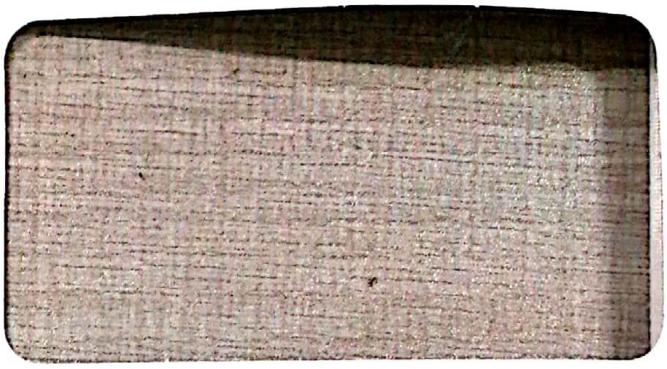
CMA 170000113982
ilac-MRA
CNAS 中国认可 国际互认 检测 TESTING CNAS L10314

No:20R001136

Applicant: GUANGZHOU PHICON BIOTECH CO., LT
Address: ROOM 420-448, 4TH FLOOR, BUILDING I
GUANGZHOU HIGH-TECH INDUSTRIAL

# TEST REPORT
# 检验检测报告

广检集团 GTTC
广州检验检测认证集团有限公司 Guangzhou Inspection Testing and Certification Group Co.,Ltd.
广州广检纺织服装服饰检测研究院有限公司 Guangzhou Guangjian Textile Garment and Accessories Testing and Research Institute Co., Ltd.
国家纺织品服装服饰产品质量检验中心(广州) National Quality Inspection and Testing Center for Textile Garment and Accessories(Guangzhou)
国家皮革制品质量检验中心(广东) National Quality Inspection and Testing Center for Leather Products (Guangdong)
中国产业用纺织品行业测试中心(广东) China Nonwovens and Industrial Textiles Testing Center(Guangdong)



# 简介 Brief Introduction

广州检验检测认证集团有限公司(简称广检集团)是广州市委市政府整合广州纤维产品检测研究院和广州质量监督检测研究院等机构的相关资源组建而成的市管国有企业集团,由市国资委履行出资人职责,委托市市场监管局监管,主要从事食品、服装、皮革、日用消费品、节能环保、工程材料等方面的质量检测,是集标准、检测、认证及技术服务为一体的综合性技术服务机构。

集团拥有国家纺织品服装服饰产品质量检验中心(广州)、国家皮革制品质量检验中心(广东)、国家加工食品质量检验中心(广东)等国家质检中心,目前已通过国家级计量认证(CMA)、国家级审查认可(CAL)和中国合格评定国家认可委员会(CNAS)认可,并取得了美、日、英、法等国家和地区实验室认可组织的国际互认。所出具的报告结果科学、公正、准确,不但成为法院、质量技术管理部门、工商行政管理部门、保险公司等做出司法判决、行政处罚或保险理赔的技术支撑,同时也成为企业进行对外贸易和内部质量控制的技术依据。

广州广检纺织服装服饰检测研究院有限公司属广检集团全资子公司。主要从事纺织品、服装、服饰、箱包、皮具、鞋类产品、产业用纺织品的科学技术研究,技术推广,经济贸易咨询等全产业链综合技术服务。

Guangzhou Inspection Testing and Certification Group Co., Ltd. (GTTC), as a state-owned enterprise group of Guangzhou, is established by Guangzhou Municipal Party Committee and Municipal Government through integrating the related resources of Guangzhou Fiber Product Testing and Research Institute, Guangzhou Quality Supervision and Testing Institute and other institutions. Guangzhou SASAC fulfills the duties of the investor and entrusts Guangzhou Municipal Bureau of Market Regulation to supervise. It mainly engages in quality inspection of food, apparel, leather, consumer goods, energy conservation and environmental protection, and engineering materials, which is a comprehensive technology service institution that integrated standard, inspection, certification and technology service into one.

