

### Supplementary I: UV-vis spectra

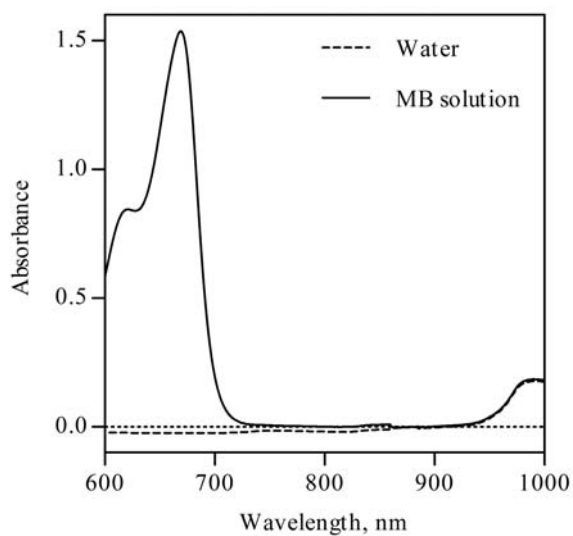


Figure S1: The UV-vis spectra of the absorbance of methylene blue

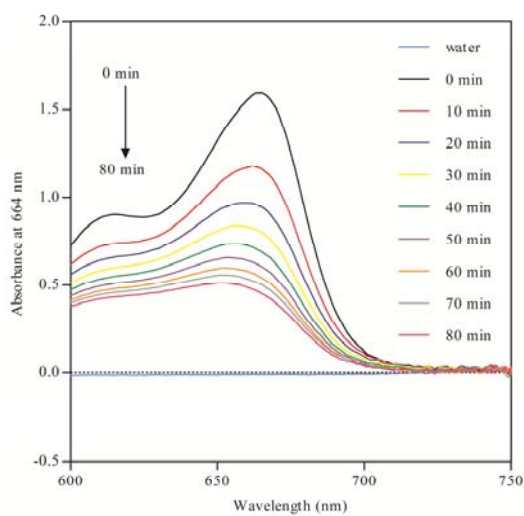


Figure S2: An example of original UV-Vis spectra of monitoring MB concentration after irradiation with UV light for 80 min.

### Supplementary II: Temperature calibration

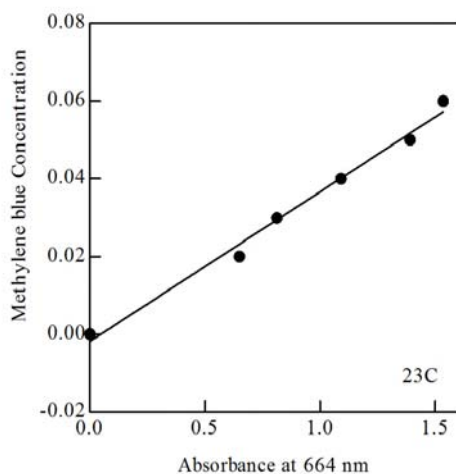


Figure S3: Relationship between the concentration of MB solution and the absorbance at 664 nm at 23°C.

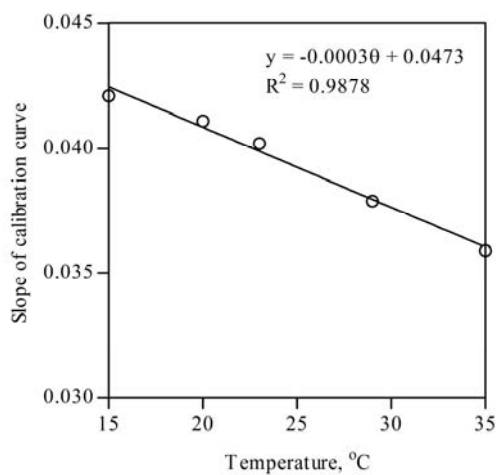


Figure S4: Relationship between slope of calibration curve and temperature.