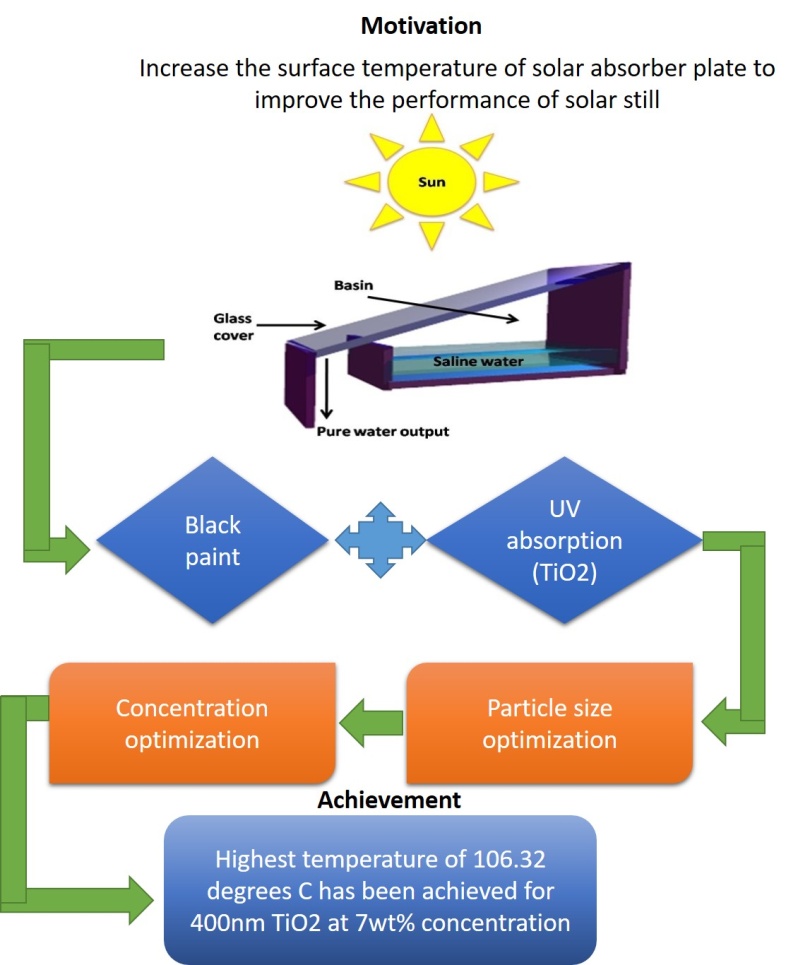
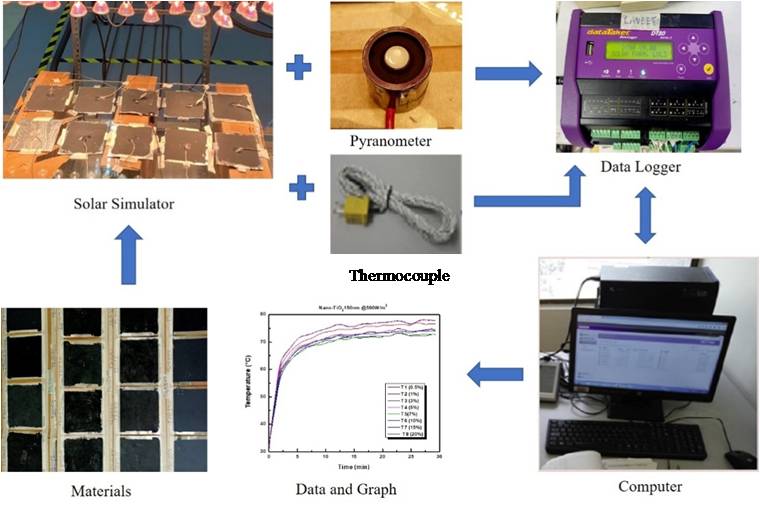
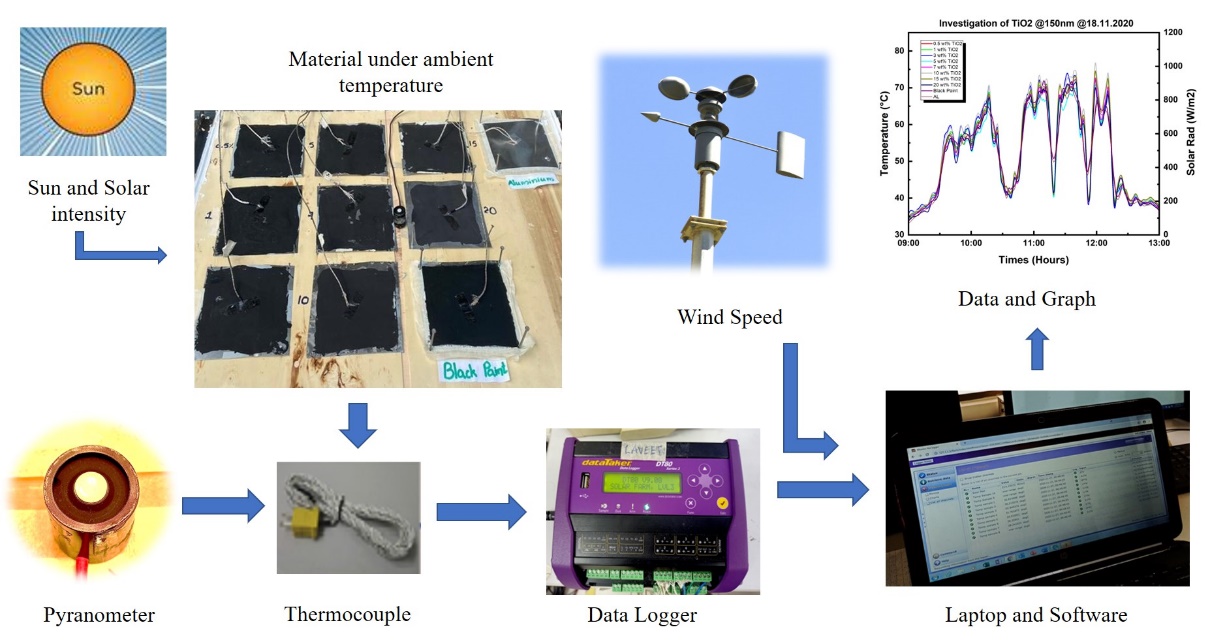
Supplementary Material