GTTC possesses national quality inspection centers that include National Quality Inspection and Testing Center for Textile Garment and Accessories (Guangzhou), National Quality Inspection and Testing Center for Leather Products (Guangdong) and National Quality Inspection and Testing Center for Processed Food (Guangdong) etc. Currently it has obtained the accreditation of China Accredited Laboratory (CAL), China Metrology Accreditation (CMA), China National Accreditation Service for Conformity Assessment (CNAS) and International Laboratory Accreditation Cooperation (ILAC). The reports GTTC issued are scientific, judicial and accurate. The reports are not only used as the technical support for the court, the quality technology management department, the industry and commerce management department and the insurance company to give judicial decision, administrative penalty or insurance claimer, but also used as the technical basis for the foreign trade and internal quality control of enterprises.

Guangzhou Guangjian Textile Garment and Accessories Testing and Research Institute Co., Ltd.(GTT) is one of the wholly-owned subsidiaries of GTTC. GTT mainly engages in comprehensive technology service of the whole-industrial chain, including science and technology research, technical promotion and economic trade consultation of textiles, apparel, accessories, bags and cases, leatherware, shoes and non-woven textiles.

## 我们检测的领域 TEST SCOPE

- 纤维及纤维制品 Fibre and Fibre Product
- 纱线 Yarn
- 纺织品 Textile
- 服装 Garment
- 饰品及服装附件 Accessories
- 羽毛羽绒 Feather and Down
- 皮革及毛皮产品 Leather Product
- 鞋类 Footwear
- 过滤材料 Filter Material
- 土工合成材料 Geotextile
- 医用卫生材料 Medical and Hygienic Material
- 车用纺织品 Automobile Textile
- 无纺布 Nonwoven Fabric
- 染料及助剂 Dye Product
- 塑料制品 Plastic Product
- 玩具及儿童用品 Toys

## 我们检测的项目 TEST ITEMS

- 外观质量 Appearance
- 染色牢度 Color Fastness
- 材质鉴别 Material Identification
- 物理项目 Physical Analysis
- 化学分析 Chemical Analysis
- 功能性能 Functional Property

## 我们应用的标准 TEST STANDARDS

- 国际 ISO
- 美国 AATCC、ASTM、EPA、CPSC
- 日本 JIS
- 国际羽毛羽绒局 IDFB
- 中国 GB、GB/T、FZ/T、QB/T、HG/T
- 欧盟 EN
- 德国 DIN
- 生态纺织品标准 100 Oeko-Tex Standard 100
- 澳大利亚羊毛发展有限公司 TWC-TM

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# Test Report

**Verification Website: www.gttc.net.cn**

**Verification Code: JOLO-3575-14**

**No:20R001136** Issue Date: 2020-05-23

Applicant: GUANGZHOU PHICON BIOTECH CO., LTD

Address: ROOM 420-448, 4TH FLOOR, BUILDING B4, NO.11 KAIYUAN AVENUE, SCIENCE CITY, GUANGZHOU HIGH-TECH INDUSTRIAL DEVELOPMENT ZONE (SELF-DECLARATION)

Information confirmed by applicant:

Disposable medical mask

Quantity: eighty pieces

Size: planar non-sterile

Classification: type IIR

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Standard Adopted:

EN 14683:2019+AC:2019 <Medical face masks-Requirements and test methods>

Date Received/Date Test Started: 2020-05-15

Conclusion:

| | |
|---|---|
| Bacterial filtration efficiency (BFE) | M |
| Microbial cleanliness | M |
| Differential pressure | M |
| Splash resistance pressure | M |

Note: "M"-Meet the standard's requirement "F"-Fail to meet the standard's requirement "---"-No comment

Remark:
All the tested items are tested under the standard condition (except for indication).
Copies of the report are valid only re-stamped.
The experiment was carried out at No.1, Zhujiang Road, Panyu District, Guangzhou, Guangdong, P.R.China.

