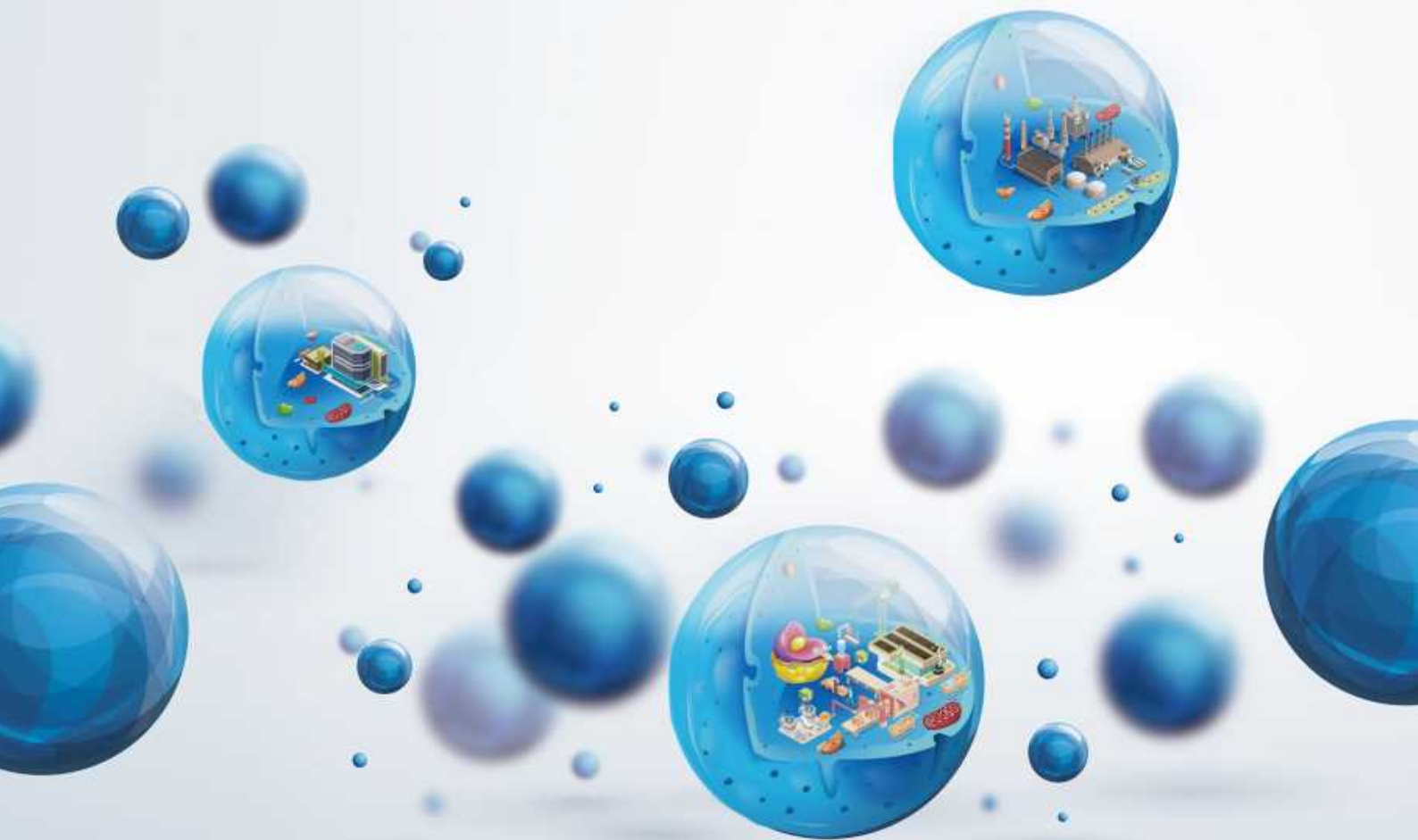


# Leading biomanufacturer of high-quality raw materials



## About Viablif

Viablif is a leading biomanufacturer of natural cosmetic ingredients, fine chemicals, natural dyes, pharmaceutical intermediates, and food additives. The company aims to develop sustainable, eco-friendly, and cost-effective biomanufacturing processes for valuable products. Viablif has a world-class research and development team with extensive experience in fields such as fermentation, enzymes, metabolic engineering, synthetic biology, AI technology, big data, and more. With the innovative Viablif Biologo® platform and its wholly-owned automated manufacturing center, Viablif is able to effectively and efficiently bring its high quality products to market.



