



## Smart Tongue Identifies Alcohol Composition

### Description

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Molecular testing can be used to assess drink quality

Evgenii Parilov/Alamy

Soon, there will be a small kit to check the quality and safety of alcoholic beverages. It is like a mini covid test kit.

This kit works like an “artificial tongue” and can find additives, toxins, and sweetness in drinks with just a few drops.

A scientist named Shuo Huang from China's Nanjing University is working on this kit. He says future versions may detect dangerous substances in drinks.

The current way of testing drinks is expensive and needs special equipment. The new kit uses a tiny hole in bacteria to test the drinks.

The kit contains artificial intelligence that can identify different chemicals in the drinks. It can even identify fake alcoholic products.

Huang says the kit is easy to use and can be used anywhere with a power source. Just add a drop of drink to the sensor and wait for the result.

Topics:

- biotechnology /
- food and drink

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## Vocabulary List:

1. **Additives** /'ædɪtɪvz/ (noun): Substances added to something in small quantities to improve or preserve it.
2. **Toxins** /'tɒksɪnz/ (noun): Poisonous substances that can cause harm to living organisms.
3. **Detect** /dɪ'tekt/ (verb): To discover or identify the presence of something.
4. **Artificial** /,ɑ:rtɪ'fɪʃəl/ (adjective): Made or produced by human beings rather than occurring naturally.
5. **Sensor** /'sensər/ (noun): A device that detects or measures a physical property and records indicates or otherwise responds to it.
6. **Identify** /aɪ'dentɪfaɪ/ (verb): To establish or indicate who or what someone or something is.

## Comprehension Questions



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## Multiple Choice

1. What is the purpose of the small kit mentioned in the text?  
Option: To check the quality and safety of alcoholic beverages  
Option: To detect COVID-19 in drinks  
Option: To analyze water quality  
Option: To assess air pollution levels
2. Who is the scientist working on the kit for assessing drink quality?  
Option: John Smith from USA  
Option: Shuo Huang from Nanjing University, China  
Option: Maria Garcia from Spain  
Option: David Kim from South Korea
3. What can the kit identify in drinks with just a few drops?  
Option: Vitamins  
Option: Toxins, additives, and sweetness  
Option: Proteins  
Option: Preservatives
4. How does the current way of testing drinks differ from the new kit?  
Option: Current way uses robots, new kit uses bacteria  
Option: Current way is cheap, new kit is expensive  
Option: Current way requires special equipment, new kit uses a tiny hole in bacteria  
Option: Current way is faster, new kit is slower
5. What feature in the kit helps it identify different chemicals in drinks?  
Option: Artificial smell  
Option: Artificial touch  
Option: Artificial hearing  
Option: Artificial intelligence
6. According to Huang, where can the kit be used?  
Option: Only in laboratories  
Option: Anywhere with an internet connection  
Option: Anywhere with a power source  
Option: Only in specific testing facilities



### True-False

7. The kit for assessing drink quality works like a "mini Covid test kit".
8. Shuo Huang is a scientist from South Korea.
9. The new kit uses artificial intelligence to identify different chemicals in drinks.
10. The current way of testing drinks is inexpensive and does not require special equipment.
11. Huang mentions that future versions of the kit may only identify safe substances in drinks.
12. Adding a drop of drink to the sensor in the kit is the final step in the testing process.

### Gap-Fill

13. The scientist Shuo Huang is from \_\_\_\_\_'s Nanjing University.
14. The kit uses a tiny hole in bacteria to test the drinks instead of \_\_\_\_\_ equipment.
15. The kit contains artificial intelligence that can identify different \_\_\_\_\_ in the drinks.
16. According to Huang, the kit is easy to use and can be used anywhere with a \_\_\_\_\_ source.
17. The new kit may detect \_\_\_\_\_ substances in drinks according to Huang.
18. Huang mentions that the kit can even identify fake \_\_\_\_\_ products.