Approved By: Nan Ma

Nan Ma Engineer

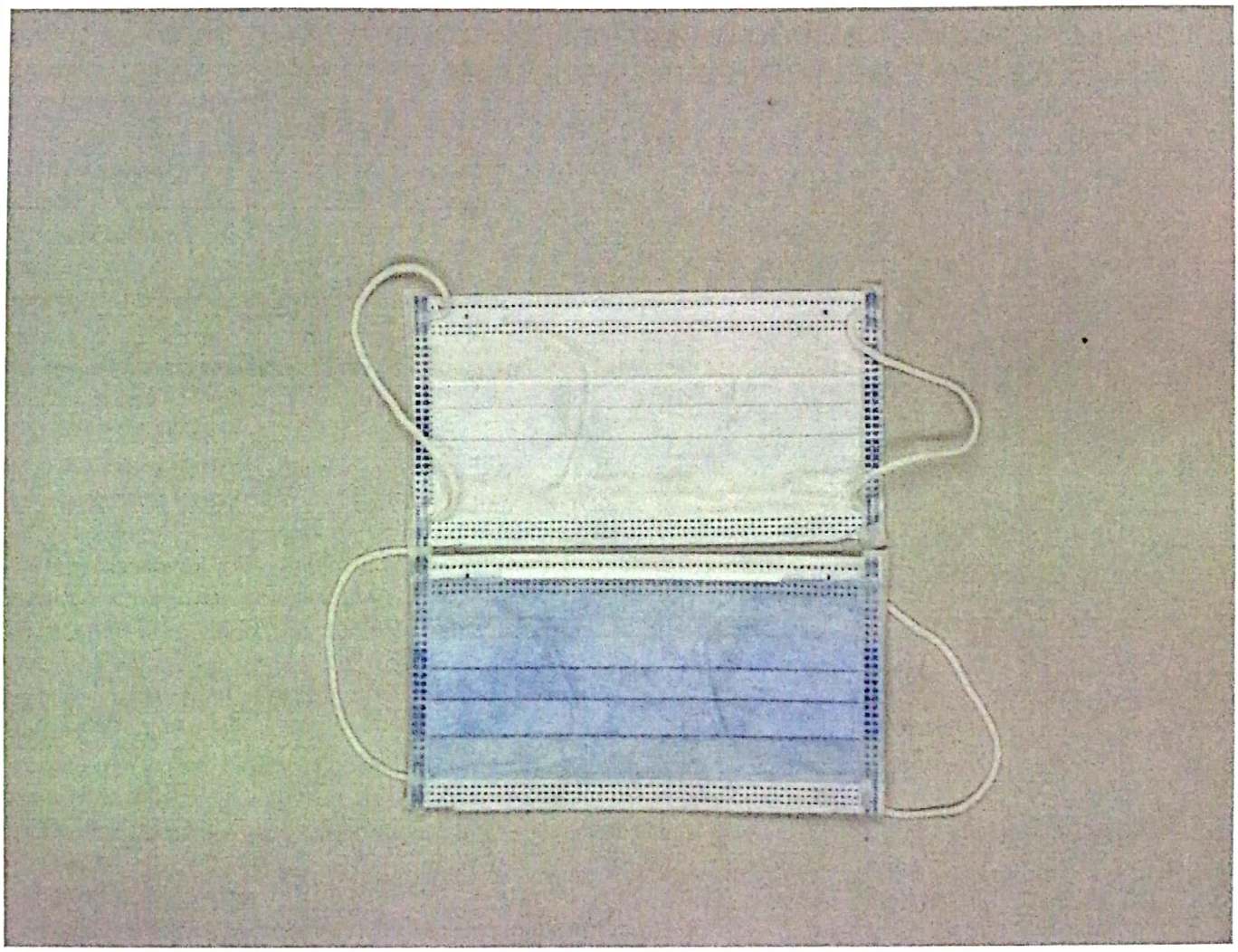
Guangzhou Inspection Testing and Certification Group Co., Ltd. Inspection & Testing services