## State-of-the-art and intelligent biomanufacturing facilities

- Green low-carbon automated production line ensures a stable and uninterrupted supply of high-quality products.
- With the large-scale production base and 1000 m<sup>3</sup> fermentation capacity, Viablif produces over 10,000 tons of high-quality cosmetic ingredients annually.
- Modern and high-standard storage facilities provide reliable storage, logistics and after-sales services.



## Enterprise Culture



## Social Responsibility

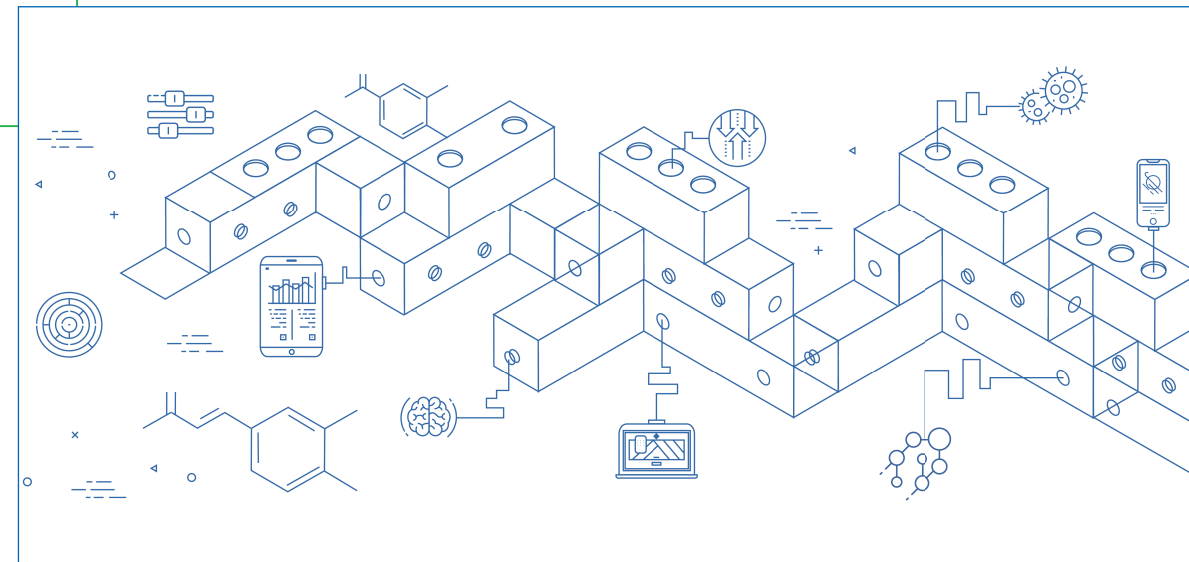
We are deeply committed to creating a positive impact on society by promoting environmental protection for a healthier and more sustainable future. At Viablif, social responsibility is a top priority that guides every aspect of our business. From developing new biosynthetic technologies to producing high-quality products, advocating for environmental awareness, ensuring a safe workplace, and promoting effective healthcare, we are dedicated to upholding our commitment to social responsibility. We work closely with our partners, investors, and customers to move forward together, guided by our motto of 'Creating with Love.'



## R&D

### Viablife Biolego® Platform

Viablife has independently developed its Viablife Biolego® platform. The platform has created a library of engineering strains that have independent intellectual property rights. By incorporating and adapting various biological components included in the platform, Viablife has established the first commercial AI-driven high-throughput biological verification system in China. This system enables 24/7 unmanned verification and data upload, constantly strengthening synthetic biology and metabolic pathway information, accumulating valuable compound biosynthesis data, and meeting customers' commercial development needs.



### Unique Compound Bio-Fit Technology

To address the issue of poor affinity between traditional compounds and cells, particularly for components that hinder the growth of living cells, Viablife has developed the Bio-Fit Compound Pre-Modification Technology. This innovative technology can enhance cell affinity to raw materials, optimize raw material utilization, and increase product yield, thus supporting the cost reduction and impurity control in the manufacturing of fine chemicals and high-value industrial materials.



### Global R&D cooperation and continuous new technologies generation

Viablife's Honghu Laboratory has three centers, situated in Hangzhou (China), Nanchang (China), and Salt Lake City (USA), respectively. The company plans to establish additional R&D centers worldwide, which will ensure that Viablife remains as a global leader in biomanufacturing through the continuous development of cutting-edge synthetic biology and metabolic engineering technologies.



