

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

B. Appendices

Appendix 1 Specifications and Certificates of Analyses for Raw Materials and Production Processing Aids

Appendix 1.1 Stevia Extract

Appendix 1.2 Ferrous Sulfate

Appendix 1.3 Calcium Hydroxide

Appendix 1.4 Adsorption Resin

Appendix 1.5 Membrane

Appendix 1.6 Maltodextrin

Appendix 1.7 α -Amylase

Appendix 1.8 Ethanol

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 1.1 Stevia Extract


圣仁制药
Shengren Pharmaceuticals

Analysis Report of Steviosides

文件编号 File No. REG-ZL-0005-00

名称: 甜菊糖苷 Name: Stevioside	数量: 2000kg Quantity: 2000kg	批号: 20170501 Batch No.: 20170501	生产日期: 2017.05.01 MFG Date: 2017.05.01
拉丁名称: stevia rebaudiana Latin Name: stevia rebaudiana	提取部位: 叶子 Part of Used: leave	规格: 10kg / 袋 Size: 10kg / bag	报告日期: 2017.05.14 Reporting Date: 2017.05.14
包装: 内双层面乙酸钠/纸箱 Packing: internal double polyethylene bag, outer carton	来源国家: 中国 Country of Origin: China	颗粒大小: 80 目 Partical size Analysis: 80 Mesh	过期日期: 2019.04.30 Exp. Date: 2019.04.30
检验依据 Test basis	甜菊糖苷国家标准 GB8270-2014 《中国药典》2015 年版四部 Stevioside national standard GB8270-2014 "Chinese Pharmacopoeia" 2015 edition four		

项目 Items	规格 Specification	检验结果 Results
外观 Appearance	Powder	Powder
颜色 Color	white	white
气味 Odor	Characteristic	Characteristic
总糖苷含量(以干基计, %) Total Glucoside Content/%	≥95	95.55
RA 苷含量/%Rebaudioside A /%		8.98
甜菊糖苷含量/%Stevioside/%	≥80	80.96
RC 苷含量/% Rebaudioside C /%		1.20
溶解性 Solubility	Freely soluble in a mixture of ethanol and water (50:50)	PASS
甜度值 Sweetness	≥250	>250
比旋度 Specific Rotation	-30° ~ -38°	-37.1°
比吸光度 Absorbency	≤0.08	0.049
PH 值	4.5-7.0	5.01
灼烧残渣(ω) /% Burned residue/%	≤0.2	0.15
干燥失重(ω) /% Loss on Drying/%	≤5	3.60
铅(Pb)/(mg/kg) Lead(Pb)/(mg/kg)	≤1	<1
总砷(以 As 计)/(mg/kg) Arsenic/(mg/kg)	≤1	<1
甲醇/(mg/kg)methanol/(mg/kg)	≤ 200	63
乙醇/(mg/kg)ethanol/(mg/kg)	≤ 5000	262
微生物分析 Microbiological Analysis:		
需氧菌总数 TABC	<1000cfu/g	<1000 cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
保质期 Shelf Life:	Two Years	
结论 Conclusion	Compliance	
质量部部长 Quality Minister:	检验员 Analyst:	核对员 Checker:

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 1.2 Ferrous Sulfate


181000110049

检验检测报告

Test Report

No: H2018WTS0850
仅供查我
资质使用

防伪码: FHZ6L4

产品名称: 食品添加剂 七水合硫酸亚铁
Product Name: Food additive Seven hydrates ferrous sulfate

经销单位: 江苏科伦多食品配料有限公司
Unit being tested: Jiangsu Kolod Food Ingredients Co., Ltd.

生产单位: 江苏科伦多食品配料有限公司
Manufacturer: Jiangsu Kolod Food Ingredients Co., Ltd.

委托单位: 江苏科伦多食品配料有限公司
Entrusting Unit: Jiangsu Kolod Food Ingredients Co., Ltd.

检验类别: 委送检验
Test Kind: Committee to send inspection

连云港市质量技术综合检验检测中心
Lianyungang Comprehensive Inspection and Testing Center for Quality and Technology

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

连云港市质量技术综合检验检测中心
Lianyungang Comprehensive Inspection and Testing Center for Quality and Technology

检 验 报 告
Test Report

№: H2018WTS0850 共 2 页 第 1 页

产品名称 Name of product	食品添加剂 七水合硫酸亚铁 Food additive seven hydrates ferrous sulfate	商标 Brand	科多 Kolod
		规格型号 Specification	—
生产单位 Manufacture	江苏科伦多食品配料有限公司 Jiangsu Kolod Food Ingredient Co., Ltd.		
委托单位(地址) Committee/Address	江苏科伦多食品配料有限公司/连云港市灌云县经济开发区纬二路南侧/0518-85110538/222000 Jiangsu Kolod Food Ingredient Co., Ltd./South Side of Wei'er Road, 85110538/222000		
联系电话(邮编) Contact information/Post code	Guanyun Economic Developing Zone, Lianyungang City/0518-85110538/222000		
经销单位 Distributor	—		
检验类别 Inspection Type	委送检验 Committee to send inspection	样品编号 Sample No.	H2018WTS0850
样品数量 Sample Qty.	100g	样品等级 Sample Grade	—
检验日期 Inspection Date	2018-07-25~2018-07-31	生产日期/批 Produce Date/Batch No.	—/—
样品状态 Sample Status	符合检验要求 Meet inspection requirements	送样日期 Delivery date	2018-07-25
封样状态 Sealed Samples Status	—	检查封样人员 Inspect the sealing sample person	韩红 Hong Han
检测地点 Test site	连云港市质量技术综合检验检测中心 Lianyungang Comprehensive Inspection and Testing Center for Quality and Technology		
检验依据 Inspection Basis	GB 29211-2012 《食品安全国家标准 食品添加剂 硫酸亚铁》 GB29211-2012 《National Standard Food Additive Ferrous Sulfate》		
检验结论 Inspection Conclusion	样品经检验, 符合GB 29211-2012标准规定的要求, 检验结论为合格。 The sample has been tested and met the requirements specified in GB29211-2012 standard. The test conclusion is qualified.		
备 注 Note	—		
主 检: Inspector	[Redacted]		
审 核: Review	[Redacted]		
批 准: Approval	[Redacted]		

(检验单位盖章)
Champ of Inspection

签发日期: 2018年8月3日
Signed and Issued Date: Aug 3 2018

[Redacted]

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

检验结果
 Test Result

No: H2018WTS0850

共 2 页 第 2 页

序号 No.	检验项目 Test Item	单位 Unit	技术要求 Technical Requirement	检验结果 Test Result	单项评价 Single Evaluation
1	感官要求 Sensory Requirement	——	灰色或蓝绿色 Grey color or blue-green color	蓝绿色 Blue-green	合格 Qualified
	状态 State:	——	粒状晶体 Granule	粒状晶体 Granule	合格 Qualified
2	硫酸亚铁 (以FeSO ₄ ·7H ₂ O计) 含量, w% Ferrous Sulfate Content	——	99.5~104.5	100.0	合格 Qualified
3	铅 (Pb)	mg/kg	≤2	<2	合格 Qualified
4	汞 (Hg)	mg/kg	≤1	未检出 (检出 限: 0.002mg/kg)	合格 Qualified
5	砷 (As)	mg/kg	≤3	<3	合格 Qualified
备注 Note					

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 1.3 Calcium Hydroxide

Specification of Calcium Hydroxide

Product	Food grade Calcium Hydroxide	
Active components	Calcium Hydroxide	
Method	Made from Calcined limestone with water, then purified	
Physical Character	Appearance	White powder
Chemical Character	Calcium Hydroxide [$\text{Ca}(\text{OH})_2$] W/%	95.0~100.5
	Carbonate	Pass Appendix A 5
	Magnesium and Alkali, W/% $\leq$	2.0
	Acid insoluble, W/% $\leq$	0.1
	Arsenic (As) /(mg/kg) $\leq$	2
	Fluoride (F) /(mg/kg) $\leq$	50
	Lead (Pb) /(mg/kg) $\leq$	2
	Heavy Metals (以Pb计) (mg/kg) $\leq$	10
	Dry on Loss, W/% $\leq$	1.0
	Residue on Sieve (0.045mm) , W/% $\leq$	0.4
	Microbials	N/D
Original	China	
Storage	Store in a cool and dry place to avoid breakage and contamination	
Standard	GB25572-2010 《Quality Standard of Calcium Hydroxide 》	

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

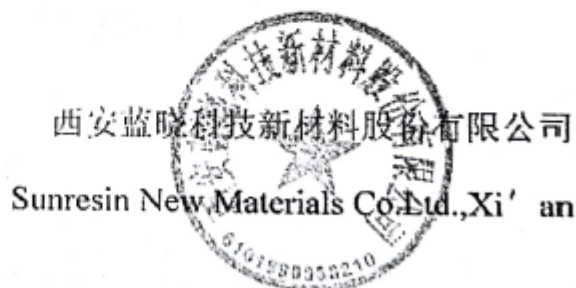
Appendix 1.4 Adsorption Resin

证明

我公司生产的大孔吸附树脂为苯乙烯与二乙烯苯共聚物，生产及检测过程严格遵守美国 FDA 21CFR173.65，AP (97) 1 和欧洲食品管理条例，且本产品不含明胶和任何动物及动物组织的成分，树脂生产设备不涉及猪肉和猪肉衍生物，可用于食品、医药类处理及提纯。

CERTIFICATION

My company produces the macroporous adsorption resin of styrene and divinyl benzene copolymer, production and testing process strictly abide by the American FDA 21 CFR173. 65, the AP (97) 1 and the European food regulations, and this product does not contain any animals and animal tissue composition, gelatin and resin production equipment does not involve pork or pork derivatives, can be used for food, medicine, treatment and purification.



由 扫描全能王 扫描创建

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

CERTIFICATE OF FDA REGISTRATION
Certification No.: CTC603-20130107
2013-2014

Dear Official Correspondent:
This document provides notification of the registration number assigned to your establishment. The registration with the U.S. Food and Drug Administration pursuant to the Federal Food Drug and Cosmetic Act, as amended by the Bioterrorism Act of 2002 and the FDA Food Safety Modernization Act, such registration having been verified as currently effective on the date hereof by CYTECH INFORMATION SERVICE CO., LTD (as referred to CTC).

Establishment:
Sunresin new materials co., ltd. Xi'an
No.72, Keji 2road, tianze building,
xi'an hi-tech industrial, development zone,
xi'an, Shaanxi Province. 710075, China

Registration No.: 13875411932
PIN: d5707abd

Conclusion:
This certificate makes no other representations or warranties, nor does it make any representations and warranties to any person or entity other than the named certificate holder. CTC assumes no liability to any person or entity in connection with the foregoing. The U.S. Food and Drug Administration does not issue a certificate of registration, nor does the U.S. Food and Drug Administration recognize a certificate of registration. CTC is not affiliated with the U.S. Food and Drug Administration.

For CTC CERTIFICATION

Web: www.ce0577.com
TEL: 086-577-88606182
E-mail: ctc0577@hotmail.com
ADDRESS: Room 404, No.7, Jinhuaicang Homeland, Lufengqiao Road, Wenzhou City, Zhejiang Province, 325000 China

Validity: Jan 15, 2013--NOV. 1, 2014





由 扫描全能王 扫描创建

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19



Pony Testing International Group

No.: H04241055918D-1

Date: 2013.05.06

Page 1 of 1

Applicant: Sunresin New Materials Co.Ltd, Xi'an

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Name: Adsorption resin for food industrial use

Sample From: Sunresin New Materials Co.Ltd, Xi'an

Sample Received Date: 2013.04.24

Reference Method: GB/T 24395-2009, GB/T 24396-2009

Results:

Test Item	Limit	Test Result
Toluene, mg/kg	≤20	Not detected (<6.0)
Dimethylbenzene, mg/kg	≤20	Not detected (<6.0)
Benzene, mg/kg	≤2	Not detected (<0.6)
Methyl methacrylate, mg/kg	≤20	Not detected (<6.0)
Heavy metals(as Pb), %	≤0.0015	<0.0015
1,2-Dichloroethane, mg/kg	≤2	Not detected (<0.6)
Chlorobenzene, mg/kg	≤10	Not detected (<3.0)
Acrylonitrile, mg/kg	≤10	5.49
Styrene, mg/kg	≤20	Not detected (<6.0)
Divinylbenzene, mg/kg	≤10	Not detected (<3.0)
Appearance	Uniform spherical, no visible impurity	Uniform spherical, gray, no visible impurity

Approved by: [Redacted]

Issued Date: 2013.05.06

The page below is blank



www.ponytest.com

Hotline 400-819-5688

Add: Yingda Building No.49-3, Xuehai
Road Haidian District Beijing
Tel: (010) 82481116

Building 33, No. 880 Guangping Road,
Xuhui District Shanghai
Tel: (021) 64811999

Building 9, Zhongyuan Industry City,
Chuangye Road, Nanshan District, Shenzhen
Tel: (0755) 26430000

Room No. 190, Zhonghuan Road,
Luchuan District, Qingdao
Tel: (0532) 88708865

Add: Yingda Building Jinyang Road,
Pudong District Shanghai
Tel: (021) 33336073

Phase 2 Building, No. 15 Xidun Road,
Qianxun District Ningbo City
Tel: (0574) 87736499

Building 3, No. 108 Guizhou Technology Park,
Dushu Road, Huaihua District, Guangxi
Tel: (020) 89224310



由 扫描全能王 扫描创建

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 1.5 Membrane

 上海市进口涉及饮用水卫生安全 产品卫生许可批件 Health Security Of Drinking Water Involved Import In Shanghai Product Health Approval			
产品名称		中文 Chinese	
Name of Product		英文 English	
		DOW™ FILMTEC™ BW30 型净水用反渗透膜滤芯	
产品类别		水处理材料	
Product Category		Water treatment materials	
产品规格或型号		BW30-365、BW30-400、BW30-400/34	
Product Specification/Model			
申请单位		名称	
(在华责任单位)		陶氏化学(上海)有限公司	
Application Company		Taoshi Chemical(Shanghai)Co.,Ltd.	
地址		中国(上海)自由贸易试验区泰谷路 185 号一层 D 座	
Responsibility Company in China Add:		Block D,1/F,No.185 of Taigu Road,Pilot Trade Free Zone, Shanghai China.	
生产企业		中文	
Manufacturer		英文	
		弗拉姆泰克公司	
		FilmTec Corporation	
生产国(地区)	美国	地址	5400 Dewey Hill Road, Edina, MN 55439, USA
Produce Counry	USA	Add	
审批结论 Conclusion For Examination 经审核,该产品符合《生活饮用水卫生监督管理办法》的有关规定,现予批准。 Upon examination and approval,the product complies with the relevant provisions of the 《measures for the supervision and administration of drinking water sanitation》 and approved.			
批准文号 Approval No. 沪卫水进字(2016)第 0060 号 NO.0060 of Shanghai Health water import(2016)			
批准日期 Approval Date 二〇一六年十二月二日 2/12/2016			
批件有效期 Validity of Approval 截至 二〇二〇年十二月一日止 Until 1/12/2020			