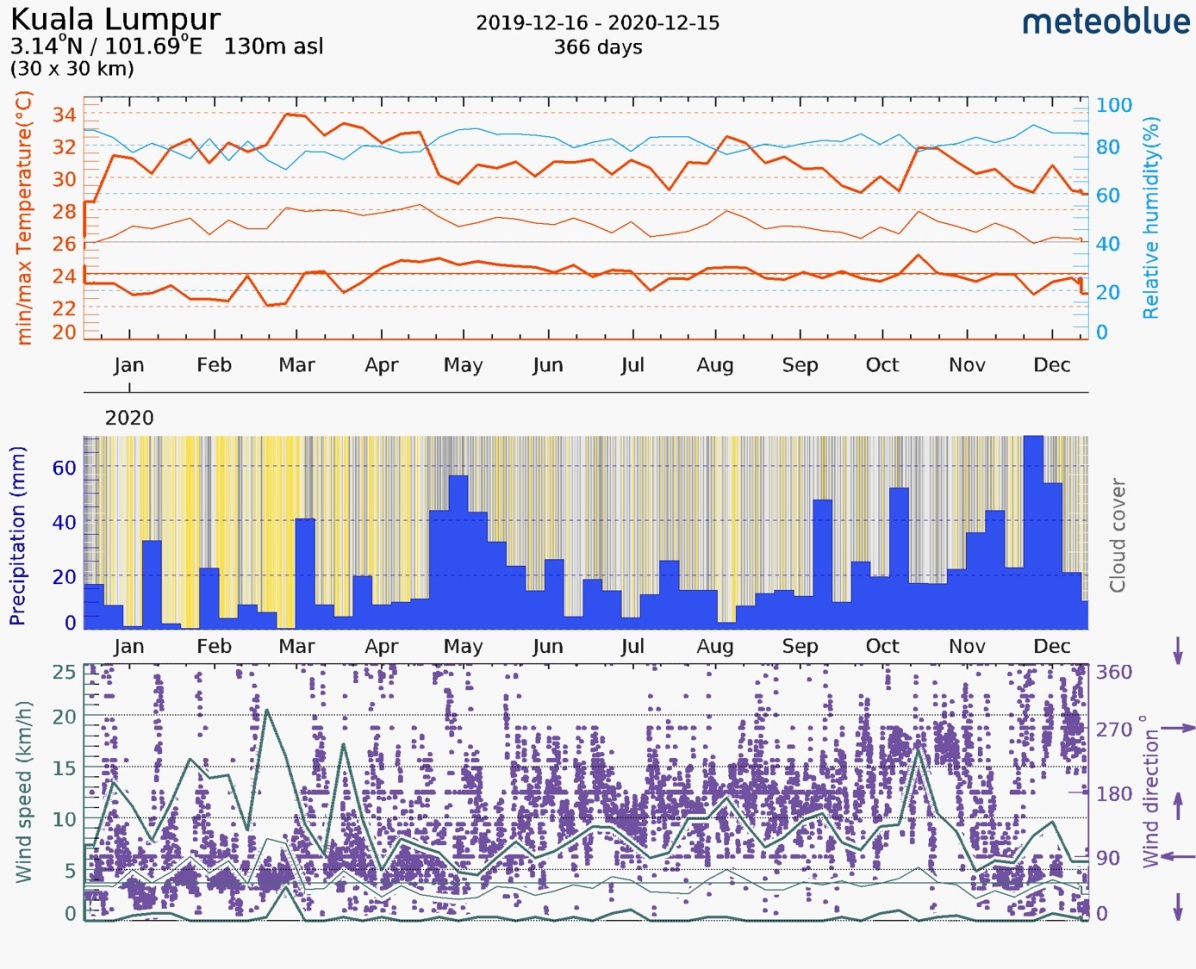
**Supplementary Figure 1s**. A research design approach



