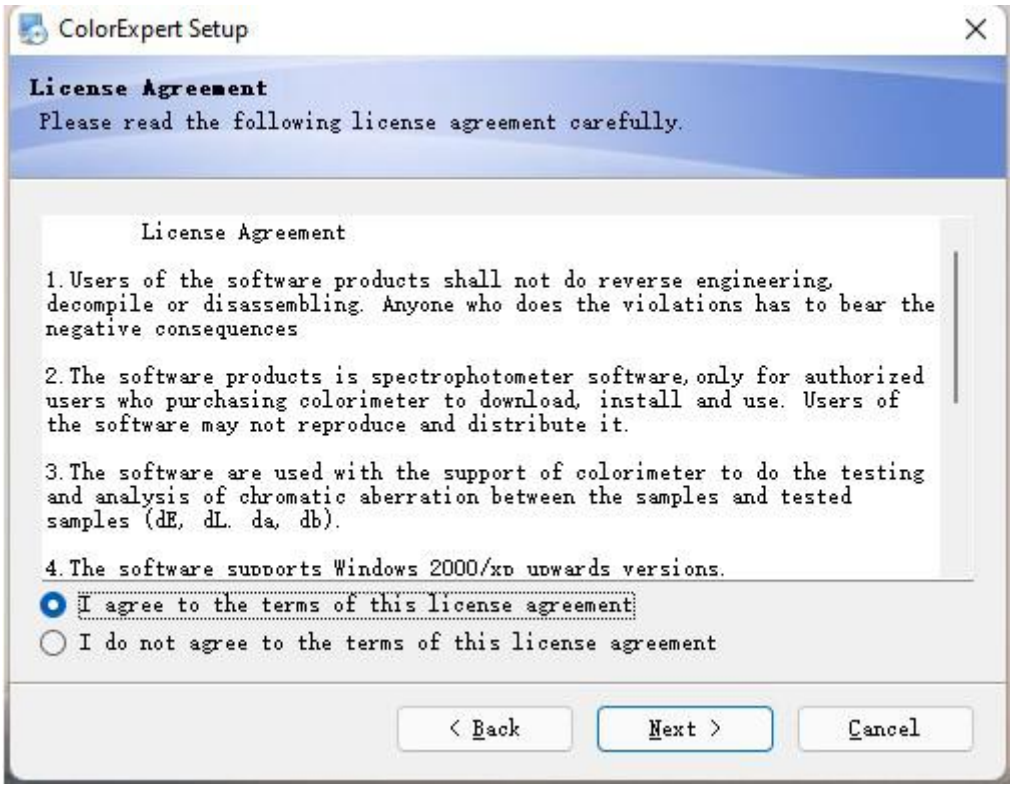


Wait for driver installation to complete, click "OK" - close "Driver Installation (X64)"

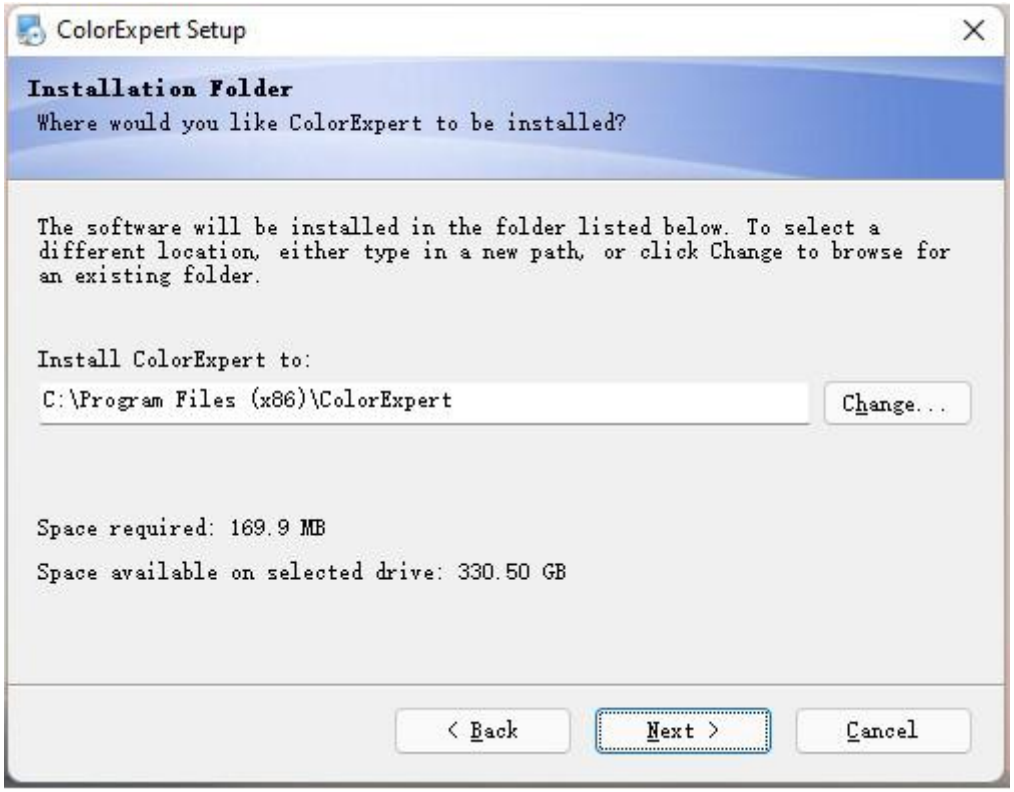


Welcome window, mouse click next

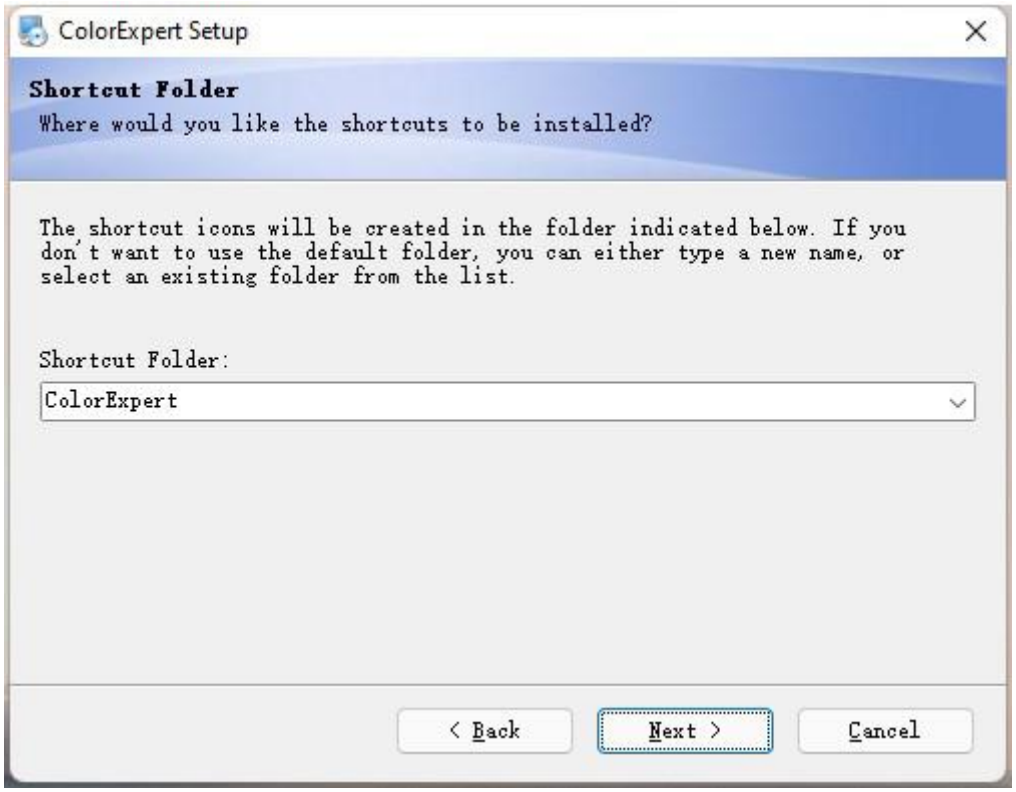
Please read the software license agreement carefully. If you agree with the content of the agreement, select "I agree to the terms of the license Agreement" in the lower left corner of the window.



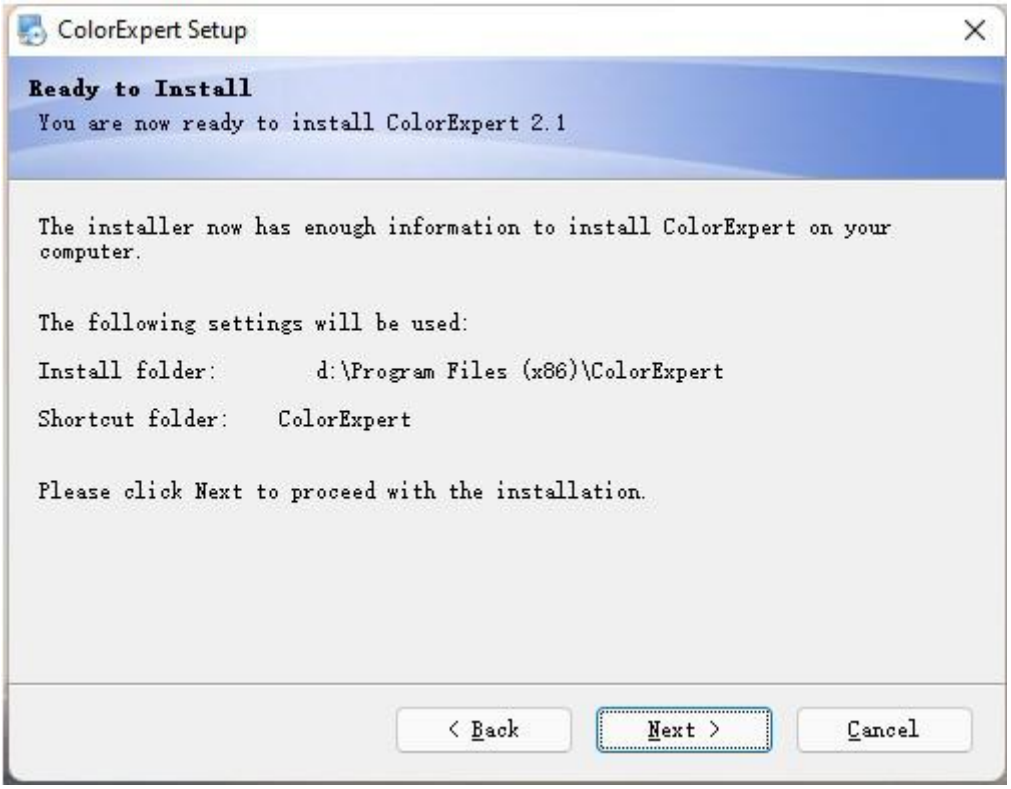
Choose the next step



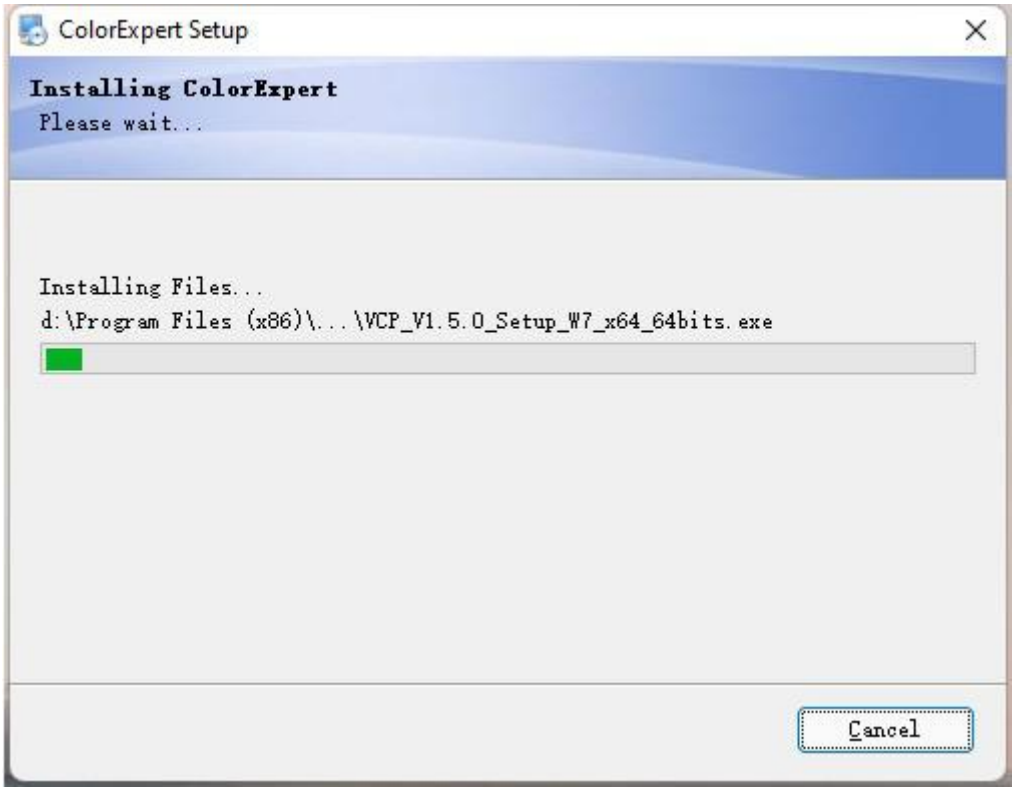
Select the folder to install the software, and then select Next



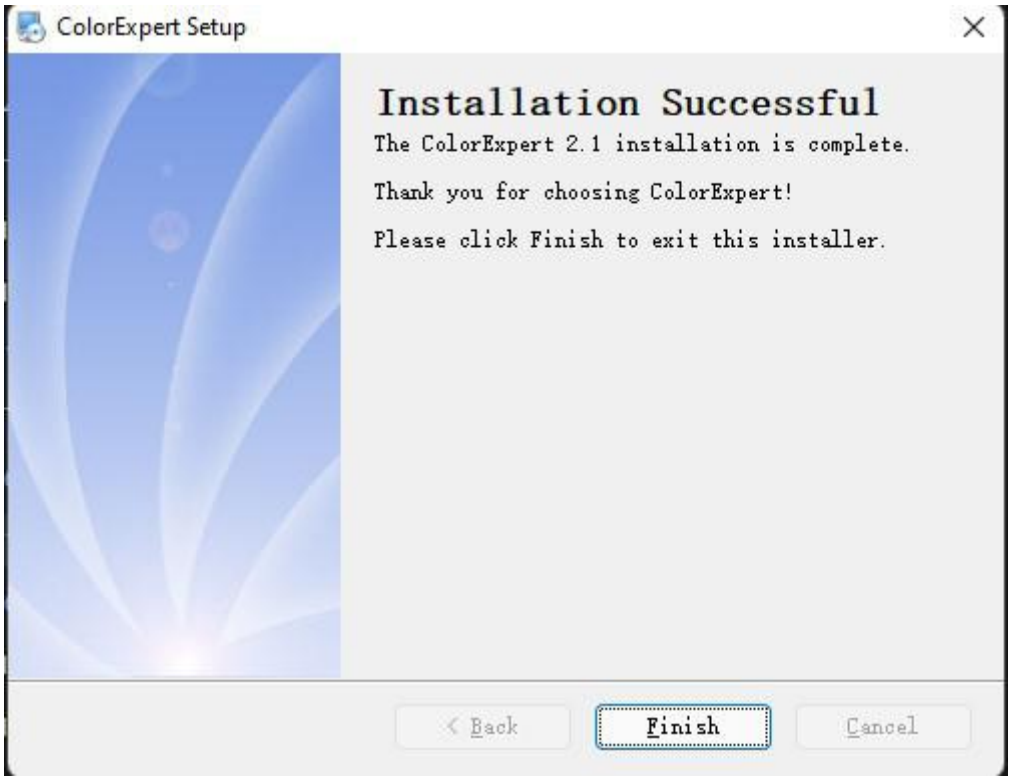
Choose the next step



Choose the next step



Waiting for installation to complete

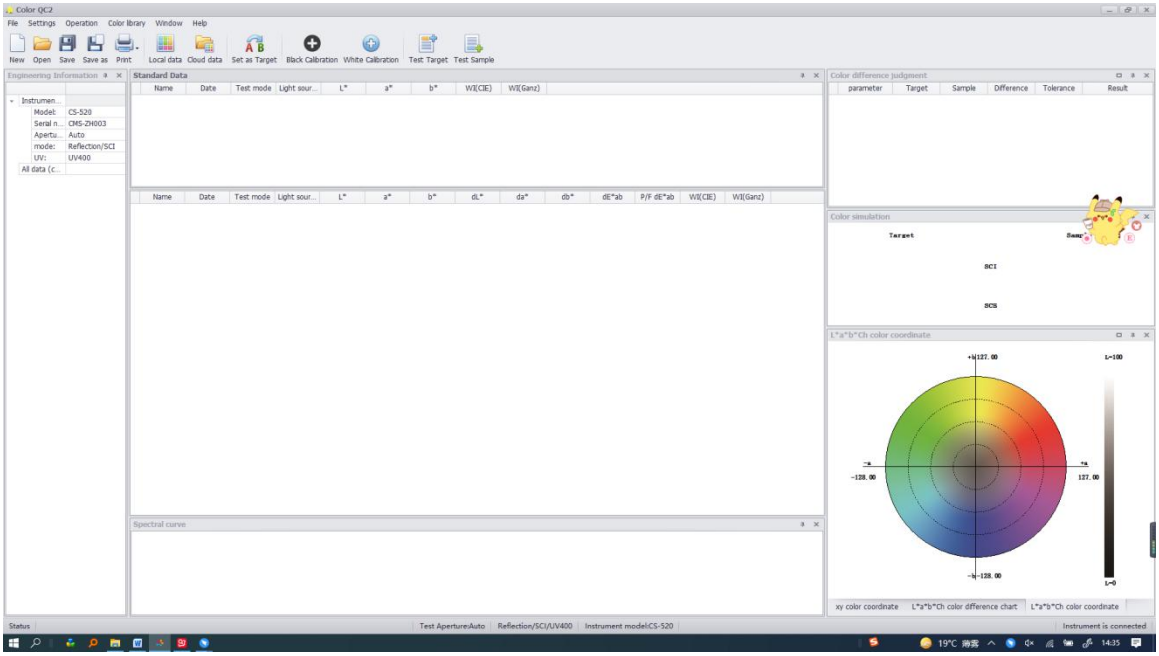


Installation successful, click Finish

Add these three shortcut ICONS to your desktop

- icon 1：ColorExpert The collection of color management, color detection, computer color matching and personal center module
- icon 2：ColorQC 2　For color detection (this document only describes how to use this software)
- icon 3：ColorMatch For computer color mixing (welcome to apply for trial)