## Quality Control Management System

Viablife has implemented a comprehensive quality control system, which includes strict operating procedures for raw material verification, equipment management, production process control, finished product warehousing, factory inspection, and logistics transportation. This system is designed to ensure that the company provides customers with high-quality, safe, and reliable products. The quality control center is established in accordance with GMP standards and strictly follows national and industry standard methods. This guarantees the accuracy of testing results and ensures that the products meet or exceed the required quality standards.



- ISO9001 Quality Management System Certification
- KOSHER Jewish Food Certification
- HALAL Halal Certification



### 1000+m<sup>2</sup> GMP Level Quality Inspection Center

Our quality check team possesses strong technical expertise and operates under a management system that meets GMP standards. We conduct inspections in strict accordance with national and industry requirements to ensure the reliability, accuracy, and standardization of our testing results. Our inspection covers a wide range of items and can simultaneously meet the testing requirements of various product indicators. Furthermore, we introduce third-party inspections based on product requirements to ensure the authority and authenticity of our product quality.



### 20+ Professional Quality Inspection Personnel

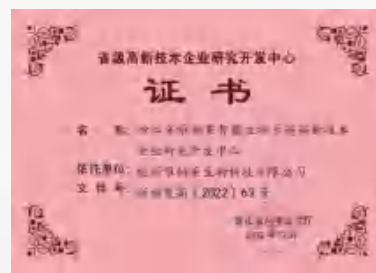
We have two professional biosynthesis laboratories in China, each covering an area of over 11,000 sq. ft. Our laboratories are equipped with a wide range of advanced testing instruments, a comprehensive quality management system, professional technical training, and a refined quality management team for different production stages. These resources enable us to meet our customers' needs for high-quality products.



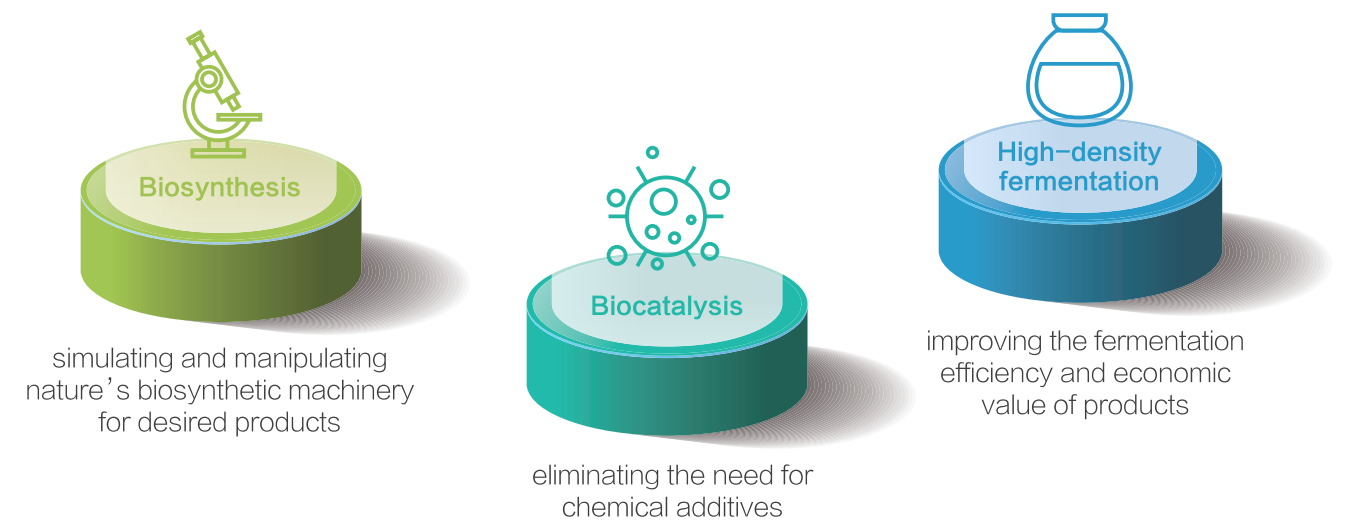
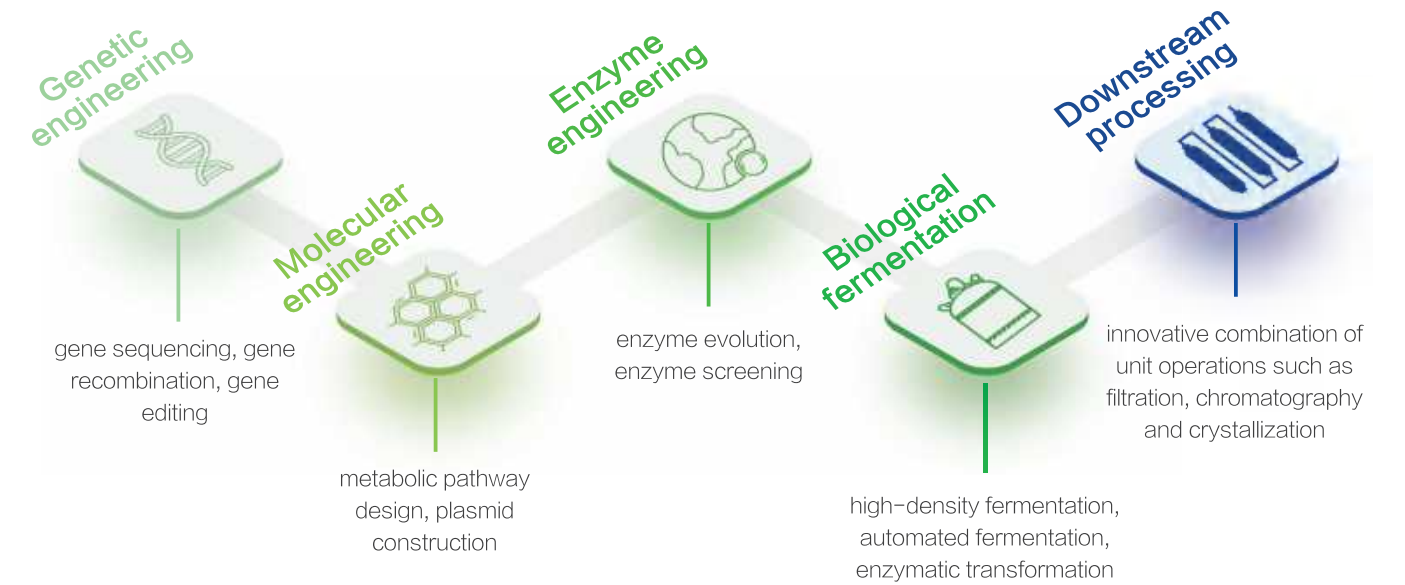
## Honors & Awards

