

AroTrack

November 21, 2024 • vajiramandravi.com



About AroTrack:

- It accurately **detects harmful** aromatic xenobiotic **pollutants** such as phenol or benzene, xylenols.
- It **uses proteins typically** found in bacteria living in heavily polluted environments to effectively identify multiple aromatic pollutants in water.
- This protein undergoes a highly selective **ATP hydrolysis chemical reaction** if an aromatic compound is present in the sample.
- This reaction is expressed with a change in the colour of the protein solution, which AroTrack can then detect.
- AroTrack contains a **light emitting diode [LED]-phototransistor assembly** that shines a light of appropriate wavelength through the sample and detects how much is absorbed.
- The key component of the device is a **biosensing module called MopR** – a sensitive sensor for detecting phenol.
- The device also reliably worked in water **temperatures up to 50 degrees Celsius** and completed the tests **in less than 30 minutes**.
- **Significance:** It's low **cost, battery-operated nature**, and portability can be ideal for rural and low-income settings that often lack resources and have difficulty accessing expensive laboratory tests.

Q1: What are Xenobiotics?

These are substances foreign to living systems and include drugs, pesticides, pollutants, carcinogens, volatile petrochemicals, food additives, and polluted working environments.

News: [IIT Bombay scientists develop water-pollutant detecting device 'AroTrack'](#)

Source: <https://vajiramandravi.com/current-affairs/arotrack/>

© Vajiram & Ravi. For personal use only.