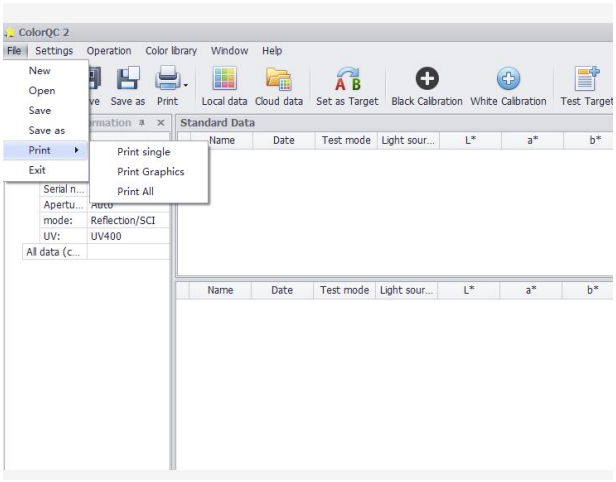
Double click to open ColorQC 2 Shortcut icon



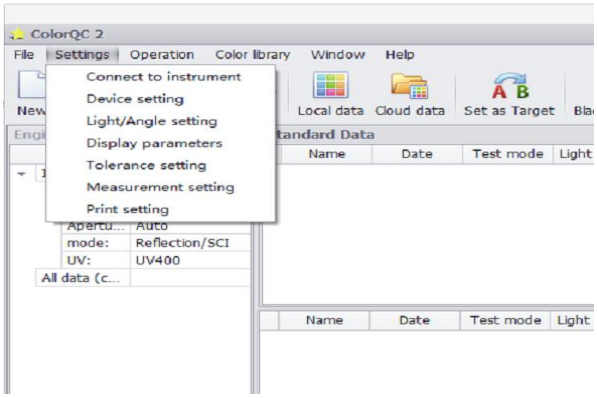
2 The software is introduced

2.1 Menu (including all software functions)

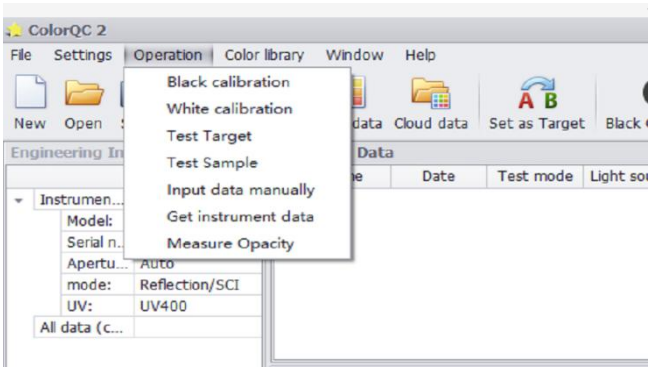
2.1.1 File (new, open, save, print and other functions)



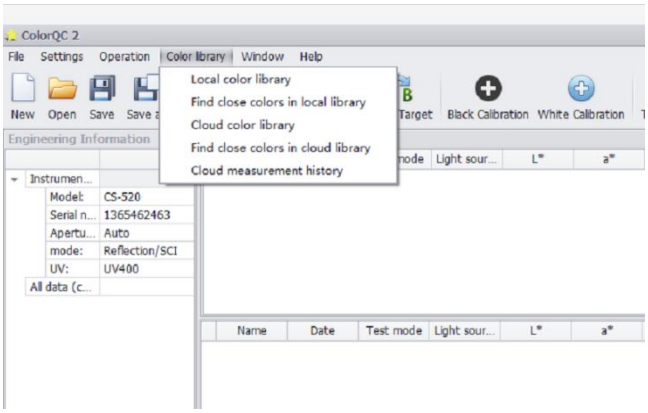
2.1.2 Setting (connect instrument, measurement setting, display parameter, print parameter setting and other functions)



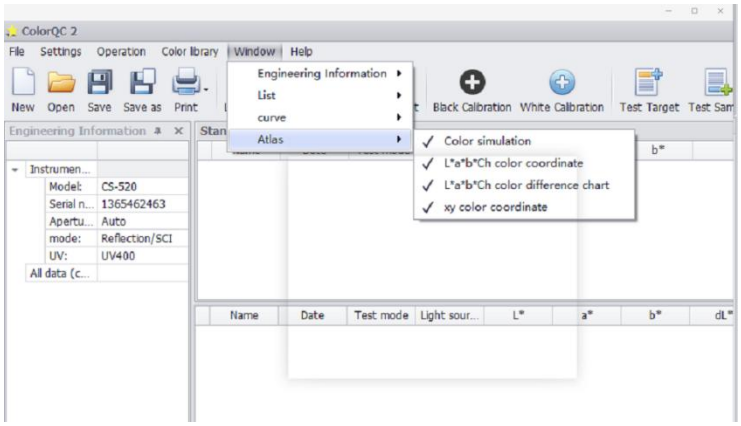
2.1.3 Operation (black and white calibration, measurement, manual data input, instrument data acquisition, etc.)



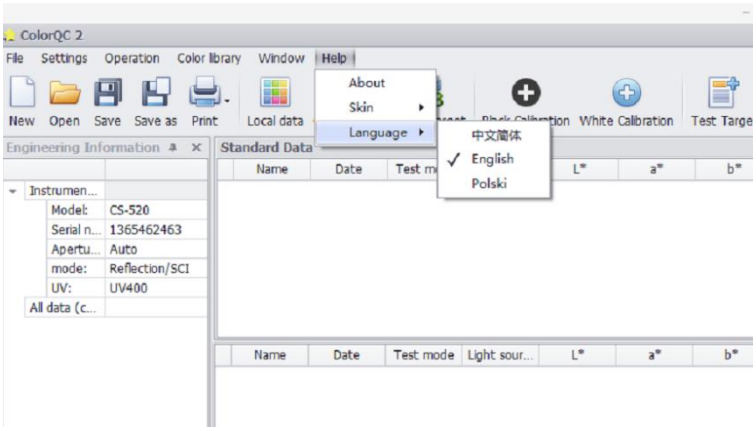
2.1.4 Color library (save color, find close color and other operations)



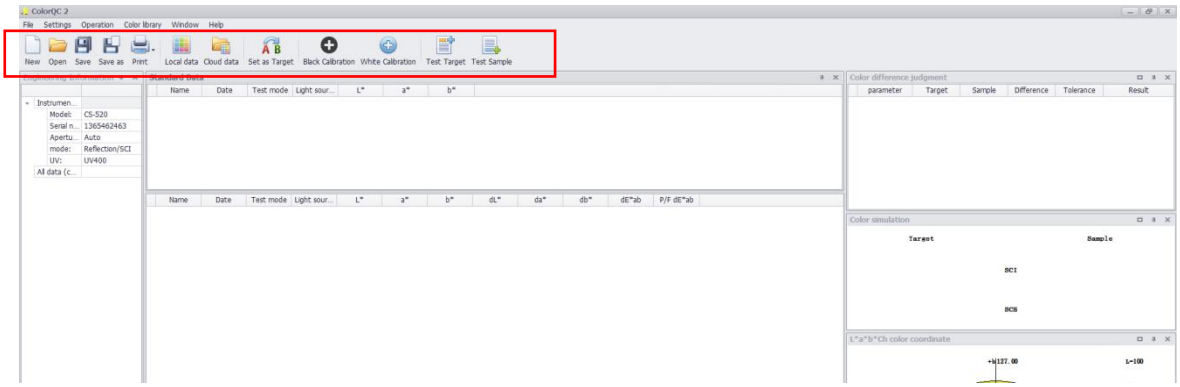
2.1.5 Window (show or hide display module)



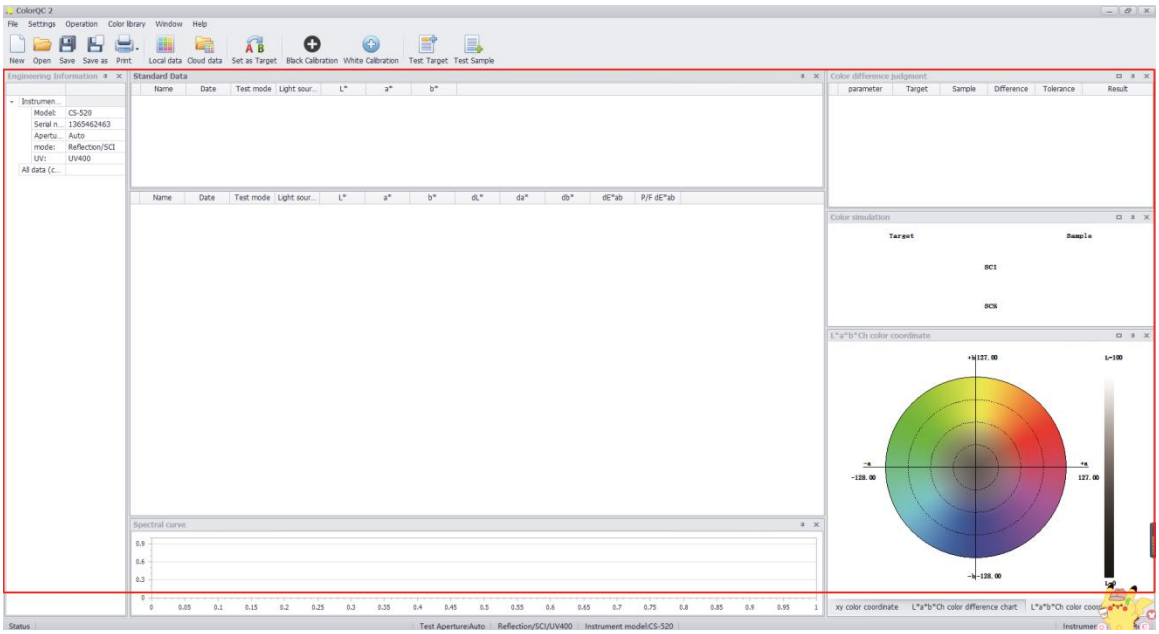
2.1.6 Help (Help, skin Settings and multilingual)



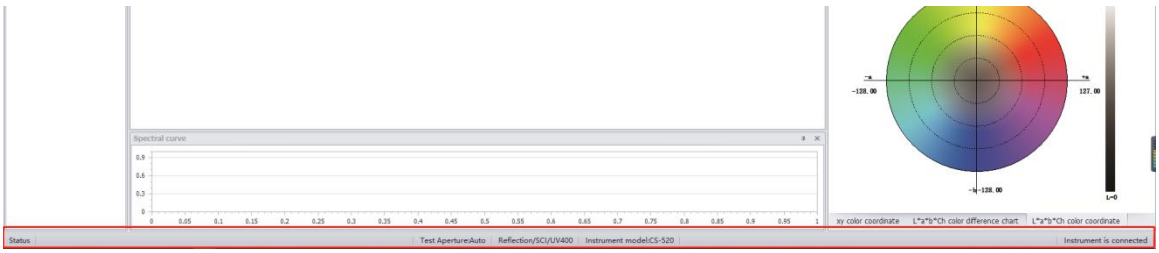
2.2 Toolbar (including some common functions)



2.3 Display section (display test data, charts, etc.)



2.4 Status bar (display instrument connection status)



3 Common Functions

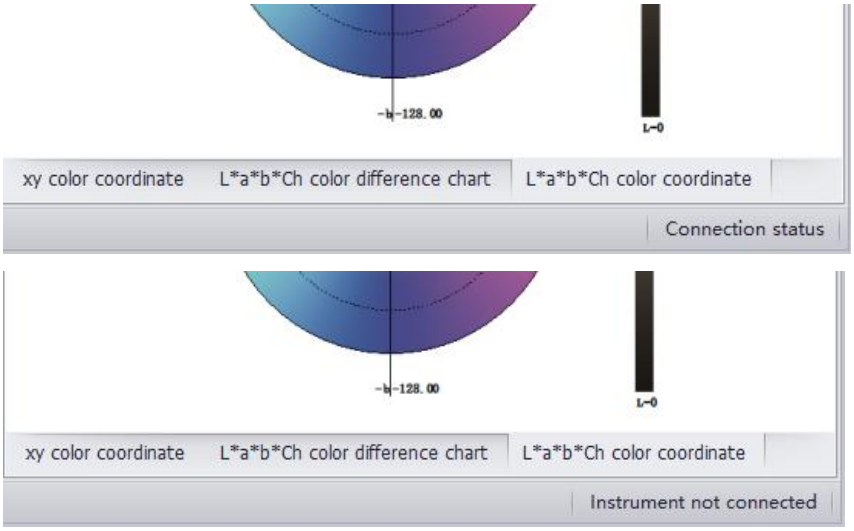
3.1 Connected devices

3.1.1 Connect the device with a USB cable

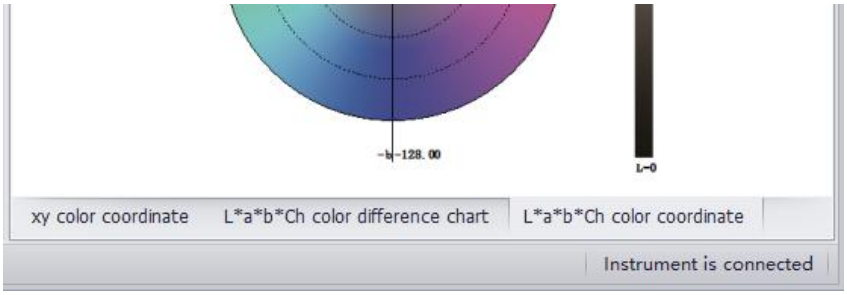
Open ColorQC 2 software and connect the data line of the device to the computer. The software will automatically detect the device and connect with the device automatically.

Check whether the connection is successful in the lower right corner of ColorQC 2 software.

The following two pictures represent that the software is not connected to the device



The following picture indicates that the software is successfully connected to the device



If the software is not connected to the device, check the following items:

- Whether the device is powered on
- Whether the USB data cable is connected normally (check whether there is bad contact)
- Some devices need to be set to USB connection mode.
- Check whether two ColorQC 2 software (or other detection software) are open at the same time on your computer, close all software, and then restart ColorQC 2 software.

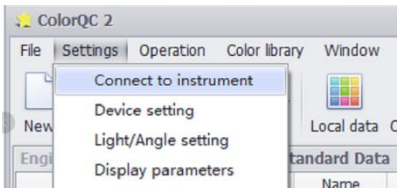
If you still cannot solve the problem, please contact the salesman.