-  National High-Tech Enterprise
-  Zhejiang High-Tech Enterprise R&D Center
-  Top Technological Enterprises in Yuhang District
-  Hangzhou "Young Eagle Plan" Enterprise
-  Best Small and Medium-Sized Technology-Based Enterprise of Zhejiang Province
-  2018 Municipal High-Tech Enterprises of Hangzhou
-  Zhejiang Province Key R&D Project Awardee
-  Winner (1st place in Zhejiang Province) of the 6th China Innovation and Entrepreneurship Competition in the Category of New Materials

## Certification

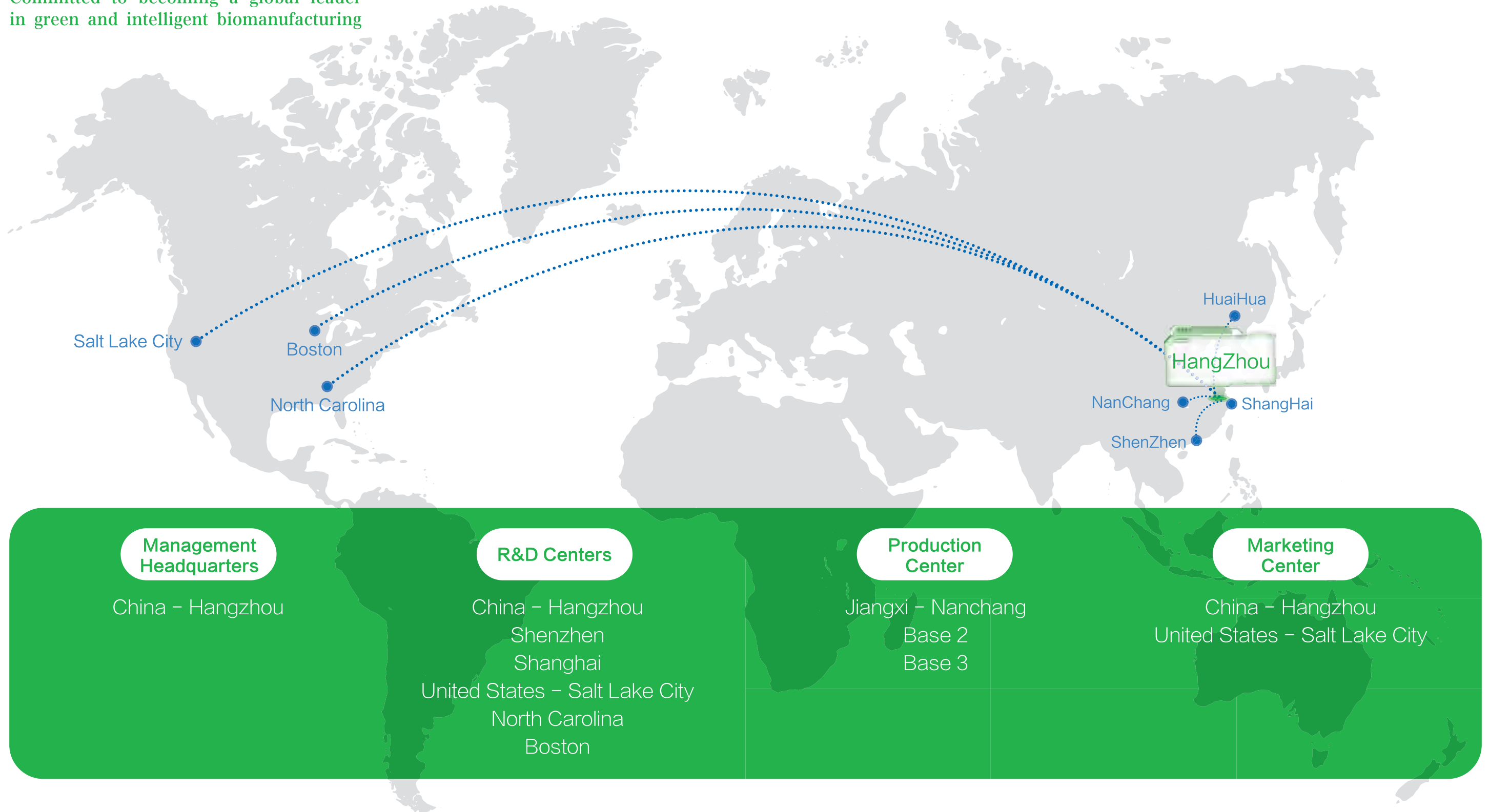


## Intelligent Biomanufacturing Process



## Future Plan

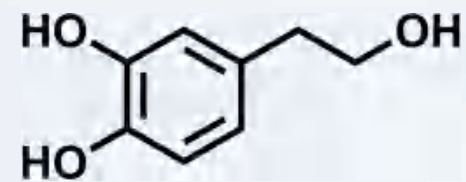
Committed to becoming a global leader in green and intelligent biomanufacturing





## Products

### 1 Hydroxytyrosol



#### Basic Information:

Synonyms: 3,4-Dihydroxyphenylethanol, 3,4-dihydroxyphenethyl alcohol

CAS: 10597-60-1

Molecular Formula:  $C_8H_{10}O_3$

Molecular Weight: 154.17

Properties: light yellow viscous liquid; soluble in water, methanol, ethanol and other solvents.

A natural polyphenol compound originally derived from olive leaf extract, mainly present in the fruits and branches of olives.

Traditional preparation often comes from olive oil or the waste liquid generated from olive oil processing. High quality natural equivalent products can be prepared more efficiently and environmentally-friendly through biosynthesis.

The maximum amount used in fish oil is 215 mg/kg, the maximum amount used in vegetable oil is 215 mg/kg, and the maximum amount used in margarine is 175 mg/kg.

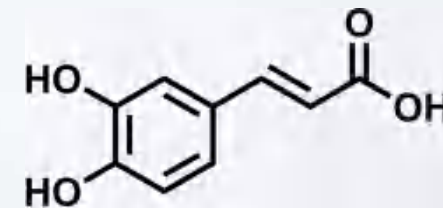
#### Effects:

- ① Safe and outstanding antioxidant properties
- ② Beneficial for bone growth, development, and function; enhancing the absorption of minerals by the body, and maintaining bone density
- ③ Research has shown that it has certain anti-cancer and cancer prevention effects
- ④ Cardioprotective
- ⑤ Promoting metabolism, improving endocrine function, and facilitating wound healing