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Page 2 of 2 共 2 页 第 2 页	
Technical Information of Product 产品技术信息	【产品说明】Product information: 作为生活饮用水水处理材料使用。材质符合《生活饮用水输配水设备 Used as treatment material for drinking water. The material is in line with the requirement 及防护材料卫生安全评价规范》(2001)的要求。 of "standard for hygienic safety evaluation of protective materials for drinking water supply and distribution"(2001) 【主要成份或部件】Main component 复合膜片(聚酯合成纤维无纺布增强层+聚砜多孔支撑层+聚酰胺超 Composite diaphragm(polyester synthetic fiber nonwoven fabric reinforcement 薄分离层) layer+polysulfone porous layer+polyamides ultra-thin separation layer) 丙烯腈-丁二烯-苯乙烯(ABS)中央集水管 Central collector pipe of acrylonitrile-butadiene-styrene(ABS) 环氧树脂浸渍涤纶布透水水路网 Epoxy resin impregnated polyester fabric through water flow network 玻璃纤维和环氧树脂外壳 Glass fiber and epoxy resin coated 聚丙烯原水流路网 Polypropylene original flow network 【使用范围】Scope of use 生活饮用水处理 Treatment of domestic drinking water 【注意事项】Announcement 根据使用说明定期更换。Periodic replace per instruction
备 注 Remark	1. 本批件只对与所载明内容(包括名称、类别、规格、申请单位、企业、附件内容等)一致的产品有效。且必须在本批件注明的实际生产企业生产。 This approval is only valid for products that are consistent with the specified contents(including name,category,specification,applicant,enterprise,annex,etc), and must be produced by the actual manufacturer specified in this approval. 2. 批准时仅对其所申报材料对应产品的卫生安全性进行了审核,未对其所宣传的功能和其他质量问题进行评价。 At the time of approval,only the health safety of the product corresponding to the declared materials was reviewed,and the advertised function and other quality problems were not evaluated. 3. 产品名称: DOW FILMTEC BW30 Reverse Osmosis Element 第一生产国情况: 生产企业: 美国陶氏特种品有限公司 英文:Dow Specialties Limited Third production country situation 4. 地址: Building 5073D,Jubail 2 (Stage 3), Intersection of T218& T-317, c/o Sadara Chemical Company,Jubail Inbail Industrial City 31961,Saudi Arabia

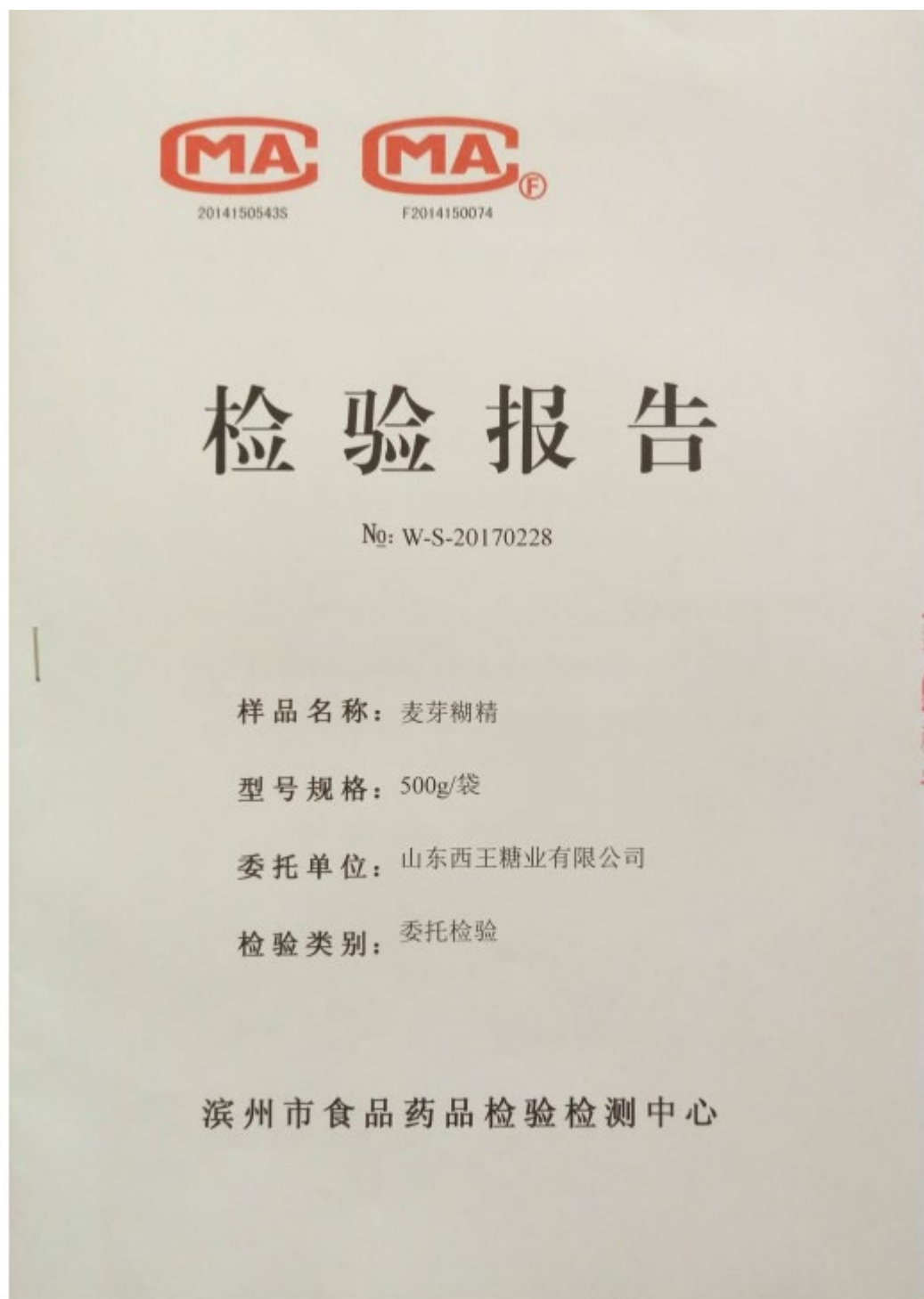
请于批件有效期届满30个工作日之前提出延续申请。
Please apply for extension 30 working days before the expiry date.

Shanghai Pudong New Area Health and Family Plan Commission
上海市浦东新区卫生和计划生育委员会
二〇一六年十二月二日
Dec.2 2016

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 1.6 Maltodextrin (Chinese and Translated)



由 扫描全能王 扫描创建

注 意 事 项

- ※ 报告无“检验报告专用章”或检验单位公章无效。
- ※ 报告无主检、审核、批准人签字无效。
- ※ 报告复印件未重新加盖“检验报告专用章”或检验单位公章无效。
- ※ 报告涂改无效。
- ※ 检验结果仅对本批次样品负责。未经检验机构同意，委托人不得擅自使用检验结果进行宣传。



由 扫描全能王 扫描创建

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

滨州市食品药品检验检测中心

检 验 报 告

№: W-S-20170228 共 2 页第 1 页

样品名称	麦芽糊精	规格型号	500g/袋
委托单位	山东西王糖业有限公司	注册商标	/
生产单位	山东西王糖业有限公司	检验类别	委托检验
抽样地点	/	样品等级	/
送样数量	500g/袋 (2 袋)	送样人员	贺明钊
抽样基数	/	送样日期	2017-03-21
样品形态	固体粉末完好	生产日期 或批号	2017-03-16
检验要求	外观、气味、滋味、色泽、溶解度、DE 值、pH 等		
检验依据	GB/T 20884-2007		
检 验 结 论	该样品经检验，所检项目合格。		
备 注	1.本报告未加盖检验专用章，批准人未签章无效。 2.本报告涂改或复印件未另盖检验报告专用章（红），无效。		

签发日期: 2017 年 4 月 6 日 (章)

批准: 审核: 主检:

2017-04-06 2017-04-06 2017-04-06



由 扫描全能王 扫描创建

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

滨州市食品药品检验检测中心

检 验 报 告

No: W-S-20170228 共 2 页第 2 页

序号	检 验 项 目	标 准 要 求	检 验 结 果	单 项 判 定
1	外观、色泽	白色或略带浅黄色的无定形粉末，无肉眼可见杂质	白色的无定形粉末，无肉眼可见杂质	合格
2	气味	具有麦芽糖精固有的特殊气味，无异味	具有麦芽糖精固有的特殊气味，无异味	合格
3	滋味	不甜或微甜，无异味	不甜，无异味	合格
4	DE 值，%	11≤DE 值≤16	15	合格
5	水分，%	≤6.0	4.9	合格
6	溶解度，%	≥98.0	98.2	合格
7	pH	4.5~6.5	5.5	合格
8	硫酸灰分，%	≤0.6	0.1	合格
9	碘试验	无蓝色反应	无蓝色反应	合格
10	总砷（以 As 计），mg/kg	≤1.0	未检出（＜0.040）	合格
11	铅（Pb），mg/kg	≤0.5	未检出（＜0.005）	合格
12	铜（Cu），mg/kg	≤5.0	未检出（＜0.1）	合格
13	二氧化硫残留量，g/kg	≤0.04	未检出（＜0.01）	合格
14	菌落总数，cfu/g	≤3000	<10	合格
15	大肠菌群，MPN/100g	≤30	<30	合格
16	致病菌（沙门氏菌、志贺氏菌、金黄色葡萄球菌）	不得检出	未检出	合格
17	黄曲霉毒素 B1，μg/kg	/	未检出（＜2）	/
备注	/			



由 扫描全能王 扫描创建

为用户提供准确检测结论和优质服务
滨州市食品药品检验检测中心向社会承诺

- ※遵守有关法律、法规及相关规定，依法办事。
- ※按照标准、程序进行产品检验，做到检测数据准确，结论正确。
- ※抵制任何干涉，秉公办事，以标准为依据，保证数据的真实性。
- ※履行职责，遵章守纪，不以权谋私，不在受检单位兼职。
- ※不向委托方、受检方以外的单位提供检测数据。
- ※严守受检单位的技术、专利、商情机密。
- ※受检单位提供的技术资料，仅用于检验。



由 扫描全能王 扫描创建

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

COA Of Maltodextrin

Page 1,

No: W-S-20170228

Product: Maltodextrin

Size: 500g/bag

Entrust Agency: Shandong Xiwang Tangye Co.,Ltd.

Kind of Test: Entrust test

Bingzhou Food and Drug Testing Center

Page 2,

Fore Words

- The report is not made valid without the test seals or official seals.
- The report is not made valid without signatures of Reporter, Checker and Approver.
- The report copies are not made valid with the test seal or official seals.
- Invalid if altered

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Page 3,

Binzhou Food and Drug Test Center

Test Report

No: W-S-20170228

Sample Name	Maltodextrin	Size	500g/bag
Client	Shandong Xiwang Tangye Co.,Ltd.	Trade Mark	/
MFR	Shandong Xiwang Tangye Co.,Ltd.	Kind of Test	Entrusted test
Place of sampling	/	Grade of sample	/
Quantity of sample	500g/bag (2 bags)	Person delivered	He Mingzhao
Sampling Basic Number	/	Date of Sampling	Mar. 21, 2017
Appearance of sample	Solid powder	Production Date	Mar. 16, 2017
Test Requirements	Appearance, Oder, taste, color, Solubility, DE value, pH		
Testing Standard	GB/T 20884-2007		
Test Result	The sample was tested, the all test items passed Stamp: Binzhou Food and Drug Test Center April 6, 2017		
Remark	1, The report is invalid without the stamps of testing stamp and Approver. 2, The report is invalid if altered, or Copies without test report (red) samples.		

Approver: Bu Checker: Sun Shengsong Tester: Zhao Zhiqiang

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Page 4:

Binzhou Food and Drug Testing Center

Test Report

No: W-S-20170228

No

Seque nce	Test Items	Testing Standard	Test Result	Item Conclusion
1,	Appearance	While or light yellow amorphous powder, no visible impurities	White amorphous powder, ni visible impurities	Pass
2	Odor	Characterized maltodextrin smell, without off-notes	Characterized maltodextrine smell, without off-notes	Pass
3	Taste	No sweetness or slight sweet	No sweetness, no off-note	Pass
4	DE Value, %	$11 \leq \text{DE Value} \leq 16$	15	Pass
5	Moisture %	≤ 6	4.9	Pass
6	Solubility	≥ 98	98.2	Pass
7	pH	4.6~6.5	5.5	Pass
8	Sulphated Ashes	≤ 0.6	0.1	Pass
9	Iodine test	No blue sediment	No blue sediment	Pass
10	As mg/kg	≤ 1.0	ND(≤ 0.040)	Pass
11	Pb mg/kg	≤ 0.5	ND(≤ 0.005)	Pass
12	Cu mg/kg	≤ 5.0	ND(≤ 0.1)	Pass
13	Sulfur dioxide	≤ 0.04	ND(≤ 0.01)	Pass
14	Total plate count cfu/g	≤ 3000	≤ 10	Pass
15	Coliform MPN/100g	≤ 30	≤ 30	Pass
16	Pathogenic Bacterium (Salmonella, Shigella, Staphylococcus aureus)	Negative	ND	Pass
17	Aflatoxin B1, Ug/kg	/	ND (≤ 2)	/
Rema rk	/			

Page 4, Binzhou Testing Center promises to provide accurate test results and premium service for users.

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 1.7 α -Amylase



Product Specification

Date: December 16, 2015

To: To whom it may concern

Address: 2-7, 1-chome, Nishiki, Naka-ku, Nagoya, Aichi 460-8630 JAPAN

Amano Enzyme Inc.

TEL: +81.(0)52.211.3032

FAX: +81.(0)52.211.3054

Product:	α -Amylase G [®] Amano™L	Product code: 9720
Description:	Liquid amylase from <i>Geobacillus stearothermophilus</i>	

Specification:

Test Items	Specification	Assay method
pH	6.0~9.0	The method of Glass Electrode
Arsenic (as As ₂ O ₃)	Not more than 3 µg/mL	Food Sanitation Law method
Lead(Pb)	Not more than 5 µg/mL	Food Sanitation Law method
Alpha-amylase activity	Not less than 50 BAU/mL	FCC method, pH 6.6
CGTase activity	Not less than 400 u/mL	Amano BV method, pH 5.5
Total viable aerobic count	Not more than 10000 CFU/mL	SCD agar plate method
Coliforms	Not more than 30 /mL	FDA Bacteriological Analytical Manual
<i>Escherichia coli</i>	Negative /25mL	FDA Bacteriological Analytical Manual
<i>Salmonella</i>	Negative /25mL	FDA Bacteriological Analytical Manual
Notes		
Expiration (Storage)	12 months below 10°C from manufacturing date under the sealed condition.	
Packing	20L Polyethylene container	
Handling	Store container in a cool and dry place. For Safety: Avoid formation of dust. Avoid splashing and high-pressure washing. Ensure good ventilation of the room, when handling this preparation	

Hiroshi Shibakawa
General Manager, Quality Assurance



GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

CERTIFICATE OF ANALYSIS

No. 000261175

Date Jul.30,2018

Messrs.