3.1.2 Use Bluetooth to connect the device

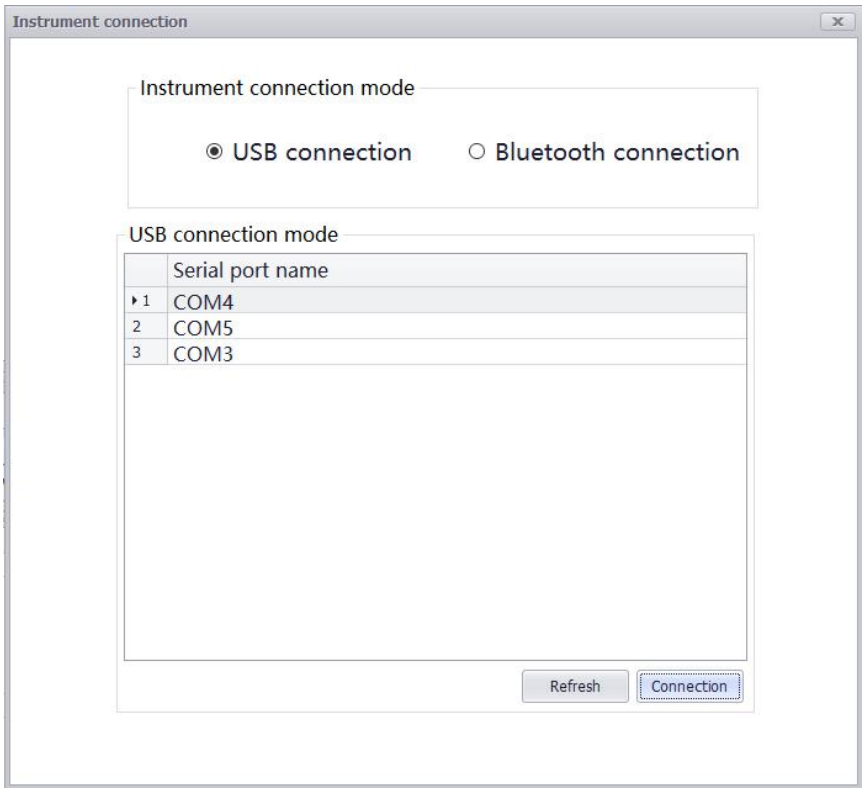
Prerequisites for using Bluetooth to connect devices:

- Whether the device has Bluetooth connectivity and ensure that bluetooth is enabled (check the device manual)
- Whether the computer has low power bluetooth module and the operating system is Windows7, Windows8, Windows10 or Windows11

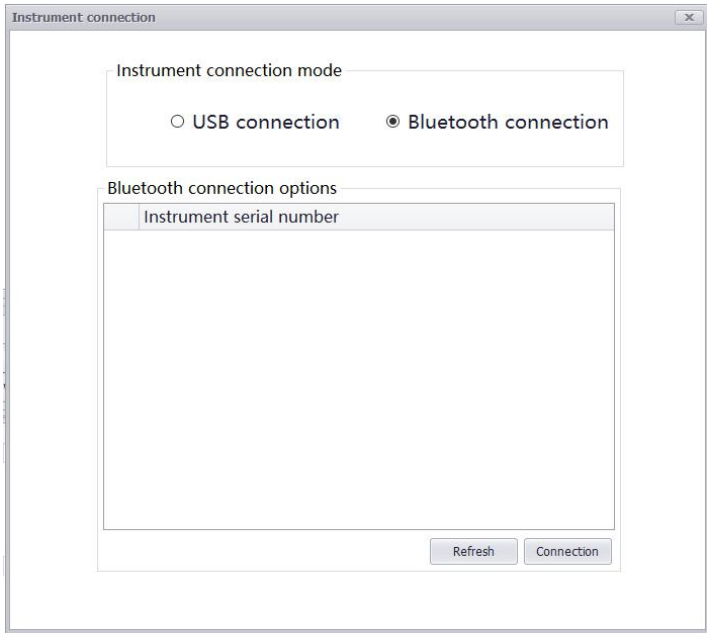
After confirming that all the prerequisites are met



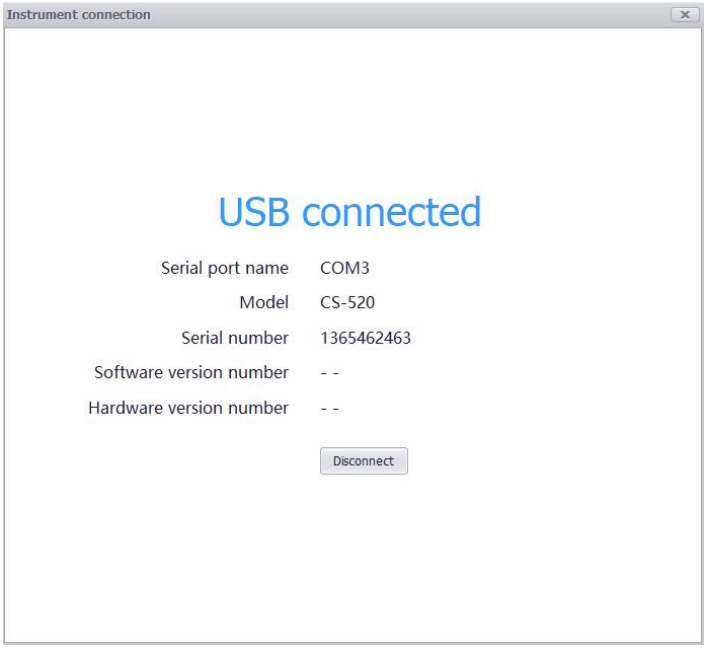
Select "Settings" - "Connect Instrument" from the menu



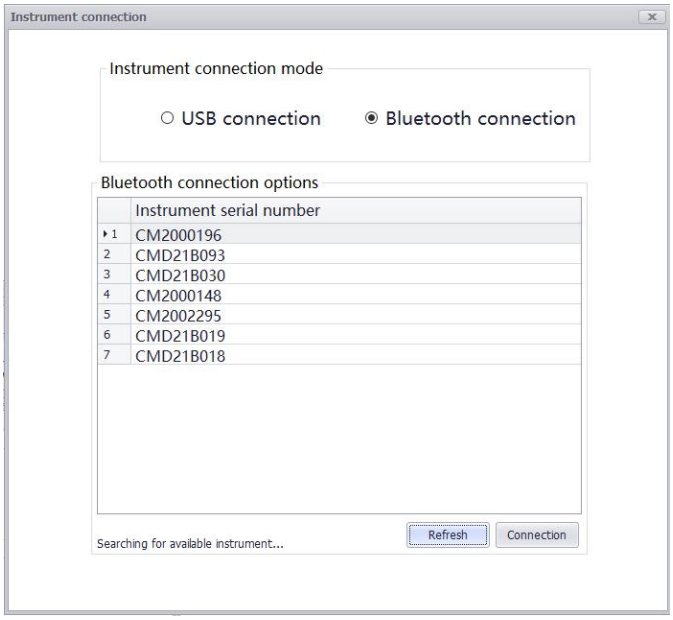
Select bluetooth Connection



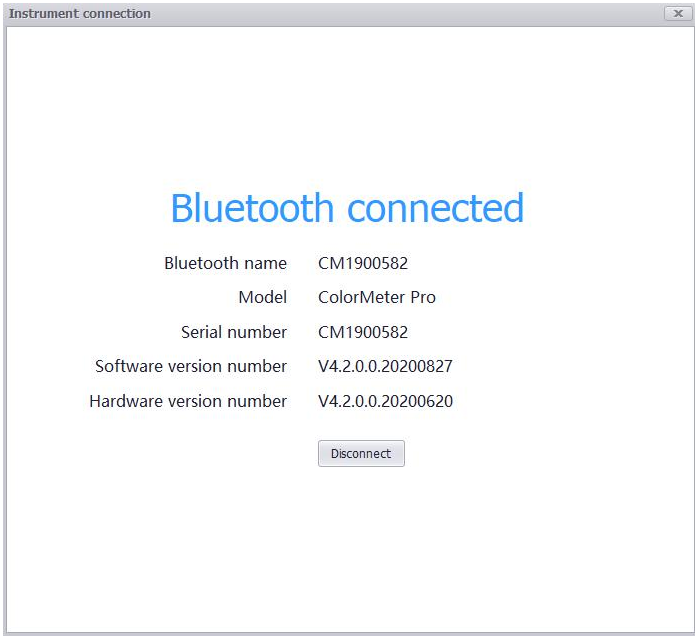
Normally, the software will automatically connect to the device.



If there is no automatic connection, click the refresh button



Check the serial number of the device on the device calibration stand, then select the correct serial number and click "Connect".



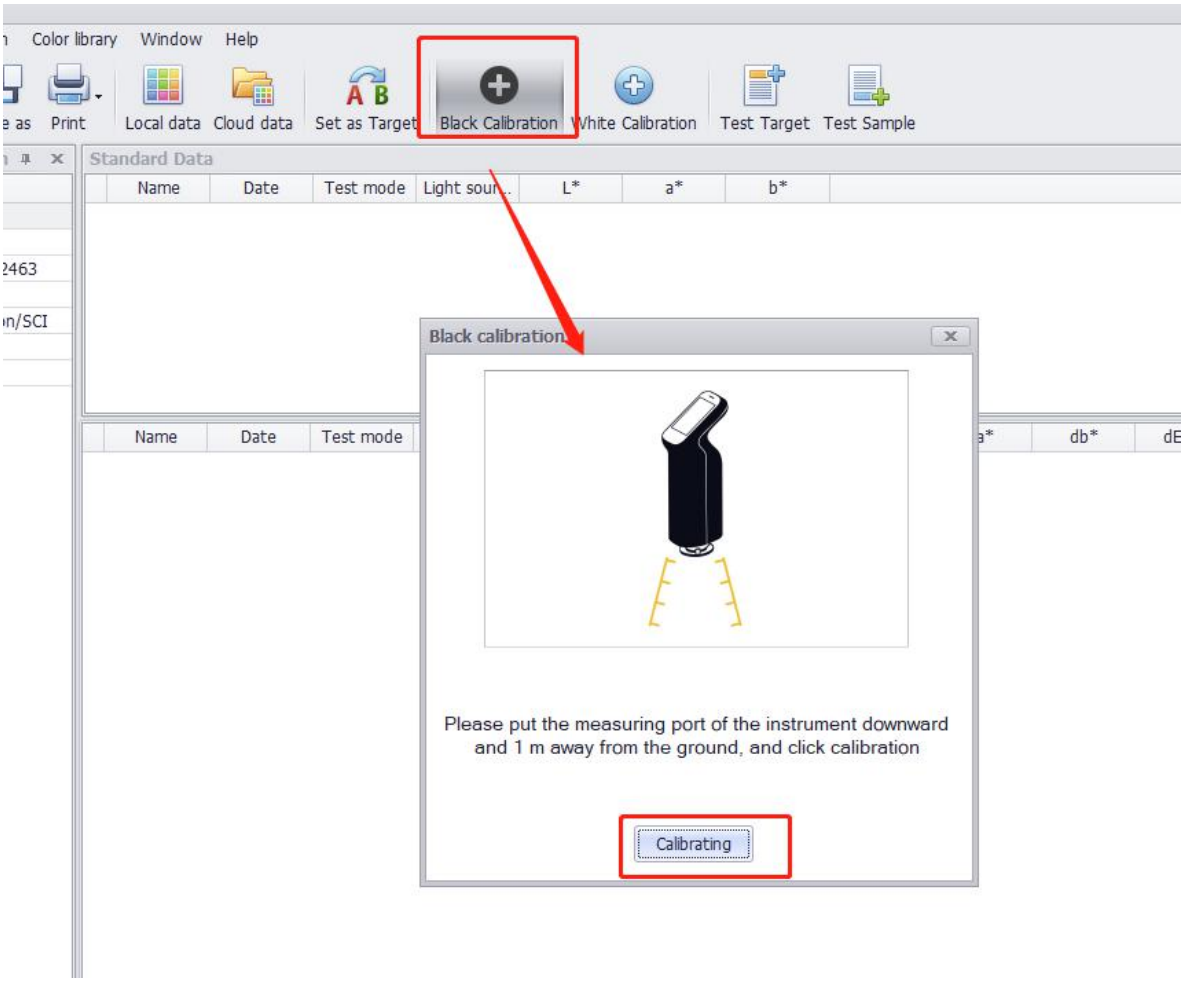
The connection is successful

If you still cannot solve the problem, please contact the salesman.

3.2 Equipment black and white calibration

3.2.1 Black calibration

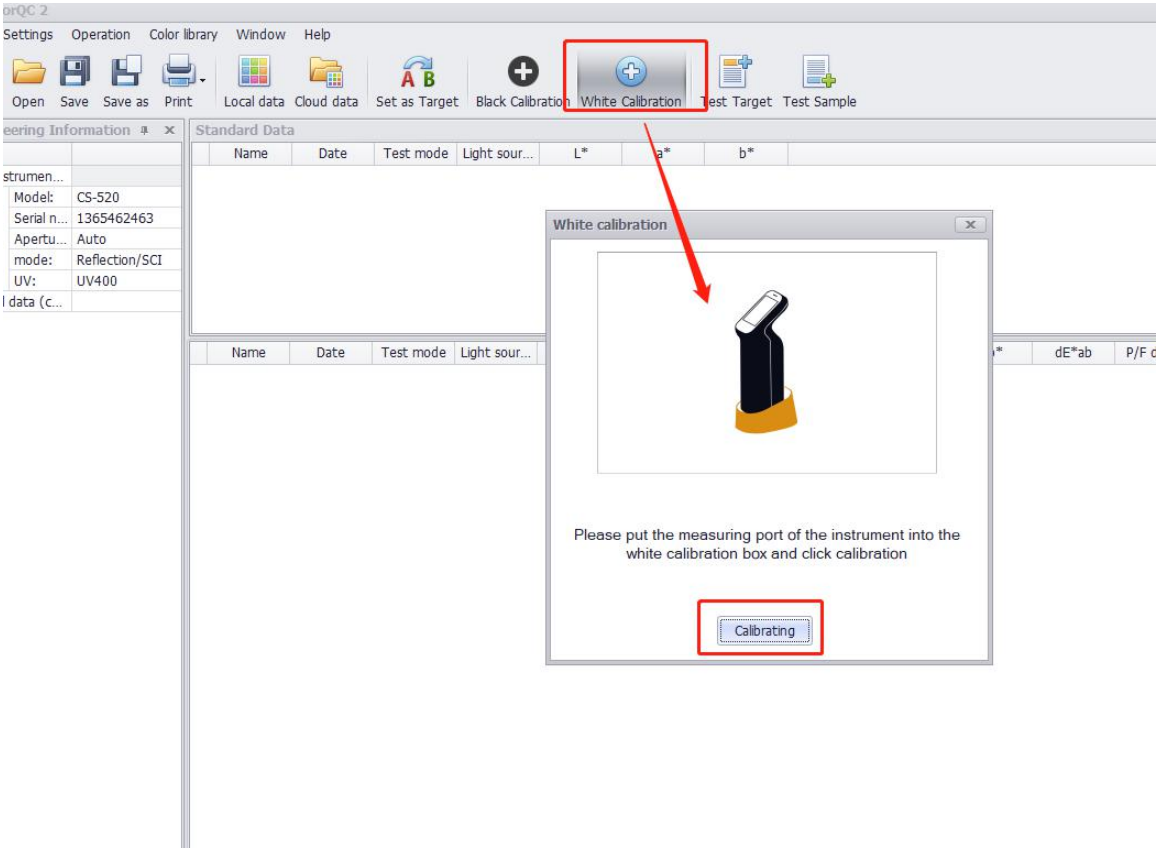
Click "Black Calibration" on the toolbar



Follow the instructions on the window for black calibration

3.2.2 The white calibration

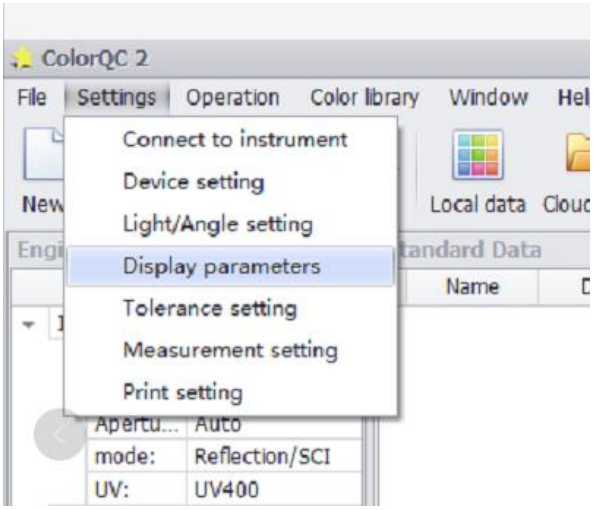
Click "White Calibration" on the toolbar