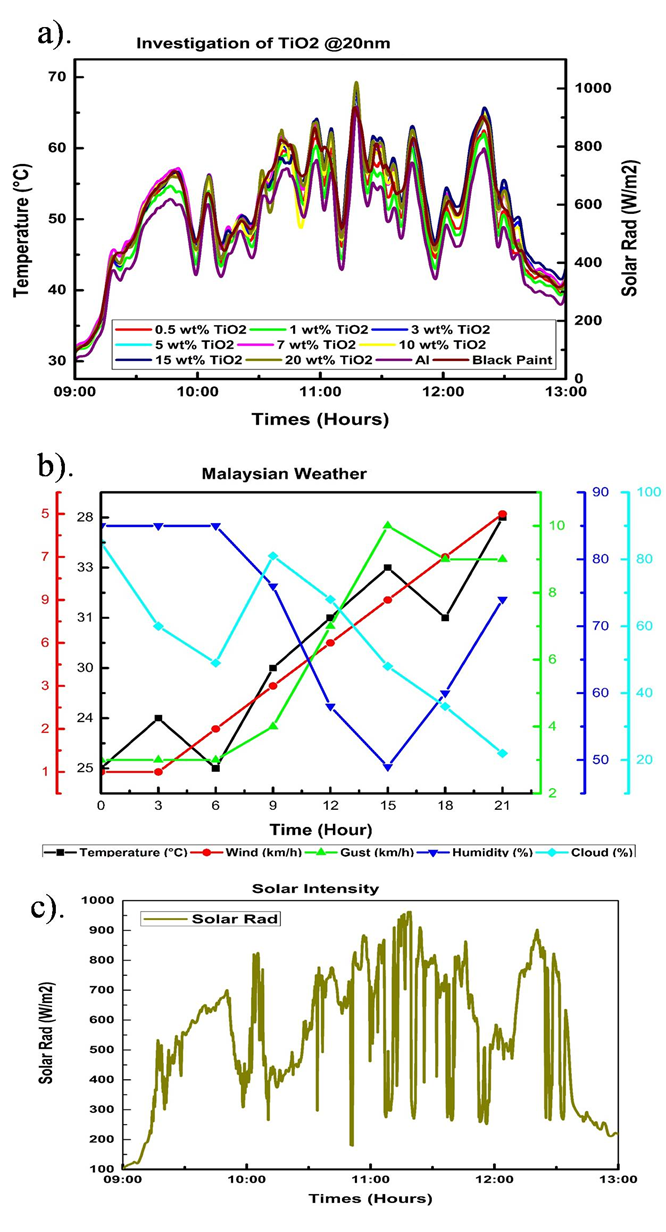
Supplementary Figure 2s. Indoor experimental setup