总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020-61994598/61994599
电话:020-37721161/66348638

# Test Report

**No: 20R001136**





总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020-61994598/61994599
电话:020-37721161/66348638

# Test Report

**No: 20R001136**

**Bacterial filtration efficiency (BFE)**
**Test method:** EN 14683: 2019+AC: 2019 Annex B

**Test principle:**
A specimen of the mask material is clamped between a six-stage cascade impactor and an aerosol chamber. An aerosol of Staphylococcus aureus is introduced into the aerosol chamber and drawn through the mask material and the impactor under vacuum. The bacterial filtration efficiency (BFE) of the mask is given by the number of colony forming units passing through the medical face mask material expressed as a percentage of the number of colony forming units present in the challenge aerosol.

**Test equipment:**
Incubator
Electronic balance
Autoclave
Experimental system for bacterial filtration efficiency (BFE) of mask

**The environmental conditions of the laboratory and test condition:**
Total bacteria: 0 CFU/plate
Total fungi: 0 CFU/plate
Blank experiment: Aseptic growth
Test environment temperature: 24.5℃, Relative humidity: 56.0%
Culture medium: TSA agar medium
Culture temperature: 37℃， Culture time: 48h
Test bacteria : staphylococcus aureus ATCC 6538
Concentration of bacterium: $5.0\times10^5$ CFU /ml
Positive control average (C): $1.9\times10^3$ CFU
Negative monitor count: ＜1 CFU
Test area: 49 $cm^2$
Dimensions of the test specimens: 15cm×15cm
Flow rate: 28.3 l/min
Pretreatment: Condition each specimen for 4 h by exposure to a temperature of (21±5)℃ and a relative humidity of (85±5)%
Mean particle size: 3.0 μm
The medical face mask in contact with the bacterial challenge: inside

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总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020- 61994598/61994599
电话:020- 37721161/66348638

# Test Report

**No: 20R001136**

**Results:**

| Sample | T | BFE (%) | Requirement (%) | Classification | Conclusion |
|---|---|---|---|---|---|
| 1 | 13 | 99.32 | ≥98 EN 14683:2019+AC:2019 | Type ⅡR | Pass |
| 2 | 30 | 98.42 | | | |
| 3 | 16 | 99.16 | | | |
| 4 | 18 | 99.05 | | | |
| 5 | 21 | 98.89 | | | |

**Remarks:**

For each test specimen calculate the bacterial filtration efficiency B, as a percentage, using the following formula:

$B = (C - T) / C \times 100$

where

B is bacterial filtration efficiency (BFE), %;

C is positive control average;

T is the total plate count for the test specimen.



总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020-61994598/61994599
电话:020-37721161/66348638

# Test Report

**No: 20R001136**

**Microbial cleanliness**
**Test method:** EN ISO 11737-1:2018, Membrane filtration

**Test principle:**
Take the required samples from the original packaging. Weigh a certain amount of sample and placed in a sterile 500 ml bottle containing 300 ml of extraction liquid (1 g/l Peptone, 5 g/l NaCl and 2 g/l Tween 20). The bottle is laid down on an orbital shaker and shaken for 5 min at 250 rpm. After this extraction step, 100 ml of the extraction liquid is filtered through a 0.45 µm filter and laid down on a TSA plate for the total viable aerobic microbial count. Another 100 ml aliquot of the same extraction liquid is filtered in the same way and the filter plated on Sabouraud Dextrose agar (SDA) for fungi enumeration. The plates are incubated for 3 days at 30℃ and 7 days at (20 to 25)℃ for TSA and SDA plates respectively. The total bioburden is expressed by addition of the TSA and SDA counts.