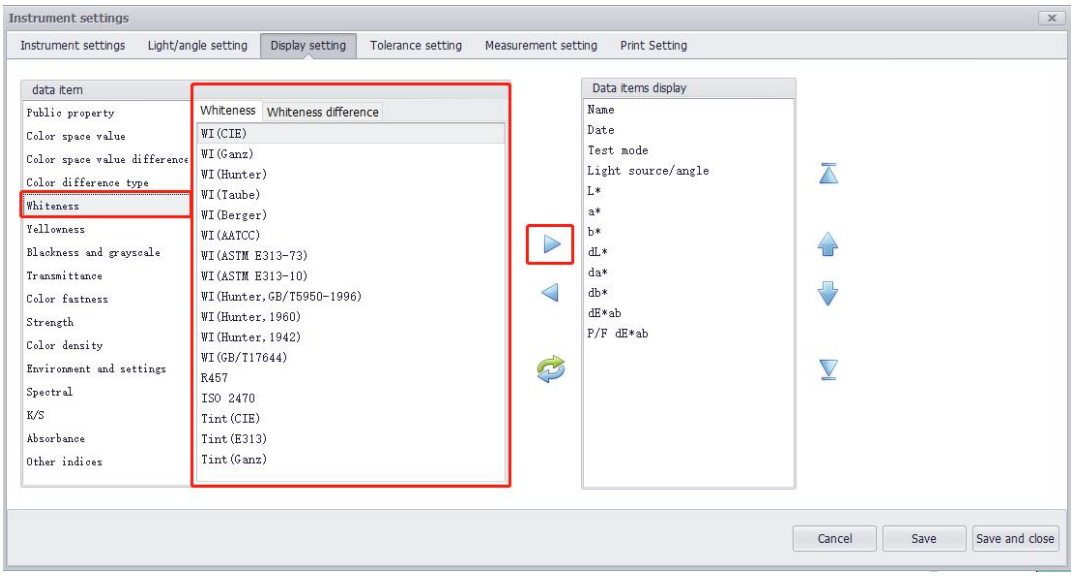


Follow the instructions on the window for white calibration

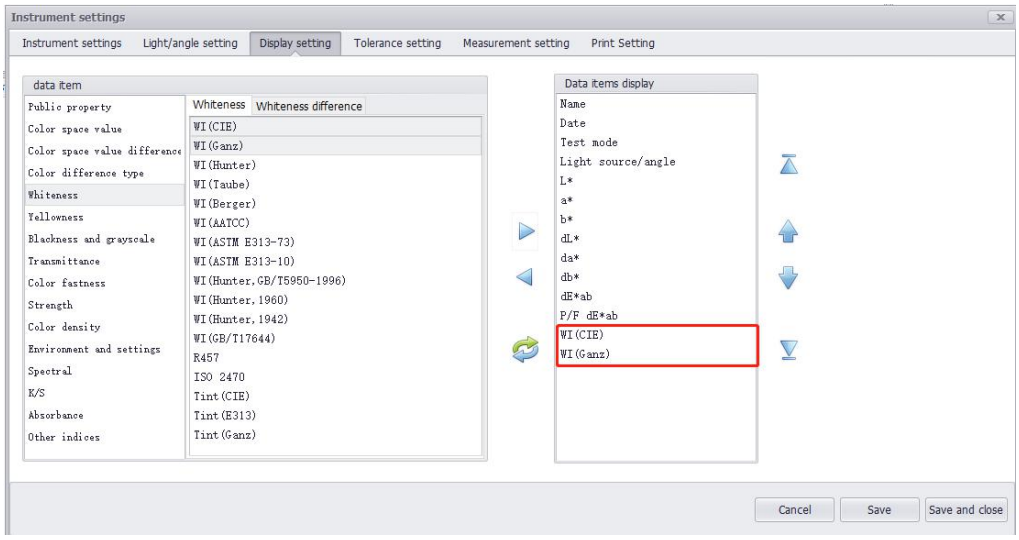
3.3 Measurement parameter setting (measurement whiteness)

Select menu bar "Settings" - "Set Measurement Parameters"

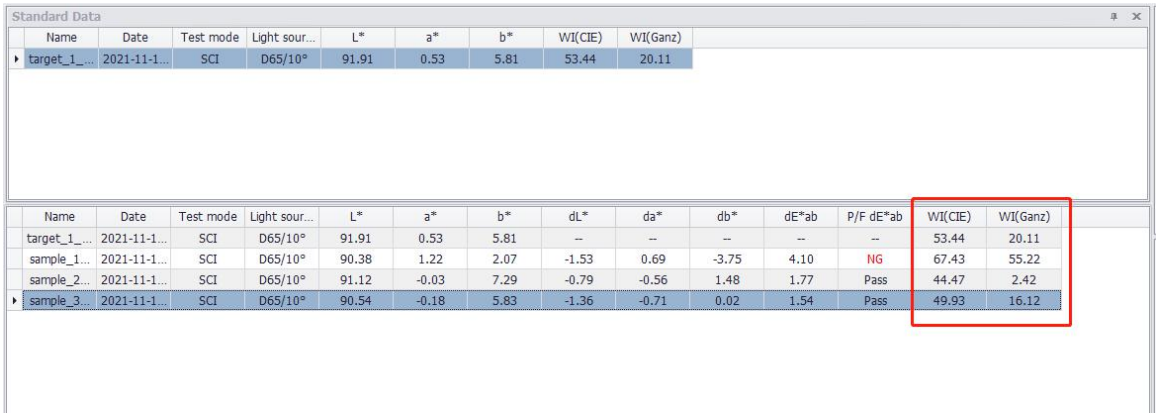




Select "whiteness" on the left of the window to see whiteness parameters of different standards. Select the parameters to be measured and click the arrow to the right



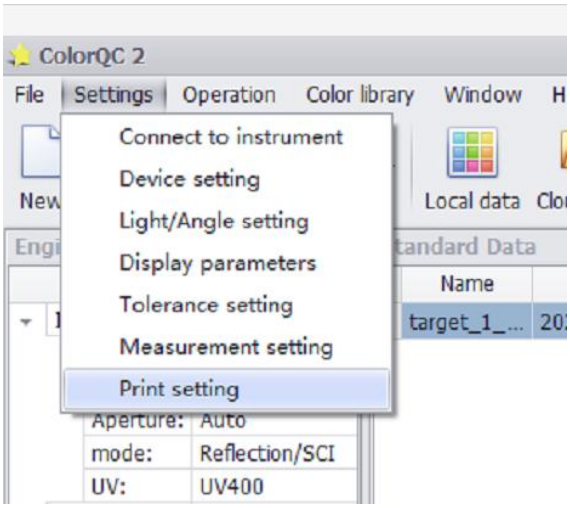
After selecting whiteness parameters, click "Save and close" in the lower right corner.



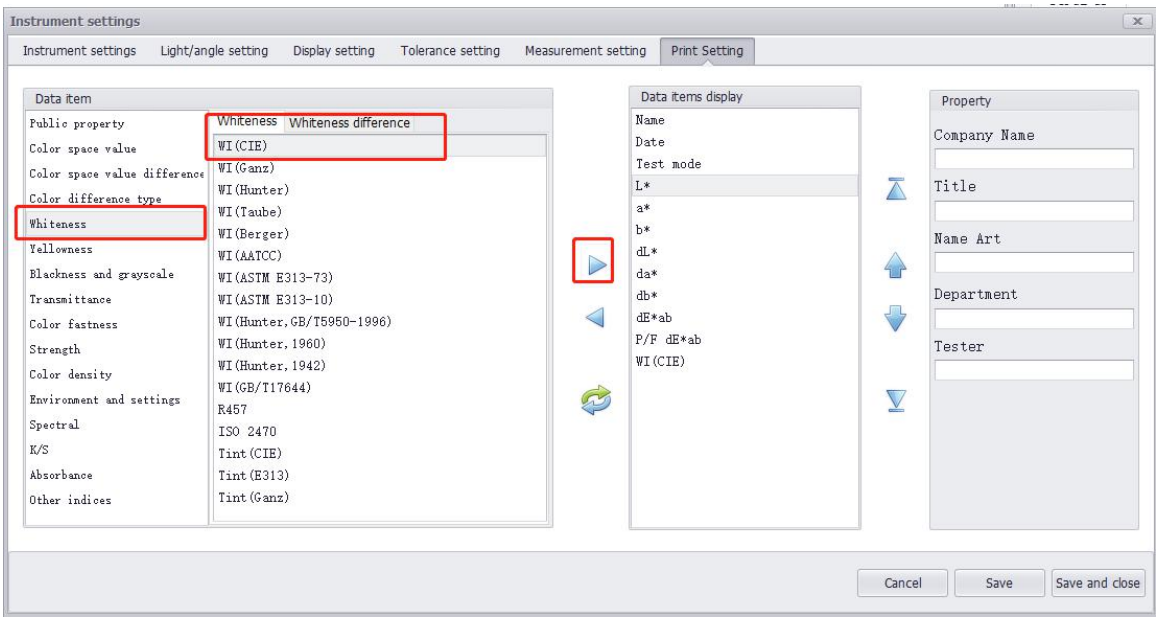
You can see the data you need in the data list.

3.4 Print parameter setting (print whiteness)

Select menu bar "Settings" - "Set Print Parameters"

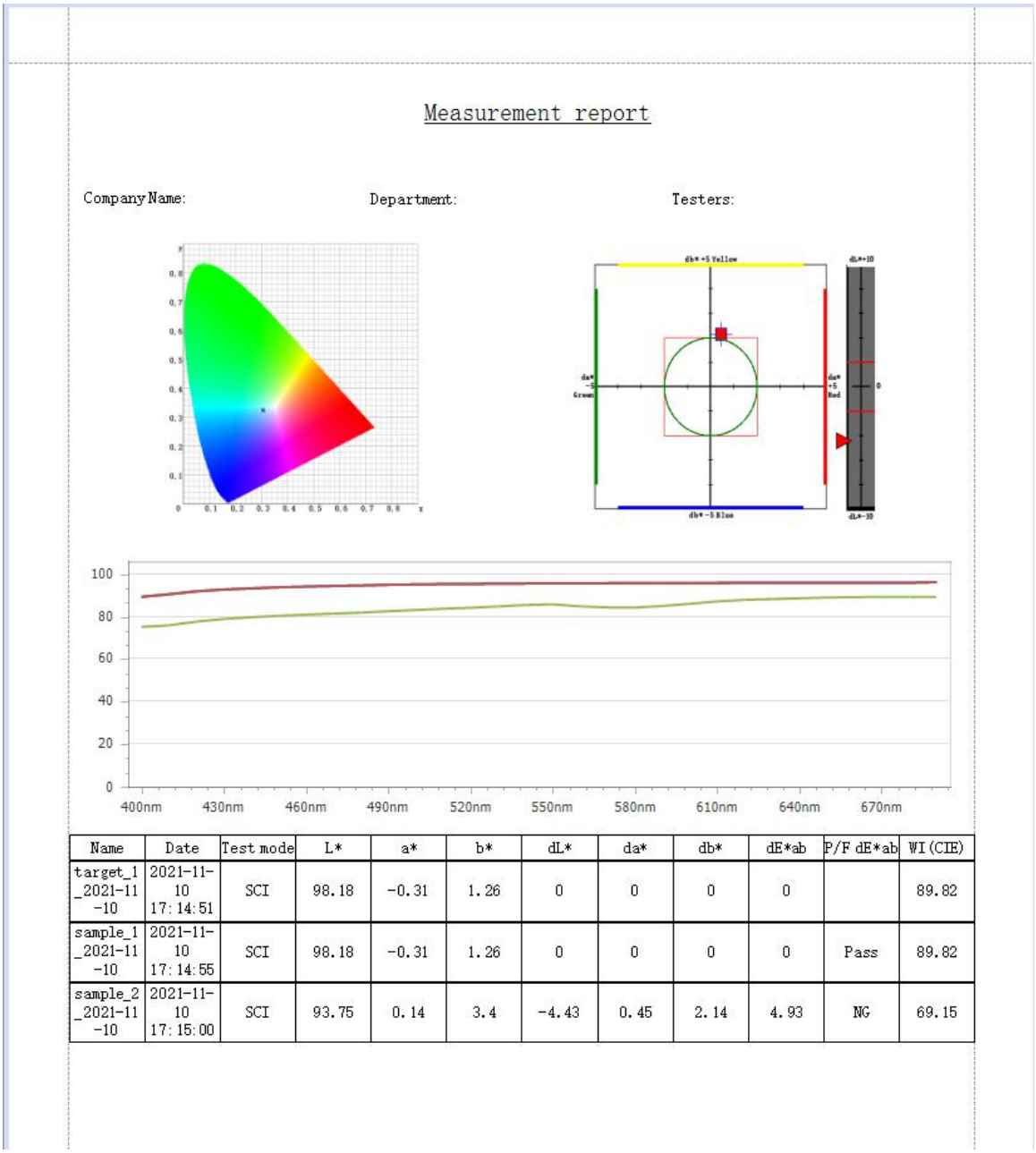


Select whiteness - WI(CIE) - arrow to the right



Then, click the "Save and close" button in the lower right corner

Select toolbar "Print" - "Print graphic"



Measurement report

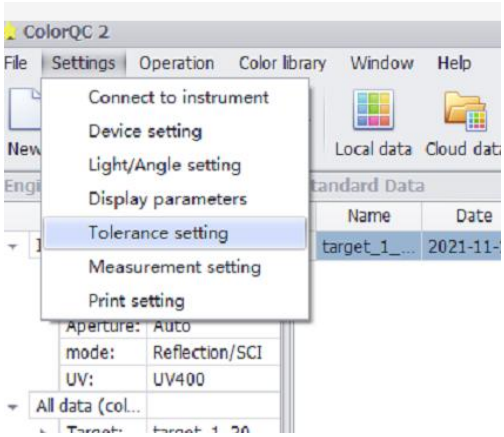
Company Name: Department: Testers:

Name	Date	Test mode	L*	a*	b*	dL*	da*	db*	dE*ab	P/F dE*ab	WI(CIE)
target_1_2021-11-10	2021-11-10 17:14:51	SCI	98.18	-0.31	1.26	0	0	0	0		89.82
sample_1_2021-11-10	2021-11-10 17:14:55	SCI	98.18	-0.31	1.26	0	0	0	0	Pass	89.82
sample_2_2021-11-10	2021-11-10 17:15:00	SCI	93.75	0.14	3.4	-4.43	0.45	2.14	4.93	NG	69.15

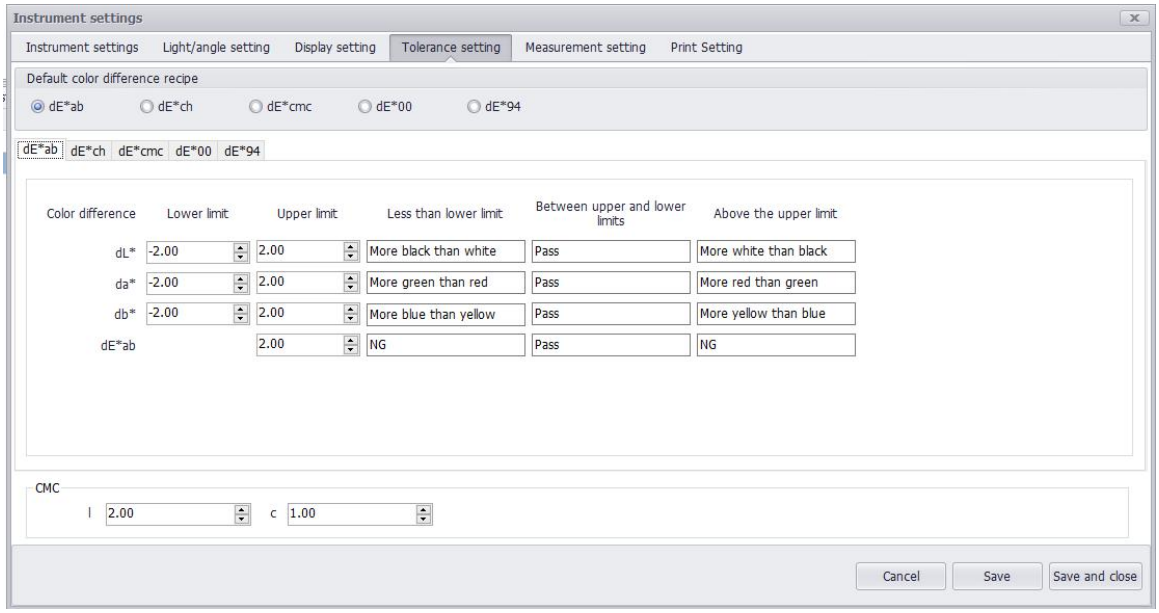
You can see the whiteness data in the print preview