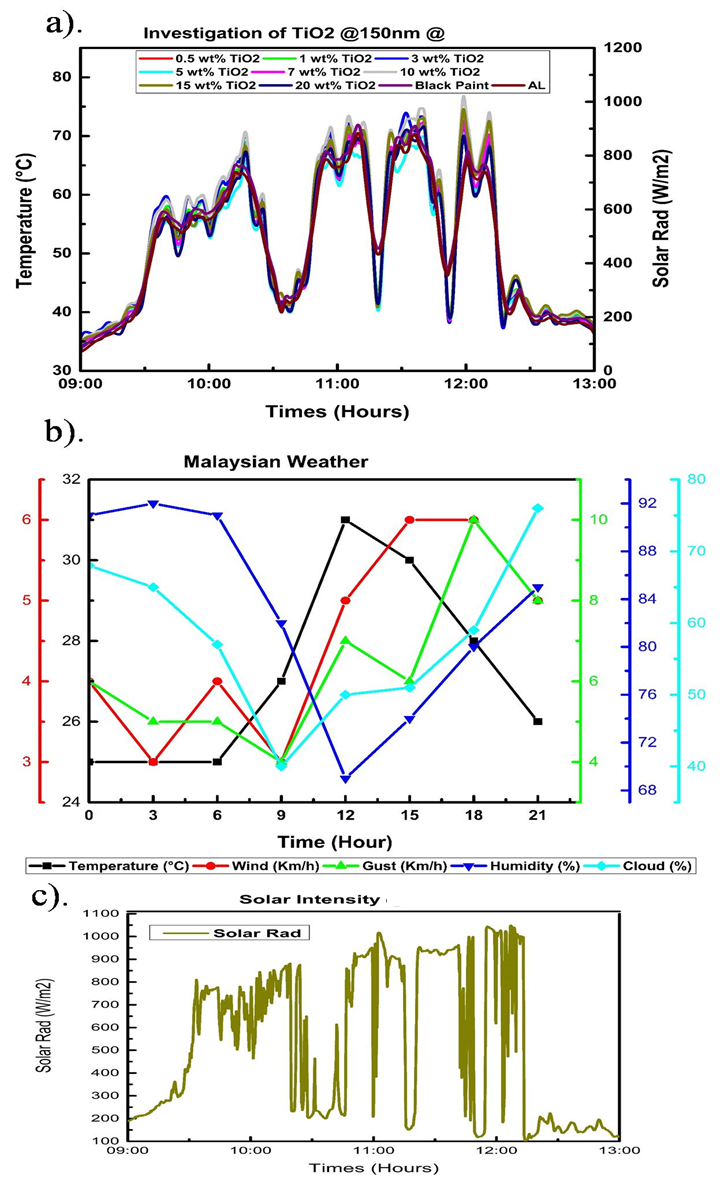
**Supplementary Figure 3s**. Outdoor experimental setup