### Answer

**Multiple Choice:** 1. To check the quality and safety of alcoholic beverages 2. Shuo Huang from Nanjing University, China 3. Toxins, additives, and sweetness 4. Current way requires special equipment, new kit uses a tiny hole in bacteria 5. Artificial intelligence 6. Anywhere with a power source  
**True-False:** 7. False 8. False 9. True 10. False 11. False 12. True  
**Gap-Fill:** 13. China 14. special 15. chemicals 16. power 17. dangerous 18. alcoholic



## Vocabulary quizzes

### Multiple Choice ( Select the Correct answer for each question. )

1. What is a result of great effort or success?  
Option: Puzzles  
Option: Intelligence  
Option: Achievement  
Option: Hackers
2. What happens when security has been breached?  
Option: Theft  
Option: Compromised  
Option: Sanctions  
Option: Infiltrated
3. What are intense bursts of energy from stars called?  
Option: Superflares  
Option: Radiation  
Option: Ejection  
Option: Coronal
4. What are substances added to improve or preserve something?  
Option: Toxins  
Option: Additives  
Option: Detect  
Option: Artificial
5. What type of effects can be caused by dangerous substances?  
Option: Approval  
Option: Compliance  
Option: Dangers  
Option: Features
6. Where can different software applications operate?  
Option: Intelligence  
Option: Platforms  
Option: Skills  
Option: Progress
7. What is the action of obtaining something through force or threats?



- Option: Extort
- Option: Theft
- Option: Sanctions
- Option: Infiltrated

8. What are poisonous substances produced by living cells or organisms?

- Option: Toxins
- Option: Detect
- Option: Additives
- Option: Artificial

9. What is a fact or statement that has been validated as true?

- Option: Achievement
- Option: Puzzles
- Option: Skills
- Option: Confirmed

10. What term relates to the Earth's magnetic field?

- Option: Communication
- Option: Geomagnetic
- Option: Superflares
- Option: Radiation

**Gap-Fill ( Fill in the blanks with the correct word from the vocabulary list. )**

11. Hackers often use their \_\_\_\_\_ to gain unauthorized access to systems.
12. Continuous learning and improvement lead to personal \_\_\_\_\_.
13. The latest model of the smartphone has advanced \_\_\_\_\_ for better usability.
14. Businesses need to adhere to regulations for legal \_\_\_\_\_.
15. The proposal requires the manager's \_\_\_\_\_ before implementation.
16. Using advanced sensors helps in early \_\_\_\_\_ of potential issues.
17. Effective \_\_\_\_\_ is essential for smooth teamwork and collaboration.
18. Regular practice enhances one's \_\_\_\_\_ in various areas.





19. Countries may impose \_\_\_\_\_ as penalties for certain actions.

20. Burglary involves the illegal \_\_\_\_\_ of property.

**Matching Sentences ( Match each definition to the correct word from the vocabulary list. )**

21. The spies successfully the enemy headquarters without being detected.
22. The synthetic diamonds are considered to be of origin.
23. The new car model boasts advanced safety for driver assistance.
24. Exposure to excessive solar can be harmful to living organisms.
25. The security system enables early of unauthorized access attempts.
26. are skilled individuals who use technology to gain unauthorized access.
27. Warning signs indicate potential on the hiking trail.
28. Continuous practice helps in honing one's professional .
29. Regular assessments track the project team's towards the set goals.
30. Solar ejections can disrupt satellite communications on Earth.

## Answer

**Multiple Choice:** 1. Achievement 2. Compromised 3. Superflares 4. Additives 5. Harmful 6. Platforms 7. Extort 8. Toxins 9. Confirmed 10. Geomagnetic

**Gap-Fill:** 11. Intelligence 12. Progress 13. Features 14. Compliance 15. Approval 16. Detection 17. Communication 18. Skills 19. Sanctions 20. Theft

**Matching sentence:** 1. Infiltrated 2. Artificial 3. Features 4. Radiation 5. Detection 6. Hackers 7. Dangers 8. Skills 9. Progress 10. Coronal

## CATEGORY

1. Sci/Tech - LEVEL2

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