3.5 Measurement tolerance setting

Select menu bar "Settings" - "Set Measurement Tolerance"



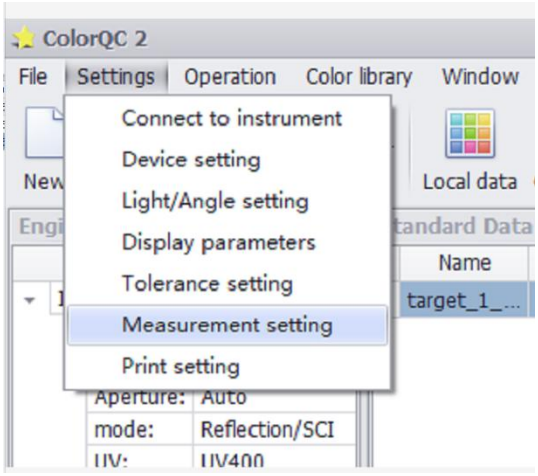
Select the color difference formula, and then set the upper and lower limits of the color difference determination



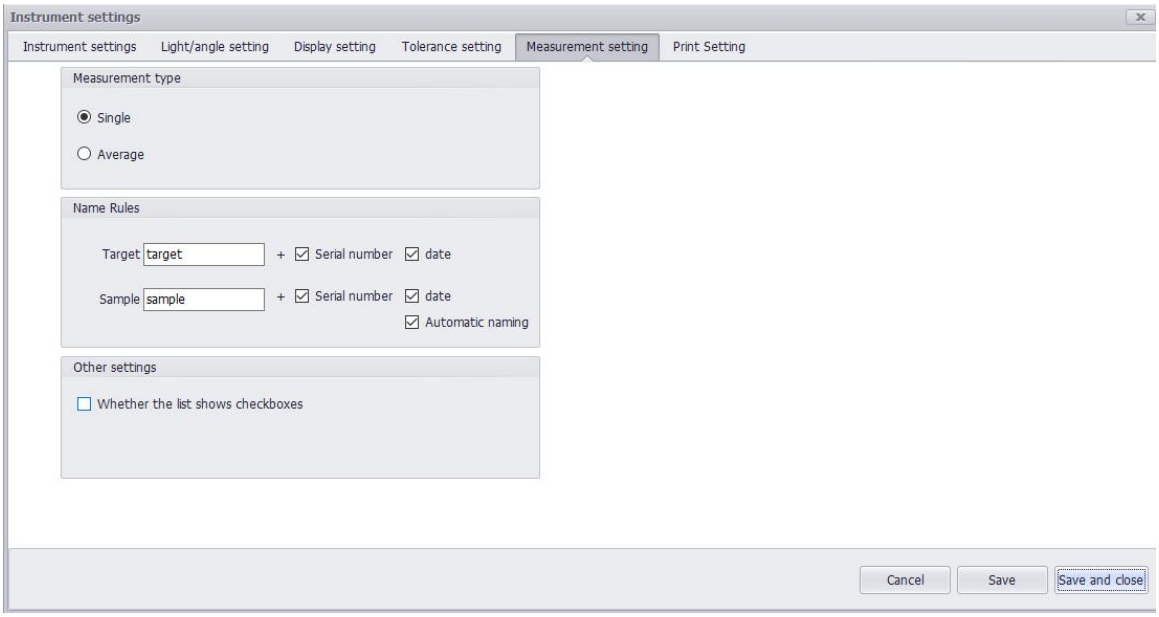
Once set up, click "Save and close" in the lower right corner

3.6 Mean measurement setting

Select menu bar "Settings" - "Measurement Settings"



Selection of measurement type

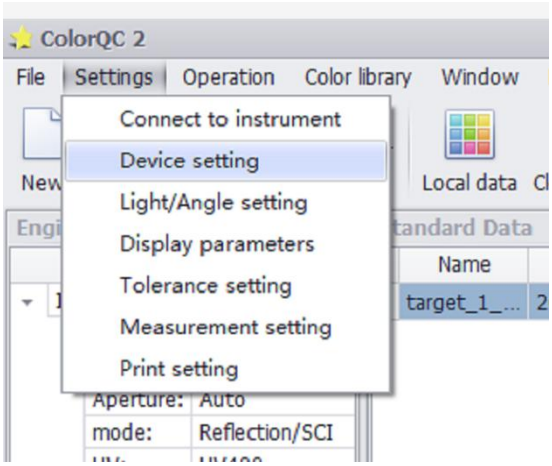


Once set up, click "Save and close" in the lower right corner

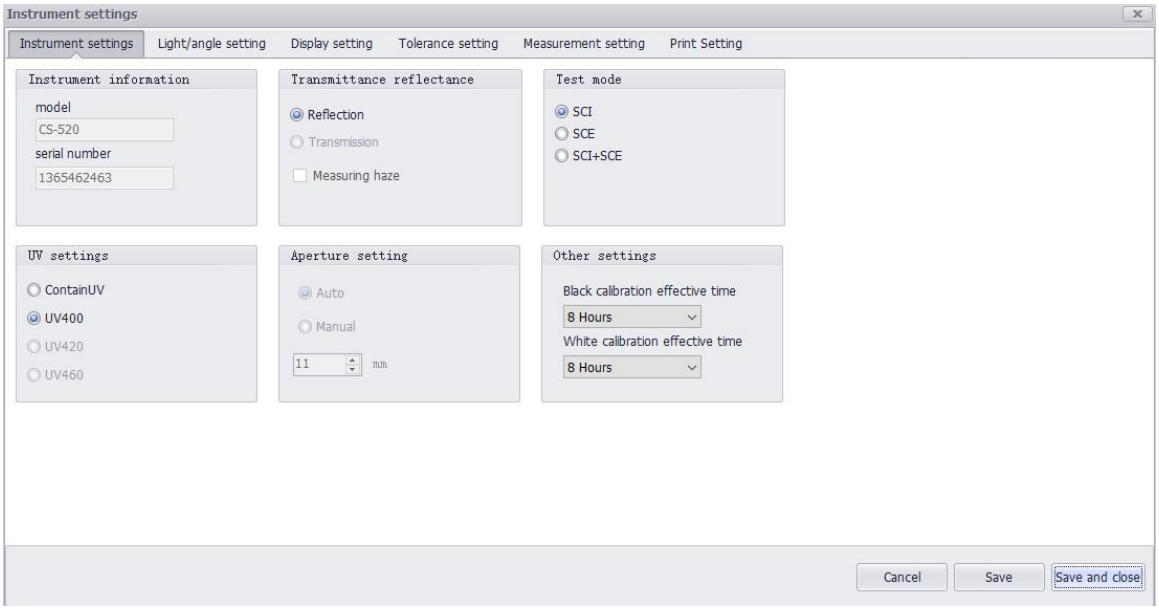
3.7 Measurement condition setting (SCI/SCE, light source Angle)

3.7.1 SCI/SCE Settings (make sure the device can set this)

Select menu bar "Settings" - "Set Measurement Parameters"

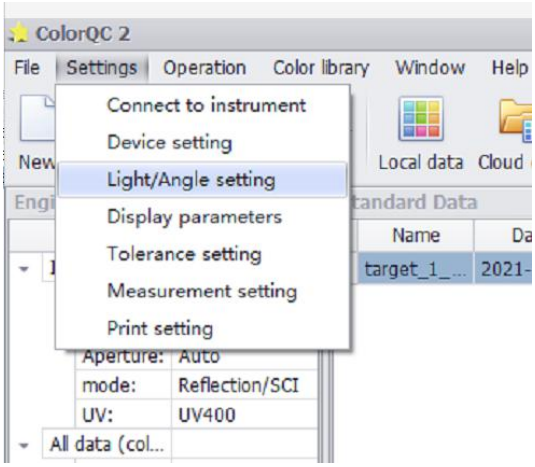


Set "Measurement Mode" (SCI/SCE) and other Settings

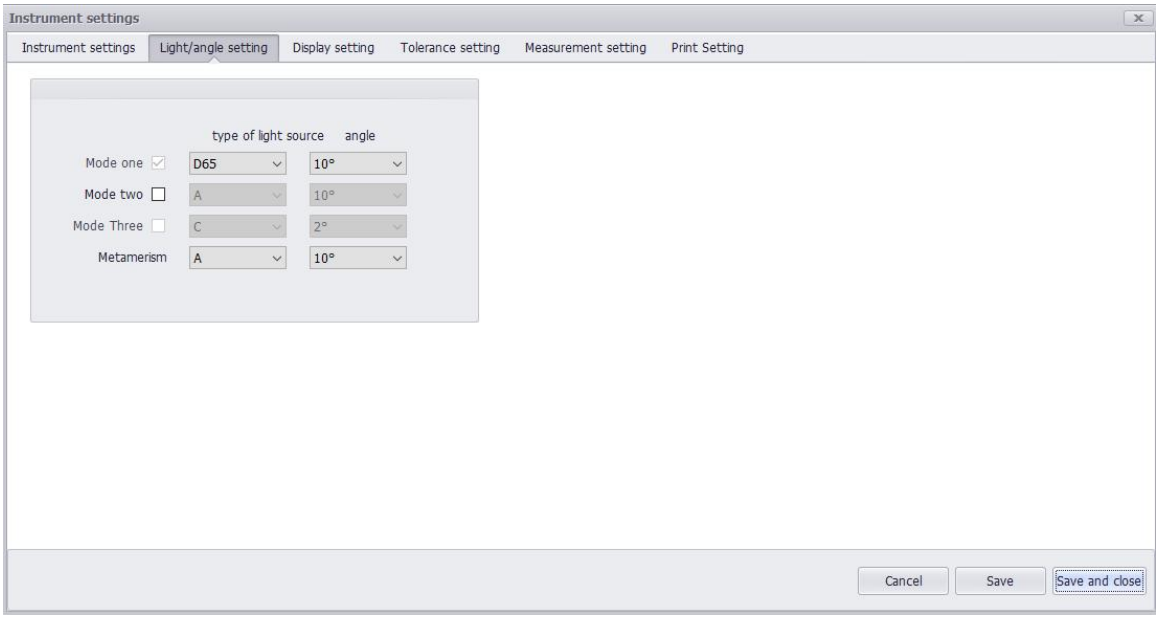


3.7.2 Light Angle setting

Select menu bar "Settings" - "Light/Angle Settings"

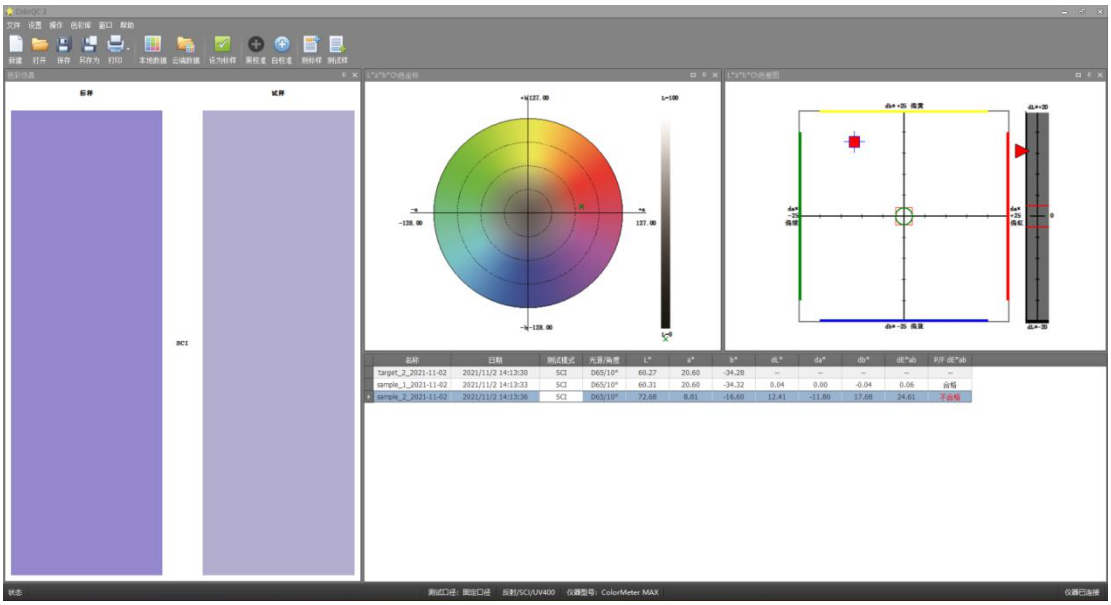


Set light Type and Angle

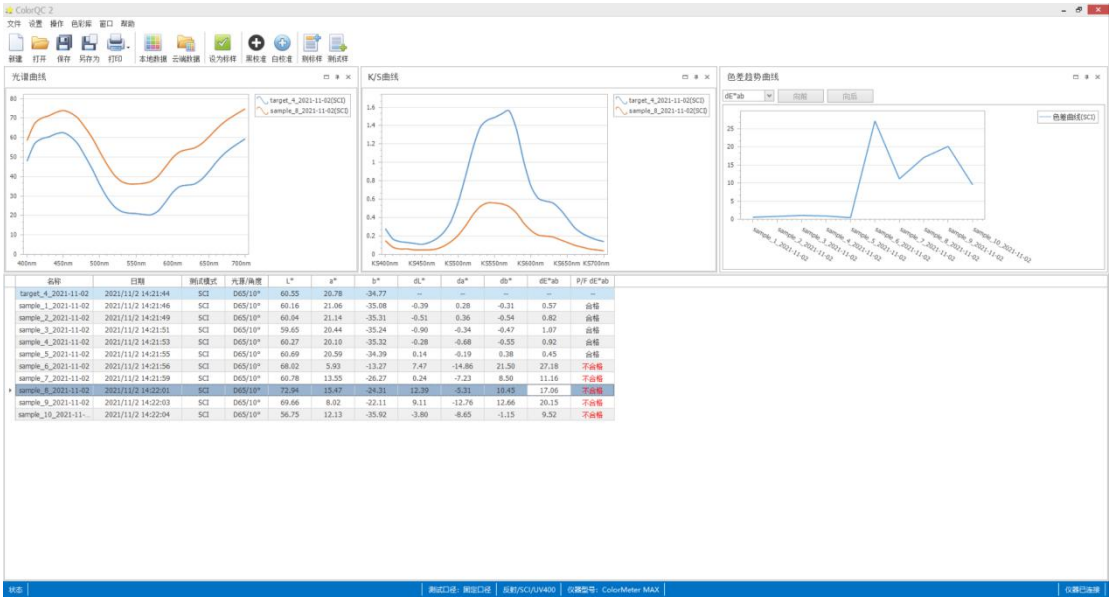


3.8 Customize the test interface

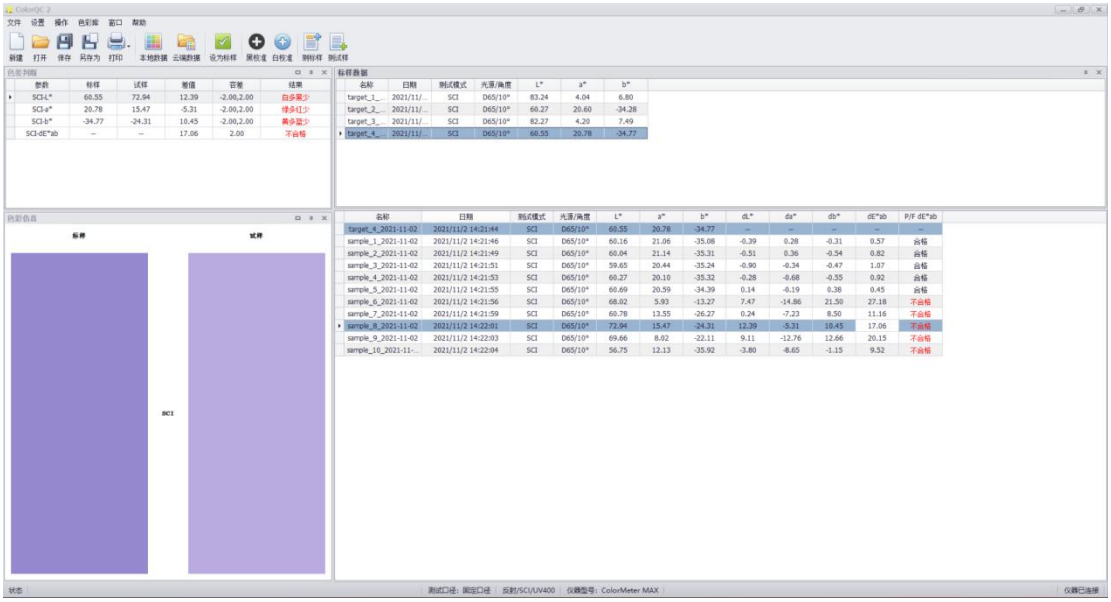
- Mike's test window (Mike comparison needs to see the color map)