Product: α -Amylase G "Amano" L

Lot No.: CGTQ0752002SLK Quantity: 100 L Date Assayed: Jul.23,2018

Test Items	Specification	Test Results
pH:	6.0 ~ 9.0	7.5
Arsenic:	Not more than 3.0 $\frac{mg}{kg}$	Not more than 3.0 $\frac{mg}{kg}$
Lead:	Not more than 5.0 $\frac{mg}{kg}$	Not more than 5.0 $\frac{mg}{kg}$
α -Amylase activity: FCC Method pH6.6	Not less than 50 $\frac{DU}{mL}$	140 $\frac{DU}{mL}$
C. G. Tase activity: Blue Value Method pH5.5	Not less than 400 $\frac{U}{mL}$	452 $\frac{U}{mL}$
Total viable aerobic count:	Not more than 10,000 CFU/mL	10,000 CFU/mL
Coliforms:	Not more than 30 CFU/mL	30 CFU/mL
Escherichia coli:	Less than 10 CFU/mL	10 CFU/mL
Salmonella:	Negative/25mL	Negative/25mL
Antibiotic activity:	Negative	Negative
	Judgment	Pass

Remark:

Date Manufactured: Jul.20,2018 Best before: 2019.7.19

Quality Control
Manager

Prepared by



Amano Enzyme Inc.

Head Office

2-7, 1-chome, Nishiki, Naka-ku, Nagoya, Aichi 460-8630 JAPAN

Tel: +81. (0) 52. 211. 3032

Fax: +81. (0) 52. 211. 3054

Shiga Plant

4-19, His-cho, Konan, Shiga 520-3203 JAPAN

Tel: +81. (0) 748. 75. 1194

Fax: +81. (0) 748. 75. 0312

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 1.8 Ethanol



曲阜圣仁制药有限公司食用酒精规格单

名称	食用酒精	
成份	乙醇	
生产方法	发酵、蒸馏	
物理	外观:	无色澄明液体, 气味无异臭, 口味较纯净。可溶于水, 醚, 氯仿。沸点是 78°, 易燃。
化学特性	含量	乙醇的体积(重量)不超过 94.9% (92.3%)
	甲醇/ (mg/L)	无紫色物质出现
	水溶性	无薄雾或浑浊物出现
	硫酸变黑的物质	混合物无色或无样品混合前或酸的其他颜色
	减少高锰酸盐的物质	粉色不完全消失
	酯, 异丙醇	3 分钟内无沉淀物形成
	酸 (以乙酸计)	≤0.003%
	碱(以氨计)	≤3mg/kg
	杂醇油	酒精挥发完后, 无任何异味
	不挥发物残留	≤0.003%
	重金属 (以 pb 计)	≤1mg/kg
标准	按照 FCC 标准检测	
包装方式	罐装	
保存方式	常温不锈钢罐单独贮存, 不得与有毒、有害、有异味的物品同库贮存。	
保质期	无具体要求	
运输方式	罐车运输, 工具应清洁卫生、无污染	
使用前的处理	直接使用	

注: 检测方法见附单

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

食用酒精规格单附单:

Ethyl Alcohol 乙醇

Ethyl Alcohol 乙醇

描述

乙醇以清澈，无色，流动液体的形式存在。可溶于水，醚，和氯仿。沸点是 78° ，易燃。在 20° 时的折射率是 1.364.

此专论只适用于未变质的乙醇。

作用：萃取剂，载体溶剂。

包装和储存：存储于密闭容器，远离火。

ASSAY 含量

- 比重：视可靠的方法而定

验收准则：NMT 0.8096 在 $25^{\circ}/25^{\circ}$ (等同于 0.8161 在 $15.56^{\circ}/15.56^{\circ}$)，按体积等同于乙醇的
NLT94.9% (按重量 92.3%)

杂质

无机杂质

铅，铅极限测试，原子吸收分光光度法石墨炉法，方法 I，附录 IIIB

10g 样品

验收标准：NMT 0.5 mg/kg

有机杂质

- 杂醇油

样品：10 mL

鉴定方法：将样品于 1ml 的甘油和 1ml 的水混合，允许从一份干净、无味、吸水的纸上挥发。

验收标准：当最后的酒精痕迹离开纸时，察觉不到任何异味。

- 酮类，异丙醇

1ml 样品

鉴定方法：将样品，3ml 的水，10ml 的硫酸汞传递到试管中，混合，用沸水浴加热。

验收标准：3 分钟内没有沉淀物形成

- 甲醇

鉴定：将一滴样品滴入试管，加入 1 滴 1:20 的磷酸和 1 滴 50mg/ml 的高锰酸钾溶液，混合，允许直立一分钟，一滴一滴的加 100mg/ml 的亚硫酸氢钠溶液直到高锰酸盐的颜色消失。如果仍有棕色，加

一滴磷酸溶液。在无色溶液中加入 5ml 新鲜配制的铬变酸，并在 60° 水中加热 10 分钟。

验收标准：没有紫色出现。

- 通过硫酸变黑的物质

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

10ml 样品

验证：将 10ml 硫酸放入小型锥形烧瓶，冷却至 10 度，并连续搅动，逐渐加入样品。

验收标准：混合物无色或者无样品混合前或酸的其他颜色。

• 降低高锰酸钾的物质

20 mL 样品

验证：样品在放入玻璃塞圆柱体前先在 15° 的环境下冷却，加入 0.1ml 的 0.1N 的高锰酸钾，混合，并直立 5 分钟。

验收标准：粉色并不完全消失。

• 酸性（酸度）

验证方法：将 10ml 样品放入装有 25ml 水的玻璃塞烧瓶中，加 0.5ml 的酚酞 TS，再加 0.02N 的氢氧化钠。

依其在第一次出现粉红色后，在摇动 30 秒后仍然存在。再加入 25ml 的样品混合，用 0.02N 的氢氧化钠滴定，直到粉色复原。

验收标准：为了恢复粉红色，需要 0.5 mL 的 0.02 N 氢氧化钠。(NMT 0.003%)

• 碱度

25 mL 样品

实验方法：加 2 滴甲基红 TS 到 25ml 的水中，并加入 0.02N 的硫酸直到红色刚好出现时，加入样品混合。

验收标准：为了恢复红色，需要不超过 0.2ml 的 0.02N 的硫酸(NMT 3 mg/kg)

• 非挥发性残留

) 125ml (大约 100g) 样品

分析：在蒸汽浴中，将样品蒸干，使其干燥，在 105 度的时候将残留物干燥 30 分钟，冷却，称量。

验收标准 NMT 0.003%

• 水溶性

验证方法：将 50ml 的样品放入 100ml 的脱脂塞量筒中，用水稀释至 100ml 并混匀，将量筒放在 10 度恒温的水浴中，并直立 30 分钟。

验收标准：无薄雾或浑浊物。



9/19/18, 8:46 PM

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Qufu Shengren Pharmaceutical Co.,Ltd.

Food Grade Ethanol Specification

Product name:		Ethanol 95%
Ingredient		Ethyl Alcohol
Method of Production		Fermentation, Distillation
Physical character istic	Appearance:	A clear, colorless, mobile liquid, It is miscible with water, with ether, and with chloroform. It boils at about 78° and is flammable.
Chemical character istic	Assay	Not less than 94.9% by volume(92.3% by C ₂ H ₆ O)
	Methanol	No violet color appears
	Solubility in water	No haze or turbidity develops
	Substances darkened by sulfuric acid	Mixture is colorless or has no more color than either the acid or the sample before mixing
	Substances reducing permanganate	The pink color does not entirely disappear
	Ketones, Isopropyl alcohol	No precipitate forms within 3mins
	Acidity(as acetic acid)	≤0.003%
	Alkalinity(as NH ₃)	≤3mg/kg
	Fusel oil	No foreign odor when last traces of alcohol leave paper
	Nonvolatile residue	≤0.003%
	Heavy metals(as Pb)	≤1mg/kg
Standard	Inspection according to FCC standard	
Packing	Canned	
Storage	Stored separately in stainless steel tanks at normal temperature, and shall not be stored in the same warehouse with poisonous, harmful and peculiar smell articles.	
Expiration date	Not requirement	
Mode of transport	Tank truck transport, tools should be clean and sanitary, pollution-free	
Handle before using	Use directly	

Inspection method see next pages

Ethyl Alcohol

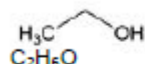
Ethyl Alcohol

Published in: **FCC 10 3S** **FCC 11** **FCC 11 1S**

First Published: Prior to FCC 6

Alcohol

Ethanol



Formula wt 46.07

CAS: [64-17-5]

UNII: 3K9958V90M [alcohol]

DESCRIPTION

Ethyl Alcohol occurs as a clear, colorless, mobile liquid. It is miscible with water, with ether, and with chloroform. It boils at about 78° and is flammable. Its refractive index at 20° is about 1.364.

[NOTE—This monograph applies only to undenatured ethyl alcohol.]

Function: Extraction solvent; carrier solvent

Packaging and Storage: Store in tight containers, remote from fire.

ASSAY

- **SPECIFIC GRAVITY:** Determine by any reliable method (see *General Provisions*).

Acceptance criteria: NMT 0.8096 at 25°/25° (equivalent to 0.8161 at 15.56°/15.56°), and equivalent to NLT 94.9% by volume (92.3% by weight) of C₂H₅O

IMPURITIES

Inorganic Impurities

- **LEAD, Lead Limit Test, Atomic Absorption Spectrophotometric Graphite Furnace Method, Method I, Appendix IIIB**

Sample: 10 g

Acceptance criteria: NMT 0.5 mg/kg

Organic Impurities

- **FUSEL OIL**

Sample: 10 mL

Analysis: Mix the *Sample* with 1 mL of glycerin and 1 mL of water, and allow to evaporate from a piece of clean, odorless, absorbent paper.

Acceptance criteria: No foreign odor is perceptible when the last traces of alcohol leave the paper.

- **KETONES, ISOPROPYL ALCOHOL**

Sample: 1 mL

Analysis: Transfer the *Sample*, 3 mL of water, and 10 mL of mercuric sulfate TS to a test tube; mix; and heat in a boiling water bath.

Acceptance criteria: No precipitate forms within 3 min.

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

• **METHANOL**

Analysis: To 1 drop of sample in a test tube, add 1 drop of 1:20 phosphoric acid and 1 drop of 50 mg/mL potassium permanganate solution, mix, and allow to stand for 1 min. Add, dropwise, 100 mg/mL sodium bisulfite solution until the permanganate color disappears. If a brown color remains, add 1 drop of the phosphoric acid solution. Add 5 mL of freshly prepared chromotropic acid TS to the colorless solution, and heat it in a water bath at 60° for 10 min.

Acceptance criteria: No violet color appears.

• **SUBSTANCES DARKENED BY SULFURIC ACID**

Sample: 10 mL

Analysis: Transfer 10 mL of sulfuric acid into a small Erlenmeyer flask, cool to 10° and, with constant agitation, add the *Sample*, dropwise.

Acceptance criteria: The mixture is colorless or has no more color than either the acid or the sample before mixing.

• **SUBSTANCES REDUCING PERMANGANATE**

Sample: 20 mL

Analysis: Transfer the *Sample*, previously cooled to 15°, to a glass-stoppered cylinder, add 0.1 mL of 0.1 N potassium permanganate, mix, and allow to stand for 5 min.

Acceptance criteria: The pink color does not entirely disappear.

SPECIFIC TESTS

• **ACIDITY (AS ACETIC ACID)**

Analysis: Transfer 10 mL of sample to a glass-stoppered flask containing 25 mL of water, add 0.5 mL of phenolphthalein TS, and then add 0.02 N sodium hydroxide to the first appearance of a pink color that persists after shaking for 30 s. Add an additional 25 mL of sample, mix, and titrate with 0.02 N sodium hydroxide until the pink color is restored.

Acceptance criteria: NMT 0.5 mL of 0.02 N sodium hydroxide is required to restore the pink color. (NMT 0.003%)

• **ALKALINITY (AS NH₃)**

Sample: 25 mL

Analysis: Add 2 drops of methyl red TS to 25 mL of water, add 0.02 N sulfuric acid until a red color just appears, then add the *Sample*, and mix.

Acceptance criteria: NMT 0.2 mL of 0.02 N sulfuric acid is required to restore the red color. (NMT 3 mg/kg)

NONVOLATILE RESIDUE

Sample: 125 mL (about 100 g) 125mL

Analysis: Evaporate the *Sample* to dryness in a tared dish on a steam bath, dry the residue at 105° for 30 min, cool, and weigh.

Acceptance criteria: NMT 0.003%

• **SOLUBILITY IN WATER**

Analysis: Transfer 50 mL of sample to a 100-mL glass-stoppered graduated cylinder, dilute to 100 mL with water, and mix. Place the graduated cylinder, in a water bath maintained at 10°, and allow it to stand for 30 min.

Acceptance criteria: No haze or turbidity develops.

9/19/18, 8:46 PM

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 2 Analytical Method

【Issued by】 National Health and Family Planning Commission (P.R.China)

【File Number】 Number 8th, 2016

【Date Issued】 June 15, 2016

【Effective Date】

【Effectibe】

【Remark】

10, Glucosyl Steviol Glycosides

English Name: Gluosyl Glycosides

Function Category: food flavoring

(1) The dosage and the scope of use

Food flavor was prepared for all kinds of food (GB2760-2014 table B.1 food category excepted), dosage is allowed according to production needs.

(2) Specification requirements

1, scope

The specification requirements apply to the glucosyl steviol glycosides, the food additive which uses stevia leaves as raw material, and the stevia extract from the leaves get glycosyled ,by enzyme, then concentrated by evaporation and dry spray out.

2. Technical requirements

2.1, Sensory requirements. Must meet the requirements of table 1.

Table 1, Sensory requirements

Items	Standard	Method
Color	White or light yellow color	Take some appropriate sample in a clean, dry glass, observe the color and status under natural light
appearance	Powder	

2.2 Physico-chemical index should conform to the requirements of table 2.

Table 2, Physical and Chemical index

Item	standard	Testing Method
Glucosyl Steviol Glycosides (GSG) ,w/% ≥	75.0	Appendix A A3
Reb-A+Stevioside, w/% ≤	6.0	
Reb-A, w/% ≤	4.0	
Stevioside,w/% ≤	4.0	
Maltodextrin,w/% ≤	20.0	
Rotation	+65°~ +75°	GB/T 14454.5
Relative density	0.2~0.6	GB/T 11540
pH	4.5~7.0	GB/T 9724

Appendix A

Test method

A. 1 General provisions

Reagents and water used in the specifications, if there is no special requirements, indicate analytical reagent and the level 3 water stipulated in GB/T6682, the solutions in this experiment refers to water solution when the solution is not indicated.