#### Applications:

- ① Beauty and health products – enhancing skin elasticity, moisturizing skin, and possessing wrinkle removal and anti-aging effects
- ② Prevention and treatment of oxidative damage and mitochondrial dysfunction in retinal pigment epithelial cells caused by the toxic ingredient acrolein in cigarettes
- ③ Natural food preservative
- ④ Cosmetic additive – reducing UV damage to the skin and delaying skin aging
- ⑤ Dietary supplement, and ingredient in energy bars and functional drinks

### 2 Caffeic Acid



#### Basic Information:

Synonyms: 3,4-Dihydroxycinnamic acid, 3,4-dihydroxybenzeneacrylic acid

CAS: 331-39-5

Molecular Formula:  $C_9H_8O_4$

Molecular Weight: 180.16

Properties: Light yellow to yellowish brown crystal; slightly soluble in water, easy to dissolve in hot water, cold ethanol, and ethyl acetate.

It is a natural phenolic compound, mainly derived from various plants such as lemon peel, Ranunculaceae plant roots, and *Valeriana officinalis*.

The usage of caffeic acid in whitening beauty products is 0.5-2%.

#### Effects:

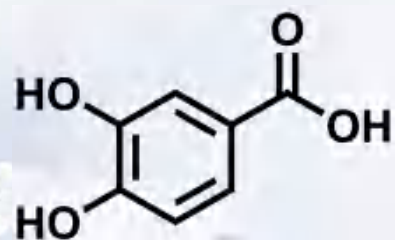
- ① Inhibition of fibrosarcoma cancer cell proliferation
- ② *In vivo* and *in vitro* antioxidative effects
- ③ Immunomodulation
- ④ Anti-inflammatory activity
- ⑤ Neurodepressant; promoting sleep and reducing anxiety

#### Applications:

- ① Caffeic acid tablet
- ② Cosmetic ingredient (sun-protective, antibacterial, whitening)
- ③ Hemostatic drug for hemorrhagic diseases
- ④ Cough relief and phlegm clearing



**3** Protocatechuic Acid



**Basic Information:**

Synonyms: 3,4-Dihydroxybenzoic acid  
 CAS: 99-50-3  
 Molecular Formula:  $C_7H_6O_4$   
 Molecular Weight: 154.12  
 Properties: White to slightly brown needle shaped crystals; soluble in hot water, ethanol, and ether, slightly soluble in water, insoluble in benzene and petroleum ether.

**Effects:**

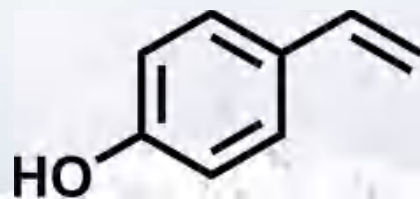
- ① Antibacterial activity against *Pseudomonas aeruginosa*, *Enterobacteriaceae typhimurium*, *Shigella dysenteriae*, *Bacillus alcaligenes*, *Bacillus subtilis*, *Staphylococcus aureus*, etc
- ② Phlegm elimination and asthma relief

**Applications:**

- ① Clinical treatment of chronic tracheitis
- ② Raw material for the synthesis of organic intermediates and dyes



**4** 4-Vinylphenol



**Basic Information:**

Synonyms: 4-hydroxystyrene  
 CAS: 2628-17-3  
 Molecular Formula:  $C_8H_8O$   
 Molecular Weight: 120.15  
 Properties: White volatile solid; soluble in water.

**Effect:**

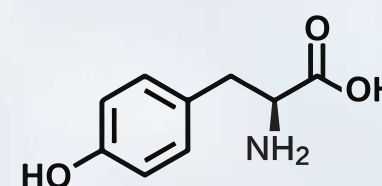
Has a special fragrance

**Applications:**

- ① Food additive, food essence
- ② Photoresistant material
- ③ Raw material for synthetic resins



**5** L-Tyrosine



**Basic Information:**

Synonyms: 4-Hydroxyphenylpropanoic Acid, 4-hydroxyphenylalanine  
 CAS: 60-18-4  
 Molecular Formula:  $C_9H_{11}NO_3$   
 Molecular Weight: 181.19  
 Properties: White crystal powder; insoluble in water, methanol and ethanol, soluble in diluted acid

**Effect:**

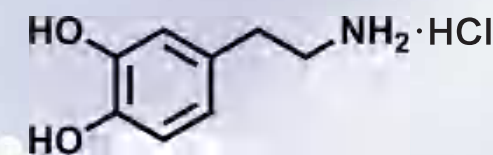
- ① Nonessential amino acid that can promote mammalian growth
- ② Precursor of dopamine, adrenaline, norepinephrine, etc

**Applications:**

- ① Feed additive
- ② Food additive
- ③ Dietary supplement
- ④ Amino acid surfactant



**6** Dopamine Hydrochloride



**Basic Information:**

Synonyms: Dopamine HCl, 3-hydroxytyramine hydrochloride  
 CAS: 62-31-7  
 Molecular Formula:  $C_8H_{12}ClNO_2$   
 Molecular Weight: 189.64  
 Properties: White needle shaped crystal or powder; soluble in methanol and ethanol.