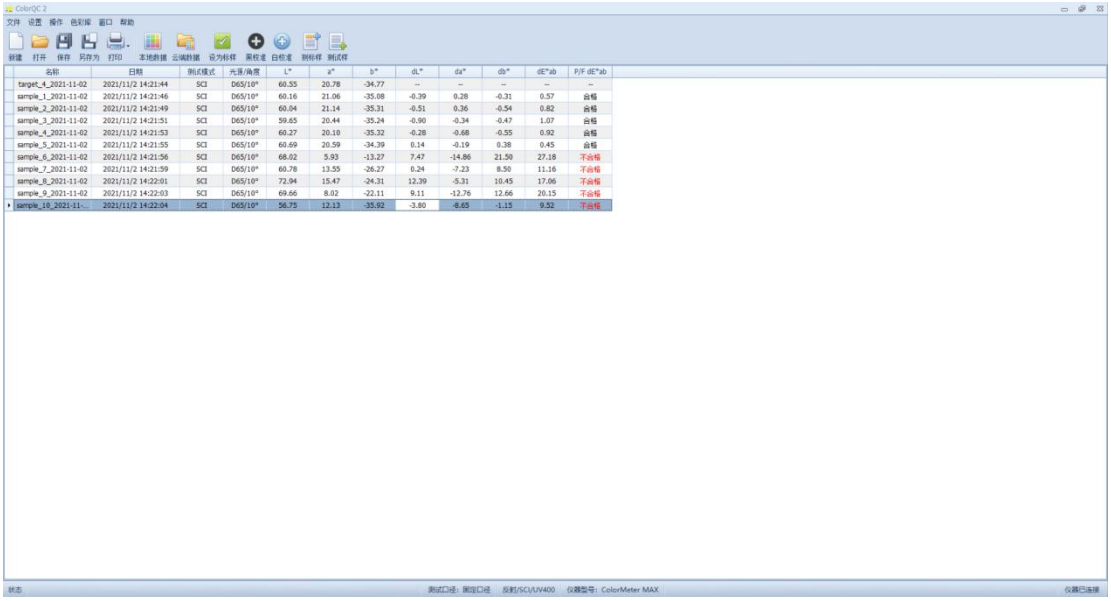
- Ruth's test window (Ruth needs to see the color curve)



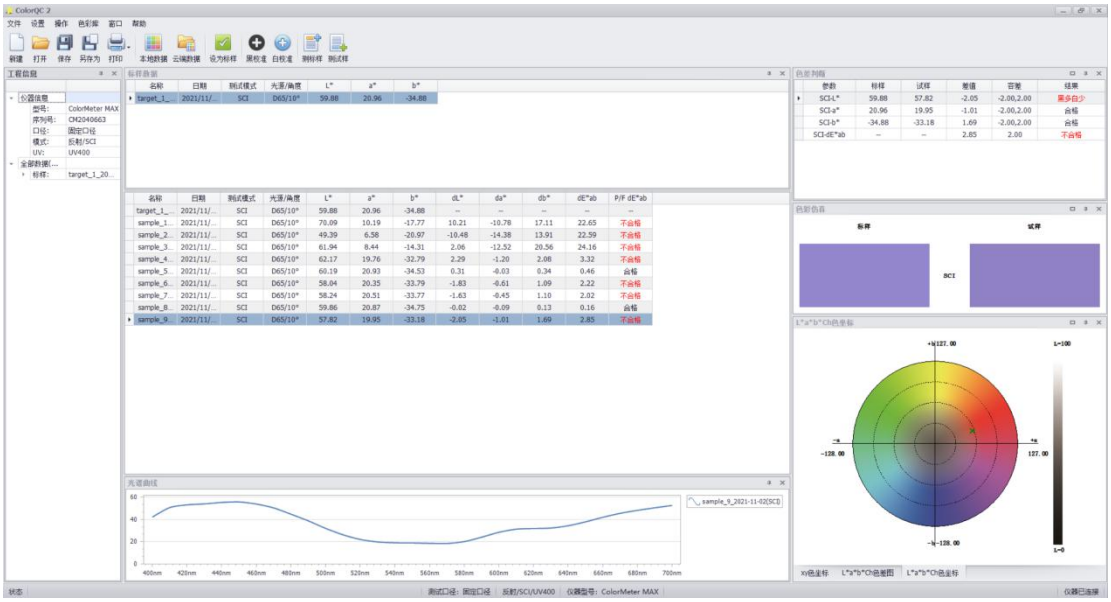
- Jack's test window (Wang Wu comparison needs to see the specific data of color, and need to test multiple standard samples)



- Quality inspector's test window (senior quality inspector, look at a color difference, that's all)



➢ My test window (I'm lazy, the default window is fine)



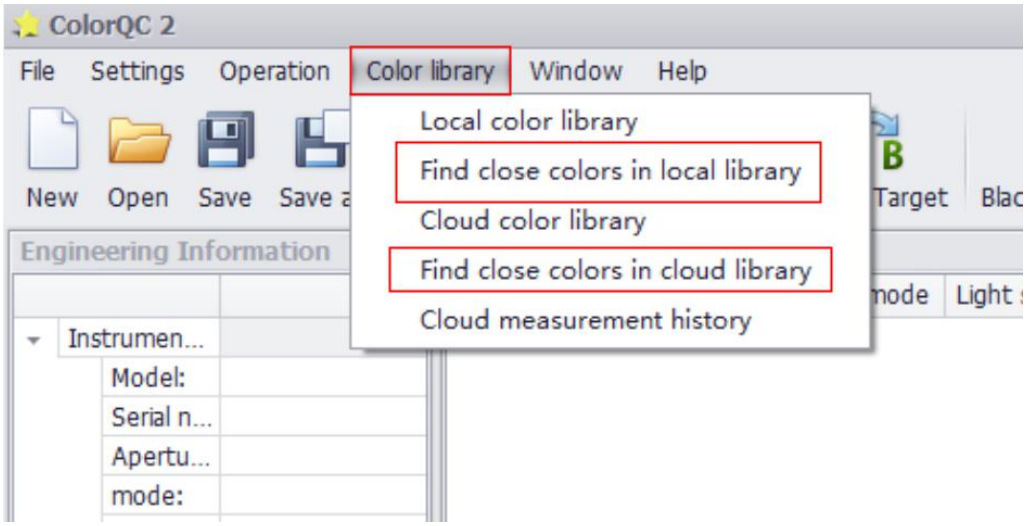
Complex software, simple presentation!

Complex, satisfying your needs and mine.

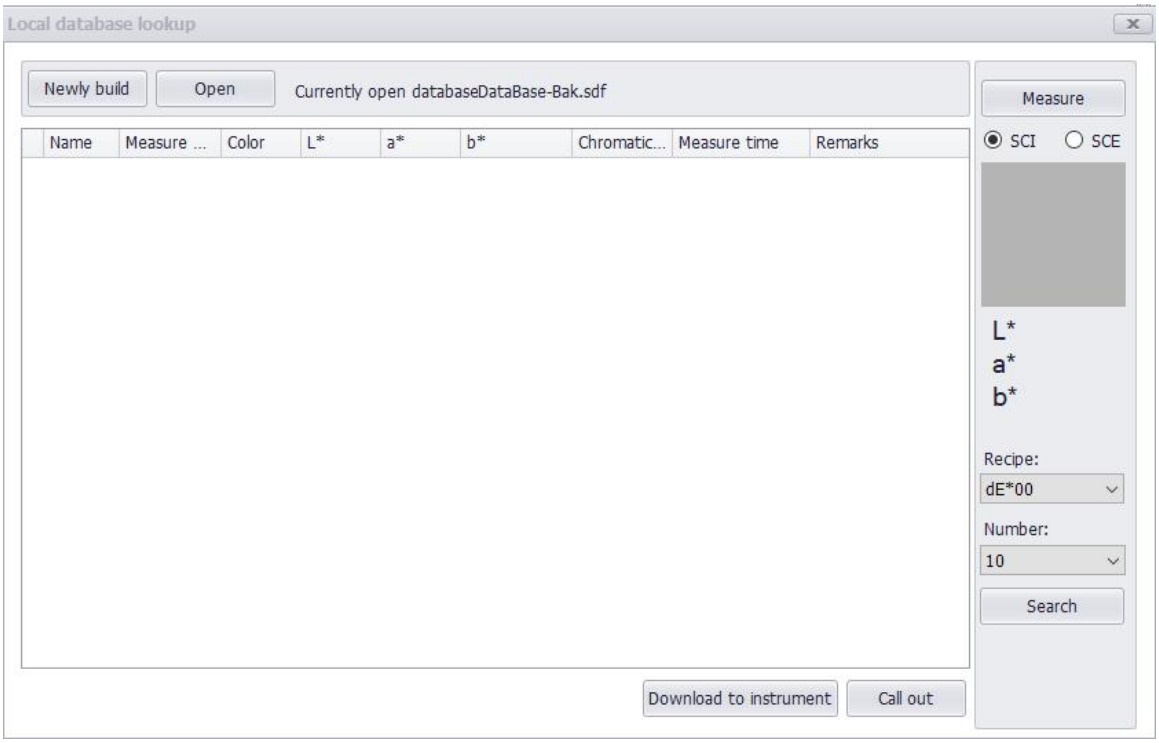
Simplify. Simplify your work and mine.

3.9 Find close color

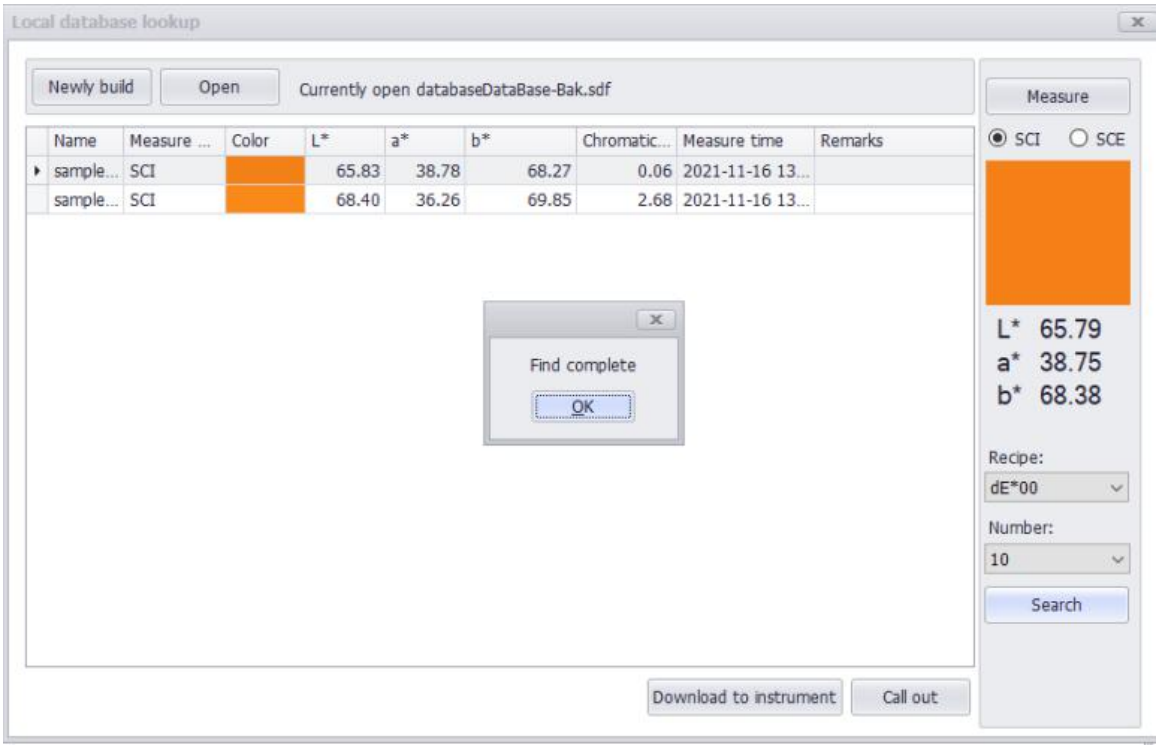
Select menu bar "Color Library" - "Find close colors in local Color Library" or "Find Close Colors in Cloud Color Library"



- Select "Find close colors in local Color Library"



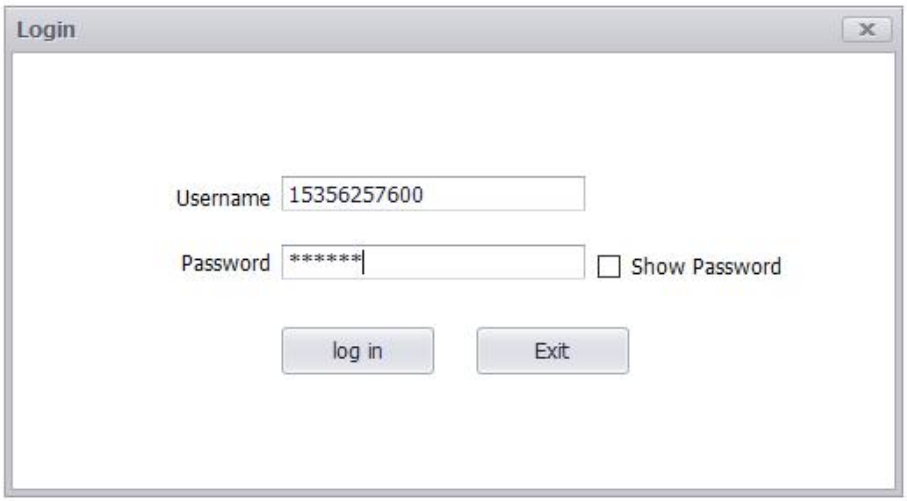
Click "Measure Target" on the right, then click "Find Close color"



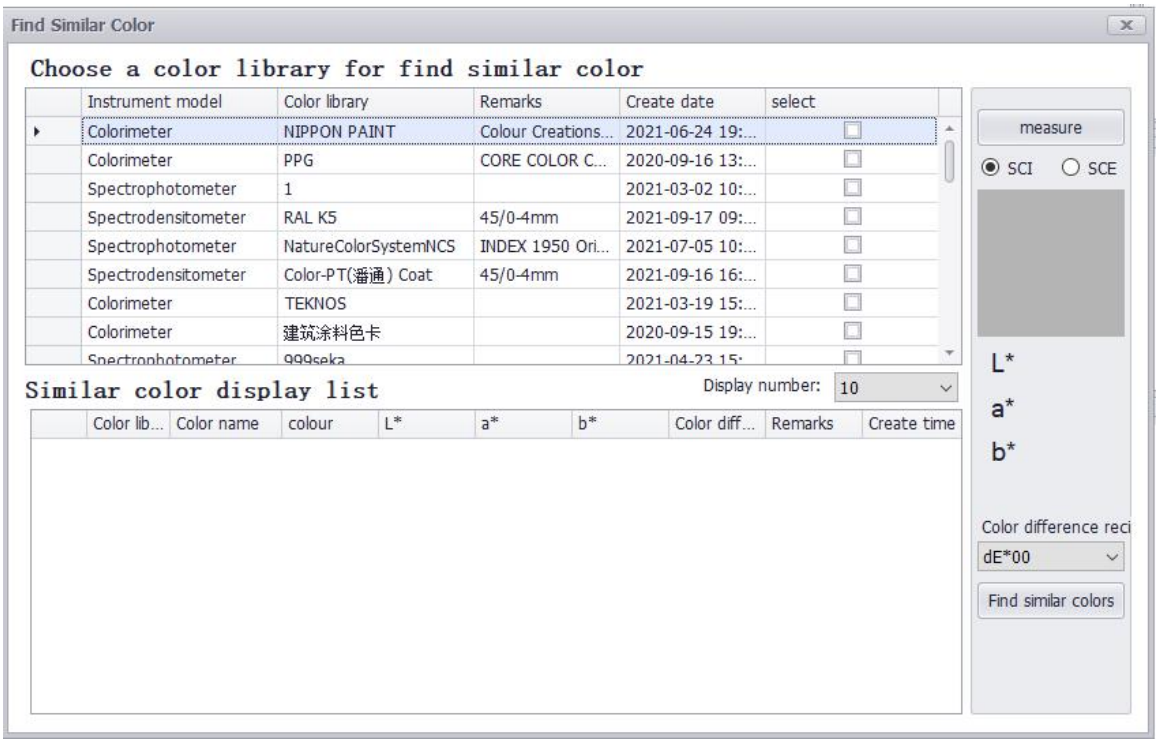
The colors found are displayed in the list and the search is complete. If you want to call out the found color as the target sample, you can click "Call out" in the lower right corner.