**Test equipment:**
Constant temperature incubator
Electronic balance
Pressure steam sterilizer
Biosafety cabinet

**The environmental conditions of the laboratory and test condition:**
Test environment temperature: 24.5℃, Relative humidity: 56.0%
Test environment monitoring: total bacteria: 0 CFU/plate, total fungi: 0 CFU/plate, blank experiment: aseptic growth

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总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020- 61994598/61994599
电话:020- 37721161/66348638

# Test Report

**No: 20R001136**

**Results:**

| Sample | Bacteria (CFU/g) | Fungi (CFU/g) | Microbial cleanliness (CFU/g) | Requirement (CFU/g) | Classification | Conclusion |
|---|---|---|---|---|---|---|
| 1 | 8 | 0 | 8 | ≤30 EN 14683:2019+AC:2019 | Type ⅡR | Pass |
| 2 | 7 | 0 | 7 | | | |
| 3 | 6 | 0 | 6 | | | |
| 4 | 10 | 0 | 10 | | | |
| 5 | 9 | 0 | 9 | | | |

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总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020-61994598/61994599
电话:020-37721161/66348638

# Test Report

**No: 20R001136**

**Differential pressure**

**Test method:** EN 14683:2019+AC:2019 Annex C

**Test principle:**

This procedure was performed to evaluate the differential pressure of the medical face mask material by measuring the air exchange pressure through a measured surface area at a constant air flow rate.

**Test equipment:**

GTTC-YLC-1 Apparatus for measuring differential pressure

**The environmental conditions of the laboratory and test condition:**

Air flow: 8 l/min

Test area: 4.9cm$^2$

Pretreatment: Condition each specimen for a minimum of 4 h by exposure to a temperature of (21±5)℃ and a relative humidity of (85±5)%

General location of the areas of the mask the differential measurements: specimen center

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总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020-61994598/61994599
电话:020-37721161/66348638

# Test Report

**No: 20R001136**

**Results:**

| Sample | Differential pressure (Pa/cm²) | Requirement (Pa/cm²) | Classification | Conclusion |
|---|---|---|---|---|
| 1 | 41.8 | <60 EN 14683:2019+AC:2019 | Type ⅡR | Pass |
| 2 | 46.1 | | | |
| 3 | 41.4 | | | |
| 4 | 42.9 | | | |
| 5 | 42.4 | | | |

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总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020-61994598/61994599
电话:020-37721161/66348638

# Test Report

**No: 20R001136**

**Splash resistance pressure**
**Test method:** ISO 22609:2004

**Test principle:**
A specimen medical face mask is supported on an apparatus. A volume of synthetic blood is sprayed horizontally at the specimen mask to simulate the scenario of a mask being splashed by a punctured blood vessel. The volume of fluid, distance to impact, orifice size and fluid velocity are defined in this method and intended to be consistent with this health care scenario. Any evidence of synthetic blood penetration on the side of the medical face mask contacting the wearer's face constitutes failure. Results are reported as "pass/fail". Specimen medical face masks are evaluated at a total of three different velocities corresponding to human blood pressures of 10.6 kPa, 16.0 kPa, and 21.3 kPa. Test results are reported at each velocity and the medical face mask is rated at the highest corresponding blood pressure for which medical face mask specimens demonstrate an acceptable quality limit of 4.0.

**Test equipment:**
Test apparatus for synthetic blood penetration LFY-227
Air compressor
Graduated cylinder
Electronic balance
Targeting plate

**The environmental conditions of the laboratory and test condition:**
Condition each specimen for a minimum of 4 h by exposure to a temperature of (21±5)℃ and a relative humidity of (85±5)%
Surface tension of synthetic blood: 0.042 N/m
Pressure: 16.0 kPa
Velocity: 550 cm/s

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总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020-61994598/61994599
电话:020-37721161/66348638