**Effect:**

- ①  $\alpha$  and  $\beta$  receptor agonist, dilating peripheral blood vessels
- ② Antishock effect

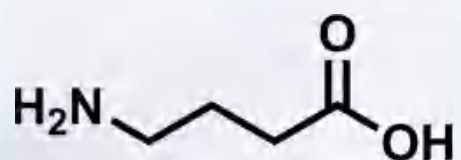
**Applications:**

- ① Low blood pressure regulator
- ② Antishock agent
- ③ Raw material for the synthesis of norepinephrine





**7** Gamma-Aminobutyric Acid



**Basic Information:**

Synonyms: GABA, 4-aminobutyric acid  
 CAS: 56-12-2  
 Molecular Formula: C<sub>4</sub>H<sub>9</sub>NO<sub>2</sub>  
 Molecular Weight: 103.12  
 Properties: White powder; soluble in water, slightly soluble in hot ethanol, insoluble in cold ethanol, ether, and benzene.

**Effect:**

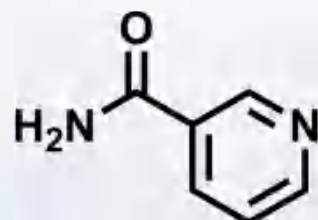
- ① Reducing blood ammonia and promoting brain metabolism
- ② Regulating metabolic balance in the body
- ③ Relieving anxiety and regulating sleep

**Applications:**

- ① Treatment and prevention of various types of liver coma
- ② Animal feed additive
- ③ Sleep regulator



**8** Nicotinamide



**Basic Information:**

Synonyms: Niacinamide  
 CAS: 98-92-0  
 Molecular Formula: C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O  
 Molecular Weight: 122.12  
 Properties: White powder; soluble in water.

**Effect:**

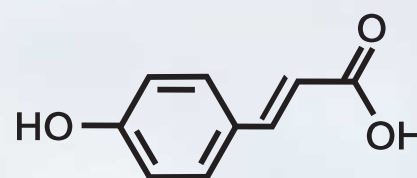
- ① Prevention and treatment of pellagra, stomatitis, glossitis, etc
- ② Nutritional enhancer that promotes digestion
- ③ Blocking melanin transport and brightening the skin

**Applications:**

- ① Nutritional enhancement
- ② Feed additive
- ③ Whitening ingredient in cosmetics



**9** p-Coumaric Acid



**Basic Information:**

Synonyms: 4-Hydrocinnamic acid  
 CAS: 501-98-4  
 Molecular Formula: C<sub>9</sub>H<sub>8</sub>O<sub>3</sub>  
 Molecular Weight: 164.16  
 Properties: White crystal; slightly soluble in water, soluble in ethanol and ether.

**Effect:**

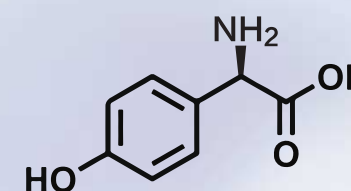
- ① A polyphenolic antioxidant naturally present in plants, acting as a tyrosinase inhibitor to reduce melanin
- ② Anti-UV and antibacterial effects
- ③ Raw material for chemical synthesis

**Applications:**

- ① Food and cosmetics preservatives
- ② Antioxidant and whitening ingredient in cosmetics
- ③ Raw material for the synthesis of PHS, Esmolol, etc



**10** 4-Hydroxy-D-phenylglycine



**Basic Information:**

Synonyms: 2-Amino-2-(4-hydroxyphenyl) acetic acid  
 CAS: 22818-40-2  
 Molecular Formula: C<sub>8</sub>H<sub>9</sub>NO<sub>3</sub>  
 Molecular Weight: 167.16  
 Properties: White crystal powder; soluble in water (5 g/L at 20° C) and 1 mol/L HCl