- Select "Find close colors in cloud Color Library"

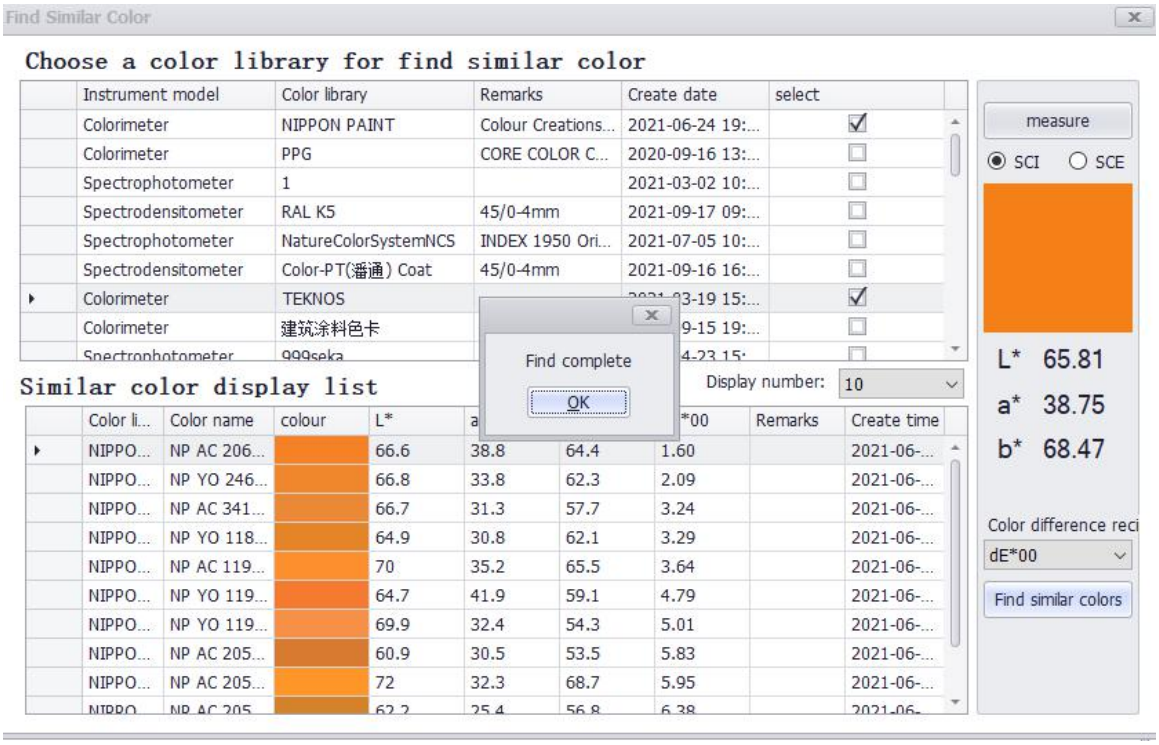
To use the "Find close colors in the Cloud Color Library" feature, you need to log in first



Enter your account password and click "Log in" as follows



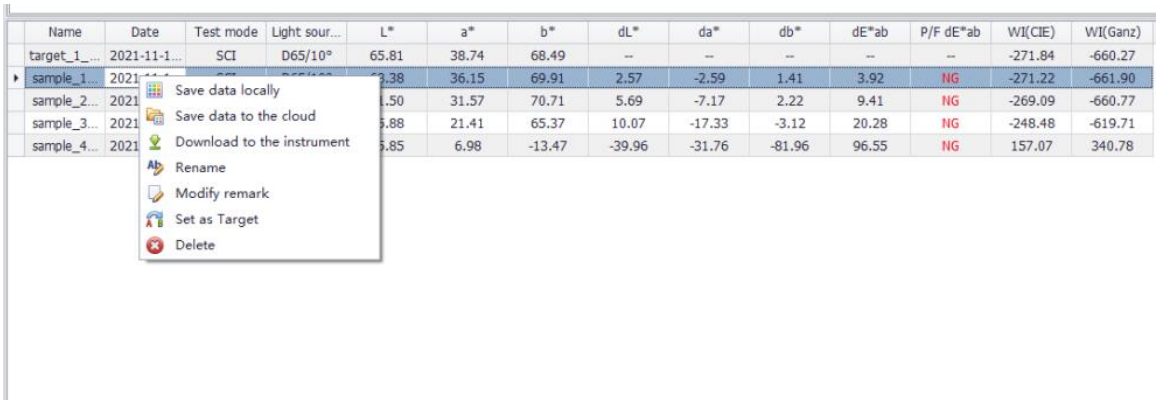
Check the library of colors used to find close colors in the list above, click "Measure Target", "Find Close colors".



The colors found are displayed in the list and the search is complete. If you want to find a large color, as the target sample, you can click on the lower right corner "call out".

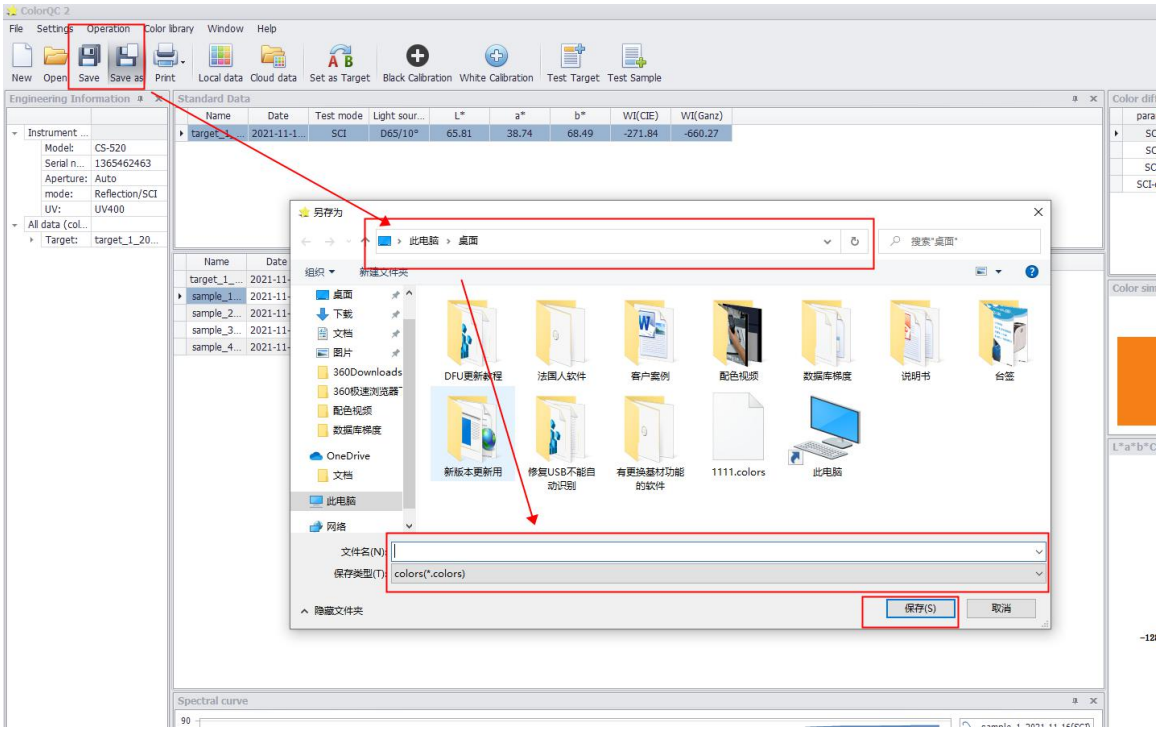
3.10 Save the color

➢ Save the color data to the database



You can right-click a color to save the color data to the local or cloud database.

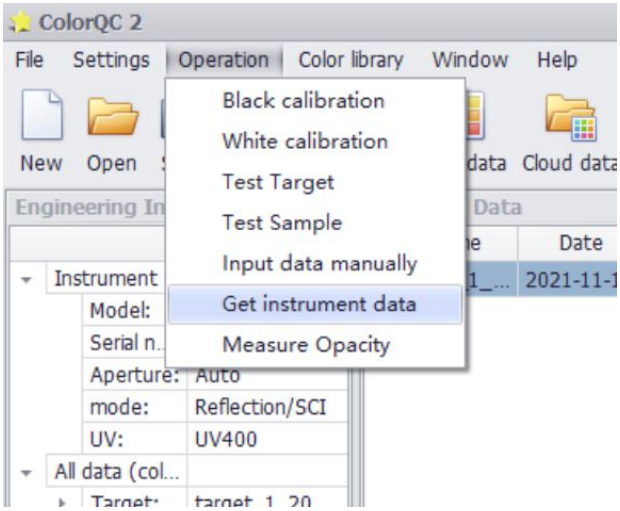
➢ Save color data to file

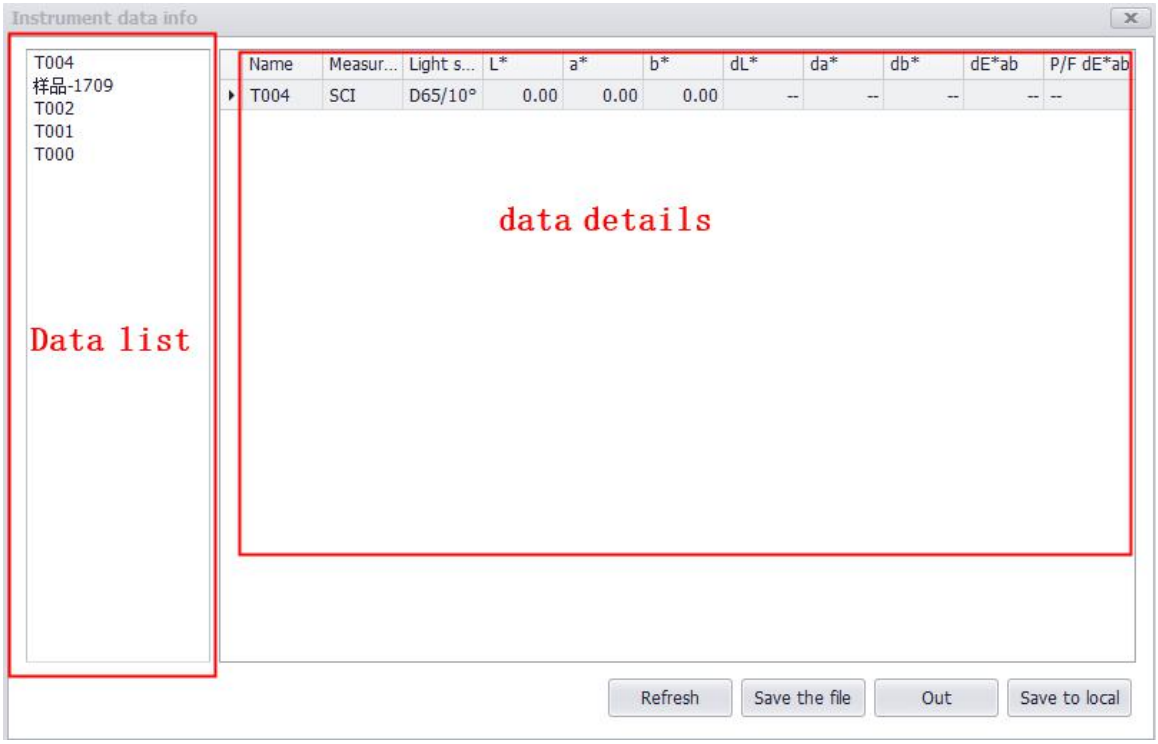


Select "Save" or "Save as", select the save path, data file name, and click Save.

3.11 Acquisition of instrument data

Select menu bar "Operation" - "Get Instrument Data"

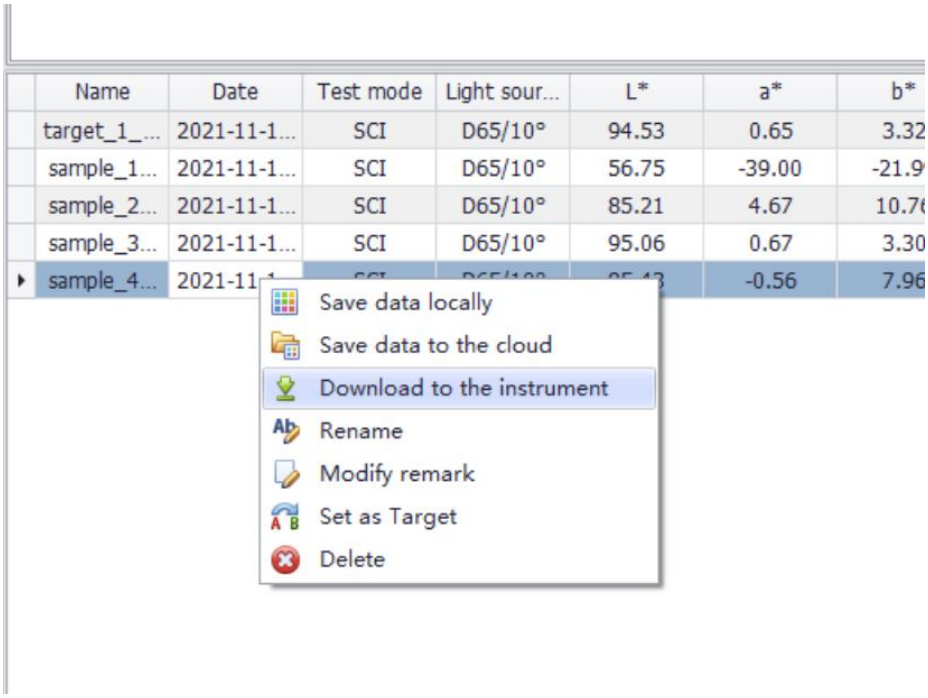




Use the instrument data obtained by using the function button in the lower right corner of the window.

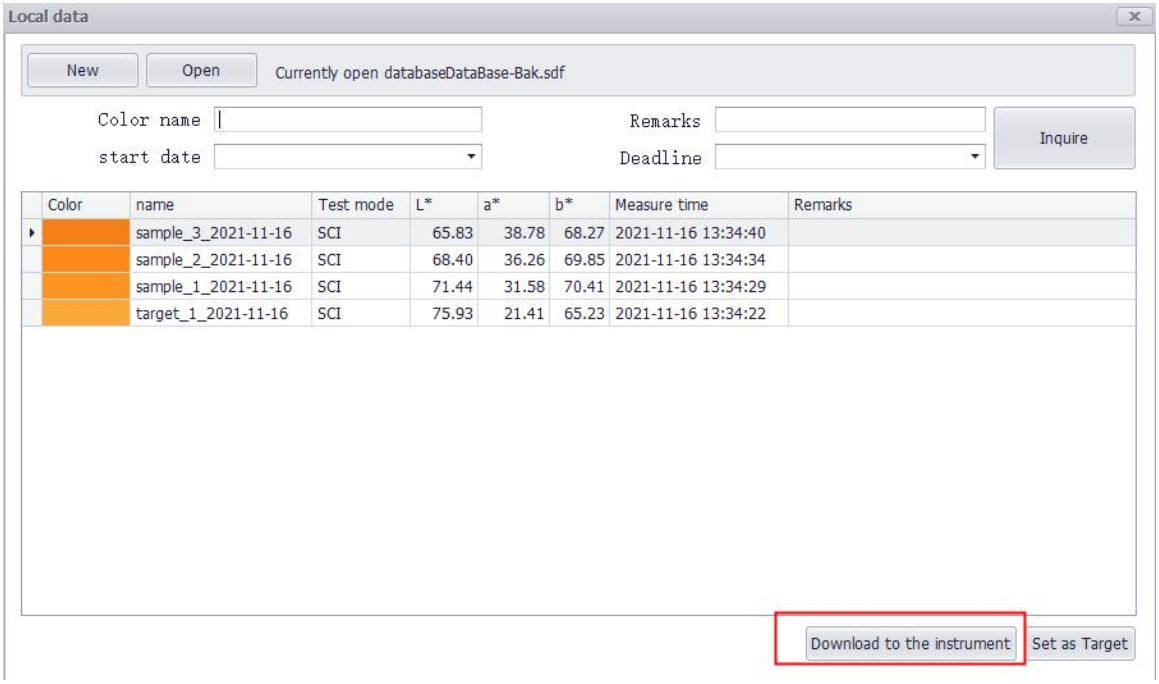
3.12 Download data to instrument

Route 1:



Right-click the data to be downloaded to the device and choose "Download to Device".