# Test Report

**No: 20R001136**

**Results:**

| Sample | Measured value | Requirement (kPa) | Classification | Conclusion |
|---|---|---|---|---|
| | Pressure | | | |
| | 16.0 kPa | | | |
| 1 | pass | ≥16.0 EN 14683:2019+AC:2019 | Type ⅡR | Pass |
| 2 | pass | | | |
| 3 | pass | | | |
| 4 | pass | | | |
| 5 | pass | | | |
| 6 | pass | | | |
| 7 | pass | | | |
| 8 | pass | | | |
| 9 | pass | | | |
| 10 | pass | | | |
| 11 | pass | | | |
| 12 | pass | | | |
| 13 | pass | | | |
| 14 | pass | | | |
| 15 | pass | | | |
| 16 | pass | | | |
| 17 | pass | | | |
| 18 | pass | | | |
| 19 | pass | | | |
| 20 | pass | | | |
| 21 | pass | | | |
| 22 | pass | | | |
| 23 | pass | | | |
| 24 | pass | | | |
| 25 | pass | | | |
| 26 | pass | | | |
| 27 | pass | | | |
| 28 | pass | | | |
| 29 | pass | | | |
| 30 | pass | | | |
| 31 | pass | | | |
| 32 | pass | | | |
| **Final result** | pass | | | |

**Remarks:**

An acceptable quality limit of 4.0 % is met for a single sampling plan when 29 or more of the 32 tested specimens show "pass" results.

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——End of Report——

总部:广州市番禺区珠江路1号
花都实验室:广州市花都区狮岭镇旗岭河滨西路1号
电话:020-61994598/61994599
电话:020-37721161/66348638

# 注意事项

1. 报告书未加盖检测单位检验检测专用章无效。
2. 复印件未加盖检测单位报告确认章无效。
3. 对委托送检结果有异议的，应于报告书送达之日起十五日内提出。
4. 检测结果仅对所检样品有效。
5. 未取得资质认定的项目，仅作为科研、教学或内部质量控制之用。
6. 报告书涂改无效。
7. 客户提供的信息（包括样品信息），本公司/中心不对其真实性负责。

# NOTE

1. The report is invalid without authorized stamp.
2. Copies of this report are invalid without authorized stamp.
3. Any dispute should be raised within 15 days after receiving the report.
4. The result is only valid for the tested sample.
5. The results of unapproved items are for reference only.
6. This report is invalid if altered.
7. Our company does not accept any responsibility for the authenticity of customer prescribed information (include sample information).


总部：
广州市番禺区珠江路1号
电话：020-61994598/61994599
网址：http://www.gttc.net.cn

Headquarters:
Add: No.1, Zhujiang Road, Panyu District, Guangzhou, Guangdong, P.R.China.
Tel: +86-20-61994598/61994599
Web:http://www.gttc.net.cn

花都实验室：
广州市花都区狮岭镇旗岭河滨西路1号
电话：020-37721161/66348638

Huadu Laboratory:
Add: No.1 Hebin West Road, Qiling, Huadu District, Guangzhou, Guangdong, P.R.China.
Tel: +86-20-37721161/66348638

中大工作站：
广州市海珠区瑞康路389号长江轻纺城（新长江）南区3层SC044号
电话：020-89637467

Zhongda Office:
Add: Room SC044, 3/F Southern Area, Changjiang (China) Fabrics & Accessories Center, No.389 Ruikang Road, Haizhu District, Guangzhou, Guangdong, P.R.China.
Tel: +86-20-89637467

白马工作站：
广州市越秀区站南路16号白马大厦负一层招商中心旁
电话：020-86663865

Baima Office:
Add: -1/F, Baima Building, No.16 Zhannan Road, Yuexiu District, Guangzhou, Guangdong, P.R.China.
Tel: +86-20-86663865

西安分公司：
西安市碑林区南关正街88号长安国际F座1201室
电话：029-85213931

Xian Branch:
Add: F1201 Chang'an Metropolis Center, 88 Nanguan Street, Beilin District, Xian, P.R.China.
Tel: +86-29-85213931