A.2 Test

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

White or light yellow powder, soluble in water, slightly soluble in ethanol.

A.3 principle

To determination of the ratio of total content of total steviol glycosides (TSG), residual maltodextrin (RD), unreacted steviosides and glucosylated steviol glycosides by absorption chromatography and high performance liquid chromatographic method.

A.3.2 Range

It applies the mixer including α -1, 4-glucosyl steviol glycosides (GSG) and steviol glycosides content ranged in 60-102% solid sample on dry basis.

A.3.3 Equipment and reagents

A.3.3.1 High performance liquid chromatography (HPLC) ; Equipment should be equipped with dual pump, automatic sampler, column temperature box and DAD detector, interface and data acquisition software.

A.3.3.2 HPLC amino column, 4.6mm x 250mm, 5 μ m particle;

A.3.3.3 Accuracy of 0.0001 g analytical balance;

A.3.3.4 Karl-Fischer coulomb titrimeter;

A.3.3.5 Laboratory vacuum rotary evaporator;

A.3.3.6 Vacuum oven;

A.3.3.7 Moisture meter;

A.3.3.8 Vacuum solvent filtration system,all glass.

A.3.3.9 Vacuum filter system: Polypropylene material, 0.2 μ m, 47mm;

A.3.3.10 Class A volumetric flask and a pipette;

A.3.3.11 A glass column filled up with 200ml of macroporous adsorption resin (Inside diameter, 25mm);

A.3.3.12 Acetonitrile, HPLC level;

A.3.3.13 Water, HPLC level

A.3.3.14 Ethanol, reagent grade, system device,or other equivalents;

A.3.3.15 Reb-A standard sample;

A.3.3.16 Stevioside standard sample;

A.3.3.17 Reb-C standard sample;

A.3.3.18 Reb-F standard substance;

A.3.3.19 Dulcoside A standard substance;

A.3.3.20 Rubusoside standard substance;

A.3.3.21 Ammonium acetate, reagent grade;

A.3.3.22 Glacial acetic acid, reagent grade.

A.3.4 Safety precautions

A.3.4.1 When handle materials, clean up spilled liquid and waste, you should always follow the hazardous chemical materials safety measures and emergency treatment principle.

A.3.4.2 For the chemicals used in the above steps, shall comply with the material safety data sheets listed in the all precautions and risk considerations.

A.3.4.3 Stevia glycoside usually in the form of powder, in the process of jitter, feeding and stirring, easy to produce dust, may be inhaled into the man's mouth and nose to produce discomfort, therefore need careful operation to avoid dust.

3.5 Procedure

A.3.5.1 TSG

Test solution, weight about 5g GSG accurately, dissolve in 250 ml water. With the rate of less than 15 ml/min, add the solution to a glass column containing 200 ml macroporous resin, then flush resin with 1000 ml water. At a rate of about 15 ml/min or less, use ethanol of 1000 ml 50 % (volume) to elute down the steviol glycosides adsorbed. Then evaporate the collected ethanol elution and washing liquid separately and dry, then put them into vacuum oven for 2 hours at temperature 105 °C. The dry weight of each components must be weighted recorded, calculate the content (%) of TSG and RD through the formula below.

TSG's mass fraction w_1 calculate by the formula (A.1) , The mass fraction of RD's content w_2 calculate by (A.2) :

$$w_1 = \frac{m_1}{m_2 \times (100 - w_h) \times 10^{-2}} \times 100\% \quad \dots\dots\dots (A.1)$$

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

In the formula:

m_1 —The total content of ethanol components after dry, the unit is gram (g);

m_2 —Wet weight of the original sample, the unit is gram(g);

w_h —Moisture content (%) ;

$$w_2 = \frac{m_3}{m_2 \times (100 - w_h) \times 10^{-2}} \times 100\% \quad \text{..... (A.2)}$$

In the formula:

m_3 —The total water components after dry, the unit is gram (g)

m_2 —Wet weight of the original sample, the unit is gram (g)

w_h —Moisture content (%) ;

Acceptance standard:

The sample recovery rate has to be between 98.0% and 102.0%, the sample recovery rate w_3 calculate by (A.3) :

$$w_3 = w_1 + w_2 \quad \text{..... (A.3)}$$

In the form:

w_1 —The mass fraction of TSG's total content (%) ;

w_2 —The mass fraction of RD's content (%) ;

The flushing liquid which stevia glycoside content less than 10 mg/L must be detected through HPLC.

A.3.5.2 the content of Unreacted stevia glycosides

Weight about 3g GSG, add it into buffer solution (A.3.6.1.2) to dissolve, to prepare a solution of 100ml, as the test solution. HPLC method for determination to determin the content of unreacted steviol glycosides (SG) according to the determination steps of HPLC for steviol glycosides (A.3.6.1) . The chromatogram of sample conforms to the sample chromatograms. To calculate the content of α -Glucosyl Steviol Glycosides through the total content of the following stevia glycoside (A.3.5.1) , the mass fraction of α -Glucosyl Steviol Glycosides' content w_a be calculated by:

$$w_a = w_1 - w_4 \quad \text{..... (A.4)}$$

In the formula:

w_1 —mass fraction of TSG (%) ;

w_4 —mass fraction of unreacted steviol glycosides (%) ;

A.3.5.3 Percentage of α -Glucosyl Steviol Glycosides

Weigh about 5g of GSG, dissolved in water to make 100ml preparation using it as the test solution.

HPLC analysis, to determine the area ratio of α -Glucosyl Steviol Glycosides according to determination steps (A.3.6.2)

To calculate the proportion of α -Glucosyl Steviol Glycosides, according to the content of α -Glucosyl Steviol Glycosides (A.3.5.2, the proportion of α -Glucosyl Steviol Glycosides w_5 be calculated by the formula (A5):

$$w_5 = w_a \times A_1 \times 10^{-2} \quad \text{..... (A.5)}$$

in the formula:

w_a —mass fraction pf the content of α -Glucosyl Steviol Glycosides (%) ;

A_1 —area ratio of α -Glucosyl Steviol Glycosides;

A.3.6 HPLC analysis

A.3.6.1 HPLC analysis of steviol glycosides

A.3.6.1.1 the moisture balance of Standard sample and samples

Stevia glycoside is a hydrophilic compound. Standrand sample and test samples should meet same moisture balance before analysis. The standard sample and test sample should be put in the same room with the analytical balance, and exposed in the air for not less than 24 hrs before weighting, stir the powder intermittently to ensure uniform moisture. At the time of weighing, should use Karl fischer coulomb titration instrument to measure the moisture value of of all standard samples while weighting. Moisture value of the sample should be tested under the temperature of 105 °C by drying weight-loss method. Also can use other moisture meter, set the temperature at 105 °C.

A.3.6.1.2 Preparation of Mobile phase solution

Prepare appropriate mobile phase solution volume according to the necessity.

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Aqueous buffer (0.0125% acetic acid、0.0125% Ammonium acetate) ——The buffer is prepared by dissolving 0.125 g ammonium acetate (NH₄OAc) in 1 L water and 125 μ L glacial acetic acid (acetic acid) .

Mobile phase (Acetonitrile: buffer) ——Mix the acetonitrile and the buffer to prepare the mobile solution (% volumn) of acetonitrile and aqueous buffer ratio to 80:20. Prepare a solution mixing acetonitrile and aqueous buffer with a propriate amount, and wait to the room temperature and degassing the solution.

diluent (100% buffer solution) ——filter 1000 mL aqueous buffer, and use it immediately.

A.3.6.1.3 Prepare standard solution

Reb-A standard curve——Reb-A curve is constituted by the five concentrations points between 200mg/L~2000mg/L. weight Reb-A (moisture balanced)samples 5 mg、10 mg、25 mg、40 mg and 50mg ($\pm$ 2mg) seperately, use the diluent to dissolve them individually into 25 mL volumetric flask and sizing.

Stevioside standard curve——Stevioside calibration curve is constituted by 7 points distributed in 2.5mg/L、5mg/L、50mg/L、100mg/L、500mg/L、1000mg/L and 2000mg/L. prepare stevioside standard stock solution similar with standard counter sample similar with Reb - A standard reference material. Dilute to the required concentration.

Steviol glycosides——retention time tag solution (M6), including the following steviol glycosides approximately 100 mg/L each (Prepared with the diluent): rubusoside、dulcoside A、Stevioside、Reb-C、Reb-F and Reb-A。

Prepare samples——Prepare sample solution according to section A.3.5.1 and section A.3.5.2 section steps.

A.3.6.1.4 Instrument conditions are shown in table A.1

ChartA.1 Instruments working conditions

chromatographic column	NH2 column, 250 x 4.6 mm, 5 μ m
temperature	30°C
Isocratic mobile phase	20% buffer solution、80% acetonitrile
flow velocity	1.5 mL/min
sample size	12 μ L
determine wavelength	UV210 nm (4 nm bw) , reference: 260 nm (100 nm bw)
run time	60 min
Automatic injector temperature	room temperature

A.3.6.1.5 analytical procedure

A.3.6.1.5.1 System startup/applicability

Detector sensitivity tests: Inject sample 2.5 mg/L stevioside standard solution,comfirm that stevioside peak than noise $\geq$ 3 ; If not, need to check in the device, comfirm that stevioside peak and signal to noise ration of noise $\geq$ 3 , then go to the next step.

Tailing factor: Inject Reb-A 2000mg/L standard sample solution, and use the peak to calculate the tailing factor –T, tailing factor $0.8 \leq T \leq 2$.

SNR(Signal to Noise Ratio):Calculate SNR of the stevioside standard solution, LOD (limit of detection) is 5 mg/L stevioside standard solution: the standard solution's SNR must be $\geq$ 10. LOD(limit of detection) is 2.5 mg/L stevioside standard solution: the standard solution's SNR must be $\geq$ 3.

Separate the steviol glycosides: inject M6 sample standard solution, Stevioside and Reb-C's peaks should be separated obviously. Record retention time of each steviol glycosides. (A.3.8.1) .

A.3.6.1.5.2 Analytical sequence

After the examination of the system suitability, according to the principles of concentration from low to high to inject all the rest of the standard sample solution in turn. Then, inject samples; after smaple injections at most 12 times and sample analytical sequences, inject standard solution 2000m/l of stevioside and Reb-A to back up and calibrate.

A.3.6.1.5.3 integral parameter

Using liquid chromatography analyzer software tools to get integral parameter.

A.3.6.1.6 Calculation

A.3.6.1.6.1 Relative standard deviation of peak area

Relative standard deviation of peak area r_1 calculated by (A.6) :

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

$$r_1 = \frac{S_1}{x} \times 100\% \quad \dots\dots\dots (A.6)$$

In the form:

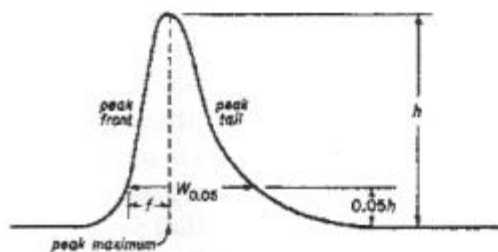
s_1 —standard values of deviation= $(\sum (x-x)^2) / (N-1))^{1/2}$;

x —average value= $(x_1 + x_2 + x_3 + x_n) / N$;

x_n —peak area;

N —The sample total quantity.

A.3.6.1.6.2 tailing factor (T)



Tailing factor T calculated by (A.7) :

$$T = \frac{W_{0.05}}{2f} \quad \dots\dots\dots (A.7)$$

In the form:

$W_{0.05}$ —5% height's peak width;

f —the numerical distance from max peak to peak front on the x axis, and measure it based on the peak baseline of above 5%.

A.3.6.1.6.3 The standard recovery

The standard recovery p calculated by (A.8)

$$p = \frac{c_1}{c_2} \times 100\% \quad \dots\dots\dots (A.8)$$

In the form:

c_1 —The calculated value of concentration of the curve;

c_2 —theoretical concentration

A.3.6.1.6.4 analytical calculation

To determine the target analyte through the matching retention time of M6 standard solution

Measure the response peak area of target analytes in standard solution and sample solution.

Measure the system drifting of the Reb A standard sample. Measure the response peak area of Reb A under the concentration of 2000mg/L. And calculate the relative standard deviation. Relative standard deviation meets the requirement : $\leq 2.0\%$.

Use the concentration(Unit:mg/L) of Reb A or stevioside as the ordinate and corresponding response area as abscissa to draw the fully fitted linear regression standard curve. Or using data mining software to map calibration curve.

From the linear regression equation of standard curve to calculate the concentration of analyte in the sample (unit:mg/L) (Reb A adopts the Reb A curve, all other analytes using Stevioside curve). Or use the data acquisition software to calculate (using the calibration curve draw by software) the concentration of the analytes. The concentration of the analyte Y be calculated according to formula (A. 9)

$$Y = AX + B \quad \dots\dots\dots (A.9)$$

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

In the form:

X —Peak response area;

A —slope;

B —y axial intercept.

To correct the concentration of the analytes in the samples, as shown below:

Use the concentration of each glycoside (Rubusoside, dulcosides A, Reb-C, Reb-F) to multiply the glycosidic corrective factor, to adjust the differences of the molecular weights from that of Stevioside (see table A. 2)

Stevia glycoside formula is as follows:

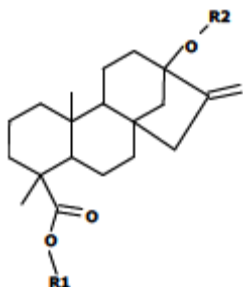


Chart A.2 R1 and R2 group of steviol glycosides,
 The formula and its corresponding molecular weight

Name	abbreviation	R1	R2	Moore weight (g/mol)	correction factor
Dulcoside A	Dul A	β glc-	α rha- β glc-	788.88	0.98
Reb-A	Reb A	β glc-	(β glc) 2- β glc-	967.03	-
Reb-C	Reb C	β glc-	(β glc, α rha) - β glc-	951.02	1.18
Reb-F	Reb F	β glc-	(β glc, β xyl) - β glc-	936.99	1.16
Rubusoside	Rub	β glc- β glc-	β glc- β glc-	642.73	0.80
Stevioside	Stev	β glc-	β glc- β glc-	804.88	-

The weight percentage w of Reb A and other glycosides of the sample be calculated by (A.10) :

$$w = c_3 / c_4 \times 100 \quad \text{..... (A.10)}$$

In the formula:

c_3 —analyte concentration, mg/L;

c_4 —Sample Concentration, mg/L.