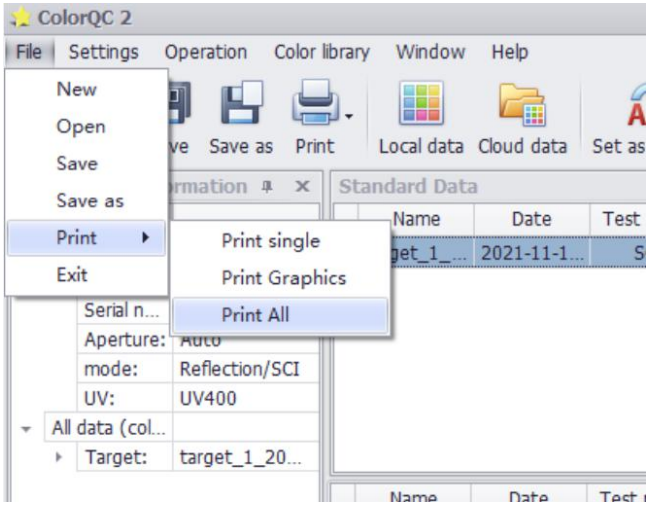
Approach 2:



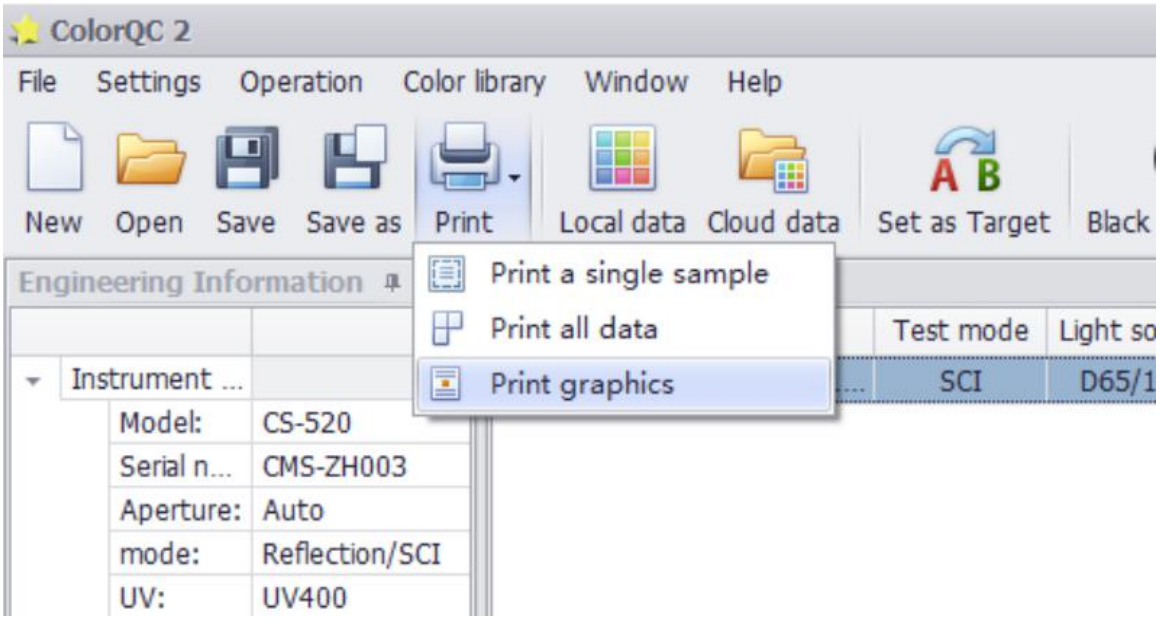
Download data from the local color library to the instrument

3.13 Print the report

Select menu bar "File" - "Print"



Or the toolbar "Print"



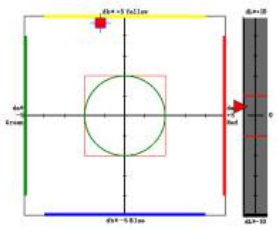
Three printing templates:

- Print a single

Single measurement report

Company Name: Department: Tester:

Name Art: sample_4_2021-11-16 Title: Light source angle: D65/10°

Target					
SCI	Name	Date	Test mode	L*	a*
	target_1_2021-11-16	2021-11-16 14:12:20	SCI	94.53	0.65
	b*	dL*	da*	db*	dE*ab
	3.32				
SCE	Name	Date	Test mode	L*	a*
	b*	dL*	da*	db*	dE*ab
Sample					
SCI	Name	Date	Test mode	L*	a*
	sample_4_2021-11-16	2021-11-16 14:12:32	SCI	95.43	-0.56
	b*	dL*	da*	db*	dE*ab
	7.96	0.9	-1.21	4.64	4.88
SCE	Name	Date	Test mode	L*	a*
	b*	dL*	da*	db*	dE*ab
Remarks		Chromatic aberration diagram			

- Print all

Measurement report

Company Name: Tester: Department:

Title: Light source angle:D65/10°

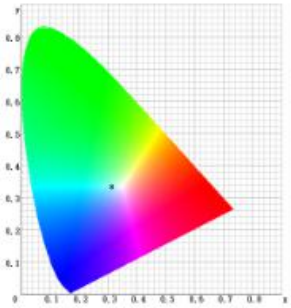
Name	Date	Test mode	L*	a*	b*	dL*	da*	db*	dE*ab	P/F dE*ab	WI(CIE)
target_1_2021-11-16	2021-11-16 14:12:20	SCI	94.53	0.65	3.32	0	0	0	0		71.47
sample_1_2021-11-16	2021-11-16 14:12:23	SCI	56.75	-39	-21.99	-37.79	-39.65	-25.31	60.34	NG	184.60
sample_2_2021-11-16	2021-11-16 14:12:25	SCI	85.21	4.67	10.76	-9.32	4.02	7.44	12.58	NG	13.65
sample_3_2021-11-16	2021-11-16 14:12:28	SCI	95.06	0.67	3.3	0.52	0.02	-0.01	0.53	Pass	72.84
sample_4_2021-11-16	2021-11-16 14:12:32	SCI	95.43	-0.56	7.96	0.9	-1.21	4.64	4.88	NG	52.64
Remarks											

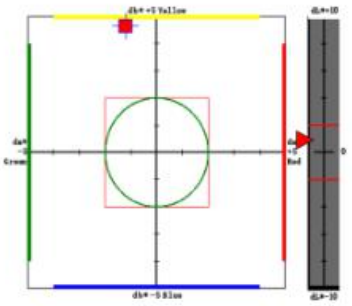
Reviewer: Date:

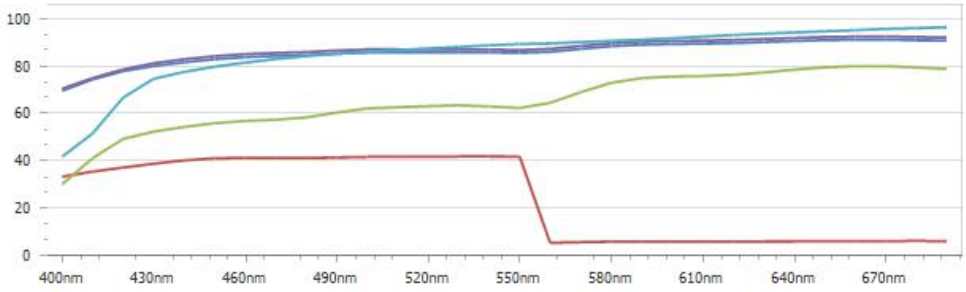
➢ Print the graphic

Measurement report

Company Name: Department: Testers:





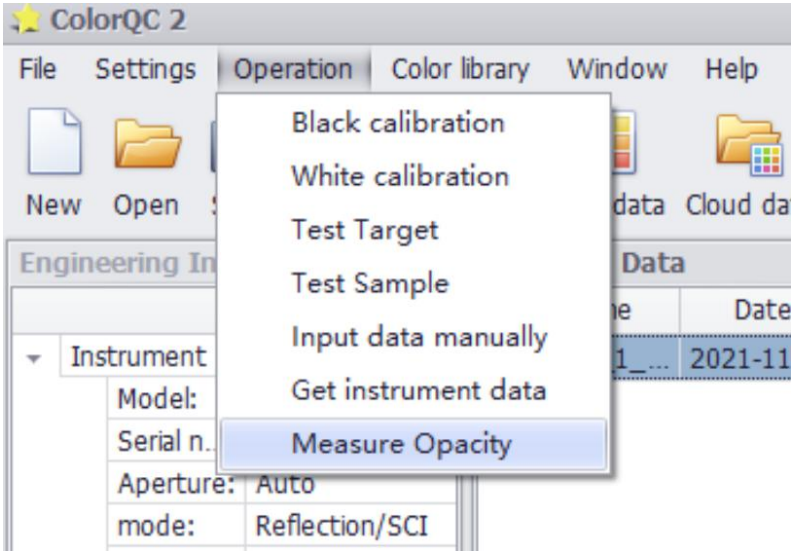


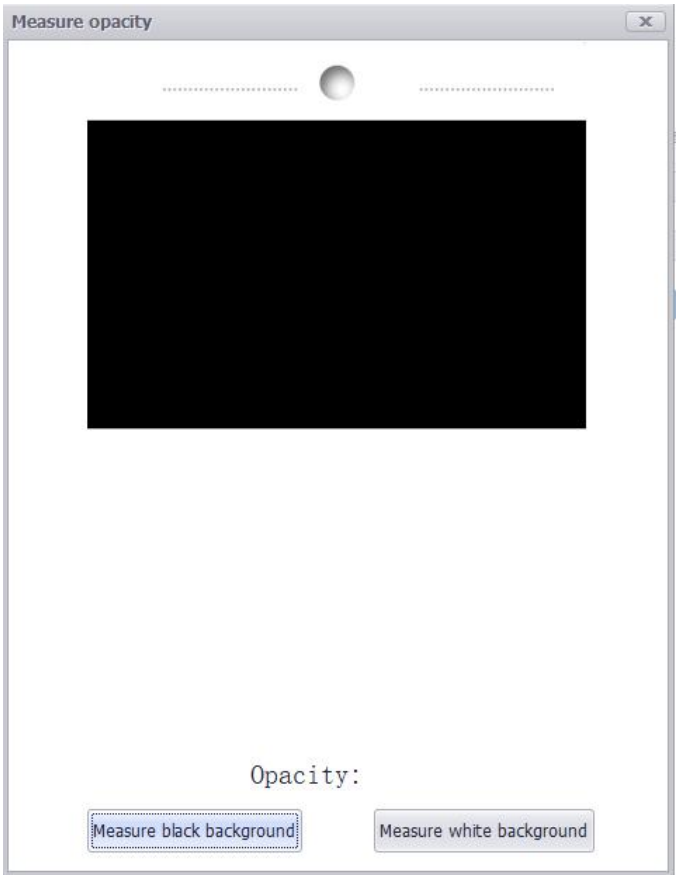
Name	Date	Test mode	L*	a*	b*	dL*	da*	db*	dE*ab	P/F dE*ab	WI(CIE)
target_1_2021-11-16	2021-11-16 14:12:20	SCI	94.53	0.65	3.32	0	0	0	0		71.47
sample_1_2021-11-16	2021-11-16 14:12:23	SCI	56.75	-39	-21.99	-37.79	-39.65	-25.31	60.34	NG	184.60
sample_2_2021-11-16	2021-11-16 14:12:25	SCI	85.21	4.67	10.76	-9.32	4.02	7.44	12.58	NG	13.65
sample_3_2021-11-16	2021-11-16 14:12:28	SCI	95.06	0.67	3.3	0.52	0.02	-0.01	0.53	Pass	72.84
sample_4_2021-11-16	2021-11-16 14:12:32	SCI	95.43	-0.56	7.96	0.9	-1.21	4.64	4.88	NG	52.64

Color QC2

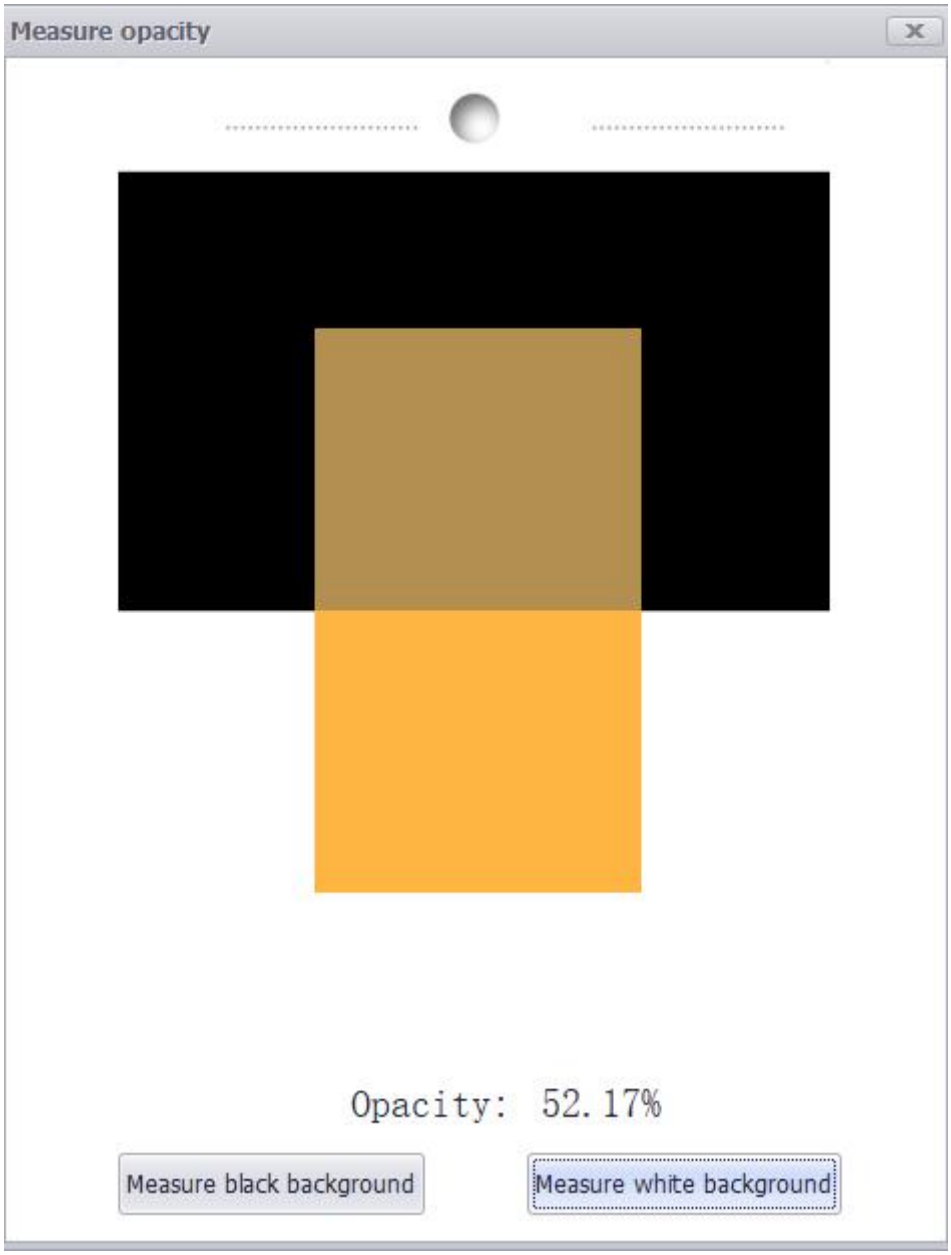
3.14 Covering power measurement

Select menu bar "Operation" - "Measure Covering Force"





Use "test black bottom" and "test white bottom" buttons at the bottom of the window to measure the sample.



The covering power of the sample was 52.17%