**Effect:**

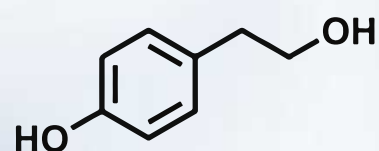
Raw material for synthesizing penicillin and cephalosporin antibiotics

**Applications:**

- ① Key intermediate of amoxicillin
- ② Key intermediate of cefoperazone
- ③ Key intermediate of cefprozil



**11** Tyrosol



**Basic Information:**

Synonyms: 4-Hydroxyphenylethanol  
 CAS: 501-94-0  
 Molecular Formula: C<sub>8</sub>H<sub>10</sub>O<sub>2</sub>  
 Molecular Weight: 138.16  
 Properties: White to off-white powder; soluble in water, ethanol, methanol, chloroform, and acetone

**Effect:**

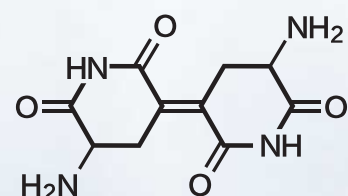
- ① Natural antioxidant present in foods such as olive oil
- ② As a fine chemical, it can be used for the synthesis of lol-type compressive drugs

**Applications:**

- ① Food additive
- ② Precursor for the synthesis of lol-type antihypertensive drugs such as metoprolol



**12** GoodBlue



**Basic Information:**

Synonyms: Indigoidine  
 CAS: 2435-59-8  
 Molecular Formula: C<sub>10</sub>H<sub>8</sub>N<sub>4</sub>O<sub>4</sub>  
 Molecular Weight: 248.19  
 Properties: Dark blue powder; soluble in DMSO, insoluble in water.

**Effect:**

Natural antibacterial and antioxidant compound

**Applications:**

Dyeing and coloring agent

Product Name	Catalog #	CAS #	Formula
Protocatechuic aldehyde	VBL-GC-005	139-85-5	C <sub>7</sub> H <sub>6</sub> O <sub>3</sub>
L-dopa	VBL-GC-046	59-92-7	C <sub>9</sub> H <sub>11</sub> NO <sub>4</sub>
Alpha Arbutin	VBL-NP-069	84380-01-8	C <sub>12</sub> H <sub>16</sub> O <sub>7</sub>
Alpha-Bisabolol	VBL-NP-070	515-69-5	C <sub>15</sub> H <sub>26</sub> O
Squalene	VBL-NP-067	7683-64-9	C <sub>30</sub> H <sub>50</sub>
Ceramide	VBL-NP-066	34354-88-6	C <sub>36</sub> H <sub>73</sub> NO <sub>4</sub>
Carnosine	VBL-NP-071	305-84-0	C <sub>9</sub> H <sub>14</sub> N <sub>4</sub> O <sub>3</sub>
L- α -aminobutyric acid	VBL-GC-060	1492-24-6	C <sub>4</sub> H <sub>9</sub> NO <sub>2</sub>
Eugenol	VBL-GC-011	97-53-0	C <sub>10</sub> H <sub>12</sub> O <sub>2</sub>
Methyl 3,4-dihydroxybenzoate	VBL-GC-016	2150-43-8	C <sub>8</sub> H <sub>8</sub> O <sub>4</sub>
Ethyl 3,4-dihydroxybenzoate	VBL-GC-017	3943-89-3	C <sub>9</sub> H <sub>10</sub> O <sub>4</sub>
3,4-Dihydroxytoluene	VBL-GC-018	452-86-8	C <sub>7</sub> H <sub>8</sub> O <sub>2</sub>
Homoprotocatechuic Acid	VBL-GC-020	102-32-9	C <sub>8</sub> H <sub>8</sub> O <sub>4</sub>
L-5-Hydroxytryptophan	VBL-NP-021	56-69-9	C <sub>11</sub> H <sub>12</sub> N <sub>2</sub> O <sub>3</sub>
Resveratrol	VBL-NP-022	501-36-0	C <sub>14</sub> H <sub>12</sub> O <sub>3</sub>
Curcumin	VBL-NP-023	458-37-7	C <sub>21</sub> H <sub>20</sub> O <sub>6</sub>
3,5-Dihydroxypentyl benzene	VBL-NP-049	500-66-3	C <sub>11</sub> H <sub>16</sub> O <sub>2</sub>
Dihydrocaffeic acid	VBL-GC-042	1078-61-1	C <sub>9</sub> H <sub>10</sub> O <sub>4</sub>





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