METHODOLOGY

1) The project employs Arduino Uno and Arduino Mega interfaced with a TCS3200 color sensor. Calibration of the sensor ensures accurate MSG detection. Food samples are illuminated with white light, and the absorption spectrum is measured. Data processing by the Arduino duo determines MSG concentration. An LCD screen provides a user-friendly interface for real-time results, while the Arduino Mega enables data logging for dietary habit tracking.

2) The acquired data are then processed by the Arduino Uno and Arduino Mega, which work in tandem to calculate the concentration of MSG within the food sample. This calculated concentration is promptly displayed to the user on the LCD screen, providing near-instantaneous MSG detection results. Additionally, the Arduino Mega's capability for data logging allows users to maintain a record of their dietary habits over time, facilitating the analysis of consumption patterns and encouraging responsible dietary choices.

3) To enhance accuracy, the calibration of the TCS3200 sensor is a critical step in ensuring reliable MSG detection. The project maintains a focus on user-friendliness, as the LCD screen acts as a vital interactive component, allowing individuals of various ages and backgrounds to easily input data and view MSG detection results. The combination of these technological components and the systematic methodology ensures that "PreserveCheck" is not only an effective MSG detection solution but also a user-friendly and accessible tool for promoting healthier dietary choices in kitchens, restaurants, and homes, delivering rapid and reliable results.