Through the following factor (F) multiplied by W (weight percentage) to correct the weight percentage of Reb A and all other glycosides (besides moisture), the correction factor F be calculated by (A. 11) :

$$F = 100 / (100 - M) \quad \text{..... (A.11)}$$

In the formula:

M —The sample moisture, %.

the weight percentage w_{SG} of Stevia glycoside (SG) in the sample be calculated by (A. 12)

$$W_{SG} = W_{Rub} + W_{DulA} + W_{RebC} + W_{RebF} + W_{Stev} + W_{RebA} \quad \text{..... (A.12)}$$

In the formula:

w_{DulA} —DulA weight percentage in the sample, (%) ;

w_{RebC} —Reb C weight percentage in the sample, (%) ;

w_{RebF} —Reb F weight percentage in the sample, (%) ;

w_{Stev} —Stev weight percentage in the sample, (%) ;

w_{RebA} —Reb A weight percentage in the sample, (%) .

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

A.3.6.1.7 Acceptance standard

A.3.6.1.7.1 Standard curve of the acceptance criteria

The standard curve of Reb-A——for all different concentration level of Reb-A used in calibration curve, the standard recovery rate must be $100 \pm 3\%$, the acceptance criteria of the correlation coefficient of standard curve should be ≥ 0.9900 .

Stevioside standard curve - for all different concentrations levels of Stevioside used in the calibration curve, its standard recovery rate must be within $100.0 \pm 10\%$, besides the standard recovery rate must be within $100.0 \pm 20\%$ at the lowest levels (2.5 mg/L). The acceptance criteria of the correlation coefficient of standard curve is 0.9900 or higher.

A.3.6.1.7.2 Sequence standard sample (the standard samples check) – the sequence standard recovery rate (see a. 3.6.1.6.3) of Stevioside and Reb A standard must be within $100.0 \pm 2\%$.

A.3.6.1.7.3 Sample - the test results % of parallel sample SG and Reb - A, their relative standard deviation RSD should be no more than 50%, when their content is lower than 5mg/L (0.1% in content), and no shall not exceed 20% when the contest is greater than 5mg/L. When the relative standard deviation of sample % does not in the range, you need to make new samples, until the new sample pass through quality control check.

A.3.6.2 the gradient HPLC measurement step of glucosyl Steviol Glycosides

A.3.6.2.1 mobile phase (A-acetonitrile, B-water)

filtering and degassing acetonitrile and water

A.3.6.2.2 Diluent (100% water)

Filtering 1000mL of whater, and use it immediately.

A.3.6.2.3 Preparation of standard sample (M6)

Weigh approximately 100mg/L of the standard sample of Rubusoside, dulcoside A, stevioside, Reb-C, Reb-F and Reb-A each, to prepare mixed standard sample solution with diluent.

A.3.6.2.4 The sample preparation

According to method described in A.3.5.3 to prepare the sample solution (approximately 5%)

A.3.6.1.4 Working conditions of instrument are shown in table A3

ChartA.3 Instruments working conditions

chromatographic column	NH2 column, 250 x 4.6 mm, 5μm
temperature	30°C
Gradient mobile phase	A-acetonitrile,B-Water 0 min A: B-80: 20 0~2 min A: B-80: 20 2~70 min A: B-50: 50
flow velocity	1.0 mL/min
sample size	10 μL
determine wavelength	UV210 nm (4 nm bw), reference: 260 nm (100 nm bw)
run time	70 min
Automatic injector temperature	room temperature

A.3.6.2.6 Analytical procedure

Stevia glycoside separation: Inject sample M6 solution. Stevioside and Reb - C should have a clear separation between the two peaks. Record the retention time of each stevia glycoside (A.3.8.2)

A.3.6.2.7 Analytical sequence

Inject samples first, then, after injection at most 12 samples and finish sample sequence test, then inject standard samples used for quantitative detection.

A.3.6.2.8 Integral parameter

To complete integral parameters by using the software tools with the liquid chromatography analyzer. The sample chromatograms (fig, 3) are attached in appendix part

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

A.3.6.2.9 Calculation

Comparing the elution profile with the sample chromatogram (fig A.2, fig A.3) to identify each α -Glucosyl Steviol Glycosides.

To integrate all the peak points (except unreacted glycosides). Using data acquisition software tool of the chromatograph analyzer to measure the proportion (% area) of each α -Glucosyl Steviol Glycosides.

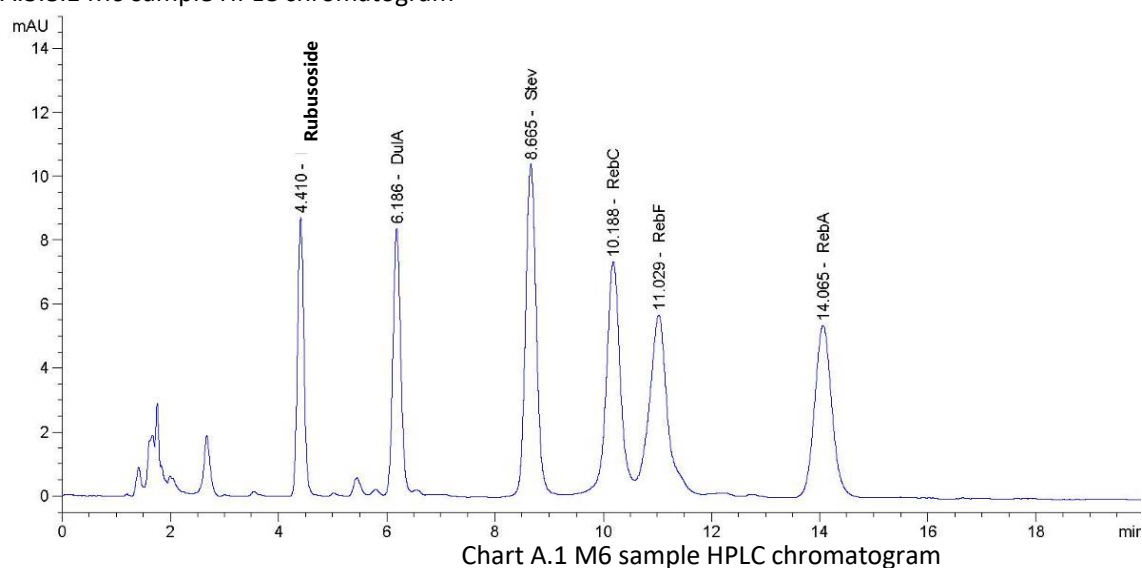
Record proportions of each α -Glucosyl Steviol Glycosides.

A.3.7 Results report

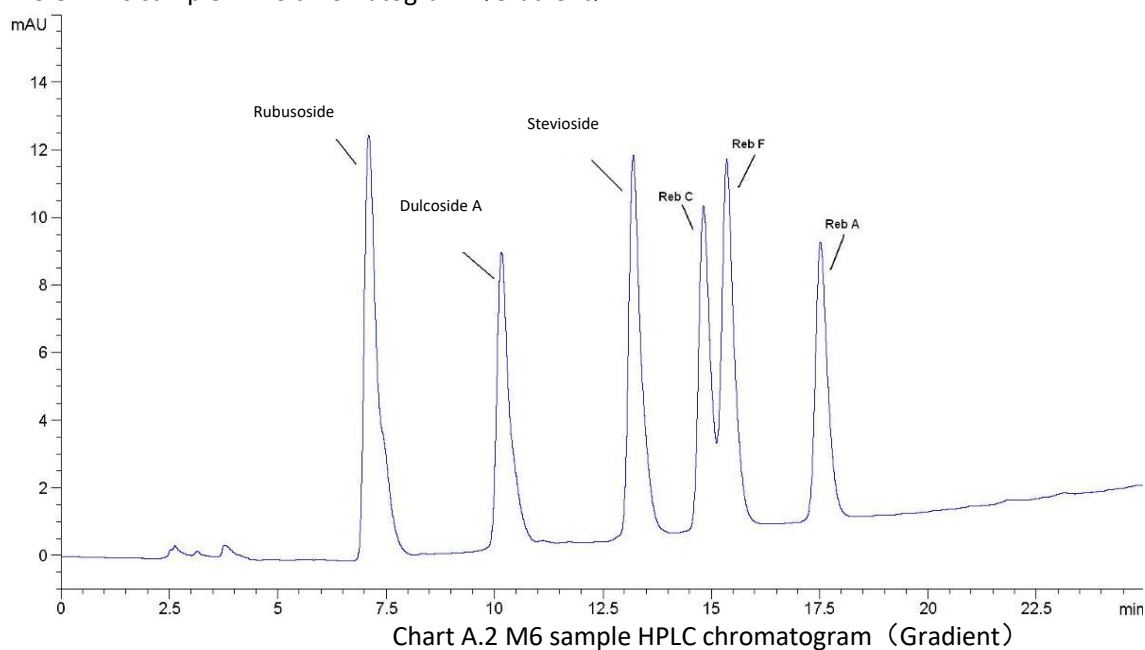
The concentration of unreacted stevia glycoside and TSG should be carried out based on dry basis weight %. The proportion of α -Glucosyl Steviol Glycosides to be reported based on area %. The average value of these two repeated samples test results should be as the report value.

A.3.8 Accessory

A.3.8.1 M6 sample HPLC chromatogram



A.3.8.2 M6 sample HPLC chromatogram (Gradient)



GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

A.3.8.3 Sample collection of gradient analysis sample chromatograms

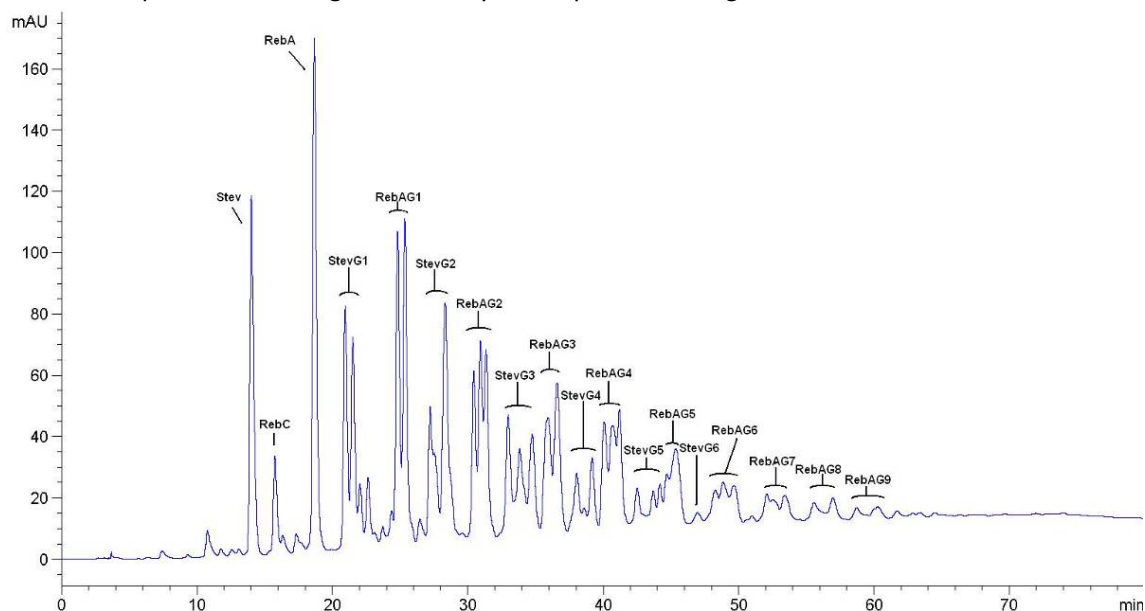


Chart A.3 Sample collection of gradient analysis sample chromatograms

Appendix 3 Certificates of Analysis for Multiple Batches of TasteRight Enzyme Treated Stevia

Appendix 3.1 TasteRight Enzyme Treated Stevia Batch 20170305

Appendix 3.2 TasteRight Enzyme Treated Stevia Batch 20170401

Appendix 3.3 TasteRight Enzyme Treated Stevia Batch 20170502

Appendix 3.4 TasteRight Enzyme Treated Stevia Batch 20170703

Appendix 3.5 TasteRight Enzyme Treated Stevia Batch 20170302

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 3.1 TasteRight Enzyme Treated Stevia Batch 20170305



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	酶改质甜菊糖 Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170305
生产日期 Date of production	2017 年 3 月 5 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量% Total content of Steviol Glycosides	≥ 95	99.74
糊精% Dextrins %	≤ 20	19.01

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.83
ppmMethanolppm	≤ 200	26
乙醇 ppmEthanolppm	≤ 5000	272
砷 Arsenic (以 As 计) ppm	≤ 1	≤ 1
重金属 Pb Total heavy metals ppm	≤ 1	≤ 1
目数 Mesh Thru #40	通过 95% NLT95%	96%
甜度 Sweetness	100-150	110
堆积密度 Density-Bulk	0.20-0.40g/ml	0.310
密度 Density-Tapped	0.30-0.60g/ml	0.340
灼烧残渣% Ash	≤ 1	0.71
干燥失重% Loss on drying	≤ 6	2.65
需氧菌总数 TABC	< 1000cfu/g	< 1000cfu/g
霉菌及酵母菌数 Yeast/Mold	< 100 cfu/g	< 100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption.

检验:

Analyst

日期: 2017 年 3 月 10 日

Date

审核:

Auditor

日期: 2017 年 3 月 17 日

Date

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 3.2 TasteRight Enzyme Treated Stevia Batch 20170401



圣仁制药
Shengren Pharmaceuticals

Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	酶改质甜菊糖 Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170401
生产日期 Date of production	2017 年 4 月 15 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量% Total content of Steviol Glycosides	≥95	99.17
糊精%Dextrins%	≤20	17.21

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.80
甲醇 ppmMethanolppm	≤200	53
乙醇 ppmEthanolppm	≤5000	270
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	通过 95% NLT95%	96%
甜度 Sweetness	100-150	110
堆积密度 Density-Bulk	0.20-0.40g/ml	0.315
密度 Density-Tapped	0.30-0.60g/ml	0.336
灼烧残渣% Ash	≤1	0.71
干燥失重% Loss on drying	≤6	2.66
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption.

检验:

Analyst

日期: 2017 年 4 月 20 日

Date

审核:

Auditing

日期: 2017 年 4 月 27 日

Date

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 3.3 TasteRight Enzyme Treated Stevia Batch 20170502



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	酶改质甜菊糖 Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170502
生产日期 Date of production	2017 年 5 月 2 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量%Total content of Steviol Glycosides	≥95	99.26
糊精%Dextrins%	≤20	18.02

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.76
甲醇 ppmMethanolppm	≤200	50
乙醇 ppmEthanolppm	≤5000	266
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	通过 95% NLT95%	96%
甜度 Sweetness	100-150	110
堆积密度 Density-Bulk	0.20-0.40g/ml	0.314
密度 Density-Tapped	0.30-0.60g/ml	0.336
灼烧残渣% Ash	≤1	0.71
干燥失重% Loss on drying	≤6	2.68
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption.

