

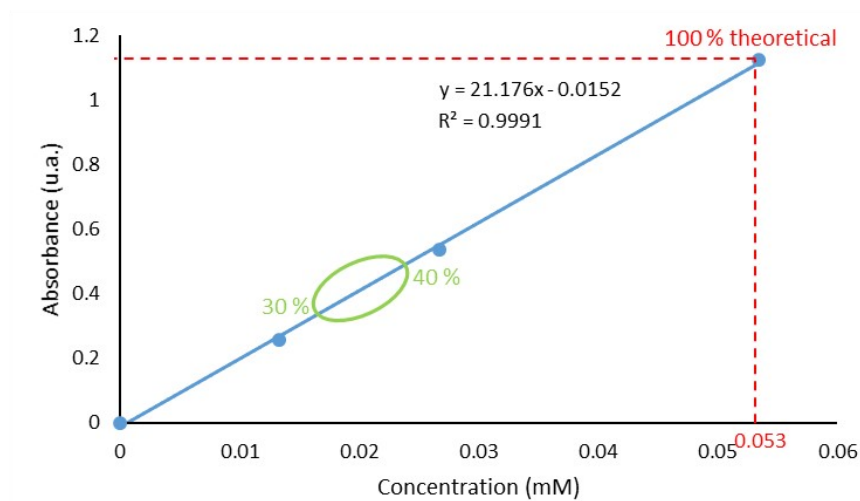
## **Investigating the photosensitization activities of flavins irradiated by blue LEDs**

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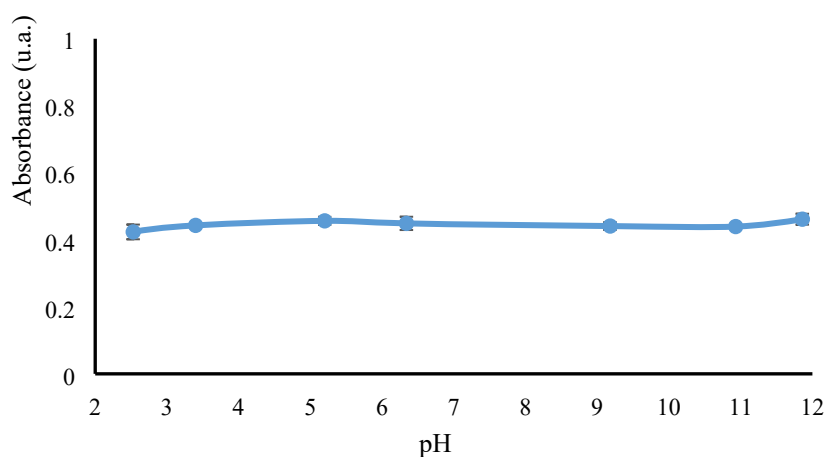
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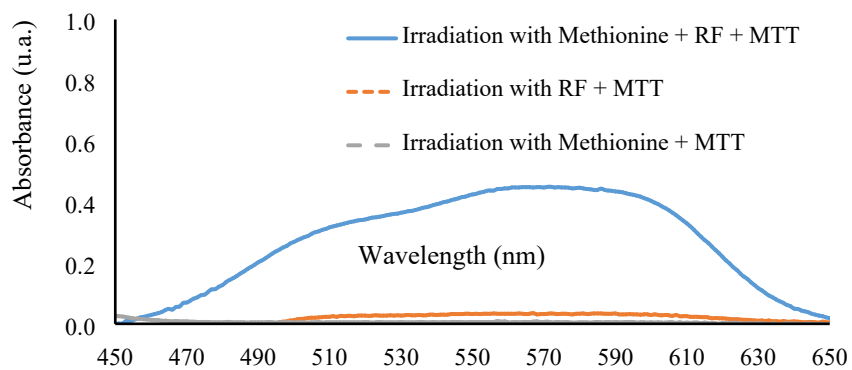
**Figure F1.** Calibration curve Abs = f(conc) for MTT formazan (CAS [57360-69-7]) by UV-Vis ( $\lambda_{\max} = 560$  nm)



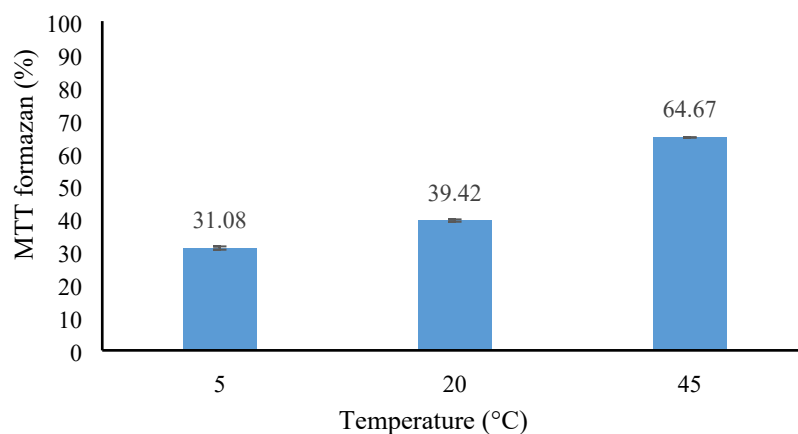
**Figure F2.** Variation Abs = f(pH) for MTT formazan (CAS [57360-69-7]) in a THF/H<sub>2</sub>O (1/1) mixture by UV-Vis ( $\lambda_{\max} = 560$  nm)



**Figure F3.** Control reactions: reactions conducted in the absence of methionine or riboflavin



**Figure F4.** Temperature-dependent output of the photosensitization reaction



**Figure F5.** Experimental setup used during the irradiation experiments

**Experimental:**

- The distance between the LED and the reactor was set to 2 mm
- Add flavin aqueous solution (2.66 mL,  $1.275 \times 10^{-4}$  M, pH 6.0)
- Add MTT and L-methionine aqueous solution (0.34 mL,  $9.65 \times 10^{-4}$  M and  $5.66 \times 10^{-2}$  M, respectively)
- Irradiation under stirring for 3 min, at r.t. (20°C) under air atmosphere
- Reaction mixture was transferred to a RBF and diluted with THF (3 mL)
- Heat under stirring at 50 °C for 5 min
- Absorbance measured at  $\lambda = 560$  nm
- Reported to a calibration curve prepared with commercial MTT formazan in THF/H<sub>2</sub>O (1/1)



**Materials:**

- LED: M455F3 (Thorlabs),  $\lambda_{em} = 455$  nm, at 6.69 mW
- Optical fiber: M28L01 (Thorlabs) 0.4 mm
- Cube driver: LEDD1B (Thorlabs) was set on 0.2 A and on the 5-position on the graduation scale
- PM400 Console and a S120VC probe (Thorlabs)
- Standard test tube (NAFVSM 621.1225075080.9R000)
- Magnetic stirrer and magnetic stir bar
- Jasco V-760 spectrophotometer
- Round bottom flask (RBF, 10 mL)
- Magnetic stirrer and magnetic stir bar

Figure F6:  $^1\text{H}$ -NMR and  $^{13}\text{C}$ -NMR spectra of the synthesized compounds