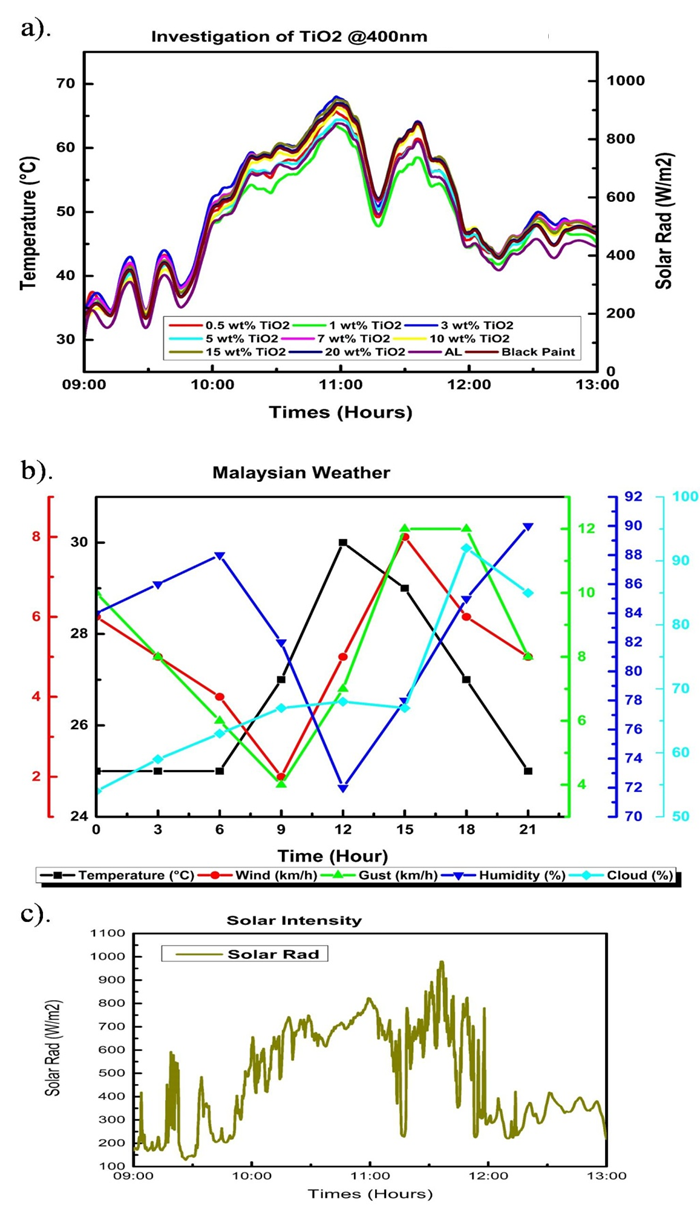
**Supplementary Figure 4s**. Historical weather data of Kuala Lumpur starting from December 2019 to 2020



**Supplementary Figure 5s**. Outdoor (a) temperature variations, (b) weather condition and (c) solar irradiation for TiO2- 20nm size (12th December 2020)



**Supplementary Figure 6s**. Outdoor (a) temperature variations, (b) weather condition and (c) solar irradiation for TiO2 – 150nm size (18th December 2020)



**Supplementary Figure 7s**. Outdoor (a) temperature variations, (b) weather condition and (c) solar irradiation for TiO2 – 400nm size (23rd December 2020)

**Supplementary Table 1s**. Measurement ranges and accuracy of the instruments and sensors

|  |  |  |
| --- | --- | --- |
| Instrument | Measuring Range | Accuracy |
| Pyranometer (Model: LI-COR, LI200R) | 0 to 2000 W/m2 | ±5% |
| Data Logger (Model: Data Taker DT80) | - 270 to 1372°C | ±2% |
| Thermocouple (K-Type) | -200 to 1000°C | ±1.50C |