检验:

Analyst

日期: 2017 年 4 月 20 日

Date

审核:

Auditor

日期: 2017 年 4 月 27 日

Date

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 3.4 TasteRight Enzyme Treated Stevia Batch 20170703



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	酶改质甜菊糖 Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170703
生产日期 Date of production	2017 年 7 月 3 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量% Total content of Steviol Glycosides	≥95	99.74
糊精%Dextrins %	≤20	17.00

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.70
甲醇 ppmMethanolppm	≤200	30
乙醇 ppmEthanolppm	≤5000	199
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	通过 95% NLT95%	96%
甜度 Sweetness	100-150	110
堆积密度 Density-Bulk	0.20-0.40g/ml	0.315
密度 Density-Tapped	0.30-0.60g/ml	0.338
灼烧残渣% Ash	≤1	0.71
干燥失重% Loss on drying	≤6	2.70
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption.

检验:

Analyst

日期: 2017 年 7 月 8 日

Date

审核:

Auditing

日期: 2017 年 7 月 15 日

Date

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 3.5 TasteRight Enzyme Treated Stevia Batch 20170302



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	酶改质甜菊糖 Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170302
生产日期 Date of production	2017 年 3 月 2 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

外观 Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量% Total content of Steviol Glycosides	≥95	99.07
糊精%Dextrins%	≤20	18.04

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.86
甲醇 ppmMethanolppm	≤200	32
乙醇 ppmEthanolppm	≤5000	249
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	通过 95% NLT95%	96%
甜度 Sweetness	100-150	110
堆积密度 Density-Bulk	0.20-0.40g/ml	0.316
密度 Density-Tapped	0.30-0.60g/ml	0.339
灼烧残渣% Ash	≤1	0.71
干燥失重% Loss on drying	≤6	2.57
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption.

检验:

Analyst

日期: 2017 年 3 月 7 日

Date

审核:

Auditor

日期: 2017 年 3 月 14 日

Date

Appendix 4 Certificates of Analysis for Multiple Batches of TasteRight Refined Enzyme Treated Stevia

Appendix 4.1 TasteRight Refined Enzyme Treated Stevia Batch 20170306

Appendix 4.2 TasteRight Refined Enzyme Treated Stevia Batch 20170402

Appendix 4.3 TasteRight Refined Enzyme Treated Stevia Batch 20170503

Appendix 4.4 TasteRight Refined Enzyme Treated Stevia Batch 20170701

Appendix 4.5 TasteRight Refined Enzyme Treated Stevia Batch 20170301

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 4.1 TasteRight Refined Enzyme Treated Stevia Batch 20170306



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	精制酶改质甜菊糖 The Refined Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170306
生产日期 Date of production	2017 年 3 月 6 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

外观 Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量% Total content of Steviol Glycosides	≥95	96.38
糊精 Dextrins %	≤1	0.1

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.56
甲醇 ppmMethanolppm	≤200	29
乙醇 ppmEthanolppm	≤5000	248
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	Pass 95% NLT95%	97%
甜度 Sweetness	≥260	Meet the specification
堆积密度 Density-Bulk	0.20-0.40g/ml	0.318
密度 Density-Tapped	0.30-0.60g/ml	0.339
灼烧残渣% Ash	≤1	0.09
干燥失重% Loss on drying	≤6	2.68
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption

检验:

Analyst

日期: 2017 年 3 月 11/日

审核:

Auditing

日期: 2017 年 3 月 18 日

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 4.2 TasteRight Refined Enzyme Treated Stevia Batch 20170402



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	精制酶改质甜菊糖 The Refined Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170402
生产日期 Date of production	2017 年 4 月 2 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

外观 Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量% Total content of Steviol Glycosides	≥95	96.78
糊精%Dextrins %	≤1	0.1

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.53
甲醇 ppmMethanolppm	≤200	32
乙醇 ppmEthanolppm	≤5000	258
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	Pass 95% NLT95%	96%
甜度 Sweetness	≥260	Meet the specification
堆积密度 Density-Bulk	0.20-0.40g/ml	0.314
密度 Density-Tapped	0.30-0.60g/ml	0.335
灼烧残渣% Ash	≤1	0.09
干燥失重% Loss on drying	≤6	2.65
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption.

检验:

Analyst

日期: 2017 年 4 月 7 日

审核:

Auditor

日期: 2017 年 4 月 14 日

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 4.3 TasteRight Refined Enzyme Treated Stevia Batch 20170503



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	精制酶改质甜菊糖 The Refined Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170503
生产日期 Date of production	2017 年 5 月 3 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

外观 Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量% Total content of Steviol Glycosides	≥95	96.00
糊精% Dextrins %	≤1	0.1

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.53
甲醇 ppmMethanolppm	≤200	30
乙醇 ppmEthanolppm	≤5000	251
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	通过 95% NLT95%	96%
甜度 Sweetness	≥260	Meet the specification
堆积密度 Density-Bulk	0.20-0.40g/ml	0.319
密度 Density-Tapped	0.30-0.60g/ml	0.338
灼烧残渣% Ash	≤1	0.09
干燥失重% Loss on drying	≤6	2.59
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption.

检验:

Analyst

日期: 2017 年 5 月 8 日

审核:

Auditi

日期: 2017 年 5 月 15 日

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 4.4 TasteRight Refined Enzyme Treated Stevia Batch 20170701



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	精制酶改质甜菊糖 The Refined Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170701
生产日期 Date of production	2017 年 7 月 1 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

外观 Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量%Total content of Steviol Glycosides	≥95	97.19
糊精%Dextrins%	≤1	0.1

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.49
甲醇 ppmMethanolppm	≤200	26
乙醇 ppmEthanolppm	≤5000	261
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	通过 95% NLT95%	96%
甜度 Sweetness	≥260	Meet the specification
堆积密度 Density-Bulk	0.20-0.40g/ml	0.317
密度 Density-Tapped	0.30-0.60g/ml	0.338
灼烧残渣% Ash	≤1	0.09
干燥失重% Loss on drying	≤6	2.58
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption

检验:

审核:

Analyst

Auditing

日期: 2017 年 7 月 6 日

日期: 2017 年 7 月 13 日

GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 4.5 TasteRight Refined Enzyme Treated Stevia Batch 20170301



Analysis Report of Glucosyl Stevia

文件编号 File No. REG-ZL-0005-00

产品 PRODUCT

名称 Name	精制酶改质甜菊糖 The Refined Glucosyl Stevia
规格 Specification	GSG95%
批号 Batch NO.	20170301
生产日期 Date of production	2017 年 3 月 1 日
批量 Batch quantity	1000kg

描述 DESCRIPTION

外观 Appearance of Color and Form	White to off-white Powder
Taste and Oder	Sweet with cooling, lingering sweet aftertaste without Solvent
有效期限 Expiration date	2 年 2years
包装 Packing	Carton
贮存 Storage conditions	Keep in cool, dry and ventilating place

纯度 PURITY

参数 Parameter	标准 Standard	结果 Results
总含量% Total content of Steviol Glycosides	≥95	96.92
糊精 Dextrins%	≤1	0.1

化学检测 CHEMICAL TESTS

参数 Parameter	标准 Standard	结果 Results
Solubility	Freely soluble in water: ethanol (50:50)	Meet specification
PH	4.5-7.0	5.52
甲醇 ppmMethanolppm	≤200	36
乙醇 ppmEthanolppm	≤5000	256
砷 Arsenic (以 As 计) ppm	≤1	≤1
重金属 Pb Total heavy metals ppm	≤1	≤1
目数 Mesh Thru #40	Pass 95% NLT95%	96%
甜度 Sweetness	≥260	Meet the specification
堆积密度 Density-Bulk	0.20-0.40g/ml	0.316
密度 Density-Tapped	0.30-0.60g/ml	0.338
灼烧残渣% Ash	≤1	0.09
干燥失重% Loss on drying	≤6	2.62
需氧菌总数 TABC	<1000cfu/g	<1000cfu/g
霉菌及酵母菌数 Yeast/Mold	<100 cfu/g	<100 cfu/g
大肠杆菌 E.Coli	Negative	Negative
Salmonella absent in 25g	AOAC/<2022>	Negative

结论: 合格

Conclusion: Qualified for sales and human consumption

检验:

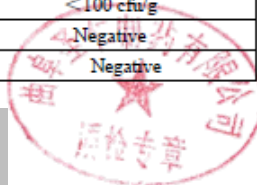
审核:

Analyst

Auditing

日期: 2017 年 3 月 6 日

日期: 2017 年 3 月 13 日



Appendix 5 Analytical Chromatograms for Multiple Production Batches of TasteRight Enzyme Treated Stevia

Appendix 5.1 TasteRight Enzyme Treated Stevia Batch 20170305

Appendix 5.2 TasteRight Enzyme Treated Stevia Batch 20170401

Appendix 5.3 TasteRight Enzyme Treated Stevia Batch 20170502

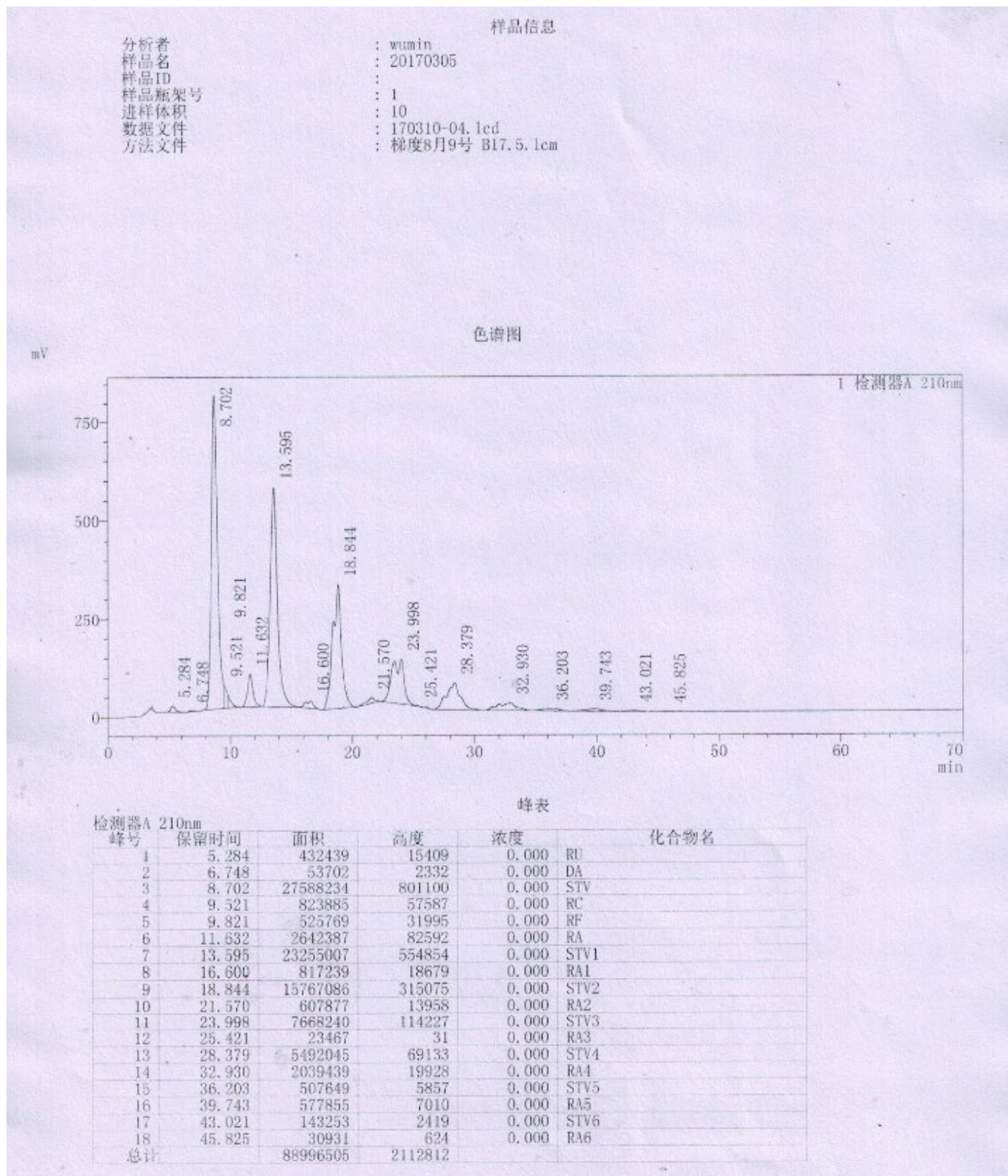
Appendix 5.4 TasteRight Enzyme Treated Stevia Batch 20170703

Appendix 5.5 TasteRight Enzyme Treated Stevia Batch 20170302

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

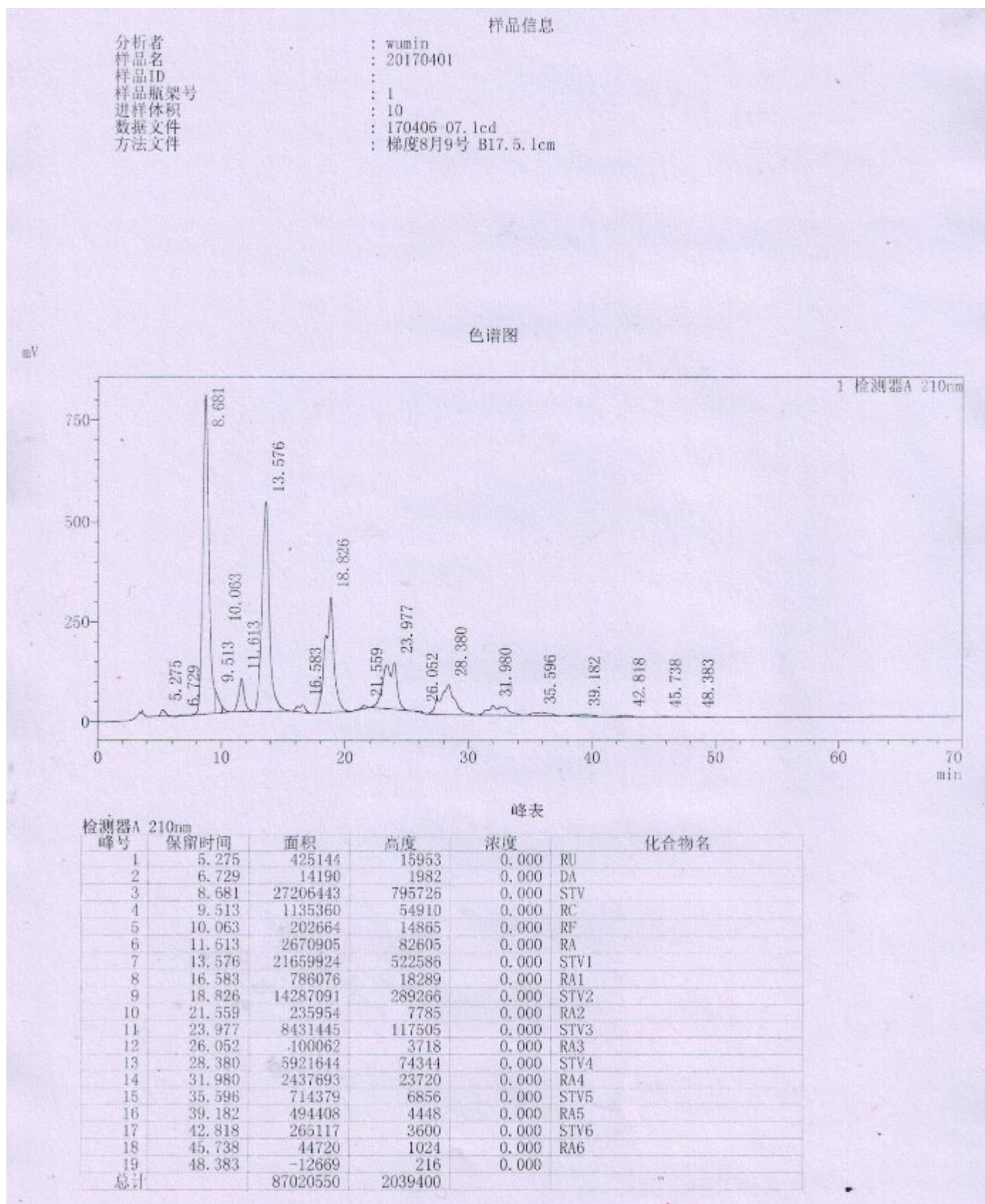
Appendix 5.1 TasteRight Enzyme Treated Stevia Batch 20170305



GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

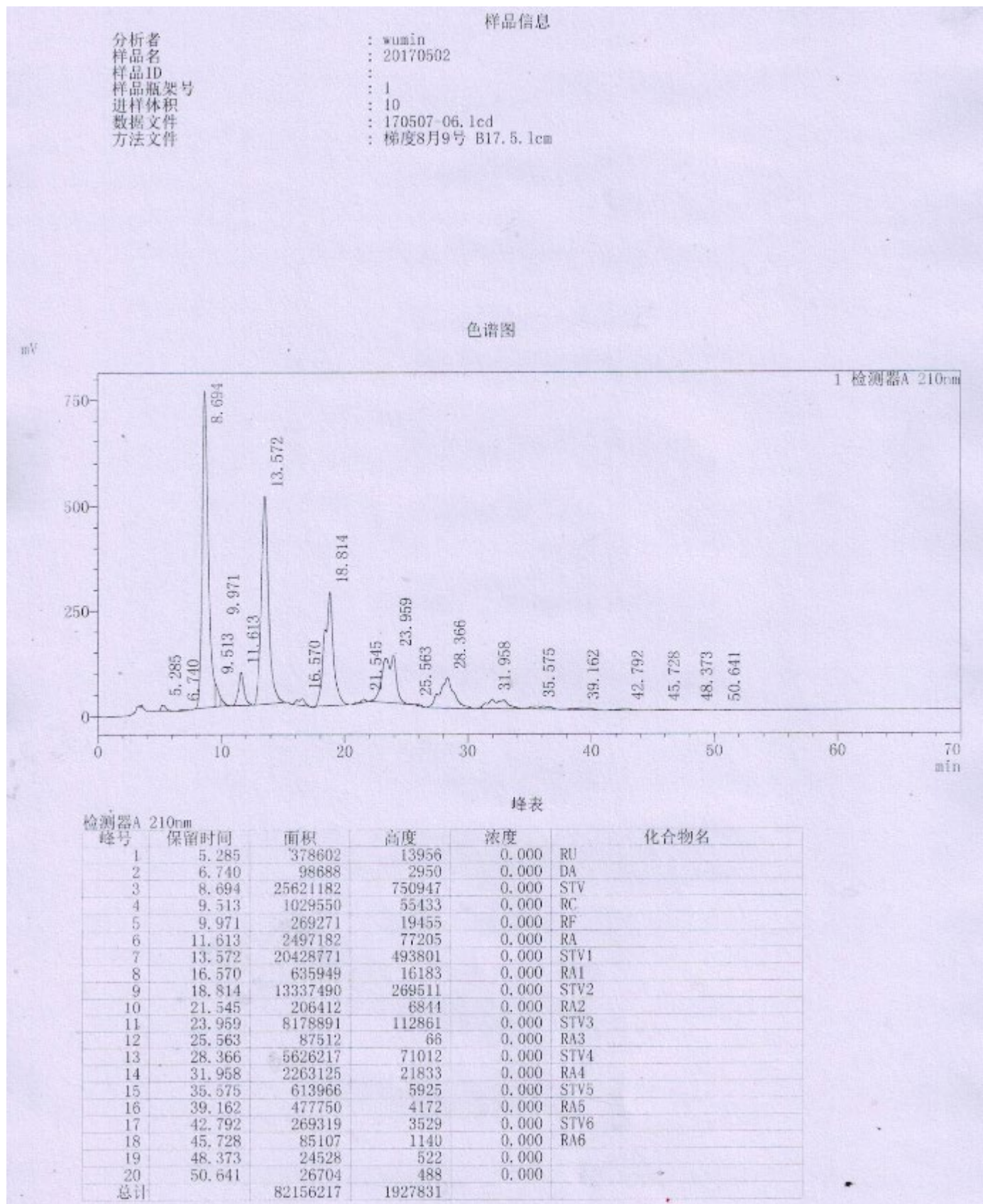
Appendix 5.2 TasteRight Enzyme Treated Stevia Batch 20170401



GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

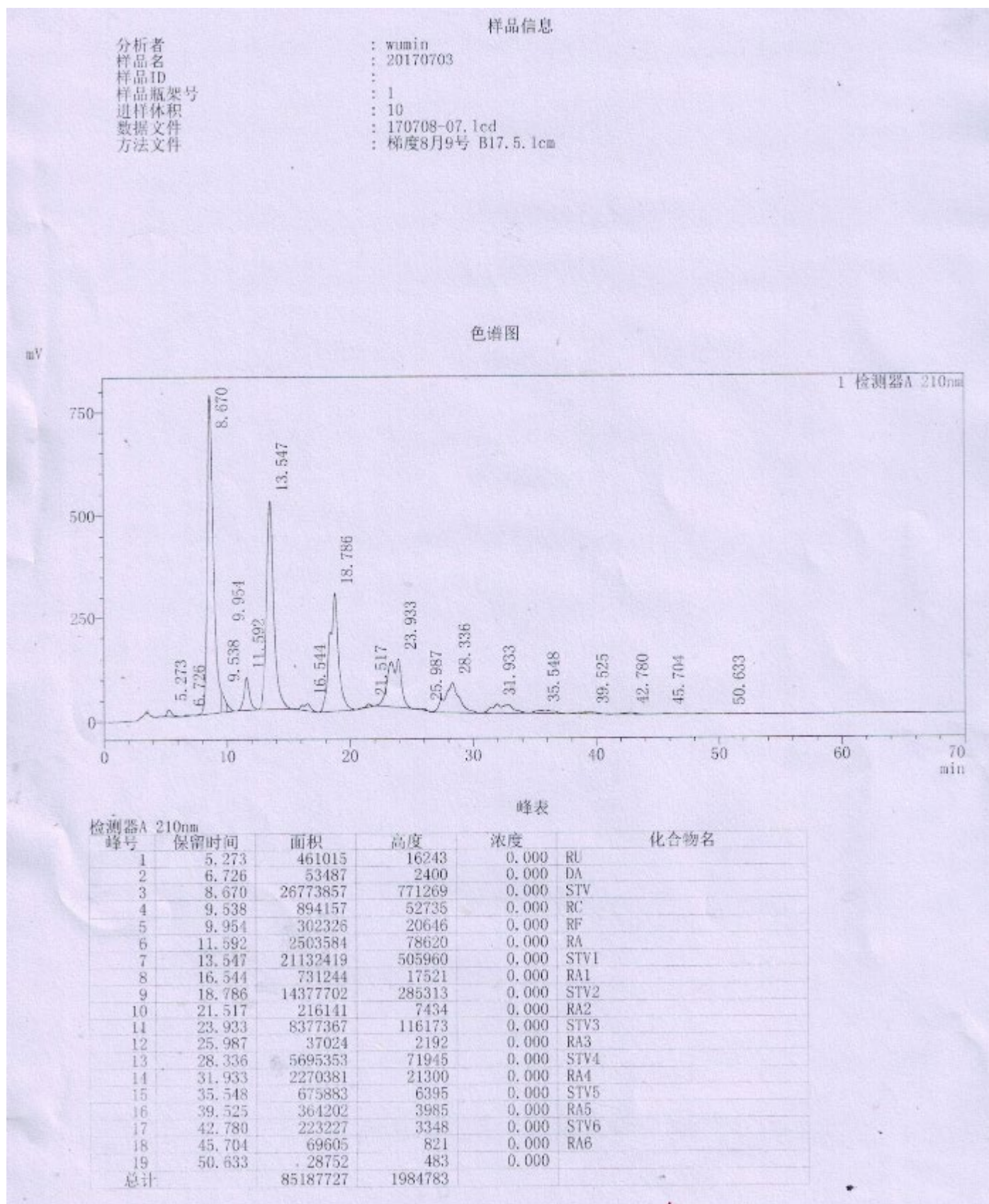
Appendix 5.3 TasteRight Enzyme Treated Stevia Batch 20170502



GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

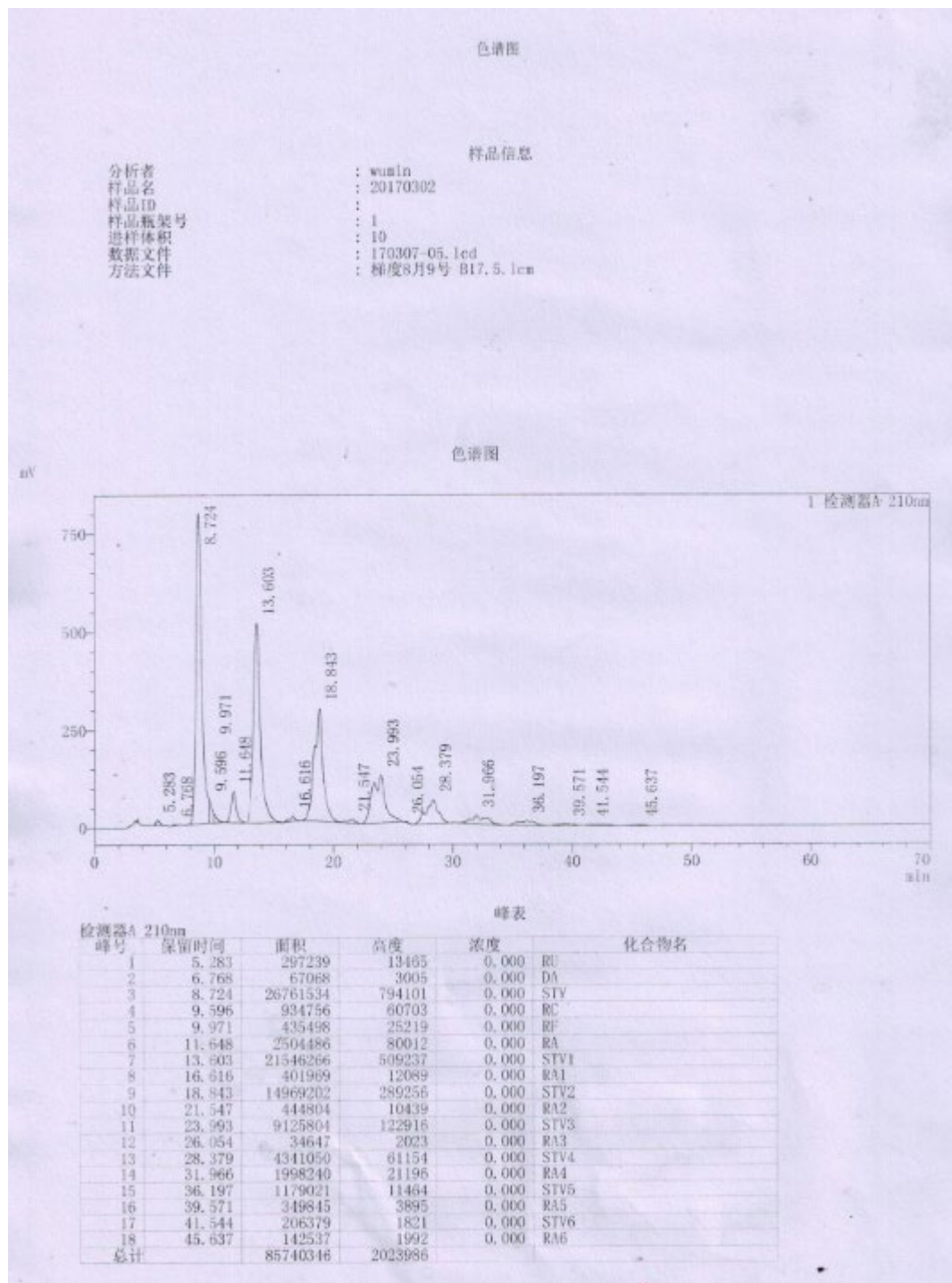
Appendix 5.4 TasteRight Enzyme Treated Stevia Batch 20170703



GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 5.5 TasteRight Enzyme Treated Stevia Batch 20170302



Appendix 6 Analytical Chromatograms for Multiple Production Batches of TasteRight Refined Enzyme Treated Stevia

Appendix 6.1 TasteRight Refined Enzyme Treated Stevia Batch 20170306

Appendix 6.2 TasteRight Refined Enzyme Treated Stevia Batch 20170402

Appendix 6.3 TasteRight Refined Enzyme Treated Stevia Batch 20170503

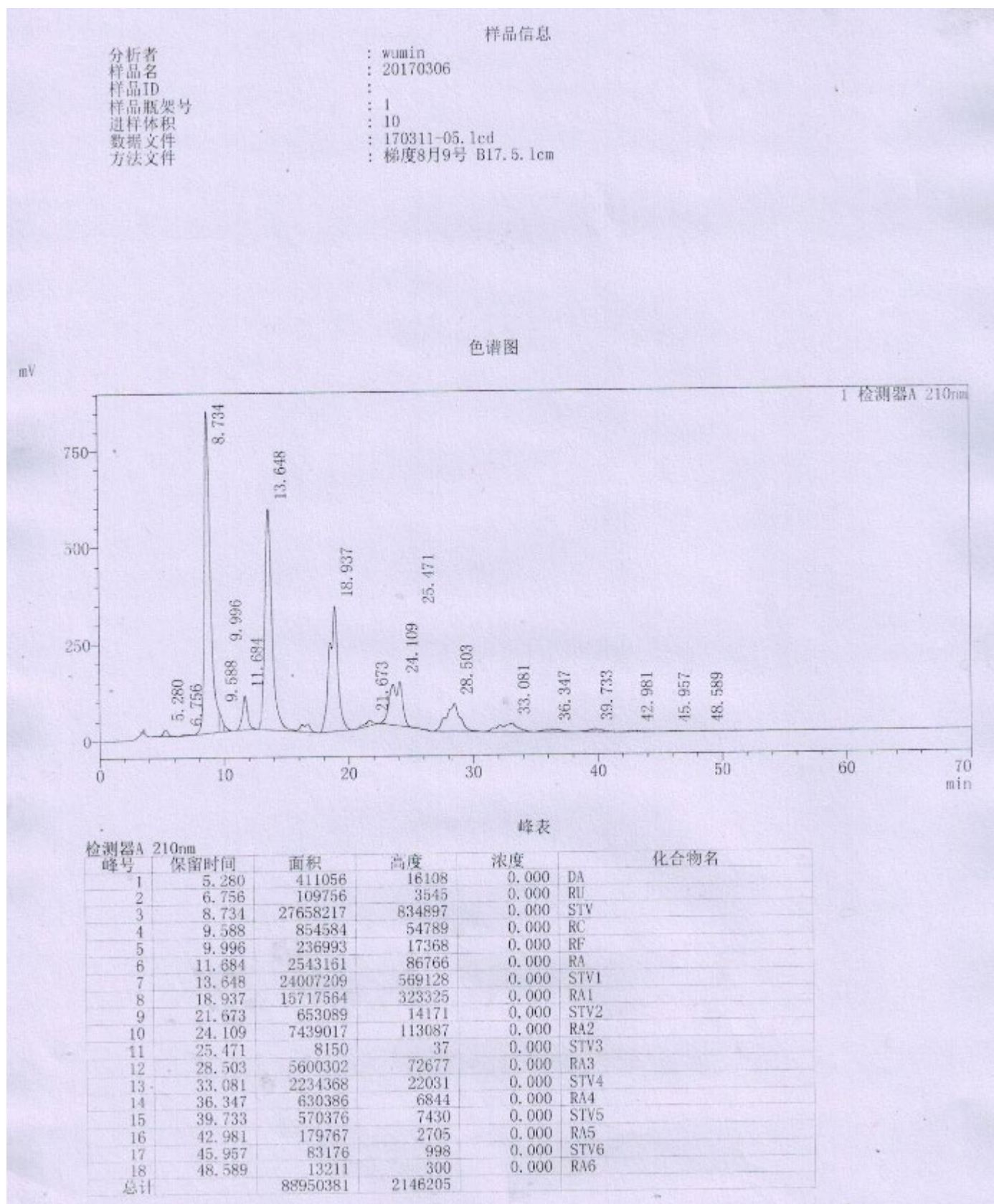
Appendix 6.4 TasteRight Refined Enzyme Treated Stevia Batch 20170701

Appendix 6.5 TasteRight Refined Enzyme Treated Stevia Batch 20170301

GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

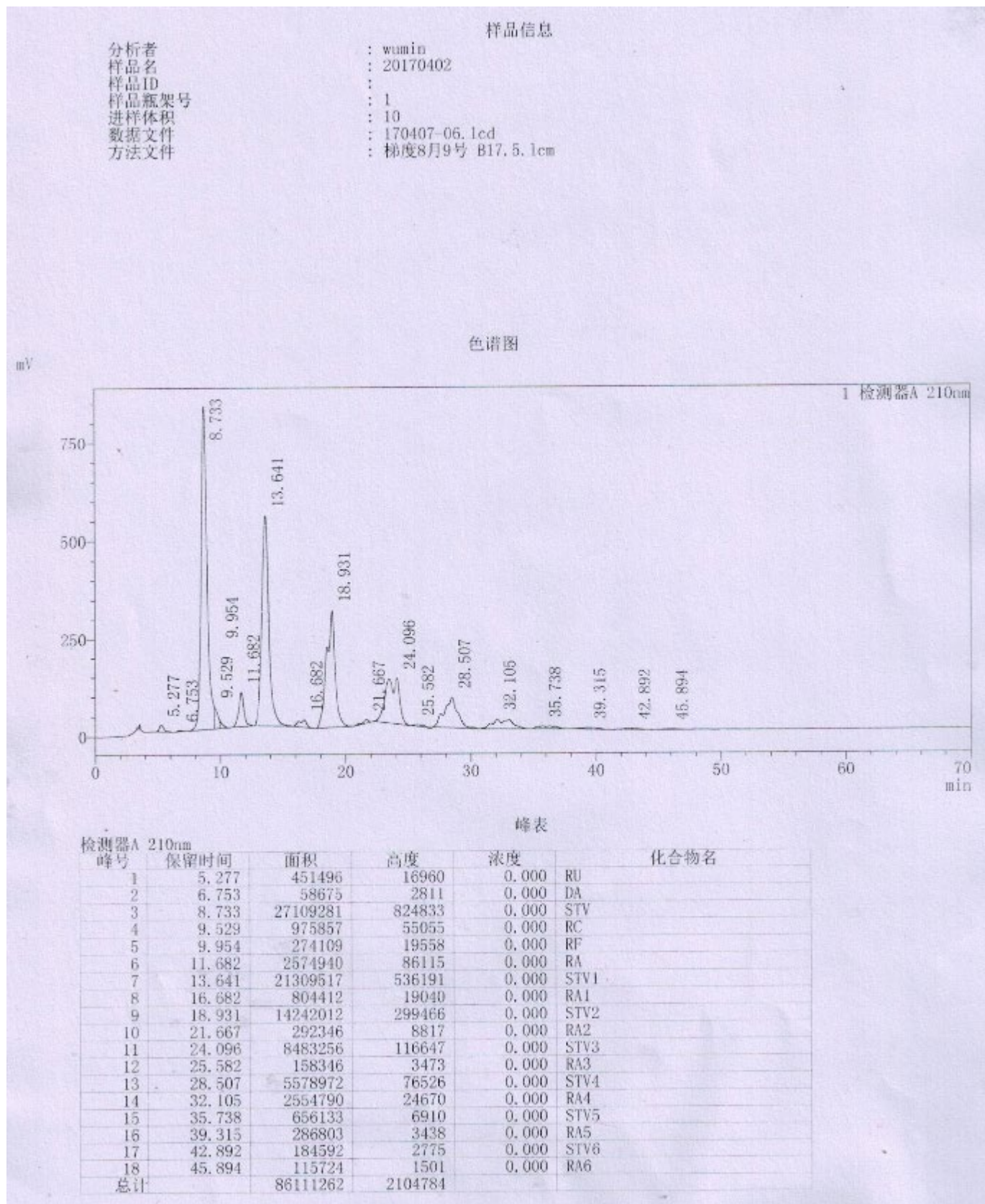
Appendix 6.1 TasteRight Refined Enzyme Treated Stevia Batch 20170306



GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

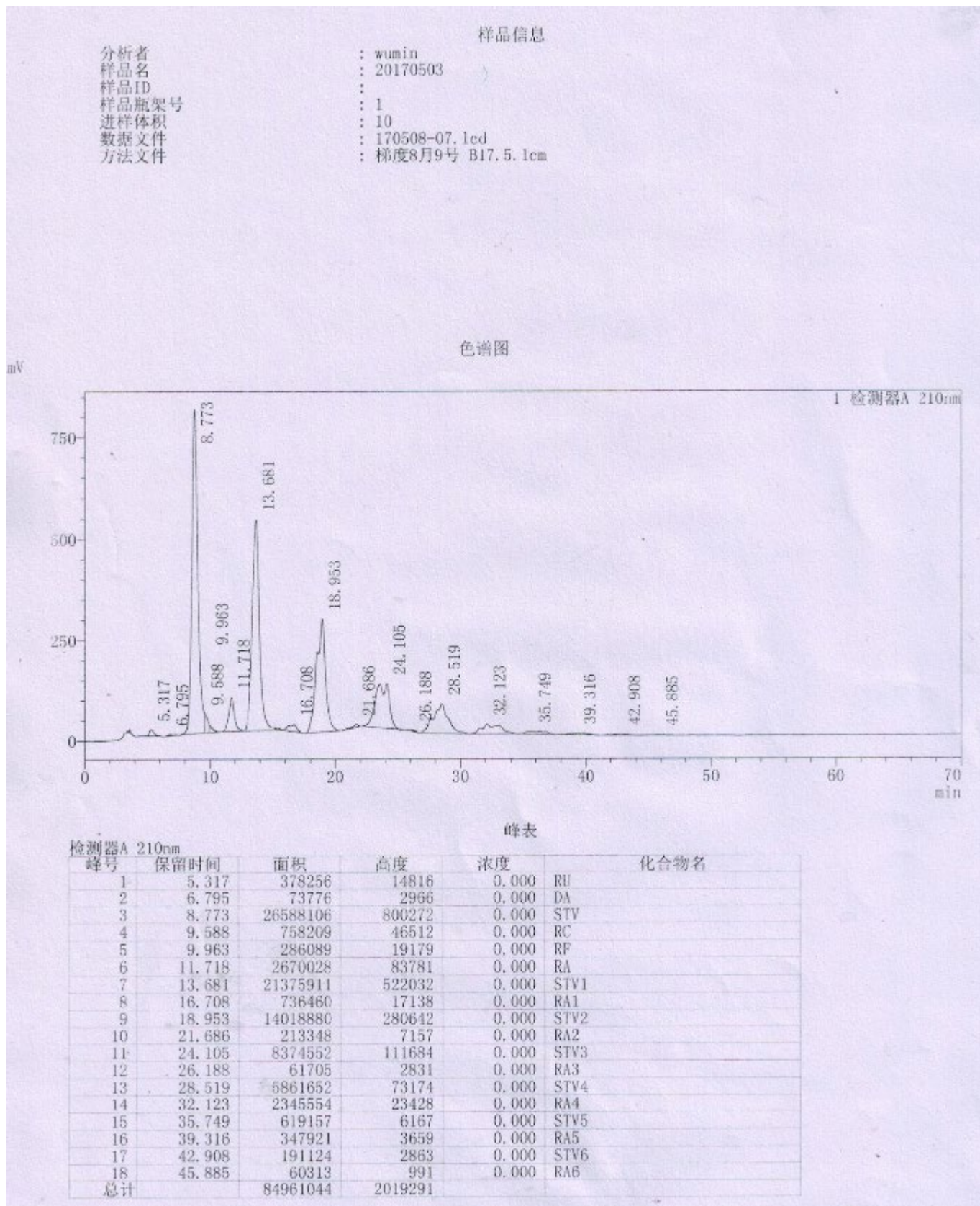
Appendix 6.2 TasteRight Refined Enzyme Treated Stevia Batch 20170402



GRAS Notice – High Purity Glucosylated Steviol Glycosides
 Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

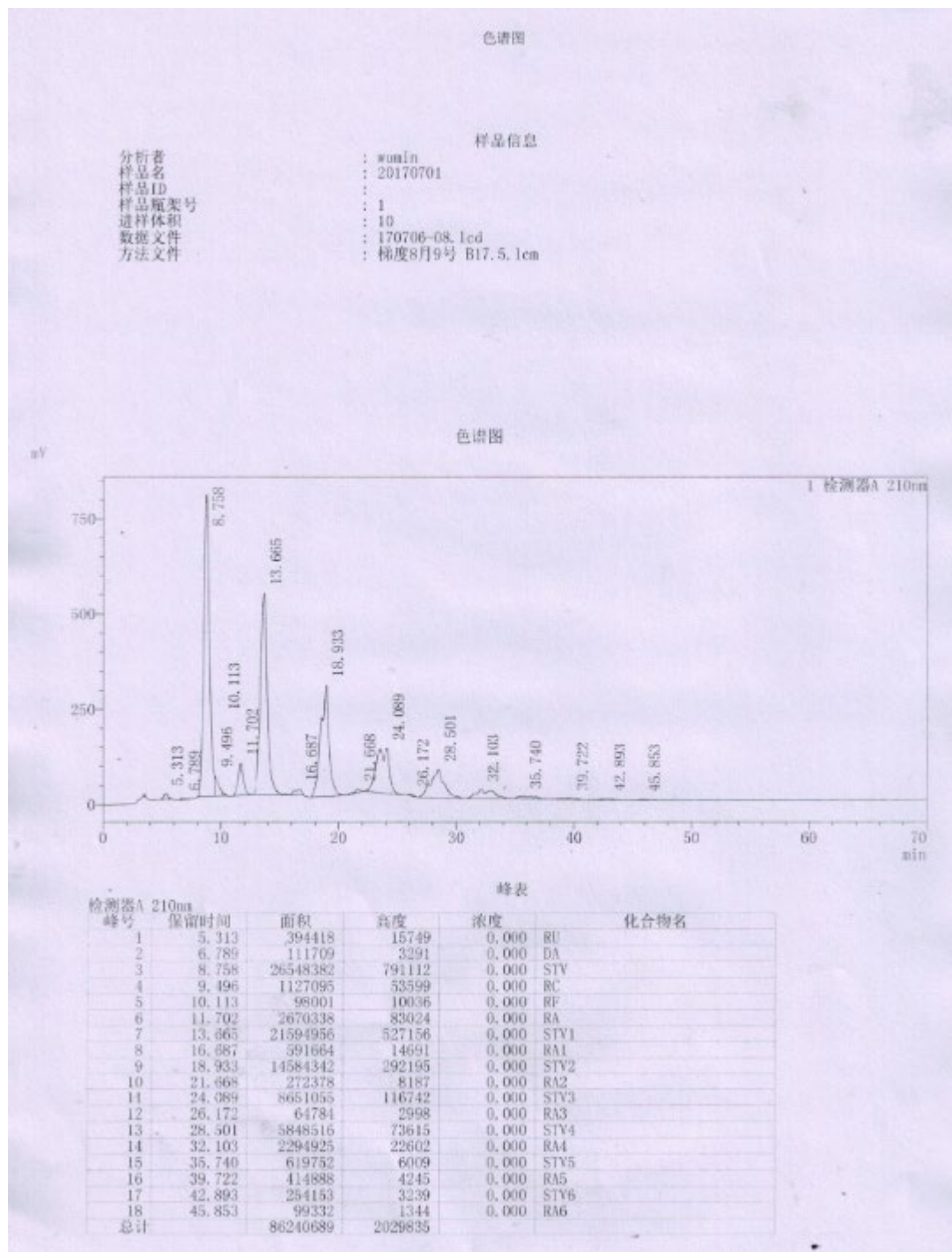
Appendix 6.3 TasteRight Refined Enzyme Treated Stevia Batch 20170503



GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 6.4 TasteRight Refined Enzyme Treated Stevia Batch 20170701



GRAS Notice – High Purity Glucosylated Steviol Glycosides
Qufu Shengren Pharmaceutical Co., Ltd., Sunwin Stevia International, & NuNaturals, Inc.

4/25/19

Appendix 6.5 TasteRight Refined Enzyme Treated Stevia Batch 20170301

